

THE INDUSTRIAL ARTS INDEX

THIRD TWO-YEAR CUMULATION

[ELEVENTH ANNUAL VOLUME]

1922-1923

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING, TRADE
AND BUSINESS PERIODICALS, BOOKS AND PAMPHLETS
WITH A LIST OF IMPORTANT TECHNICAL
SOCIETIES

EDITED BY
MARION E. POTTER, LOUISE D. TEICH
MARIAN I. LORD

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PREFACE

This volume, the third two-year cumulation of the *I n d u s t r i a l A r t s I n d e x*, covers approximately the years 1922 and 1923. On a following page will be found the list of periodicals indexed. Of these, the following were added to the list in 1923:

American Dyestuff Reporter (New York), Textile Colorist (Philadelphia), Journal of the Society of Dyers and Colourists (London), Chemical Age (London), National Safety News (Chicago), Professional Engineer (Chicago), Journal of the Textile Institute (London).

The list of Technical Societies has been compiled from the magazines indexed thru the two-year period and has been brought as nearly up to date as possible.

The book titles which have been listed monthly in the *I n d e x* in the past two years, have been incorporated under their proper subject headings in the main alphabet with the periodical references. These books and pamphlets, numbering 3781, include British, and some French and German, as well as American books, and cover a wide range of subjects relating to business, technology and economic problems. Bibliographies from the Library Journal and other periodicals not regularly indexed are also included.

Grateful acknowledgment is made to Miss Elsie Schonholtz who has revised a good part of the copy and to Miss Bella Traum and Miss Dorothy Whittaker for preparation of copy and other work.

M. E. P.

Technical Societies

The following list is compiled by Marian Lord of the Index staff from notices found in the periodicals indexed in the Industrial Arts Index for 1923.

- Advertising affiliation**
Sec.-Treas. Arthur P. Kelly, Rochester, N.Y.
Annual convention, Rochester, N.Y., Sept. 21-22, '23
- Aerial league of America**
Sec. Maj. R. Sutton, 280 Madison Ave., New York
- Aerial league of the world**
Sec. 280 Madison Ave., New York
- Aero club of America**
Sec. Augustus Post, 11 East 38th St., New York
Annual meeting, New York, Nov. 13, '22
This association, together with the National air association, has been amalgamated into the National aeronautic association of the United States of America
- Aeronautical chamber of commerce of America, inc.**
Sec. Luther K. Bell, 501 Fifth Ave., New York
Annual meeting, New York, July 12, '23
National air institute, St. Louis, Mo., Oct. 2, '23
This organization partly succeeds the Manufacturers' aircraft association in that it will collect and disseminate information regarding aeronautical activities, and will publish the Aircraft Year Book
- Aeronautical society of America**
Amalgamated with the Society of automotive engineers
- Agricultural publishers association**
Pres. B. Kirk Rankin, c/o Southern Agriculturist, 1523 Broadway, Nashville, Tenn.
Annual meeting, Chicago, Oct. 16-17, '23
- Alloys research association**
Chairman, Bd. of Managers, Alfred D. Flinn, Engineering Foundation, 29 W. 39th St., New York
- American asphalt association**
Sec. 2 Rector St., New York
- American association for labor legislation**
Sec. John E. Andrews, 131 E. 23d St., New York
Annual meeting, Chicago, Dec. 27-29, '22
- American association for the advancement of science**
Sec. Dr. Burton E. Livingston, Johns Hopkins University, Baltimore
75th anniversary meeting, University of Cincinnati, Cincinnati, O., Dec. 27-Jan. 2, '24
- American association of advertising agencies**
Exec.-Sec. James O'Shaughnessy, Metropolitan Tower, New York
Meeting, Atlantic City, June 7, '23
- American association of engineers**
Sec. C. E. Drayer, 63 East Adams St., Chicago
Annual meeting, San Francisco, June 11-13, '24
- American association of ice and refrigeration**
Sec. J. F. Nickerson, 5707 West Lake St., Chicago
Annual meeting, Washington, D.C., April 24-25, '23
- American association of industrial physicians and surgeons**
Sec.-Treas. Dr. William Alfred Sawyer, Eastman Kodak co., 343 State St., Rochester, N.Y.
Annual meeting, Buffalo, Oct. 1-3, '23
- American association of masters, mates, and pilots**
Sec. M. D. Tenniswood, 308 Vine St., Camden, N.J.
- American association of museums**
Sec. Laurence V. Coleman, 141 E. 29th St., New York
Annual meeting, Charleston, S.C., May, '23
- American association of oil burner manufacturers**
Sec.-Treas. Leod C. Becker, Galesburg, Ill.
Organization meeting, Chicago, Oct. '23
- American association of operating engineers**
Sec. H. C. Bristol, Alaco, Tenn.
Annual meeting, Macon, Ga., April 26-28, '23
Organization of southern electric light and power plant engineers
- American association of petroleum geologists**
Sec.-Treas. Charles E. Decker, Norman, Okla.
Annual convention, Los Angeles, Sept. 20-21, '23
Annual meeting, Houston, Tex., March 27-29, '24
- American association of port authorities**
Sec. Tiley S. McChesney, Court Bldg., New Orleans
Annual convention, New Orleans, Sept. '23
Annual meeting, New Orleans, Dec. 10-12, '23
- American association of refrigeration**
See American association of ice and refrigeration
- American association of sales executives**
Sec. C. K. Woodbridge, Dictaphone Sales Corp., 154 Nassau St., New York
Annual conference, Buck Hill Falls, Pa., Oct. 8-10, '23
- American association of state highway officials**
Sec. Charles M. Upham, Raleigh, N.C.
Annual meeting, New Orleans, Louisiana, Dec. 3, '23
- American association of textile chemists and colorists**
Sec. Walter E. Hadley, 5 Mountain Ave., Maplewood, N.J.
Annual meeting, Providence, R.I., Dec. 7-8, '23
- American association of woolen & worsted manufacturers**
Sec. J. J. Nevins, 24 Waverly Place, New York
Semi-annual meeting, New York, July 17, '23
Annual meeting, New York, Dec. 5, '23
- American automobile association**
Sec. G. Roy Hill, 3900 Harriet Ave., Minneapolis, Minn.
Annual meeting, New York, May 22, '23
- American bankers' association**
Sec. Wm. B. Fitzwilson, 5 Nassau St., New York
Annual convention, Chicago, Oct. '24
- American boiler manufacturers' association**
Sec.-Treas. H. N. Covell, 191 Dikeman St., Brooklyn, N.Y.
Winter meeting, New York, Feb. 12, '23
Annual convention, Hot Springs, Va., June 4-6, '23
- American ceramic society**
Sec. Ross C. Purdy, Ohio State University, Columbus, Ohio
Annual meeting, Atlantic City, Feb. 4-8, '24

- American chamber of economics**
Sec. 31 Irving Place, New York
- American chemical society**
Sec. Charles L. Parsons, 1709 G St., N. W., Washington, D.C.
Annual convention, Milwaukee, Wis., Sept. 10-14, '23
National exposition of chemical industries, Grand Central Palace, N.Y., Sept. 17-22, '23
Spring meeting, Washington, D.C., April 21-25, '24
- American civic association**
Sec. Harlean James, 905-7 Union Trust Bldg., Washington, D.C.
- American committee on electrolysis**
Chairman, Bion J. Arnold, 29 W. 39th St., New York
- American concrete institute**
Sec. Harvey Whipple, 1807 E. Grand Boulevard, Detroit, Mich.
Annual convention, Chicago, Feb. 25-28, '24
- American concrete pipe association**
Sec. M. W. Loving, 111 West Washington St., Chicago
Annual convention, Chicago, Jan. 17-19, '24
- American construction council**
Exec. Sec. Dwight L. Hoopingartner, 28 W. 44th St., New York
Annual meeting, New York, Sept. 21, '23
Aim is to correlate the efforts of the existing organizations, including architects, contractors, labor, manufacturers, and public utilities, state, and federal officers, for the betterment of the industry
- American cotton manufacturers' association**
Sec.-Treas. Winton D. Adams, Charlotte, N.C.
Annual convention, Richmond, Va., May 16-17, '23
- American drop forge association**
The work of this association is being carried on by the American drop forging institute
- American drop forging institute**
Sec. 1168 Hanna Bldg., Cleveland
Annual convention, Detroit, Oct. 3-6, '22
This association will carry on the work of the American drop forge association
- American drug manufacturers' association**
Sec. A. Homer Smith, c/o E. R. Squibb & Sons, 80 Beekman St., New York
Annual meeting, New York, April 16-19, '23
- American dyes institute**
Sec. William R. Corwine, 132 W. 42d St., New York
Practically out of existence since the organization of the Synthetic organic chemical manufacturers' association
- American economic association**
Sec.-Treas. Ray B. Westerfield, Yale University, New Haven, Conn.
Annual meeting, Washington, D.C., Dec. 27-29, '23
- American electric railway accountants' association**
Sec. J. W. Welsh, 8 W. 40th St., New York
Annual meeting, Atlantic City, Oct. 8-11, '23
- American electric railway association**
Sec. J. W. Welsh, 8 W. 40th St., New York
Annual convention, Atlantic City, Oct. 8-13, '23
Midyear conference, St. Louis, March 4, '24
- American electrochemical society**
Sec. Colin G. Fink, 101 Park Ave., New York
Spring meeting, Philadelphia, April 24-26, '24
Fall meeting, Detroit, Sept. 25-27, '24
- American electro-platers' society**
Sec.-Treas. Frank J. Hanlon, 2921 George St., Chicago
Annual convention, Milwaukee, Wis., June 30-July 3, '24
Branch societies with names and addresses of secretaries and notices of meetings are published each month in the Brass World
- American engineering council** (formerly the Federated American engineering societies)
Sec. Lawrence W. Wallace, McLachlen Bldg., Washington, D.C.
Annual meeting of the American engineering council, Washington, D.C., Jan. 10-12, '24
- American engineering standards committee**
Sec. P. G. Agnew, 29 W. 39th St., New York
Annual meeting, New York, Dec. 14, '22
- American face brick association**
Sec. R. D. T. Hollowell, 130 N. Wells St., Chicago
Annual convention, French Lick Springs, Ind., Dec. 4-6, '23
- American federation of arts**
Sec. Miss Leila Mechlin, 1741 New York Ave., Washington, D.C.
Annual convention, Washington, D.C., May 17-19, '22
- American foundrymen's association**
Sec.-Treas. C. E. Hoyt, Marquette Bldg., Chicago
Annual convention, Cleveland, April 30-May 3, '23
- American gas association**
Sec.-Man. Alexander Forward, 342 Madison Ave., New York
Annual convention, Atlantic City, Oct. '24
- American gear manufacturers' association**
Sec. T. W. Owen, 2443 Prospect Ave., Cleveland
Semi-annual meeting, Lake Mohonk, N.Y., Oct. 25-27, '23
Annual meeting, Buffalo, April 28-30, '24
- American gold and silver institute**
Dir. H. N. Lawrie, Washington, D.C.
Institute will engage in statistical research and economic surveys in connection with transportation and taxation as well as assisting gold and silver producers
- American hardware manufacturers' association**
Sec.-Treas. F. D. Mitchell, 1819 Broadway, New York
Spring convention, Jacksonville, Florida, April 24-27, '23
- American Institute of accountants**
Sec. A. P. Richardson, 135 Cedar St., New York
Annual meeting, Washington, D.C., Sept. 18-19, '23
- American institute of architects**
Sec. Edwin H. Brown, 1200 Second Ave., S., Minneapolis
Annual convention, Washington, D.C., May 16-18, '23
- American Institute of chemical engineers**
Sec. John C. Olsen, Brooklyn Polytechnic Institute, Brooklyn, N.Y.
Semi-annual meeting, Denver, July 15-18, '24
Annual meeting, Pittsburgh, Dec. '24
- American institute of chemists** (formerly American institute of chemistry)
Sec. (Acting Sec.) L. R. Seidell, 80 Washington St., New York
Meeting, New York, Sept. 20, '23
- American institute of consulting engineers**
Sec. Col. F. A. Molitor, 143 Liberty St., New York
Annual meeting, Engineers' Club, New York, Jan. 16, '22
- American institute of electrical engineers**
Sec. F. L. Hutchinson, 33 W. 39th St., New York
Pacific Coast convention, Del Monte, Calif., Oct. 2-5, '23
Midwinter convention, Philadelphia, Feb. 4-8, '24
Spring convention, Birmingham, Ala., April 7-12, '24
Annual convention, Evanston, Ill., June 23-27, '24
- American Institute of fertilizer chemists**
Sec.-Treas. W. J. Gascoyne, Jr., 27 S. Gay St., Baltimore, Md.
- American institute of lead manufacturers**
Sec. 90 West St., New York

American institute of metals

Now a division of the American institute of mining and metallurgical engineers

American institute of mining and metallurgical engineers

Sec. Frederick F. Sharpless, 29 W. 39th St., New York

Fall meeting, Quebec, Aug. 20-31, '23

Annual meeting, New York, Feb. 18-21, '24

American institute of steel construction (formerly National steel fabricators' association)

Managing director, Lee H. Miller, 1052 Leader News Bldg., Cleveland

Annual meeting, Pittsburgh, Nov. 23, '22

American institute of weights and measures

Sec. C. C. Stutz, 115 Broadway, New York

Annual meeting, New York, Dec. 8, '22

American iron and steel institute

Sec. E. A. S. Clarke, 40 Rector St., New York

Annual meeting, New York, May 25, '23

Fall meeting, New York, Oct. 25, '23

American iron, steel and heavy hardware association

Sec. 47 W. 34th St., New York

American leather chemists' association

Sec. H. C. Reed, 22 E. 16th St., New York

Annual convention, White Sulphur Springs, W. Va., June 7-9, '23

American malleable castings association

Sec.-Treas. Robert E. Belt, 1900 Euclid Ave., Cleveland, O.

Annual meeting, Cleveland, Jan. '24

American management association

Sec. W. J. Donald, 20 Vesey St., New York

Annual meeting, New York, Oct. 29-31, '23

This society is an amalgamation of the National personnel association, the National association of corporation training, and the Industrial relations association of America

American manufacturers' export association

Sec. Maurice B. Dean, 160 Broadway, New York

Annual convention, New York, Oct. 3-5, '23

American marine association (formerly the Marine equipment association of America)

Sec. 15 Park Row, New York

American marine congress, New York, Nov. 5-10, '23

American mathematical association

Sec. R. G. Richardson, Brown University, Providence, R.I.

Annual meeting, Cambridge, Mass., Dec. 27-28, '22

American mathematical society

Sec. R. G. D. Richardson, Brown University, Providence, R.I.

Summer meeting, Vassar College, Poughkeepsie, N.Y., Sept. 6-8, '23

American merchant marine library association

Sec. C. C. Smith, 82 Beaver St., New York

American metric association

Sec. Howard Richards, Jr., 156 Fifth Ave., New York

Annual meeting, Boston, Dec. 30, '22

American mining congress

Sec. James F. Callbreath, Munsey Bldg., Washington, D.C.

Annual convention, Milwaukee, Wis., Sept. 24-29, '23

American national retail jewelers' association

Sec. A. W. Anderson, Neenah, Wis.

American newspaper publishers association

Sec. John S. Bryan, c/o Richmond News Leader, Richmond, Va.

Annual meeting, New York, April 23-26, '23

American oil chemists' society (formerly Society of cotton products analysts)

Sec.-Treas. Thomas B. Caldwell, Law & Co., Wilmington, N.C.

Annual meeting, Hot Springs, Va., April 30-May 1, '23

American order of steam and electrical engineers

Corresponding engineer, William S. Wetzler, 753 N. 44th St., Philadelphia

Annual convention, Reading, Pa., June 4-8, '23

American paper and pulp association

Sec.-Treas. Dr. Hugh P. Baker, 18 E. 41st St., New York

Annual meeting, New York, April 10-17, '23

Semi-annual meeting, Chicago, Oct. 11, '23

American peat society

Sec. J. H. Beattie, U.S. Dept. of Agriculture, Washington, D.C.

Annual convention, Washington, D.C., Dec. 6-8, '23

American petroleum institute

Sec. R. L. Welch, 15 W 44th St., New York

Annual meeting, St. Louis, Mo., Dec. 10-15, '23

American pharmaceutical association

Sec. H. V. Army, 115 W. 68th St., New York

Annual convention, Asheville, N.C., Sept. 3-8, '23

American pharmaceutical manufacturers' association

Sec.-Treas. Ralph R. Patch, 25 Congress St., Boston

Annual convention, Cleveland, Aug. 14-19, '22

American photoengravers' association

Sec.-Treas. O. F. Kwett, Northern Engraving Co., Canton, O.

Annual convention, Chicago, July 19-21, '23

American physical society

Sec. H. W. Webb, Columbia University, New York

Annual meeting, University of Cincinnati, Cincinnati, Dec. 27-29, '23

Meeting, New York, Feb. 23, '24

Meeting, Washington, April 25-26, '24

American pig iron association

Sec. John A. Penton, Penton Publishing Co., Cleveland

Annual meeting, Pittsburgh, Jan. 12, '22

American public health association

Sec. Homer N. Calver, 13 Van Dam St., New York

Annual meeting, Boston, Mass., Oct. 8-13, '23

American radio relay league

Dir. N. E. Wunderlich, 3327 Drexel Ave., Chicago

American railway association

Sec. J. E. Fairbanks, 75 Church St., New York

A complete list of the various divisions and sections of the American railway association, and also of all the other important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age.

American railway bridge and building association

Sec. C. A. Lichty, C. & N. W. Railway, 319 N. Waller Ave., Chicago

Annual convention, Kansas City, Mo., Oct. 21-23, '24

American railway development association

Sec. W. H. Hill, Agricultural Agent, c/o New York Central, Chicago

Semi-annual meeting, Chicago, Dec. 6-7, '23

Annual meeting, Savannah, Ga., May 14-16, '24

American railway engineering association

Sec. E. H. Fritch, 431 S. Dearborn St., Chicago

Annual meeting, Chicago, March 11-13, '24

American railway tool foremen's association

Sec. J. A. Duca, Tool Foreman, C.R.I. and P. Ry., Shawnee, Okla.

American road builders' association

Sec. (temp.) Miss Ethel A. Birchland, 37 W. 39th St., New York

Annual meeting, New York, May 15, '23

Annual convention and Good roads congress, Chicago, Jan. 14-19, '24

American short line railroad association

Sec. T. F. Whittlesey, Union Trust Bldg., Washington, D.C.

Annual meeting, Washington, D.C., May 9, '23

Annual convention, Chicago, Oct. 3-4, '23

American society for municipal improvements
 Sec. Charles C. Brown, Dept. Public Works,
 St. Petersburg, Fla.
 Annual convention, Memphis, Tenn., Nov.
 12-16, '23

American society for steel treating (formerly
 American steel treaters' society)
 Sec. W. H. Eisenman, 4600 Prospect Ave.,
 Cleveland
 Winter meeting, Chicago, Feb. 15-16, '23
 Annual convention and International steel
 exposition, Pittsburgh, Pa., Oct. 8-12, '23
 Annual convention, Boston, Sept. 22-26, '24

American society for testing materials
 Sec. C. L. Warwick, University of Pennsyl-
 vania, Philadelphia
 Annual meeting, Atlantic City, June 23-28,
 '24

American society of agricultural engineers
 Sec. Raymond Olney, Mt. Clemens, Mich.
 Annual meeting, Chicago, Nov. 8-10, '23

American society of biological chemists
 Sec. Victor C. Meyers, 303 E. 20th St., New
 York

American society of civil engineers
 Sec. John H. Dunlap, United Engineering So-
 cieties Bldg., 33 W. 39th St., New York
 Annual convention, Chicago, July 11-13, '23
 Fall meeting, Richmond, Va., Oct. 17-20, '23
 Annual meeting, New York, Jan. 16-17, '24
 Spring meeting, Atlanta, Ga., April 9-12, '24

**American society of heating and ventilating en-
 gineers**
 Sec. Casin W. Obert, 29 W. 39th St., New
 York
 Semi-annual meeting, Chicago, May 21-23,
 '23
 Annual meeting, New York, Jan. 22-25, '24

American society of marine designers (formerly
 American society of marine draftsmen)
 Sec. B. G. Barnes, 47 Saville Ave., Quincy,
 Mass.

American society of mechanical engineers
 Sec. Calvin W. Rice, 29 W. 39th St., New
 York
 Annual meeting, New York, Dec. 3-5, '23
 Spring meeting, Cleveland, May 26-29, '24
 Annual meeting, New York, Dec. 1-4, '24

American society of naval engineers
 Sec.-Treas. Commander S. M. Robinson,
 Bureau of Engineering, Navy Dept., Wash-
 ington, D.C.
 Annual meeting, Washington, D.C., Oct. 3,
 '22

American society of refrigerating engineers
 Sec. William H. Ross, 35 Warren St., New
 York
 Annual meeting, New York, Dec. 1-3, '23
 Spring meeting, Cleveland, May 27-29, '24

American society of safety engineers
 Sec. G. S. Wood, 29 W. 39th St., New York
 Annual meeting, New York, Jan. 18, '24

American society of sanitary engineering
 Sec. Harvey A. Call, 3207 Park Ave., New
 York
 Annual meeting, Davenport, Iowa, Sept. 11-
 14, '23

American specification Institute
 Sec. Gardner C. Coughlen, 19 S. LaSalle St.,
 Chicago
 Annual meeting, Chicago, May 1, '22

American statistical association
 Sec.-Treas. Robert E. Chaddock, Columbia
 University, New York
 Annual meeting, Chicago, Dec. 27-29, '22

American steel treaters' society
 Now the American society for steel treating

American supply and machinery manufacturers' association
 Sec. F. D. Mitchell, 4106 Woolworth Bldg.,
 New York
 Triple convention with the National supply
 and machinery dealers' association and the
 Southern supply and machinery dealers' as-
 sociation, Cleveland, O., May 19-21, '24

American trade executives' association
 Sec.-Treas. W. B. Baker, National Associa-
 tion of Chair Manufacturers, 53 W. Jackson
 Boulevard, Chicago
 Annual convention, Chicago, Oct. 24-26, '23

American valuation association
 Sec. Stanley Williamson, Linde Air Products
 Co., 30 E. 42d St., New York
 Special convention, Willard hotel, Wash-
 ington D.C., Jan. 30-31, '22

American warehousemen's association
 Sec. C. L. Criss, 1110 Bessemer Bldg., Pitts-
 burgh, Pa.

American water works association
 Sec. (Acting sec.) W. K. Niesley, 153 W. 71st
 St., New York
 Annual convention, New York, May 19-21,
 '24

American welding society
 Sec. Miss M. M. Kelly, 33 W. 39th St. New
 York
 Fall meeting, Pittsburgh, Oct. 24-26, '23
 Annual meeting, New York, April 23-25, '24

American wood preservers' association
 Sec.-Treas. P. R. Hicks, Room 1146, Otis
 Bldg., Chicago
 Annual meeting, Kansas City, Jan. 15-17, '24
 Annual meeting, Chicago, Jan. '25

American zinc institute
 Sec. Stephen S. Tuthill, 27 Cedar St., New
 York
 Annual meeting, St. Louis, May '24

Army and navy air service association
 Sec. Munsey Bldg., Washington, D.C.

Army ordnance association
 Sec. Munsey Bldg., Washington, D.C.

Asphalt association
 Sec. J. E. Pennybacker, 23 W. 43d St., New
 York
 Annual convention, New York, Jan. 9, '24
 Prepares specifications for asphalt roads

Associated advertising clubs of the world
 Sec.-Treas. Jesse H. Neal, 220 W. 42d St.,
 New York
 Annual convention, London, '24

Associated business directory publishers
 Sec.-Treas. F. A. Von Wieding, 334 Fourth
 Ave., New York
 Meeting, Atlantic City, June 7, '23

Associated business papers, inc.
 Sec. Jesse H. Neal, 220 W. 42d St., New York
 Annual meeting, Chicago, Oct. 15-20, '23

Associated general contractors of America
 Sec. Eugene Young, 111 W. Washington St.,
 Chicago
 Annual meeting, Chicago, Jan. 21-23, '24

Associated manufacturers of electrical supplies
 Sec. Frederic Nicholas, 30 E. 42d St., New
 York
 Fall meeting, New York, Nov. 8, '23
 Annual meeting, Atlantic City, June 24-27,
 '24

Associated metal lath manufacturers
 Commissioner, Wharton Clay, 123 Madison
 St., Chicago

Associated traffic clubs of America
 Sec. B. L. Birkholtz, 277 Broadway, New
 York
 Annual convention, Indianapolis, Ind., May
 23-24, '24

Association of arts and industries
 Sec. Norma K. Stahle, 230 E. Ohio St., Chi-
 cago

Association of Chinese and American engineers
 Sec. P. Y. Tsai, c/o The Chuchow-Chinchow
 Railway, Peking

Association of collegiate schools of architecture
 Sec. Clarence A. Martin, Cornell University,
 Ithaca, N.Y.
 Annual meeting, Chicago, June 5-6, '22

Association of Edison Illuminating companies
 Sec. Preston S. Millar, Electrical Testing
 Laboratories, East End Ave. and 80th St.,
 New York
 Annual meeting, Dixville Notch, N.H., Sept.
 17-21, '23

Association of electragists international

Sec. Lawrence W. Davis, 15 W. 37th St., New York

Annual convention, West Baden Springs, West Baden, Ind., Dec. 1-4, '23

Annual convention, West Baden Springs, Ind., Oct. 5, '24

Formerly known as the National Association of electrical contractors and dealers, and as the International association of electragists

Association of employees' clubs

Sec. J. Marshall, Alexander Hamilton Inst., 13 Astor Place, New York

Organization meeting, Times Bldg., New York, May 25, '21

Association of governmental labor officials of the United States and Canada

Sec.-Treas. Miss Louise Schutz, Industrial Commission, 612 Bremer Arcade, St. Paul, Minn.

Annual convention, Richmond, Va., May 1-4, '23

Association of iron and steel electrical engineers

Sec. John F. Kelly, Empire Bldg., Pittsburgh

Annual convention and exposition, Buffalo, N.Y., Sept. 24-28, '23

Fuel saving conference, Pittsburgh, April 2-3, '24

Association of jute and cotton bag manufacturers

Sec.-Treas. T. M. Gallie, 8 W. 40th St., New York

Association of national advertisers, inc.

Sec.-Treas. John Sullivan, 15 W. 46th St., New York

Semi-annual meeting, Chicago, May 10, '23

Annual meeting, Atlantic City, Nov. 22-24, '22

Association of natural gasoline manufacturers

Pres. D. E. Buchanan, Chestnut and Smith Corp., Tulsa, Okla.

Annual convention, Tulsa, Okla., April 26, '23

Association of official agricultural chemists

Sec.-Treas. W. W. Skinner, Bureau of Chemistry, Washington, D.C.

Annual meeting, Washington, D.C., Nov. 19-21, '23

Association of railway electrical engineers

Sec.-Treas. Joseph A. Andreucetti, Room 413, C. & N. W. Terminal Station, Chicago

Annual convention, Chicago, Nov. 6-9, '23

Association of railway executives

Chairman, Stanley J. Strong, Transportation Bldg., 17th and H Sts., N.W., Washington, D.C.

Association of scientific apparatus makers of the U.S.A.

Sec. J. M. Roberts, 460 E. Ohio St., Chicago

Annual meeting, Washington, D.C., April 18, '24

Atlantic deeper waterways association

Sec.-Treas. Wilfred H. Schoff, Real Estate Trust Bldg., Philadelphia

Annual convention, Portland, Me., Nov. '22

Auto bus association of New York state

Sec.-Treas. James J. Dadd, 120 Vermont Ave., Rochester, N.Y.

Annual meeting, Binghamton, N.Y., March 15, '23

Automotive associations

A list of automobile shows, foreign as well as American, and of conventions and meetings is published each week in Automotive Industries

Automotive equipment association

Sec. 461 Eighth Ave., New York

Summer convention, Dixville Notch, N.H., June 25-July 1, '23

Annual convention, Chicago, Nov. 12-17, '23

Aviation clubs

A list of aviation clubs is published from time to time in Aviation

Bakers and millers technical club

Sec. C. A. Paesch, 953 Montana St., Chicago

Bankers' association for foreign trade

Sec. F. M. Horton, Central National Bank Savings and Trust Company, Cleveland, O.

Annual convention, Hotel Cleveland, Cleveland, Feb. 9-10, '22

Better business letters association

Sec. Louis Balsam, 770 Penobscot Bldg., Detroit

Annual convention, Cincinnati, Oct. 25-27, '22

Boston society of civil engineers

Sec. John B. Babcock, 715 Tremont Temple, Boston

Annual meeting, Boston, Mar. 21, '23

British electrical and allied manufacturers' association

World power conference and British Empire exhibition, Wembley, London, June 30-July 12, '24

Organizing director, D. N. Dunlop, c/o British electrical and allied manufacturers' association, London

British iron and steel institute

Sec. George C. Lloyd, 28 Victoria St., London, S.W. 1

Annual meeting, London, May 10-11, '23

Building officials' conference

Sec.-Treas. F. W. Lumis, Springfield, Mass.

Annual meeting, Toledo, O., April 24-27, '23

California motor carriers' association

Sec. James G. Blaine, 1290 Bush St., San Francisco

Annual meeting, San Francisco, Dec. 13, '22

Canadian association of stationary engineers

Sec. George J. Soucey, Toronto

Annual convention, Toronto, June 25-28, '23

Canadian deep waterways and power association

Sec.-Treas. Maj. Alex. C. Lewis, Toronto

Annual convention, Hamilton, Ont., Nov. 1-2, '21

Canadian electric railway association

Sec. Eustace Smith, jr., Toronto Transportation Commission, Toronto

Annual convention, Toronto, June 27-30, '23

Canadian electrical association

Sec. Louis Kon, 65 McGill College Ave., Montreal

Annual convention, Montreal, June 20-23, '23

Canadian engineering standards association

Sec. Richard J. Durlley, 638-9 Jackson Bldg., Toronto

Canadian gas association

Sec.-Treas. (Acting) E. A. Hills, Consumers' Gas Co., Toronto

Annual convention, Ottawa, Ont., Aug. 23-24, '23

Canadian good roads association

Sec. George A. McNamee, 909 New Birks Bldg., Montreal, Que.

Annual convention, Hamilton, Ont., June 11-14, '23

Canadian Institute of chemistry

Sec. C. E. Wallin, Sydney, Nova Scotia

Annual meeting, Toronto, Ont., May 29-31, '23

Canadian Institute of mining and metallurgy

Sec.-Treas. G. C. Mackenzie, Montreal, Quebec

Annual meeting, Toronto, March 5-7, '24

Canadian national clay products association

Sec.-Treas. Gordon Keith, 435 Grace St., Toronto

Annual meeting, Hamilton, Ont., Jan. 24-26, '23

Canadian society of civil engineers

Now the Engineering institute of Canada

Carnegie institute of economics

Sec. 26 Jackson Place, N.W., Washington D.C.

Chamber of commerce of the United States

Sec. D. A. Skinner, Mills Bldg., Washington, D.C.

Annual meeting, Cleveland, O., May 6-8, '24

- Chemical equipment association**
Sec. Roberts Everett, 1328 Broadway, New York
Annual meeting, New York, Sept. 20, '23
- Chemical foundation**
Sec. R. Buffum, 81 Fulton St., New York
- China society of America**
American headquarters, 19 W. 44th St., New York
- City managers' association**
Sec. John G. Stutz, Lawrence, Kan.
Annual meeting, Washington, D.C., Nov. 13-15, '23
Annual convention, Montreal, Nov. '24
- City planning institute**
Sec. Flavel Shurtleff, 19 Congress St., Boston, Mass.
- Clearwater timber protective association**
Sec.-Treas. Theodore Fohl, Orofino, Idaho
- Coal mining institute of America**
Sec. H. D. Mason, jr., Chamber of Commerce Bldg., Pittsburgh, Pa.
Annual meeting, Pittsburgh, Dec. 19-21, '23
- Common brick manufacturers' association of America**
Sec. Ralph P. Stoddard, Cleveland Discount Bldg., Cleveland
Annual convention, Los Angeles, Feb. 11, '24
- Compressed air society**
Sec. C. H. Rohrbach, 50 Church St., New York
- Compressed gas manufacturers' association**
Sec. John H. Hayes, 120 W. 42d St., New York
Annual meeting, New York, Jan. 15, '23
- Concrete products association**
Sec. J. E. Montgomery, Chicago
- Conference of state sanitary engineers**
Sec.-Treas. Theodore Horton, New York State Department of Health, Albany
Annual conference, Washington, D.C., May 17-18, '22
- Conference on highway engineering and highway transport education**
Sec. Walter C. John, 127 Kentucky Ave., S. E., Washington, D.C.
Annual conference, University of Michigan, Ann Arbor, Mich., Feb. 11-14, '24
- Conference on weights and measures**
15th annual conference, Bureau of Standards, Washington, D.C., May 23-26, '22
- Cooperative league of America**
Sec. J. F. McNamee, Editor, Brotherhood of Locomotive Firemen and Enginemen's Magazine, Cleveland, O.
- Cooperative society of America**
Sec. 130 N. Wells St., Chicago
- Copper and brass research association**
Sec. George A. Sloan, 25 Broadway, New York
Annual meeting, New York, Nov. 15, '23
- Cost association of the paper industry**
Sec. T. J. Burke, 18 E. 41st St., New York
Annual convention, Cleveland, May 24-25, '23
- Custer battlefield highway association**
Sec. W. D. Fisher, Sheridan, Wyoming
Annual meeting, Sheridan, Wyo., Aug. 9-10, '22
- Direct mail advertising association**
Sec.-Treas. Frank L. Pierce, 770 Penobscot Bldg., Detroit
Annual convention, St. Louis, Oct. 24-26, '23
- Dixie highway association**
Sec. M. B. Roberts, 302 First National Bank Bldg., Chattanooga, Tenn.
Annual convention, Jacksonville, Fla., May 26-27, '22
- Drop forge supply association**
Sec.-Treas. A. W. Wurster, c/o Heppenstall Forge & Knife Co., Philadelphia, Pa.
Annual convention, Detroit, Oct. 3, '22
- Eastern railroad association**
Sec. E. N. Bessling, 614 F St., N.W., Washington, D.C.
Annual meeting, New York, May 10, '23
- Electric associations**
A complete directory of electrical associations with convention dates and secretaries is published in the first issue of each volume of the Electrical World in January and July
- Electric power club**
Sec. J. M. Barr, c/o Louis Allis Co., 30 Church St., New York
Semi-annual meeting, French Lick Springs, Ind., Nov. 19-22, '23
Annual meeting, Seaview Golf Club, Absecon, N.J., May 26-29, '24
- Electric steel founders' research group**
Director. R. A. Bull, 639 Diversey Parkway, Chicago
Meeting, Wernersville, Pa., May 14-17, '23
- Electrical manufacturers' club**
Sec. Sanford B. Belden, Jeffrey Mfg. Co., Columbus, O.
Annual meeting, Hot Springs, Va., Nov. 14-18, '23
- Electrical manufacturers' council**
Sec. Frederick Nicholas, 30 E. 42d St., New York
Meeting, Cleveland, Jan. 18, '24
- Electrical safety conference**
Sec. Dana Pierce, 109 Leonard St., New York
- Electrical supply jobbers' association**
Sec. Franklin Overbagh, 411 South Clinton St., Chicago
Annual convention, Buffalo, Nov. 12-15, '23
Annual meeting, Hot Springs, Va., June 4-6, '24
- Engineering advertisers' association**
Sec. N. C. Tompkins, c/o Creamery Package Manufacturing Co., 61 W. Kinze St., Chicago
Annual meeting, Chicago, May 28, '23
- Engineering foundation**
Sec. Alfred D. Flinn, 29 W. 39th St., New York
- Engineering institute of Canada (formerly Canadian society of civil engineers)**
Sec. Fraser S. Keith, 176 Mansfield St., Montreal, Quebec
Annual meeting, Montreal, Jan. 22, and Ottawa, Jan. 23-24, '24
- Engineering society of western Pennsylvania**
Sec. Kenneth F. Treschow, 568 Union Arcade Bldg., Pittsburgh, Pa.
Annual meeting, Pittsburgh, Jan. 22, '24
- Engineers' club of Philadelphia**
Sec. H. E. Hopkins, 1317 Spruce St., Philadelphia
- Export publishers' association**
Sec. R. M. Dodson, editor of Pacific Ports, Central Building, Seattle, Wash.
- Eye sight conservation council of America, inc.**
Dir. Guy A. Henry, Times Bldg., New York
- Federal highway council**
Sec. H. G. Shirley, Washington, D.C.
- Federated American engineering societies**
Now the American engineering council
- Federated engineers' development corporation**
Sec. 154 Ogden Ave., Jersey City, N.J.
Aim is to advise about and sponsor new inventions
- Financial advertisers' association**
Sec. Lloyd L. Coon, 135 W. Washington St., Chicago
Midwinter conference, New York, Feb. 14-15, '24
- Franklin institute**
Sec. R. B. Owens, Franklin Institute, Philadelphia, Pa.
Annual meeting, Philadelphia, Jan. 16, '24
- Gas associations**
A list of the principal gas associations, with officers and place and date of annual meeting, is published occasionally in the Gas Age
- Gas products association**
Sec. C. T. Price, 140 S. Dearborn St., Chicago
Annual meeting, Chicago, Jan. 17-19, '24

Geological society of America

Sec. Edmund O. Hovey, American Museum of Natural History, New York
Annual meeting, Washington, D.C., Dec. 27-29, '23

Governmental research conference

Sec. Dr. L. D. Upson, 542 Griswold St., Detroit, Mich.

Great Lakes, Hudson and Atlantic waterways association

Sec. 268 Pearl St., New York City

Great Lakes protective association

Sec. George A. Marr, Rockefeller Bldg., Cleveland, O.

Heating and piping contractors' national association

Sec. Henry B. Gomers, 50 Union Square, New York
Annual convention, Atlantic City, May 26-29, '24

Highway industries exhibitors' association

Sec. 400 N. Michigan Blvd., Chicago
Good roads show, Chicago, Jan. 15-19, '23

Hollow building tile association

Sec. J. S. Sleeper, (Acting Sec.) 111 W. Washington St., Chicago
Annual meeting, Chicago, Jan. '24

Home beautiful exposition

Manager, Chester I. Campbell, 5 Park Sq., Boston, Mass.
Exposition, Mechanics Bldg., Boston, April 25-29, '22

Hydraulic society

Sec. C. H. Rohrbach, 50 Church St., New York

Ice and refrigeration societies

Notices of national and state associations are published each month in Refrigerating World

Illuminating engineering society

Sec. Norman D. MacDonald, Electrical Testing Co., 80th St., and East End Ave., New York
Annual meeting, Lake George, New York, Sept. 24-28, '23

Industrial advertising association

Sec. H. N. Baum, c/o Celite Products Co., 53 W. Jackson Blvd., Chicago
Organization meeting, Milwaukee, June 11-15, '22

Industrial cost association

Sec. H. D. Starr, 50 Church St., New York
Conference, New York, May 18, '22

Industrial relations association of America (formerly National association of employment managers)

The work of this association has been taken over by the National personnel association

Institute for government research

Sec. 26 Jackson Place, Washington, D.C.
An association of citizens for cooperating with public officials in the scientific study of government

Institute of American meat packers

Sec. Robert G. Gould, Old Colony Bldg., Chicago
Annual convention, Atlantic City, Sept. 17-19, '23

Institute of economics

Pres. Robert S. Brookings, 16th and R Sts., N.W., Washington, D.C.
Organization meeting, Washington, D.C., April 21, '22

Institute of paint and varnish research

Sec. G. B. Heckel, 509 The Bourse, Philadelphia

Institute of radio engineers

Sec. A. N. Goldsmith, College of the City of New York, New York

International association of electragists

Now the Association of electragists international

International association of fire engineers

Sec. James T. Mulcahey, 197 Buena Vista Ave., Yonkers, N.Y.
Annual convention, Municipal auditorium, San Francisco, Aug. 15-18, '22

International association of municipal electricians

Sec. William Arbuckle, 99 W. 41st St., Bayonne, N.J.
Annual convention, Reading, Pa., Sept. 25-28, '23

International association of printing house craftsmen

Sec. Louis M. Augustine, 38 White Ave., Hamilton, Md.
Annual convention and Graphic Arts Exposition, Mechanics Bldg., Boston, Mass., Aug. 28-Sept. 2, '22

International association of street sanitation officials

Sec. A. M. Anderson, 1340 Old Colony Bldg., Chicago
Annual conference, Chicago, Sept. 27-28, '23

International bureau of weights and measures

Director, Charles E. Guillaume, St. Cloud, Seine-et-Oise, France

International chamber of commerce

Sec. Dr. Edward Dolleans (temporary sec.), University of Dijon, Dijon, France
Sec., American section, Lacey C. Zapf, Mills Bldg., Washington, D.C.
Annual meeting, Rome, Italy, March 19-26, '23

International commission on illumination

Asst. Sec. J. W. T. Walsh, National Physical Laboratory, Teddington, England
Meeting, Paris, Sept. '21
Meetings are held every three years

International congress of architects

Sec. of the American section, George Oakley Totten, jr., 808 17th St., Washington, D.C.
Tenth congress, Brussels, Sept. 4-11, '22

International congress of master printers

Sec. Bruno Zachrisson, Gothenburg, Sweden
1st Congress, Gothenburg, Sweden, June 4-6, '23

International electric protective association

Sec.-Treas. F. F. Rowell, c/o Holmes Electric Protective Co., 26 Cortland St., New York
Organization meeting, Chicago, July 28, '22

International electrochemical commission

General Sec. C. le Maistre, 28 Victoria St., Westminster, London, S.W., England
Meeting, Geneva, Switzerland, Nov. 18-25, '22

International body representing national electrical societies contributing to its support

International engineering congress

Congress held at Rio de Janeiro in connection with the Brazilian international exposition, Sept. 7-30, '22

International garden cities and town planning association

International conference, Gothenburg, Sweden, July 27-Aug. 12, '23

International mining convention

Exec. Chairman, Henry M. Parks, Director, Oregon Bureau of Mines and Geology, Oregon Bldg., Portland, Ore.
Meeting, Nelson, B. C., June, '22

International motor transport congress

See the National automobile chamber of commerce

International railway congress association

Sec. L. Weissenbruch, 11 Rue de Louvain, Brussels, Belgium
9th congress, Rome, Italy, April 19-May 1, '22
Congress, London, 1925

International railway fuel association

Sec. J. G. Crawford, 702 E. 51st St., Chicago
Annual convention, Chicago, May 26-29, '24

International street and Interurban railway and bus association
 Sec. Dr. Arthur Ertel, Favoritenstrasse 9, Vienna
 Organization meeting, Nuremberg, Nov. 19, '20
 Meeting, Vienna, May 29-June 3 '21
 Meeting, Brussels, Feb. 18, '22
 Convention, Budapest, '23

International topographical union
 Sec. J. W. Hays, 640-50 Newton Claypool Bldg., Indianapolis
 Annual convention, Atlantic City, Sept. 11-15, '22

International union of pure and applied chemistry
 Sec., American delegation, Edward W. Washburn, University of Illinois, Urbana, Ill.
 Meeting, Lyons, France, June 27-July 2, '22

International union of radio telegraphy
 Corresponding sec. of American section, Augustus Trowbridge, 1150 Connecticut Ave., Washington, D.C.

International union of steam and operating engineers
 Sec. Dave Evans, 6334 Yale Ave., Chicago
 Annual convention, Detroit, Sept. 10-15, '23

Inventors' league of the United States
 Sec. George W. Whigelt, 114 Maiden Lane, New York

Investment bankers' association of America
 Sec. Frederick R. Fenton, 38 S. Dearborn St., Chicago
 Annual convention, Washington, D.C., Oct. 29-31, '23

Lake carriers' association
 Sec.-Treas. George A. Marr, Rockefeller Bldg., Cleveland, O.

League of the Southwest
 Sec. F. E. Weymouth, U.S. Reclamation Service, Denver, Col.
 An organization for studying the problems connected with the development of the Colorado river

Lighting fixture dealers' society of America
 Sec. J. L. Wolf, Electrical league, Hotel Statler, Cleveland
 Annual convention, Cleveland, Jan. 15-20, '23

Linseed oil association
 Sec. George Fortmyer, National Lead Co., 111 Broadway, New York

Manufacturers' aircraft association
 Sec. Chance M. Vought, c/o Lewis and Vought Corporation, Long Island City, N.Y.
 The collecting and disseminating of information regarding aeronautical activities and the publishing of the Aircraft Year Book, formerly duties of this association, have been taken over by the Aeronautical chamber of commerce of America. The Manufacturers' aircraft association will continue to handle the administration of the cross license agreements covering airplane patents

Manufacturing chemists' association of the United States
 Sec. John I. Tierney, Woodward Building, Washington, D.C.
 Annual meeting, New York, June, '23

Marine equipment association of America
 Now the American marine association

Master boiler makers' association
 Sec. Harry D. Vought, 95 Liberty St., New York
 Annual convention, Chicago, May 20-23, '24

Mathematical association of America
 Sec. W. D. Cairns, Oberlin College, Oberlin, Ohio
 Annual meeting, Cambridge, Mass., Dec. 28-29, '22

Mineralogical society of America
 Sec. H. P. Whitlock, American Museum of Natural History, New York

Mining and metallurgical society of America
 Sec. Donald M. Liddell, 2 Rector St., New York
 Annual meeting, New York, Dec. 7-13, '22

Mississippi valley association
 Sec. John M. Gill, Kansas City, Mo.
 Aim of the society is to promote the Valley's foreign commerce

Motor bus associations
 A list of national and local associations together with the names and addresses of secretaries and dates of conventions is published each month in Bus Transportation

National academy of science
 Sec. David White, Geological Survey, Washington, D.C.

National advisory committee for aeronautics
 Sec. S. W. Stratton, 2722 Navy Bldg., 17th & B Sts., N.W., Washington, D.C.
 Semi-annual meeting, Navy Building, Washington, D.C., April 20, '22
 Annual meeting, Langley Field, Hampton, Va., Oct. 19, '22

National aeronautic association of the United States of America
 Sec. Dudley M. Outcault, Grisard Field Co., Cincinnati

Annual meeting, St. Louis, Oct. 2, '23
 This association is an amalgamation of the Aero club of America and the National air association

National air association
 Sec. Rex L. Uden, Cleveland, O.
 This association, together with the Aero club of America, has been amalgamated into the National aeronautic association of the United States of America

National amateur wireless association
 Sec. H. L. Welker, 326 Broadway, New York

National association of brass manufacturers
 Sec. W. M. Webster, City Hall Square Bldg., Room 1813, Chicago
 Fall meeting, Cleveland, Sept. 11-13, '23
 Annual convention, New York, Dec. 12-13, '23
 Spring meeting, West Baden Springs, West Baden, Ind., March 12-14, '24

National association of builders' exchanges
 Sec. Dan Alexander, Atlanta, Ga.
 Meeting, Hotel Chisca, Memphis, Tenn., Feb. 20-23, '22

National association of commercial organization secretaries
 Sec.-Treas. Joseph F. Leopold, Des Moines, Iowa
 Annual convention, Cincinnati, Oct. 29-31, '23

National association of corporation training
 The work of this association has been taken over by the National personnel association

National association of cost accountants
 Sec. Stuart C. McLeod, 130 W. 42d St., New York
 Annual convention, Buffalo, Sept. 10-15, '23

National association of cotton manufacturers
 Sec. H. C. Meserve, 45 Milk St., Boston
 Annual meeting, Providence, R.I., April 25-26, '23
 Semi-annual meeting, Boston, Oct. 31-Nov. 1, '23

National association of credit men
 Sec.-Treas. J. H. Tregoe, 41 Park Row, New York
 Annual convention, Indianapolis, June 5, '22

National association of electrical contractors and dealers
 Now the Association of electragists international

National association of electrical inspectors
 Exec.-Sec. T. H. Day, 59 Deerfield Ave., Hartford, Conn.

National association of engine and boat manufacturers
 Sec. Ira Hand, 29 W. 39th St., New York
 Annual meeting, New York, Feb. 23, '22

National association of farm equipment manufacturers
 Exec.-Chairman. Findley P. Mount, Advance-Rumely Co., La Porte, Ind.
 Annual convention, Cleveland, Ohio, Oct. 24-26, '23

National association of ice industries

Sec. Leslie C. Smith, 163 W. Washington St., Chicago
Annual convention, Cleveland, Nov. 13-16, '23

National association of leather belting manufacturers

Sec. George H. Blake, P. O. Box 859, City Hall Station, New York
Annual meeting, New York, Nov. 21, '23

National association of manufacturers

Sec. George S. Boudinot, 50 Church St., New York
Annual meeting, New York, May 14-20, '23

National association of master plumbers

Sec. J. F. Hanley, 14th Ward B and L Bldg., Newark, N.J.
Annual convention, West Baden, Ind., June 24-26, '24

National association of music merchants

Sec. Matt J. Kennedy, 209 South State St., Chicago
Annual convention, Chicago, June 4-7, '23

National association of office managers

Sec. G. S. Childs, Alexander Hamilton Institute, Astor Place, New York
Annual conference, Detroit, June 14-16, '23

National association of practical refrigerating engineers

Sec. Edward H. Fox, 5707 West Lake St., Chicago
Annual convention, Memphis, Tenn., Dec. 12-16, '23

Annual convention, New Orleans, Dec., '24

National association of purchasing agents

Sec. W. L. Chandler, 19 Park Place, New York
Annual convention, Boston, May 20-23, '24

National association of railroad tie producers

Sec. J. S. Penney, c/o T. J. Moss Tie co., St. Louis, Mo.
Annual meeting, Kansas City, Jan. 17-18, '24

National association of railway and utilities commissioners

Sec. James B. Walker, 49 Lafayette St., New York
Annual convention, Phoenix, Ariz., Nov. 11, '24
Annual meeting, Chicago, Jan. '25

National association of sales managers

Sec. C. H. Rohrbach, 50 Church St., New York
Organization meeting, Atlantic City, June 7, '23
Now merged with American management association

National association of sheet metal contractors

Sec. Edwin L. Seabrook, 261 South 4th St., Philadelphia
Annual convention, Washington, D.C., June '24

National association of stationary engineers

Sec. Frederick W. Raven, 417 S. Dearborn St., Chicago
Annual convention, Grand Rapids, Mich., Sept. 8-13, '24

National automobile chamber of commerce

Sec. F. W. Fenn, 366 Madison Ave., New York
International motor transport congress, Detroit, May '24

National boll weevil control association

Organization meeting, New Orleans, Nov. 17, '23

National brick manufacturers' association

Sec. Theo. E. Randall, 211 Hudson St., Indianapolis
Annual meeting, Cleveland, Feb. 5-11, '23

National bureau of economic research, inc.

Sec. Oswald W. Knauth, 175 Ninth Ave., New York

National cinder concrete products association

Sec. J. Edwin Rutter, Cameron and Reilly Sts., Harrisburg, Pa.
Organization meeting, Philadelphia, Sept. '23

National civic federation

Sec. D. L. Tease, 1 Madison Ave., New York
Annual meeting, Hotel Astor, New York, Jan. 30-31, '22

National clay products industries association

Sec. 133 W. Washington St., Chicago
Annual meeting, Chicago, April 21, '22

National coal association

Exec. Sec. Harry L. Gandy, Commercial National Bank Bldg., Washington, D.C.
Annual meeting, St. Louis, May 16, '23

National concrete stove silo association

Sec. W. G. Kaiser, 111 W. Washington St., Chicago
Annual convention, Chicago, Dec. 5-7, '22

National conference of business paper editors

Sec.-Treas. A. G. Oehler, c/o Railway Electrical Engineer, 30 Church St., New York
Annual meeting, Middletown, O., March 26-27, '23
Convention, Chicago, Oct. 15-20, '23

National conference on city planning

Sec. Flavel Shurtliff, 19 Congress St., Boston, Mass.
Annual conference, Los Angeles, April 7-10 '24

National conference on highway traffic regulations

Sec.-Treas. D. R. Faries, Automobile Club of Southern California, 1344 South Figueroa St., Los Angeles, Cal.

National conference on state parks

Sec. Edgar E. Harlan, Des Moines, Iowa
Conference, Bear Mountain Inn, Palisades Park, New York, May 22-25, '22

National container association

Sec.-Treas. B. C. Tamlin, Room 638, Transportation Bldg., Chicago
Organization meeting, Chicago, May 22-23, '23

National cooperative convention. See Cooperative league of America**National council of American Importers and traders**

Sec. Franklin Van Leer, jr., 45 E. 17th St., New York
Annual meeting, New York, May, '23

National council of lighting fixture manufacturers

Sec. Charles H. Hofrichter, 231-233 Gordon Square Bldg., Cleveland
Annual convention, Cleveland, Jan. 11-15, '23

Midsummer meeting, Buffalo, N.Y., June 26-28, '23

National crushed stone association

Sec. A. P. Sandles, 405 Hartman Bldg., Columbus, Ohio
Annual convention, Chicago, Jan. 15-17, '23

National district heating association

Sec. 112 W. Fourth St., New York
Annual convention, June 11-13, '24

National drainage congress

Sec. C. R. Thomas, 1163 Monadnock Bldg., Chicago
Annual meeting, St. Louis, Jan. 16-17, '24

National editorial association

Sec. H. C. Hotelling, 709 Exchange Bank Bldg., St. Paul, Minn.
Annual convention, Saratoga, N. Y. July '23

National electric light association

Exec.-Manager. M. H. Aylesworth, 29 W. 39th St., New York
Annual convention, Atlantic City, May 19-23, '24

National electrical credit association

Sec. Frederick P. Vose, 1350 Marquette Bldg., Chicago
Annual meeting, Boston, Aug. 9-10, '23
Spring meeting, Chicago, May 22-23, '24

National federation of construction industries

Sec. John C. Frazee, Drexel Bldg., Philadelphia
Annual meeting, Hotel Drake, Chicago, April 3-5, '22

National federation of export managers

Chairman. Oren D. Gallup, Simonds Mfg. Co., Fitchburg, Mass.

- National federation of remedial loan associations**
Sec.-Treas. John E. Ryan, 708 Breitmeyer Bldg., Detroit, Mich.
Annual convention, Washington, D.C., May 25-27, '22
- National fertilizer association**
Sec. John D. Toll, 1010 Arch St., Philadelphia
Annual convention, Asheville, N.C., June 9, '24
- National fire protective association**
Sec. Franklin H. Wentworth, 40 Central St., Boston, Mass.
Sec., Electrical committee, Ralph Sweetland, 141 Milk St., Boston
Annual meeting, Atlantic City, May 13-15, '24
- National foreign trade council**
Sec. O. K. Davis, Hanover Sq., New York
Annual meeting, Boston, June 4-6, '24
- National founders' association**
Sec. J. M. Taylor, 29 S. La Salle St., Chicago
Annual convention, New York, Nov. 21-22, '23
- National hardware association of the United States**
Sec.-Treas. 505 Arch St., Philadelphia
Annual convention, Atlantic City, Oct. 17-20, '22
- National highway traffic association**
Sec. Elmer Thompson, Automobile club of America, 247 W. 54th St., New York
Annual convention, New York, May 10, '23
Joint meeting with the Michigan good roads association, Michigan Agricultural College, East Lansing, Mich., Nov. 6, '23
- National housing association**
Sec. Lawrence Veiller, 105 East 22nd St., New York
- National implement and vehicle association**
Sec. Henry J. Sameit, 806 S. Dearborn St., Chicago
- National industrial advertising association**
Sec. H. N. Baum, c/o Celite Products Co., Chicago
Organization meeting, Milwaukee, June 15, '22
- National industrial conference board**
Comptroller. James M. Robertson, 10 E. 39th St., New York
National immigration conference, New York, Dec. 13-14, '23
- National industrial council**
Sec.-Treas. Earl Constantine, 50 Church St., New York
Semi-annual conference of the Advisory Committee and state industrial association executives, New York, May 11-13, '22
- National industrial traffic league**
Sec. J. H. Beck, 111 W. Washington St., Chicago
Spring meeting, Dallas, Tex., April 18-19, '23
Annual meeting, Chicago, Nov. 14-15, '23
Annual meeting, New York, Nov. 19-20, '24
- National institute of inventors**
Sec. R. Nerenstone, 118 Fulton St., New York
- National lime association**
Sec. (Acting sec.) Burton A. Ford, Mather Bldg., 918 G St., N.W., Washington, D.C.
Annual convention, New York, June 13-15, '23
- National lumber manufacturers' association**
Sec.-Manager. Wilson Compton, Transportation Bldg., Washington, D.C.
American lumber congress, Chicago, Feb. 6-7, '23
- National machine-tool builders' association**
Sec. Ernest F. DuBrul, 81 Provident Bank Bldg., Cincinnati
Annual meeting, Lenox, Mass., Oct. 2-4, '23
- National marine league of the United States of America**
Sec. J. H. Kitchin, 268 Pearl St., New York
Annual meeting, New York, Jan. '22
Publishes for free distribution articles on American merchant marine problems
- National merchant marine association**
Sec. Munsey Bldg., Washington, D.C.
Annual convention, Washington, D.C., March 3, '22
- National metal trades association**
Sec. Louis W. Fischer, People's Gas Bldg., Chicago
Annual convention, New York, April 23-24, '24
- National motor transport association**
Sec. E. B. Burritt, 250 W. 57th St., New York
Organization meeting, New York, Nov. 16, '23
- National municipal league**
Sec. Harold W. Dodds, 261 Broadway, New York
Annual meeting, Washington, D.C., Nov. 15-17, '23
- National museum of engineering and industry**
Sec. (Acting Sec.) E. F. J. Porter, 67 W. 12th St., New York
- National paint, oil and varnish association**
Sec. George F. Horgan, 342 Madison Ave., New York
Annual convention, Chicago, Oct. 17-19, '23
- National paper trade association**
Sec. William Ridgeway, 41 Park Row, New York
Annual meeting, New York, April 10, '23
- National paving brick manufacturers' association**
Sec. Edward E. Duff, jr., Engineers Bldg., Cleveland
Annual convention, Cincinnati, Jan. 22-23, '24
- National personnel association**
Now the American management association
- National petroleum association**
Sec. C. D. Chamberlain, Guard Bldg., Cleveland
Annual meeting, Atlantic City, Sept. 19-21, '23
- National petroleum marketers' association**
Sec. 624 S. Michigan Ave., Chicago
- National pipe and supplies association**
Sec.-Treas. George D. McIlvaine, 908 Oliver Bldg., Pittsburgh
Annual convention, Cincinnati, May 15-16, '23
- National radio chamber of commerce**
Sec. George Lewis, 165 Broadway, New York
Organization meeting, Washington, D.C., July 26, '23
- National research council**
Sec. Vernon Kellogg, 1701 Massachusetts Ave., Washington, D.C.
Annual meeting of the Advisory board on highway research, Washington, D.C., Nov. 8, '23
- National rivers and harbors congress**
Sec. S. A. Thompson, Colorado Bldg., Washington, D.C.
Congress, Washington, D.C., Dec. 5-6, '23
- National safety council**
Sec. W. H. Cameron, 166 N. Michigan Ave., Chicago
Mid year conference, Chicago, April 17, '23
Annual safety congress, Louisville, Ky., Sept. 29-Oct. 3, '24
- National sand and gravel producers' association**
Sec. T. R. Borrows, 903 Munsey Bldg., Washington, D.C.
Annual meeting, Washington, D.C., Jan. 24-26, '23
- National sheet metal products association**
Sec. D. C. Jones, 1016 Commerce Bldg., St. Paul, Minn.
- National slag association**
Sec.-Treas. H. J. Love, Cleveland
Annual meeting, Cleveland, Feb. 16, '23
- National slate association**
Sec. W. S. Hays, Drexel Bldg., Philadelphia
Annual convention, New York, Jan. 22-23, '23

National society for vocational education

Sec. Miss Clothilde Ware, 140 W. 42d St., New York

Annual convention, Buffalo, Dec. 6-8, '23

National steel fabricators' association

Now American institute of steel construction

National structural steel society

Sec. C. J. McIntosh, c/o Federal Bridge & Structural Co., Waukesha, Wis.
Meeting, Massillon, O., Aug. '21

National supply and machinery dealers' association

Sec. 505 Arch St., Philadelphia
Triple convention with the American supply and machinery manufacturers association and the Southern supply and machinery dealers' association, Cleveland, May 19-21, '24

National terra cotta society

Sec. F. S. Lawrence, 19 W. 44th St., New York
Annual meeting, Atlantic City, April 21, '23

National tire dealers' association

Sec. 242 W. 56th St., New York
Annual meeting, New York, Nov. 13-15, '23

National trade extension bureau

Sec.-Manager. William J. Wooley, Mercantile Bank Bldg., Evansville, Ind.
Annual conference, Evansville, Ind., Oct. 19-21, '23

National transportation institute

Sec. C. B. Hutchings, 30 N. LaSalle St., Chicago

National varnish manufacturers' association

Sec.-Treas. George B. Heckel, 509 The Bourse, Philadelphia
Annual meeting, Chicago, Oct. 15, '23

National warm air heating and ventilating association

Sec. Allen W. Williams, Columbia Bldg., Columbus, O.
Annual meeting, Cleveland, April 18-19, '23

National wholesale dry goods association

Sec. 505 Arch St., Philadelphia
Annual convention, New York, Jan. 17, '24

National wood chemical association

Sec.-Treas. F. J. Goodfellow, 76 Main St., Bradford, Pa.
Annual convention, Buffalo, Sept. 19, '23

Natural gas association of America

Sec.-Treas. William B. Way, 904-5 Oliver Bldg., Pittsburgh, Pa.
Annual meeting, Cleveland, May 19, '24

New England foundrymen's association

Sec. Fred S. Stockwell, Barbour-Stockwell Co., Cambridge, Mass.
Annual meeting, Boston, Jan. 11, '22

New England road builders' association

Sec. Frederick Hoitt, 68 Devonshire St., Boston

New England water works association

Sec. Frank J. Gifford, Supt. Water Works, Dedham, Mass.
Annual meeting, Boston, Jan. '23
Annual convention, Burlington, Vt., Sept. 18-21, '23

North central electric association

Sec. H. E. Young, 15 South Fifth St., Minneapolis, Minn.
Annual convention, Minneapolis, June 20-22, '23

Optical club of America

Sec. 15 John St., New York

Pacific logging congress

Sec.-Treas. George M. Cornwall, Portland, Ore.

Paint manufacturers' association of the United States

Sec.-Treas. George B. Heckel, 509 The Bourse, Philadelphia
Annual convention, Chicago, Oct. 15-16, '23

Pan American chamber of commerce

Sec. 42 Broadway, New York

Pan American highway mission

Congress, Washington, D.C., June '24

Paper trade associations

Reports of the annual meetings and lists of officers for the coming year of the various associations connected with the paper trade are to be found in the April 12 issue of Paper Trade Journal and in the April 18 issue of Paper

Periodical publishers' association of America

Sec. Phillips Wyman, 200 Fifth Ave., New York
Annual meeting, New York, Oct. 26, '22

Permanent conference for the abolition of child labor

Organization meeting, Washington, D.C., June 1, '22

Personnel research federation

Sec. Alfred D. Flinn, 29 W. 39th St., New York

This society will collect research information and coordinate the research activities of about 250 organizations

Plumbers' associations

A list of the various state associations, with convention dates, will be found in the weekly numbers of Domestic Engineering

Portland cement association

Gen. Mgr. Wm. M. Kinney, 111 W. Washington St., Chicago
Spring meeting, St. Louis, May 21-23, '23
Annual meeting, New York, Nov. 19-21, '23

Poster advertising association

Sec. W. W. Bell, 307 S. Greene St., Chicago
Annual convention, Cincinnati, Oct. 8-12, '23

Pressed metal association

Sec. Illuminating Bldg., Cleveland, O.

Public ownership league of America

Sec. Carl D. Thompson, 127 N. Dearborn St., Chicago
Annual convention, Toronto, Sept. 10-12, '23

Public utilities advertising association

Annual meeting, Atlantic City, June 4-7, '23

Radio club of America

Sec. Renville H. McCann, 15 Warren St., New York

Radio research association

Sec. B. Hoffman, 233 S. Third St., Brooklyn, N.Y.

Railway and locomotive historical society

Sec. R. W. Carlson, Escanaba, Mich.

Railway associations

A complete list of the various divisions and sections of the American railway association, and also of all the other important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age

Railway business association

Sec. Frank W. Noxon, 600 Liberty Bldg., Broad and Chestnut Sts., Philadelphia
Annual meeting, New York, Nov. 8, '23

Railway development association of the South-east

Sec. H. S. McLendon, St. Augustine, Fla.
Annual meeting, Atlanta, Ga., Feb. 22-23, '22

Railway equipment manufacturers' association

Sec. H. A. Varney, c/o Sunbeam Electric Manufacturing Co., Evansville, Ind.
Annual meeting, Chicago, Sept. 11-14, '23

Refractories manufacturers' association

Sec. F. W. Donahoe, 840 Oliver Bldg., Pittsburgh
Annual meeting, White Sulphur Springs, W.Va., Nov. 2-3, '22

Rice leaders of the world association

Pres. Ellwood Rice, 225 Fifth Ave., New York

Rocky Mountain petroleum association

Sec. 206 Customhouse, Denver, Colo.

Rubber association of America

Sec. A. L. Viles, 250 W. 57th St., New York
Annual meeting, New York, Jan. 8-9, '23

Russian engineering society

Sec. A. Pazdersky, 29 W. 39th St., New York

Safety institute of America

Sec. 141 E. 29th St., New York

- Ind Management (Lond)**—Industrial Management, 12s 6d; single numbers 8d. Louis Cassier Co., Ltd., 34, Bedford St, Strand, London, W.C. 2.
Formerly Engineering and Industrial Management.
- India Rubber W**—India Rubber World. \$3; single numbers 35c. India Rubber Pub. Co., 25 W 45th St, New York.
- Inland Ptr**—Inland Printer. \$4; single numbers 40c. Inland Printer Co., 632 Sherman St, Chicago.
- Inst E E J**—Journal of the Institution of Electrical Engineers, single numbers 10s 6d. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1.; Spon & Chamberlain, 123 Liberty St, New York.
- Inst Pet Tech J**—Journal of the Institution of Petroleum Technologists and Record of Transactions, single numbers 10s 6d. Institution of Petroleum Technologists, Aldine House, Bedford St, Strand, London. W.C.2.
- Int Labour R**—International Labour Review. \$5; single numbers 60c. International Labour Office, 7, Route de Pregny, Geneva, Switzerland.
- Int Marine Eng.** See Marine Eng
- Iron Age**—Iron Age. \$6; single numbers 25c. Iron Age Pub. Co., 239 W 39th St, New York.
- Iron & Steel Inst J**—Journal of the Iron and Steel Institute, Iron and Steel Institute, 28, Victoria St, London, S. W. 1.; E. & F. N. Spon, Ltd., 57, Haymarket, London; Spon & Chamberlain, 123 Liberty St, New York.
- Iron Tr R**—Iron Trade Review. \$6; single numbers 25c. Penton Pub. Co., Cleveland, O.
- J Account**—Journal of Accountancy. \$4; single numbers 35c. Journal of Accountancy, Inc., 135 Cedar St, New York.
- J Elec**—Journal of Electricity and Western Industry. \$2; single numbers 25c. McGraw-Hill Co. of Cal., Rialto Bldg., San Francisco, Cal.
- J Fr Inst**—Journal of the Franklin Institute. \$6; single numbers 60c. Franklin Institute, Philadelphia.
- J Ind & Eng Chem**—Journal of Industrial and Engineering Chemistry. \$7.50; single numbers 75c. Charles L. Parsons, sec., 1709 G St, N.W., Washington, D.C.
Title changed January, 1923, to Industrial and Engineering Chemistry
- J Ind Hygiene**—The Journal of Industrial Hygiene. \$6; single numbers 75c. Harvard Medical School, 240 Longwood Av, Boston, Mass.
- J Phys Chem**—The Journal of Physical Chemistry. \$8. Cornell University, Ithaca, N.Y.
- Locomotive**—Locomotive. 50c; single numbers gratis; recent bound volumes \$1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
- Mach**—Machinery. Engineering edition \$3; single numbers 35c. Industrial Press, 140 Lafayette St, New York.
- Management & Adm.** Management and Administration. \$5; single numbers 50c. Ronald Press Co., 20 Vesey St, New York.
- Management Eng**—Management Engineering. \$5; single numbers 50c. Ronald Press Co., 20 Vesey St, New York.
Consolidated with Administration, July 1923. See Management & Adm.
- Marine Eng**—Marine Engineering and Shipping Age. \$3; single numbers 35c. Aldrich Pub. Co., 30 Church St, New York.
Formerly International Marine Engineering
- Marine R**—Marine Review. \$3; single numbers 25c. Penton Pub. Co., 12th St, Cor. Chestnut, Cleveland, O.
- Mech Eng**—Mechanical Engineering, the Journal of the American Society of Mechanical Engineers. \$4; single numbers 50c. American Society of Mechanical Engineers, 29 W 39th St, New York.
- Metal Ind**—Metal Industry. \$1; single numbers 10c. Metal Industry, 99, John St, New York.
- Metal Work.** See Sanitary & Heat Eng and Sheet Metal Worker
- Min & Met**—Mining and Metallurgy. subs. \$10; single numbers \$1; to members, public libraries, and educational institutions, \$5; single numbers 50c. F. F. Sharpless, sec., 29 W 39th St, New York.
Formerly Bulletin of the American Institute of Mining and Metallurgical Engineers
Not indexed since December, 1922
- Min & Sci P**—Mining and Scientific Press. \$4; single numbers 15c. Dewey Pub. Co., 420 Market St, San Francisco, Cal.
Sold to McGraw-Hill Co., Inc., and consolidated with Engineering and Mining Journal, April 1.
- Mo U Sch Mines & Met Bul**—Bulletin of the University of Missouri. School of Mines and Metallurgy, Univ. of Mo., Rolla
- Mo U Sch Mines & Met Bul tech ser**—Bulletin of the University of Missouri, School of Mines and Metallurgy, Technical Series. Univ. of Mo., Rolla
- Monthly Labor R**—Monthly Labor Review. \$1.50; single numbers 15c. U.S. Bureau of Labor Statistics, Washington, D.C.
Free to labor departments and bureaus and other offices connected with the administration of labor laws.
- Munic Eng**—Municipal and County Engineering. \$2; single numbers 25c. Engineering Pub. Co., 702 Wulsin Bldg, Indianapolis, Ind.
- Munic J.** See Pub Works
- N E L A Bul**—National Electric Light Association Bulletin. \$.3. National Electric Light Assn., 29 W 39th St, New York.
- N E Water Works Assn J**—Journal of the New England Water Works Association. \$4; single numbers \$1.25. New England Water Works Association, 715 Tremont Temple, Boston.
- Nat Pet N**—National Petroleum News. \$2.50; single numbers 10c. National Petroleum Pub. Co., 812 Huron Road, Cleveland, O.
- Nat Research Council Bul**—National Research Council Bulletin. National Research Council, 1701 Massachusetts Av, Washington, D.C.
- Nat Safety N**—National Safety News. \$4; single numbers 40c. without bulletins; with bulletins \$6; single numbers 60c. National Safety Council, 168 N Michigan Av, Chicago.
Indexed from January, 1923.
- Nation's Business**—The Nation's Business. \$3; single numbers 25c. Chamber of Commerce of the United States, Mills Bldg., Washington, D.C.
- Office Management**—Office Management. \$2; single numbers 25c. Filing Incorporated, 320 Broadway, New York.
Discontinued. September and October, 1922, numbers indexed.
- Oil Paint & Drug Rep**—Oil, Paint and Drug Reporter. \$5; single numbers 15c. Oil, Paint and Drug Reporter, 100 William St, New York.
- Paper**—Paper. \$5; single numbers 25c. Hughes Pub. Co., 1478 Broadway, New York.
- Paper Tr J**—Paper Trade Journal. \$4; single numbers 10c. Lockwood Trade Journal Co., Inc., 10 E 39th St, New York.
- Philos Mag**—Philosophical Magazine, and Journal of Science. single numbers 4s. 6d. Taylor and Francis, Red Lion Court, Fleet St, London.
- Phys R**—The Physical Review. Second Series. \$7; single numbers 75c. The Physical Review, Corning, N.Y.
- Plumber.** See Sanitary & Heat Eng
- Pop Mech**—Popular Mechanics Magazine. \$3; single numbers 25c. Popular Mechanics Co., 200 E Ontario St, Chicago.
Transferred to Readers' Guide, 1924.

- Power—Power.** \$3; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Power Pl Eng—Power Plant Engineering.** \$2; single numbers 15c. Technical Pub. Co., 537 S Dearborn St, Chicago.
- Prof Eng—Professional Engineer.** \$1.50; single numbers 15c. American Association of Engineers, 63 E Adams St, Chicago.
Indexed from January, 1923.
- Ptg Art—The Printing Art.** \$4; single numbers 40c. The University Press, Cambridge, Mass.
- Ptr Ink—Printers' Ink.** \$3; single numbers 10c. Printers' Ink Pub. Co., 185 Madison Av, New York
- Ptr Ink M—Printers' Ink Monthly.** \$2; single numbers 25c. Romer Pub. Co., Inc., 185 Madison Av, New York.
- Pub Roads—Public Roads.** \$1; single numbers 10c. U.S. Department of Agriculture, Bureau of Public Roads, Washington, D.C.
Discontinued with the December, 1921 number.
- Pub Works—Public Works.** \$3; single numbers 25c. Public Works Journal Corp., 243 W 39th St, New York.
Formerly Municipal Journal and Public Works
- Ref Shelf—The Reference Shelf.** \$4.50. The H. W. Wilson Co., 953 University Av, New York.
- Refrig Eng—Refrigerating Engineering.** \$5; single numbers 50c. American Society of Refrigerating Engineers, 35 Warren St, New York.
Formerly A. S. R. E. J.
- Refrig W—Refrigerating World.** \$2; single numbers 20c. Ice Trade Journal Co., 25 West Broadway, New York.
- Roy Aeronautical Soc J—Royal Aeronautical Society Journal.** £1 12s 6d; single numbers 2s 9d. Royal Aeronautical Society, 7, Albemarle st, Piccadilly, London, W. 1.
Formerly Aeronautical Journal
- Ry Age—Railway Age.** \$6; single numbers 25c. Simmons-Boardman Pub. Co., 30 Church St, New York.
Formerly Railway Age Gazette
- Ry Mech Eng—Railway Mechanical Engineer including the American Engineer.** \$3; single numbers 35c. Simmons-Boardman Pub. Co., 30 Church St, New York.
Formerly Railway Age Gazette. Mechanical edition.
- Ry R—Railway Review.** \$4; single numbers 25c. Railway Review, 537 S Dearborn St, Chicago; 30 Church St, New York.
Formerly Railway and Engineering Review.
- Safety Eng—Safety Engineering.** \$3; single numbers 25c. Safety Magazine Publishing Corp., 119 Nassau St, New York.
- Sanitary & Heat Eng—Sanitary & Heating Engineering.** \$2; single numbers 10c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St, New York.
Formerly published as Plumber and Steam Fitter
- Sci Am—Scientific American.** \$4; single numbers 35c. Scientific American Pub. Co., 233 Broadway, New York.
Consolidation of Scientific American Weekly and Scientific American Monthly, beginning November, 1921.
- Sheet Metal Worker—Sheet Metal Worker.** \$3; single numbers 15c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St, New York.
A Consolidation of Metal Worker, Plumber and Steam Fitter and Sheet Metal.
- Sibley J—Sibley Journal of Engineering.** \$2.50; single numbers 30c. Sibley College, Cornell Univ., Ithaca, N.Y.
- Soc Auto Eng J—Society of Automotive Engineers.** Journal. \$10; single numbers \$1. Society of Automotive Engineers, Inc., 29 W 39th St, New York.
- Soc Chem Ind J—Society of Chemical Industry.** Journal. single numbers 1s 9d. Society of Chemical Industry, Central House, 46 & 47, Finsbury Sq, London, E.C. 2.
- Soc Dyers & Col J—Society of Dyers and Colourists.** Journal. 60s; single numbers 5s. Society of Dyers and Colourists, 30 Pearl Assurance Bldgs, Market St, Bradford, England.
Indexed from January, 1923.
- Soc Ing Civils Bul—Mémoires et Compte Rendu des Travaux de la Société des Ingénieurs Civils de France.** Bulletin. Hotel de La Société, 19, rue Blanche, 19 (9°), Paris, France.
- Special Lib—Special Libraries.** \$4; single numbers 50c. H. W. Wilson Co., 953-972 University Av, New York.
- Stahl & Eisen—Stahl und Eisen.** Düsseldorf, Germany.
- Stevens Ind—Stevens Indicator.** \$2; single numbers 35c. Stevens Institute of Technology, Hoboken, N.J.
- System—System.** \$4; single numbers 35c. A. W. Shaw Co., Cass, Huron and Erie Sts, Chicago.
- Tech Assn Pa—Technical Association Papers.** 3d ser. \$2; 4th & 5th ser. \$3. Technical Association of the Pulp and Paper Industry, 18 E 41st St, New York.
- Textile Col—Textile Colorist.** \$5. Textile Colorist, 53 Park Pl, New York.
Indexed from January, 1923.
- Textile Inst J—Textile Institute.** Journal. 2 Guineas. Textile Institute, 16 St Mary's Parsonage Manchester, England.
Indexed from January, 1923.
- Textile World—Textile World.** \$4. Bragdon, Lord & Nagle Co., 334 4th Av, New York.
Formerly published as Textile World Record, monthly at \$2; Textile World Journal.
- U S Agric Bul—United States. Dept. of Agriculture.** Bulletin. Distributed free of charge. U.S. Dept. of Agriculture, Division of Publications, Washington, D.C.
Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed, also selected publications of other bureaus.
- U S Bur For & Dom Com—United States. Bureau of Foreign and Domestic Commerce.** Special agents series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.
- U S Bur For & Dom Com misc ser—United States. Bureau of Foreign and Domestic Commerce.** Miscellaneous series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.
- U S Bur For & Dom Com Trade Information.**
- * Bul—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.**
- U S Bur Labor Statistics Bul—United States. Bureau of Labor Statistics.** Bulletin. Distributed free of charge. U.S. Bureau of Labor Statistics, Washington, D.C.
- U S Bur Mines Bul—United States. Bureau of Mines.** Bulletin. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Mines Circ—United States. Bureau of Mines.** Miners' circular. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Mines Tech Pa—United States. Bureau of Mines.** Technical paper. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Stand Circ—United States. Bureau of Standards.** Circular. U.S. Bureau of Standards, Washington, D.C.
- U S Bur Stand Sci Pa—United States. Bureau of Standards.** Scientific papers. U.S. Bureau of Standards, Washington, D.C.
Per volume paper \$1.25; cloth \$1.50; foreign subscription, paper \$2; cloth \$2.10. Single numbers vary in price.
- U S Bur Stand Tech Pa—United States. Bureau of Standards.** Technologic papers. U.S. Bureau of Standards, Washington, D.C.

U S Geol S Bul—United States Geological Survey. Bulletin. Distributed free of charge. U.S. Geological Survey, Washington, D.C.

U S Nat Advisory Com for Aeronautics—United States National Advisory Committee for Aeronautics, Washington, D.C.

U S Sp Cons Rep—United States. Special consular reports. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Women's Bur Bul—United States Women's Bureau. Bulletin. U.S. Women's Bureau, Washington, D.C.

W Soc E J—Journal of the Western Society of Engineers. \$3; single numbers 50c. Western Society of Engineers, 53 W Jackson Blvd. Chicago.

Wireless Age—The Wireless Age. \$2.50; single numbers 25c. Wireless Press, Inc., 326 Broadway, New York.

* The free distribution of nearly all of the publications of the Bureau of Foreign and Domestic Commerce is confined to the American Consular Service, educational institutions, libraries, trade journals, newspapers, commercial organizations, such as chambers of commerce or manufacturers' associations, traffic managers of American railroads and government offices. Others may procure them from the Superintendent of Documents, Government Printing Office, Washington, D.C., or at any of the District or Cooperative offices of the Bureau, at the cost of printing.

† A limited edition of each publication of the Bureau of Mines is printed for free distribution to residents of the United States and its possessions and Canada, Mexico, Panama, and Cuba.

‡ Single copies of the publications of the Bureau of Standards are sent free upon request to specialists concerned with the subjects treated, to those collaborating with the Bureau in its investigations, to organizations exchanging like courtesies with the Bureau, and to designated Government depository libraries. Others may purchase them from the Superintendent of Documents.

Abbreviations of Publishers' Names Used in Book Titles

- Am. Acad. of Pol. and Soc. Sci. American Academy of Political and Social Science, Station B, Philadelphia
- Appleton. Daniel Appleton & Co., 29-35 W. 32d St., N.Y.; 533 S. Wabash Av., Chicago
- Baird. H. C. Baird & Co., 2 W. 45th St., N.Y.
- Blakiston. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia
- Bobbs. Bobbs-Merrill Co., 18 University Square, Indianapolis; 185 Madison Av., N.Y.
- Brentano's, 5th Av. & 27th St., New York
- Century Co., 353 4th Av., N.Y.
- Chemical Catalog Co., Inc., 19 E. 24th St., N.Y.
- Chemical Pub. Co. Chemical Pub. Co., 300 N. 3d St., Easton, Pa.
- Crowell. T. Y. Crowell Company, 426-428 W. Broadway, N.Y.
- Dodd. Dodd, Mead & Co., 4th Av., & 30th St., N.Y.
- Doran. George H. Doran Co., 244 Madison Av., N.Y.
- Doubleday. Doubleday, Page & Co., Garden City, N.Y.
- Drake. Frederick J. Drake & Co., 1006 S. Michigan Av., Chicago
- Dutton. E. P. Dutton & Co., 681 5th Av., N.Y.
- Ginn. Ginn & Co., (Educational text-bks.) 15 Ashburton Place, Boston; 2301-2311 Prairie Av., Chicago; 70 5th Av., N.Y.
- Gregg. Gregg Publishing Company, 285 5th Av., N.Y.; 623 S. Wabash Av., Chicago
- Harcourt. Harcourt, Brace & Co., 383 Madison Av., N.Y.
- Harper. Harper & Brothers, 49 E. 33d St., N.Y.
- Heath. D. C. Heath & Co., 50 Beacon St. Boston; 239 W. 39th St., N.Y.; 1815 Prairie Av., Chicago
- Henley. Norman W. Henley Pub. Co., Putnam Bldg., 2 W. 45th St., N.Y.
- Holt. Henry Holt & Co., 19 W. 44th St., N.Y.; 2451 Prairie Av., Chicago
- Houghton. Houghton, Mifflin Co., 2 Park St., Boston; 16 E. 40th St., N.Y.; 2451-2459 Prairie Av., Chicago; 612 Howard St., San Francisco
- Huebsch. B. W. Huebsch, 116 W. 13th St., N.Y.
- Knopf. Alfred A. Knopf, 730 5th Av., N.Y.
- Lippincott. J. B. Lippincott Co., East Washington Sq., Philadelphia
- Longmans. Longmans, Green & Co., 55 5th Av., Cor. 12th St., N.Y.
- McGraw-Hill. McGraw-Hill Bk. Co., Inc., 370 7th Av., N.Y.
- McKay. David McKay, 604-608 S. Washington Square, Philadelphia
- Macmillan. The Macmillan Co., 66 5th Av., N.Y.
- Manual Arts Press, 237 N. Monroe St., Peoria, Ill.
- Oxford. Oxford University Press (Clarendon Press) (American branch), 35 W. 32d St., N.Y.
- Penton Pub. Co., 1213 W. 3d St., Cleveland, O.
- Pitman. Sir Isaac Pitman & Sons, 2-6 W. 45th St., N.Y.
- Prentice-Hall, Inc., 70 5th Av., N.Y.
- Putnam. G. P. Putnam's Sons, Putnam Bldg., 2-6 W. 45th St., N.Y.
- Revell. Fleming H. Revell & Co., 158 5th Av., N.Y.; 17 N. Wabash Av., Chicago
- Ronald Press. Ronald Press Co., Evening Post Bldg., 20 Vesey St., N.Y.
- Routledge. Routledge, G. & Sons, Ltd., Broadway House, 68-74 Carter Lane, Ludgate Hill, E.C. 4
- Scribner. Charles Scribner's Sons, 597 5th Av., N.Y.; 320 E. 21st St., Chicago
- Shaw. A. W. Shaw Co., Cass, Huron & Erie Sts., Chicago; 342 Madison Av., N.Y.
- Spon. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1; Spon & Chamberlain, 122 Liberty St., N.Y.
- Stokes. F. A. Stokes Co., 443-449 4th Av., N.Y.
- Supt. of Doc. Superintendent of Documents, Washington, D.C.
- U. P. C. Book Co., Inc., 243 W. 39th St., N.Y.
- Univ. of Chicago Press, 5750 Ellis Av., Chicago
- Van Nostrand. D. Van Nostrand Co., 8 Warren St., N.Y.
- Wiley. John Wiley & Sons, Inc., 432 4th Av., N.Y.
- Workers Educ. Bur. Workers Educational Bureau of America, 476 W. 24th St., N.Y.

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Abietates
Abietic acid and certain metal abietates. L. L. Steele. Am Chem Soc J 44:1333-41 Je '22

Abietic acid
Abietic acid and certain metal abietates. L. L. Steele. Am Chem Soc J 44:1333-41 Je '22
Higher terpene compounds: abietic acid; abstract. L. Ruzicka and J. Meyer. Chem Soc J 122 pt 1:547-8 Je '22

Über die coniferen-harzsauren: nitrosochlorid, nitrosit und nitrosat der pinabietinsäure und abietinsäure; die konstitution der abietinsäure und des abietins. O. Aschan and others. Deutsche Chem Gesell Ber 55:2944-59 O '22; Abstract. Chem Soc J 122 pt 1: 1152-3 D '22

Ability
Doing two things at once; multiple consciousness, or reflex action of unaccustomed range? A. Gradenwitz. Il Sci Am 128:17 Ja '23

See also Efficiency, Industrial; Executive ability; Executives

Ability tests
Application of scientific methods to industrial analyses. F. L. Dunham. Elec Ry J 60:554-5 O 7 '22

Cutting costs by special employment tests. R. J. Waldo. diag Administration 2:739-47 D '21

Employee tests. W. M. Jackson. Administration 4:689-96 D '22

Engineers lead in army intelligence tests. Soc Auto Eng J 13:86 Jl '23

Experience with the general intelligence test in teaching freshmen chemistry. J. Cornog and E. Bartow. Ind & Eng Chem 15:301-3 Mr '23

Gauging stenographic ability. E. J. Bengel. Administration 5:156-62 F '23

General knowledge test. Engineer 133:45-6 Ja 13 '22

Grading of General electric employees. J. O'Connor. Iron Age 112:1195-6 N 1 '23

Intelligence measurement. S. C. Kohs. 312p Macmillan '23

Intelligence tests for engineering students. L. L. Thurstone. Eng Educ 13:263-318 Ja '23

Intelligence tests in the engineering college. C. B. Benson. Sibley J 36:133-5 O '22

Judging human character. H. L. Hollingworth. 268p Appleton '22

Limitations of mental measurements. Sci Am 128:399 Je '23

Measurements of mechanical ability. J. L. Stenquist. 101p Teachers college, Columbia university, New York '23

New Jersey's tests for \$6,000 men. M. A. Lippman. Office Management 8:9-11 S '22

Periodic variations in efficiency as shown in mental and physical tests. A. G. Peaks. (Educational psychology monographs no. 23) 95p Warwick & York, Baltimore '21

Preventing mis-fits by applied psychology. B. V. Moore. Ind Management 66:59-62 Jl '23

Proposed test for mechanical ability. E. Hatt and G. C. Brandenburg. Il diags Eng Educ 12:114-27 N '21

Psychological tests for motormen. A. Gradenwitz. Il Elec Ry J 59:143-6 Ja 28 '22

Psychological tests must be based on facts. N. L. Hoopingarner. Elec Ry J 59:716-17 Ap 29 '22

Psychology as a business. Il Sci Am 127: 112-13+ Ag '22

Psychology of employment. C. O. Weber. Administration 3:672-6 Je '22

Rogers test of mathematical ability. A. L. Rogers. Rev. ed. 19p Teachers college, Columbia univ., New York '23

Some recent reports on vocational selection in England; abstract. D. R. Wilson. J Ind Hygiene 4:sup54-7 Ag '22

Standardized mental test in personnel selection. W. V. Bingham. Soc Auto Eng J 12: 272 Mr '23

Testing men like material. Factory 30:294-5 Mr '23

Tests used in selecting employees. M. McCants. Elec Ry J 60:710-15 O 28 '22

Trade tests in education. H. A. Toops. 118p Teachers college, Columbia univ., New York '21

Use of Ebbinghaus test in written lessons. S. Sims. Eng Educ 13:39-42 S '22

Vocational tests for engineering trades. Engineer 136:304 S 21 '23; Engineering 116: 360-1 S 21 '23

See also Edison questionnaire; Educational measurements; also Psychological corporation of New York

Bibliography

Psychological tests in industry. (Bul. no. 49, Oct. '21) 4p Russell Sage foundation library, New York '21

Ability tests, Musical. See Musical ability tests

Abrams' electronic reactions

Our Abrams investigation. Sci Am 129:230, 306-7+ O-N '23

Abrasion resistance

Resilient energy and abrasion resistance of vulcanized rubber. H. W. Greider. Ind & Eng Chem 15:504-11 My '23

Abrasion testing machine

Abrasion testing. H. A. Depew. India Rubber W 68:566 Je '23

Abrasion testing machine. Il India Rubber W 67:357 Mr '23

Determining the resistance of rubber products to abrasion. W. W. Evans. Il diag Engineering 116:192 Ag 10 '23

Abrasive wheels. See Grinding wheels

Abrasives

Abrasive materials in 1920. L. M. Beach and A. T. Coons. U S Geol S Min Res of U S 1920,pt 2:155-9 '21

Abrasives. Brass W 18:357-8 D '22

Abrasives—Continued

- Artificial abrasives—silicon carbide and corundum. Brass W 18:70 F '22
- Artificial aluminous abrasives. Chem Age 30: 110 Mr '22
- Elements of production grinding. E. Sheldon. *il Am Mach* 59:37-41 J1 12 '23
- Manufacture and uses of abrasive materials. A. B. Searle. 118p Pitman '22
- Output of abrasives in 1922. Eng & Min J 115: 984 Je 2 '23
- Polishing wheels. B. H. Divine. *il diag Mach* 29:218-20 N '22
- Pulverizing materials in the metal industry. H. Hardinge. *il diags Metal Ind* 21:334-5 Ag '23

See also Carborundum; Commutator stones; Grinding and polishing

Absenteeism (labor)

- Absence records that aid in production planning. Factory 31:460-1+ O '23
- Absenteeism: a quantitative study. J. D. Hackett. Management Eng 2:85-90 F '22
- Abstract. Monthly Labor R 14:1111-12 Je '22
- Absentism confusion. J. D. Hackett. Management Eng 4:105-6 F '23
- Campaign against absenteeism undertaken by Cheney bros. chart Textile World 64:316 Ag 11 '23
- Industrial absenteeism. Monthly Labor R 16: 122-4 Ja '23
- Study of industrial absenteeism. R. S. Quinby. Monthly Labor R 13:713-21 O '21
- Study of industrial absenteeism; abstract. R. S. Quinby. J Ind Hygiene 3:sup239-40 F '22

Absolute zero. See Hydrogen, Liquid

Absorption

- Absorption of carbon disulfide vapor by aqueous solutions of sodium trinitride. A. J. Currier and A. W. Browne. Am Chem Soc J 44:2849-54 D '22
- Absorption of carbon monoxide by cuprous ammonium carbonate and formate solutions. A. T. Larson and C. S. Teitworth. *diag Am Chem Soc J* 44:2878-85 D '22
- Absorption of war gases by rubber and rubberized fabric. T. M. Rector. *diag Ind & Eng Chem* 15:1132-4 N '23
- Basic principles underlying gas absorption. E. M. Baker. *bibliog Chem & Met Eng* 29: 500-2 S 10 '23
- Beta-chlorovinyl chloroarsines. W. L. Lewis and G. A. Perkins. *diags Ind & Eng Chem* 15:290-5 Mr '23
- Disappearance of gas in the electric discharge. Philos Mag 6th ser 43:914-37 My '22
- Effectiveness of different methods of making absorption determinations as applied to hollow building tile. H. D. Foster. Am Cer Soc J 5:788-97 N '22
- Measurement of the relative absorption efficiencies of gas-absorbent oils. R. E. Wilson and H. S. Davis. Ind & Eng Chem 15: 947-50 S '23
- Moisture absorption power of different sugars and carbohydrates under varying conditions of atmospheric humidity. C. A. Browne. J Ind & Eng Chem 14:712-14 Ag '22
- Occlusion of hydrogen in palladium. M. Yamada. Philos Mag 6th ser 45:241-3, pl 2 Ja '23
- Porosity. E: W. Washburn and others. Am Cer Soc J 4:916-22, 961-89; 5:48-56 N '21-Ja '22
- Practice and control of benzol recovery from gas; the use of solid absorbents. R. Furness. Soc Chem Ind J (Chem & Ind) 42: 850-4 S 7 '23
- Rates of absorption and heat transfer between gases and liquids. W. G. Whitman and J. L. Keats. J Ind & Eng Chem 14: 186-91 Mr '22
- Sorption activity of carbon. J. B. Firth. Soc Chem Ind J 42:242-4 Je 1 '23
- Sorption of iodine by carbons prepared from carbohydrates. J. B. Firth. Chem Soc J 123:323-7 F '23
- Two-film theory of gas absorption. W. G. Whitman. *diag Chem & Met Eng* 29:146-3 J1 23 '23
- See also* Adsorption
- Absorption of rays**
- Absorption coefficients for homogeneous X-rays. E. G. Taylor. Phys R 20:709-14 D '22
- Absorption of light by sodium vapour. F. H. Newman. Philos Mag 6th ser 46:420-5, pl 8 S '23
- Absorption of narrow X-ray beams. P. W. Burbidge. Philos Mag 6th ser 43:389-92 F '22
- Absorption of the K X-rays of silver in gases and gaseous mixtures. P. W. Burbidge. *diags Philos Mag* 6th ser 43:381-9 F '22
- Characteristic L absorption of X-rays for elements of atomic numbers 62 to 77. J. M. Cork. Phys R 21:326-33 Mr '23
- Effect of the magnetic field on the absorption of X-rays. J. A. Becker. *diags Phys R* 20: 134-47 Ag '22
- Experimental study of the scattering of approximately homogeneous X-rays by powdered crystalline carbon, metallic lithium, and liquid benzene, mesitylene, and octane. C. W. Hewlett. Phys R 20:688-708 D '22
- Quantitative absorption of light by simple inorganic substances; the chlorides of arsenic, antimony and bismuth. A. K. Macbeth and N. I. Maxwell. Chem Soc J 123:370-5 F '23
- Relation between light-absorption and light-scattering for liquids. W. H. Martin. J Phys Chem 26:471-6 My '22
- Study of the absorption of light by solutions of cupric lithium chloride. F. H. Getman. J Phys Chem 26:377-83 Ap '22
- Absorption process for gasoline.** See Gasoline—Manufacture
- Absorption spectra.** See Spectrum—Absorption spectra
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- Accelerated reactions in pulsating gaseous currents. J. Deschamps and J. F. Shadgen. *diags Chem & Met Eng* 27:1269-71 D 27 '22
- Extension of the theory of gas-absorption towers. W. B. Van Arsdell. Chem & Met Eng 28:889-92 My 21 '23; Discussion. R. T. Haslam. 29:66 J1 9 '23
- Factors influencing the design of absorption apparatus. R. T. Haslam, W. P. Ryan and H. C. Weber. Ind & Eng Chem 15:1105-8 N '23
- How Norsk Hydro absorbs its dilute nitrous gases. T. C. Hagemann. *il diag plan Chem & Met Eng* 29:502-3 S 10 '23
- Tower fillings for industrial absorption. P. D. V. Manning. *il Chem & Met Eng* 29:504-5 S 10 '23
- Two-film theory of gas absorption. W. G. Whitman. *diag Chem & Met Eng* 29:146-8 J1 23 '23
- Abstract writing**
- Usefulness of analytic abstracts. G. S. Fulcher. (Reprint and Circ. Ser. 40) 6p 15c National research council, 1701 Massachusetts av, Washington, D.C.
- Abutments.** See Bridges—Abutments
- Acacias**
- La culture des acacias tannifères dans nos possessions de l'Afrique du nord. E. Jalade. Chimie & Ind 8:696-700 S '22
- Académie des sciences**
- L'histoire et l'organisation de l'Académie des sciences. Génie Civil 82:89-90 Ja 27 '23
- Academy of political science**
- 41st annual meeting held jointly with the Industrial relations association of America in New York, Nov. 4-5. Iron Age 108:1207-8 N 10 '21
- Accelerators.** See Vulcanization
- Accelerometer**
- Accelerometer for measuring impact. E. B. Smith. *il diag Eng N* 91:26 J1 5 '23
- N.A.C.A. three component accelerometer. *il diags Aerial Age* 16:74-5 F '23
- Popularized form of accelerometer. *diag Automotive Ind* 45:1213 D 22 '21
- Some road tests with a new type of accelerometer; the Drewry testometer. S. H. Woods. *diag Automotive Ind* 45:970-2 N 17 '21

Acceptances

- Abuse of use of bankers' acceptances cited in report to comptroller of the currency. *Comm & Fin Chr* 114:2777-8 *Je* 24 '22
- Acceptance financing and the International acceptance bank, inc. 75p International acceptance bank, New York '23
- Acceptances in American business. *W: S. Irish. Am Ind* 22:13-14- *D* '21
- Acceptances in foreign trade. *F: I. Kent. Am Ind* 22:27-8 *F* '22
- Bankers' domestic acceptances; advantages to be gained by their use in financing American business. *M. L. Farrell. Am Ind* 22:25-6 *Ja* '22
- Creation of acceptance credits. *W. Ward. 50p American acceptance council, New York* '23
- Eligibility of paper of co-operative marketing associations for purchase or rediscount by Federal reserve banks. *Comm & Fin Chr* 115:2852-3 *D* 30 '22
- Federal reserve board on condition of acceptance market. *Comm & Fin Chr* 113:2668-9 *D* 24 '21
- Federal reserve board's new regulation governing dealings in acceptances. *Comm & Fin Chr* 114:1358-60 *Ap* 1 '22
- Important part played by American acceptance credits in refinancing world. *P. M. Warburg. Comm & Fin Chr* 114:2189-90 *My* 20 '22
- Mechanism of commercial credit; terms of sale and trade acceptances. *W: H. Steiner. 375p Appleton* '22
- Report of acceptance committee of A. B. A. *Comm & Fin Chr* 117:115-17 *sec* 2 *O* 13 '23
- Trade acceptance—some facts concerning it. *Dom Eng* 100:484-6 *S* 16 '22
- Use of bankers' acceptances in development of international trade. *W. P. G. Harding. Comm & Fin Chr* 114:2070-2 *My* 13 '22
- The American acceptance council, 120 Broadway, N.Y., publishes pamphlets on acceptances

Accident law

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- Accidents and sickness as industrial waste. *C. G. Rice. Safety Eng* 43:21-2 *Ja* '22
- Insufficiency of statistics of accidents. *W. G. H. Cam. Safety Eng* 43:51-2 *F* '22
- Startling statistics on public accidents; report to the annual Safety congress. *Elec Ry J* 60:607-8 *O* 7 '22
- Toll of accidental deaths reaches high mark. *Pop Mech* 38:756 *N* '22
- Trend of public accidents. *Aera* 11:319-21 *O* '22

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- Accidents in the ice and refrigeration industry. *C. O. Hero. Refrig W* 58:22+ *O* '23
- Accidents, their causes and remedies; notes from the report of the Accident causes and remedies committee of the National safety council. *Power Pl Eng* 27:1094-6 *N* 1 '23
- Analyze causes of industrial accidents. *Iron Tr R* 73:319 *Ag* 2 '23
- Attempt at a new classification of accident causes. *Monthly Labor R* 14:555-7 *Mr* '22
- Business cycle and accidents. *W. J. Graves. Nat Safety N* 8:27+ *Jl* '23
- Causation of industrial accidents. *H. M. Vernon. bibliog J Ind Hygiene* 5:14-18 *My* '23

Causes and prevention of accidents in the iron and steel industry, 1910-1919. *L. W. Chaney. il U S Bur Labor Statistics Bul* 298:1-398 '22

- Causes of accidents in handling objects. *C. H. Smith. diag Iron Age* 112:976-7 *O* 11 '23
- Classifying minor injuries in the plant. *G. E. Minshull. Nat Safety N* 7:13 *F* '23
- Experience of eight industries sets safety bogies. *Nat Safety N* 8:23 *Ag* '23
- Ferrous strata develop CO₂ in tunnel shaft. *T. C. Hatton. diag plan Eng N* 89:706-7 *O* 26 '22

Frequency and severity of accidents in the iron and steel industry of the United States 1907-1920. *Int Labour R* 5:145-50 *Ja* '22

- Industrial accident experience data. *J. D. Hackett. Management & Adm* 6:649+ *N* '23
- Industrial accident prevention; analysis of lost time mishaps. *G. E. Sanford. Safety Eng* 45:41-2 *F* '23

Industrial accidents. See monthly numbers of Monthly labor review

Industrial accidents in relation to temperature. *H. M. Vernon. Ind Management (Lond)* 8:371-2 *D* 28 '22

Industrial accidents to children in New York. *Monthly Labor R* 16:818-20 *Ap* '23

Investigation of accidents. *il Nat Safety N* 8:45-52 *Ag* '23

Making material handling safe. *V. C. King. il Iron Tr R* 71:29-32 *Jl* 6 '22

Mental causes of accidents. *B. Fisher. 315p Houghton* '22

Mental factors in accident prevention. *W: R. Woodbury. Nat Safety N* 7:25-7 *My* '23

Metals section announces 1922 accident record. *Nat Safety N* 8:43-4 *Jl* '23

Of 277 months 116 were without accident; unusual safety record made in competition by Worcester plants. *J: Nelson. Iron Age* 110:1156-7 *N* 2 '22

Placing responsibility for accidents. *H. L. Keely. Management Eng* 2:149-52 *Mr* '22

Prodigious cost of industrial accidents. *S. DeHart. il Am Mach* 56:11-13 *Ja* 5 '22

Relation between labor turnover and industrial accidents. *H. D. Kitson and C. Campbell. bibliog J Ind Hygiene* 5:92-6 *Jl* '23

Study of the number and causes of fatal industrial accidents. *Monthly Labor R* 15:393 *Ag* '22

Value of accident investigations. *H. P. Heyne. Iron Age* 110:285 *Ag* 3 '22

Waste in industry. *Ind Management (Lond)* 9:78 *F* 8 '23

Where industrial accidents occur. *Sheet Metal Worker* 14:572 *Ag* 17 '23

Why are workmen careless? *A. D. Risteen. Safety Eng* 45:196-8 *Je* '23

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Records

Accident records; how to compile them and how to use them. *Am Gas J* 115:463-4+ *N* 19 '21

Obtaining and presenting safety statistics for the busy executive. *A. M. Underhill. Safety Eng* 43:131-4, 199-204 *Ap-My* '22

Value of keeping accident statistics. *N E L A Bul* 10:58-61 *Ja* '23

Statistics

Industrial accidents in Sweden in 1918 and 1919. *Int Labour R* 8:437-42 *S* '23

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- Statistics of industrial accidents in the United States. A. C. Carruthers. *Safety Eng* 46:108-16 S '23
 Statistics of industrial accidents in the United States. L. W. Chaney. *U S Bur Labor Statistics Bul* 339:1-60 '23

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- Accountants as forecasters. *Management & Adm* 6:496-7 O '23
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 Economics and the accountant. E. LeMaster. *J Account* 34:100-5 Ag '22
 Ethics of accountancy. E. P. Moxey. (*Annals* v.101: no. 190 My '22) p. 196-202 *Am. Acad. of Pol. and Soc. Sci.*
 Professional ethics. H. F. French. *J Account* 36:81-96 Ag '23
 Professional prerequisites. E. B. Hawes. *J Account* 35:253-7 Ap '23

Advertising

- Ethical advertising. *Administration* 3:388-90 Mr '22
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 Treasury department issues rule that restricts advertising of honest accountants. *Ptr Ink* 119:17-20 My 18 '22

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- Need for accountants as receivers and trustees. J. B. Niven. *J Account* 36:321-6 N '23

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- American institute of accountants; examination in accounting theory and practice, May, 1922. *J Account* 34:46-66, 132-46 *Jl-Ag* '22
 American institute of accountants; examination in accounting theory and practice, November 16, 1922. *J Account* 34:404-9, 412-16 D '22
 American institute of accountants; examination in accounting theory and practice, May, 1923. *J Account* 36:47-63, 128-41 *Jl-Ag* '23
 American institute of accountants; examination in auditing. *J Account* 33:215-21; 34: 217-22; 35:220-7; 36:213-24 Mr, S '22, Mr, S '23
 American institute of accountants; examination in commercial law. *J Account* 33:296-307; 34:222-31; 35:295-307; 36:297-309 Ap, S '22, Ap, O '23
 C. P. A. accounting, theory, questions, and problems. G. H. Newlove. Association press, New York '21
 Chapter tests and examination papers, with solutions, for Fundamentals of accounting. S. B. Koopman and R. B. Kester. Ronald press '22
 Taking the examination. J. H. Jackson. *J Account* 34:346-50 N '22

Law

- District of Columbia C.P.A. law. *J Account* 35:308-10 Ap '23
 Right to practice accountancy. *J Account* 33:199-202 Mr '22

Accounting

- Accountancy and business management. H. M. Rowe and H. M. Rowe, Jr. 268p H. M. Rowe co., Chicago, Baltimore '23
 Accountant as an aid to the sales manager. A. S. Banks. *Ptr Ink* M 7:40 *Jl* '23
 Accountants and economics with reference to the business cycle. W. C. Mitchell. *J Account* 35:161-71 Mr '23; Same. *Paper Tr J* 76:57-60 Mr 8 '23
 Accountants' working papers. L. E. Palmer and W. H. Bell. 194p Ronald press '23
 Accounting; a practical course of accounting theory and practice. W. S. Morgan. 168p Morgan school of accounting and finance, Boston '22

- Accounting and cost keeping of the Department of engineering and construction. F. L. Cavis. 111p Ohio. Miami conservancy district, Dayton '22
 Accounting for contracts. H. M. Ingham. *J Account* 33:87-9 F '22
 Accounting for economy of time. R. B. Wolf. *Management Eng* 3:153-4 S '22
 Accounting needs of technical men in executive positions. F. W. Thornton. *Chem & Met Eng* 27:925-7 N 8 '22
 Accounting principles. S. Bell. 482p Macmillan '21
 Accounting principles. F. C. Russell and F. H. Hurdman. 326p Alexander Hamilton inst., New York '23
 Accounting problems: intermediate. C. F. Rittenhouse and A. L. Percy. 429p McGraw-Hill '22
 Accounting problems of fluctuating currencies. K. Sitka. *Administration* 5:320-3 Mr '23
 Accounting simplified. G. W. Greenwood. *Brick & Clay Rec* 62:39-41, 44-5, 127-9+, 230-3, 328-31, 418-21, 606-9, 691-3+, 776-9, 863-4 *Ja* 9-Mr 6, Ap 3-My 15 '23
 Accounting theory, with special reference to the corporate enterprise. W. A. Paton. 508p Ronald press '22
 Advanced accounting. G. E. Bennett. 661p McGraw-Hill '22
 Appraisals as a foundation for property records. L. H. Olson. *Paper Tr J* 77:57-60 *Jl* 26 '23
 Cash discounts and their accounting treatment. J. P. Adams. *Administration* 5:190-8 F '23
 Charting as an aid in stabilizing profits; accounting statements. P. A. Bivins. *Ind Management* 64:97-103 Ag '22
 Chemistry and physics in accounting. F. W. Thornton. *J Account* 35:241-6 Ap '23
 Classification and definitions of ledger accounts. 34p Bur. of commercial and ind. affairs, Boston Chamber of commerce '22
 Classified selection of problems in accounting. R. G. Walker. 181p G. Wahr, Ann Arbor, Mich. '22
 Constructive accounting. J. S. M. Goodloe. *Administration* 4:202-8 Ag '22
 Determination of earnings. J. K. Mason. *Administration* 4:597-604 N '22
 Economic control through account classification. J. K. Mason. *Administration* 4:445-55 O '22
 Economics for the accountant. K. Simpson. 206p Appleton '21
 Elementary accounting. S. F. Racine. 277p Western institute of accountancy, commerce & finance, Seattle, Wash. '23
 Figures that give yesterday's profits today; New Jersey zinc company. A. Heckscher. *System* 44:439-41+ O '23
 Fixed property accounting. A. B. Manning. *Administration* 2:759-74; 3:89-112, 316-29, 444-52 D '21-Ja, Mr-Ap '22
 Forecasting cash requirements—the analytic cash estimate. R. W. McKee. *Administration* 5:465-9 Ap '23
 Fundamentals of accounting. S. B. Koopman and R. B. Kester. Ronald press '21
 General accounting. J. A. Powelson. Syracuse ext. inst. of accountancy, Syracuse, N.Y. '22
 Keeping a record of future contract liabilities. C. Djörup. *Administration* 5:210-12 F '23
 Laboratory manual; elements of accounting. F. H. Elwell. 79p Parker co., Madison, Wis. '21
 Laboratory manual; theory and practice of accounting. F. H. Elwell. 111p Parker co., Madison, Wis. '21
 Mathematics of accounting and finance. S. Walton and H. A. Finney. 274p Ronald press '21
 Mechanical difficulties in consolidating accounts. M. E. Peloubet. *J Account* 35:413-29 Je '23
 Naval-stores accounting. V. E. Bennett. *J Account* 33:22-31 *Ja* '22
 New accounting. R. Borsodi. 127p Dodd '22
 Penalty of accounting ignorance. *Office Management* 8:41 O '22
 Philosophy of accounts. C. E. Sprague. 5th ed. 183p Ronald press '22

Accounting—Continued

- Plant accounts in invested capital. L. Perkins. *J Account* 33:331-8 My '22
- Practical accounting problems. P.-J. Esquerre. pt. 2. 356p Ronald press '22
- Present-day problems in industrial accounting. S. G. H. Fitch. *J Account* 34:1-10 Jl '22
- Principles of interpretation of accounting data. F. A. Thulin. *J Account* 32:415-21 D '21
- System building and constructive accounting. R. D. Willard. 307p McGraw-Hill '22
- Theory and practice of accounting. S. Bell. 554p American tech. soc., Chicago '22
- Theory of accounts. F. S. Tipson. 3d ed., rev. & enl. 271p Isaac Mendoza bk. co., New York '21
- Treatment of appreciation of fixed assets in the accounts and balance-sheet and for income-tax purposes. A. G. Moss. *J Account* 36:161-79 S '23
- University course in practical cost accounting. F. B. Kelly. *J Elec* 46:294-6, 348-50, 394-6, 448-50, 522-4, 570-2, 646-9; 47:33-6, 70-3, 111-13, 153-5, 191-3, 231-3, 271-3, 310-12, 351-2, 392, 431-2 Mr 15-D 1 '21
- What industrial accounting should mean to the executive. S. G. H. Fitch. *J Account* 35:1-15 Ja '23
- Yield on plant investment. T. B. G. Henderson. *Administration* 3:312-16 Mr '22

See also Accountants; Accountants, Public; Amortization; Appreciation; Arithmetic, Commercial; Auditing; Balance sheets; Bank accounting; Bookkeeping; Budget, Business; Cost accounting; Dairy accounting; Depletion; Depreciation; Discount; Discount, Trade; Dividends; Equipment records; Farm accounting; Financial statements; Foundry accounting; Good will (in business); Highway accounting; Income; Income tax; Interest; Interest tables; Inventories; Mine accounting; Municipal accounting; Overhead expense; Partnership; Payrolls; Percentage; Profit; Reserve accounts; Sinking funds; Surplus; Trial balance; Valuation; Vouchers; *also* subdivision Accounting under various subjects, e.g. Advertising; Awning industry; Bakers and bakeries; Branch offices; Building; Cement plants; Chemical plants; Coal trade; Contractors; Corporations; Electric industries; Electric railroads; Electric utilities; Engineering offices; Gas companies; Gasoline service stations; Greenhouses; Insurance, Fire; Knitting mills; Laundries; Lumber trade; Motor bus lines; Newspapers; Packing houses; Paper mills; Petroleum industry and trade; Plumbing trade; Power cost; Power plants; Printing, Practical; Public utilities; Railroads; Sewage disposal; Steel works; Textile mills; Waterworks; *also* Industrial cost association

Bibliography

- Accounting reports, articles and papers in N.E.L.A. proceedings. F. W. Herbert. *N E L A Bul* 9:637-9 O '22
- A.L.A. reading course on accounting. 8p Am. lib. assn., Chicago '22
- Current literature. *See* monthly numbers of *Journal of accountancy*
- Journal of accountancy* index, vols. XVII-XXXIV inclusive, January, 1914-December, 1922. 221p *Journal of accountancy, inc.*, 135 Cedar st., New York '23

Dictionaries

- Accountant's dictionary. F. W. Pixley. 1006p 2v Pitman '22
- Accounting and business dictionary. E. Biennu. 314p Poynton press co., New Orleans '22

See also Accounting—Terminology

Examinations

See Accountants, Public—Examinations

History

- 25 years of accountancy. E. L. Suffern. *J Account* 34:174-81 S '22

Laws and regulations

- Compulsory accounting services. R. Atkins. *Administration* 4:251-3 Ag '22
- See also* Accountants, Public—Law

Study and teaching

- Accounting as a profession. H. T. Scovill. *J Account* 33:259-68 Ap '22
- Examination in accounting theory and practice, May, 1922. *J Account* 34:46-66, 132-46 Jl-Ag '22
- Examination in accounting theory and practice, November 16, 1922. *J Account* 34:404-9, 412-16 D '22
- Examination in accounting theory and practice, May, 1923. *J Account* 35:47-63, 128-41 Jl-Ag '23
- Standard syllabus for schools of accountancy, issued by the United Y.M.C.A. schools. 44p Association press, New York '21
- Taking university training to the factory. P. M. Atkins. *Ind Management* 63:239-42 Ap '22
- Training young accountants. J. R. Wildman. *J Account* 33:431-7 Je '22

Terminology

- Terminology department. Published in monthly numbers of *Journal of accountancy* beginning with June, 1922
- Work of special committee on accounting terminology of the American institute of accountants. *Paper Tr J* 77:53-6 S 20; 57-60+ S 27; 55-7 O 4 '23

See also Accounting—Dictionaries

Accounts, Collecting of. *See* Collecting of accounts

Accuracy

- Relation of fatigue and accuracy to speed and duration of work. B. Muscio. *Ind Management* (Lond) 9:112-14 F 22 '23

Acenaphthene

- Acenaphthen-synthese; über *o*-chinone und 1,2-diketone. A. Schönberg. *Deutsche Chem Gesell Ber* 54:2833-9 N '21
- Chemistry of acenaphthene and its derivatives. F. M. Rowe. *J Ind & Eng Chem* 14: 80-1 Ja '22
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; inden und acenaphthen. J. v. Braun and G. Kirschbaum. *Deutsche Chem Gesell Ber* 55:1680-6 Je '22
- Studien in der acenaphthen-reihe. F. Mayer and H. Schönfelder. *Deutsche Chem Gesell Ber* 55:2972-4 O '22

Acer ginnala

- Occurrence of a crystalline tannin in the leaves of the *Acer ginnala*. A. G. Perkin and Y. Uyeda. *Chem Soc J* 121:66-76 Ja '22

Acetal

- Study of catalysis in the preparation of acetal. H. Adkins and B. H. Nissen. *Am Chem Soc J* 44:2749-55 D '22

Acetaldehyde

- Acetaldehyde from acetylene. H. W. Matheson. *Chem Age* 30:464-5 O '22
- Influence of potassium hydroxide on the formation of vinyl alcohol from acetaldehyde. W. L. Evans and C. D. Looker. *Am Chem Soc J* 43:1925-8 Ag '21
- Laboratory preparation of acetaldehyde. C. E. Adams and R. J. Williams. *Am Chem Soc J* 43:2420-1 N '21
- Laboratory preparation of acetaldehyde. E. Wertheim. *diag Am Chem Soc J* 44:2658-9 N '22
- Production of acetaldehyde. *diags Chem & Met Eng* 25:1191 D 28 '21
- Role of mercury salts in the catalytic transformation of acetylene into acetaldehyde, and a new commercial process for the manufacture of paraldehyde. R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 43:2071-81 S '21

See also Paraldehyde

Acetalisation

- Direct acetalisation of aldehydes. R. D. Haworth and A. Lapworth. *Chem Soc J* 121: 76-85 Ja '22

Acetals

Catalytic synthesis of the acetals and their halogenation. J. S. Reichert, J. H. Bailey and J. A. Nieuwland. *Am Chem Soc J* 45: 1552-7 Je '23

Studies on cellulose chemistry; parabromo-acetaldehyde and monobromo-acetaldehyde: their preparation, properties and utilization for the synthesis of bromo- and hydroxycyclic acetals related to polysaccharides. H. Hibbert and H. S. Hill. *Am Chem Soc J* 45: 734-51 Mr '23

See also Acetal

Acetamide

Catalysis of the formation and hydrolysis of acetamide by acetic acid. W: A. Noyes and W. F. Goebel. *Am Chem Soc J* 44:2286-95 O '22

Acetates

Les acétates d'amidon. S. Halen. *Chimie & Ind* 7:548 Mr '22

See also Cellulose acetate

Acetic acid

Binary critical solution temperatures as criteria of the purity of acetic acid. D: C: Jones. *Chem Soc J* 123:1374-84 Je '23

Bromination of aliphatic acids. B. D. Shaw. *Chem Soc J* 123:2233-40 S '23

Hydration of acetic and hydrochloric acids and the factors determining the activity of hydrogen ion. W. C. M. Lewis, D. E. Merriam and T. Moran. *Am Chem Soc J* 45:702-12 Mr '23

Improved technology for acetic acid. *Chem & Met Eng* 29:410-11 S 3 '23

New method for the determination of acetic acid in acetic anhydride. J. H. Walton and L. L. Withrow. *Am Chem Soc J* 45:2689-93 N '23

Oxidation of acetol with potassium permanganate. W: L. Evans and O. L. Hoover. *Am Chem Soc J* 44:1730-41 Ag '22

Refractive indices of solutions of hydrochloric acid, acetic acid and ethanol in water at 25° and 30°. H. M. Elsey and G: L. Lynn. *J Phys Chem* 27:342-5 Ap '23

Synthetic acetic acid. *Chem Age* 30:155-6 Ap '22

See also Methanetetra-acetic acid; Methanetriacetic acid

Acetic anhydride

Action of acetic anhydride on some benzylidene-anthranilic acids. J. B. Ekeley, E. C. Rogers and M. Swisher. *Am Chem Soc J* 44:1756-8 Ag '22

Action of acetic anhydride upon some furfurylidene anthranilic acids. J: B. Ekeley and E. C. Rogers. *Am Chem Soc J* 44:2655-7 N '22

Catalytic decomposition of formic acid in acetic anhydride. E. R. Schierz. *Am Chem Soc J* 45:455-68 F '23

Manufacture of acetic anhydride. *Chem & Met Eng* 27:1089 N 29 '22

New method for the determination of acetic acid in acetic anhydride. J. H. Walton and L. L. Withrow. *Am Chem Soc J* 45:2689-93 N '23

Reduktion von pyridin mit zinkstaub und essigsäure-anhydrid. O: Dimroth and R: Heene. *Deutsche Chem Gesell Ber* 54:2934-42 N '21; Abstract. *Chem Soc J* 122 pt 1: 48-50 Ja '22

Ring closure of hydrazodithio- and -monothio-dicarbonamides with acetic anhydride. P. C. Guha. *Am Chem Soc J* 45:1036-42 Ap '23

Acetic ether. See Ethyl acetate

Acetoacetic acid

Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of acetoacetic acid and benzoylacetate esters and of benzoylacetone. A. K. Macbeth. *Chem Soc J* 123:1122-30 My '23

Über die synthese von vinylidenglykol-diäthyläther (keten-acetal), ein beitrage zur aufklärung des reaktionsverlaufes der acetessigester-synthese. H. Scheibler and H. Ziegner. *Deutsche Chem Gesell Ber* 55:789-803 Mr '22; Abstract. *Chem Soc J* 122 pt 1: 426-7 My '22

Acetol

Oxidation of acetol with potassium permanganate. W: L. Evans and O. L. Hoover. *Am Chem Soc J* 44:1730-41 Ag '22

Acetolysis

Contributions to chemistry of wood cellulose. L: E. Wise and W. C. Russell. *Ind & Eng Chem* 15:815-18 Ag '23

Acetone

Acetone as a solvent for bitumens, asphalts, animal and vegetable oils. *Chem & Met Eng* 27:651 S 27 '22

Acetone as a solvent for varnish-gums, resins and shellacs. *Chem & Met Eng* 27:693 O 4 '22

Acetone, butanol, and ethanol in gas from the butyric fermentation of corn. A. L. Davis. *Ind & Eng Chem* 15:631-2 Je '23

Acetone—its properties, technology and uses. R. F. Remler. *diags Chem Age* 31:342-6 Ag '23

Constitution of acetone derivatives of glucose and fructose. J. C. Irvine and J. Patterson. *Chem Soc J* 121:2146-61 O '22

Determination of acetone and of ethyl alcohol in mixtures of the two. J. H. Bushill. *Soc Chem Ind J* 42:216-18 My 18 '23

Estimation of acetone in methyl alcohol and the purification of methyl alcohol by sodium hypiodide. H: H. Bates, J: M. Mullaly and H. Hartley. *Chem Soc J* 123:401-4 F '23

Nature of secondary valence; partition coefficients in the system glycerine:acetone. H. W. Smith. *J Phys Chem* 25:721-34 D '21

Oxidation of acetone with potassium permanganate. W: L. Evans and L. B. Sefton. *Am Chem Soc J* 44:2276-83 O '22

Production of acetone, alcohol, and acids from oat and peanut hulls. E. B. Fred, W. H. Peterson and J. A. Anderson. *Ind & Eng Chem* 15:126 F '23

Solvent properties of acetone. R. F. Remler. *Ind & Eng Chem* 15:717-20 Jl '23

Study of the ternary system, toluene-acetone-water. J. H. Walton and J: D. Jenkins. *diags Am Chem Soc J* 45:2555-9 N '23

Über die acetone-verbinding des anhydro-enehepts; ein beitrage zur kenntnis der acetone-verbindingen mehrwertiger alkohole. C. Mannich and W. Brose. *Deutsche Chem Gesell Ber* 55:3155-7 O '22

Use of acetone in composite engine-fuels. R. F. Remler. *Soc Auto Eng J* 13:23-4 Jl '23; Same abr. *Chem & Met Eng* 29:230 Ag 6 '23

Zur kenntnis der acetone-zucker; diacetonxylose. K. Freudenberg and O. Svanberg. *Deutsche Chem Gesell Ber* 55:3239-42 O '22

Zur kenntnis der acetone-zucker; umwandlungen der diaceton-glucose. K. Freudenberg and F. Brauns. *Deutsche Chem Gesell Ber* 55:3233-8 O '22

Acetonitriles

Über einige säurederivate von dinitrilen und β -amino-crotonsäure-ester. E. Benary and M. Hosenfeld. *Deutsche Chem Gesell Ber* 55:3417-29 N '22; Abstract. *Chem Soc J* 124 pt 1:37-9 Ja '23

Über pyridin-derivate aus diacetonitril und benzoacetonitril. E. Benary and G. Löwenenthal. *Deutsche Chem Gesell Ber* 55:3429-34 N '22

Acetophenone

Bromination of compounds containing the carbonyl group; pyruvic acid; acetophenone. C: F: Ward. *Chem Soc J* 123:2207-13 S '23

Condensation of acetophenone. C. Gastaldi. *Chem Soc J* 122 pt 1:367-8 Ap '22

Synthese von β -ketobasen aus acetophenon, formaldehyd und aminsalzen. C. Mannich and G. Heilner. *Deutsche Chem Gesell Ber* 55:356-65 F '22

Acetoxime

Preparation of hydroxylamine hydrochloride and acetoxime. W. L. Semon. *Am Chem Soc J* 45:188-90 Ja '23

Acetyl value of oils. See Oil analysis

Acetylation

Effect of relative positions of hydroxyl and amino radicals in the migration of acetyl

Acetylation—Continued

from nitrogen to oxygen. L. C. Raiford and H. A. Iddles. *Am Chem Soc J* 45:469-75 F '23

See also Cellulose acetate

Acetylbutyl alcohol

Über die ungesättigten reduktionsprodukte der zucker und ihre umwandlungen; glucosidartiges derivat eines einfachen oxyketons, des δ -aceto-*n*-butylalkohols nebst bemerkungen über die struktur des rohrzuckers. M. Bergmann and A. Miekeley. *Deutsche Chem Gesell Ber* 55:1390-1403 My '22; Abstract. *Chem Soc J* 122 pt 1:618-19 J1 '22

Acetylcellulose. See Cellulose acetate**Acetylchloro-amino-benzene**

Ion activities in homogeneous catalysis; the formation of parachloro-acetanilide from acetylchloro-amino-benzene. H. S. Harned and H. Seltz. *Am Chem Soc J* 44:1475-84 J1 '22

Photochemical study of acetyl-chloro-amino-benzene. J. H. Mathews and R. V. Williamson. *Am Chem Soc J* 45:2574-84 N '23

Acetylene

Acetaldehyde from acetylene. H. W. Matheeson. *Chem Age* 30:464-5 O '22

Acetylen-kondensationen; versuche zur konstitutionsermittlung des cuprens. H. P. Kaufmann and M. Schneider. *Deutsche Chem Gesell Ber* 55:267-82 Ja '22; Abstract. *Chem Soc J* 122 pt 1:245-7 Mr '22

Acetylene mantle burner tests. C. F. Rockstroh. *Gas Age* 50:178-9 Ag '22

Acetylene torch like pistol controlled by trigger. *il Pop Mech* 40:344 D '23

Die bestimmung der kohlenwasserstoffe in technischen gasen; with discussion. G. Wolters. *diag Stahl & Eisen* 42:1449-56 S 21 '22

Beta-chlorovinyl chloroarsines. W. L. Lewis and G. A. Perkins. *diags Ind & Eng Chem* 15:290-5 Mr '23

Bildung von acetylen und ammoniak bei der unvollständigen verbrennung. K. A. Hofmann and E. Will. *diags Deutsche Chem Gesell Ber* 55:3228-33 O '22

Carbonizing automobile gears by means of the acetylene torch. M. Wright. *il Am Mach* 57: 930-1 D 14 '22

Dangers from the use of acetylene gas and in oxy-acetylene welding. *Eng & Ind Management* 7:192-3 F 16 '22

Explosion of acetylene and nitrogen. W. E. Garner and K. Matsuno. *diags Chem Soc J* 119:1903-14; 121:1729-36 D '21, S '22

Gas welding and cutting; rules for safe handling of apparatus. *Am Gas J* 116:328-30+ Ap 8 '22

Portable acetylene generator for welding. R. C. Baker. *il Eng & Min J* 112:779 N 12 '21

Preparation of oxalic acid from acetylene. M. L. Kearns, L. Heiser and J. A. Nieuwland. *Am Chem Soc J* 45:795-9 Mr '23

Role of mercury salts in the catalytic transformation of acetylene into acetaldehyde, and a new commercial process for the manufacture of paraldehyde. R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 43:2071-81 S '21

Safety engineering applied to acetylene, an essential industrial commodity. J. I. Banash. *Safety Eng* 43:88-93 Mr '22

Safety engineering as applied to oxy-acetylene cutting and welding apparatus. F. J. Napolitan. *Safety Eng* 43:1-12 Ja '22

Les synthèses industrielles au départ de l'acétylène. A. Guyot. *Chimie & Ind* 10:13-22 J1 '23; Abstract (Acetylene as a commercial synthetic agent). *Chem Age (Lond)* 9:229-30 S 1 '23

Über die reaktion zwischen acetylen und anilin bei höherer temperatur. R. Majima, T. Unno and K. Ono. *Deutsche Chem Gesell Ber* 55:3854-9 D '22

See also Oxyacetylene apparatus; Oxyacetylene cutting; Oxyacetylene flame; Oxyacetylene welding

Acetylene containers

Contracts requiring return of acetylene containers held not in restraint of trade. W. Gustin. *Chem & Met Eng* 27:745-6 O 11 '22

Acetylene lamps

Facts about the carbide lamp. *Coal Age* 20: 888 D 1 '21

Acetylene lighting

Night lighting by acetylene flares. *il Eng & Contr (Equip R)* 60:923-4 O 31 '23

Acetylene silver arsenate

Acetylene compounds with silver phosphate and silver arsenate. P. B. Oberdoerfer and J. A. Nieuwland. *Am Chem Soc J* 44:837-40 Ap '22

Acetylene silver phosphate

Acetylene compounds with silver phosphate and silver arsenate. P. B. Oberdoerfer and J. A. Nieuwland. *Am Chem Soc J* 44:837-40 Ap '22

Acetylene tetrachloride. See Tetrachlorethane**Acetyl-methyl-isopapaverine**

N-methyl-aceto-isopapaverin. W. Schneider and A. Köhler. *Deutsche Chem Gesell Ber* 54:2031-3 S '21

Acetyl-naphthyl-methyl ether

Sulfo-essigsäure als kondensationsmittel; aceto-naphthol-methyläther und 2-methyl-3-aceto- β -naphthochromon- α . W. Schneider and F. Kunau. *Deutsche Chem Gesell Ber* 54:2302-10 O '21

Acetylpropionylmethane

Researches on residual affinity and coordination; interactions of acetylpropionylmethane and the tetrachlorides of selenium and tellurium. G. T. Morgan and H. G. Reeves. *Chem Soc J* 123:444-52 Mr '23

Acetyltrimethylene

Synthese von oxy-amino-säuren und die amino-säure aus methyl-cyclopropyl-keton; acetyl-trimethylen. N. D. Zehinsky and E. F. Dengin. *Deutsche Chem Gesell Ber* 55: 3354-61 O '22

Acheson, Edward G.

Dr Edward G. Acheson and his work. F. A. J. FitzGerald. *por Chem Age* 31:195-6 My '23

Sketch. *por Chem & Met Eng* 28:974 Je 4 '23

Acid fumes

Chimneys subjected to acid gases. T. S. Clark. *diags Ind & Eng Chem* 15:227-30 Mr '23

Acid handling

Anti-corrosive chemical engineering plant. *il Can Chem & Met* 5:341-4 D '21

Becker safety carboy truck. *Brass W* 17: 368 D '21

Handling of corrosive gases in chemical plants. C. S. Robinson. *Ind & Eng Chem* 15:225-7 Mr '23

Handling sulphuric acid in tank car shipments. G. A. Foot. *diag Can Chem & Met* 6:13 Ja '22

How to cut risks in shipping nitric acid. *Safety Eng* 43:144 Ap '22

Improved device for emptying shipping carboys. *il Nat Safety N* 8:45 S '23

Kestner plunger pump for acids. *il diags Engineering* 115:431 Ap 6 '23

Recent developments in the sulfuric-acid industry. A. M. Fairlie. *il diags Chem & Met Eng* 25:964-70 N 23 '21

Safe practice in handling sulphuric acid. M. F. Crass. *Chem Age* 29:477-8 N '21

Safer handling of acid. *il Sci Am* 126:331 My '22

Safety in the handling and use of acids. M. F. Crass. *Chem Age* 30:417-18 S '22

See also Acid-resisting materials; Acid tanks; Carboys

Acid industries

Statistics of chemical production. *Chem & Met Eng* 26:329-30 F 15 '22

Acid-resisting materials

Acid- and chemical-proof stoneware. M. A. Knight. *Ind & Eng Chem* 15:172-3 My '23

Acid and rust proof materials for chemical works. R. Furness. *Chem Age (Lond)* 9:198-200 Ag 25 '23

Acid-proof coatings for concrete surfaces. *Chem Age* 31:184-7 Ap '23

Acid-resisting alloys for use in mine water. G. M. Enos. *il diags plan Coal Age* 23:665-8 Ap 26 '23

Acid-resisting fans. *Chem & Met Eng* 29:68 J1 9 '23

Acid-resisting materials.—Continued

Acid-resisting irons. P. D. Schenck. Chem & Met Eng 28:678 Ap 16 '23

Acid resisting metals and alloys. G. A. Drysdale. Brass W 17:311-13 N '21; Same. Mech Eng 44:579-80+ S '22; Same cond. Foundry 49:975-7 D 15 '21

Chromium, nickel and silicon alloys best resist acidulous mine waters. Coal Age 23:523 Mr 29 '23

Control of motion and aeration in corrosion tests. J. F. Thompson and R. J. McKay. Il diag Ind & Eng Chem 15:1114-18 N '23

Recent developments in chemical plant—plant in high-silicon iron. A. B. Scorer. diags Soc Chem Ind J 42:240-1 Je 1 '23

Resistivity of iron and its application to the chemical industry. D. M. Strickland. Il Ind & Eng Chem 15:566-9 Je '23

Why pickling tank rods corrode. R. J. McKay. Il diag Iron Tr R 70:959-64 Ap 6 '22

See also Acid handling; Acid tanks; Aterite; Bakelite; Concrete—Protection; Corrosion and anti-corrosives; Duriron; Pipes, Fiber; Pyrex; Rubber lining; Silica, Fused

Acid tanks

Hard-rubber lined steel tanks for transporting hydrochloric acid. F. C. Zeisberg. Il diags Ind & Eng Chem 15:157-8 F '23

Acidimetry

Determination of acid number of tung and other vegetable oils. L. L. Steele and G. G. Sward. J Ind & Eng Chem 14:57-8 Ja '22

Electrometric acidimetry and alkalimetry without the use of hydrogen. P. A. van der Meulen and F. Wilcoxon. Ind & Eng Chem 15:62-3 Ja '23

Simple method of electrometric titration in acidimetry and alkalimetry. P. F. Sharp and F. H. MacDougall. diag Am Chem Soc J 44:1193-6 Je '22

Some applications of oxygen electrode, air electrode, and oxidation potential measurements to acidimetry and alkalimetry. N. H. Furman. Am Chem Soc J 44:2685-97 D '22

Symmetrical diphenyl-guanidine as a standard in acidimetry and alkalimetry. C. A. Carlton. Am Chem Soc J 44:1469-74 Ji '22

See also Solutions, Standard

Acids

Presence of acids in cloth. T. J. Hadfield. Textile World 61:1795+ Mr 25 '22

See also Acid handling; Acid industries; Acidimetry; also names of acids, e.g. Hydrochloric acid, Nitric acid, Saccharinic acids, Silicic acid, Sulfuric acid

Transportation

See also Tank cars

Acids, Fatty

Artificial fats and fatty acids. R. Furness. Soc Chem Ind J (Chem & Ind) 42:358-61 Ap 13 '23

C₁₅ fatty acids; a rearrangement of the benzoic acid type in the aliphatic series. B. H. Nicolet and A. E. Jurist. Am Chem Soc J 44:1136-41 My '22

C₁₅ fatty acids; molecular rearrangements in some derivatives of unsaturated higher fatty acids. B. H. Nicolet and J. J. Pelc. Am Chem Soc J 44:1145-9 My '22

C₁₅ fatty acids; the relation of oleic and elaidic acids to their halogen addition products. B. H. Nicolet. Am Chem Soc J 43:2122-5 S '21

Catalytic oxidation of saturated paraffin hydrocarbons and fatty acids. A. H. Salway and P. N. Williams. Chem Soc J 121:1343-8 Ji '22

Highly unsaturated fatty acids of fish oils. J. E. Brown and G. D. Beal. Am Chem Soc J 45:1289-1303 My '23

X-ray investigation of fatty acids. A. Müller. Chem Soc J 123:2043-7 Ag '23

Zur kenntnis der β -halogen-substituierten fettsäuren und der β -lactone. H. Johansson and S. M. Hagman. Deutsche Chem Gesell Ber 55:647-58 Mr '22

Acids, Organic

Adsorption and orientation of the molecules of dibasic organic acids and their ethereal salts in liquid-vapor interfaces. H. H. King and R. W. Wampler. Am Chem Soc J 44:1894-1902 S '22

See also names of acids, e.g. Amino acids; Hydroxamic acids; Mucic acid; Saccharinic acids

Acme wall system. See Walls, Concrete

Acoustic wave filters. See Sound waves

Acoustics. See Sound

Acoustics, Architectural

Acoustical treatment of classrooms. L. Schmidt. Arch Forum 37:111 Ag '22

Acoustics of buildings, including acoustics of auditoriums and sound-proofing of rooms. F. R. Watson. 155p Wiley '23

Acoustics of Great Hall of Wesley Foundation at University of Illinois. F. R. Watson. Il Eng & Contr (Bldgs) 59:1423-4 Je 27 '23

Acoustics of rooms. E. A. Eckhardt. J Fr Inst 195:799-814 Je '23

Architectural acoustics. P. E. Sabine. Il Am Arch 121:441-4, 487-90, 527-9 My 24-Je 21 '22

Architectural acoustics. G. A. Sutherland. Sci Am 128:171 Mr '23

Collected papers on acoustics. W. C. Sabine. 279p Harvard univ. press, Cambridge '22

Sound absorbing plaster. A. L. Foley. Am Arch 123:336-8 Ap 11 '23

Sound and its control. Am Inst Arch J 10:262-3 Ag '22

Sound wave photography in the study of architectural acoustics. A. L. Foley. Il diag Am Arch 122:415-18 N 8 '22

See also Sound-proofing

Acraldehyde

Acraldehyde transformations and antioxygenisers. C: Moureau and C: Dufraisse. Chem Soc J 124 pt 1:91-2 F '23

Interaction of aniline and acraldehyde. F: G: Mann. Chem Soc J 121:2178-82 O '22

Acridine dyes. See Dyes and dyeing

Acrolein

New test for acrolein and its bearing on rancidity in fats. W. C. Powick. Ind & Eng Chem 15:66 Ja '23

Actinium

Radio-active disintegration series and the relation of actinium to uranium. A. S. Russell. diags Philos Mag 6th ser 46:642-56 O '23

See also Protactinium

Actinometer

Automatic exposure-meter. A. Gradenwitz. Il Sci Am 129:183 S '23

Activated carbon. See Carbon, Activated

Activated sludge process. See Sewage disposal—Activated sludge method

Activation, Heat of

Energy of activation in heterogeneous gas reactions with relation to the thermal decomposition of formic acid vapour. C. N. Hinshelwood and B. Topley. diag Chem Soc J 123:1014-25 My '23

Acyl group

Capacity for migration of acyl residues in acyl derivatives of the phenylhydrazones of hydroxy-ketones; abstract. E. von Auwers, E. Hilliger and E. Wulf. Chem Soc J 122 pt 1:1192-4 D '22

Acylallylamines

Über das verhalten einiger acylderivate des allylamins gegen halogene. M. Bergmann, F. Dreyer and F. Radt. Deutsche Chem Gesell Ber 54:2139-50 S '21; Abstract. Chem Soc J 120 pt 1:773-4 N '21

Acylation

Decomposition occurring in the acylation of 5:5-diphenyltetrahydro-4-glyoxalone; abstract. H. Biltz, K. Seydel and E. Hamburger-Glazer. Chem Soc J 122 pt 1:871-2 S '22

Migration of acyl from nitrogen to oxygen. L. C: Raiford and J: R. Couture. Am Chem Soc J 44:1792-8 Ag '22

Acylation—Continued

Vermischte notizen über die aldehyd-verbindungen von oxy-aminen und über partielle acylierung dieser amine. M. Bergmann, R. Ulpts and F. Camacho. Deutsche Chem Gesell Ber 55:2796-2812 S '22; Abstract. Chem Soc J 122 pt 1:1180-2 D '22

Aczol

Aczol—an interesting wood preservative. Chem & Met Eng 27:509 S 6 '22

Adams, Comfort Avery, 1868-

Sketch. por Elec W 78:958 N 12 '21

Addicks, Lawrence

Metallurgical engineers of note. por Eng & Min J 115:792 My 5 '23

Adding machines

See Burroughs adding machine company; Dalton adding machine company

Addison, Thomas

Sketch. por Elec W 81:490 Mr 3 '23

Addition compounds

Addition compounds of gold halides with benzyl sulfide. G. M. Smith. Am Chem Soc J 44:1769-75 Ag '22

Addition of mercuric salts to alpha-beta-unsaturated ketones. E. B. Middleton. Am Chem Soc J 45:2763-9 N '23

Addition reactions of phosphorus halides; the action of the trichloride on saturated aldehydes and ketones. J. B. Conant, A. D. MacDonald and A. M. Kinney. Am Chem Soc J 43:1928-35 Ag '21

Addition reactions of phosphorus halides; the 1,2 and 1,4 addition of diphenyl-chlorophosphine. J. B. Conant, J. B. S. Braverman and R. E. Hussey. Am Chem Soc J 45:165-71 Ja '23

Addition reactions of the phosphorus halides; the addition of alkoxy and alkoxy chlorophosphines to carbonyl compounds. J. B. Conant, V. H. Wallingford and S. S. Gandheker. Am Chem Soc J 45:762-8 Mr '23

Addition reactions of the phosphorus halides; the formation of an unsaturated phosphonic acid. J. B. Conant and B. B. Coyne. Am Chem Soc J 44:2530-6 N '22

Additive formation of four-membered rings; the synthesis and division of derivatives from 1,3-dimethindiazidine. C. K. Ingold and H. A. Piggott. Chem Soc J 121:2793-2804 D '22

Bemerkung zu der abhandlung der HHrn J. Meisenheimer und J. Casper; über die konstitution der Grignardschen verbindungen. J. v. Braun. Deutsche Chem Gesell Ber 54:2687 N '21

Compound formation and conductivity in systems of the types formic acid:metal formate and sulfuric acid:metal sulfate. J. Kendall, H. Adler and A. W. Davidson. Am Chem Soc J 43:1846-53 Ag '21

Compound formation and viscosity in solutions of the types acid:ester, acid:keto, and acid:acid. J. Kendall and E. Brakeley. Am Chem Soc J 43:1826-34 Ag '21

Compound formation in phenol:cresol mixtures. J. Kendall and J. J. Beaver. Am Chem Soc J 43:1853-67 Ag '21

Correlation of additive reactions with tautomeric change; the aldol reaction. E. H. Usherwood. Chem Soc J 123:1717-26 JI '23

Über alkali-silber-thiosulfate und ihr ammoniak-additionsvermögen. E. Jonsson. Deutsche Chem Gesell Ber 54:2556-64 N '21; Abstract. Chem Soc J 122 pt 2:57-8 Ja '22

Unsaturation and molecular compound formation. O. Maass, E. H. Boomer and D. M. Morrison. Am Chem Soc J 45:1433-8 Je '23

Zinkhaltige reaktionsprodukte aus olefinen. A. Schaarschmidt, M. Veidt and F. Schlosser. Deutsche Chem Gesell Ber 55:1103-12 My '22; Abstract. Chem Soc J 122 pt 1:645-6 JI '22

Zur kenntnis organischer arsenverbindungen; über anlagerungsprodukte von jodoform an salze von organischen basen dreiwertiger elemente. W. Steinkopf and G. Schwen. Deutsche Chem Gesell Ber 54:2969-75 D '21; Abstract. Chem Soc J 122 pt 1:118 F '22

Adhesives

Adhesives from starch. Chem Age 30:323-4 JI '22

Manufacture and properties of various adhesives; abstract. H. Wagner. Soc Dyers & Col J 39:189-90 Je '23

See also Cement; Cements, Adhesive; Glue; Mortar; Sodium silicate

Adipic acids

Resolution of the α , δ -dihydroxy- α -methyl- δ -isopropyladipic acids. T. A. Henry and H. Paget. Chem Soc J 123:1878-87 Ag '23

Administration of estates. See Executors and administrators

Adobe

Adobe bricks made for modern building. II

Pop Mech 39:186 F '23

Adobe buildings long in ruins remodeled. II

Pop Mech 38:753 N '22

Filter-cake tailing makes good building brick. D. F. Irvin. II Eng & Min J 113:50 Ja 14 '22

Adrenalin

Adrenalin, the drug of the hour. Sci Am 129:179 S '23

Some new derivatives of synthetic adrenalin (suprarenine). C. Funk and L. Freedman. Am Chem Soc J 45:1792-5 JI '23

Adsorption

Activity of adsorbed invertase. J. M. Nelson and D. I. Hitchcock. Am Chem Soc J 43:1956-61 Ag '21

Adsorption. E. K. Rideal. Brass W 18:7 Ja '22

Adsorption a criterion of corrosion. B. D. Saklatwalla. Chem & Met Eng 27:647 S 27 '22

Adsorption and catalysis in carbon monoxide oxidation. A. F. Benton. Am Chem Soc J 45:900-7 Ap '23

Adsorption and catalysis in fuller's earth. E. K. Rideal and W. Thomas. Chem Soc J 121:2119-23 O '22

Adsorption and orientation of the molecules of dibasic organic acids and their ethereal salts in liquid-vapor interfaces. H. H. King and R. W. Wampler. Am Chem Soc J 44:1894-1902 S '22

Adsorption by activated sugar charcoal. F. E. Bartel and E. J. Miller. Am Chem Soc J 44:1866-80; 45:1106-15 S '22, My '23

Adsorption by precipitates. H. B. Weiser. J Phys Chem 25:665-83 N '21

Adsorption by silica gel; theory and applications. E. B. Miller. diags Am Inst Chem Eng Trans v 13 pt 1:379-411 '20

Adsorption from the gas phase at a liquid-gas interface. T. Iredale. diag Philos Mag 6th ser 45:1088-1100 My '23

Adsorption in sand filters. J. Don. Engineering 111:759-60 Je 17 '21; Same. Eng & Contr 57:297-9 Mr 29 '22

Adsorption of ammonia by silica gel. L. Y. Davidheiser and W. A. Patrick. Am Chem Soc J 44:1-8 Ja '22

Adsorption of carbon monoxide and hydrogen by platinized asbestos. F. H. Pollard. diag J Phys Chem 27:356-75 Ap '23

Adsorption of gas by charcoal and silica. Am J Sci 5th ser 3:147-8 F '22

Adsorption of gases by copper. R. N. Pease. Am Chem Soc J 45:2296-2305 O '23

Adsorption of gases by oxide catalysts. A. F. Benton. Am Chem Soc J 45:887-99 Ap '23

Adsorption of ions. J. N. Mukherjee. Philos Mag 6th ser 44:321-46 Ag '22

Adsorption of ions by freshly precipitated manganese dioxide. P. B. Ganguli and N. R. Dhar. J Phys Chem 26:836-44 D '22

Adsorption of mixed gases by charcoal; carbon dioxide and nitrous oxide. L. B. Richardson and J. C. Woodhouse. diag Am Chem Soc J 45:2638-53 N '23

Adsorption of radium-B and radium-C by ferric hydroxide. J. A. Cranston and R. Hutton. Chem Soc J 121:2843-9 D '22

Adsorption of stannous chloride by stannic acid. G. E. Collins and J. K. Wood. Chem Soc J 123:452-6 Mr '23

Adsorption—Continued

- Adsorption of the *B* and *C* members of the radium and thorium series by ferric hydroxide. J. A. Cranston and R. Hutton. Chem Soc J 123:1318-24 My '23
- Adsorption of thorium-*B* and thorium-*C* by ferric hydroxide. J. A. Cranston and R. A. Burnett. Chem Soc J 119:2036-44 D '21
- Adsorption of toluene vapor on plane glass surfaces. E. K. Carver. diag Am Chem Soc J 45:63-7 Ja '23
- Adsorption of uranium-*X* and its isotope, thorium, by basic ferric acetate. A. C. Brown. Chem Soc J 121:1736-43 S '22
- Adsorption or sorption. J. W. McBain. Soc Dyers & Col J 39:233-7; Discussion. 237-8 Ag '23
- Alleged adsorption of alumina from aluminum sulfate solutions by cellulose. A. Tingle. J Ind & Eng Chem 14:198-9 Mr '22; Same. Paper 29:9-10 Mr 1 '22
- Capillary theory of adsorption. W. A. Patrick. Chem & Met Eng 29:9-10 Jl 2 '23
- Catalytic combination of ethylene and hydrogen in the presence of metallic copper; measurements of reaction velocity and adsorption isotherms at 0° and 20°. R. N. Pease. diags Am Chem Soc J 45:1196-1210 My '23
- Chemical reactions on surfaces. I. Langmuir. Gen Elec R 25:445-54 Jl '22
- Effect of hydrogen-ion concentration on adsorption of dyes by wool and mordants. O. Reinmuth and N. E. Gordon. Am Dyestuff Rep 12:622 Ag '23
- Heat of wetting of silicic gel. W. A. Patrick and F. V. Grimm. diag Am Chem Soc J 43:2144-50 O '21
- High pressure due to adsorption, and the density and volume relations of charcoal. W. D. Harkins and D. T. Ewing. Am Chem Soc J 43:1787-1802 Ag '21
- Industrial adsorption of gas and vapor with activated carbon. A. B. Ray. bibliog Chem & Met Eng 29:354-9 Ag '23
- Influence of temperature, pressure and supporting material for the catalyst on the adsorption of gases by nickel. A. W. Gauger and H. S. Taylor. Am Chem Soc J 45:920-8 Ap '23
- Influence of the size of colloid particles upon the adsorption of electrolytes. H. D. Murray. Philos Mag 6th ser 44:401-15 Ag '22
- Kinetic theory of adsorption. D. C. Henry. Philos Mag 6th ser 44:689-705 O '22
- Physical chemistry of dyeing, acid and basic dyes. T. R. Briggs and A. W. Bull. diags J Phys Chem 26:845-75 D '22; Same. Am Dyestuff Rep 11:447-50+; 12:36-42 D 18 '22-Ja 1 '23
- Some factors governing the complete sorption of iodine by carbon from chloroform solution. J. B. Firth and F. S. Watson. Chem Soc J 123:1219-22 My '23
- Sorption activity of carbon. J. B. Firth. Soc Chem Ind J 42:242-4 Je 1 '23
- Sorption of saturated vapours by charcoal. J. Driver and J. B. Firth. Chem Soc J 121:2409-14 N '22
- Studies in adsorption; charge reversal of some colloids. N. R. Dhar and K. C. Sen. J Phys Chem 27:376-83 Ap '23
- Study of the effect of adsorbed gas on the high-frequency resistance of copper wire. A. Bailey. diags Phys R 20:154-65 Ag '22
- Surface tension and adsorption phenomena in flotation. A. F. Taggart and A. M. Gaudin. Min & Met 188:37-8 Ag '22
- Über die adsorption radioaktiver substanzen. E. Ebler and A. J. van Rhyn. diags Deutsche Chem Gesell Ber 54:2896-2912 N '21
- What is the life of silica gel? Chem & Met Eng 28:805 My 7 '23

See also Absorption; Decolorization

Adulteration

- Work of Dominion government chemists. F. C. Collier. Can Chem & Met 7:176 Jl '23

Advance-Rumely company

- 6th annual report for the fiscal year ended December 31, 1921. Comm & Fin Chr 114:1435-6 Ap 1 '22

7th annual report—for the fiscal year ending December 31, 1922. Comm & Fin Chr 116:1439-40 Mr 31 '23

Advertisements

- Advertisements criticised. See monthly numbers of Printing art
- Advertisements—the windows of business. R. R. Updegraff. Ptr Ink M 5:31-2+ D '22
- Are you neglecting the finishing touches? C. B. Larrabee. il Ptr Ink M 6:28-30 Ja '23
- Different—and spiffy. U. V. Wilcox. Ptg Art 41:447-52 Jl '23
- Let your water tank advertise your product. il Ptr Ink M 4:18 D '21
- Textbook of advertisement writing and designing. B. C. Woodcock. 184p Dutton
- When the advertiser should change his pace. H. Eckhardt. Ptr Ink M 6:23-4+ Je '23
- See also Advertising; Billboards; Blot-
ters; Broad-sides (advertisements); Calen-
dars; Catalogs; Copyright—Advertise-
ments; Labels; Posters

Books and booklets

- Advertising exhibits in a public library. E. Cleland. Inland Ptr 70:702-4 F '23
- Are booklets read and kept? J. B. Watson. Ptr Ink 121:142+ O 26 '22
- Beauty and distinction in booklet and folder pages; specimens. Inland Ptr 71:536a-h Jl '23
- Booklet as the centre of the merchandising plan. R. Dickinson. Ptr Ink 121:25-8 D 14 '22
- Booklet titles that pull inquiries. E. B. Weiss. Ptr Ink M 7:40-1+ N '23
- Booklet with a unique purpose. A. L. Townsend. Ptr Ink 118:33-4+ F 2 '22
- Booklets that teach boys how to play. K. B. White. Ptr Ink M 5:33-4+ N '22
- Brooks brothers use unselfish booklets to build good-will. K. B. White. il Ptr Ink M 4:16-18 D '21
- Business-building booklets. K. G. McGovern. Ptg Art 39:231-9 My '22
- Chief engineer wrote this booklet. Ptr Ink M 6:50 F '23
- Co-operative advertising that is selling books for four publishers. Ptr Ink 124:115-16 S 27 '23
- Couponless advertisement that brought in 18,000 dimes. G. H. Wicker. Ptr Ink 120:17-20 Jl 6 '22
- Dealer helps that give the dealer a profit. H. C. Crump. Ptr Ink M 5:37-8 Je '22
- Footnote enters the headlines of industrial advertising; inviting inquiries for booklets. M. W. Sohn. Ptr Ink M 7:35-6 Ag '23
- 400-page book that sells books; George H. Doran company uses a new idea. Ptr Ink 121:84+ D 14 '22
- Friendly stuff. R. Dickinson. Ptr Ink M 4:17-18+ F '22
- Giving the consumer booklet a real literary flavor. W. H. Heath. Ptr Ink 120:146+ Ag 10 '22
- How International harvester handles output of 8,000,000 booklets. C. M. Harrison. Ptr Ink M 6:23-4+ My '23
- How Mennen gets contact with users of his product. J. True. Ptr Ink 120:61-2+ Jl 13 '22
- Leaf from the ad-man's book; hints that will prove of value to the printing solicitor. W. Larchwood. Inland Ptr 69:833-5 S '22
- Letters, periodical advertising and booklets. R. Ruxton. Ptg Art 40:57-62 S '22
- Making the stockholder a sales missionary. R. Dickinson. Ptr Ink M 4:29-30+ Mr '22
- New Victor booklet combines many uses under one cover. Ptr Ink M 4:82+ D '21
- Showing them how to save to get them to buy. J. True. Ptr Ink M 5:94+ N '22
- Successfully using a famous author's work in merchandising; the makers of Jack Tar Togs use an Irvin Cobb story. J. True. Ptr Ink 123:41-2+ My 3 '23
- Using three appeals to get distribution for Dreer's Garden book. J. True. il Ptr Ink M 5:44+ S '22

Calendars

See Calendars

Advertisements—Continued

Civic pride appeal

See Advertisements—Local pride appeal

Cook books and recipes

- Advertising recipe in the home—a defence. H. H. Gerry. Ptr Ink 121:89-90 N 30 '22
Is the recipe booklet good advertising? B. Berfield. Ptr Ink M 6:33-5 Ap '23
The recipe as an advertising appeal to women. Ptr Ink 121:157-8+ N 23 '22

Copy

- Advertisers must study the territorial requirements of their copy. J. M. Campbell. Ptr Ink 117:65-6 N 10 '21
Advertising as an economic asset. A. W. Douglas. Ptr Ink M 4:38+ Ja '22
Advertising campaign arranged in acts like a play. R. Cole. Ptr Ink M 6:59-60 My '23
Advertising copy as literature. H. T. W. Bousfield. Ptg Art 38:339-42 D '21
Advertising is business; not a school of expression. H. W. Patterson. Ptg Art 38:342-4 D '21
Advertising principles of John H. Patterson. S. Crowther. il System 44:587-91+ N '23
Advertising that capitalizes the product's disadvantages. M. Hastings, jr. Ptr Ink M 7:43-4 Ag '23
Advertising that jolts the reader into action. C. B. Larrabee. il Ptr Ink M 5:20-2 N '22
Advertising the product with the hard-to-say name. G. H. Wicker. Ptr Ink 118:33-4+ F 16 '22
Al Foss, advertiser who gets his customers to write his advertisements. Ptr Ink M 4:86+ D '21
Allegory as an advertising asset. Ptr Ink 119:139-40+ Je 15 '22
Alliteration, the tricky tool. P. K. Marsh. Ptr Ink 118:41-2+ F 9 '22
Application of the actline idea to every-day business. B. H. Jefferson. Ptr Ink 117:3-4+ N 17 '21
Bankers' convention develops some interesting advertising. Ptr Ink 120:151-2+ O 12 '22
Before words. R. Barstow. Ptg Art 11:350-2 Je '23
Better advertisements. P. B. McDonald. Min & Sci P 124:414 Mr 25 '22
Blood-and-thunder in industrial advertising. A. L. Townsend. Ptr Ink 124:134+ Ag 9 '23
Boomerang copy. P. K. Marsh. Ptg Art 42:145-7 O '23
Borrowed glamor in copy. R. Surrey. Ptr Ink 124:97-8+ S 13 '23
Business-paper advertising based on the travelogue plan; Nicholson file co. covers industrial centres. Ptr Ink 117:49-50+ N 24 '21
Butterick good will advertisements. 125p Butterick pub. co., New York '22
Can your copy risk a turn-down? H. A. Beers, jr. Ptr Ink M 6:24 F '23
Checking up on the big idea. Ptr Ink 117:77-80+ D 23 '21
Codified copy; satire. P. K. Marsh. Ptr Ink 117:145-6+ N 17 '21
Column conductors of advertising. W. L. Larned. Ptr Ink M 4:78+ Ap '22
Condensing the catalogue into the advertisement. A. D. Walter. Ptr Ink M 7:32 Ag '23
Copy of the future. S. Hunter. Ptr Ink 119:97-8+ Je 22 '22
Copy that explains advertising to the consumer. D. M. Hubbard. Ptr Ink M 7:39+ N '23
Copy that moves the feelings. R. Surrey. Ptr Ink M 6:52+ My '23
Cultivating the consumer who has a minimum income of \$20,000 a year. E. Hayden. Ptr Ink 122:141-2 Mr 1 '23
Dealers—and what they aren't. P. K. Marsh. Ptr Ink 119:61-2+ My 11 '22
Devices that get repetition within the advertisement. Ptr Ink 120:165-6 S 21 '22
Dialogue on the advertising stage. P. K. Marsh. Ptr Ink 120:73-4+ Jl 20 '22
Dig deep for good copy. S. Hunter. Ptr Ink M 4:66+ Ja '22
Dignified copy sells standardized homes. Ptr Ink 118:133-4 Ja 26 '22
Does the housekeeper read the copy on your package? E. C. Norden. Ptr Ink M 4:90+ D '21
Does your advertising express a basic sales idea? C. J. Savage. Ptr Ink 124:134+ Jl 12 '23
Echoistic words—the keen-edged tools of advertising. A. H. Little. Ptr Ink 125:145-6+ O 25 '23
Eleven ways to dig out the selling appeal. R. Dickinson. Ptr Ink 124:3-4+ Ag 16 '23
Fiction writer's advice to advertisers. J. Street. Ptr Ink 120:3-4+ O 12 '22
Figures of speech employed to supply striking illustrations. W. L. Larned. Ptr Ink 125:61-2+ O 25 '23
Finding a copy transmitter in a mythical organization; advertising ash gates. W. B. Edwards. Ptr Ink 123:77-8+ Ap 12 '23
Finding new arguments for conventional products. W. L. Larned. Ptr Ink 119:161-2+ My 4 '22
Finding the better way. C. E. Ruby. Ind Management 62:375-8 D '21; Excerpt (How the laboratory can help the advertising department). Ptr Ink 118:89-90 F 16 '22
Finding the weak spot in the consumer's armor. W. H. Heath. Ptr Ink 122:153-4 Mr 8 '23
Fitting the copy to the medium; Williams' shaving cream talks to college students. Ptr Ink 120:8+ S 7 '22
Friendly stuff. R. Dickinson. Ptr Ink M 4:17-18+ F '22
Get the dealers' picture of your product. Ptr Ink 117:41-2+ N 24 '21
Giving an old product a new advertising atmosphere. A. L. Townsend. Ptr Ink 121:125-6+ N 2 '22
Good books to train the advertising marksman. D. Dulaney. Ptr Ink 124:41-2+ Ag 30 '23
Has advertising reached the dignity of finance? R. M. Rhodes. Ptr Ink 120:54+ Jl 27 '22
Headlines that overcome the ready negative. J. T. Bartlett. Ptr Ink M 5:63-4 S '22
How Ruud focuses advertising against objections. H. Burwen. Ptr Ink 124:33-4+ Jl 26 '23
How to make advertising sell photographs. Ptr Ink 120:130+ Ag 31 '22
Ideas that are making advertising campaigns. R. Dickinson. Ptr Ink M 6:17-18+ Ja '23
In emphasizing the obvious it is not necessary to be blatant. Ptr Ink 123:133-4+ Je 21 '23
Incipient bluepenicilitis. M. K. Powers. Ptr Ink M 5:31-2+ N '22
Influence suits as advertising material. Ptr Ink 122:132+ F 1 '23
Inquiries or orders? Ptr Ink 119:170+ Je 1 '22
Is long copy coming back? P. K. Marsh. Ptr Ink 118:33-4+ Mr 2 '22
Is the best industrial advertising the most informative? M. W. Sohn. Ptr Ink 124:61-2+ Jl 19 '23
Is the superlative passing? J. Henle. Ptr Ink 121:105-6 N 9 '22
Is your advertising contagious? R. R. Updegraff. Ptr Ink M 5:17-18+ Je '22
Keeping ahead of competitors in your advertising argument. W. H. Heath. Ptr Ink 122:146+ Mr 29 '23
The last dozen words are the hardest. P. Sartorius. Ptr Ink 120:33-4+ O 12 '22
Learning where to place the advertising pressure; the Ilg electric ventilating company. Ptr Ink 122:41-2+ Ja 4 '23
Less noise and more eloquence needed in copy. G. R. Arnold. Ptr Ink 122:137-8+ Ja 11 '23
Let the buyer read between the lines. E. M. Wickes. Ptr Ink M 4:53-4 Ap '22
Literary technique that advertising must master. E. N. Simons. Ptr Ink 122:73-4+ F 15 '23
Long and short of the copy length question. I. Fleming. Ptr Ink 120:8+ Jl 13 '22
Make your advertising a member of your prospects' families. F. H. Williams. Ptg Art 39:42-6 Mr '22
Making facts friendly in business paper advertising. R. Dickinson. Ptr Ink 118:85-6+ Mr 16 '22

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Making the advertisement key with spirit of medium. *Ptr Ink* 119:17-18 My 4 '22

Making the big idea graphic. *Ptr Ink* 118:120+ Ja 12 '22

Making the consumer a member of the advertising staff. A. L. Townsend. *Ptr Ink* 117:129-31 N 24 '21

Mechanics of publicity. *Am Gas J* 117:601-3 N 25 '22

Meeting the handicap of unfavorable legislation with advertising; campaign of Colt's fire arms company. R. Cole. *Ptr Ink* 120:95-6+ JI 6 '22

Mr and Mrs Typical. P. K. Marsh. *Ptr Ink* 121:3-4+ O 19 '22

More news and service in national advertising will sell more goods. F. H. Williams. *Ptg Art* 41:559-62 Ag '23

Neighborhood calls furnish copy ideas. E. R. O'Brien. *Ptr Ink* 117:129+ N 10 '21

News method for advertising. L. Markel. *Ptr Ink* 119:17-19 Ap 13 '22

Newspaper copy that gets people uptown. *Ptr Ink* 122:53-4 Mr 29 '23

Newspaper display that stands out. *Ptr Ink* 118:49-50+ Mr 9 '22

Obvious versus the trite. R. Surrey. *Ptr Ink* 124:88+ JI 26 '23

Old man specific and specifications. P. K. Marsh. *Ptr Ink* 118:53-4+ Mr 16 '22

Overlooked sources of copy ideas. P. Sartorius. *Ptr Ink* M 5:32 JI '22

Power of reserve in advertising. R. R. Updegraff. *Ptr Ink* 120:3-4+ Ag 17 '22

Prose style of advertising copy. D. H. Steele. Administration 3:709-12 Je '22

Pulling inquiries that are easy for salesmen to close. W. G. Clifford. *Ptr Ink* 124:121-2+ JI 26 '23

Putting persuasive power into a questionnaire. R. Perry. *Ptr Ink* 123:125-6+ My 10 '23

Racial traits of foreign-language consumers make good copy; newspaper advertising of White rose tea. R. Cole. *Ptr Ink* 121:8+ N 16 '22

Realism in advertising to women. J. Henle. *Ptr Ink* M 5:33-4 JI '22

Reason-why copy and the dear old general public. A. H. Fairbanks. *Ptr Ink* 121:81-2+ N 9 '22

Receiver vetoes a change in style of copy. R. W. Johnson. *Ptr Ink* 120:17-19 JI 20 '22

Receiver's views on be-driven copy. R. W. Johnson. *Ptr Ink* 119:41-2+ Ap 20 '22

Relationship between advertising and merchandising. T. J. Casey. *Elec R* 79:939-42 D 24 '21

Retailer's knowledge of his customers' buying habits. R. Dickinson. *Ptr Ink* 119:111-12+ Ap 6 '22

Salesmen who help the advertising department. L. Peake. *Ptr Ink* M 4:37-8 Ap '22

Say it with dignity. W. E. Hyde. *Ptr Ink* 121:8+ D 28 '22

Selecting the selling appeal. R. B. Franken. *Ptr Ink* M 7:26-8+ S; 46+ O '23

Selling a new product in competitive field with terse copy; William Underwood & co. enter market with own brand of codfish cakes. *Ptr Ink* 122:41-2 F 15 '23

Selling by the printed word. R. Ruxton. See monthly numbers of Printing art

Should advertising be tagged? R. Surrey. *Ptr Ink* 123:101-2+ Je 21 '23

Should advertising copy be signed by the writers? *Ptr Ink* 122:101-2 Ja 4 '23

Should copy tell what the advertiser thinks of his product? T. Russell. *Ptr Ink* 124:108+ Ag 9 '23

Should you select one feature of your product for advertising emphasis? D. Gridley. *Ptr Ink* M 7:27-8 Ag '23

Singling out the prospect in business paper publicity. *Ptr Ink* 117:41-2 D 1 '21

Some homely ideas that move goods. W. L. Larned. *Ptr Ink* 121:161-2+ O 26 '22

Some ways of overcoming consumer objections. W. L. Larned. *Ptr Ink* 119:41-2+ Ap 13 '22

Tell us something! Hang the length! R. H. Isbell. *Ptr Ink* 119:73-4+ My 4 '22

Thick-shelled words. P. K. Marsh. *Ptr Ink* 121:44+ N 23 '22

This English language. R. E. Mooney. *Ptg Art* 39:587-9 Ag '23

Tight reins for wild advertising. J. R. Hammond. *Inland Ptr* 69:507-8 JI '22

To prevent your advertisements from getting stale. P. Sartorius. *Ptr Ink* 118:3-4+ Ja 26 '22

Trade advertisement as a dealer selling chart. W. B. Edwards. *Ptr Ink* 124:100-1+ JI 5 '23

Upsetting a fixed buying habit with profit; Fairfacts bathroom fixtures. J. Henle. *Ptr Ink* 123:37-8+ Je 21 '23

Us morons as seen through an advertiser's eyes. S. Norvell. *Ptr Ink* 124:53-4+ S 27 '23

Using the severest test of the product as a copy theme. A. L. Townsend. *Ptr Ink* 119:173-4+ My 18 '22

What a close-up of the consumer taught one national advertiser. R. Cole. *Ptr Ink* 117:3-4+ D 29 '21

What advertising needs today is copy! G. L. Sumner. *Ptr Ink* 119:93-4 Ap 6 '22

What editors know that might help you. *Ptr Ink* 117:49-50 D 15 '21

What should copy writers read? R. Surrey. *Ptr Ink* 122:141-2+ Mr 15 '23

When lovely woman buys. J. H. Collins. *Ptr Ink* M 4:46+ D '21

When McConnachie helps. R. Dickinson. *Ptr Ink* M 5:24-6 O '22

When the copy writer turns mathematics into word pictures. W. H. Heath. *Ptr Ink* 123:73-4+ Je 14 '23

When the roll is called up yonder. R. E. Mackenzie. *Ptg Art* 41:371-3 Je '23

When there isn't a single thing left to say. T. Russell. *Ptr Ink* 124:125-6 JI 19 '23

Where to look for new talking points for your merchandise. R. Cole. *Ptr Ink* 123:3-4+ Ap 12 '23

Why Esmond varies copy with mediums. *Ptr Ink* M 7:25 JI '23

Why pass up a good thing? O. Stendall. *Ptg Art* 40:156-7 O '22

Writing direct advertising. R. E. Ramsay. *Inland Ptr* 69:521-4 JI '22

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Coupons

Making the coupon more than a corner decoration. W. H. Heath. *Ptr Ink* 122:9-10+ Mr 1 '23

More mathematics, less theory necessary in coupon discussions. E. T. Gundlach. *Ptr Ink* 122:25 Mr 22 '23

Proctor & Gamble coupon campaign grossly abused in Baltimore. *Ptr Ink* 118:80 Mr 16 '22

To increase the pulling power of advertisements: use of coupons. E. N. Simons. *Ptr Ink* 117:109-10+ D 15 '21

When using a coupon is good advertising. B. Berfield. *Ptr Ink* M 6:33-4+ My '23

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Bibliography

Little things that count in coupons. *Ptr Ink* 122:36 Ja 25 '23

Dealer helps

American optical company achieves unity in national advertising and dealer tie-ups. D. Kirkland. *Ptr Ink* 123:25-7 My 24 '23

Cutting out errors in dealers' imprints. *Ptr Ink* M 4:50+ Ja '22

Dealer broadside wants a helping hand. A. L. Townsend. *Ptr Ink* 121:77-8+ D 28 '22

Dealer helps that tie the campaign together. *Ptr Ink* M 6:40 F '23

Dealer's appreciation of advertising cooperation from the manufacturer. A. H. Van Voris. *Ptr Ink* 123:133-4+ My 10 '23

Helping retailers before they begin to buy your goods. *Ptr Ink* M 5:76+ N '22

How coca-cola teaches distributors best use of dealer helps. W. B. Edwards. *Ptr Ink* M 7:50+ Ag '23

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- How 400 advertisers are preventing waste in dealer helps. J. A. Murphy. Ptr Ink 122: 3-4+ Ja 11; 33-4+ Ja 18 '23
- How 4,000 dealers were sold a dealer help campaign; Acme white lead and color works. A. J. Reiss. Ptr Ink M 6:63+ My '23
- How Goodyear and du Pont are visualizing sales ideas. R. Bostick. Ptr Ink M 6:60+ Ap '23
- How Kyanite helps its dealers sell. H: Burwen. Ptr Ink 121:45-6+ N 16 '22
- How the A. J. Reach co. applies salesmanship to advertising service. W. A. McGarry. Ptr Ink 123:17-20 Ap 19 '23
- How Westcott is offering dealers added selling protection. B. F. Berfield. Ptr Ink 124: 93-4+ S 6 '23
- Letters that give special help to the dealer in his own town. R. Crothers. Ptr Ink 124: 145-6+ JI 12 '23
- Sells a part of the product first; then the product itself. C. M. Harrison. Ptr Ink 120: 85-6+ JI 27 '22
- Yes, indeed, dealers will pay for helps. bibliog Ptr Ink 122:41-2 F 1 '23

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Design

- Unexpected always happens in some advertising problems; pitfalls, mechanical and otherwise. W. L. Larned. Ptr Ink 119:85-6 My 25 '22

Exhibits

- Advertising exhibits in a public library. E. Cleland. Inland Ptr 70:702-4 F '23

Fashion appeal

- Advantages of the style appeal in advertising. bibliog Ptr Ink 122:10+ Ja 25 '23
- Advertise with fashion! A. Tinsman. Ptr Ink 121:17-18 N 23 '22
- Advertising brings back a lost style; lacing hooks. D. Kirkland. il Ptr Ink M 7:55-6 Ag '23
- Advertising ideas that get a rise out of me. Ptr Ink 118:95-6+ F 2 '22
- Advertising merchandise that has the fashion appeal. B: Berfield. il Ptr Ink M 4:38-9 D '21
- Importance of style emphasis in marketing fabrics. R. W. Welch. Ptr Ink 120:73-4+ Ag 17 '22
- Lifting the lowly galosh to advertising prominence. Ptr Ink 121:19-20 D 14 '22
- Luxury product gains a place on public's priority list; Whiting & Davis company's mesh bags. H: Burwen. Ptr Ink 124:73-4+ S 6 '23
- Maker of washable belt for men strives to multiply sales. Ptr Ink 120:81+ JI 20 '22
- Making pipe smoking respectable. J. Henle. Ptr Ink M 5:78+ O '22

Headlines

- Added lure may be given words by hand-lettered cleverness. W. L. Larned. Ptr Ink 123:61-2+ My 24 '23
- Bait your advertising hook with tempting headlines. P. K. Marsh. Ptr Ink M 6:83 F '23
- Capturing the elusive caption. A. M. Waples. Ptr Ink 117:42+ D 29 '21
- Dramatized headlines lend added value to industrial copy. W. L. Larned. Ptr Ink 123: 105-8 Je 7 '23
- Giving added emphasis to the headline. A. L. Townsend. Ptr Ink 121:49-50+ O 5 '22
- Headlines that invite reader interest. C. Harvey. Ptr Ink 117:166+ D 15 '21
- Headlines that overcome the ready negative. J: T. Bartlett. Ptr Ink M 5:63-4 S '22
- Phrases that feed the imagination. W. H. Heath. Ptr Ink 122:155-6+ F 1 '23
- Putting the headline through odd paces. Ptr Ink 119:69-70+ My 11 '22
- Ways of building a headline. J. H. Collins. Ptr Ink 118:110+ Mr 30 '22
- When the headline suggests the picture. W. L. Larned. Ptr Ink 118:81-2+ Ja 19 '22
- Words that sparkle, phrases that radiate a new cleverness. W. H. Heath. Ptr Ink 118: 124+ Mr 9 '22

Bibliography

- Headline's importance in advertising copy. Ptr Ink 124:33 Ag 9 '23

Health appeal

- Finding a new market for scales in homes and schools. Ptr Ink 117:10+ D 1 '21
- How advertising has aided public health. R. S. Copeland. Ptr Ink M 4:21-2 D '21
- Part national advertising plays in maintaining public health. R. E. Spline. Ptr Ink 123:33-4+ Ap 12 '23
- Selling a style garment direct to the consumer by a health appeal; Spencer corset co. R. Cole. Ptr Ink 122:57-8+ F 1 '23

Historical interest

- Making an advertising ally out of history. bibliog Ptr Ink 123:142+ Ap 5 '23
- Teaching history through advertising. Ptr Ink 119:69-70+ Je 29 '22
- Tiberius Caesar, his table and 1922 advertising. C. M. Harrison. Ptr Ink 118:25-6 Ja 5 '22
- Value of the special occasion advertisement. A. L. Townsend. Ptr Ink 123:153-4+ Je 14 '23
- When Dame History fills the inkwell. P. K. Marsh. Ptr Ink 119:57-8+ Ap 6 '22

Human interest appeal

- Advertising that puts workers on the honor roll. A. L. Townsend. Ptr Ink 124:112+ S 20 '23
- Getting a successor for "novelty" appeal copy; human interest stories. il Ptr Ink 122:89-90+ Mr 22 '23
- Human-interest catalogue and why it sells; Johnson incubators. G. A. Nichols. Ptr Ink M 7:63-4+ O '23
- Putting a personality behind the advertising. W. L. Larned. Ptr Ink 123:57-8+ Ap 12 '23
- Putting H. I. to work. E. C. Reeves. Ptr Ink 121:65-6+ O 5 '22
- Selling human sentiment, proves more successful than selling the product. Ptr Ink 120:106+ JI 13 '22

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Local pride appeal

- Advertisers competitors' names to oppose foreign competition; Dunlop tire advertising in England. T: Russell. Ptr Ink 124:8 S 13 '23
- Advertising puts whole town behind one industry. R. Dickinson. Ptr Ink 120:109-10+ Ag 24 '22
- Civic pride to increase sales of advertised lines. Ptr Ink 117:101-2 N 24 '21
- Giving the message local significance. Ptr Ink 121:57-8+ D 7 '22
- Imported vs. domestic goods. Textile World 61:3369+ Je 3 '22
- National advertiser finds an undiscovered local market. Ptr Ink 119:111-12 Ap 27 '22
- Prison markets branded goods with advertising's aid. J. M. Mosely. Ptr Ink 124:103-4 JI 12 '23
- Railway leads shop-at-home movement. Elec Ry J 59:747-8 My 6 '22
- Short-range selling scores hit for tire manufacturers. Ptr Ink 125:149-50 O 18 '23
- Standard oil company helps lagging imaginations. Ptr Ink 124:95-6 JI 5 '23
- Trading at home. H. E. Miles. Inland Ptr 69:510-12 JI 22

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Models

- Picturizing the blueprint in selling the engineering proposition. H: Burwen. Ptr Ink M 7:74+ O '23

Name plates

- Best position for the name-plate. W. L. Larned. Ptr Ink 120:73-4+ S 21 '22
- Getting acrobatic display for the name-plate. W. L. Larned. Ptr Ink 122:57-8+ F 8 '23
- Perfecting a close tie-up of name-plate and pictured product. W. L. Larned. Ptr Ink 124:57-8+ S 13 '23

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What type style is best for your trade name?
E. M. Hunt. *Ptr Ink M* 5:60+ D '22

Negative appeal

Scare copy by inference; Pyrene manufacturing company uses Belasco effects. *Ptr Ink* 123:33-4 *My* 10 '23
Stinger can be removed from negative illustrations. W. L. Larned. *il Ptr Ink* 124:101-4 *Ag* 2 '23

News interest

Advertising and football. R. Dickinson. *Ptr Ink* 121:25-6 N 9 '22
Increasing importance of news-flavored copy. A. E. Haase. *Ptr Ink M* 7:29-30+ S '23
The Leviathan as a new copy angle. *Ptr Ink* 124:141-2 *Jl* 12 '23
Mystery man cements sales by predicting fight outcomes. J. M. Mosely. *Ptr Ink* 120:141-2 S 21 '22
What can King Tut-ankh-Amen teach American manufacturers? B. Berfield. *Ptr Ink* 122:57-8+ *Mr* 8 '23

Novelty appeal

Adaptation, then advertising; ready-made bow ties. H. Burwen. *Ptr Ink* 123:65-6+ *Ap* 5 '23
Anti-typical advertising. R. H. Isbell. *Ptr Ink* 121:109-12 N 30 '22
Copy self-starters that make the reader curious to know what follows. A. L. Townsend. *Ptr Ink* 118:127+ *Ja* 5 '22
Getting into advertising via the route of the novelty product; Camco radio boot. *Ptr Ink* 122:25-6 *Ja* 18 '23
Keeping buyers interested by keeping them surprised. P. S. Wells. *Ptr Ink M* 5:39-40 N '22
Odd advertising copy that brought Christmas business. M. Hastings, Jr. *Ptr Ink* 121:33-4+ D 28 '22
Place of the stunt in advertising. A. L. Townsend. *Ptr Ink* 118:78+ F 23 '22
Placing a line above competition; the Ansonia clock company. J. True. *Ptr Ink* 122:61-2+ *Mr* 29 '23
Simplified spelling as an inquiry puller. D. M. Hubbard. *Ptr Ink* 118:113-14+ F 9 '22

Price quoting

Art galleries use price advertising. *Ptr Ink* 117:130+ D 22 '21
Is it wise to advertise only a partial price; the American radio & research corporation's complete-set price listing. D. Kirkland. *Ptr Ink* 124:133-4 *Jl* 5 '23
Price tag in advertising. W. S. Dutton. *Administration* 3:699-701 *Je* '22
Three-cent reduction price that doubled orders. G. H. Wicker. *Ptr Ink M* 5:46+ *Ag* '22
When low price is a handicap; newspaper copy of Baltimore cigar makers. J. True. *il Ptr Ink* 123:141-2+ *My* 17 '23
When price is a part of the advertisement. D. Gridley. *Ptr Ink M* 7:39-40 O '23
When the buyers set you right. R. Dickinson. *Ptr Ink M* 4:33-4+ *My* '22

Bibliography

When price is the main stumbling block. *Ptr Ink* 121:115-16 O 19 '22

Quality appeal

Advertising to make the consumer an expert. R. Dickinson. *Ptr Ink* 120:89-90+ *Ag* 31 '22
Chain store supplies butter to navy and advertises it. *Ptr Ink* 124:81-2 *Jl* 26 '23
Change in copy results in a fifty per cent increase in sales. R. Cole. *Ptr Ink* 122:65-6+ *Mr* 1 '22
Gold Dust twins and the Little Fairy stage a return engagement. B. A. Grimes. *il Ptr Ink* 125:25-7 O 18 '23
Growth from an idea of the Duofold pen. J. Henle. *Ptr Ink* 120:118+ S 28 '22
How too much price appeal can slow down business impetus. S. C. Lambert. *Ptr Ink* 119:61-2+ *Ap* 27 '22

Market for quality products is strengthening. C. C. Parlin. *Ptr Ink* 119:80-1+ *Je* 22 '22
Prestige copy must ring true. J. P. Wilder. *il Ptr Ink M* 4:40-1 D '21
Starts in basement; made great through advertising. C. M. Harrison. *Ptr Ink* 117:41-2+ D 15 '21
To impress the dealer with the quality of your product. G. H. Wicker. *Ptr Ink M* 6:30 *My* '23
What becomes of my product? D. Hubbard. *Ptr Ink* 123:57-8+ *Ap* 26 '23
When quality line prestige can carry cheap goods. G. A. Nichols. *Ptr Ink* 124:41-2+ *Ag* 2 '23

Bibliography

Experienced advertisers who have lifted their products above price-competition class. *Ptr Ink* 123:69-70 *My* 31 '23

Rating

Inquiries or orders? *Ptr Ink* 119:170+ *Je* 1 '22

Sampling idea

Sampling idea as applied to general advertising. *Ptr Ink* 121:73-4 N 16 '22

Signatures

Incomplete addresses costly to advertisers. *Ptr Ink* 123:145-6 *My* 31 '23

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Specimens

Envelope enclosures or stuffers. *Inland Ptr* 69:376a-h *Je* '22
Examples of advertising typography and design produced in the Bundscho shop, Chicago. *Inland Ptr* 69:696a-h *Ag* '22

Success appeal

Successful manufacturers find way to advertise prosperity. J. True. *Ptr Ink* 120:109-11 *Ag* 10 '22

Testimonials

Colgate directs attention to testimonial in unusual way. *Ptr Ink* 118:77-8 F 9 '22
Consumer, dealer and salesman tied up with the factory. J. A. Lutz. *Ptr Ink* 119:149-50+ *My* 18 '22
Gillette's energetic advertising campaign for 1922. *il Ptr Ink* 119:101-2 *Je* 29 '22
How Sellers gets retailers to help sell other retailers. O. P. Perkins. *Ptr Ink* 122:17-19+ *Mr* 15 '23
Putting a personality behind the advertising. W. L. Larned. *Ptr Ink* 123:57-8+ *Ap* 12 '23
Testimonial advertising that steps up the reader's conception of a product; twist drills. K. Kendig. *Ptr Ink M* 7:100+ O '23
Uncle Sam's endorsement in advertising copy. J. F. Richter, Jr. *Ptr Ink* 123:8+ *My* 3 '23
When the consumer writes your advertisements. D. Hubbard. *il Ptr Ink M* 7:26-8 *Jl* '23
When well-known people sponsor the sales message. W. H. Heath. *Ptr Ink* 123:137-8+ *My* 31 '23

Testing

Checking up on the big idea. *Ptr Ink* 117:77-80+ D 29 '21
Insuring copy before it is run; eleven methods of testing copy in advance. R. R. Updegraff. *Ptr Ink* 121:3-4+ D 7 '22
Pepsodent's success won in badly crowded field. *Ptr Ink* 123:89-92 *Je* 7 '23
Selecting the selling appeal. R. B. Franken. *Ptr Ink M* 7:26-8+ S; 46+ O '23

Thrift appeal

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Do it yourself as an advertising theme. A. L. Townsend. *Ptr Ink* 119:41-2 *Je* 1 '22
Government seeks sale of securities by teaching the philosophy of thrift. *Ptr Ink* 123:70+ *My* 17 '23

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New method of use can sell a highly competitive product; tea, packed in balls. *Ptr Ink* 122:76-7 Mr 22 '23

Sidetracks price-cutting talk to clear the sales road. D. M. Hubbard. *Ptr Ink* 119:33-4+ My 11 '22

Typography

Acrobatic lettering that serves a purpose. W. L. Larned. *Ptr Ink* M 4:42+ D '21

Advantages and disadvantages of the all-enclosed mortise for type. W. L. Larned. *Ptr Ink* 124:73-4+ S 20 '23

Advertising successes built with small space. J. A. Murphy. *il Ptr Ink* M 5:21-3+ J1 '22

Bottom position for the picture. *Ptr Ink* 120:101-2+ J1 27 '22

Combining artistic make-up and salesmanship in business-paper display. W. L. Larned. *Ptr Ink* 118:41-2+ Ja 5 '22

Effective type-use for advertising. B. Sherbow. 139p B. Sherbow. New York '22

Effective type use in advertising. *Inland Ptr* 69:241-3 My '22

Fitting type to illustration. J. L. Frazier. *Inland Ptr* 69:393-4 Je '22

Hand-lettering to emphasize the caption or entire message. W. L. Larned. *Ptr Ink* M 4:33-4 F '22

How type personality can be used to increase advertising effectiveness. A. R. Hopper. *Ptg Art* 40:468-71 Ja '23

Making the eye sign on the dotted line. W. L. Larned. *Ptr Ink* 124:61-2+ J1 12 '23

Making type an actor in your show. R. Surrey. *Ptr Ink* M 7:23-4+ Ag '23

Making type work. B. Sherbow. *Inland Ptr* 68:372 D '21

Mechanics of advertising. *Inland Ptr* 71:875 S '23

Mechanics of advertising. F. O. Aumüller. 95p Cramer-Krasselt co., Milwaukee '22

Newspaper display that stands out. *Ptr Ink* 118:49-50+ Mr 9 '22

Outside and the come-back. R. E. Ramsay. *Inland Ptr* 69:377-80 Je '22

Plain type is strong type. L. St. Clair. *Aera* 10:901-2 My '22

Plea for restraint. L. C. Gandy. *Inland Ptr* 69:225-8 My '22

Possible compositions of the full page. W. L. Larned. *Ptr Ink* 118:57-8+ Mr 23 '22

Pretty printing versus printed salesmanship. W. A. Kittredge. *Inland Ptr* 69:672-3 Ag '22

Printers' advertisements of distinction. R. G. Gardner. *Inland Ptr* 71:820-1 S '23

Printer's part in conserving vision. R. F. Saladé. *Ptg Art* 41:41-6 Mr '23

Problem of the single column advertisement. W. L. Larned. *Ptr Ink* M 5:65-6 N '22

Problem of the unique mortise. A. L. Townsend. *Ptr Ink* 117:90+ D 1 '21

Review of newspapers and advertisements. J. L. Frazier. See monthly numbers of *Inland printer*

Rose leaves of typography. F. T. Singleton. *Ptg Art* 38:157-8 O '21

Sand traps and bunkers for the eye in its consideration of typography. W. L. Larned. *Ptr Ink* 124:65-6+ S 6 '23

Six lessons in newspaper advertising composition for advanced apprentices. W. C. Manson. 87p W. Chas. Manson, Boston '22

Some things the printer should know about advertising. R. H. Haywood. *Inland Ptr* 70:361-3 D '22

Turning typographical hand-springs with slogans. *Ptr Ink* 123:48+ Ap 26 '23

Type faces. 54p Fleming & Reavely, New York '21

Type: its use and abuse in advertisements and selling documents. F. T. Singleton. *Ptg Art* 38:362-4, 466-8, 555-9 D '21-F '22

Type versus hand lettering. D. E. Stetson. *Inland Ptr* 72:260-2 N '23

Typography of advertisements. F. J. Trezise. 134p *Inland ptr. co.*, Chicago '21

Typography with illustrative value. W. L. Larned. *Ptr Ink* 121:41-2+ N 30 '22

What can be done with the all-over background. *Ptr Ink* 122:77-8+ Mr 8 '23

What is an art director? H. L. Towle. *Ptr Ink* 125:143-14 O 18 '23

Widening the display horizon of the modern newspaper campaign. *Ptr Ink* 123:85-6+ Ap 26 '23

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"Use" appeal

Advertising brings back a lost style; lacing hooks. D. Kirkland. *il Ptr Ink* M 4:36-6 Ag '23

Created a new sales outlet to speed turnover. R. Crothers. *Ptr Ink* M 6:56+ Ap '23

Delco-light finds advertising appeal that is easily demonstrated. J. A. Murphy. *il Ptr Ink* M 6:44+ Ja '23

Food product that is sprinkling its way to greater sales volume. J. True. *Ptr Ink* 120:81-2+ S 21 '22

Gold dust's 28 uses lead the way to wider markets. R. Cole. *Ptr Ink* 118:3-4+ Mr 2 '22

Helpfulness—the big idea in advertising to women. I. B. Allen. *Ptr Ink* 123:138+ Je 14 '23

How to use—advertising's most vital fundamental. J. A. Murphy. *il Ptr Ink* M 5:29-30+ Ag '22

Illustrated letters that scout for uses for new product; Shepard electric crane and hoist co. J. A. Murphy. *Ptr Ink* M 6:21-2+ Mr '23

Is it better to feature a few important uses for a product or many uses? *Ptr Ink* 120:85-6+ S 7 '22

Lea & Perrins, old advertisers, find a new use campaign for Worcestershire sauce. A. Belden. *Ptr Ink* 123:33-4 Je 14 '23

Lord Nelson, Kings' evil and Lux; one market at a time. R. M. Rhodes. *Ptr Ink* M 6:31-2 Mr '23

Selling the uses instead of the product. W. P. Mills. *il System* 42:135-7 Ag '22

Utility package and new use form backbone of pioneering campaign; how the Hamersley mfg. co. is selling waxed paper. C. B. Larabee. *Ptr Ink* 122:89-90+ Mr 8 '23

Bibliography

How new uses are found and advertised. *Ptr Ink* 122:44+ F 15 '23

Advertisements, Classified

Classified advertising moves a ripening apple crop quickly. *Ptr Ink* 122:64 Ja 11 '23

How some advertisers are using the classified pages. J. T. Bartlett. *Ptr Ink* 121:89-90+ N 2 '22

Want ads

Better copy in the want ads. L. J. Boughner. *Ptr Ink* M 4:29-30 Ja; 27-8 F; 38+ Mr '22

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Advertisements, Humorous

Advertising to theatre-goers by borrowing themes from plays. W. H. Heath. *Ptr Ink* 119:137-8 Je 1 '22

Cheerful calendar advertisement. W. H. Mayes. *Inland Ptr* 71:368 Je '23

Colgate and Imperial Granum run joint campaign on the Filbert Islands. *Ptr Ink* 119:141-2 Je 1 '22

Fighting a trade bogie with ridicule. J. P. Wilder. *Ptr Ink* 120:87-8 J1 6 '22

How to use humor in advertising to the dealer. A. L. Townsend. *Ptr Ink* 125:81-2+ O 18 '23

Humorist's opportunity in advertising. E. C. Newton. *Ptr Ink* M 7:122+ O '23

Humorous demonstration is advertised. *Ptr Ink* 123:100 Je 14 '23

Introducing a new food product in Honolulu; aji-no-moto. G. Mellen. *Ptr Ink* 123:162+ Je 21 '23

Van Heusen makes the retort courteous. R. Bostick. *Ptr Ink* 119:124+ Je 15 '22

When Puck gets loose in the copy department; vegetable crutch. E. C. Newton. *Ptr Ink* 122:8+ Mr 8 '23

Bibliography

Humor as a copy slant—big advertisers have adopted it. *Ptr Ink* 123:119-20 My 24 '23

Advertisements, Pictorial

- Advertising art of foreign countries. Ptg Art 39:25-39, 121-30, 221-30, 325-33, 413-21, 515-21; 40:43-51, 125-33, 249-56, 343-50, 447-53, 548-55; 41:31-40, 133-40, 255-61, 341-9, 472-80, 579-85; 42:39-47, 155-62 Mr '22-O '23
- Advertising display contains into the dealer's consciousness. C. B. Larrabee. Ptr Ink 122:73-4+ Mr 29 '23
- Advertising illustrations that become secondary trade-marks. W. L. Larned. Ptr Ink 123:109-10+ My 10 '23
- Advertising's fourth language—graphic presentation. R. Surrey. Ptr Ink M 7:39-40+ S '23
- Art appeal in display advertising. F. A. Parsons. 132p Harper '21
- Art usage curves shoot up. C. A. Collins. Inland Ptr 70:857-8 Mr '23
- Attention zones of the illustration. W. L. Larned. Ptr Ink 118:41-2+ Mr 2 '22
- Benefits of an artistic atmosphere for the show-case style of illustration. W. L. Larned. Ptr Ink 125:81-2+ O 4 '23
- Bottom position for the picture. Ptr Ink 120:101-2+ J1 27 '22
- Broadening the play of characters in advertising illustration. W. L. Larned. Ptr Ink 123:108+ Ap 5 '23
- Building a pictorial hedge, formed of the product, around the text. Ptr Ink 125:73-4+ O 11 '23
- Business-paper advertising based on the travelogue plan; Nicholson file co. covers industrial centres. Ptr Ink 117:49-50+ N 24 '21
- Changing moods of the advertising illustration. L. Peake. Ptr Ink M 4:94+ D '21
- Combining artistic make-up and salesmanship in business-paper display. W. L. Larned. Ptr Ink 118:41-2+ Ja 5 '22
- Commercial illustrations with an uncomfortable atmosphere. Ptr Ink 120:49-50+ Ag 17 '22
- Decorative designer, not long out of his teens. S. H. Horgan. Inland Ptr 68:640, pl 640a-h F '22
- Decorative work of Clarence P. Hornung. Ptg Art 41:144a-h Ap '23
- Doing the unexpected in illustration. W. L. Larned. Ptr Ink 119:145-6+ Ap 6 '22
- Dramatizing man and machine in business-paper advertising. Ptr Ink 119:132-3+ Ap 13 '22
- Figures of speech employed to supply striking illustrations. W. L. Larned. Ptr Ink 125:61-2+ O 25 '23
- Full sway for the trade-mark as an illustration. W. L. Larned. Ptr Ink 123:41-2+ Ap 19 '23
- Getting a plus quantity in a giant display of the product. Ptr Ink 122:101-2+ F 22 '23
- Getting away from the illustration that labels itself advertising. Ptr Ink 124:73-4+ S 27 '23
- Giving added emphasis to the headline. A. L. Townsend. Ptr Ink 121:49-50+ O 5 '22
- Giving illustrations in a continuity campaign an occasional new dress. W. L. Larned. Ptr Ink 121:41-2+ D 28 '22
- Giving still-life interiors added interest. Ptr Ink 121:41-2+ D 21 '22
- Helping consumers remember the package. Ptr Ink 121:73-4+ D 14 '22
- How Kodak chooses its advertising illustrations. C. B. Larrabee. il Ptr Ink M 5:30-1 J1 '22
- How much should the advertising photograph show? W. Perry. il Ptr Ink M 5:35-6 D '22
- How the Cunard company tells a story of size with a camera. W. L. Larned. il Ptr Ink 124:65-6+ Ag 9 '23
- How to concentrate attention on the product in complicated compositions. Ptr Ink 119:61-2+ My 4 '22
- How to picture the utility of the technical product. W. F. Mulhall. Ptr Ink 120:57-8+ Ag 3 '22
- Illustrating direct advertising. R. E. Ramsay. Inland Ptr 69:697-700 Ag '22
- Illustrating the hard-to-show product. H. F. King. il Ptr Ink M 6:98+ Je '23
- Illustration that is a repetition of units. W. L. Larned. Ptr Ink 123:93-4+ My 17 '23
- Line of least resistance as an attention-compeller in illustrations. Ptr Ink 124:41-2+ Ag 16 '23
- Making it easier for the reader to understand with picture similes. Ptr Ink 118:49-50+ F 9 '22
- Making still-life illustrations as interesting as figure work. Ptr Ink 124:117-18+ Ag 30 '23
- Making the big idea graphic. Ptr Ink 118:120+ Ja 12 '22
- Making the characters in advertising illustration register the sales story. Ptr Ink 117:94-6 D 29 '21
- Making the eye sign on the dotted line. W. L. Larned. Ptr Ink 124:61-2+ J1 12 '23
- Making the illustration a mere postscript. Ptr Ink 117:41-2+ D 22 '21
- Mechanical drawings made interesting. Ptr Ink 119:48+ Je 8 '22
- Naturalism in fashion drawings an important development of today. Ptr Ink 122:77-8+ Ja 18 '23
- New illustrations for old themes. Ptr Ink 123:109-10+ My 31 '23
- New talking points via the microscope. E. H. Rowe. Ptr Ink M 6:59+ Mr '23
- 101 per cent type of illustration. Ptr Ink 120:41-2+ Ag 3 '22
- Origin of illustrations that compel attention. Ptr Ink 121:57-8+ N 16 '22
- Passing mode of British advertising illustrations. T. Russell. Ptr Ink 122:97-8 Mr 1 '23
- Pathfinders in advertising art. W. L. Larned. Ptr Ink 120:53-4+ Ag 24 '22
- Perfecting a close tie-up of name-plate and pictured product. W. L. Larned. Ptr Ink 124:57-8+ S 13 '23
- Photographs in business-paper advertising. B. Berfield. il Ptr Ink M 6:41-2 Je '23
- Pictorial demonstration instead of the superlative. il Ptr Ink M 6:65+ Ja '23
- Pictorial devices to make a product's mechanics understandable. W. L. Larned. Ptr Ink 117:41-2+ D 8 '21
- Pictorial teasers in the opening page of trade-paper inserts. W. L. Larned. Ptr Ink 123:85-6+ Je 21 '23
- Picture simile as a theme for technical advertising. H. Burwen. Ptr Ink 122:97-8 Mr 8 '23
- Putting personality into the inanimate illustration. Ptr Ink 122:84-5+ Mr 29 '23
- Putting the human element in human interest illustrations. Ptr Ink 120:73-4+ Ag 10 '22
- Resourcefulness supplies continuity in illustration. W. H. Heath. Ptr Ink 119:49-50+ Ap 20 '22
- Romance of design and ornament as applied to advertising. R. Highet. il Ptg Art 39:501-7; 40:25-33, 139-46, 235-41, 353-9, 457-63, 558-65; 41:49-55, 145-51, 242-50, 361-8, 463-8, 573-8; 42:51-7 Ag '22-S '23
- Scare copy by inference; Pyrene manufacturing company uses Belasco effects. Ptr Ink 123:33-4 My 10 '23
- Seeing red—in advertising. S. Curtiss. Ptr Ink M 4:70+ D '21
- Strategic compositions that provide for emphasis of the product. Ptr Ink 120:49-50+ Ag 31 '22
- Subduing the illustration to emphasize one important object. il Ptr Ink 119:110+ Je 22 '22
- Trade advertisers turn to human-interest photographs. Ptr Ink 124:89-90+ S 13 '23
- Unusual perspectives make unusual advertising illustrations. Ptr Ink 121:77-8+ O 19 '22
- Use and abuse of illustration. F. A. Parsons. Ptr Ink 118:105-6 Mr 30 '22
- What errors in advertising illustrations does the public write in about? Ptr Ink 124:93-4+ J1 19 '23
- What illustrations are best for small space advertisers? D. Gridley. il Ptr Ink M 7:41-2 J1 '23
- What is an art director? H. L. Towle. Ptr Ink 125:113-14 O 18 '23
- When advertising pressure on one item sells whole list; Morton salt company. G. A. Nichols. Ptr Ink 123:101-2+ Ap 12 '23

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When eliminated backgrounds mean more compelling pictorial display. *Ptr Ink* 123: 137-8+ My 3 '23

When futuristic illustrations have a place in advertising. *il Ptr Ink* 122:69-70+ Mr 22 '23

When ornate decoration fits in with the spirit of the campaign. *W. L. Larned. Ptr Ink* 124:77-8+ JI 5 '23

When the headline suggests the picture. *W. L. Larned. Ptr Ink* 118:81-2+ Ja 19 '22

When the subject is difficult to illustrate. *Ptr Ink* 122:93-4+ F 1 '23

When you show your package in your advertising. *K. B. White. Ptr Ink M* 5:32-3 Je '22

When you use a famous painting on your calendar. *C. B. Larrabee. il Ptr Ink M* 6: 31-3+ F '23

See also Advertising characters; Art, Commercial; Color in advertising; Posters; Rotogravure; Trade marks

Diagrams

Diagrams that tell an important story. *W. L. Larned. Ptr Ink* 120:113-14+ S 28 '22

Portraits

Direct-mail advertising that architects frame. *Ptr Ink* 123:129-30 Ap 12 '23

Photographic portrait-study. *R. G. Harrington. Ptr Ink M* 5:106 N '22

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Intricacies of the newspaper halftone that are being mastered. *Ptr Ink* 124:49-50+ JI 26 '23

New applications of the wood-engraving technique. *Ptr Ink* 121:41-2+ N 9 '22

Overcoming the last hazards of newspaper art reproduction. *Ptr Ink* 120:41-2+ S 28 '22

Picture plates for the press. *H. W. Smith. il (Bul. v.2, no.28, Journalism ser. no.23) 64p Univ. of Mo., Columbia '21*

Silhouettes

Experiments in silhouette illustration. *Ptr Ink* 121:41-2+ O 26 '22

Technique

Distinction and printability for the small illustration. *Ptr Ink* 121:49-50+ D 7 '22

Giving eye interest to half-tone vignettes. *Ptr Ink* 119:93-4+ Ap 27 '22

How do you get those effects? *Ptr Ink* 117: 77-8+ N 24 '21

How to handle photographic copy for best illustrative effects. *Ptr Ink* 120:57-8+ O 12 '22

Human interest and light. *C. B. Larrabee. il Ptr Ink M* 5:40+ O '22

Keeping the illustration light. *Ptr Ink* 118: 108+ F 2 '22

Legerdmain of the advertising camera. *Ptr Ink* 122:81-2+ F 15 '23

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Pencil original makes a bid for consideration. *Ptr Ink* 122:97-8+ Mr 15 '23

Putting poster technique into publication illustrations. *W. L. Larned. Ptr Ink* 118:93-4+ Mr 30 '22

Seeking innovations in pen-and-ink technique. *W. L. Larned. Ptr Ink M* 5:78+ Je '22

Technical methods of adding interest to large showings of product. *W. L. Larned. Ptr Ink* 120:73-4+ S 7 '22

Techniques of advertising illustration. *Ptg Art* 38:121-31, 235-42, 321-9 O-D '21

Things that can be done with a pen-and-ink line. *Ptr Ink* 122:53-4+ Ja 11 '23

Things that can happen to engravings. *Ptr Ink* 124:113-14+ Ag 23 '23

Three big advertisers find pen technique an asset to the campaign. *W. L. Larned. Ptr Ink* 123:41-2+ Je 28 '23

Unexpected always happens in some advertising problems; pitfalls, mechanical and otherwise. *W. L. Larned. Ptr Ink* 119:85-6 My 25 '22

What can be done with photographs; new idea in retouching. *W. L. Larned. Ptr Ink* 118:49-50+ Ja 12 '22

When ghosts play a part in advertising. *Ptr Ink* 122:41-2+ Ja 25 '23

When technique individualizes the campaign. *W. L. Larned. Ptr Ink M* 6:52+ Ap '23

Advertisements, Small space

Advertising successes built with small space. *J. A. Murphy. il Ptr Ink M* 5:21-3+ JI '22

Distinction and printability for the small illustration. *Ptr Ink* 121:49-50+ D 7 '22

How small space can build big advertisers. *W. L. Larned. Ptr Ink M* 4:25-6 Mr '22

Small space in many mediums or large space in a few? *Ptr Ink* 117:28 D 29 '21

What illustrations are best for small space advertisers? *D. Gridley. il Ptr Ink M* 7:41-2 JI '23

Advertisers and investors protective bureau

Revive advertisers protective bureau in Chicago. *Ptr Ink* 125:120 N 1 '23

Advertising

Advertiser's artful aid; words created by the ingenious advertiser which have become part of our everyday vocabulary. *Brander Matthews. Ptr Ink* 119:108-9+ My 11 '22

Advertising—a good investment. *L. H. Armour. Ptr Ink* 122:69-70 Ja 11 '23

Advertising—and its unusual uses. *A. E. Haase. Ptr Ink M* 5:23-4+ S '22

Advertising as a tool for manufacturers' salesmen. *C. C. Farlin. Ptr Ink* 120:73-4+ JI 6 '22

Advertising as the director of Lever brothers sees it. *R. Dickinson. Ptr Ink M* 7:21-2+ JI '23

Advertising builds a successful business without the help of salesmen; simplicity the secret of Castoria's success. *R. Cole. Ptr Ink* 121:125-6+ O 19 '22

Advertising enlisted for aid of small-loans institution. *Ptr Ink* 123:117-18 Je 28 '23

Advertising for the retailer. *L. D. Herrold. 677p Appleton '23*

Advertising fundamentals. *Association press, New York '22*

Advertising is business insurance. *H. O. Ross. Ptr Ink* 121:141 O 26 '22

Advertising man. *E. E. Calkins. 205p Scribner '22*

Advertising overcomes geography as an obstacle in textile distribution. *L. Allen. Ptr Ink* 121:142+ D 7 '22

Advertising problems in seeking distribution. *G. Aiken, Jr. Administration* 2:681-5 N '21

Advertising story told by three charts. *M. Hastings, Jr. charts Ptr Ink M* 6:64+ F '23

Advertising to supply an industry with adequate raw material. *S. C. Lambert. Ptr Ink* 119:138+ Je 8 '22

Advertising yearbook for 1921-22. 289p Doubleday '22

Association of national advertisers prescribes more and better advertising. *Ptr Ink* 123: 25-8 My 17 '23

Aunt Matilda learns how advertising benefits the farmer's wife. *R. Dickinson. Ptr Ink* 124:121-2+ S 27 '23

Bed spreads are named and advertised after thirty-two years. *R. Dickinson. Ptr Ink* 122: 130+ F 22 '23

Business man's guide to advertising. *A. E. Bull. 124p Pitman '22*

By-product plus advertising equals world-wide business for Thos. E. Wilson & co. *G. A. Nichols. Ptr Ink M* 6:21-2+ My '23

Can Barney Google sell bananas at the Follies? *A. Osborn. Ptr Ink* 124:17-20 S 27 '23

Careful planning gets maximum results in an off season campaign of the Printz-Biederman company. *R. W. Johnson. Ptr Ink* 120: 17-20 JI 27 '22

Clean shelves by 1922! *G. A. Nichols. Ptr Ink* 117:81-2+ N 10 '21

Digging in the advertising graveyard. *P. K. Marsh. Ptr Ink* 120:25-8 Ag 31 '22

Don't stop with selling to customers—keep them sold. *B. F. Berfield. Ptr Ink M* 7:33-4+ O '23

English firm, of long standing, starts American advertising campaign; Josiah Wedgwood & sons. *Ptr Ink* 123:17-20 My 10 '23

- Factory inventive genius as an aid to advertising. A. L. Townsend. *Ptr Ink* 119:41-2+ Je 15 '22
- Feeding a nation its daily conversation. R. Giles. *Ptr Ink M* 6:36+ Ja '23
- Festus Wade's views on advertising as a business force. *Ptr Ink* 117:33 N 17 '21
- Finding the time and the place for advantageous advertising. W. L. Larned. *Ptr Ink* 117:157-8 N 17 '21
- First principles of advertising. W. D. Nesbit. 11lp Gregg pub. co., New York '22
- Forces that are ready to go to work for business. C. C. Parlin. *Ptr Ink* 119:93-4+ Je 29 '22
- Four incidents built on principles of good advertising. C. A. Bates. *Ptr Ink M* 7:74+ S '23
- Fourth measurement of advertising. B. Jefferson. *Ptr Ink* 125:61-2+ O 4 '23
- General manager tells why some advertising is called a failure; be sure the product is right. J. A. Worsham. *Ptr Ink* 124:8+ S 6 '23
- Get-together for printers, advertising men and clients. C. R. Rosenberg, jr. *Ptg Art* 40:147-9 O '22
- Good-luck ring runs good-luck copy; an original \$40 advertising investment reaps profits of \$4,500. *Ptr Ink* 120:28 Jl 13 '22
- How advertising can make an industry. C. C. Parlin. *Brick & Clay Rec* 61:947-53 D 26 '22
- How advertising roots out old man precedent. M. Hastings, jr. *Ptr Ink M* 5:37-8 O '22
- How advertising scouts for side-street markets. W. B. Edwards. *Ptr Ink* 124:133-4+ S 20 '23
- How Buick brought in 1,000,000 people to inspect new models; simplicity in advertising best. G. A. Nichols. *Ptr Ink* 124:17-20 S 6 '23
- How "pioneer advertising" has paid; Way sagless spring company. J. M. Anderson. *Ptr Ink* 121:33-4+ O 5 '22
- How some queer products became profit-makers through advertising. C. B. Larrabee. *Ptr Ink M* 6:17-19+ Je '23
- How to awaken a sleeping industry; experiences of the General cigar company. F. Hirschhorn. *Ptr Ink* 124:25-8 Jl 19 '23
- How to get more business. A. E. Edgar. 142p Advertising world, Columbus, O. '21
- How to plan and advertise a sale. A. E. Edgar. 43p Advertising world, Columbus, O.
- Importance of being known. R. R. Updegraff. *Ptr Ink* 119:17-20 My 25 '22
- Inner side of advertising. C. C. Freer. 347p Library press, London '21
- Jewell belting company finds an advertisement specialty after 153 years. E. B. Weiss. *Ptr Ink* 123:66+ Je 21 '23
- Labeling the store to identify the product. J. True. *Ptr Ink* 121:81-2 Jl 12 '23
- Let's advertise! J. E. Walter. *Ptg Art* 41:25-6 Mr '23
- Lights along the advertising path of the limited business. A. E. Haase. *Ptr Ink M* 6:52+ F '23
- Living up to his advertising. *Ptr Ink* 118:104+ Ja 5 '22
- Loyalties in the making. G. Kinney. *Ptr Ink* 122:138+ Ja 4 '23
- Making a prospect of every member of the family. C. W. Bent. *Ptr Ink* 120:113-14 Jl 13 '22
- More advertising would make the nation prosperous. J. G. Berrien. *Ptr Ink* 118:130+ F 16 '22
- Neglected treasures of advertising main. R. W. Welch. *Ptr Ink* 120:53-4+ Jl 20 '22
- Not necessary to quote statistics to prove desirability of advertising. M. Hastings, jr. *Ptr Ink* 123:157-8+ My 10 '23
- 1+2=5 ou: comment augmenter le chiffre d'affaires? O.-J. Gérin. *Chimie & Ind* 8:690-2 S '22
- One-half of letter postage created by advertising. *Ptr Ink* 124:113-14 Ag 16 '23
- Pacific coast oyster democratized. *Ptr Ink* 119:33-4+ Ap 13 '22
- Pageant that demonstrates the effects of advertising. R. W. Johnson. *Ptr Ink M* 5:34 Je '22
- Potential advertisers of 1923. R. Dickinson. *Ptr Ink* 122:3-4+ Ja 4 '23
- Practical advertising suggestions for the dealer. G. C. Breidert. *Heat & Ven* 20:63 S '23
- Principles of advertising. D. Starch. 998p Shaw '23
- Public relations and the advertising man. F. H. Sisson. *Comm & Fin Chr* 116:2585-6 Je 9 '23
- Publicity; a manual for the use of business, civic, or social service organizations. R. H. Wilder and K. L. Buell. 271p Ronald press Religion and advertising. W. H. Ridgway. *Am Gas J* 119:118+ Ag 11 '23
- Scientific advertising. C. C. Hopkins. 102p C. C. Hopkins, 400 N. Mich. av., Chicago
- Scientific selling and advertising. A. Dunn. 159p Harper '22
- Selling by the printed word. R. Ruxton. See monthly numbers of Printing art
- Sketch in parable of advertising history. F. Presbrey. *Ptr Ink* 117:146+ N 24 '21
- Some reflections on advertising. C. L. Benjamin. *Ptr Ink* 121:124 D 14 '22
- Something is happening to advertising. S. Hunter. *Ptg Art* 39:47-9, 145-9, 240-5 Mr-May '22
- Stabilizing profits through advertising. A. Hunsicker. *Ptr Ink* 124:81-2+ S 27 '23
- Tale of Musa-Shiya the shirtmaker. A. E. Haase. *Ptr Ink* 118:25-7 F 23 '22
- Thirty practical lessons in advertising and selling. G. Hubbard. 80p P. C. book co. This public opinion stuff—do we really believe it? A. H. Fairbanks. *Ptr Ink M* 6:61-2 Ja '23
- Treatise on advertising; what is it? why is it? does it pay? J. H. Hartog. *Am Gas J* 118:281-2 Ap 7 '23
- Unusual product comes in for advertising. A. L. Townsend. *Ptr Ink* 117:153+ D 8 '21
- What advertising means to America. A. D. Lasker. *Ptr Ink* 119:105-6 My 4 '22
- When the patented product becomes public property. *Ptr Ink* 122:48 Mr 22 '23
- Why do you advertise your wares? S. Jinks. *Gas Age* 51:209-10 F 17 '23
- Why doesn't somebody advertise advertising? C. A. Bates. *Ptr Ink* 122:33-4+ Mr 15 '23
- See also Advertisements; Airplanes in advertising; Bank advertising; Billboards; Blotters; Business; Calendars; Catalogs; Church advertising; Community advertising; Containers; Electric signs; Exhibits; Educational; Good will in business; Government advertising; Harvard advertising awards; House organs; Library advertising; Mail order business; Merchandizing; Money raising campaigns; Moving pictures in advertising; Municipal advertising; New York stock exchange—Advertising rules; Posters; Press agents; Professional advertising; Propaganda; Purchasing—Advertising aids; Sales letters; Service (in industry); Show windows; Skywriting; Slogans; also subdivision Advertising under various subjects, e.g. Anniversaries; Automobile accessories industry; Automobile industry and trade; Bakers and bakeries; Barber shops; Beverages; Bonds; Book industries and trade; Brewing industries; Brick industry and trade; Brushes, industrial; Building trades; Bulbs; Business streets; Canaries; Candy trade; Canoes; Cement industry and trade; Chain stores; Chemical industries; Christmas gifts; Cigars; Clothing trade; Collars; Colleges and universities; Copper industry and trade; Corsets; Electric fans; Electric industries; Electric railroads; Electric utilities; Employment systems; Farm produce; Farmers; Farms; Fish; Frozen; Food industry and trade; Fruit trade; Gas and oil engines; Gas industry; Grocery trade; Hardware; Hosiery trade; Hotels; Ice cream; Ice industry; Insurance, Fire; Insurance, Life; Jewelry trade; Laundries; Linoleum; Lumber trade; Machine tool industry; Mail order business; Meat industry and trade; Moving picture industry; Office buildings; Optical trade; Overalls; Packing industry; Paper towels; Plumbing trade; Printing trade; Public utilities; Railroads; Razors; Retail trade; Rice; Saws; Scales; Seasonal industries; Shoe industry and trade; Silverware; Soap

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industry and trade; Spectacles; Sugar industry and trade; Sweet potatoes; Taxicab companies; Tea; Technical products; Telephone companies; Textile industry; Theaters; Tractor industry and trade; Trade marks; Trust companies; Underwear; Vinegar; Wall paper; Warehouses; Washing machines; Electric; Watches; Water companies; also American association of advertising agencies; American newspaper publishers association—Bureau of advertising; Association of national advertisers

Accounting

Form for recording inquiry and sales costs. *Ptr Ink* 121:157-8 O 26 '22
What expenditures should be charged to the advertising account? J. A. Murphy. *Ptr Ink* 121:3-4+, 129-30+ N 16-23 '22

Architects, Appeal to

Advertise to the architect in his own language! A. L. Townsend. *Ptr Ink* 124:89-90+ J 12 '23
Advertising which gains the attention of the architect. *Ptr Ink* M 7:104+ O '23
Architectural committee tells how manufacturers can make their advertising better. H. W. Stokes. *Ptr Ink* 119:117-18+ My 18 '22
Catching the interest of the much-advertised-to prospect. D. Kirkland. *il Ptr Ink* 118:8+ Ja 26 '22
Direct-mail advertising that architects frame. *Ptr Ink* 123:129-30 Ap 12 '23
How shall we address architects and other professional men? *Ptr Ink* 121:25-6; Bibliography. 26-7 D 28 '22
Making a letter worth its weight in gold. J. P. Garvey. *Ptr Ink* 123:49-50+ My 17 '23
Proceedings of the Joint conference on better advertising to architects, Indianapolis, Indiana, Nov. 10-11, 1921. *Am Inst Arch J* 10:supl-16 Ap '22

Bankers, Appeal to

Bankers' anti-mail-order views altered by advertising. *Ptr Ink* 122:53-4+ Mr 22 '23

Bibliography

Best books on advertising. *Ptr Ink* 120:20 Ag 3 '22
Preventing suicide and selling buried treasure by advertising. *Ptr Ink* 121:12 D 14 '22
Proof that advertising justifies itself economically. *Ptr Ink* 120:133-4+ J 12 '22
Stories of advertising successes. *Ptr Ink* 119:20 Ap 13 '22
Ten best books on advertising. *Ptr Ink* 120:115 J 13; 28 J 20 '22

Children, Appeal to

Booklets that teach boys how to play. K. B. White. *Ptr Ink* M 5:33-4+ N '22
Car cards serve educational purpose in schools. *Ptr Ink* 117:17 N 17 '21
Creating novelties in samples for children. A. L. Townsend. *Ptr Ink* 118:81-2 Mr 23 '22
Does your research embrace the boy of today? J. H. Wilson. *Ptr Ink* 118:33-4+ Mr 16 '22
How shredded wheat uses school chart to build future sales. M. H. Watrous. *Ptr Ink* M 6:112+ My '23
Ideas that are making sales to and through children. D. Gridley. *Ptr Ink* M 7:31-2 N '23
Junior catalogue rounds up juvenile buyers. M. Hastings, jr. *Ptr Ink* M 4:27+ Ap '22
Miniature product—how and why it is marketed. J. A. Murphy. *il Ptr Ink* M 6:21-3+ F '23
Mother tells of the advertising that appeals to her children. M. A. Bartlett. *Ptr Ink* 117:129-30+ N 17 '21
Planning direct advertising to appeal to children and through them to their parents. R. E. Ramsay. *il Inland Ptr* 71:383-6 Je '23
30,000 children advertise this product. J. F. Cameron. *Ptr Ink* M 4:86+ F '22

See also Toys—Advertising

College students, Appeal to

Fitting the copy to the medium; Williams' shaving cream talks to college students. *Ptr Ink* 120:8+ S 7 '22

Competitive products

Demonstrating a new product at salesmen's convention. C. M. Harrison. *Ptr Ink* 120:89-90+ J 12 '22

Continuity

Borrowed millions, and stopped advertising. *Ptr Ink* 121:197+ O 19 '22
History of nationally advertised articles which have ceased their activity. *Ptr Ink* M 5:99+ Ag '22
Sales—sustained or suspended? A. H. Deute. *Ptr Ink* 122:10+ F 15 '23
Some fallacies concerning seasonal advertising. *Ptr Ink* 122:93-4+ F 8 '23
Steady advertising produces steady employment. R. Dickinson. *Ptr Ink* M 7:18+ N '23
Stopping advertising during dog days an excuse for salesmen to stop work, too. *Ptr Ink* 123:25-7 Ap 12 '23
What once-in-never-out advertising did for Kitchen Klenzer. G. A. Nichols. *Ptr Ink* 119:3-4+ Ap 27 '22

Bibliography

Need for continuity in advertising. *Ptr Ink* 118:122+ F 16 '22
Oversold manufacturer is with us again. *Ptr Ink* 121:122+ N 23 '22

Contractor cooperation

When educating the consumer imperils the service of the local contractor. V. D. Clausen. *Ptr Ink* 118:53-4+ Ja 19 '22

Dealer cooperation

Advertising drive to teach women how to sew; Marshall Field & co. help retailers. C. M. Harrison. *Ptr Ink* 122:129-30+ Mr 22 '23
Armour is teaching better buying to reduce cost of selling. J. S. Older. *Ptr Ink* 123:161-2 Je 7 '23
Better retail merchandising follows Sellers campaign. O. P. Perkins. *Ptr Ink* 117:153-4 N 17 '21
Better use of dealer literature. J. F. Cameron. *Ptr Ink* M 5:39-40+ J 12 '22
Can files prevent retail waste of advertising material? *Ptr Ink* 119:20 Je 8 '22
Children's miniature model helped introduce Warner corsets in Canada. R. A. Gibney. *Ptr Ink* 125:162+ O 4 '23
Convincing the dealer that your advertising plans are true. W. L. Larned. *Ptr Ink* 119:69-70+ My 18 '22
Dealer ads that capitalize the dealer's viewpoint. A. H. Redfern. *Ptr Ink* 119:125-6+ Ap 20 '22
Dealer advertisements that get used. P. Sar-torous. *Ptr Ink* 120:78+ J 27 '22
Dealer helps that give the dealer a profit. H. C. Crump. *Ptr Ink* M 5:37-8 Je '22
Dealers co-operate in cutting down waste in dealer helps. H. McJohnston. *Ptr Ink* M 6:37-8 Mr '23
Dealers more ready to co-operate with advertisers. *Ptr Ink* 118:149-50 Ja 19 '22
Do manufacturers dealers' helps help the dealer? W. H. Matlack. *Gas Age* 52:137-8+ Ag 4 '23
Emphasizing the dealer sold this campaign to trade. A. N. Edrop. *Ptr Ink* M 6:48+ My '23
Getting dealer co-operation by solving a dealer problem; how the Multibestos company sells brake lining. R. W. Johnson. *Ptr Ink* 120:3-4+ Ag 3 '22
Getting dealers to make successful street demonstrations. *il Ptr Ink* M 5:50+ Ag '22
Getting window display material back of the plate glass. *Ptr Ink* 119:124-5+; Bibliography. 128-9 Je 22 '22
Helping the dealer, general theme of Towle advertising. H. Burwen. *Ptr Ink* 125:61-2+ O 11 '23
How Borden put the help back into its dealer helps. A. H. Deute. *Ptr Ink* 117:3-4+ D 8 '21
How can we get our dealers to advertise? *bibliog Ptr Ink* 123:121-2+ My 17 '23
How do your salesmen sell your campaign to dealers? T. W. McAllister. *Ptr Ink* 125:41-2+ N 1 '23

Advertising—Dealer cooperation—Continued

- How 400 advertisers are preventing waste in dealer helps. J. A. Murphy. Ptr Ink 122: 3-4+ Ja 11; 33-4+ Ja 18 '23
- How 4,000 dealers were sold a dealer help campaign; Acme white lead and color works. A. J. Reiss. Ptr Ink M 6:63+ My '23
- How Johns-Manville is selling its consumer campaign to the dealer. C. B. Larrabee. il Ptr Ink 122:61-2+ Mr 22 '23
- How seventy-three manufacturers are fighting the summer slump. W. T. Hague. Ptr Ink 123:3-4+ Je 14 '23
- How Western electric handles dealers' mailings. E. B. Weiss. Ptr Ink 121:69-70+ N 2 '22
- How Willard is getting dealers to advertise. C. B. Larrabee. Ptr Ink M 7:27-8 O '23
- Increases Kyanize advertising to keep up dealers' courage. D. Kirkland. Ptr Ink 117: 69-70+ N 24 '21
- Intense local concentration made this dealer campaign successful; Edison lamp works puts on special two-weeks' campaign. R. Cole. Ptr Ink 118:146+ Mr 9 '22
- It makes us friends, then customers. E. F. Wellenhooff. il System 42:158 Ag '22
- Letters that sell dealer helps to foreign dealers. S. C. Lambert. Ptr Ink 121:89-90+ N 9 '22
- Making dealers appreciate sales helps that cost nothing. J. M. Mosely. Ptr Ink M 5: 42 S '22
- Manufacturer signs up dealers for newspaper advertising. A. J. Reiss. Ptr Ink 118:117-18+ Mr 23 '22
- Manufacturer's work preliminary to the advertising; Fruhauf brothers, New York. W. P. Tuttle. Ptr Ink 123:65-6+ My 10 '23
- New product is added to an old line; Round Oak gas range. Ptr Ink 122:153-4 Mr 1 '23
- Picking out the dealer's leader. R. Bostick. Ptr Ink 118:53-4 F 16 '22
- Putting the dealer into picture form. D. G. Miller. Ptr Ink M 4:76+ My '22
- Retail advertising man discourses on advertising co-operation. W. T. White. Ptr Ink 117:121-2 D 1 '21
- Sells a part of the product first; then the product itself. C. M. Harrison. Ptr Ink 120: 85-6+ Jl 27 '22
- Should manufacturers control dealer advertising? H. Tipper. Automotive Ind 47:1190-1 D 14 '22
- Telling the retailer about consumer acceptance. A. Nathan. Ptr Ink 119:89-90 Je 8 '22
- These charts help salesmen explain advertising to dealers. R. Cole. Ptr Ink M 4:19-20 F '22
- Ways of winning the indifferent dealer. A. L. Townsend. Ptr Ink 117:69-70+ D 29 '21
- What is the best way to announce an advertising campaign to the trade? J. A. Murphy. Ptr Ink 123:41-2+ Ap 12 '23
- When manufacturers operate the dealer's mail campaign. bibliog Ptr Ink 121:99-100 O 5 '22
- Winning dealer co-operation with moving posters. Ptr Ink 124:169-70 S 20 '23

Dealers, Appeal to

- Advertises after 25 years, gets 1,382 dealers in 14 days. C. M. Harrison. Ptr Ink 118: 17-18 Ja 12 '22
- Advertising display containers into the dealer's consciousness. C. B. Larrabee. Ptr Ink 122:73-4+ Mr 29 '23
- Advertising that furnishes dealers with over-the-counter talk. M. W. Sohn. Ptr Ink 125: 145-6+ O 4 '23
- Advertising to retailers. R. L. Burdick. 308p Ronald press '23
- Advertising X-rays of the product to dealers; the Coffield washer company. S. C. Lambert. Ptr Ink 124:81-2+ Ag 9 '23
- Boosts jobber to retailer; gains co-operation of both. G. A. Nichols. Ptr Ink 121:117-18+ D 7 '22
- Dealers' interest maintained by easy-to-buy offers; the Rust craft publishers. H. Burwen. Ptr Ink 124:73-4+ Jl 19 '23
- Dealers shown that experience with a product will help sell it. A. Belden. Ptr Ink 123:113-14 My 3 '23

- Gaining national distribution without specialty salesmen; Owens stapletied toothbrush. M. Hastings, jr. Ptr Ink 124:3-4+ S 13 '23
- Getting the proper background for business-paper copy. R. L. Burdick. Ptr Ink 123:89-90+ Ap 19 '23
- How Marmon builds its distributing organization. H. L. Peterson. Ptr Ink 121:33-4+ N 9 '22
- How Phenix cheese company sells a business instead of just the product. Ptr Ink 124: 33-4+ Jl 19 '23
- How the National lead company emphasizes turnover to its dealers. Ptr Ink 123:57-8 Ap 5 '23
- How to use humor in advertising to the dealer. A. L. Townsend. Ptr Ink 125:81-2+ O 18 '23
- How Westinghouse air-spring sales possibilities were broadened; exclusive rights to dealers. A. Belden. Ptr Ink 124:25-8 S 13 '23
- Increased turnover is Rice & Hutchins message to retailers. H. Burwen. Ptr Ink 120: 85-6 S 14 '22
- Keeping a growing business friendly; unusual personal touch copy of Moxie company. J. M. Mosely. Ptr Ink 122:124+ Ja 4 '23
- Keeping dealers in touch with association advertising. R. Branner. Ptr Ink 123:61-2+ Ap 19 '23
- Partnership letters that bring dealer response. W. B. Leach. Ptr Ink 124:73-4+ Ag 2 '23
- Planning direct advertising to sell goods to dealers. R. E. Ramsay. Inland Ptr 70:841-4 Mr '23
- Sales tips instead of sales arguments; Du Pont company markets Pontop. R. Davis. Ptr Ink M 7:43-4 O '23
- Selling retailers by mail in competition with personal salesmanship. J. Henle. Ptr Ink 122:97-8+ Ja 11 '23
- Sells merchandising ideas and gets orders for the merchandise. J. True. Ptr Ink 120: 36+ S 7 '22
- Success stories of Kelvinator dealers make popular trade appeal. J. P. Derum. Ptr Ink 124:33-4+ Ag 23 '23
- Talking to the dealer in a new language. S. C. Lambert. Ptr Ink 117:77-8+ D 15 '21
- 300-turnovers-a-year wins dealers in Bond bread campaign. R. Cole. Ptr Ink 120:73-4+ O 12 '22
- Trade advertisement as a dealer selling chart. W. B. Edwards. Ptr Ink 124:100-1+ Jl 5 '23
- Van Camp advertising to sell the complete line. A. Belden. Ptr Ink 124:125-6+ Jl 5 '23
- Weaning dealers away from price talk. Ptr Ink 125:142 O 25 '23

Economic aspects

- Advertising does not have to lower retail prices to justify itself. J. A. Murphy. Ptr Ink 120:133-4+ S 14 '22
- Does advertising increase cost of women's apparel? Ptr Ink 118:99-100 Mr 2 '22
- Economics of marketing and advertising. W. D. Moriarty. 592p Harper '23
- How Colgate explains the economics of advertising to its employees. G. S. Fowler. Ptr Ink 119:157+ My 11 '22
- How the American federation of labor feels about advertising. C. M. Wright. Ptr Ink 120:33-4+ Ag 31 '22
- Is the cost of advertising a burden on consumer and producer? R. Cole. Ptr Ink M 6:17-18+ Mr '23
- Justification of advertising in marketing fruit. J. Thomas. Ptr Ink 120:73-4 Ag 24 '22
- National advertising versus prosperity. R. Borsodi. 300p Arcadia press, 2 E. 23d st., New York '23
- Place of advertising in modern marketing. P. T. Cherington. Ptr Ink 121:130+ N 9 '22
- Place of advertising in the economic scheme. E. E. Calkins. Ptr Ink 122:3-4+ F 22 '23
- What brought the vacuum bottle from the scientific laboratory to the household? Ptr Ink 123:45-6 Je 21 '23
- What inspires the nation's impulse to produce? H. Eckhardt. Ptr Ink 122:10+ Ja 13 '23

Advertising—Economic aspects—Continued

Why the government can't set quality standards for the products of industry; advertising manufacturer who raises the level. *Ptr Ink* 125:61-2+ N 1 '23

Bibliography

Proof that advertising justifies itself economically. *Ptr Ink* 120:133-4+ JI 27 '22

Failure

Administrative responsibility for advertising failure. T. B. Hilton. *Administration* 4:534-8 N '22

Family of products

Advertising that consolidates distributive gains; why and how Effecto auto finishes are advertised in the farm press. *il Ptr Ink* 125:117-18 N 1 '23

Advertising your products to key men; American Bosch magneto corporation. K. B. White. *il Ptr Ink* M 5:19+ Ag '22

Bringing the family of products under one roof. W. B. Edwards. *Ptr Ink* 122:33-4 Ja 25 '23

How the American sugar company has entered a new field. J. Henle. *Ptr Ink* 120:41-2+ Ag 31 '22

How the family idea works in shoe advertising. R. K. Sewell. *Ptr Ink* 118:53-4+ Ja 26 '22

How to give a selling introduction to new member of a family of products. *Ptr Ink* 125:10+ N 1 '23

Making one advertised article get market for another. *Ptr Ink* 120:116 JI 13 '22

New factory, new goods, new sales plans, announces Kleinert. R. Cole. *Ptr Ink* 118:43+ F 23 '22

Palmolive leaders sponsor newest member of family; Palmolive after shaving talc. *Ptr Ink* 124:10+ S 20 '23

Putting hooks into the advertising; Berkey & Gay's adaptation of family of products idea in furniture selling. C. M. Harrison. *Ptr Ink* 119:149+ Je 8 '22

Several products can be advertised in the same advertisement. J. A. Murphy. *Ptr Ink* M 7:17-18+ S '23

Van Camp advertising to sell the complete line. A. Belden. *Ptr Ink* 124:125-6+ JI 5 '23

Farmers, Appeal to

Advertising significance of diversified farming. E. B. Weiss. *Ptr Ink* 118:73-4+ Mr 9; 119:101-2+ Ap 13 '22

Advertising to the farmer to get new jobber accounts. *Ptr Ink* 120:109-10 S 21 '22

Advertising's next big job to help the farmer; purebred livestock. L. G. Hood. *Ptr Ink* 121:33-4+ O 26 '22

Armour's advertising takes hams back to the farm. *Ptr Ink* 124:33-4 S 27 '23

New woman on the farm. F. Crissey. *Ptr Ink* 120:3-4+ S 28 '22

Planning direct advertising to appeal to farmers. R. E. Ramsay. *Inland Ptr* 71:681-3 Ag '23

Sales drive that brought a 300 per cent increase. R. Cole. *Ptr Ink* 120:96+ Ag 3 '22

Studying the farmer to know how and what to sell him; Montgomery Ward & co. analyze rural market. T. F. Merseles. *Ptr Ink* M 4:16-18 Mr '22

What kind of circular gets my orders? W. S. Corsa. *il System* 41:421-3+ Ap '22

Winning the farmer with fact copy. A. L. Townsend. *Ptr Ink* 119:125-6+ My 11 '22

See also Advertising mediums—Farm papers

Bibliography

Retail stores or traveling agents to sell the farmer? *Ptr Ink* 120:105-6+ Ag 31 '22

History

Advertising in Shakespeare's time. E. E. Calkins. *Ptr Ink* 120:25-6 S 21 '22

Inquiries

Consumer inquiries—do they slow up sales? A. H. Fairbanks. *Ptr Ink* M 5:68+ N '22

Getting all the business possible out of advertising replies. R. Dickinson. *Ptr Ink* 120:3-4+ JI 6 '22

Inquiries—the close-ups of your prospects. P. K. Marsh. *Ptr Ink* M 5:60+ JI '22

See also Follow-up systems

Jobber cooperation

How definite price policy helps win jobber good-will. G. A. Nichols. *Ptr Ink* 122:17-20 Mr 8 '23

Securing jobber and dealer co-operation in advance of the campaign. *Ptr Ink* 122:73-4+ F 22 '23

Laws and regulations

Liquor advertising before the law. J. F. Richter, jr. *Ptr Ink* 122:25-7+ Mr 29 '23

Many states still lack protection of Printers' ink model statute. *Ptr Ink* 121:101-2 O 26 '22

Right of advertisers to use customers' names. *Ptr Ink* 122:68 Mr 29 '23

Use of word government forbidden in advertising. *Ptr Ink* 123:12 Ap 19 '23

What Canada's new advertising matter ruling means. *Ptr Ink* 122:132+ Ja 25 '23

When Uncle Sam is the hero of the advertisement. A. L. Townsend. *il Ptr Ink* 125:133-4+ N 1 '23

See also Advertising, Fraudulent; Advertising contracts

Leaders

Adaptation, then advertising; ready-made how ties. H. Burwen. *Ptr Ink* 123:65-6+ Ap 5 '23

Advertising changes a commonplace staple into an important specialty. R. Cole. *il Ptr Ink* 119:109-10+ Je 29 '22

Big drive on monthly leaders gets more sales for whole line. C. B. Larrabee. *il Ptr Ink* M 4:25-6 Ja '22

Concentration on leaders results in elimination of trailers; Tricker aquatic plants. J. V. Twain. *Ptr Ink* M 5:86+ S '22

Giving the clothes line a name. J. Henle. *Ptr Ink* 121:133-4+ D 7 '22

Handkerchiefs advertised to stimulate a whole line. J. True. *Ptr Ink* 119:53-4+ My 4 '22

Increasing the business on two brands with one; Cushman grade A bread. J. True. *Ptr Ink* 123:74+ Ap 5 '23

Must a new competitive leader have dramatic talking points? D. Kirkland. *Ptr Ink* 117:129-30+ D 1 '21

Selling hair pins in a bobbed-hair market. R. Cole. *Ptr Ink* 120:108+ JI 27 '22

Sixty-five-year-old private brand concern puts out new leader. R. Bostick. *Ptr Ink* 118:33-4 Ja 19 '22

Superseding a leader after thirty-five years. *Ptr Ink* 118:134 Mr 23 '22

When advertising pressure on one item sells whole list; Morton salt company. G. A. Nichols. *Ptr Ink* 123:101-2+ Ap 12 '23

When the leader competes with the rest of the line. C. B. Larrabee. *Ptr Ink* 123:25-8 Je 7 '23

Whole line basks in reflected glory of an advertised leader; Quaker hosiery company introduces chiffon hosiery. J. True. *Ptr Ink* 123:113-14+ Je 14 '23

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Manufacturers, Appeal to

Du Pont markets a new product by direct mail. *Ptr Ink* 124:88 S 6 '23

Men, Appeal to

Advertising to married men. J. Henle. *Ptr Ink* M 6:37-8 Ja '23

Planning direct advertising to sell goods or services to men personally. R. E. Ramsay. *Inland Ptr* 71:79-82 Ap '23

Who buys your merchandise? E. B. Weiss. *Ptr Ink* M 7:38-40 Ag '23

Physicians, Appeal to

Arousing the professional man's interest with a friendly appeal; campaign for the A. E. Little shoe. *Ptr Ink* 121:93-4+ D 14 '22

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Redeem more coupons, object of Wrigley advertising. *Ptr Ink* 118:92+ *Ja* 19 '22

Price relations

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Prize contests

Consumer contest to stimulate knitting. *Ptr Ink* 123:225 *Ap* 26 '23

Contest that dug up answers to sales objections. *B: Berfield, Ptr Ink M* 6:46+ *F* '23

Getting clerks to tell you how much they know; E. C. Atkins & company run an unusual contest. *W. B. Edwards, Ptr Ink* 124:126+ *Ag* 30 '23

Getting jobbers, dealers and the public together on one contest. *J. True, Ptr Ink* 121:117-18+ *N* 30 '22

Gillette Christmas merchandising plan. *Ptr Ink* 121:105-6 *O* 26 '22

How Grape-nuts is advertising to become a two-class product. *B: Berfield, Ptr Ink* 123:17-18 *My* 17 '23

How South Bend bait co. advertises \$2,000 contest. *il Ptr Ink M* 7:116+ *N* '23

How we increased our trading population. *System* 43:53-4+ *Ja* '23

Jingle contest helps local dealer advertise used cars. *Ptr Ink* 123:115-16 *My* 17 '23

Prize contest to help solve a marketing problem; the Milton Bradley company appeals to both children and parents. *Ptr Ink* 125:140+ *O* 18 '23

Prize contests to supply advertising ideas. *Ptr Ink* 121:181 *N* 16 '22

Psychology

Tracing lost sales into people's minds. *R. R. Updegraff, Ptr Ink* 122:41-2+ *Ja* 11 '23

Rates

Considering the flat or conditional rates. *G. L. Caswell, Inland Ptr* 71:705-6 *Ag* '23

Should department store advertising rates be increased? *Ptr Ink* 125:41-2+ *O* 11 '23

Where can rates be reduced? *G. L. Caswell, Inland Ptr* 68:377 *D* '21

Records

How a Milline chart may lessen chances of a sales slump. *B: Jefferson, Ptr Ink* 123:25-8 *My* 31 '23

Semaphores of advertising:—story of 23-year effort. *Ptr Ink* 123:17-19 *Je* 14 '23

Schedules

Is a publisher justified in shifting scheduled advertisements? *R. Bostick, Ptr Ink* 125:109-10 *O* 4 '23

Societies

See also Associated advertising clubs of the world; Association of national advertisers

Statistics

Each time we advertise our sales jump. *H: Burwen, Ptr Ink* 121:17-19 *O* 19 '22

Four-year record of the month's advertising. Published in *Printer's Ink*, the second issue of each month

Volume of advertising in monthly magazines. Published in *Printer's Ink*, the second issue of each month

See also Advertising appropriations

Study and teaching

Complete course in advertising and advertisement writing. 30p *Walhamore co., Philadelphia* '21

Legion of ad clubs continues to grow. *Ptr Ink* 123:41 *Ap* 5 '23

Telegraphed orders

Orders by wire; some examples of the use of telegraph and telephone in sales and advertising. *R. Dickinson, Ptr Ink* 122:69-70+ *F* 8 '23

Trade union cooperation

Save the surface campaign plans for advertising support from labor unions. *Ptr Ink* 121:101-2+ *D* 21 '22

Women, Appeal to

Changed copy appeal gives Wildroot hair tonic a new market. *W. Bates, Ptr Ink* 125:73-4+ *O* 25 '23

Feminine appeal in advertising. *M. E. Matlack and W. H. Matlack, Am Gas J* 117:316-18 *O* 7 '22

Finding the viewpoint that influences sales; Hoffman controlled heat. *J. True, Ptr Ink* 123:69-70 *Ap* 19 '23

Helpfulness—the big idea in advertising to women. *I. B. Allen, Ptr Ink* 123:138+ *Je* 14 '23

Johns-Manville tests out an appeal to women; new roofing copy. *Ptr Ink* 124:57-8 *S* 20 '23

Planning direct advertising to sell goods or services to women personally. *R. E. Ramsay, il Inland Ptr* 71:231-4 *My* '23

Realism in advertising to women. *J. Henle, il Ptr Ink M* 5:33-4 *Jl* '22

When lovely woman buys. *J. H. Collins, Ptr Ink M* 4:46+ *D* '21

When the women read the ads. *U. V. Wilcox, Ptg Art* 42:35-8 *S* '23

When will life insurance reach its ultimate consumer? *J. H. Collins, Ptr Ink* 124:17-20 *Jl* 19 '23

Who buys your merchandise? *E. B. Weiss, Ptr Ink M* 7:38-40 *Ag* '23

Young people, Appeal to

Making youth the bull's-eye of the advertising target. *R. Giles, Ptr Ink* 120:57-8+ *S* 14 '22

Africa

Advertising art of foreign countries. *Ptg Art* 41:133-40 *Ap* '23

Australia

Advertising art in foreign countries. *Ptg Art* 41:31-40 *Mr* '23

Belgium

Advertising art of foreign countries. *Ptg Art* 42:155-62 *O* '23

Canada

Advertising art of foreign countries. *Ptg Art* 40:125-33 *O* '22

Cuba

Advertising art of foreign countries. *il Ptg Art* 41:341-9 *Je* '23

England

Advertising art of foreign countries. *il Ptg Art* 39:29-38, 121-30 *Mr-Ap* '22

France

Advertising art of foreign countries. *Ptg Art* 39:221-30 *My* '22

French mentality and advertising. *E. Sampson, Ptg Art* 41:481-4 *Jl* '23

Germany

Advertising art of foreign countries. *il Ptg Art* 39:515-21 *Ag* '22

Germany forging ahead in aggressive advertising. *H. Jackson, Ptr Ink* 119:121-2 *Je* 1 '22

Honolulu

Honolulu's Chinatown turns to advertising. *O. Atkinson, Ptr Ink* 124:122+ *Ag* 2 '23

Ireland

Advertising art of foreign countries. *Ptg Art* 40:548-55 *F* '23

Italy

Advertising art of foreign countries; Italy. *il Ptg Art* 39:325-33 *Je* '22

Japan

Advertising art of foreign countries. *Ptg Art* 40:343-50 *D* '22

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Latin America

Advertising art of foreign countries. *il* Ptg Art 40:43-51 S '22

Mexico

Advertising art of foreign countries. Ptg Art 40:447-53 Ja '23

Netherlands

Advertising art of foreign countries. *il* Ptg Art 40:249-56 N '22

Russia

Advertising art of foreign countries. *il* Ptg Art 41:255-61 My '23
Bolsheviks make their peace with advertising. *Ptr Ink* 118:57-8 Mr 2 '22

Scandinavia

Advertising art of foreign countries. Ptg Art 42:39-47 S '23

South America

Advertising art of foreign countries. *il* Ptg Art 41:579-85 Ag '23

Spain

Advertising art of foreign countries. Ptg Art 39:413-21 Jl '22

Switzerland

Advertising art of foreign countries. Ptg Art 41:472-80 Jl '23

Advertising, Association

Advertising helps beekeepers solve problems. *Ptr Ink* 118:17-19 F 2 '22

Advertising helps tire industry change established practice. J. Henle. *Ptr Ink* 124:85+ Ag 30 '23

Advertising history of California prunes. H. E. Agnew. *Ptr Ink* 119:3-4+ My 4 '22

Advertising—individually and collectively. R. G. Thomas. *Sanitary & Heat Eng* 99:291-2 My 4 '23

Advertising presents the small-loans case in Indiana. *Ptr Ink* 124:103-4 S 20 '23

Advertising whole milk, to sell evaporated milk. *Ptr Ink* 123:49-50+ Ap 12 '23

Associated rice millers get advertising into schools. E. F. Roark, jr. *Ptr Ink M* 4:64+ Ap '22

Association advertising and its effect upon the manufacturer; Davenport bed makers. R. Branner. *Ptr Ink* 122:82+ F 22 '23

Association advertising creates a market for future output; International baby chick association. *Ptr Ink* 122:145-6 Mr 1 '23

Concentrated sales drive saves market for Sunsweet prunes. R. Cole. *Ptr Ink* 117:137-8+ N 24 '21

Co-operative advertising makes the unsalable salable; Hawaiian pineapple cannery sell grated, or crushed, pineapple. R. Cochran. *Ptr Ink* 125:25-7 O 11 '23

Co-operative advertising of lima beans helps to keep profit from speculators. *Ptr Ink* 124:104+ Ag 23 '23

Co-operative advertising to encourage individual campaigns. E. B. Weiss. *Ptr Ink* 122:49-50+ Ja 18 '23

Illiteracy—a target for advertising; Better schools league plans. *Ptr Ink* 124:25-6 Jl 26 '23

Independent oil men advertise to make goodwill cohesive. C. M. Harrison. *Ptr Ink* 121:17-19 D 7 '22

Industry will advertise to relieve unemployment. A. E. Haase. *Ptr Ink* 117:25-6 D 15 '21

Irish linen society plans advertising. *Ptr Ink* 123:41 My 17 '23

Is association advertising a failure? E. B. Weiss. *Ptr Ink* 124:125-6+ Ag 16 '23

Keeping dealers in touch with association advertising. R. Branner. *Ptr Ink* 123:61-2+ Ap 19 '23

Making mail order a substitute for the style show. *Ptr Ink* 119:130+ My 4 '22

Manufacturers convinced people are becoming wallpaper conscious. *Ptr Ink* 124:49-50+ S 6 '23

Manufacturers join in advertising fine box stationery. *Ptr Ink* 119:73-4 Ap 20 '22

May a contributor to an association campaign advertise individually? *Ptr Ink* 121:17-19 N 16 '22

Merchants' association advertises the honest dealer. *Ptr Ink* 122:53-4 Ja 25 '23

National advertising of ice. P. H. Harris. *Refrig W* 57:33-4 Ag '22

National advertising planned by group of full-fashioned hosiery manufacturers. *Ptr Ink* 122:12 Mr 29 '23

National merchant tailor advertising committee calls for action. *Ptr Ink* 117:112 D 15 '21

New marketing idea in the furniture industry; the Home furnishing styles association's triple guarantee. R. Dickinson. *Ptr Ink* 121:73-4+ D 7 '22

Olive importers combine to get people to eat more Spanish olives. R. Cole. *Ptr Ink* 119:69-70+ Ap 27 '22

Plate glass manufacturers advertise jointly to extend market. R. Cole. *Ptr Ink* 120:129-30+ Ag 10 '22

Progress of the knitted underwear co-operative advertising campaign. L. U. Lynt. *Ptr Ink* 122:144+ Ja 25 '23; Same. *Textile World* 63:337-8 Ja 20 '23

Rebuilding a market that started at the wrong end; davenport bed manufacturers join in co-operative advertising. G. A. Nichols. *Ptr Ink* 119:117-18+ My 25 '22

Ripe olive folks stage big come-back. M. Hastings, jr. *Ptr Ink* 117:85-6+ D 8 '21

Sauer kraut as medicine is subject of co-operative advertising. *Ptr Ink* 119:112+ My 4 '22

Save the surface campaign in England. T. Russell. *Ptr Ink* 125:115-16 O 4 '23

Sunkist had its most successful year in 1921. *Ptr Ink* 118:100+ Ja 5 '22

Tanners launch joint campaign to make public appreciate leather. *Ptr Ink* 124:10+ Ag 16 '23

Tiberius Caesar, his table and 1922 advertising. C. M. Harrison. *Ptr Ink* 118:25-6 Ja 5 '22

Trade associations are dependent upon advertising. A. P. Ames. *Ptr Ink* 124:57-8+ Ag 2 '23

Wall paper rises to the occasion. A. E. Haase. *Ptr Ink* 120:53-4+ Ag 10 '22

What has been accomplished by the A.F.B.A. in promotion work. G. C. Mars. *Brick & Clay Rec* 59:892-5 D 13 '21

Why advertising should be continued. H. M. Houston. *Brick & Clay Rec* 59:975-8 D 27 '21

Why association campaigns are discontinued. *Ptr Ink* 121:125-6 O 26 '22

Why co-operative advertising campaigns are increasing in number. A. P. Ames. *Ptr Ink* 122:122+ F 8 '23

See also Advertising, Cooperative; National trade extension bureau

Bibliography

How association advertising has paid. *Ptr Ink* 119:64+ Je 8 '22

Two-year survey of association activities. *Ptr Ink* 120:146+ S 7 '22

Advertising, Cooperative

Another view of cooperative selling. J. E. Bullard. *il* J Elec 50:56-7 Ja 15 '23

Bigger business from co-operation in buying and advertising. H. E. Martin. *Ptr Ink* 118:77-8+ Ja 12 '22

Book publishers find co-operative advertising copy theme. *Ptr Ink* 119:81-2 Ap 20 '22

Book publishers try interesting experiment in co-operative advertising. *Ptr Ink* 117:8+ D 15 '21

British tomato industry advertises. G. Russell. *Ptr Ink* 120:115-16+ Ag 10 '22

California campaign to spread lower price idea. *Ptr Ink* 117:33-4 D 1 '21

Co-operation is the life of trade. *il* chart Dom Eng 100:2-5 Jl 1 '22

Co-operative advertising speeds up optical sales. *Ptr Ink* 119:107-8 Ap 6 '22

Co-operative advertising that is selling books for four publishers. *Ptr Ink* 124:115-16 S 27 '23

Advertising, Cooperative—Continued

- Co-operative advertising to take mystery out of banking. E. B. Weiss. *Ptr Ink* 123:81-2+ My 3 '23
- Co-operative educational exhibits that sell to children. F. H. Madison. *il Ptr Ink M* 6: 49-50+ Ja '23
- Co-operative group advertising. W. H. Mayes. *Inland Ptr* 70:819-21 Mr '23
- Elimination of irregular mediums furnishes fund for joint campaign of New Orleans banks. F. W. Ellsworth. *Ptr Ink* 123:105-6+ Je 14 '23
- Example of co-operative advertising; lumber concern and contractors. *Bldg Age* 44:53 S '22
- Gloucester inaugurates joint effort to popularize salt fish. J. M. Mosely. *Ptr Ink* 123: 121-2 My 3 '23
- Gloucester takes first step toward co-operative advertising of salt fish. J. M. Mosely. *Ptr Ink* 121:119-20+ N 16 '22
- Manufacturers of related farm lines tie to the Fordson tractor. J. Y. Beaty. *Ptr Ink* 120: 33-4+ J1 6 '22
- Multiplicity of campaigns to increase milk consumption. A. H. Ulm. *Ptr Ink* 118:25-7+ Mr 16 '22
- Perishable foodstuff advertising lesson from Great Britain. G. Russell. *Ptr Ink* 123:97-9 Ap 26 '23
- Save the surface campaign plans for advertising support from labor unions. *Ptr Ink* 121:101-2+ D 21 '22
- Selling the cooperative organization to the trade. *J Elec* 50:182-4 Mr 1 '23
- Short-range selling scores hit for tire manufacturers. *Ptr Ink* 125:149-50 O 18 '23
- Six Milwaukee cemeteries join in co-operative campaign. *Ptr Ink* 121:157-8 N 9 '22
- Successful co-operative advertising. W. B. Stoddard. *il Sanitary & Heat Eng* 98:125-6 S 8 '22
- Teaching economy in meat buying by advertising. *Ptr Ink* 120:64+ S 21 '22
- Twenty-one local industries co-operate to advertise a football game. *Ptr Ink* 121:110+ D 21 '22
- Value of co-operative advertising. *Textile World* 62:2900-1 N 18 '22
- Value of co-operative advertising. B. G. Moon. *Textile World* 64:1756 S 29 '23
- Wholesaler gets retailers to advertise co-operatively. *Ptr Ink* 124:89-90 J1 5 '23
- See also Advertising, Association*

Bibliography

- How retailers have advertised co-operatively. *Ptr Ink* 122:149-50+ F 22 '23
- Yield of co-operative fruit advertising. *Ptr Ink* 119:91-2 My 25 '22

Advertising, Direct

- Direct advertising. R. E. Ramsay. *Inland Ptr* 68:195-7, 339-42, 481-4, 629-32, 781-4; 69:69-72, 213-16, 377-80, 521-4, 697-700, 861-4; 70: 73-6, 237-40, 385-8, 541-4, 677-80; 71:231-4, 383-6, 847-50; 72:101-4, 293-6 N '21-F, My-Je, S-N '23
- Direct advertising builds big sales for unknown product. K. B. White. *Ptr Ink M* 5: 29-30 D '22
- Effective direct advertising. R. E. Ramsay. 640p Appleton '21
- Secret of successful retail direct advertising. R. E. Ramsay. *Sanitary & Heat Eng* 97:318-19; 98:70-1, 127-8, 193-4 Je 2, Ag 11, S 8, O 6 '22
- Some things the printer should know about advertising. R. H. Haywood. *Inland Ptr* 70: 361-3 D '22
- Systematized sales—the vital need of the present-day printer. L. K. Davis. *Ptg Art* 40:259-64 N '22

See also Advertising, Mail; Blotters

Advertising, Educational

- Advertising that brought new youth to an old industry. R. R. Updegraff. *Ptr Ink M* 4: 15-17 My '22
- Advertising that builds approval from prejudice. C. B. Larrabee. *Ptr Ink M* 6:27-9 My '23
- Advertising the truth about mahogany. J. True. *Ptr Ink* 122:33-4+ F 8 '23

- Advertising to overcome an ancient habit. R. Crothers. *Ptr Ink* 124:109-10 Ag 16 '23
- Automobile dealer helps spread gasoline facts in Ohio. R. Atwood. *Ptr Ink* 120:141-2+ Ag 10 '22
- Begin by fully explaining the product. W. L. Larned. *Ptr Ink* 118:77-8+ F 16 '22
- Campaigns that lock horns with popular prejudice. *Ptr Ink* 124:33-4+ J1 12 '23
- Coal dealer who still has his public's goodwill. *Ptr Ink* 123:49-50+ My 10 '23
- Competitive industrial market is opened by selling new principle of production. D. Kirkland. *Ptr Ink* 125:81-2+ O 25 '23
- Fighting prohibition's failure with advertising. *Ptr Ink* 123:41-2 My 31 '23
- How multibestos is developing interest in better brakes; campaign follows in wake of co-operative advertising. *Ptr Ink* 125:185-6 N 1 '23
- Introduces veteran motorist to urge safe and sane driving. *Nat Pet* N 15:105-6+ J1 4 '23
- Lest the farmer and consumer should forget; Swift & co. do educational advertising. *Ptr Ink* 121:10+ D 21 '22
- Machinery maker who takes over his customer's job. R. Bostick. *Ptr Ink* 121:109-10+ N 2 '22
- Making autoists better drivers through advertising; how the Timken roller bearing co. advertises its roller bearings. R. Cole. *Ptr Ink* 120:89-90+ Ag 24 '22
- Million-dollar campaign. E. E. Calkins. *Ptr Ink* 119:61-2+ Je 22 '22
- Overcoming prejudice against the house-to-house canvasser. *Ptr Ink* 126:130+ F 8 '23
- Plussing the value of the advertising. J. W. Herscher. *Ptr Ink* 121:170+ N 23 '22
- Popular prejudice against the product may be the best sales argument. R. Cole. *Ptr Ink* 122:3-4+ Ja 18 '23
- Profit in teaching one hundred million people to know lead. H. E. Agnew. *il Ptr Ink* 119: 89-90+ Je 15 '22
- Rolls-Royce advertises to help competing dealers. R. L. Burdick. *Ptr Ink* 119:25-7 Ap 13 '22
- Seeking to change unwise buying and living habits. W. H. Heath. *Ptr Ink* 119:49-50 Ap 6 '22
- Selling the trust company idea by broad educational advertising. *Ptr Ink* 122:19-20 F 1 '23
- Spread of knowledge through advertising. A. Belden. *Ptr Ink M* 7:31-2 J1 '23
- Sugar industry needs interpretation through advertising. R. McDaniel. *Ptr Ink* 125:33-4+ N 1 '23
- Teaching economy in meat buying by advertising. *Ptr Ink* 120:64+ S 21 '22
- Vigilance committee opposes fake oil promoters with advertising. *Ptr Ink* 124:33-4 S 13 '23
- What advertising can do to disarm prejudice. *Ptr Ink M* 5:108+ S '22
- When the individual advertiser can profitably advertise an industry. B. F. Berfield. *Ptr Ink M* 7:43-4+ S '23
- Why Colgate uses educational advertising. G. S. Fowler. *Ptr Ink* 117:60+ N 24 '21

See also Advertising, Association; Advertising, Indirect; Advertising, Institutional; Exhibits, Educational; Public utilities—Advertising

Bibliography

- Campaigns that lock horns with popular prejudice. *Ptr Ink* 124:33-4+ J1 12 '23
- Advertising, Ethics of.** *See Advertising ethics*
- Advertising, Foreign**
- Advertise to assist export trade. J. McElroy. *Ptr Ink* 118:123+ Ja 5 '22
- Advertising for trade in Latin-America. W. E. Aughinbaugh. 282p Century '22
- Back to fundamentals in advertising to foreign markets. J. R. Sprague. *Ptr Ink M* 6: 29-30+ Ap '23
- Export advertising. D. L. Brown. 342p Ronald press '23
- How the Three-in-One oil company gets business overseas. W. G. Hildebrandt. *Ptr Ink* 118:60+ F 2 '22

Advertising, Foreign—Continued

- How to save money when sending advertising material abroad. *Ptr Ink* 124:53-4+ *Jl* 12 '23
- How Wrigley is teaching the English to chew gum. G. A. Nichols. *Ptr Ink* 117:49-50+ *D* 8 '21
- Letters that sell dealer helps to foreign dealers. S. C. Lambert. *Ptr Ink* 121:89-90+ *N* 9 '22
- Local color in foreign advertising. R. Bostick. *Il Ptr Ink* M 4:33+ *Mr* '22
- Sending catalogues and circular letters to Argentina. G. S. Brady. *Ptr Ink* 120:134+ *Jl* 20 '22
- Shipment of samples and advertising matter to Europe. U S Bur For & Dom Com Trade Information Bul 145:1-30 '23
- Shipment of samples and advertising matter to the British empire. U S Bur For & Dom Com Trade Information Bul 122:1-16 '23
- What shall we invest in export advertising? D: L. Brown. *Ptr Ink* 122:169+ *Mr* 15 '23
- When to translate a trade-mark into a foreign language. C. P. Carter. *Ptr Ink* 124:120-1+ *Ag* 23 '23
- Widening the horizon of Main street on foreign trade. J. Carson. *Ptr Ink* 118:137-8 *F* 9 '22

See also National country newspaper association

Advertising, Fraudulent

- A.A.E. helps to expose Chief Draftsman Dobe. *Eng N* 90:583 *Mr* 29 '23
- Don't lend your name! S: H. Adams. *Nation's Business* 10:14-15 *S* '22
- Drying up sources of profit of fraudulent advertisers. *Ptr Ink* 123:42+ *My* 17 '23
- How the Federal trade commission fosters healthy competition. H. Thompson. *Ptr Ink* 123:17-20+ *My* 3 '23
- Keeping retail business clean. L: E. Kirstein. *Nation's Business* 11:37-9 *Je* '23
- Million Americans lose money and property in mail frauds yearly. H. J. Donnelly. *Comm & Fin Chr* 117:1936 *N* 3 '23
- Misuse and abuse of the word free in advertising. *Ptr Ink* 123:77-8+ *My* 31 '23
- Power of Printers' Ink model statute is measured by its strength as a deterrent. *Ptr Ink* 123:19-20 *My* 17 '23
- Press first charge of violation of Printers' Ink model statute in New York. *Ptr Ink* 123:89+ *My* 3 '23
- Report of fraudulent advertising committee of the Investment bankers' association. *Comm & Fin Chr* 115:1808-9 *O* 21 '22
- See also* Advertisers and investors protective bureau; Advertising—Laws and regulations; Advertising ethics

Advertising, Indirect

- Advertising apartment houses to sell beds. J. True. *Ptr Ink* 119:41-2 *Ap* 6 '22
- Boosts sale of cement for swimming pools to sell more bathing suits. C. M. Harrison. *Ptr Ink* M 7:78+ *N* '23
- Duplex advertising campaign in business papers; manufacturer of chucks advertises drills. R. L. Burdick. *Ptr Ink* 121:25-7+ *N* 16 '22
- Exide battery grabs the buck for the industry in business-paper advertising. W. B. Edwards. *Ptr Ink* 123:34+ *My* 31 '23
- Illiteracy—a target for advertising; Better schools league plans. *Ptr Ink* 124:25-6 *Jl* 26 '23
- Making bigger markets by adding rooms to homes. R. R. Updegraff. *Ptr Ink* 118:3-4+ *Mr* 9 '22
- Manufacturer takes up the advertising cudgels for menaced distributors; Pitman-Moore aids veterinary profession. *Ptr Ink* 124:41-2+ *S* 20 '23
- Opening a closed market with a new product. A: Belden. *Ptr Ink* 123:153-4+ *Ap* 12 '23
- Wagner electric corporation seeks to build good-will—but for its customers. *Ptr Ink* M 7:80+ *Ag* '23
- When the parts manufacturer cooperates to help sell the completed unit; Packard electric co. G: H. Wicker. *Ptr Ink* 122:133-6 *Mr* 8 '23

See also Advertising, Educational

Bibliography

- Advertising the business of your customers. *Ptr Ink* 123:85-6+ *Ap* 12 '23
- Advertising, Institutional**
- Changing the name without lost motion. *Ptr Ink* 122:111-12 *F* 22 '23
- Dent's gloves—a new advertiser shrouded in the dust of antiquity. T: Russell. *Ptr Ink* 123:145-6 *My* 24 '23
- Featuring dependability to offset mushroom competition. S. C. Lambert. *Ptr Ink* 120:10+ *Ag* 10 '22
- How Heinz advertises idea behind plant and product. R. Cole. *Ptr Ink* M 5:19-20+ *Jl* '22
- Ice company advertises welcome to own horses. *Ptr Ink* 123:63 *My* 24 '23
- R. H. Macy & co. sponsor a new kind of department-store copy. J: A. Murphy. *Ptr Ink* 124:109-10+ *Jl* 5 '23
- Sectional institutional campaign makes coast company better known; the Parafine companies. *Ptr Ink* 124:133 *Jl* 12 '23
- Selling the institution as well as the merchandise; experience of western lumber retailer. *Ptr Ink* 125:173-4+ *N* 1 '23
- Sells dish washer on reputation as maker of fire arms. *Ptr Ink* 122:33-4 *F* 22 '23
- Squelching the mud-slinger with advertising. *Ptr Ink* 120:25-6 *Jl* 20 '22
- Swift advertises to get more visitors. *Ptr Ink* 117:36 *D* 1 '21
- Using advertising to draw fangs from evil gossip; Templar motors company. *Ptr Ink* 119:54+ *My* 18 '22
- When dame history fills the inkwell. P. K. Marsh. *Ptr Ink* 119:57-8+ *Ap* 6 '22
- When Standard of Indiana came out of its shell. D. M. Hubbard. *Ptr Ink* 120:125-6+ *Ag* 3 '22
- See also* House organs; Publicity
- Advertising, Juvenile.** *See* Advertising—Children, Appeal to
- Advertising, Legal.** *See* Legal advertising
- Advertising, Local**
- Door-step markets. E. B. Weiss. *Ptr Ink* M 5:54 *Ag* '22
- Advertising, Mail**
- Advertising that whets dealers' interest in salesman's story. H: Burwen. *Ptr Ink* M 7:59-60 *S* '23
- Advertising your products to key men; American Bosch magneto corporation. K. B. White. *Il Ptr Ink* M 5:19+ *Ag* '22
- Armour is teaching better buying to reduce cost of selling. J. S. Older. *Ptr Ink* 123:161-2 *Je* 7 '23
- Best mailing plan we've ever used. B. F. Sexton. *Ptr Ink* M 5:53 *Ag* '22
- Better than cutting prices. Brick & Clay Rec 63:318-19 *S* 4 '23
- Budgeting and charting the direct-mail campaign a year ahead. *Ptr Ink* M 5:84 *N* '22
- Compiling the list of prospects. R. E. Ramsay. *Inland Ptr* 68:339-42 *D* '21
- Direct-mail advertising that architects frame. *Ptr Ink* 123:129-30 *Ap* 12 '23
- Direct-mail campaign brought 981 new dealers last year. J: P. Wilder. *Ptr Ink* M 4:44 *Mr* '22
- Direct-mail campaign that doubled an agency force; the Van Kannel revolving door company. J. True. *Ptr Ink* 122:137-9 *Mr* 22 '23
- Follow-up methods that bring the reply you want. J: C. Sweeney. *Ptr Ink* 125:53-4+ *N* 1 '23
- F.O.B. postoffice. J. W. Speare. *Ptr Ink* 124:117-18+ *Jl* 5 '23
- Gaining national distribution without specialty salesmen; Owens stapletied toothbrush. M. Hastings, jr. *Ptr Ink* 124:3-4+ *S* 13 '23
- Getting quick distribution among dealers and distributors by mail. W. E. Brewster. *Ptr Ink* 117:105-6+ *D* 29 '21
- Getting the customers to sell the dealers; Walter Camp's "daily dozen". J. True. *Ptr Ink* M 5:25-6+ *Jl* '22
- How and when to mail direct advertising. *Ptr Ink* 123:10+ *My* 10 '23
- How Kyanize helps its dealers sell. H: Burwen. *Ptr Ink* 121:45-6+ *N* 16 '22

Advertising, Mail—Continued

How one company gets customers to use intensive direct advertising. R. Dickinson. *Ptr Ink* M 6:27-8 Je '23

How to make a true forecast of direct-mail returns. H. C. Joyce. *Ptr Ink* 117:57-8+ D 15 '21

How Western electric handles dealers' mailings. E. B. Weiss. *Ptr Ink* 121:69-70+ N 2 '22

Injecting pulling power into written salesmanship. W. G. Clifford. *Ptr Ink* 123:81-2+ My 24 '23

Inquiries that are cheap at \$20 each. J. True. *Ptr Ink* M 4:60 Ap '22

Is your direct advertising a department or a sideline? R. Barstow. *Ptr Ink* M 5:98+ D '22

Klaxon's bargain drive to offset the slump. R. W. Johnson. *Ptr Ink* 119:109-10+ Je 15 '22

Mail campaign that netted 51 2/7% increased sales. J. Henle. *il Ptr Ink* M 4:37-8 My '22

Mailing pieces that are good-will builders. J. E. Bullard. *il Ptr Ink* M 4:70+ My '22

Making each 2-cent stamp do a little more. System 43:180-1 F '23

Making mail order a substitute for the style show. *Ptr Ink* 119:130+ My 4 '22

Manufacturers' literature—do you file it in the waste basket? *Arch Forum* 35:233-4 D '21

Overcoming a location handicap by direct advertising. T. J. Barlow. *Ptr Ink* M 5:102+ N '22

Planning typical campaigns for manufacturers. R. E. Ramsay. *Inland Ptr* 70:385-8 D '22

Postmaster uses direct-by-mail campaign. *Ptr Ink* 120:81-2+ S 28 '22

Purchasing agent talks about advertising. R. Dickinson. *Ptr Ink* M 5:40+ D '22

Sales co-operation with direct-mail advertising. L. A. Soper. *Ptr Ink* 123:142+ My 10 '23

Selling goods for the customer. A. L. Lewis. *Ptg Art* 41:267-70 My '23

Selling the enclosure. J. True. *Ptr Ink* 122:113-14+ Ja 18 '23

Selling the small-town dealer by mail. H. E. Agnew. *Ptr Ink* 118:69-70+ Mr 16 '22

Setting the stage for direct mail. L. R. Alwood. *Ptr Ink* 123:93-4+ My 31 '23

Successful direct advertising campaign based on statistics. Van Kannel doors. J. True. *Ptr Ink* M 6:68+ My '23

Test mailing only safe guide in estimating returns from mail-order advertising. *Ptr Ink* 120:28 J1 27 '22

Testimonial advertising that steps up the reader's conception of a product; twist drills. K. Kendig. *Ptr Ink* M 7:100+ O '23

Three advertising problems and suggested solutions. *Ptr Ink* 121:65-6+ D 7 '22

Wagner electric corporation seeks to build good-will—but for its customers. *Ptr Ink* M 7:80+ Ag '23

What do dealers think of your direct-mail advertising? A. Mead. *Ptg Art* 40:567-70 F '23

When manufacturers operate the dealer's mail campaign. *bibliog Ptr Ink* 121:99-100 O 5 '22

See also Advertising—Inquiries; Advertising, Direct; Catalogs; Follow-up systems; Mail order business; Mailing lists; Order blanks; Sales letters; also Direct mail advertising association

Bibliography

Ideas on direct-mail advertising. *Ptr Ink* 118:148+ F 2 '22

Advertising, National

Advertising takes a product out of the free deal class; Romance chocolates. H. Burwen. *Ptr Ink* 123:57-8+ Je 28 '23

Bulk goods in packages become nationally advertised leaders of United drug company. H. Burwen. *Ptr Ink* 124:3-4+ S 27 '23

Four reasons why Bigelow-Hartford carpets are now advertised to the consumer. A. Belden. *Ptr Ink* 125:17-20 N 1 '23

Frostilla becomes an advertiser to lengthen buying season. *Ptr Ink* 118:65-6+ Mr 9 '22

Live campaigns or dead; a message to national advertisers. C. Poppleton. *Ptg Art* 40:337-42 D '22

National advertising gives the benefit of co-operative buying. H. A. Groth. *Ptr Ink* 119:130+ My 11 '22

National markets and national advertising. 1922. 187p Crowell pub. co., 381 4th ave., New York '23

New woman on the farm. F. Crissey. *Ptr Ink* 120:3-4+ S 28 '22

Personally conducted tour among advertised commodities. *Ptr Ink* 118:133+ Mr 16 '22

300-turnovers-a-year wins dealers in Bond bread campaign. R. Cole. *Ptr Ink* 120:73-4+ O 12 '22

Bibliography

Humble beginnings of some big advertisers. *Ptr Ink* 119:69-70 My 25 '22

Advertising, Outdoor

Outdoor advertising. W. Lippincott. 310p McGraw-Hill '23

See also Billboards; Electric signs; Posters; Show windows

Advertising, Political

Human copy helps win in political campaign. R. Bostick. *Ptr Ink* 121:53-4+ N 23 '22

Market man advertises himself into mayor's chair. *Ptr Ink* 117:89-90 N 17 '21

Offers to pay for opponent's advertising. *Ptr Ink* 120:10+ S 21 '22

Selling the silent voter. R. Dickinson. *Ptr Ink* 120:109-10+ S 14 '22

Uses illustrated testimonial in political advertising. *Ptr Ink* 122:28 F 8 '23

Advertising, Professional. *See Professional advertising*

Advertising, Small space. *See Advertisements, Small space; Advertising appropriations*

Advertising, Soliciting of

I represent the Nuxmox agency. J. E. Walter. *Ptg Art* 39:423-6 J1 '22

Long-time advertiser advises publication salesmen. *Ptr Ink* 122:126 F 8 '23

Selling space in small-town newspapers. J. L. Simpson. *Inland Ptr* 71:355-7 Je '23

Told by an advertising solicitor. *Ptr Ink* 120:116+ J1 20 '22

What printers can learn from advertising-agency salesmanship methods. G. P. B. Gilman. *Ptg Art* 41:152-5 Ap '23

Advertising affiliation

Advertising affiliation discusses the new demands of business. *Ptr Ink* 119:25-6 Je 1 '22

Advertising agencies

Abbreviated history of the advertising agency's origin and development. *Ptr Ink* 125:25-7+ O 4 '23

Advertising begets advertising. J. O'Shaughnessy. *Ptr Ink* 122:133-4 Mr 29 '23

Advertising matters get attention at newspaper convention. *Ptr Ink* 123:25-8 My 3 '23

Agency commission and the Federal trade commission. *Ptr Ink* 118:10+ Ja 12 '22

Agency finance as it affects clients. F. Y. Keeler. *Ptr Ink* 117:8+ N 17 '21

Agency's legal relations with its clients. F. Y. Keeler. *Ptr Ink* 118:33-4+ Ja 12 '22

British movement against split agency commissions. T. Russell. *Ptr Ink* 117:49-50 D 1 '21

Charting an agency's operations. F. Y. Keeler. *chart Ptr Ink* 118:17-20 Ja 26 '22

Collecting sales data for clients. F. Y. Keeler. *Ptr Ink* 118:110+ F 16 '22

Commercial research as a basis for advertising and selling campaigns. R. Dickinson. *Ptr Ink* 123:3-4+ Je 7; 134+ Je 28 '23

Departmentized business of the advertising agency. H. Eckhardt. *Ptr Ink* 124:3-4+ S 6 '23

How American association of advertising agencies works for the good of advertising. J. Benson. *Ptr Ink* 123:17-20+ My 24 '23

How can the advertising agent help manufacturers in their general problems of business? F. Y. Keeler. *Ptr Ink* 117:18-20 D 1 '21

Advertising agencies—Continued

- How much are they going to spend? C. Sloan. Ptg Art 41:129-31 Ap '23
- Importance of the client's O.K. on advertising campaigns. F. Y. Keeler. Ptr Ink 117:17-19 D 15 '21
- Is there a formula for space buying? F. Y. Keeler. Ptr Ink 118:73-4+ Mr 30 '22
- Live campaigns or dead; a message to national advertisers. C. Poppleton. Ptg Art 40:337-42 D '22
- Manufacturer and advertising agency should co-operate more closely. F. H. Sisson. Ptr Ink 117:33-4+ D 8 '21
- News method for advertising. L. Markel. Ptr Ink 119:17-19 Ap 13 '22
- Point system for judging agency qualifications. Ptr Ink 117:93-4+ N 10 '21
- Printing salesman as a rival of the advertising agency. E. Brandell. Inland Ptr 71:822-3 S '23
- Question of advertising agency ethics. W. T. Mullaly. Ptr Ink 119:10+ Ap 6 '22
- Report of the Association of national advertisers. Ptg Art 38:351-3 D '21
- Research work in an advertising agency. H. Bugbee. Special Lib 12:225-6 D '21
- Use of a daily statement by the advertising agent. F. Y. Keeler. Ptr Ink 117:25-6 D 29 '21
- With gloves off. C. Poppleton. Ptg Art 40:229-33 N '22

See also Advertising, Soliciting of

Advertising agencies, American association of.
See American association of advertising agencies

Advertising and bankers

- Anti-advertising bankers block business. F. J. Wade. Ptr Ink M 4:29-31 D '21
- Bank loans for advertising. A. C. Robinson. Ptr Ink 118:123 Ja 19 '23
- Banker as a merchandiser. E. B. Terhune. Ptr Ink 117:41-2 N 10 '21
- Banker tells how advertiser can get credit backing. F. O. Watts. Ptr Ink 117:77-8+ D 1 '21
- Banker tells how advertising can bring profits in 1922. J. W. Staley. Ptr Ink 118:87-8+ Mr 2 '22
- Banker's appraisal of advertising. J. G. Lonsdale. Ptr Ink 119:92+ My 13 '22
- Banker's interest in his customer's advertising. bibliog Ptr Ink 122:41-2+ F 8 '23
- Manufacturer and advertising agency should co-operate more closely. F. H. Sisson. Ptr Ink 117:33-4+ D 8 '21
- What the banker thinks of advertising. G. Emerson. Ptr Ink 118:131-2+ F 2 '22
- What the banker thinks of his clients' advertising. Ptr Ink 121:145+ N 2 '22
- Where is the money for advertising? Ptr Ink 117:87-8+ D 29 '21

See also Bank advertising

Advertising and employees

See Employment management—Advertising aids; Employment systems—Advertising

Advertising and physicians

- Smoothing the professional frown against advertising medical products. Ptr Ink 121:101-2 D 7 '22

Advertising and prices. See Advertising—Economic aspects

Advertising and salesmen

- Advertising portfolios for the sales force. Ptr Ink 122:8+ F 22 '23
- Does advertising take the place of salesmen? J. A. Murphy and D. MacLean. Ptr Ink 123:3-4+ My 24 '23
- How advertising reduces sales force turnover. C. C. Casey. Ptr Ink M 6:40+ Ja '23
- How the sales force assists in formulating our advertising policy. I. Fleming. Ptr Ink 119:3-4+ Je 1 '22
- Keeping the salesman's interest in the advertising alive. Ptr Ink 120:17-19 O 12 '22
- Neither salesmen nor advertising should hog all credit for sales. Ptr Ink 122:61-2 Mr 15 '23
- Sales co-operation with direct-mail advertising. L. A. Soper. Ptr Ink 123:142+ My 10 '23

- Sales manager's choice of the finest advertisement in the world. A. H. Deute. Ptr Ink 123:57-8+ My 31 '23
- Salesman as an advertising critic. I. Fleming. Ptr Ink 125:102-4 O 18 '23
- Salesmen who help the advertising department. L. Peake. Ptr Ink M 4:37-8 Ap '22

See also Advertising portfolios

Bibliography

- Salesmen and advertising. Ptr Ink 124:140 S 27 '23

Advertising appropriations

- Branch office and the advertising appropriation. M. Kemper. Ptr Ink 121:61-2+ N 2 '22
- Budgeting the advertising appropriations. Heat & Ven 20:62 S '23
- Chemist and advertised goods. Chem Age 30:298 Jl '22
- Diverting more of the advertising appropriation to space. A. H. Deute. Ptr Ink 123:25-7 Ap 26 '23
- Fifty leading advertisers during 1921. Ptr Ink 120:104 Jl 6 '22
- Fifty leading magazine advertisers of 1922. Ptr Ink 122:34 Mr 22 '23
- Fixing the budget should not lock the advertising door. P. L. Hardesty. Ptr Ink 124:61-2+ Ag 23 '23
- How a board of directors was sold on an advertising campaign. C. M. Harrison. Ptr Ink 118:145 F 16 '22
- How McQuay-Norris takes guesswork out of the advertising appropriation. Ptr Ink 123:17-18 Je 21 '23
- How shall advertising managers be judged? G. W. Brogan. Ptr Ink 123:122+ Je 14 '23
- How should a bank determine its advertising appropriation? G. P. Knapp. Ptr Ink 123:107-8 Ap 19 '23
- How the Dennison manufacturing company plans its advertising appropriation. Ptr Ink 123:10 My 24 '23
- Humble beginnings of our great advertisers. J. A. Murphy. Ptr Ink M 6:17-20+ My '23
- Humble beginnings of some big advertisers. Ptr Ink 119:69-70 My 25 '22
- Is there such a thing as a territory with no advertising mediums? the matter of appropriation. Ptr Ink 119:61-2+ My 13 '22
- No one knows how much money is invested in advertising annually. Ptr Ink 119:102+ Ap 27 '22
- Opinions on Bok's advertising guesses. Ptr Ink 124:93 S 20; 41-2+ S 27; 125:41-8 O 4 '23
- Problem in sales arithmetic. M. K. Powers. Ptr Ink M 5:39-40+ Je '22
- Staking out the advertising appropriation; a department store system that is adaptable to other fields. Ptr Ink 119:41-2+ Ap 27 '22
- What shall we invest in advertising? bibliog Ptr Ink 121:73-4+ N 9 '22
- What shall we invest in export advertising? D. L. Brown. Ptr Ink 122:169+ Mr 15 '23
- When the advertiser with a small appropriation seeks counsel. Ptr Ink 122:129-30 Mr 29 '23
- Wrigley increases his advertising outlay to \$4,000,000. C. M. Harrison. Ptr Ink 120:17-20 Ag 10 '22

See also Advertisements, Small space

Advertising as a profession

- Advertising man. E. E. Calkins. 205p Scribner '22; Excerpt (Breaking into advertising—how others did it). Ptr Ink 119:137-8+ Ap 6 '22
- Advertising—the literature of persuasion. J. Wallen. Ptr Ink 121:97-8 N 30 '22
- Author in advertising. Ptg Art 42:48-50 S '23
- How shall we answer the young man? R. Dickinson. Ptr Ink 119:95-6+ My 25 '22
- Printing salesman as a rival of the advertising agency. E. Brandell. Inland Ptr 71:822-3 S '23
- Training for the business of advertising. C. W. Hoyt. 125p George B. Woolson & co., New York '22

See also Advertising ethics

Advertising awards, Harvard. See Harvard advertising awards

Advertising cards

Car cards serve educational purpose in schools. Ptr Ink 117:17 N 17 '21
Featuring seasonal uses in street-car copy. Ptr Ink 120:20 J1 20 '22
See also Show cards

Advertising characters

Advertising and its by-products; the Arrow collar man. E. E. Calkins. il Ptr Ink M 6: 46+ Je '23
Advertising that links up with other firms' trade characters. W. B. Edwards. Ptr Ink 123:8+ Je 28 '23
Bringing the family of products under one roof. W. B. Edwards. Ptr Ink 122:33-4 Ja 25 '23
Broadening the play of characters in advertising illustration. W. L. Larned. Ptr Ink 123:108+ Ap 5 '23
Carrying the trade character through all your advertising; the Edison man. C. B. Larrabee. Ptr Ink M 5:20-2+ Ag '22
Copy character—a medium that gives new life to an old campaign. A. L. Townsend. Ptr Ink 123:57-8+ My 10 '23
Germans active in pirating advertising characters. Ptr Ink 123:42+ Je 7 '23
Introducing a new food product in Honolulu; aji-no-moto. G. Mellen. Ptr Ink 123: 162+ Je 21 '23
Making the trade character earn its keep. bibliog. Ptr Ink 122:41-2+ Mr 8 '23
Putting life into the still sign. I. I. Sperling. Ptr Ink M 5:86+ N '22
Servant girl campaign of Western electric. R. Cole. Ptr Ink 121:61-2+ O 26 '22
Should advertising be tagged? R. Surrey. Ptr Ink 123:101-2+ Je 21 '23

Advertising clubs

How to start an advertising club. Ptr Ink 119:19-20 My 4 '22

See also Associated advertising clubs of the world; New England association of advertising clubs; New York advertising club

Advertising clubs of the world, Associated. See Associated advertising clubs of the world**Advertising contests. See Advertising—Prize contests****Advertising contracts**

Advertisers and their contracts; the business and legal aspects. Ptr Ink 121:53-4+ N 2 '22
Agency's legal relations with its clients. F. Y. Keeler. Ptr Ink 118:33-4+ Ja 12 '22
N. W. Ayer & son win suit against U.S. rubber co. for \$178,620.87. Ptr Ink 123:17-20+ Ap 26 '23

Advertising cutouts

Cutouts that printers can make. R. F. Salade. Inland Ptr 68:331-3 D '21

Advertising departments

Advertising field forces. M. Hastings, jr. Ptr Ink M 6:35-6+ My '23
Diverting more of the advertising appropriation to space. A. H. Deute. Ptr Ink 123: 25-7 Ap 26 '23
Help from the branch manager for the advertising department. H. K. Sheridan. Ptr Ink 117:126+ D 8 '21
Just what can a merchandising department accomplish? A. L. Townsend. Ptr Ink 118: 77-8+ Mr 2 '22
Keeping track of the advertising appropriation. M. H. Spear. Management & Adm 6: 475-8 O '23

Neither salesmen nor advertising should hog all credit for sales. Ptr Ink 122:61-2 Mr 15 '23

Plea for lower costs of advertising. il Ptg Art 42:27-34 S '23

See also Advertising managers; Advertising policies

Advertising ethics

Building popular confidence in advertising. J. Benson. Ptr Ink 123:137-8 Je 7 '23
During litigation advertising needs careful scrutiny. Ptr Ink 124:17-18 Ag 2 '23
Financial advertising services adopt standards of practice. Ptr Ink 124:109-10 S 27 '23

History and present status of the Truth-in-advertising movement. H. W. Hess. (Annals v.101:no.190 My '22) p.211-20 Am. Acad. of Pol. and Soc. Sci.

How the Boy scouts of America are protecting their insignia. Ptr Ink 121:113-14 O 26 '22
May a contributor to an association campaign advertise individually? Ptr Ink 121: 17-19 N 16 '22
Question of advertising agency ethics. W. T. Mullaly. Ptr Ink 119:10+ Ap 6 '22
Telling weak points of advertised article aids sales. Ptr Ink 123:117-18 My 24 '23

Advertising libraries. See Business libraries**Advertising managers**

Advertising manager's authority to manage. M. Switzer. Ptr Ink 120:37-8+ S 14 '22
Further light on the personal tie-up of the advertising managers. B. Jefferson. Ptr Ink 124:17-20 Ag 16 '23
Personal tie-up of the advertising manager. B. H. Jefferson. Ptr Ink 118:33-6 Ja 26 '22
What becomes of advertising managers? R. W. Johnson. Ptr Ink M 5:27-8+ O '22

Advertising manuals

This manual wins co-operation from all factors in the business. M. Hastings, jr. Ptr Ink M 7:52+ O '23

Advertising mediums

Finding the time and the place for advantageous advertising. W. L. Larned. Ptr Ink 117:157-8 N 17 '21
Is there a formula for space buying? F. Y. Keeler. Ptr Ink 118:73-4+ Mr 30 '22
Mail-order advertising lesson from the chain store; several advertisements in the same medium. R. R. Updegraff. il Ptr Ink M 6: 29-30 F '23
Putting idle advertising space to work. C. B. Larrabee. il Ptr Ink M 5:20-2 D '22
Visualizing the development possibilities of mail-order markets. R. R. Updegraff. Ptr Ink M 6:50+ Mr '23
Weighing the advertising message. B. Jefferson. Ptr Ink 124:17-20 J1 12 '23
What I wish people would ask me: by the advertising manager of a class magazine. Ptg Art 40:454-6 Ja '23

See also Advertisements, Small space; Blot- ters; Calendars; House organs; Moving pictures in advertising

Farm papers

Distance from markets doesn't handicap this industry. G. A. Nichols. Ptr Ink 119:57-8+ Je 29 '22
How Gossard merchandises corsets to 12,000,000 farm women. R. K. Sewell. Ptr Ink 119:73-4+ Je 8 '22
Methods of promoting farm field, theme of agricultural publishers. Ptr Ink 125:121-2 O 25 '23

Jobbers' catalogs

Do inserts in jobbers' catalogues pay? R. W. Johnson. Ptr Ink M 5:67-8+ S '22

Motor buses

Motor bus serves as a suburban advertising medium. il Bus Transportation 2:329-31 J1 '23

Motor trucks

Ideas that earn more for seven concerns. il System 42:555-6 N '22

Newspapers

Colum conductors of advertising. W. L. Larned. Ptr Ink M 4:78+ Ap '22
Effect on advertisers of New York newspaper strike. Ptr Ink 124:25-8 S 27 '23
Effective newspaper advertising at small cost. Am Gas J 117:633-5 D 2 '22
Merchandise survey reveals facts regarding the marketing done by people who read newspapers. G. L. Caswell. Inland Ptr 72: 141-2 O '23
Millions waiting in rural advertising. L. G. Hood. Inland Ptr 69:355-7 Je '22
Newspaper advertising for gas companies. Am Gas J 118:90-2 F 3 '23

Advertising mediums—Newspapers—Continued

Vigilance work in Great Britain. H. S. Imber. *Ptr Ink* 123:81-2+ Je 14 '23
 Widening the display horizon of the modern newspaper campaign. *Ptr Ink* 123:85-6+ Apr 26 '23

See also American newspaper publishers' association—Bureau of advertising

Phonograph records

Phonograph record helps dealers make sales: Estate stove company. *Ptr Ink M* 5:89+ S '22
 Tide Water uses phonograph record to get new dealers. C. B. Larrabee. *Ptr Ink* 120:33-4+ S 28 '22

Programs

Advertising to theatre-goers by borrowing themes from plays. W. H. Heath. *Ptr Ink* 119:137-8 Je 1 '22
 Making the advertisement key with spirit of medium. *Ptr Ink* 119:17-18 My 4 '22

Radio broadcasting

Advertising through radio to be strictly regulated. *Ptr Ink* 119:10+ My 4 '22
 How can the broadcasting of advertising by radio be regulated? *Ptr Ink* 122:19-20 F 22 '23
 How ten concerns are putting radio to practical use. *il System* 42:52-3+ JI '22
 Mistake to broadcast advertising by radio. *Ptr Ink* 122:157 F 22 '23
 Radio as an advertising medium in competition with magazines and newspapers. *Ptr Ink* 123:85-6+ My 10 '23

Trade journals

Advertising—and the trade paper. J. E. Walter. *Ptg Art* 41:469-71 JI '23
 Business and the business press. R. W. Johnson. *Ptr Ink* 118:49-51 Mr 2 '22
 Business-paper advertising develops a steady market for the Laminated shim company. E. E. Weiss. *Ptr Ink* 124:85-6+ S 6 '23
 Move for better business-paper copy started. *Ptr Ink* 125:33-4+ O 25 '23
 Photographs in business-paper advertising. B. Berfield. *il Ptr Ink M* 6:41-2 Je '23
 Pictorial teasers in the opening page of trade-paper inserts. W. L. Larned. *il Ptr Ink* 123:85-6+ Je 21 '23
 Should this manufacturer advertise in business papers? *Ptr Ink* 117:86 D 29 '21

Advertising men

Good books to train the advertising marksman. D. Dulaney. *Ptr Ink* 124:41-2+ Ag 30 '23
 Utilizing the advertising man in the sales department. W. P. Tuttle. *Ptr Ink* 122:17-19 F 8 '23

See also Advertising as a profession

Advertising men in fiction

Ballyhoo for babbitt; a review of the new novel with the advertising atmosphere. E. E. Calkins. *Ptr Ink* 120:89-90+ O 12 '22

Advertising novelties

Creating novelties in samples for children. A. L. Townsend. *Ptr Ink* 118:81-2 Mr 23 '22
 Mailing pieces that are good-will builders. J. E. Bullard. *il Ptr Ink M* 4:70+ My '22
 Miniature product—how and why it is marketed. J. A. Murphy. *il Ptr Ink M* 6:21-3+ F '23

See also Advertising cutouts

Advertising policies

Heralding—how it is being done in advertising. R. R. Updegraff. *Ptr Ink M* 5:20+ S '22
 How an elastic advertising pattern can help the salesman. G. A. Nichols. *Ptr Ink* 118:41-2+ F 16 '22
 How the Todd protectograph company buys printing. J. W. Speare. *Ptr Ink M* 6:68+ Ap '23
 Seeking the treasure of bulk sales. W. H. Heath. *Ptr Ink* 120:41-2+ JI 27 '22
 Squeeze your advertising dollars dry; Errett policies. P. Wilbur. *il Ptr Ink M* 5:23-4 Ag '22
 Tingles' new confectionery product uses advertising as a dealer surprise. *Ptr Ink* 117:133-4 D 15 '21

What is successful advertising-selling? N. M. Sweet. *Ptg Art* 42:148-54 O '23

See also Advertisements, Small space; Advertising—Continuity

Advertising portfolios

Advertising portfolios for the sales force. *Ptr Ink* 122:8+ F 22 '23
 Making it easy for salesmen to merchandise advertising. I. Fleming. *il Ptr Ink M* 6:43-4 Ap '23
 Portfolio that tells about the house. *Ptr Ink M* 3:54 Je '21
 Should the advertising portfolio be limited to advertising? *Ptr Ink* 124:25-6 Ag 30 '23

Advertising rates. See Advertising—Rates

Advertising to architects. See Advertising—Architects, Appeal to; Joint conference on better advertising to architects

Advisory board on highway research. See National research council—Advisory board on highway research

Aeration

Estimation of simple, soluble cyanogen compounds, making use of the principle of aeration. J. H. Roe. *diag Am Chem Soc J* 45:1878-83 Ag '23

Aeration of sewage. See Sewage disposal—Activated sludge method

Aeration of water. See Water aeration

Aerial bombs. See Bombs, Aerial

Aerial lighthouses. See Lighthouses, Aerial

Aerial photography. See Photography, Aerial

Aerial propellers. See Propellers, Aerial

Aerial routes. See Air routes

Aerial surveying. See Surveying, Aerial

Aerial tramways. See Cableways

Aero club of America

Aero club closes New York quarters. *Aviation* 12:449 Ap 17 '22
 12th annual meeting, Nov. 14, 1921. *Aerial Age* 14:268 N 28 '21
 14th annual banquet, New York, Jan. 9. *Aerial Age* 14:464-72 Ja 23 '22; *Aviation* 12:66-9 Ja 16 '22

Aerodromes (fields). See Aviation fields

Aerodynamic balances

Langley field wind tunnel apparatus. D. L. Bacon. *il diags Aerial Age* 14:225-6 N 14 '21

Aerodynamic laboratories

Goettingen aerodynamical laboratory. *il Aviation* 12:310 Mr 13 '22
 Practical importance of the free flight work of the National advisory committee for aeronautics. T. Carroll. *il Aerial Age* 16:112-14+ Mr '23

See also Wind tunnels

Standards

Standardization and aerodynamics. G. Costanzi. *Aerial Age* 14:570+ F 20 '22

Aerodynamics

Airplane research work through flight tests; wing pressures on Thomas-Morse pursuit plane measured in flight by multiple manometer. *il diags Aviation* 15:154-5 Ag 6 '23
 Applications of modern hydrodynamics to aeronautics. L. Prandtl. *diags U S Nat Advisory Com for Aeronautics* 1921:157-214; *Bibliography*. 214-15 '23
 Calculs aérodynamiques des avions. L. Huguet and M. Suffrin-Hébert. 120p C. Béranger, Paris and Liège '22
 Comparing aerodynamical properties of wings with special reference to aspect ratio and parasite drag. W. Klemperer and T. Bienen. *Aviation* 15:368-70 S 24 '23
 Comparison of spar weights of tapered and non-tapered monoplane wings. R. E. Robillard. *Aerial Age* 14:226-7 N 14 '21
 Co-relation of model and full scale work. M. Wood. *diags Aeronautical J* 26:480-97; *Discussion*. 497-501 D '22
 Determination of longitudinal control forces of airplanes during horizontal flight. *Aerial Age* 16:267-8 Je '23

Aerodynamics—Continued

- Drag of Zeppelin airships. M. M. Munk. U S Nat Advisory Com for Aeronautics 1921: 217-27 '23
- Exponential law of variation of drift and lift of models of airplanes and wings at various velocities. G. Costanzi and M. Bernasconi. *il Aerial Age* 16:325-9 JI '23
- Fan propeller and blade interference. M. A. S. Riach. *diags Aeronautical J* 26:63-80 F '22
- Interpretation of wind tunnel experimental data with reference to the longitudinal damping characteristics of an airplane. *Aerial Age* 16:137-9 Mr '23
- Lanchester-Prandtl theory of aeroplane lift and drag; discussion. *Engineering* 116:5-6 JI 6 '23
- Model aircraft. R. A. Fraser. *il diag Roy Aeronautical Soc J* 27:105-13 Mr '23
- Note on the experimental aspect of one of the assumptions of Prandtl's aerofoil theory. N. A. V. Piercy. *Roy Aeronautical Soc J* 27:501-11 O '23
- Prediction of propeller characteristics from the blade element analysis. W. H. Miller. *Aerial Age* 15:500-2, 590-2+ O, D '22
- Pressure distribution over the horizontal tail surfaces of an airplane. F. H. Norton and D. L. Bacon. *il diags U S Nat Advisory Com for Aeronautics* 1921:229-356 '23
- Reed one-piece solid metal semi-flexible propeller; air reactions to objects moving at rates above the velocity of sound with application to the air propeller. S. A. Reed. *il Aerial Age* 16:182-5 Ap '23
- Report of the committee on aerodynamics. U S Nat Advisory Com for Aeronautics 1921: 31-6 '23
- Review of airscrew theories. A. R. Low. *diags Aeronautical J* 27:38-59; Discussion. 60-72 F '23
- Rudder pressures and airship R. 38. *diags Engineering* 112:651-2 N 11 '21
- Shape assumed by a deformable body immersed in a moving fluid. E. Karrer. *il diags J Fr Inst* 192:737-56 D '21
- Some new aerodynamical relations. M. M. Munk. U S Nat Advisory Com for Aeronautics 1921:129-41 '23
- Standardization and aerodynamics. *Aerial Age* 16:135-6 Mr '23
- Standardization and aerodynamics. G. Costanzi. *Aerial Age* 14:570+ F 20 '22
- Standardization and aerodynamics. R. Katzmayer. *Aerial Age* 15:199-200+ My 8 '22
- Standardization and aerodynamics. W. Knight. *Aerial Age* 15:593-8 D '22
- Standardization and aerodynamics. R. Verdazio. *Aerial Age* 15:81 Ap 3 '22
- Standardization and aerodynamics. von Karman. *Aerial Age* 14:392 Ja 2 '22
- Standardization and aerodynamics. E. B. Wolff. *Aerial Age* 15:346-7 Je 19 '22; Discussion. A. F. Zahm. 15:445+ S '22
- Standardization in aerodynamics. W. Margoulis. *Aerial Age* 14:614-15 Mr 6 '22
- Stresses produced on airships by gusty air. *Aviation* 13:603 O 30 '22
- Theoretical relationships for the lift and drag of an aerofoil structure. H. Glauert. *Roy Aeronautical Soc J* 27:512-18 O '23
- Two-dimensional aerofoil theory. M. Glauert. *diags Roy Aeronautical Soc J* 27:348-66 JI '23
- Vortex pair quickly formed by some aerofoils. N. A. Piercy. *Roy Aeronautical Soc J* 27:488-500 O '23
- Wind channel experiments on a pariah kite. W. L. Le Page. *Roy Aeronautical Soc J* 27: 114-15 Mr '23
- See also Aerodynamic laboratories; Aerodynamics; Air flow; Wind tunnels
- Aerofoils.** See Airplane wings
- Aeronautic engineering**
- See Aeronautic research; Aeronautics; Air routes; Airplane engines; Airplanes; Airships; Aviation
- Aeronautic instruments**
- Aeronautic instruments. U S Nat Advisory Com for Aeronautics 1921:475-814 '23
- Aeronautic instruments. F. L. Hunt. *il diags U S Bur Stand Tech Pa* 237:447-511 '23

- Air distance recorder. *Aviation* 13:385 S 25 '22
- Air-distance recorder for airplanes. *il Pop Mech* 39:266-7 F '23
- Costanzi multimanager. *il diag Aerial Age* 16:275-6 Je '23
- Curtiss rib testing machine. *il Aviation* 15: 248 Ag 27 '23
- Dugit altimeter and air speed indicator. J. H. Blakely. *diags Aviation* 12:371-2 Mr 27 '22
- Les essais en vol des avions nouveaux au service technique de l'aéronautique. A. Lesage. *il diags Génie Civil* 81:83-7 JI 22 '22
- Impulse electric motor for driving recording instruments. W. F. Joachim. *il diags J Fr Inst* 196:215-26 Ag '23
- Instrument guides planes in fog. *Aerial Age* 14:365 D 26 '21
- Instruments for use on aircraft. *il diags Engineering* 114:174-5 Ag 11 '22
- Mechanical device for illustrating aeroplane stability. F. H. Norton. *il diag Aerial Age* 16:141-2 Mr '23
- Methods of air navigation; formula and instruments for checking dead reckoning described. H. V. Thaden. *il diags Aviation* 12: 252-5 F 27 '22
- N.A.C.A. control position recorder. F. H. Norton. *il Aerial Age* 15:270 My 29 '22
- New apparatus synchronizes flight records. *il Pop Mech* 39:588 Ap '23
- New instrument records airplane stresses. *il Pop Mech* 38:506 O '22
- New naval aircraft instruments. *Aviation* 14: 41 Ja 8 '23
- New pioneer flight indicator. *il Aviation* 14: 131 Ja 29 '23
- Optical altitude indicator for night landing. J. A. C. Warner. *il diag Aviation* 14:290-1 Mr 12 '23
- Rate of climb indicator. *Aviation* 13:287 S 4 '22
- Rate of climb indicator, bubble statoscopes and new barograph tested in balloon flights. S. R. Winters. *il Aviation* 12:755-6 Je 26 '22
- Reid aeroplane control indicator. *il diags Engineering* 114:216-18 Ag 18 '22
- Show position of airplane controls on record. *il Pop Mech* 38:219 Ag '22
- Showing an aviator how he flies; instruments for recording behavior of an airplane in flight. *il Aviation* 12:658-9 Je 5 '22
- Sperry flight indicator; an instrument built for flying in fog and in clouds. *Aviation* 12:393-4 Ap 3 '22
- Sylphon diaphragms; a method for predicting their performance for purposes of instrument design. H. N. Eaton and G. H. Keulegan. *Aerial Age* 15:370-2 Je 26 '22
- Wing-load indicator keeps airplane pilot in safety. *il Pop Mech* 36:825 D '21
- See also Accelerometer; Aerodynamic balances; Air speed indicators; Airplanes—Turn indicators; Altimeters; Barograph; Barometers; Aerial; Compass; Inclometers; Manometers; Oxygen apparatus; Radio telegraph in aviation; Sextant; Statoscope; Tachometers, Airplane

Bibliography

- Aeronautic instruments. M. D. Hersey. U S Nat Advisory Com for Aeronautics 1921: 489-98 '23
- Aeronautic maps**
- Aeronautic charts. S. B. Ladd. *Aerial Age* 15:126-7 Ap 17 '22
- Maps and navigation methods. A. Duval. *Aerial Age* 15:198-9 My 8 '22
- Three-dimension weather maps made for airmen. *Pop Mech* 37:441 Mr 22
- Aeronautic research**
- Aeronautic research. J. S. Ames. *il diags J Fr Inst* 193:15-28 Ja '22
- Aeronautical research in the United States. *Engineering* 115:748-9 Je 15 '23
- America makes creditable showing in aircraft research. A. Black. *il diag Automotive Ind* 46:1257-65 Je 8 '22
- Aviation pays its way. C. W. Cooke. *il Aerial Age* 16:12-14+ Ja '23

Aeronautical research—Continued

- Aviation work of the Bureau of standards. F. C. Brown. *il Aerial Age* 16:115-19 Mr '23
- Consolidation of government air laboratories. *Aerial Age* 16:217-18 Mr '23
- Evolution of modern aviation and experimental and technical researches in aerodynamic laboratories. A. Toussaint. *Aerial Age* 15:270-2 My 29 '22
- Importance of research in aeronautics. *Aeronautical J* 26:43-5 F '22
- Making America independent in the air. *il chart diag Mech Eng* 45:513-20 S '23
- On research and other matters. S. H. Smith. *Aeronautical J* 26:325-30 Ag '22
- Progress of aeronautical research. *Engineering* 116:304 S 7 '23
- Progress of aeronautical research. R. K. Bag-nall-Wild. *Engineering* 113:214-16 F 17 '22; Same. *Aerial Age* 15:78-9, 103-4 Ap 3-10 '22; Same cond. *Engineer* 133:161-2 F 10 '22; Same cond. *Soc Auto Eng J* 11:33-4 Jl '22; Discussion. *Engineering* 113:187-9 F 17 '22
- Progress of aeronautical research and experiment; abstracts. W. G. H. Salmond. *Engineer* 135:145-6 F 9 '23; *Engineering* 115:196-7 F 16 '23; *Génie Civil* 82:331-2 Ap 7 '23
- Recent aeronautic investigations and the airplane industry. J. S. Ames. *il diags J Fr Inst* 195:145-63 F '23
- Relation between aeronautic research and aircraft design. J. S. Ames. *il diags Roy Aeronautical Soc J* 27:381-404 Ag '23
- Research from the designers' constructors' and users' points of view. F. M. Green. *Aerial Age* 15:8-9, 61-2 Mr 13, 27 '22
- Some aspects of aeronautical research. A. Ogilvie. *Aeronautical J* 26:381-9 O '22
- Standardization of methods of research. R. T. Glazebrook. *Engineer* 135:682-3; Discussion. 683 Je 29 '23

See also Aerodynamic laboratories; Wind tunnels

Aeronautical chamber of commerce of America, inc.

- Aerial laws and survey of safety in flight urged by Aeronautical chamber of commerce in annual report. *Aerial Age* 15:246-7 My 22 '22
- Annual meeting, New York, July 11. *Aviation* 13:96-7+ Jl 24 '22; *Aerial Age* 15:400-1+ Ag '22
- Annual meeting, New York city, July 12. *Aviation* 15:90-2 Jl 23 '23
- Election of board of governors. *Aviation* 12:283-4 Mr 6 '22
- 1st annual report. *Aviation* 14:219-21 F 19 '23
- Future plans. *Aerial Age* 15:10 Mr 13 '22
- Membership. *Aviation* 14:20-1 Ja 1 '23
- Officers. *Aviation* 13:314-15 S 11 '22
- Organization. *Aviation* 12:6-7 Ja 2 '22; Same. *Aerial Age* 14:415-16 Ja 9 '22; Excerpt. *Automotive Ind* 45:1296 D 29 '21
- 2d National air institute, St Louis, Oct. 2. *Automotive Ind* 49:690-2 O 4 '23
- This organization will collect and disseminate information regarding aeronautical activities, publish the Aircraft Year Book, and continue various other activities of the Manufacturers' aircraft association which it partly succeeds.

Aeronautical foundation, International. See International aeronautical foundation**Aeronautical safety code.** See Aviation—Safety devices and measures**Aeronautics**

- Aerial navigation. A. P. Rowe. *il diags Roy Aeronautical Soc J* 27:450-8 S '23
- Aeroplanes in tropical countries. H. R. M. Brooke-Popham. map *Aeronautical J* 25:563-77; Discussion. 577-80 N '21
- Applications of modern hydrodynamics to aeronautics. L. Prandtl. *diags U S Nat Advisory Com for Aeronautics* 1921:157-214; Bibliography. 214-15 '23
- Aviation in peace and war. F. H. Sykes. 139p Longmans '22
- Le bavière de l'aviateur. R. Lefort. 763p Dunod, Paris '22
- Cours pratique d'aviation. P. Gambier. 292p Librairie Delagrave, Paris '22

- Flighty reflections. C. L. Egtvedt. *Soc Auto Eng J* 10:466-8 Je '22
- Mastery of air. 184p Pitman '22
- Soaring flight, its development and prospects. W. Knight. *il Aerial Age* 14:562-3 F 20 '22
- Technical branch of Canadian air board issues memoranda covering many questions arising in aircraft maintenance. *Aviation* 12:105-6 Ja 23 '22
- With the men who fly; recent achievements in practical aviation. A. Klemin. *il Sci Am* 129:226-7+, 326-7 O-N '23
- Work of S. P. Langley. S. Bairstow. *Aeronautical J* 26:420-32; Discussion. 432-4 N '22
- World progress in aeronautics. *il Aerial Age* 16:272-3 Je '23

See also Aerodynamic laboratories; Aerodynamics; Aircraft; Aircraft industry; Airplane engines; Airplane propellers; Airplane stability and stabilizers; Airplanes; Airships; Aviation; Aviators; Aviettes; Balloons; Flight; Flying boats; Flying machines; Forest fire patrol, Aerial; Gliders; Helicopters; Hydrogliders; Hydroplanes; Photography, Aerial; Postal service, Aerial; Radio telegraph in aviation; Seaplanes; also National aero congress; National aeronautic association of the U.S.A.

Bibliography

- Bibliography of aeronautics, 1917-1919. P. Brockett. 494p National advisory com. for aeronautics, Washington, D.C. '23
- Government publications on aeronautics. *Aerial Age* 16:235-7, 292-5 My-Je '23
- List of Navy publications and Army air service information circulars. *Aerial Age* 16:341-3 Jl '23
- Publications and technical notes of the National advisory committee for aeronautics. *Aerial Age* 15:564-6+ N '22
- Répertoire d'aérodynamique expérimentale. A. Toussaint, W. Margoulis and R. Pris. 160p Payot, Paris '23
- Technical notes of the N.A.C.A. *Aerial Age* 15:610-11 D '22

Congresses

- Premier Congrès international de la navigation aérienne (Paris, 15-25 novembre 1921). A. Lesage and J. Michaut. *Génie Civil* 80:62-4 Ja 21 '22
- La II^e conférence de l'air (Londres, février 1922). A. Lesage and J. Michaut. *Génie Civil* 80:185-7, 211-13 F 25-Mr 4 '22
- 2d Air conference, London, Feb. 7-8. *Engineering* 113:173-5, 187-9 F 10-17 '22; *Engineer* 133:150, 176-7 F 10-17 '22; *Elec R (Lond)* 90:427-8 Mr 24 '22
- 3d air conference, London, Feb. 6-7. *Engineering* 115:182-4, 196-8 F 9-16 '23; *Engineer* 135:141-2, 165-6 F 9-16 '23
- Le congrès international aéronautique, Londres, 25-30 juin 1923. A. Lesage. *Génie Civil* 83:85-6, 105-7 Jl 28-Ag 4 '23
- International air congress. *Engineer* 135:663-4, 682; 136:5-7, 32-4 Je 22-Jl 13 '23; *Engineering* 115:795-8; 116:5-11, 35-9 Je 29-Jl 13 '23; *Aviation* 15:244-7 Ag 27 '23
- International air congress stresses cooperation in research. *Automotive Ind* 49:230-3 Ag 2 '23
- National air institute, preliminary to the opening of the National air congress, held on Oct. 11 in Detroit. *Aviation* 13:594-601 O 30 '22

Dictionaries

- Aero dictionary, English-French; French-English.** L. Henslowe. 86p Benn bros., London '20

See also Aeronautics—Terminology

Exhibitions

- Aeronautical engines at the Paris exposition. *il Aviation* 14:132-3 Ja 29 '23
- VII^e exposition internationale de locomotion aérienne (Paris, 12-27 novembre 1921). A. Lesage. *Génie Civil* 79:464-8, 477-85, 510-15 N 26-D 10 '21

Aeronautics—Exhibitions—Continued

- VIII^e exposition internationale de locomotion aérienne, (Paris, 15 décembre 1922-2 janvier 1923). A. Lesage. il diags Génie Civil 81: 581-90, 610-18, pl 13 D 23-30 '22
- French aero salon. G. Loening. il Aerial Age 16:124-6 Mr '23
- Gothenburg aero exhibition. Aerial Age 15:136 Ap 17 '22
- Gothenburg international aeronautical exposition. Aviation 15:412-13 O 1 '23
- Impressions of the Paris aero exposition. R. Jamin. il Aviation 14:161-2 F 5 '23
- New aircraft at the Paris aero exposition. diags Aviation 14:156-60, 190-1 F 5-12 '23
- Paris aero show. diags Aerial Age 14:319-22 D 12 '21; Automotive Ind 45:1156-7 D 15 '21; Aviation 11:707-10, 739-42 D 19-26 '21
- Paris aeronautical exhibition, 1921. R. H. Mayo. Engineering 112:795-7, 862 D 9, 23 '21
- Second Prague aero show. il Aviation 11:691 D 12 '21

Experiments

See Aeronautic research

History

- L'évolution de l'aéronautique. M. Jauneaud. 284p E. Flammarion, Paris '23
- History of aeronautics. E. C. Vivian. 521p W. Collins sons & co., London '21
- Leonardo da Vinci as a pioneer of aviation. I. B. Hart. diags Roy Aeronautical Soc J 27:244-69 My '23
- Riders of the air. A. Corbett-Smith. 271p G. Richards, London '23
- Some notes on Sir George Cayley as a pioneer of aeronautics. J. E. Hodgson. Roy Aeronautical Soc J 27:371-80 Ag '23

Laws and regulations

- Aerial laws and survey of safety in flight urged by Aeronautical chamber of commerce in annual report. Aerial Age 15:246-7 My 22 '22
- Aeronautical legal problems. W. P. MacCracken, jr. Aviation 13:598 O 30 '22
- Air traffic. G. Sudre. Aerial Age 15:325-6 Je 12 '22
- American air traffic rules. Aviation 14:224 F 19 '23; Same. Aerial Age 16:148 Mr '23
- Aviation and the law. Aviation 12:344 Mr 20 '22
- Boston chamber of commerce on air laws. Aviation 12:194 F 13 '22
- Civil aeronautics act of 1923; abstract of bill introduced in the House by the Hon. Samuel H. Winslow. Aviation 14:126-8 Ja 29 '23
- Control of civil aviation. J. A. Wilson. il Mech Eng 45:571-6+ . '23
- Convention for the regulation of aerial navigation, Paris, October 13, 1919. (Treaty ser., 1922 no. 2) 110p Great Britain Foreign office, London '22
- Flying between Canada and the United States. Aerial Age 16:22-3 Ja '23
- International air traffic association regulations. Aerial Age 14:252-3 N 21 '21
- Legal aspect of federal air legislation; theory of necessity of constitutional amendment fallacious. W. J. Davis. Aviation 11:627-8 N 28 '21
- New Massachusetts aircraft law. E. P. Warner. Aviation 13:715-16 N 27 '22
- Proposed air traffic law. G. Ripert. Aerial Age 15:320-3 Je 12 '22
- Proposed international aircraft code. Aviation 15:41-7 J1 9 '23
- Regulation of air traffic. Devaluez. Aerial Age 15:318-19 Je 12 '22
- Report of committee on governmental relations. U S Nat Advisory Com for Aeronautics 1921:12-21 '23
- Resumé of progress of aeronautical matters in Congress. Aerial Age 16:72-3 F '23
- State aeronautical legislation. Aviation 11: 658 D 5 '21
- U.S. chamber of commerce on air legislation. Aviation 12:286 Mr 6 '22

Safety devices

See Airplanes—Safety devices; Aviation—Safety devices

Standards

Standardization and aerodynamics. von Karman. Aerial Age 14:392 Ja 2 '22

Study and teaching

Course in aeronautics, Research university, Washington, D.C. Aviation 12:631 My 29 '22

See also Aviators—Training

Tables, calculations, etc.

- Airplane performance formulas. E. P. Warner. Soc Auto Eng J 10:469-74 Je '22; Abstract. Automotive Ind 46:1423-5 Je 29 '22; Discussion. Soc Auto Eng J 11:248 S '22
- Calculating altitudes for record purposes. C. H. Colvin. Aviation 15:440 O 8 '23
- Correction of the aerofoil characteristics for aspect ratio. B. V. Korvin-Kroukovsky. Aerial Age 14:343-4 D 19 '21
- Dead weight of the airship and the number of passengers that can be carried. Crocco. Aerial Age 14:566-70 F 20 '22
- Effect of aerofoil aspect ratio on the slope of the lift curve. W. S. Diehl. Aerial Age 14: 540-1 F 13 '22
- Effect of aspect ratio variation upon the slope of the lift curve of an aerofoil. Aerial Age 16:20 Ja '23
- Estimation of weight of aeroplane parts. E. P. Warner. Roy Aeronautical Soc J 27:26-34 Ja '23
- Helicopters. J. Case. diags Aeronautical J 26: 390-407, 435-47 O-N '22
- Methods of air navigation; formula and instruments for checking dead reckoning described. H. V. Thaden. il diags Aviation 12: 252-5 F 27 '22
- Mutual influence of wings and propellers. L. Prandtl. diags Aerial Age 14:588-90 F 27 '22
- Non-dimensional coefficients for comparison of airship characteristics. P. Jaray. Aviation 14:314-15; Discussion. 315-17 Mr 19 '23
- Simple chart for choosing a wing surface. A. A. Merrill. Aviation 15:96 J1 23 '23
- Simple formula for estimating aeroplane ceilings. W. S. Diehl. Aerial Age 15:539 N '22
- See also Airplanes—Design; Airships—Design

Terminology

- British standard glossary of aeronautical terms. 123p British engineering standards association, London '23
- Glossary of aeronautical terms prepared by the Technical terms committee. (Gt. Brit. Air ministry, Air publication 822) 161p Royal aeronautical society, London '21
- New nomenclature for aeronautics. L. d'Orcy. Aviation 14:418-19 Ap 16 '23; Discussion. 14:560-1, 616 My 21, Je 4 '23
- Proposed landing field nomenclature. A. Black and D. R. Black. Aviation 14:188-9 F 12 '23
- Standardised stability terms. M. O'Gorman. Aeronautical J 25:584-7 N '21
- See also Aeronautics—Dictionaries

Canada

- Some technical aspects of aviation in Canada; winter flying. E. W. Stedman. il Aeronautical J 26:349-74 S '22
- See also Aeronautics, Commercial—Canada

France

- L'aviation pendant et après la guerre. R. Soreau. maps Soc Ing Civils Bul 76:767-77 Je '23

Germany

- Aeronautical situation in Germany. W. Knight. Aerial Age 15:454-5 S '22
- See also Aeronautics, Commercial—Germany

Great Britain

- Aeronautics in 1921. il (supp) diag Engineer 133:18-21 Ja 6 '22
- Aeronautics in 1922. il (supp) diags Engineer 135:10-12 Ja 5 '23

Aeronautics—Great Britain—Continued

British airship situation. C. C. Turner. *Aerial Age* 14:232 N 14 '21

See also Aeronautics, Commercial—Great Britain

Italy

Brief review of aeronautics in Italy. A. Baciocchi. *Aviation* 12:603 My 22 '22

Reorganization of aeronautics in Italy. A. Guidoni. *il Aerial Age* 16:127-8 Mr '23

Labrador

Aviation in Newfoundland and Labrador; value of aerial mail and passenger transport in Arctic countries. *il Aviation* 13:41-2 Jl 10 '22

South America

Aeronautical survey of South America. G. F. Luke. *Aviation* 15:14-16 Jl 2 '23

United States

Government to spend \$35,600,000 on aviation. *Aviation* 11:706 D 19 '21

Harding endorses National advisory committee for aeronautics' plea for the fostering of aeronautics development in this country. *Aerial Age* 16:27-8 Ja '23

Past year and American aviation. *Aviation* 14:14-15 Ja 1 '23

Review of American aviation for 1921. *Aerial Age* 14:387+ Ja 2 '22; Same. *Aviation* 12:8-9 Ja 2 '22

Trend of aviation development. J. G. Vincent. *Aviation* 12:45-9 Ja 9 '22; Same. *Soc Auto Eng J* 10:25-30 Ja '22

Work of McCook field in 1921. T. H. Bane. *Aviation* 12:41-2 Ja 9 '22

See also Aeronautics, Commercial—United States

Aeronautics, Commercial

Aerial newspaper delivery service in Florida. *il Aviation* 14:423 Ap 16 '23

Aerial transport today and tomorrow. W. A. Bristow. *Aerial Age* 14:616-18+; 15:12-14, 35+ Mr 6-20 '22; Excerpts. *Automotive Ind* 46:570-3 Mr 9 '22; Abstract, with discussion. *Engineering* 113:174-5 F 10 '22

Air lines and some of their problems. R. B. C. Noorduy. *Aerial Age* 14:492-4+ Ja 30 '22

Air power has come to stay. W. Mitchell. *Aviation* 13:182 Ag 14 '22

Air transport. F. Searle. *il Aviation* 14:272 Mr 5 '23

Air transport; abstracts. W. S. Brancker. *Engineering* 115:764 Je 22 '23; *Engineer* 135:655 Je 22 '23; Discussion. *Engineering* 115:764-5 Je 22 '23

Airplane aids practical development in civil and commercial fields. *Automotive Ind* 49:690-2 O 4 '23

Aviation and the feminine touch. O. Praeger. *il Aerial Age* 16:5-8 Ja '23

Commercial air transport the next step. J. R. Bibbins. *Aviation* 13:598-9 O 30 '22

Commercial aviation. *Aerial Age* 15:345-6 Je 19 '22

Commercial aviation. C. F. Redden. *il Aviation* 12:11-12 Ja 2 '22

Commercial aviation ready for its broadcast. J. W. Harrington. *il Aerial Age* 15:439-42 S 22

Commercial aviation success depends upon safety. J. E. Schipper. *Automotive Ind* 48:125-7 Ja 18 '23

Commercial possibilities of aviation. C. A. Moffett. *il Aerial Age* 16:103-4 Mr '23

Commercial use of airplanes. E. P. Warner. *il map Boston Soc C E J* 9:285-301 D '22

Failure of civil aviation. *Engineer* 133:697 Je 23 '22

How banks can benefit by aerial transport. J. G. Lonsdale. *il Aviation* 15:309-10 S 10 '23

Organisation of a colonial airship service. V. C. Richmond. *map Aeronautical J* 25:588-611 N '21

Personal fear is greatest handicap to commercial flying growth. D. Beecroft. *Automotive Ind* 48:504-6 Mr 1 '23

Position of air transport to-day. W. S. Brancker. *Engineer* 135:141-2 F 9 '23; Abstract. *Engineering* 115:182-3; Discussion. 183-4 F 9 '23

Requirements and difficulties of air transport. F. Searle. *Aeronautical J* 26:3-10 Ja '22; Same. *Aviation* 12:220-3 F 20 '22; Discussion. *Aeronautical J* 26:10-22 Ja '22

Safety and comfort as inducements to air travel. R. R. Blythe. *Soc Auto Eng J* 12:342; Discussion. 352-3 Ap '23

Spain to Argentine airship service. *il Aviation* 11:656-8 D 5 '21

Story of transportation by air. J. C. Hunsaker. *Aviation* 14:215-18 F 19 '23

Truth about commercial aviation. *Soc Auto Eng J* 10:51-2 Ja '22

Use of light as an aid to aerial navigation. L. F. Blandy. *il diags Illum Engr* 15:42-58; Discussion. 58-63 F '22

What is the matter with commercial aviation? W. Knight. *Aerial Age* 16:177-80+ Ap '23

See also Air routes; Aircraft industry; Airplane industry; Airplanes in agriculture; Photography, Aerial; Skywriting

Costs

Aerodynamical efficiency and the reduction of air transport costs. L. Breguet. *Aeronautical J* 26:307-13; Discussion. 313-20 Ag '22

Commercial aviation must reduce overhead costs. *Automotive Ind* 48:506 Mr 1 '23

Commercial operation of airplanes; analysis of the record of air mail service for the year ending Sept. 30, 1921. L. B. Lent. *Mech Eng* 44:33-7 Ja '22; Excerpts. *Eng & Contr* 57:70-2 Ja 18 '22

Requirements for commercial aircraft. W. B. Stout. *il Aviation* 12:72-4 Ja 16 '22

Subsidies

Belgian plan of subsidies for air transport companies. *Aerial Age* 15:129-30 Ap 17 '22

British airway subsidies. *Aviation* 14:194, 340-1 F 12, Mr 26 '23; *Aerial Age* 16:35 Ja '23

Civil aviation and the government. *Engineer* 135:233-4 Mr 2 '23

Belgium

Belgian plan of subsidies for air transport companies. *Aerial Age* 15:129-30 Ap 17 '22

Canada

Aeronautic progress in Canada. E. G. Wilson. *Aerial Age* 15:505 O '22

Aviation in Canada, 1921. *Aviation* 12:458 Ap 17 '22

Colombia

Air transport in Colombia. *Aviation* 15:47 Jl 9 '23

Europe

Aeronautic lessons from Europe. R. Upson. *Aerial Age* 14:394 Ja 2 '22; Same. *Aviation* 12:13-14 Ja 2 '22

Commercial aviation developments in Europe. W. Knight. *Aerial Age* 15:30-1+, 58-60, 107-9, 133-4 Mr 20-27, Ap 10-17 '22

Fundamentals of commercial flying; review of developments in Europe. E. P. Warner. *Aviation* 13:600-1 O 30 '22

Impressions of European air lines. G. Loening. *il Aviation* 14:238-40 F 26 '23

France

Commercial aviation developments in Europe. W. Knight. *Aerial Age* 15:30-1+ Mr 20 '22

Facts and figures on commercial air traffic in France. P. Flandin. *Aerial Age* 16:313-14 Jl '23

French progress in civil air transport. de Laverge. *Aviation* 12:170-1 F 6 '22

Organization of French civil aviation. *Aviation* 12:76 Ja 16 '22

Progress of commercial aviation in France. W. W. Kellett. *Aviation* 14:125 Ja 29 '23

Le rendement aérodynamique des avions et le prix des transports aériens. *Génie Civil* 81:541-2 D 9 '22

Aeronautics. Commercial—Continued**Germany**

German air activities and Latin America. L. d'Orcy. Aviation 14:394-5 Ap 9 '23
 German air traffic in 1921. Automotive Ind 46: 971 My 4 '22

Great Britain

British airway subsidies. Aviation 14:194 F 12 '23
 British Imperial airship scheme: abstracts. C. D. Burney. Aviation 11:266-8 Mr 5 '23; Engineering 115:183 F 9 '23; Génie Civil 12:329-31 Ap 7 '23; Discussion. Engineering 115:183-1 F 9 '23
 Civil aviation. Gorell. Engineering 113:174; Discussion. 174-5 F 10 '22
 Civil aviation and the government. Engineer 135:233-4 Mr 2 '23
 Modification of government subsidy to British air lines. Aerial Age 16:35 Ja '23
 New British airway subsidy scheme. Aviation 14:340-1 Mr 26 '23
 Progress of British civil aviation, 1922-23. Aviation 15:181-6 Ag 13 '23
 Safety of air travel. Aviation 12:726 Je 19 '22

Italy

Aeronautic situation in Italy. W. Knight. Aerial Age 15:551 N '22
 Progress of civil aeronautics in Italy. A. Baciocchi. Aerial Age 16:198 Ap '23
 Survey of commercial aviation in Italy. M. W. Royse. il Aviation 14:262-5 Mr 5 '23

Latin America

Commercial aviation in Latin America. W. P. Bieser. Aerial Age 15:79-80 Ap 3 '22

Mexico

Mexican airways. Aviation 14:290 Mr 12 '23

South Africa

South African airway service. Aviation 13:608 O 30 '22

South America

Aviation in South America, with an introduction on the South Atlantic flight. G. F. Luke. Roy Aeronautical Soc J 27:459-68 S '23

United States

Air lines and some of their problems. R. B. C. Noorduyt. Mech Eng 44:107-9+ F '22
 Air transport for America. C. A. Tinker. Aerial Age 14:611-12 Mr 6 '22; Same. Nation's Business 10:36 Mr '22
 Civil aeronautics act of 1923. Aviation 14:77-8 Ja 15 '23
 Civil aviation in the United States; Aeronautical chamber of commerce memorandum on twelve months operation of civil aircraft. Aviation 12:593-5 My 22 '22
 Civilian aviation. E. Rickenbacker. Aerial Age 14:469-72 Ja 23 '22; Excerpts. Aviation 12:69 Ja 16 '22
 Civilian aviation gained 20 per cent. Automotive Ind 45:1288 D 29 '21
 Commercial aircraft operations in the United States, 1921; tabulation, with directory of companies. Automotive Ind 46:1166-73 Je 1 '22
 Commercial aviation development in the United States. W. Knight. Aerial Age 15: 294-6+ Je 5 '22
 Commercial aviation in America. H. E. Coffin. Mech Eng 45:70-1 Ja '23
 Commercial aviation: some truths on the subject. P. D. Johnson. il Aerial Age 16:169-70 Ap '23
 Express co. ready to contract with airways. R. E. M. Cowie. Aviation 12:319-20 Mr 13 '22
 General air service company to operate public transport services in this country and abroad. Aviation 12:285 Mr 6 '22
 Germans plan dirigible line here. Aerial Age 16:26-7 Ja '23
 Immediate possibilities of commercial airplane service. C. G. Peterson. Soc Auto Eng J 12:263-1 Mr '23; Discussion. 12:359-61 Ap '23

Market for commercial aircraft in 1922. H. F. Marshall. Aviation 12:43-4 Ja 9 '22
 More business at less cost marks commercial aircraft growth. Automotive Ind 46:1165 Je 1 '22
 Plans of flying companies for 1923 season. il Aviation 14:494-8 My 7 '23
 Present day aeronautical problems. R. W. Cram. il Aerial Age 16:55-8 F '23
 Safety of American civil aviation. O. Praeger. map Aviation 11:689 D 12 '21
 Some marginal remarks on air transport; with special reference to landing fields. L. d'Orcy. Aviation 14:499-500 My 7 '23
 Successful commercial aviation analyzed. T. N. Joyce. Aviation 14:420-2 Ap 16 '23
See also Air routes—United States; Aircraft industry—United States; Airplane industry and trade—United States; *also* Detroit air board

Aeronautics. Military

Admiral Sims on aviation. il Aviation 11: 659 D 5 '21
 Air service in combat in conjunction with other arms. H. H. Arnold. Aerial Age 15: 323-5 Je 12 '22
 Air service makes impressive mobilization test. il Aviation 15:305-6 S 10 '23
 Armament conference decides against limitation of aircraft. Comm & Fin Chr 114:149-56 Ja 14 '22
 Contest for air power in the Pacific. G. K. Spencer. il Aviation 14:318-19 Mr 19 '23
 Development of air power policy. A. R. Blessing. Aerial Age 16:165-8+ Ap '23
 Foreign air armaments and the United States. L. d'Orcy. Aviation 15:66-70 J1 16 '23
 General rules for air combat. Aerial Age 15: 599 D '22
 Germany's naval airships and their war record. Engineer 133:513-14 My 12 '22
 Growing air forces. Aviation 14:313 Mr 19 '23
 Has sea power passed? an authoritative exposé of the extravagant claims of the air enthusiasts. A. Gleaves. il Sci Am 129:313-14+ N '23
 Kite balloons and airships in naval warfare. P. H. Sumner. Engineer 136:194 Ag 24 '23
 N. Y. national guard air service. Aviation 13: 605 N 20 '22
 Problems of militia aviation. K. P. Littauer. Aviation 13:43-4 J1 10 '22
 Problems of the independent air force. A. Guidoni. Aviation 13:687 N 20 '22
 Question of battleships versus airplane; how it is viewed by the general board of the navy and by Admirals Fullam and Moffett. Aviation 14:634-8 Je 11 '23
 Report of the sub-committee on the limitation of aircraft. Aerial Age 14:542-5 F 13 '22; Same. Aviation 12:128-32 Ja 30 '22; Discussion. Aerial Age 14:490-2 Ja 30 '22
 Speech at Aero club banquet. W. F. Fullam. Aerial Age 14:466-9 Ja 23 '22; Same. Aviation. 12:67-8 Ja 16 '22
See also Airplanes, Military; Bombs, Aerial; Torpedoplanes; United States—Air service

Statistics

Air strength of the great powers; tabulation. Aviation 11:560-3; 12:164-6 N 14 '21. F 6 '22
 Relative strengths of European air forces. Aviation 14:136 Ja 29 '23

Aeronauts. See Aviators**Aeroplanes. See Airplanes****Aetna life insurance company**

Aetna life insurance company building, Hartford, Conn. il plans Am Arch 122:159-63 Ag 16 '22

Affiliated technical societies of Boston

Engineering societies of Boston affiliate. Elec W 80:33-4 J1 1 '22; Eng N 89:165 J1 27 '22

Afghanistan

See Railroads—Afghanistan

Africa

See also Coal—Africa; Railroads—Africa

Africa—Continued**Commerce**

Protesting drafts in South, West and East Africa. U S Bur For & Dom Com Trade Information Bul 136:1-22 '23

See also Lumber trade—Africa

Industries and resources

Raw products of the world. R. Davol. 264p Davol pub. co., Taunton, Mass. '22

Africa, East

See also Electric plants (central stations)—Africa, East; Mozambique; Railroads—Africa, East

Africa, German East. See Tanganyika

Africa, Portuguese East. See Mozambique

Aftercoolers. See Compressed air—Cooling

Agar-agar

Sources, preparation and properties of algal gelatins. I. A. Field. Chem Age 29:485-6 D '21

Swelling of agar-agar. F. Fairbrother and H. Mastin. Chem Soc J 123:1412-24 Je '23.

Age

Critical age as a factor in labor turnover. H. D. Kitson. bibliog J Ind Hygiene 4:199-202 S '22

Agencies, Advertising. See Advertising agencies

Agency (law)

Dealings with agents. W. Gustin. Chem & Met Eng 29:111 JI 16 '23

Liability of agents. Eng & Ind Management 6:755-6 D 29 '21

Liability of sales agents to principals. W. Gustin. Chem & Met Eng 29:669-70 O 8 '23

See also Brokers; Partnership; Power of attorney

Aggregate. See Concrete—Aggregate

Agitation

Effect of agitation on the rate of solution of crystals. E. V. Murphree. Ind & Eng Chem 15:148-9 F '23

Agitators

Equipment used for agitating and stirring. C. H. Tyler. Il Chem & Met Eng 29:441-4 S 10 '23

Explosion of agitator charged with naphtha. W. H. Pape. Chem & Met Eng 25:949 N 23 '21

Tank agitation patent held invalid as not being invention. W. Gustin. Chem & Met Eng 25:926 N 16 '21

Tools of the chemical engineer; agitators. D. H. Killeffer. Il diags Ind & Eng Chem 15: 144-8 F '23

See also Dye mixers

Agreements, Trade. See Trade agreements

Agricultural chemistry

Quantitative agricultural analysis. E. G. Mahin and R. H. Carr. 329p McGraw-Hill '23

Some chemical aspects of agriculture. E. Holmes. Chem Age (Lond) 8:80-4 Ja 27 '23

See also Feeding and feeding stuffs; Fertilizers; Insecticides; Soil analysis; Soils
Consult Agricultural Index for additional material

Agricultural clubs

Making farm boys and girls better prospects. G. A. Nichols. Il Ptr Ink M 5:37-8 JI '22

Agricultural colonization

California state aid colonization projects achieve success. Eng N 90:221 F 1 '23

Seventy-five mile city; what Henry Ford wants to do with Muscle Shoals. L. McClung. Il Sci Am 127:156-7+ S '22

See also Wisconsin—Immigration bureau

Agricultural cooperative associations

See also Cooperative Grange league federation exchange

Agricultural credit

Agricultural credits. (67th Cong., 4th sess. Senate. Rept. 1003) 2v Govt. print. off., Washington '23

Agricultural credits act and amendments to Farm loan act and Federal reserve act. 32p Federal farm loan bureau, Washington '23

Agricultural credits and cooperative marketing. B: M. Anderson, jr. (Chase econ. bul. v. 3, no. 3) 35p Chase national bank, New York '23

Agricultural depression and what has been done to meet it. H: C. Wallace. Comm & Fin Chr 115:2115-17 N 11 '22

Bank credit and agriculture. I. Wright. 340p McGraw-Hill '22

Capper farm credits bill passed by Senate—Lenroot-Anderson bill taken up. Comm & Fin Chr 116:364-5 Ja 27 '23

Compromise rural credits bill passed by House. Comm & Fin Chr 116:881-4 Mr 3 '23

Co-operative associations making good use of farm credit facilities. Comm & Fin Chr 117:953 S 1 '23

Explanation of the agricultural credits act and the banks and corporations authorized thereunder. H: C. Wallace. Comm & Fin Chr 116:1121 Mr 17 '23

Farm and the Federal reserve. S. Bent. Nation's Business 10:18-19 Ja '22

Farm credit needs. H: C. Wallace. Comm & Fin Chr 114:1722-3 Ap 22 '22

Farm credits, good or bad; discussion at a meeting of the finance group of the U. S. Chamber of commerce. Nation's Business 11:56-7 Jo 5 '23

Farm mortgage financing. I. Wright. 343p McGraw-Hill '23

Farmer representation on Federal reserve board, and other governmental agencies in interest of agriculture. H: C. Wallace. Comm & Fin Chr 115:1584 O 7 '22

Farmers' credit bills before Congress. Comm & Fin Chr 115:2742-4 D 23 '22

Federal farm loan system. I. Wright. (Agric. Col. & Exp. sta. Circ. no. 259) 20p Univ. of Illinois, Urbana '22

Financing agriculture. E. Meyer, jr. Comm & Fin Chr 115:156-61 sec 2 O 21 '22

From the viewpoint of the Treasury department. Annalist 20:656+ D 18 '22

Helping the farmer two ways. W. W. Head. Il Nation's Business 11:56 Je '23

How and why of rural credits. B. M. Baruch. Nation's Business 11:24-5 F '23

How the Agricultural credits act affects advertisers. Ptr Ink 125:17-20 O 11 '23

How to use the new Agricultural credits act of 1923. H. Myrick. 82p Phelps pub. co., 5 S. Wabash Ave., Chicago; 456 4th Ave., New York '23

Legislation enacted during present administration in behalf of farmer. W. G. Harding. Comm & Fin Chr 117:391-3 JI 28 '23

Longer credits for the farmer. E. Meyer, jr. Nation's Business 10:20-1 Je '22

Newly enacted Agricultural or farm credits act; text. Comm & Fin Chr 117:1095-1101 S 8 '23

Problems of agricultural industry. E. Meyer, jr. Comm & Fin Chr 114:366-7 Ja 28 '22

Provisions for extension of agricultural credits under Federal reserve act. Comm & Fin Chr 117:1618-19 O 13 '23

Provisions of two rural credit bills before Congress. Comm & Fin Chr 114:1722 Ap 22 '22

Review of the agricultural prospects in western states. H: C. Breck. J Elec 48:96-8 F 1 '22

Rural credit. Soc Auto Eng J 12:301 Mr '23

Rural credit at conference of National council of farmers' co-operative associations. Comm & Fin Chr 115:2740-1 D 23 '22

Rural credits act and other amendments of banking law relating to agriculture. 48p Federal trade information service, New York '23

Rural credits bill enacted into law. Comm & Fin Chr 116:1002-3 Mr 10 '23

Rural credits system for the United States. H. Myrick. 240p Orange Judd pub. co., New York '22

Secretary of the treasury Mellon finds Lenroot farm credits bill unsound and dangerous—Capper bill approved. Comm & Fin Chr 116:770-3 F 24 '23

Agricultural credit—Continued

Senate committee tentatively approves Cap-per farm credits bill. Comm & Fin Chr 116:27-8 Ja 6 '23

Senate passes Lenroot-Anderson farm credits bill. Comm & Fin Chr 116:569-71 F 10 '23
Statements by the Federal reserve board concerning the agricultural situation. R. Bean. Annalist 22:166-4 Ag 6 '23
Thomas A. Edison credit plans in behalf of farmers. Comm & Fin Chr 114:2437-8 Je 3 '22

See also Federal farm land banks; Federal farm loan act; Federal farm loan board; Intermediate credit banks

Agricultural engineering

Engineering on the farm. J: T. Stewart. 538p Rand, McNally & co., Chicago, New York '23

See also Agricultural machinery; Clearing of land; Irrigation; Reclamation of land

Agricultural experiment stations

Uncle Sam's agricultural proving grounds; Federal farms at Beltsville, Md. R. Howard. il Sci Am 129:10-11 Jl '23

Agricultural labor. See Farm labor**Agricultural machinery**

Attaching wagon to harvester-thresher. G: G. McVicker. il diags Pop Mech 40:287 Ag '23
Farm mechanics. F. D. Crawshaw and E. W. Lehmann. 423p Manual arts press '22
Machinery and agriculture. Engineering 115:528 Ap 27 '23

Portable machine may be a plow or a planer. H: S. White. il Pop Mech 37:530-1 Ap '22
Some new wrinkles in agricultural machinery. il Sci Am 128:255 Ap '23

See also Agricultural engineering; Cultivators, Motor; Farm engines; Farm lighting plants; Harvesting machinery; Lime spreader; Plows, Electric; Plows, Motor; Threshing machines; Tractors

Exhibitions

Exhibition of livestock and implements by the Royal agricultural society, Cambridge, July 3-8. il diags Engineer 134:8-10, 12, 36-8, 40, 57-60 Jl 7-21 '22; Engineering 114:8-11, 16, 38-41 Jl 7-14 '22

Machinery at the Smithfield show. Engineering 114:716-17 D 8 '22; Engineer 134:604-6, 625-6 D 8-15 '22

Les machines agricoles au début de 1923; le II^e Salon de la machine agricole, à Paris, et l'Exposition du Smithfield-club à Londres. G. Coupan. il Génie Civil 82:169-76, 199-203, 220-4, 249-53 F 24-Mr 17 '23

Le I^{er} salon de la machine agricole (Paris, 28 janvier-5 février 1922). G. Coupan. il diags Génie Civil 80:145-50, 183-5, 204-9, 227-33 F 18-Mr 11 '22

Royal agricultural show at Newcastle. il diags Engineer 135:680-1; 136:17-20, 34-8 Je 29-Jl 13 '23; Engineering 116:11-13, 18, 54-6 Jl 6-13 '23

Smithfield show. Engineering 112:795 D 9 '21; Engineer 132:618-20 D 9 '21

Manufacture

See International harvester company; Tractors—Manufacture

Testing

Agricultural draining machinery. il Engineering 114:521-2 O 27 '22

New device tests drag of farm implements. il Pop Mech 36:897-8 D '21

Testing the drag of farming machinery. il Sci Am 127:334 N '22

Tests of drainage and subsoiling machines. Engineer 134:445 O 27 '22

Agricultural machinery industry

Agricultural implements in the Netherlands, East Indies and British Malaya. J: A. Fowler. U S Bur For & Dom Com Trade Information Bul 44:1-16 '22

Farm implement industry not well sold. Iron Age 112:1178-80 N 1 '23

Manufacture and sale of farm equipment in 1920. H. R. Tolley and L. M. Church. (Circ. 212) 11p U.S. Dept. of agriculture, Washington '22

National association of farm equipment manufacturers 29th annual convention, Chicago, Oct. 18-20. Iron Age 110:1067-8 O 26 '22

Sale of agricultural implements in foreign countries—future prospects. C: D. Martin. U S Bur For & Dom Com Trade Information Bul 58:1-20 '22

See also Advance-Rumely company

Advertising

How Case keeps the farmer sold in an advertising way. H. W. Wallis. Ptr Ink 120:17-20+ S 28 '22

Manufacturers of related farm lines tie to the Fordson tractor. J: Y. Beaty. Ptr Ink 120:33-4+ Jl 6 '22

Great Britain

Agricultural machinery, implements, and tractors in the United Kingdom. W: M. Park. U S Bur For & Dom Com Trade Information Bul 71:1-10 '22

Italy

Italy's farm machine industry. Am Ind 23:45 N '22

Japan

Japan as a market for American agricultural implements and machinery. P. P. Steintorf. U S Bur For & Dom Com Trade Information Bul 94:1-9 '23

Russia

Der handel mit landwirtschaftlichen maschinen und geräten in Russland vor dem kriege. A. Bonwetsch. 142p E. Ebering, Berlin '21

Agricultural pests

See Boll weevils; Insects, Injurious and beneficial; Quarantine, Agricultural

Agricultural publishers association

Methods of promoting farm field, theme of agricultural publishers. Ptr Ink 125:121-2 O 25 '23

Agricultural research

L'institut des recherches agronomiques. A. Bruno. Chimie & Ind 7:1222-4 Je '22

Some of the things that agricultural science has still before it. D. H. George. il Sci Am 127:382-3 D '22

Agricultural societies

See also American farm bureau federation

Agriculture

Hazards of farming. H. B. Weiss. Annalist 20:599 D 4 '22

See also Agricultural machinery; Airplanes in agriculture; Clearing of land; Diversified farming; Drainage; Electricity on the farm; Farm buildings; Farm labor; Farm management; Farm produce; Farm tenancy; Farmers; Farms; Fertilizers; Forests and forestry; Fumigation; Gardening; Irrigation; Live stock; Reclamation of land; Silage; Silos; Soil analysis; Soil fertility; Soils; Trees; *also* names of agricultural products, e.g. Alfalfa, Corn, Cotton, Flax, Rice, Rubber, Sugar, Tobacco, Wheat
Consult the Agricultural Index for additional material

Bibliography

Agricultural books of 1921. W: M. Hepburn. Special Lib 13:86-8 Je '22

Economic aspects

American farmer problem. R. Estcourt. Annalist 22:239-40 Ag 20 '23

Business situation and what it portends. A. W. Douglas. Administration 5:123-5 Ja '23

Farmer's buying power not affected by diminishing farm population. J. True. Ptr Ink M 7:19-20+ Ag '23

Agriculture—Economic aspects—Continued

Farmers do not need more credit. S. R. McKelvie. *Ptr Ink* 123:114+ Je 7 '23
 Farming as a business here and abroad. J. W. Harrington. *Annalist* 19:175+ Ja 30 '22
 Generating economic cycles. H. L. Moore. 141p Macmillan '23
 Increasing farmers' share of the consumer's dollar. J. R. Howard. *Ptr Ink* 118:109-10+ F 23 '22

Present spending power of agricultural regions. A. B. Genung. *Annalist* 19:537 My 15 '22

Review of the agricultural prospects in western states. H. C. Breck. *J Elec* 48:96-8 F 1 '22

Teaming with the farmer; a plain narrative of cooperation that is breaking down the barrier between business and agriculture. E. N. Smith. *il Nation's Business* 11:41-3 Ap '23

Unexpected consequence of the war; an increase in the number of freeholders has in many countries been accompanied by a decrease in the total agricultural product. R. Estcourt. *Annalist* 20:469-70 N 6 '22

What the farmer really earns and how he earns it. L. M. Graves. *Annalist* 22:595-6+ N 5 '23

See also Agricultural credit; Farm labor; Farm produce; *also* American farm bureau federation; National agricultural conference

Statistics

Harvests in 1922. *Comm & Fin Chr* 116:223-6 Ja 20 '23

Per capita trend of agricultural production. H. B. Weiss. *Annalist* 20:248 S 11 '22

California

See also Irrigation—California

Europe

Economic situation of the European farmer. *Annalist* 21:633+ My 7 '23

Regulation of agricultural labour conditions in continental Europe. H. M. Conacher. *Int Labour R* 8:173-90 Ag '23

Indo China

See also Irrigation—Indo China

Japan

Disputes between landowners and tenant farmers in Japan. *Int Labour R* 8:459-62 S '23

Morocco

Agricultural conquest of Morocco. M. de la Maziere. *Annalist* 22:427+ O 1 '23

Peru

Development of agrarian policy in Peru. C. A. Ugarte. *Annalist* 22:168-9 Ag 6 '23

Scandinavia

Agricultural wages and hours of labor in Scandinavian countries in 1921 and 1922. *Monthly Labor R* 16:1281-3 Je '23

United States

Agricultural conditions. A. W. Douglas. *See* monthly numbers of Nation's business

Agricultural depression and what has been done to meet it. H. C. Wallace. *Comm & Fin Chr* 115:2115-17 N 11 '22

America's wheat competition produces a flood of bunk. R. Yarnell. *Ptr Ink* 124:17-20 Ag 30 '23

Billion-dollar farm trio; Texas, Illinois and Iowa. C. B. Sherman. *Nation's Business* 11:68-9 S '23

Europe, the farmers' market. J. R. Howard. *Nation's Business* 10:24-6 Je 5 '22

Federal land reclamation; a national problem. C. S. Scofield. *Eng N* 91:756-61 N 8 '23

Need of development of wise agricultural policy. H. C. Wallace. *Comm & Fin Chr* 113:2779-80 D 31 '21

Position of the agricultural interests of the nation. *Annalist* 21:345-6 Mr 5 '23

Relations of transportation to agriculture; congressional commission report. *Ry Age* 73:107-12 Jl 15 '22; *Same. Comm & Fin Chr* 115:940-2 Ag 26 '22

Report on the War finance corporation. E. Meyer, jr. *Comm & Fin Chr* 114:2419-21 Je 3 '22

See also Irrigation—United States; *also* American railway development association

Agriculture, Cooperative

Farmers' cooperative movement in Alberta. *Monthly Labor R* 14:1058-9 My '22

Modern farm cooperative movement. C. C. Sherlock. 377p Homestead co., Des Moines, Ia. '22

Volume of business of middle-west cooperative societies, 1921. *Monthly Labor R* 16:1115-16 My '23

See also Marketing, Cooperative

Ahearn, Thomas, 1855-

Portrait. *Elec W* 79:816 Ap 29 '22

Air

Coefficients of viscosity and of slip of air and of carbon dioxide by the rotating cylinder method. K. S. Van Dyke. *Phys R* 21:250-65 Mr '23

Determination by the constant deflection method of the value of the coefficient of slip for rough and for smooth surfaces in air. L. J. Stacy. *diag Phys R* 21:239-49 Mr '23

Mastery of air. 184p Pitman '22

Nature of the negative and positive ions in air, oxygen and nitrogen. H. A. Erikson. *diags Phys R* 20:117-26 Ag '22

La théorie thermique de la distillation et de la rectification de l'air. P. Mion and L. Gay. *Chimie & Ind* 9:463-8, 674-84 Mr-Apr '23

Viscosity of air in a transverse electric field. S. Ray. *Philos Mag* 6th ser 43:1129-30 Je '22

See also Aerodynamics; Aeronautics; Air conditioning; Air flow; Atmosphere; Atmospheric electricity; Atmospheric temperature; Compressed air; Humidity; Meteorology; Mine air; Oxygen; Ozone; Tunnel air; Ventilation

Analysis

Atmospheric particulate matter; the use of electric precipitation for quantitative determinations and microscopy. P. Drinker, R. M. Thomson and S. M. Fitchet. *J Ind Hygiene* 5:162-84; Bibliography. 184-5 S '23

Collection and examination of explosive dusts in air. L. J. Trostel and H. W. Frevert. *Ind & Eng Chem* 15:232-6 Mr '23

Comparative efficiency of the circular konimeter and the Palmer water spray apparatus for the determination of the dust content of the air. C.-E. A. Winslow and R. Jordan. *J Ind Hygiene* 4:375-9 Ja '23

Development of the Anderson and Armspach dust determinator. *il diags Am Soc Heat & V E J* 28:780-7 N '22

Further observations in dust determinations. M. Ingels. *Am Soc Heat & V E J* 29:429-34 Jl '23

Jet dust counting apparatus. J. S. Owens. *bibliog il diags J Ind Hygiene* 4:522-34 Ap '23

Methods of air analysis. J. S. Haldane. 3d ed. 137p Charles Griffin & co., London '20

New data on air dust determinations. M. Ingels. *il diags Am Soc Heat & V E J* 29:177-93 Mr '23

Owens jet apparatus for dust examinations. *Engineer* 134:3-4 Jl 7 '22; *Same. Eng & Contr* 58:218 Ag 30 '22

L'oxyde de carbone, les combustibles et l'hygiène. E. Kohn-Abrest. *il Chimie & Ind* 7:590-605 Mr '22

Sugar-tube method of determining rock dust in air. A. C. Fieldner, S. H. Katz and E. S. Longfellow. *U S Bur Mines Tech Pa* 278:1-40 '21

Tests for hydrocyanic acid gas in air. S. H. Katz and E. S. Longfellow. *bibliog il J Ind Hygiene* 5:97-104 Jl '23

Temperature

See Atmospheric temperature

Air, Compressed. *See* Compressed air

Air, Liquid. *See* Liquid air

Air bags. *See* Tires, Automobile

Air batteries. See Refrigerating plants

Air brake association

- 29th annual convention, Atlantic City, June 19-21. Ry R 71:49-51 J1 8 '22
30th annual convention, Denver, Col., May 1-3. Ry Age 74:1119-20, 1161-4 My 5-12 '23; Ry Mech Eng 97:363-5, 558-61 Je, Ag '23

Air brake gages

- Quadruplex locomotive air brake gages. il Ry Mech Eng 96:47 Ja '22

Air brake hose

- Testing hose nipples and couplings before mounting. T. H. Birch. diags Ry Mech Eng 97:295-6 My '23

Air brakes

- Air brake equipment for gasoline-driven rail cars. il diags Ry Age 74:1482 Je 16 '23
Air-brake maintenance on the San Francisco & Sacramento railroad. F. A. Miller. Elec Ry J 62:267 Ag 18 '23

Application du frein Westinghouse sur des trains de 11 400 tonnes du Virginian railway (Etats-Unis). J. Netter. il diag Génie Civil 80:299-301 Ap 1 '22

Braking phase of automatic train control. W. G. Fischer. Ry R 72:1098-1103 Je 23 '23

Car and locomotive specialties. il Ry R 70: sup36-8 Je 10 '22

Charging freight trains and use of release position. W. F. Peck. Ry Mech Eng 97: 558-60 Ag '23; Same cond. Ry Age 74:1162-3 My 12 '23

Close relation between airbrake and automatic stop. Sci Am 127:15 J1 '22

Continuous brakes for goods trains. Engineer 134:653; 136:192-4 D 22 '22, Ag 24 '23

Continuous brakes in France. Engineer 134: 336 S 29 '22; Same. Ry Mech Eng 96:637 N '22

Defective locomotive brake and train operation. Ry Mech Eng 96:451-2 Ag '22

Evolution of the air brake to electric control. diag Ry R 73:385-91 S 15 '23

Le freinage des trains de marchandises; adoption du frein Westinghouse par le Conseil supérieur des chemins de fer. Génie Civil 82:86-7 Ja 27 '23

Hearing on power brakes by Interstate commerce commission. Ry Age 72:1213; 74:521-3 My 27 '22, Mr 3 '23; Same (pt 1). Ry Mech Eng 96:331 Je '22

Interstate commerce commission orders power brake investigation. Ry Mech Eng 96:198 Ap '22

Investigation of power brakes and power brake appliances. Brief for Automatic straight air brake company—Clark & La Roe, attorneys. 3v Press of B. S. Adams, Washington, D.C. '23

Mechanical and electrical equipment keeps pace. il diags Elec Ry J 62:547-51 O 6 '23

Modern air brake operation: Westinghouse air brake equipment visualized. 62p United Y.M.C.A. schools, Extension division, New York '21

Railway brakes for heavy traffic. A. W. Rendell; H. Fowler and H. N. Gresley. Engineering 113:43 Ja 13 '22; Same. Engineer 133:96 Ja 27 '22

Recent air-brake developments. diag Elec Ry J 61:54-5 Ja 6 '23

Report of Mechanical division committee on brakes and brake equipment. Ry Age 74: 1577-80 Je 23 '23; Same. Ry Mech Eng 97: 467-70 J1 '23; Excerpt. Ry R 72:1144-5 Je 30 '23

Safety device with dead-man air-brake valve handle. F. L. Hinman. il diag Elec Ry J 60:974 D 23 '22

Slow operating air pumps. W. W. White. Ry Mech Eng 97:560-1 Ag '23

Some defects of the air brake system. Ry Mech Eng 96:691-2 D '22; Abstract. Ry R 71:722-3 N 18 '22

Universal and other types of brake control. Ry Age 75:525-6 S 22 '23; Same. Ry Mech Eng 97:685-6 O '23

Valve de queue Oméga, pour frein continu automatique à air comprimé. diag Génie Civil 80:15 Ja 7 '22

Wastes in air brake service. S. W. Dudley. Ry R 71:49-50 J1 8 '22

See also Air brake hose

Westinghouse air-brake co. issues trade publications on this subject

Manufacture

Rotary surface grinder effectively used on air brake parts. il Ry Mech Eng 96:645-6 N '22

Repair

Air brake repairs at Milwaukee car shops. il diags Ry Mech Eng 96:268-70 My '22

Air-brake repairs on a New England railroad. F. H. Colvin. il Am Mach 57:406-8 S 14 '22

Angle cock holder blocks. E. A. Miller. diags Ry Mech Eng 96:150 Mr '22

Cost system of locomotive brake repairs. W. H. Clegg. Ry Mech Eng 97:763-7 N '23

System for proper brake maintenance pays. O. R. Hill. Elec Ry J 60:326-7 S 2 '22

Testing

Compact air brake test rack in engine-house. il Ry Mech Eng 97:293-4 My '23

Expediting train movement. H. G. Clark. Ry Age 74:1161-2 My 12 '23; Same. Ry Mech Eng 97:364-5 Je '23

Le freinage continu des longs trains de marchandises. J. Netter. diags Génie Civil 79: 557-61, 585-90 D 24-31 '21

Tension test for brake rods. il diag Elec Ry J 60:226 Ag 12 '22

Testing car air reservoirs. W. C. Bolt. il diags Elec Ry J 61:851-2 My 19 '23

Air brakes, Automobile

Air system used for brake application. il diags Bus Transportation 2:36-7 Ja '23

Metal to metal brakes applied by air. il plan Bus Transportation 2:488-9 O '23

Westinghouse develops air brake for automobiles. Automotive Ind 47:1066 N 30 '22

Air cleaners

See Air filters; Air washers

Air cleaners, Automobile

Air cleaner applied to truck engines. Automotive Ind 46:558-9 Mr 9 '22

Air washer for the automobile. il diags Sci Am 129:253 O '23

Centrifugal type of air cleaner marketed by the United mfg. & distributing co. il Automotive Ind 47:311 Ag 17 '22

Air compressors

Air compressor and cargo oil pump. il Engineering 115:772-3 Je 22 '23

Air compressor got red hot. Power 58:266, 467, 622, 743 Ag 14, S 18, O 16, N 6 '23

Air compressor operation and upkeep. il Textile World 63:2469+, 3016+ Ap 14, My 5 '23

Air compressor, truck body and tractor solve portable drilling problem. il Eng & Contr 57:281-2 Mr 22 '22

Air compressors. W. Reavell. diags Engineering 113:782-5 Je 23 '22

Air compressors for marine Diesel engines; abstract. diag Mech Eng 44:191 Mr '22

Air-lift pumping by Diesel compressor. P. M. Thayer. il diags Power Pl Eng 27:994-6 O 1 '23

Allis-Chalmers compact air compressor. il diag India Rubber W 66:495 Ap '22

Baker ball-bearing air compressors. il Am Mach 57:860-1 N 30 '22

Chicago pneumatic tool co.'s dual-flow steam-driven air-compressor. il Min & Sci P 124:71-2 Ja 14 '22; Ry Mech Eng 96:45-6 Ja '22; Power 55:265-6 F 14 '22; Power Pl Eng 26:168-9 F 1 '22; Foundry 50:214 Mr 1 '22

Code for displacement compressors and blowers. Mech Eng 44:45-8+ Ja '22

Le compresseur rotatif, système Planche. R. Chenal. il diags Génie Civil 82:569-74 Je 16 '23

Compresseur rotatif, système R. Planche. L. Fournier. il diags Génie Civil 80:275-7 Mr 25 '22; Abstracts. Mech Eng 44:385-6 Je '22; Engineer 134:280 S 15 '22

Compressor faults revealed by the indicator. R. McLaren. diags Power 57:255-6 F 13 '23

Air compressors—Continued

- Domestic air compressor. Pub Works 54:11-12 Ja '23
- Double-acting two-stage air compressor. il diags Engineering 112:674-6 N 11 '21
- Dunning air compressors. il Am Mach 58:389 Mr 8 '23
- Electrically-driven air compressors. Engineer 135:500, 508 My 11 '23
- Epicyclic reduction gear for portable air compressor. il diags Engineering 114:104 Jl 28 '22
- Étude des compresseurs d'air. R. Pérot. diags Génie Civil 81:191-6 Ag 26 '22
- Groupe motocompresseur transportable pour la perforation mécanique. J.-A. Calmettes. il diags Génie Civil 80:87-8 Ja 28 '22
- Hill rotary air compressor. il Iron Age 111:356 F 1 '23
- How not to produce compressed air. L. Goldsmith. Power 58:620 O 16 '23
- Ingersoll-Rand short belt-driven Imperial air compressor. il Ry Mech Eng 95:717 N '21; Foundry 49:869 N 1 '21; Min & Sci P 123:727 N 19 '21; Power 55:23 Ja 3 '22
- Ingersoll-Rand small vertical air compressors. il Am Mach 57:550 O 5 '22; Eng & Contr (W W) 58:21 O 11 '22; Foundry 50:853 O 15 '22; Iron Age 110:1075 O 26 '22; Textile World 62:2177 O 14 '22; Ry Mech Eng 96:665 N '22
- Light, self-contained gasoline-motor air compressor. diags Elec Ry J 59:647-8 Ap 15 '22
- Low temperature causes seizing of cross-head. T. C. Porteous. diags Power 57:905-6 Je 5 '23
- Mammoth plate-valve air compressor. il diags Power 58:218 Ag 7 '23
- Mechanical methods for the propulsion of gases. E. F. Hooper and B. B. Waller. diags Soc Chem Ind J 42:180-4 Ap 27 '23
- MicHELL crankless motor-car engine and air compressor. il diags Engineering 116:427-30, 432 O 5 '23; Power 58:530 O 2 '23
- Norwalk air compressor for small installations. il Am Mach 57:80 Jl 13 '22
- Oil-engine drive for air compressor. il Power 56:757 N 14 '22
- Oil engine hints: compression of air; care of compressors. B. Bare. Power 111 Eng 26:949-50 O 1 '22
- Peculiar design of air compressor. diags Power 56:543, 735-6, 776, 950-1 O 3, N 7-14, D 12 '22
- Pneumatic power and transmission losses. B. C. Bertram. diags Ry Mech Eng 96:591-5 O '22
- Portable air compressor can be taken to the job. W. H. Harold. il Ind Eng 80:600 D '22
- Portable compressor outfit for cleaning service. G. Wehrle. il Am Gas J 116:569-70 Je 24 '22
- Power required for air compressor. Power 111 Eng 27:1106 N 1 '23
- Refinement in design feature Pelletier air compressor for cars. il diags Automotive Ind 45:911 N 10 '21
- Removing air compressors. W. F. Zwiehel. diags Ry Mech Eng 97:340 Je '23
- Rotary air compressor; abstract. E. Loewenstein. diags Mech Eng 44:598 S '22
- Rotary air compressors. il diags Engineering 114:740-2, 744 D 15 '22; Power 57:537 Ap 3 '23; Chem Age (Lond) 8:143 F 10 '23
- Schramm portable air compressor. il Eng & Contr (R & S) 59:806 Ap 4 '23
- Self-contained portable air compressor. il diags Engineer 135:339 Ap 13 '23
- Silences suction noises of air compressors. il Power 56:54 Jl 11 '22
- Small air compressors directly driven by synchronous motors. il Power 58:458 S 18 '23
- Sullivan angle compound steam-driven air compressor. il Ry Mech Eng 96:348-50 Je '22; Iron Age 109:1806 Je 29 '22; Foundry 50:606 Jl 15 '22; Power 56:330 Ag 29 '22; Engineer 133:111-12 Ja 27 '22
- Unaflow engines for compressor drive. il diags Power 56:978-9 D 19 '22

Use of compressed air in Diesel engined ships. W. Reavell. il diags Engineering 113:173-83 F 10 '22

See also Air pumps; Airplane engines—Superchargers; Compressed air; Electro-pneumatic control

Accidents

- Death and destruction follow explosion. il Elec Ry J 59:491 Mr 18 '22
- Explosions in air compressors. J. A. Vaughan. Mech Eng 15:490-1 Ag '23

Cleaning

- Removing grease and dirt from compressor parts. Elec Ry J 61:573 Mr 31 '23

Control

- Automatic control for compressor built from cast parts. plan Elec Ry J 61:612 Ap 7 '23; J Elec 50:256-7 Ap 1 '23
- Regulation of air compressors. diags Power 54:915-21 D 13 '21

Cooling

- Compressor intercool complication. F. Richards. Power 111 Eng 26:669-70 Jl 1 '22

Lubrication

- Air-compressor lubrication. W. F. Osborne. Power 56:490 S 26 '22
- Cause of carbon in air compressors. W. F. Osborne. Power 56:533-4 O 3 '22
- Le graissage des compresseurs d'air. R. Pérot. diags Génie Civil 81:569-70 D 16 '22

Repair

- Reboring compressor cylinders. il Elec Ry J 61:334 F 21 '23

Safety devices and measures

- Preventing explosions of air-compressor receivers. W. Greenwood. Power 58:739-40 N 6 '23

Testing

- Testing air compressors. W. Reavell. diags Engineer 134:586-7 D 1 '22; Same. Engineering 114:690-1 D 1 '22; Discussion. Engineer 134:582-3 D 1 '22; Engineering 114:685-6 D 1 '22
- Testing of high speed air compressors. H. Feldbush. il diags A S R E J 8:496-504 My '22

Air conditioning

- Aerology for amateurs and others. E. V. Hill. Heat & Ven 20:35-9+ Ja; 44-7 F; 43-4 Mr; 37-40 Ap; 43-5 My; 51-4 S; 50-3 O '23 (to be cont)
- Air conditioning. J. Mackay. il diags Dom Eng 99:573-6; 100:6-9, 52-5, 144-7+, 278-80, 487-8; 101:51-4+ Je 24-Jl 8, 22, Ag 12, S 16, O 14 '22
- Air conditioning and humidifying; abstracts of patents. Chem & Met Eng 29:286 Ag 13 '23
- Air conditioning for sausage manufacturing plants. M. G. Harbula. il Am Soc Heat & V E J 28:683-92 S '22
- Air conditioning; heating and ventilating a lodge room. J. Mackay. diags Dom Eng 103:12-13 Ap 7 '23
- Air distribution in large buildings. C. L. Hubbard. diags Dom Eng 97:299-300, 394-6, 486-8, 580-1; 98:113-15 N 12, 26, D 10, 24 '21, Ja 21 '22
- Atmospheric conditions in weaving. by S. Wyatt. Review. Engineering 115:419 Ap 6 '23
- Back to first principles. R. Davies. Heat & Ven 18:41-3 O; 38-41 N; 40-1 D '21; 19:39 F '22
- Controlling air conditions in the plant. il diags Nat Safety N 7:33-6 Mr '23
- Experiments in air conditioning. P. Drinker and R. M. Thomson. J Ind Hygiene 4:63-9 Je '22
- Experiments in air conditioning of separate rooms. il Heat & Ven 19:29-31 N '22
- Heating, ventilating and humidifying. il Factory 30:758+ Je '23

Air conditioning—Continued

- Improving air conditions in a Chicago bank building. E. V. Hill. plans Heat & Ven 19: 37-41 N; 38-42 D '22
- Influence of atmospheric conditions on industrial efficiency. H. M. Vernon. Eng & Ind Management 6:749-51; 7:12-13 D 29 '21-Ja 5 '22
- Manufactured weather and personal efficiency. W. H. Carrier. Chem & Met Eng 27: 449-52 Ag 30 '22
- Moisture content of air; humidity of air used for heating and ventilation has an important bearing on the effectiveness and efficiency of the system. chart plan Power Pl Eng 26:1057-8 N 1 '22
- Moving air in paper mill work. Paper 30:7-11 Mr 29; 8-11 Ap 5; 128+ Ap 19 '22; Same. Paper Tr J 74:41-9 Mr 23 '22
- New device for gas absorption. H. E. Robertson. il diags Chem Age 30:59-60 F '22
- Notes on the efficiency of various systems of air-conditioning in a munition factory. C. E. A. Winslow and L. Greenburg. 17p U.S. Public health service, Washington '22; Abstract. Chem & Met Eng 27:847 O 25 '22
- Production economies through automatic temperature and humidity control. il diags Factory 31:461-3+ O '23
- Relation of atmospheric conditions to chemical processes. A. E. Stacey, jr. il diags Am Soc Heat & V E J 27:777-81 N '21
- Relation of temperature, humidity and circulation in air conditioning. J. Mackay. diags plan Dom Eng 101:523-7 D 23 '22
- Ventilating and air conditioning equipment presents great sales possibilities. J. Mackay. Dom Eng 98:484-7, 529-31 Mr 18-25 '22
- See also* Air drying; Air filters; Air purification; Air washers; Exhaust systems; Heating; Humidity; Smoke prevention; Tunnel air; Ventilation; also subdivision Heating and ventilation under special subjects, e.g. Churches—Heating and ventilation, Factories—Heating and ventilation, Schoolhouses—Heating and ventilation; Theaters—Heating and ventilation

Air conditions

- Determination of the comfort zone with further verification of effective temperatures within this zone. F. C. Houghten and C. P. Yagloglou. Am Soc Heat & V E J 29: 515-32; Discussion. 532-6 S '23
- Determining equal comfort lines. F. C. Houghten and C. P. Yagloglou. il chart plan Am Soc Heat & V E J 29:165-76 Mr '23
- Experimental observations upon the relation between atmospheric conditions and the production of fatigue in mine laborers. A. J. Orenstein and H. J. Ireland. bibliog il J Ind Hygiene 4:30-46, 70-91 My-Je '22; Abstract. Heat & Ven 19:31-5 Ag '22
- Further study of physiological reactions. W. J. McConnell, F. C. Houghten and F. M. Phillips. il Am Soc Heat & V E J 29:507-14 S '23
- Recent investigation on atmospheric conditions in industry. H. M. Vernon. bibliog J Ind Hygiene 4:315-24 D '22
- Reliability of the comfort-thermometer (fresh-air gauge) as an indicator for the cooling effect of air. H. I. Eadie, D. H. Ash and T. C. Angus. diags J Ind Hygiene 4:441-7 F '23

See also Air—Analysis; Air conditioning; Air pollution; Blast furnaces—Air conditions; Dust; Humidity; Tunnel air; Ventilation

Air drying

- Methods of air drying. E. C. Holden. diags Chem & Met Eng 28:801-4 My 7 '23

Air-ducts. See Air pipes**Air ejectors**

- Developments in power station design. il diags plan Engineer 133:574-8 My 26 '22
- Ejector system of air circulation for use in drying work. J. E. Bolling. diags plans Heat & Ven 18:56-7 D '21
- Surface condensing plant. il diags Engineer 134:70-2 Jl 21 '22; Discussion. 134:112, 168 Ag 4, 18 '22

Air engines

- Air motor testing device. il Ry Mech Eng 96: 722 D '22
- Pneumatic operation of doors and steps. O. A. Broten. Elec Ry J 61:568-9 Mr 31 '23
- Preheated air increases air motor output. C. R. Richards and J. N. Vedder. diags Power Pl Eng 27:835-6 Ag 15 '23
- Rotary pneumatic motor. il diags Engineer 133:478 Ap 28 '22

Testing

- Testing the efficiency of air motors. R. M. Arthur. il Ry Mech Eng 96:100-2 F '22

Air extractors. See Air pumps**Air filters**

- Developments in power station design. il diags Engineer 133:608-10 Je 2 '22
- Heenan stationary air filter delivers air free of moisture. il Power 54:921 D 13 '21
- Midwest unit air filter. il Heat & Ven 19:62 N '22; Power Pl Eng 27:297 Mr 1 '23
- New form of air filter. il Engineer 133:339-40 Mr 24 '22
- Visco air filter. il Elec R (Lond) 90:717 My 19 '22

See also Air cleaners, Automobile

Air flow

- Air flow in relation to water cooling. A. L. Clayden. il diags Automotive Ind 47:462-6 S 7 '22
- Air measurement in furnace testing. A. C. Willard, A. P. Kratz and V. S. Day. il diags plans Ill U Eng Exp Sta Bul 120:76-137 '21; Excerpt. Am Soc Heat & V E J 27:797-812 N '21
- Discharge of air through small orifices, and the entrainment of air by the issuing jet. J. S. G. Thomas. diags Philos Mag 6th ser 44:969-88, pl 6 N '22
- Experiments develop new constants in air flow measuring formulae. F. Johnstone-Taylor. diags Automotive Ind 48:1126-8 My 24 '23
- Flow of air and steam in nozzles. G. Stoney and N. Elce. Engineering 112:750-1 D 2 '21; Abstract. Mech Eng 44:119 F '22
- How to figure rectangular air duct sizes quickly. W. L. Durand. chart Am Soc Heat & V E J 28:720-1 O '22; Same. Sheet Metal Worker 13:754-5 D 8 '22
- Measurement of air flow. diags Power Pl Eng 27:15-16 Ja 1 '23
- Measurement of air flow by means of a throttle plate with special reference to the measurement of the air supply to internal combustion engines. R. O. King. Engineering 115:456-8, 481-2 Ap 13-20 '23
- Measuring low air velocities. il Sci Am 126: 127 F '22
- Orifice coefficients—data and results of tests. J. M. Spitzglass. il diags plan Mech Eng 45:342-6 Je '23; Abstract. Power 56:920 D 12 '22; Discussion. Mech Eng 45:346-8+ Je '23; Power 56:921 D 12 '22
- Orifice to discharge given quantity of compressed air. Power 55:706, 987 My 2, Je 20 '22
- Soap films as detectors of stream-lines, vortex motion and sound. J. Dewar. Engineering 115:113-14 Ja 26 '23
- Some elements of air flow in electrical machinery. C. J. Fechheimer. Elec J 19:345-8, 392-4, 471-4, 511-14; 20:73-5, 104-6, 171-6, 270-2, 305-8 Ag-S, N-D '22, F-Mr, My, Jl-Ag '23
- Standardized method of measuring fan delivery. E. N. Fales. il diags Am Soc Heat & V E J 28:1-10 Ja '22
- Stratton air-flow meter. il Power 55:387-8 Mr 7 '22
- Use of a blast meter in foundry practice. L. L. Vayda. il diags Iron Age 109:1584-6 Je 8 '22
- Use of nozzles in measuring pulsating flow. diags Chem & Met Eng 26:32-4 Ja 4 '22

See also Anemometer; Gas flow

Air gaps

- Electrical conduction across minute air-gaps. J. W. Broxon. diags Phys R 20:476-85 N '22
- Notes on the air gap of induction motors. H. Waddicor. Elec R (Lond) 93:189-90 Ag 3 '23

Air heaters

- Air preheater types and application. F. Johnstone-Taylor. diags Power Pl Eng 27:928-30 S 15 '23
- Developments in power station design. il diags Engineer 132:702-4; 133:148-50 D 30 '21; F 10 '22; Discussion. S. Utting. 133:100 Ja 27 '22
- Economizers, feed water heaters, superheaters and air preheaters for paper mill power plants. W. F. Schaphorst. il Paper Tr J 74: 36+ Mr 9 '22
- European preheater for furnace air. il diags Power 55:615-16 Ap 13 '22
- Die fortlaufende wärmetechnische ueberwachung der gasfeuerungen in hüttenbetrieben. H. Wolf. il Stahl & Eisen 41:1611-14 N 10 '21
- Homemade preheater for small castings. il diags Pop Mech 40:788 N '23
- Hot air for combustion. Engineer 133:177-8, 279 F 17, Mr 10 '22
- Howden-Ljungström air preheater. il Elec R (Lond) 93:210 Ag 10 '23
- Kritische bemerkungen über winderhitzer. O. Johannsen; Bansen. diags Stahl & Eisen 41:1898-9 D 29 '21
- Ljungström air preheater. il diags Blast F & Steel Pl 11:452-4 Ag '23; Same cond. Chem & Met Eng 29:326-7 Ag 20 '23; Same. Paper Tr J 77:43-4 N 30 '23; Excerpt. Engineering 115:800 Je 29 '23
- Ljungström air preheaters for boiler furnaces. il diags Engineering 114:24-7 Jl 7 '22; Power 56:199 Ag 8 '22; Power Pl Eng 26:855 S 1 '22; Mech Eng 44:664-5 O '22
- Pre-heating air for reverberatory furnaces. N. L. Stewart. diags Eng & Min J 113:211-12 F 4 '22
- Preheating of air for boiler furnaces. Engineering 115:807-8 Je 29 '23
- Le réchauffeur d'air Ljungström. il diags Génie Civil 83:232-4 S 8 '23
- Die speicherung von gasüberschüssen in den winderhitzern. K. Rummel. Stahl & Eisen 43:225-33 F 15 '23
- Thermix air heater. diags Elec R (Lond) 91: 843 D 1 '22
- Ueber bau und berechnung von wärmespeichern und winderhitzern. H. Preussler. diags Stahl & Eisen 42:609-15 Ap 20 '22; Discussion. 42:1591-3 O 19 '22
- Ueber den einfluss der gas- und windgeschwindigkeit auf den wärmeübergang im gitterwerk von hochofen-winderhitzern. C. Schwarz. Stahl & Eisen 42:1385-92, 1424-30, 1456-60, 1519-23; 43:882-5 S 7-21, O 5 '22, Jl 5 '23
- Utilizing flue gases to preheat air to furnace—consideration of some of the problems involved. E. R. Welles and C. T. Mitchell. Power 54:844-6 N 29 '21; Discussion. 55:355, 742 F 28, My 9 '22
- Die wärmeströmungen in den gittersteinen der winderhitzer und wärmespeicher; symposium. Stahl & Eisen 41:1693-5 N 24 '21
- Zur verbesserung der wärmewirtschaft der hüttenwerke. G. Neumann. diags Stahl & Eisen 41:1561-9 N 3 '21

Air hose**Specifications**

- Tentative specifications for air hose for use with pneumatic tools. Am Soc T M Pro 21: 784-91 '21

Air lifts

- Air-lift calculations. G. J. Young. Eng & Min J 112:861-2 N 26 '21
- Air-lift in theory and practice. A. W. Allen. Min & Sci P 123:711-12 N 19 '21
- Air lift paradox. F. Richards. Power 56:723-4 N 7 '22
- Air-lift pumping by Diesel compressor. P. M. Thayer. il diags Power Pl Eng 27:994-6 O 1 '23
- Air lift supplies cold water for tire manufacture. R. T. Stone. il Chem & Met Eng 26:606-7 Mr 29 '22
- Does the air lift push or pull the water? F. Richards. diags Power 57:177-8 Ja 30 '23
- Economical air lift installation. L. Jenkins. diags Power Pl Eng 27:847 Ag 15 '23

- Experiments on air lift pumping. J. S. Owens. diags Engineering 112:458-61 S 23 '21; Abstracts. Engineer 132:312-13 S 23 '21; Eng & Ind Management 6:504-5 N 3 '21; Can Eng 42:256-7 F 21 '22; Discussion. Engineering 112:430 S 23 '21; Eng & Ind Management 6:505-6 N 3 '21
- Paradox of the air lift in action. F. Richards. il diags Power 57:591-3 Ap 17 '23
- Piping systems for air-lift pumps. Power 56: 509, 776 S 26, N 14 '22
- Pneumatic pumping up to date. J. Oliphant. Munic Eng 63:65-7 Ag '22
- Tailing air lift of the Chino copper co. H. G. S. Anderson. il diags plan Eng & Min J 112:806-11 N 19 '21
- Use of the air lift. E. Cunningham. il diags Dom Eng 101:371-4 D 2 '22

Air mail pilots of America

- Organization for the benefit of the air mail and the advancement of aviation. Aviation 13:325 S 11 '22

Air mail service. See Postal service, Aerial**Air measurement**

- Measurement of air. Min & Sci P 124:251-2, 395 F 25, Mr 25 '22

See also Air flow

Air motors. See Air engines

- Air navigation, International commission for. See International commission for air navigation

Air pipes

- Air-pressure losses in piping of activated-sludge plants. H. L. McMillan. Eng N 91: 178-80 Ag 2 '23
- Blowing out condensed water in air line. diags Eng N 89:1033 D 14 '22
- Design of air ducts. C. L. Hubbard. il Dom Eng 101:322-4 N 25 '22
- Friction factors in ventilating pipe. W. S. Weeks, W. P. Goss and G. H. Warren. diags Eng & Min J 113:1001-2 Je 10 '22
- How to figure rectangular air duct sizes quickly. W. L. Durand. chart Am Soc Heat & V E J 28:720-1 O '22; Same. Sheet Metal Worker 13:754-5 D 8 '22
- Methods of supporting and erecting ducts. T. W. Reynolds. diags Heat & Ven 20:46-7 Mr '23
- Proportioning rectangular air ducts. G. A. Voorhees. Sheet Metal Worker 13:48-9 F 17 '22
- Short cuts in estimating the weights of sheet metal ducts. F. L. Moesel. charts Heat & Ven 20:14-9 Je '23; Same. Sheet Metal Worker 14:396-400+ Je 22 '23
- Speedy, safe and economical entry driving attained by use of self-acting pipes. F. C. Cornet. diags Coal Age 22:91-2 Jl 20 '22
- Tables for ventilating ducts. Heat & Ven 20: 74-5 Mr; 72-5 Ap; 70 My '23

Air pipes, Concrete

- Leaking air ducts. H. F. Hagen. Am Arch 121:532 Je 21 '22

Air pollution

- Air pollution in towns of the United Kingdom. J. B. C. Kershaw. Engineer 136:128-9 Ag 3 '23
- Atmospheric pollution. Engineering 116:242 Ag 24 '23
- Atmospheric pollution. J. B. C. Kershaw. Engineer 134:2-3 Jl 7 '22
- Atmospheric pollution and fog prevention; abstracts. Engineer 135:561 My 25 '23; Gas J (Lond) 162:496-7 My 23 '23
- Atmospheric pollution by industrial wastes. R. E. Swain. Ind & Eng Chem 15:296-301 Mr '23
- Atmospheric pollution from sulphuric acid plant fumes. J. R. Withrow. Chem & Met Eng 26:972-6 My 24 '22
- Gas fuel reduces air impurities. C. H. S. Tupholme. Gas Age 50:401-4 S 30 '22
- Microbes and weather. Sci Am 128:169 Mr '23
- La sulfatation spontanée des pierres calcaires dans les centres urbains. Florentin. Génie Civil 81:496-7 N 25 '22

Air pollution—Continued

Sulphuric acid plant fume problem. F. C. Vilbrandt and J. R. Withrow. *Am Inst Chem Eng Trans* v 13 pt 2:43-55; Discussion. 56-63 '20-'21

See also Dust; Mine air; Smelter fumes; Sulfur dioxide; Ventilation

Air ports

Air ports in the United States and possessions. *diags Aviation* 14:68-72, 98-103 *Ja* 15-'22 '23

Air traffic control at Croydon airport. *il Aviation* 12:203 *F* 13 '22

Boston airport. R. C. Moffat. *il map Boston Soc C E J* 9:303-8 *D* '22

Boston airport definitely assured. *Aviation* 12:629-30; 13:258 *My* 29, *Ag* 28 '22

Boston to have airport. *Aviation* 12:260 *F* 27 '22

Canadian airport information. *Aviation* 14:43 *Ja* 8 '23

Kansas city airport. *Aviation* 13:226; 15:18 *Ag* 21 '22, *Jl* 2 '23

Landing field in Canada. *Aerial Age* 14:371-3 *L* *D* 26 '21

North Carolina, South Carolina and Florida seaplane stations. *Aerial Age* 14:389 *Ja* 2 '22

Official inauguration of Boston airport. *Aviation* 15:335-6 *S* 17 '23

Organization of airports. *il Aviation* 12:660-2 *Je* 5 '22

Port Newark as aerial terminal. *Aerial Age* 14:447 *Ja* 16 '22

See also Air routes

Air ports, Municipal

Inauguration of Hudson airport. *Aviation* 12:592 *My* 22 '22

Air pressure. See Air resistance**Air pumps**

Balky air pump. J. U. Morris. *diags Power Pl Eng* 26:1015-16 *O* 15 '22

C. M. and M.-Delas air extractor. *il diag Electrician* 88:718-19 *Je* 16 '22

Canadian National air pump without arrangement. *diags Ry Mech Eng* 97:768 *N* '23

Delas air extractors. *il Elec R (Lond)* 90:588 *Ap* 28 '22

Developments in power station design. *il diags Engineer* 133:529-32, 683-5 *My* 12, *Je* 23 '22

Muffler for air-pump exhaust. R. H. Poston. *diag Eng & Min J* 116:335 *Ag* 25 '23

Permissible air pump clearance. *Power* 54:863; 55:154-5 *N* 29 '21, *Ja* 24 '22

Rate of exhaustion of a closed tank by a reciprocating air pump. E. Buckingham. *U S Bur Stand Tech Pa* 224:109-16 '23

Wheeler steam jet air pumps at Union street railway plant. *il diag Power Pl Eng* 26:904 *S* 15 '22

See also Air compressors; Air lifts

Air purification

Atmospheric particulate matter; dust, with a new apparatus for its determination. P. Drinker, R. M. Thomson and S. M. Fitchet. *J Ind Hygiene* 5:19-35, 62-78 *Mr-Je* '23

Improvements in the process for drying and cleaning air mechanically. W. J. Baldwin. *diag Am Soc Heat & V E J* 28:19-52 *Ja* '22

Making old air better than new. A. Gradenwitz. *il diag Sci Am* 129:101 *Ag* '23

Ozone as an aid to ventilation. M. Kimberly. *il charts plan Sanitary & Heat Eng* 99:179-82+ *Mr* 23 '23

See also Air conditioning; Air filters; Air washers; Air washing; Ozone; Ventilation

Air receivers

Air receiver explosions. *il Locomotive* 34:80-3 *Jl* '22

Disastrous air-tank explosion. *il Power* 55:480 *Mr* 21 '22; Discussion. 55:703, 742-3 *My* 2-9 '22

Air resistance

Automobile air resistance measured in wind tunnel. *il Automotive Ind* 47:1137 *D* 7 '22

Mesure de la résistance de l'air sur le matériel des chemins de fer. C. Maurain, A. Toussaint and R. Pris. *Génie Civil* 83:138-9 *Ag* 11 '23

Strength and air resistance of tapered struts.

E. A. Richardson. *Aerial Age* 16:173-4 *Ap* '23

Tests of wind resistance on motor vehicles.

H. S. Carter. *Eng & Contr (R & S)* 59:555-6 *Mr* 7 '23

Air routes

Aeronautic roads—block system. *Aerial Age* 14:373-4 *D* 26 '21

Choice of air routes. E. P. Warner. *Aerial Age* 15:347+ *Je* 19 '22

Communications and beacons on air routes.

Frank. *Aerial Age* 15:177+ *My* 1 '22

Foreign air transport by seaplane. L. D'Orey. *il diags Aviation* 14:122-5 *Ja* 29 '23

How to lay out a practical air route. V. S. Miner and T. Carroll. *map Aviation* 13:349-50 *S* 18 '22

Modern air transportation. W. W. Kellett. *il Aerial Age* 16:228-9 *My* '23

Some principles governing the establishment of meteorological stations along air routes.

P. Aujames. *Aerial Age* 15:175-6 *My* 1 '22

See also Aeronautics, Commercial; Air ports

Lighting

*Artificial illumination for landing fields. C.

Stahl. *diags Aviation* 15:302-4 *S* 10 '23

Le balisage lumineux aérien. E. Marcotte.

Soc Ing Civils Bul 75:148-72 *Ap* '22

*Beacon for aviators. *il Sci Am* 129:99 *Ag* '23

*Beacons and wind indicators for night flying.

il Aviation 13:388-9 *N* 20 '22

*Developing equipment for night flying. *il Aviation* 14:578-81 *My* 28 '23

Field lighting system at Le Bourget. *Aerial Age* 16:35 *Ja* '23

Flaming beacons to guide flight of air mail. *il Pop Mech* 40:447 *S* '23

Guiding the air liner into port. E. J. Lovett. *il Pop Mech* 37:670-3 *My* '22

Improved equipment for night flying. *il Aviation* 14:130-1 *Ja* 29 '23

Lighthouse developed for night flying. *Aerial Age* 15:538-9 *N* '22

*Lighting the air mail path. *Elec W* 82:303 *Ag* 11 '23

Phare électrique très puissant pour la navigation aérienne. C. Dantin. *il plan Génie Civil* 79:553-5, pl 7 *D* 24 '21; Abstract. *Elec W* 79:342 *F* 18 '22

Use of light as an aid to aerial navigation. L. F. Blandy. *il diags Illum Engr* 15:42-58; Discussion. 58-63 *F* '22

Europe

Cross Channel traffic during the three months April-June. *Aerial Age* 15:513 *O* '22

European air travel in 1922. E. P. Warner. *map Aerial Age* 15:444-5 *S* '22

Italian air routes. *Aviation* 14:103 *Ja* 22 '23

London-Berlin airway service proposed; first German civil airplane lands in England. *il Aviation* 14:105 *Ja* 22 '23

Germany

German air lines. *map Aviation* 15:50 *Jl* 9 '23

United States

Air service develops airway program. *Aviation* 13:127 *Jl* 31 '22

America's first model airway. S. R. Winters. *Sci Am* 125A:89 *D* '21

Cleveland-Detroit airway inaugurated. *il Aviation* 13:94-5 *Jl* 24 '22

Des Moines-Chicago airway. *Aviation* 12:694 *Je* 12 '22

Detroit-Cleveland airway a success. *Aviation* 13:185 *Ag* 14 '22

Jersey road to Philadelphia, Washington and the South. *Aerial Age* 14:269 *N* 28 '21

New England net-work of air lines contemplated. *map Aerial Age* 16:315-16 *Jl* '23

New York to Newport air line assured. *Aviation* 14:370 *Ap* 2 '23

Organizing the national airway system; what the airways section of the Army air service is doing. *il map Aviation* 15:41-3 *Jl* 9 '23

Plan fast airship service New York to Chicago. *Pop Mech* 39:688 *My* '23

Proposed airways systems of the United States; map. *Aviation* 13:493 *O* 16 '22

Air routes, Transatlantic

Airship line from Sevilla to Buenos Aires. Aerial Age 15:607-8 D '22
Commercial ocean transit by airplane; proposed service between New York and Europe with seadromes 400 miles apart. E. R. Armstrong. chart diags Aviation 14:602-6 Je 4 '23
Lighted airway over Atlantic is predicted. il Pop Mech 40:854-5 D '23

Air screws. See Airplane propellers**Air separators**

See Pulverizers

Air service (United States). See United States—Air service**Air service mechanics school**

Activities of the trade test department at Chanute field. Aerial Age 15:327 Je 12 '22

Air shafts

How to find economical size for airshaft. M. H. Hall. Coal Age 22:361-2 S 7 '22
Reducing resistance to flow of air in fan shaft. Coal Age 24:561 O 11 '23

Air speed indicators

Air-speed indicators. F. L. Hunt. il diags U S Nat Advisory Com for Aeronautics 1921:563-81 '23

Dugit altimeter and air speed indicator. J. H. Blakely. diags Aviation 12:371-2 Mr 27 '22

Manometer for recording air speed. C. Wieselberger. Aerial Age 15:131-2 Ap 17 '22
N.A.C.A. kymograph. diag Aviation 15:212 Ag 20 '23

N.A.C.A. recording air speed meter. F. H. Norton. diags Aerial Age 14:151+ O 24 '21; Same. Aviation 11:623 N 28 '21

New N.A.C.A. air speed meter. il diags Aerial Age 16:323-4 Jl '23

Testing

Testing of air-speed meters. H. O. Stearns. il U S Nat Advisory Com for Aeronautics 1921:582-90 '23

Air-steam mixtures

Study of air-steam mixtures. L. A. Wilson and C. R. Richards. il charts Ill U Eng Exp Sta Bul 131:1-96 '22; Abstract. Power 56: 548-9 N 28 '22; Excerpts. Engineer 134: 662-4, 684-5 D 22-23 '22; Excerpts. Power Pl Eng 27:368-71 Ap 1 '23

Air tanks**Failures**

Double air-tank explosion. A. J. Lamie. il diag Power 57:1029-30 Je 26 '23; Discussion. 58:305-6 Ag 21 '23

Air washers

Adventures of a breath of air in a modern heating and ventilating installation. D. Darrin. diag Heat & Ven 18:52-3 D '21

Air conditioning. J. Mackay. diags Dom Eng 100:144-7+, 487-8; 101:51-4+ Jl 22, S 16, O 14 '22

Fuel economy from recirculation with air washers at the Springfield Y. M. C. A. college. N. A. Hollister. diag plan Am Soc Heat & V E J 28:279-88 Ap '22

See also Air cleaners, Automobile; Air filters

Testing

Standard method of testing dust removal efficiencies of air washers; with a new method of making air dust determinations. O. W. Armspach, M. Ingels and F. F. Anderson. diags plan Am Soc Heat & V E J 28:533-41; Discussion. 54:1-4 Jl '22

Air washing

Using air from separator again. diags Sheet Metal Worker 12:857-8; 13:139-41 Ja 6, Mr 31 '22

Washing London fog out of the atmosphere of a motion picture studio. C. H. Bell. il Sci Am 126:255 Ap '22

Aircraft

Aircraft steels and material. R. K. Bagnall-Wild and others. 209p Constable & co., London '22

See also Airplanes; Airships; Aviettes; Balloons; Flying boats; Gliders; Helicopters; Hydrogliders; Hydroplanes; Seaplanes; Torpedoplanes

Ground speed

Principles of ground-speed measurement. F. L. Hunt. U S Nat Advisory Com for Aeronautics 1921:591-4 '23

Lighting

Use of light as an aid to aerial navigation. L. F. Blandy. il diags Illum Engr 15:42-53; Discussion. 58-63 F '22

Marking

List of civil aircraft markings. Aviation 14: 369 Ap 2 '23

See also Airplanes—Marking

Model testing

Model aircraft. R. A. Fraser. il diag Roy Aeronautical Soc J 27:105-13 Mr '23

Registration

Certificates of airworthiness for civil aircraft; Underwriters' laboratories appoint resident aviation engineers in 32 cities for the inspection of aircraft. Aviation 12:624-5 My 29 '22

Italian aircraft register. il Aviation 12:375 Mr 27 '22

Underwriters' laboratories issue first list of American pilot and aircraft registrations. il Aviation 12:160-1 F 6 '22; Aerial Age 15: 53 Mr 27 '22

Aircraft carriers. See Airplane carriers

Aircraft industry

See also Airplane industry and trade

Laws and regulations

Manufacturers oppose Hull bill. Aviation 13: 784 D 11 '22

France

Glimpses of the French aircraft industry. il Aviation 14:664-5 Je 18 '23

Germany

Limitations of German aircraft. Aviation 12: 724 Je 19 '22

Great Britain

Problems of the British aircraft industry. C. G. Grey. Aviation 14:528-9 My 14 '23

See also Airplane industry and trade—Great Britain

United States

Official aircraft census for 1921. Aviation 15: 573 N 5 '23

Survey of the aircraft industry; U.S. tariff commission issues questionnaire. Aviation 14:134 Ja 29 '23

See also Airplane industry and trade—United States

Aircraft insurance. See Insurance, Aircraft

Airplane carriers

Aeroplane carriers an issue at Limitations conference. Aerial Age 14:291-2 D 5 '21

Air service plans flying aircraft carriers. Aviation 12:392 Ap 3 '22

Airplane carrier Langley. il Aerial Age 15: 582-3 D '22

Airplane-carrier Langley. il Sci Am 129:42 Jl '23

Are huge aircraft carriers worth while? H. C. Bywater. Sci Am 128:164 Mr '23; Same. Aviation 14:295 Mr 12 '23

Arresting gear for naval aircraft carriers. il Aviation 12:201-2 F 13 '22

Battle cruiser-airplane carriers. Aviation 12: 338 Mr 20 '22

Battle cruisers as aircraft carriers. Aviation 12:290 Mr 6 '22

Fleet aviation. E. Denby. il Aerial Age 16: 107-9 Mr '23

Largest cruising airdrome; airplane carrier Lexington. il Sci Am 127:373 D '22

Legislation to convert battleships to airplane carriers. Am Mach 56:612c Ap 20 '22

Ocean travel by combined steamship and airplane. il Sci Am 129:5, 16 Jl '23

Powerful airplane carriers building for U.S. navy. il Marine Eng 28:29-30 Ja '23

Airplane carriers—Continued

- Proposed aircraft carrying mail steamer. E. D'Eyncourt and J. H. Narbeth. diags Engineering 115:359-63 Mr 23 '23; Same cond. Engineer 135:323-5 Mr 23 '23; Discussion. Engineering 115:372 Mr 23 '23; Engineer 135:310 Mr 23 '23
- Rebuild cruisers as airplane carriers. il Marine R 53:6-7 Ja '23
- United States aircraft carrier Langley. il diags Engineering 116:342-3 S 14 '23
- U.S.S. Langley commissioned as airplane carrier. Aerial Age 15:124 Ap 17 '22
- U.S.S. Wright—our first balloon-and-airplane carrier. il Sci Am 126:267 Ap '22
- Uses of airplane carriers. Aviation 12:481 Ap 24 '22

Airplane engines

- Aeromarine model U873 engine. E. A. Ryder. il Aviation 13:499-501 O 16 '22
- Aeronautical engines at the Paris exposition. il Aviation 14:132-3 Ja 29 '23
- Air-cooled engine development. C. L. Lawrence. diags plan Soc Auto Eng J 10:135-41+ F '22; Discussion. 10:78, 405-13 F, My '22
- Aircraft engine experience as a basis for automobile engine development. H. Dechamps. Automotive Ind 46:611-13 Mr 16 '22
- Airplane engine. L. S. Marks. 454p McGraw-Hill '22
- Airplane engine encyclopedia. G. D. Angle. 547p Otterbein press, Dayton, O. '21
- Airplane sky-rocket not so good. Aerial Age 16:317-18 J1 '23
- Are German aircraft engines more efficient? Aerial Age 15:609 D '22
- Bristol Cherub flat twin aero engine. il Aerial Age 16:176+ Ap '23; Same. Aviation 14:321 Mr 19 '23; Same. Engineer 135:270 Mr 9 '23
- Bristol Lucifer engine. il Aviation 13:226 Ag 21 '22
- Commercializing the airplane engine. A. L. Fullerton. Aviation 13:12 J1 3 '22
- Curtiss model CD-12 400 h.p. aeronautical engine. il diags Aerial Age 14:273-6 N 23 '21
- Curtiss model D12 aeronautical engine. A. Nutt. il Aviation 13:496-8 O 16 '22; Same abr. Aerial Age 15:542-5 N '22
- Development work on aircraft engines. G. E. A. Hallett. il Automobile Eng 13:178-82 Je '23
- Discussion of airplane engines at International air congress. Engineer 136:6-7 J1 6 '23; Engineering 116:6-7 J1 6 '23
- Engine installation. R. K. Bagnall-Wild. Aeronautical J 26:121-9 Ap '22; Discussion. 26:130-6, 255 Ap, Je '22
- VII^e exposition internationale de locomotion aérienne (Paris, 12-27 novembre 1921). A. Lesage. il diags Génie Civil 79:510-15 D 10 '21
- VIII^e exposition internationale de locomotion aérienne. (Paris, 15 décembre 1922-2 janvier 1923). A. Lesage. il diags Génie Civil 81:610-18 D 30 '22
- Farman designs 12-cylinder engine for aviation service. il Automotive Ind 49:157 J1 26 '23
- Flexible mounting of airplane engines; rigid mounting to be preferred to flexible suspension. K. Kutzbach. il Aviation 15:188-9 Ag 13 '23
- Improved army-Liberty engine. Aviation 13:663 N 13 '22
- Improved Liberty engine. il Aviation 13:227 Ag 21 '22; Same. Aerial Age 15:455 S '22
- Improvements in aircraft power plants. R. J. Dolph. Aviation 12:345-6 Mr 20 '22
- Is the Liberty engine obsolescent? Aerial Age 16:174-5 Ap '23
- Italian airplane engine of Diesel type. il Pop Mech 37:344 Mr '22
- Lawrence model J1 aircooled engine. il chart Aviation 13:494-5+ O 16 '22
- Light airplane engine has no crankcase. il Pop Mech 39:496 Ap '23
- Light high-power engine of British design. il Pop Mech 37:541 Ap '22

- Mortier-Wattel aircraft engine undergoing French government tests. diags Automotive Ind 49:129 J1 19 '23
- Napier cub engine. il Aviation 12:634 My 29 '22
- New B. M. W. engines. il Aerial Age 15:467 S '22
- New German aeronautical engine; Siemens-Halske 50-60 hp. air-cooled radial engine. E. Hildesheim. il Aviation 12:693 Je 12 '22; Aerial Age 15:421, 563+ Ag, N '22
- New Wright engines for naval aviation. il Aviation 13:124-5 J1 31 '22; Same abr. Aerial Age 15:447-8 S '22
- Packard model 2025 engine. il Aviation 13:503 O 16 '22
- Recent aircraft engine development; administrative report of the N. A. C. A. Aviation 14:104 Ja 22 '23
- Recent aircraft engine developments. C. F. Taylor. il diags Soc Auto Eng J 10:204-6 Mr '22
- Recent developments in aircraft engines in the navy. B. G. Leighton. il diags Soc Auto Eng J 12:325-34 Ap '23; Same. Aerial Age 16:220-6 My '23
- Report of the committee on power plants for aircraft. U. S. Nat Advisory Com for Aeronautics 1921:37-43 '23
- Revolver-type engine. diags Mech Eng 45:659 N '23
- Rogers B4 air cooled engine. il Aviation 14:129 Ja 29 '23
- Rolls-Royce Eagle IX aero engine. il Engineering 115:212-14, pl 15 F 16 '23; Aerial Age 16:63 F '23; Aviation 14:347 Mr 26 '23
- Self-cooling aero engines with complete expansion. il Pop Mech 39:91 Ja '23
- Special light weight aero engine. A. E. L. Charlton. Aeronautical J 26:137-48 Ap '22
- Standard engines of the air service. T. H. Bane. Aviation 12:480 Ap 24 '22
- Statax three-cylinder rotary engine. Aviation 14:244 F 26 '23; Same. Mech Eng 45:251 Ap '23
- Supercompression aircraft engine. Automobile Eng 13:206-7 J1 '23
- Trebert—sixteen cylinder air-cooled rotary aircraft engine. il Automotive Ind 46:222 F 2 '22
- U.S. Liberty 4 engine. Aerial Age 14:365 D 26 '21
- With the men who fly; recent achievements in practical aviation. A. Klemin. il Sci Am 129:226-7+ O '23
- Wright aeronautical engines. C. G. Peterson. Aerial Age 14:537 F 13 '22
- Wright aircraft engines. J. R. Cautley, ed. 78p Wright aeronautical corp., Paterson, N.J. '21
- Wright model T3 aviation engine. il Aviation 15:409 O 1 '23
- See also Airship engines

Air injection

- Comparative effect on engine operation in flight of outside and inside air intakes. diags Aerial Age 14:397-8 Ja 2 '22

Bearings

- Machining half bearings for airplane motors. W. L. Adams. il diags Am Mach 58:335-6 Mr 1 '23

Cooling

- Aeronautical fuel, lubricating, and cooling systems. J. F. Hardecker. diags Aerial Age 16:60-2+ F '23
- Cooling system test of Le Pere P-70 equipped with side radiators. il Aerial Age 15:343-4+ Je 19 '22
- Recent developments in aircraft engines in the navy. B. G. Leighton. il diags Soc Auto Eng J 12:332-4 Ap '23; Same. Aerial Age 16:224-6 My '23
- Some aspects of air-cooled cylinder design and development. S. D. Heron. il diags plans Soc Auto Eng J 10:231-60 Ap '22; Discussion. 11:363-7 O '22
- Water- and air-cooled engines. diags Automobile Eng 12:276 S '22
- See also Airplane engines—Radiators

Airplane engines—Continued**Design**

- Aircraft-engine practice as applied to air-cooled passenger-car engines. S. D. Heron. *il diags Soc Auto Eng J* 12:31-56 Ja '23; Discussion. 13:16-22+ *Jl* '23
- Analytical study of crank-pin bearing design and lubrication. G. D. Angle. *diags Automotive Ind* 48:520-3, 571-4, 623-6 Mr 1-15 '23
- Development of an American pursuit engine; from the American built Hispano to the Wright superfighter. *il Aviation* 11:735-8 D 26 '21
- Record-breaking Pulitzer racers show advance in plane design. A. Black. *il Automotive Ind* 47:755-9 O 19 '22
- Requirements of aeroplane engine design. *Aerial Age* 14:329, 377 D 12, 26 '21
- Some aspects of air-cooled cylinder design and development. S. D. Heron. *il diags plans Soc Auto Eng J* 10:231-60 Ap '22; Discussion. 11:363-7 O '22
- Specialty designed engines required for commercial airplanes. A. Black. *il Automotive Ind* 48:1014-17 My 10 '23
- Table showing clearances above top ring on pistons of European airplane engines. *Am Mach* 59:667 N 1 '23
- Wright-Navy twelve reflects progress in aircraft engine design. H. Chase. *il diags Automotive Ind* 47:57-61 *Jl* 13 '22

Fuel

- Aviation spirit—past, present, and future. A. E. Dunstan and F. B. Thole. *diags Inst Pet Tech J* 9:249-59 Ag '23
- Effect of doped fuels on the fuel system. *Automotive Ind* 46:661 Mr 23 '22
- Effect of low grade gasoline on engines. W. W. Wyman. *Aviation* 11:575-6 N 14 '21
- Importance of low weight per B.H.P. and low fuel consumption per B.H.P. of the power plant for aeroplanes. A. L. Rowledge. *Aeronautical J* 26:331-3 Ag '22
- Petrols for road vehicles and aircraft. O. Thornycroft. *Inst Pet Tech J* 8:376-96 *Jl* '22
- Problem of fuel for aviation engines. Kutzbach. *diag Sibley J* 35:146-51 N '21
- Sources of heat energy other than gasoline. P. Meyer. *Aviation* 14:558-9 My 21 '23
- Testing fuels for high-compression engines. S. M. Lee and S. W. Sparrow. *diags Soc Auto Eng J* 12:11-16 Ja '23; Discussion. 358-9 Ap '23

See also Alcohol as fuel

Fuel feeding

- Aeronautical fuel, lubricating, and cooling systems. J. F. Hardecker. *diags Aerial Age* 16:60-2+ F '23
- Siphon fuel system for Liberty 12 and Wright model H engines. *il diags Aerial Age* 14:440-2 Ja 16 '22

Ignition

- Aero engine ignition. Elec R (Lond) 89:692, 835-6, 882-4 N 18, D 16, 30 '21
- Maximum cylinder pressures; the effects produced by pre-ignition in internal combustion engines. S. W. Sparrow. *il Automobile Eng* 12:21 Ja '22

See also Magneto

Lubrication

- Aeronautical fuel, lubricating, and cooling systems. J. F. Hardecker. *diags Aerial Age* 16:60-2+ F '23
- Analytical study of crank-pin bearing design and lubrication. G. D. Angle. *diags Automotive Ind* 48:571-4, 623-6 Mr 8-15 '23

Manufacture

- Development of aero-engine materials. L. Aitchison. *Engineer* 136:7 *Jl* 6 '23
- Finishing airplane engine cams. *il Mach* 30:39-40 S '23
- Machining the Wright aviation-engine. F. H. Colvin. *il diags Am Mach* 58:903-6; 59:171-3, 205-7, 235-8 Je 21, Ag 2-16 '23
- Making parts of a nine-cylinder motor. F. H. Colvin. *il Am Mach* 58:717-20 My 17 '23

- Making the Lawrance airplane engine. F. H. Colvin. *il Am Mach* 58:619-52 My 3 '23
- Manufacture of alloy steel for airplane shafts. E. Kothny. *Chem & Met Eng* 27:1020-4 N 22 '22

Mufflers

- Ad astral silencer. *Aerial Age* 14:400 Ja 2 '22
- Silencing of aircraft. *Aerial Age* 15:546-7 N '22

Performance

- Bristol performance. *Aerial Age* 15:514 O '22
- Record Packard engine performance. *Aviation* 13:259 Ag 28 '22
- Water jacket temperature and performance. I. Hourwich. *Aviation* 12:563 My 15 '22

See also Airplanes—Performance

Radiators

- Making the airplane radiator and wing in one. *il Sci Am* 128:317 My '23
- Radiators for aircraft engines. S. R. Parsons and D. R. Harper. *il diags U S Bur Stand Tech Pa* 211:247-430 '22

Repair

- Reconditioning airplane motors at Fairfield. F. H. Colvin. *il Am Mach* 58:929-32 Je 28 '23

Specifications

- American aircraft engine specifications; tabulation. *Automotive Ind* 48:460 F 22 '23
- British aircraft engine specifications; tabulation. *Automotive Ind* 48:460 F 22 '23
- Specifications of American aircraft engines, 1921-1922; tabulation. *Automotive Ind* 46:375 F 16 '22

Stability

- Stability of aero engines. J. Morris. *diags Roy Aeronautical Soc J* 27:182-217, 519-21 Ap, O '23; Discussion. B. C. Carter. 27:561-6 N '23

See also Airplane stability and stabilizers

Starting

- Starting aero engines at low temperatures. E. W. Stedman. *Aeronautical J* 26:374-5 S '22
- Starting aircraft engines at low temperatures. *Aviation* 12:505 My 1 '22

Starting devices

- Auxiliary starting engine for airplanes. *il Pop Mech* 37:364 Mr '22
- Eristol aero engine starter. *Engineering* 112:800 D 9 '21
- Bristol gas starter for multi-cylinder aircraft engines. *Automotive Ind* 46:800 Ap 13 '22
- Starting systems for large aircraft engines. A. C. Burgoine. *il diag Automobile Eng* 13:114-17 Ap '23

Superchargers

- Aero engine supercharging. *diag Engineering* 115:165-6 F 9 '23
- Functioning of supercharger in altitude flight. J. A. MacReady. *Aviation* 12:51 Ja 9 '22
- Turbo-compressors for high-speed aviation. A. Rateau. *Engineering* 114:91-4, 123-5 *Jl* 21-28 '22; Same abr. *Automobile Eng* 12:337-40 N '22; Excerpts. *Engineer* 134:476-7 N 3 '22; Discussion. *Engineering* 114:545-7 N 3 '22; *Engineer* 134:472-3, 560 N 3, 24 '22

Temperature

- Water jacket temperature and performance. I. Hourwich. *Aviation* 12:563 My 15 '22

See also Airplane engines—Cooling

Testing

- Aeromarine engine passes 300 hr. navy test. *il Aviation* 13:153-5 Ag 7 '22; *Aerial Age* 15:449-50 S '22
- British tests for aircraft engines. *Aerial Age* 14:438-9 Ja 16 '22
- Method of developing aircraft engines. G. E. A. Hallett. *il Soc Auto Eng J* 10:457-62 Je '22; Abstract. *Automotive Ind* 46:1425-6 Je 29 '22; Discussion. *Soc Auto Eng J* 11:240-4 S '22

Airplane engines—Testing—Continued

- New means for comparing maximum pressures in engine cylinders. S. W. Sparrow and S. M. Lee. *diags Automotive Ind* 47: 715 O 12 '22
- New timing disk reduces a day's work into a few minutes. *il Sci Am* 126:39 Ja '22
- Oscilloscope for testing vibrations of aero engines under working conditions. *Aerial Age* 14:476 Ja 23 '22
- Performance of Maybach 300 h.p. aircraft engine. S. W. Sparrow. *Automobile Eng* 12: 175-7 Je '22
- Rebuilt airplane motors systematically tested. *il Pop Mech* 38:920 D '22
- Story of an endurance test of a remarkably reliable engine; E-4. *il Aerial Age* 16:320-1 Jl '23
- Tests of an aero-engine. *Engineer* 132:510 N 11 '21
- Tests of the 450 hp. Bristol Jupiter engine. *il Aviation* 11:685-6 D 12 '21
- Wright E4 engine endurance test. *il Aviation* 14:475 Ap 30 '23
- Wright-Navy development work yields great increase in engine life. B. G. Leighton and R. M. Parsons. *diags Automotive Ind* 48: 928-31 Ap 26 '23

Valves

- Increase in cam tip radius effects reduction in inertia forces. G. D. Angle. *diags Automotive Ind* 48:824-7 Ap 12 '23
- Proper positioning of tappet lever lessens valve mechanism wear. G. D. Angle. *il diags Automotive Ind* 48:925-7 Ap 26 '23

Airplane fabric

- Deterioration of aeroplane fabrics. F. Wendt. *Aerial Age* 14:593 F 27 '22

Airplane forest patrol. See Forest fire patrol, Aerial**Airplane guns**

- Cannon and machine guns for use on aircraft. *il Aviation* 15:156-7+ Ag 6 '23

Airplane industry and trade

See also. Aircraft industry

Great Britain

- Taking the air in England. H: Obermeyer and A. L. Greene. *Am Mach* 57:613-16 O 19 '22

United States

- American airplane exports, 1916-1922; tabulation. *Automotive Ind* 48:480 F 22 '23
- American airplane market. E. W. Fuller. *Aviation* 12:630-1 My 29 '22

Airplane mechanics

See Air service mechanics school

Airplane propellers

- Airscrew research in Great Britain. H. C. Watts. *Engineer* 135:684 Je 29 '23; *Engineering* 115:797 Je 29 '23
- Fan propeller and blade interference. M. A. S. Riach. *diags Aeronautical J* 26:63-80 F '22
- Heath universal propeller. *Aerial Age* 14:462 Ja 23 '22
- Helicopter and the variable pitch propeller. *il diag Mech Eng* 44:575-8 S '22
- Hornespeed propeller. *il Aviation* 12:546 My 8 '22
- Mutual influence of wings and propellers. L. Prandtl. *diags Aerial Age* 14:588-90 F 27 '22
- New air propeller designed after duck-hawk wing. *il Pop Mech* 39:193 F '23
- Paragon adjustable and reversible propeller. *il diags Aerial Age* 15:587-9 D '22; *Aviation* 14:19 Ja 1 '23
- Prediction of propeller characteristics from the blade element analysis. W. H. Miller. *Aerial Age* 15:500-2, 590-2+ O, D '22
- Propeller design. M. M. Munk. *Aerial Age* 15: 178-9, 225-6, 274-5, 298-9 My 1, 15, 29-Je 5 '22
- Propulsion efficiency vs. performance. R. G. Miller and F. E. Seiler, jr. *il Aviation* 12: 716-19 Je 19 '22; *Discussion*. 13:45, 160 Jl 10, Ag 7 '22
- Question of tandem propellers. A. Lapresle. *il Aviation* 11:679-80 D 12 '21

- Reed one-piece solid metal semi-flexible propeller; air reactions to objects moving at rates above the velocity of sound with application to the air propeller. S. A. Reed. *il Aerial Age* 16:182-5 Ap '23
- Review of airscrew theories. A. R. Low. *diags Aeronautical J* 27:38-59 F '23; *Abstract. Engineering* 114:593 N 10 '22; *Discussion. Aeronautical J* 27:60-72 F '23; *Engineering* 114:739 D 15 '22
- Stresses in airscrews due to varying engine torque. J. Case. *Aeronautical J* 26:321-4 Ag '22
- Theory of the screw propeller. A. Betz. *Aerial Age* 15:105-6 Ap 10 '22
- Universal propeller. D. L. Bacon. *diags Aerial Age* 15:152-3 Ap 24 '22
- Universal propellers may mean new speed and distance records. *Aerial Age* 16:317 Jl '23

Testing

- Tests on air propellers in yaw. W. F. Durand and E. P. Lesley. U S Nat Advisory Com for Aeronautics 1921:91-127 '23

Vibration

- Vibration of airscrew blades. J. Morris. *diags Aeronautical J* 26:472-5 D '22

Airplane races

- Airplane racing and what it means; the immediate lessons to be drawn from the Pulitzer race at Omaha. H. Mingos. *il Sci Am* 126:101 F '22
- Contest committee report of the Pulitzer and Larsen trophy races, Omaha, Neb., Nov., 1921. *Aerial Age* 14:317 D 12 '21
- Curtiss marine flying trophy race. L. d'Orcy. *il Aviation* 13:490-2 O 16 '22
- Detroit aerial water derby; regulations governing Curtiss marine flying trophy, class and invitation events to be held September 1922. *Aviation* 11:743-4 D 26 '21
- Detroit race impressions. *il Aviation* 13:550-3, 556-8 O 23 '22
- Deutsch de la Meur the cup race. *il Aviation* 13:630-1 N 6 '22
- Grand prize of Paris; Farman F90 wins French air transport competition. *Aviation* 13:780-1 D 11 '22
- Italian aeronautical competitions, 1922; regulations. *Aviation* 12:369-70 Mr 27 '22; *Same. abr. Aerial Age* 15:64 Mr 27 '22
- Lessons of the fall flying meets. W. W. Kellett. *Aviation* 12:192-4 F 13 '22
- Mid-western flying meet at Monmouth, Ill. *il Aviation* 13:38-40 Jl 10 '22
- Navy entries in the Detroit airplane races. *il Aviation* 13:346-8 S 18 '22
- Preliminary land plane races at Detroit. L. d'Orcy. *il Aviation* 13:542-4 O 23 '22
- Pulitzer race. *il Aerial Age* 14:222-4 N 14 '21
- Pulitzer trophy; a race of radiators, wires and landing gears. A. Black. *il Sci Am* 127: 384 D '22
- Record-breaking Pulitzer racers show advance in plane design. A. Black. *il Automotive Ind* 47:755-9 O 19 '22
- Regulations of the Jacques Schneider cup. *Aviation* 12:398-9 Ap 3 '22
- Rules governing the St. Louis air races. *Aviation* 14:688-9; 15:10-13 Je 25-Jl 2 '23
- Rules of the Detroit airplane races. *il map Aviation* 13:446-54 O 9 '22
- St Louis ready for international air races; entries; pilots. *Aviation* 15:392-409 O 1 '23
- Second annual aviation meet, Brainerd Field, Hartford, Conn., Nov. 10-12. *Aviation* 13: 719 N 27 '22
- Story of the St Louis air race meet. *Aviation* 15:468-89 O 15 '23
- Story of the Schneider cup seaplane race. *il map Aviation* 15:574-6 N 5 '23
- Third Pulitzer trophy race. L. d'Orcy. *il diags Aviation* 13:544-8 O 23 '22
- United States wins the Schneider cup race. *il Aviation* 15:436-7 O 8 '23
- World records established in Pulitzer race. *il Aerial Age* 15:533-6 N '22

Airplane stability and stabilizers

- Airplane stability demonstrator. *il Pop Mech* 37:328 Mr '22
- Airplane-stability tests to make flying safe. *il Pop Mech* 37:52-3 Ja '22
- Application of the gyroscope to the solution of the vertical problem on aircraft. J. G. Gray and J. Gray. *Mech Eng* 45:434-5 Jl '23
- Control in circling flight. F. H. Norton and E. T. Allen. *il diags U S Nat Advisory Com for Aeronautics* 1921:69-90 '23
- General solution of the problem of finding the true vertical for all types of marine and aerial craft; abstract with discussion. A. Russell. *Engineering* 115:774 Je 22 '23
- Inclinometers and banking indicators. W. S. Franklin and M. H. Stillman. *il diags U S Nat Advisory Com for Aeronautics* 1921:597-611 '23
- Interpretation of wind tunnel experimental data with reference to the longitudinal damping characteristics of an airplane. *Aerial Age* 16:137-9 Mr '23
- Mechanical device for illustrating aeroplane stability. F. H. Norton. *il diag Aerial Age* 16:141-2 Mr '23
- N.A.C.A. control position recorded. *il Aerial Age* 16:234 My '23
- Practical stability and controllability of airplanes. F. H. Norton. *U S Nat Advisory Com for Aeronautics* 1921:357-72 '23
- Pressure distribution over the horizontal tail surfaces of an airplane. F. H. Norton and D. L. Bacon. *il diags U S Nat Advisory Com for Aeronautics* 1921:229-356 '23
- Stability. *Aerial Age* 15:41 Mr 20 '22
- Stability calculations in the process of design. J. D. North. *Aeronautical J* 26:408-12 O '22
- Stability of aeroplanes. E. P. Warner. *Aerial Age* 15:369 Je 26 '22
- Theory and its proof. G. A. Spratt. *Aviation* 12:510-11 My 1 '22
- See also Airplane engines—Stability
- Airplane tachometers.** See Tachometers, Airplane
- Airplane tensiometer**
- Larson tensiometer. *il Aerial Age* 15:319-20 Je 12 '22
- Airplane wings**
- Aerodynamic characteristics of aerofoils. *U S Nat Advisory Com for Aeronautics* 1920:259-336; 1921:421-74 '21, '23
- Airplane research work through flight tests; wing pressures on Thomas-Morse pursuit plane measured in flight by multiple manometer. *il diags Aviation* 15:154-5 Ag 6 '23
- Airplane wing of bird-like lines. *il Sci Am* 126:341 My '22
- Choice of wing sections for aeroplanes. E. P. Warner. *Aerial Age* 14:417-20, 443-6+ Ja 9-16 '22
- Comparing aerodynamical properties of wings with special reference to aspect ratio and parasite drag. W. Klemperer and T. Bienen. *il Aviation* 15:368-70 S 24 '23
- Comparison of some modern wing profiles. M. B. Sellers. *Aviation* 15:182-3 Ag 13 '23
- Comparison of spar weights of tapered and non-tapered monoplane wings. R. E. Robillard. *Aerial Age* 14:226-7 N 14 '21
- Correction of the aerofoil characteristics for aspect ratio. B. V. Korvin-Kroukovsky. *Aerial Age* 14:343-4 D 19 '21
- Design of wing spar sections. E. P. Warner. *diag Aviation* 12:626-7 My 29 '22; *Discussion*. 13:74 Jl 17 '22
- Determination of the best wing loading for single seater pursuit aeroplanes. A. S. Niles, jr. and L. V. Kerber. *chart Aerial Age* 14:251-2 N 21 '21
- Distribution of load over wing tips and stress analysis. B. V. Korvin-Kroukovsky. *diags Aviation* 11:678 D 12 '21
- Effect of aerofoil aspect ratio on the slope of the lift curve. W. S. Diehl. *Aerial Age* 14:540-1 F 13 '22
- Effect of aspect ratio variation upon the slope of the lift curve of an aerofoil. *Aerial Age* 16:20 Ja '23

- Fallacy of the slotted wing. B. C. Boulton. *Aerial Age* 14:267+ N 28 '21; *Discussion*. W. E. Gilbert. 14:489 Ja 30 '22
- First demonstration of the Alula wing. *il Aviation* 11:662 D 5 '21
- Ground influence on aerofoils. A. E. Raymond. *Aerial Age* 14:369-70+ D 26 '21
- How to determine the best location for wing beams. R. G. Miller. *Automotive Ind* 47:672-3 O 5 '22
- Minimum induced drag of aerofoils. M. M. Munk. *U S Nat Advisory Com for Aeronautics* 1921:373-90 '23
- Mutual influence of wings and propellers. L. Prandtl. *diags Aerial Age* 14:588-90 F 27 '22
- Note on the experimental aspect of one of the assumptions of Prandtl's aerofoil theory. N. A. V. Piercy. *Roy Aeronautical Soc J* 27:501-11 O '23
- Principles of efficient aileron design; fundamental requirements for effective lateral control. W. S. Diehl. *diags Aviation* 15:217+ Ag 20 '23
- Properties of two aeromarine aerofoils. B. V. Korvin-Kroukovsky. *Aviation* 12:314-15 Mr 13 '22
- Simple chart for choosing a wing surface. A. A. Merrill. *Aviation* 15:96 Jl 23 '23
- Slotted wing. F. H. Page. *diags Engineer* 135:683-4; *Discussion*. 684 Je 29 '23
- Strength and air resistance of tapered struts. E. A. Richardson. *Aerial Age* 16:173-4 Ap '23
- Strength of airplane rib forms. D. T. Brown and R. J. Diefenbach. *Mech Eng* 44:110-11 F '22
- Successful design of light weight metal wings. *il Aviation* 14:38-41 Ja 8 '23
- Supplementary report on experimental reinforced plywood truss ribs. *Aerial Age* 14:395-6 Ja 2 '22
- Theoretical relationships for the lift and drag of an aerofoil structure. H. Glauert. *Roy Aeronautical Soc J* 27:512-18 O '23
- Theory of the slotted wing. A. Betz. *diags Aerial Age* 15:366-8 Je 26 '22
- Two-dimensional aerofoil theory. M. Glauert. *diags Roy Aeronautical Soc J* 27:348-66 Jl '23
- Variable area wings and tandem wings. H. D. Fowler. *diags Aviation* 12:77 Ja 16 '22
- Variable surface wings for variable speed airplanes. *il Sci Am* 128:243 Ap '23
- Variation of aerofoil lift and drag coefficients with changes in size and speed. W. S. Diehl. *U S Nat Advisory Com for Aeronautics* 1921:59-68 '23
- Vortex pair quickly formed by some aerofoils. N. A. V. Piercy. *Roy Aeronautical Soc J* 27:488-500 O '23
- Wragg compound aerofoil. C. A. Wragg. *Aviation* 12:401 Ap 3 '22
- See also Airplane fabric

Testing

- Aeromarine high efficiency wing curve as applied to U.S. model WM mail airplane. P. G. Zimmermann. *il Aviation* 14:12 Ja 1 '23
- Aeroplane will carry suspended wing in test. *Aerial Age* 15:151 Ap 24 '22
- Curtiss rib testing machine. *il Aviation* 15:248 Ag 27 '23
- Flight testing suspended wings. *Aviation* 12:540 My 8 '22
- Investigation on the effect of raked wing tips. F. H. Norton. *diags Aerial Age* 14:295 D 5 '21
- New method for testing aerofoils in flight. F. H. Norton. *il Aviation* 12:134-6 Ja 30 '22; *Same*. *Aerial Age* 14:516-18 F 6 '22
- Taking the error out of airplane wings. G. H. Dacy. *il Sci Am* 127:167 S '22
- Trials of Sperry high-lift wings. *il Aerial Age* 14:230 N 14 '21; *Same*. *Aviation* 11:539 N 7 '21

Vibration

- Experiments on the natural vibration of aeroplane spars. A. H. Stuart. *diags Engineering* 116:256-7 Ag 31 '23

Airplanes

- Aeronautics in 1921. il (supp) diag Engineer 133:18-21 Ja 6 '22
- Aeronautics in 1922. il (supp) diags Engineer 135:10-12 Ja 5 '23
- Aeroplanes in tropical countries. H. R. M. Brooke-Popham. map Aeronautical J 25: 563-77; Discussion. 577-80 N '21
- Airliner and its inventor, Alfred W. Lawson. C. Q. Faunce. 206p Rockcastel pub. co., Columbus, O. '21
- Airplane of French design has unusual features. il Pop Mech 37:919 Je '22
- All-metal airplanes discussed by Metropolitan section S.A.E. Automotive Ind 47:827-8 O 26 '22
- All-metal airplanes subsidized by French government. Automotive Ind 48:1236 Je 7 '23
- Analysis of airplane factors. A. F. Zahm. J Fr Inst 195:289-302 Mr '23
- L'avion Express Vimy pour les transports en commun aériens. il diags plan Génie Civil 79:564-6 D 24 '21
- L'avion métallique anglais Bolton. il diags Génie Civil 81:497-8 N 25 '22
- L'avion métallique quadrimoteur, type Henri-Paul, des établissements Schneider. il diags plan Génie Civil 81:505-10 D 2 '22
- Les avions. J. A. Lefranc. 191p Hachette, Paris '22
- Baby airplane able to fly eighty miles an hour. Pop Mech 40:354 S '23
- Bellanca CF 5-seater cabin airplane. il Aviation 13:183-5 Ag 14 '22
- Bleriot spad 45 four-engined airliner. J: J. Ide. il Aviation 13:13 JI 3 '22
- Bobtailed airplane has special wing design. il Pop Mech 39:225 F '23
- Bristol 3-seater 100 hp. touring airplane. il Aviation 14:273 Mr 5 '23; Aerial Age 16: 140-1 Mr '23
- Chamberlin-Standard H5 five-seater. il Aviation 11:861 D 12 '21
- Combine of German, Dutch and Scandinavian air lines issues technical requirements for commercial aircraft. Aviation 12:287-8 Mr 6 '22
- Commercial and military aeronautics. W: Knight. Aerial Age 15:391-2 Ag '22
- La construction métallique des avions en Allemagne; les types Dornier et Junkers. Génie Civil 83:329-30 O 6 '23
- Curtiss-Army racer—fastest vehicle ever operated. H. Chase. il diags Automotive Ind 47:924-8 N 9 '22
- Curtiss-navy racer. diags Aerial Age 14: 393 Ja 2 '22
- Curtiss-navy racer speed increased 16 miles. Aerial Age 15:538 N '22
- Curtiss navy racer which won the Pulitzer trophy. H. Chase. il Automotive Ind 45: 1015-16 N 24 '21
- Curtiss Oriole for aerial photography. il Aviation 14:154-5 F 5 '23
- Curtiss Oriole to the North pole. Aviation 12: 722 Je 19 '22
- Curtiss plane, Pulitzer race winner, embodies new design features. il diag Automotive Ind 49:742-4 O 11 '23
- Czecho-Slovak commercial airplane. diags Aviation 13:45 JI 10 '22; Same. Aerial Age 15:406-7 Ag '22
- Dayton Wright Chummy sport plane. il Aviation 14:469-71 Ap 30 '23
- Dewoitine light plane in America. Aviation 14:644 Je 11 '23
- DH-29 commercial monoplane. diags Aviation 11:631-2 N 23 '21
- Dutch passenger-carrying monoplane. P. M. Heldt. il Automotive Ind 45:1113-14 D 8 '21
- Effect of tropical climates on airplanes. Aviation 13:607 O 30 '22
- Elias & bro. put new commercial plane on market. Aerial Age 15:368 Je 26 '22
- Elias EM1 expeditionary airplane. il Aviation 12:9 Ja 2 '22
- Elias-Stupar ES1 commercial airplane. il Aviation 13:8 JI 3 '22
- Evolution of modern aviation and experimental and technical researches in aerodynamic laboratories. A. Toussaint. Aerial Age 15:270-2 My 29 '22
- VII^e exposition internationale de locomotion aérienne (Paris, 12-27 novembre, 1921). A. Lesage. il diags plans Génie Civil 79:477-85 D 3 '21
- VIII^e exposition internationale de locomotion aérienne. (Paris, 15 décembre 1922-2 janvier 1923). A. Lesage. il diags Génie Civil 81: 581-90, pl 13 D 23 '22
- Farman super-sport. il Aviation 12:695 Je 12 '22
- Flying automobile is folding-wing biplane. il Pop Mech 37:164-5 F '22
- Fokker F 5 commercial transport airplane. il Aviation 14:367-9 Ap 2 '23; Same abr. Aerial Age 16:218-19 My '23
- Fokker F 4 passenger transport airplane. diags Aviation 12:169 F 6 '22
- French-designed multiplane has strange appearance. il Pop Mech 37:384 Mr '22
- Glider or aviette. Aerial Age 16:25 Ja '23
- Gnosselius light plane. Mech Eng 45:490 Ag '23
- Handley Page twin-motored biplane. il Aerial Age 15:562 N '22
- Huff-Daland thick wing biplanes. il diags Aerial Age 14:514-15+ F 6 '22; Same, without diags. Aviation 12:161-3 F 6 '22
- Introducing the two-way airplane. J: B. Flowers. il Aviation 13:9-10 JI 3 '22; Discussion. H: W. Fish. 13:385 S 25 '22
- Irwin meteorplane. il Aviation 12:599 My 22 '22
- Laird five-passenger limousine plane. il Aviation 15:371 S 24 '23
- Latest commercial machine for economic transportation. Bellanca CF-5. Aerial Age 15:503-5, 507 O '22
- Life of some airplanes. Aviation 12:666 Je 5 '22
- Lincoln-Standard LS5 commercial airplane. il Aviation 15:242-3 Ag 27 '23
- Low powered airplanes and gliding experiments. L. d'Orcy. il Aviation 14:640-2 Je 11 '23
- Mechanical principles of the aeroplane. S. Brodetsky. 272p J. & A. Churchill, London '21
- Navy Bee-Line racer (BR1). F: H. Johnson. il Aviation 13:604-5 O 30 '22
- Navy TS and TR planes. Aerial Age 15:557-8 N '22
- Navy-Wright racing plane is built around 700-hp. engine. il Automotive Ind 49:687-9 O 4 '23
- New aircraft at the Paris aero exposition. diags Aviation 14:156-60 F 5 '23
- New Caproni giant. Aviation 13:776 D 11 '22
- Oreco touristier II makes successful trials. il Aviation 11:571-2 N 14 '21
- Oreco type F-4 five-place touristier. il diags Aerial Age 14:246-8 N 21 '21
- Passenger air liners have private cabins. il Pop Mech 40:402 S '23
- Plane for sea or sky has detachable wings. il Pop Mech 40:419 S '23
- Plane is propelled by feet in seven-yard flight. il Pop Mech 40:586 O '23
- Pressure distribution over the horizontal tail surfaces of an airplane. F. H. Norton and D. L. Bacon. il diags U S Nat Advisory Com for Aeronautics 1921:229-356 '23
- Progress of aeronautical research and experiment; abstracts. W. G. H. Salmond. Engineer 135:145-6 F 9 '23; Engineering 115: 196-7 F 16 '23; Génie Civil 82:331-2 Ap 7 '23
- Recent advances in aeronautics. G: W. Lewis. Soc Auto Eng J 12:318 Mr '23
- Recent aeronautic investigations and the airplane industry. J. S. Ames. il diags J Fr Inst 195:145-63 F '23
- Representative Japanese civil and military aircraft. il Aviation 14:163-4 F 5 '23
- Requirements for commercial aircraft. W. B. Stout. il Aviation 12:72-4 Ja 16 '22
- Revival of the monoplane. L. d'Orcy. il Sci Am 125A:111-12 D '21
- Rogers-Day 3-seater biplane. il Aviation 13: 561 O 23 '22
- Sattco six-passenger commercial airplane. il Aviation 13:808 D 18 '22
- Small French airplane has demountable wings. il Pop Mech 37:45 Ja '22
- Swanson model 3 sport plane. il Aviation 13: 837 D 25 '22

Airplanes—Continued

- Table of characteristics of the world's small airplanes. Aviation 13:834-5 D 25 '22
- Tandem triplane has noteworthy features. il Pop Mech 38:175 Ag '22
- Technical development of the aeroplane; abstracts. J. D. North. Engineer 136:5-6 JI 6 '23; Engineering 116:8-9 JI 6 '23
- Theory of the monoplane. diags U S Nat Advisory Com for Aeronautics 1921:187-96 '23
- Versatile aeroplane. Aerial Age 15:227 My 15 '22
- Verville-Sperry adopts wing type radiators. il Automotive Ind 49:631 S 27 '23
- Waco model 4. il Aerial Age 15:32-4 Mr 20 '22
- Wren light aeroplane. il diags Engineering 116:526-7, 530 O 26 '23
- Zeppelin-Dornier airplane with inclined axis. diag Mech Eng 44:832 D '22

See also Aeronautics; Aeronautics, Commercial; Aircraft; Airplane carriers; Airplane engines; Airplane stability and stabilizers; Airships; Aviation; Aviettes; Flying boats; Forest fire patrol. Aerial; Hangars; Langley flying machine; Seaplanes; Torpedo-planes

Care

- Eliminating the airline hangar; reducing investment in buildings and overhead by mooring weather-proof airplanes in the open. A. Black. il Aviation 13:221+ Ag 21 '22

Control

- Another radio controlled airplane. il Aviation 14:581 My 28 '23
- Army's man-less airplane. Aerial Age 16:73 F '23
- Control in circling flight. F. H. Norton and E. T. Allen. il diags U S Nat Advisory Com for Aeronautics 1921:69-90 '23
- Control of aeroplanes at low speeds. M. Jones. Roy Aeronautical Soc J 27:473-85; Discussion. 485-7 O '23
- Control of aeroplanes at low speeds; discussion at International air congress. R. M. Wood. Engineer 136:32-3 JI 13 '23; Engineering 116:9-10 JI 6 '23
- Le levier de commande des avions dit manche à balai et les brevets Esnault-Pelterie. A. Lainé. diags Génie Civil 82:596-9 Je 23 '23
- New type of flying control proves successful; demonstration of the Loening lateral pressure equalizer. il Aviation 14:13 Ja 1 '23; Aerial Age 16:20-1 Ja '23
- New-wireless control also lands planes. Aerial Age 14:341 D 19 '21
- Practical stability and controllability of airplanes. F. H. Norton. U S Nat Advisory Com for Aeronautics 1921:357-72 '23
- Le problème du vol des avions sans pilotes. Génie Civil 79:496-7 D 3 '21
- La télémechanique. M. Percheron. Soc Ing Civils Bul 76:778-90 Je '23

See also Airplane stability and stabilizers

Design

- Aerial express service will demand special plane designs. A. Black. il diags Automotive Ind 49:68-70 JI 12 '23
- Aerodynamical efficiency and the reduction of air transport costs. L. Breguet. Aeronautical J 26:307-13; Discussion. 313-20 Ag '22
- Airplane design and performance improvements since the armistice. C. N. Monteith. Soc Auto Eng J 11:320-2 O '22
- Combination land and sea plane of original design. il Pop Mech 36:804 D '21
- Commercial aviation success depends upon safety. J. E. Schipper. Automotive Ind 48:125-7 Ja 18 '23
- Current specifications indicate great diversity in airplane design. Automotive Ind 46:375 F 16 '22
- Design competition for transport airplane. Aviation 14:94-6 Ja 22 '23
- Design of a commercial aeroplane. G. De Havilland. Aeronautical J 26:204-11; Discussion. 211-18, 376 JI, S '22
- Design of commercial airplanes. E. P. Warner. Soc Auto Eng J 12:155-9 F '23; Discussion. 12:363-4 Ap '23

Design of metal airplanes. R. G. Miller and F. E. Seiler, Jr. il Aviation 14:210-14 F 19 '23

- Detroit race impressions. il Aviation 13:550-3, 556-8 O 23 '22
- General design of commercial aircraft. E. P. Warner. il Aviation 13:556-60 N 13 '22
- Handasyde H2 commercial monoplane. diags Aviation 13:68-9 JI 17 '22; Same. Aerial Age 15:405-6 Ag '22
- Handbook of instructions for airplane designers. 92p U.S. Air service, Washington '23
- Hochdecker and Tiefdecker. Aviation 13:63, 386 JI 17, S 25 '22
- Improved method for designing aircraft parts. R. G. Miller and F. E. Seiler, Jr. diags Aviation 12:366-7 Mr 27 '22
- Influence of design on cost of operating airplanes. A. Black. Mech Eng 44:821-5+ D '22
- International air races and the designer. B. R. Shaw. Aviation 15:282-3 S 3 '23
- Low operating cost is essential in commercial planes. A. Black. il Automotive Ind 48:1232-4 Je 7 '23
- Metal aeroplane construction. H. Junkers. il diags Roy Aeronautical Soc J 27:406-49 S '23
- Preliminary design of aircraft. Aviation 13:381-2 S 25 '22
- Present tendencies in airplane design. C. D. Hanscom. Aviation 11:597-8 N 21 '21
- Relation between aeronautic research and aircraft design. J. S. Ames. il diags Roy Aeronautical Soc J 27:381-404 Ag '23
- Safety and comfort chief essentials in passenger airplane design. A. Black. il diags Automotive Ind 48:1284-7 Je 14 '23
- Stability calculations in the process of design. J. D. North. Aeronautical J 26:408-12 O '22
- See also* Airplane propellers; Airplane tensiometer; Airplane wings; Airplanes—Shock absorbers; also McCook Field museum

Equipment and supplies

- Cockpit of modern airplane is mass of instruments and controls. diag Pop Mech 38:276 Ag '22
- Picking up burdens from an airplane. M. F. Browne. il Aviation 12:137-8 Ja 30 '22
- Specialised aircraft. W. D. Beatty. Aeronautical J 26:92-101 Mr '22; Excerpt. Aviation 12:257-8 F 27 '22; Discussion. Aeronautical J 26:101-7 Mr '22
- See also* Aeronautic instruments; Airplane engines; Airplanes—Safety devices and measures; Airplanes—Speed changing device; Compass; Oil gages; Oxygen apparatus; Radio telephone in aviation

Fuel tanks

- Boothby gas armored tank. diag Aerial Age 15:278 My 29 '22
- British safety fuel tank awards. Aerial Age 15:254-5 My 22 '22
- How to build aluminum tanks for automotive use. diags Automotive Ind 47:21-2 JI 6 '22

Inspection

- Certificates of airworthiness for civil aircraft; Underwriters' laboratories appoint resident aviation engineers in 32 cities for the inspection of aircraft. Aviation 12:624-5 My 29 '22

Landing

- Emergency landings from low altitudes. Aerial Age 16:67+ F '23
- Field radiated from two horizontal coils. G. Breit. U S Bur Stand Sci Pa 431:589-606 '22
- Ground influence on aerofoils. A. E. Raymond. Aerial Age 14:369-70+ D 26 '21
- Manœuvres of getting off and landing. R. M. Hill. il Aeronautical J 25:510-36 O '21; Same (pts 1-3). Aerial Age 14:228-30, 277-8, 300-2, 348-50 N 14, 28-D 5, 19 '21; Discussion. Aeronautical J 25:665-71 D '21
- Turntable airplane landing has 500-foot runway. Pop Mech 40:222-3 Ag '23
- See also* Airplanes—Shock absorbers; Aviation landing stations

Airplanes—Continued**Landing gear**

- Airplane landing gear dropped in flight. *il*
Pop Mech 38:695 N '22
 Magnetic brake designed to stop airplanes.
il Pop Mech 39:1-2 Ja '23
 Smith retractible chassis. *il diags Aerial Age*
 16:343+ JI '23
 Sperry drops landing gear, lands on skids. *il*
Aviation 13:285-6 S 4 '22

Launching

- Catapult and turntable for airplanes; the
 navy's device for launching airplanes into
 the wind, without changing the course of
 the ship. *il Sci Am* 126:16 Ja '22; Same.
Aerial Age 14:475 Ja 23 '22
 Manœuvres of getting off and landing. R.
 M. Hill. *il Aeronautical J* 25:510-36 O '21;
 Same (pts 1-3). *Aerial Age* 14:228-30, 277-
 8, 300-2, 348-50 N 14, 28-D 5, 19 '21; Discus-
 sion. *Aeronautical J* 25:665-71 D '21

Lighting

- L'éclairage des avions pendant la nuit, à
 l'aide d'un faisceau de projecteur électri-
 que. J. Rey. *Génie Civil* 82:607 Je 23 '23

Load

- Importance of low weight per B.H.P. and
 low fuel consumption per B.H.P. of the
 power plant for aeroplanes. A. L. Rowledge.
Aeronautical J 26:331-3 Ag '22

Manufacture

- A.C.C. opposes government factories. *Avia-
 tion* 13:281 S 4 '22
 Airplane and the amateur builder. L. D. Sey-
 mour. *il diags Aviation* 13:831-6 D 25 '22
 Case for metal construction. J. D. North.
Roy Aeronautical Soc J 27:3-17; Discussion.
 18-25 Ja '23
 Decays and discolorations in airplane woods. J.
 S. Boyce. bibliog *il U S Agric Bul* 1128:1-51
 '23
 Design of metal airplanes. R. G. Miller and
 F. E. Seiler, jr. *il Aviation* 14:210-14 F 19
 '23
 L'emploi des alliages légers en aéronautique.
Génie Civil 80:404-7 My 6 '22
 Extra-light alloys and their utilisation in
 aeronautics. A. M. Portevin and R. de
 Fleury. *Engineering* 115:796 Je 29 '23
 Getting airplane details on a manufacturing
 basis. *il Am Mach* 55:886-7 D 1 '21
 How modern racing planes are developed.
 F. H. Russell. *il diags Aviation* 15:366-7 S
 24 '23
 How the fastest aeroplane in the world was
 built. *Aerial Age* 15:537 N '22
 Metal aeroplane construction. *il diags Engi-
 neer* 134:458-60 N 3 '22
 Metal aeroplane construction. H. Junkers. *il*
diags Roy Aeronautical Soc J 27:406-49 S
 '23
 Metal construction. R. Verduzio. *Aerial Age*
 15:372-3 Je 26 '22
 Modern airplane and all-metal construction.
 W. B. Stout. *il diags Soc Auto Eng J* 11:
 495-500; Discussion. 500-4 D '22
 Rubber as applied to aircraft; abstract. J. W.
 W. Dyer. *Engineering* 114:434-5 O 6 '22
 Rubber materials in airplane construction. C.
 J. Cleary. *il diags India Rubber W* 66:801-
 2 S '22
 Steel structural parts for aircraft. H. C.
 Knerr. *il Iron Age* 112:816-20 S 27 '23

See also Airplane wings

Marking

- Nationality and registry marks for air craft.
il Pop Mech 38:358 S '22

Model testing

- Construction and testing of model aeroplanes.
 W. S. Diehl. *il Aerial Age* 14:545-6 F 13 '22;
 Same. *Aviation* 12:262-3 F 27 '22
 Co-relation of model and full scale work. M.
 Wood. *diags Aeronautical J* 26:480-97; Dis-
 cussion. 497-501 D '22

- Exponential law of variation of drift and lift
 of models of airplanes and wings at various
 velocities. G. Costanzi and M. Bernasconi.
il Aerial Age 16:325-9 JI '23
 Pendulum apparatus for aerodynamic experi-
 ments. O. T. Gnosselius. *Engineering* 114:
 777 D 22 '22

- Preliminary experiments to determine scale
 and slip-stream effects on a 1/24th size
 model of JN4H biplane. D. L. Bacon. U S
 Nat Advisory Com for Aeronautics 1921:391-
 402 '23

- Reliability of model data. R. M. Wood. En-
 gineer 136:33 JI 13 '23

Models

- Chicago's model airplane meet. *Aviation* 15:
 284 S 3 '23
 Construction and testing of model aeroplanes.
 W. S. Diehl. *il Aerial Age* 14:545-6 F 13 '22;
 Same. *Aviation* 12:262-3 F 27 '22
 Elementary aeronautics and model notes.
Aerial Age 15:329, 353, 376 Je 12-26 '22
 General design of model aeroplanes. E. C.
 Cook. *Aerial Age* 14:449, 477 Ja 16-23 '22
 How to build model airplanes. D. W. Clark.
il diags Pop Mech 38:149-52 JI '22
 Pond indoor model. *Aerial Age* 15:423 Ag '22

Mooring

- Eliminating the airline hangar; reducing in-
 vestment in buildings and overhead by
 mooring weather-proof airplanes in the
 open. A. Black. *il Aviation* 13:221+ Ag 21
 '22

Patents

- Le levier de commande des avions dit manche
 à balai et les brevets Esnault-Pelterie. A.
 Lainé. *diags Génie Civil* 82:596-9 Je 23 '23
 Millions involved in two Grant patent suits.
diags Aerial Age 16:318-20 JI '23

Performance

- Aeroplane performance calculations. H.
 Booth. 207p Dutton '21
 Airplane endurance. *Sci Am* 126:165 Mr '22
 Airplane performance formulas. E. P. Warner.
Soc Auto Eng J 10:469-74 Je '22; Abstract.
Automotive Ind 46:1423-5 Je 29 '22; Discus-
 sion. *Soc Auto Eng J* 11:248 S '22
 Influence of design on cost of operating air-
 planes. A. Black. *Mech Eng* 44:821-5+ D
 '22
 Means for improving airplane performance.
 H. D. Fowler. *diags Aviation* 11:652-5 D 5
 '21
 Propulsion efficiency vs. performance. R. G.
 Miller and F. E. Seiler, jr. *il Aviation* 12:
 716-19 Je 19 '22; Discussion. 13:45, 160 JI 10,
 Ag 7 '22
 Revised table of performances at Detroit
 meet. *Aviation* 13:631 N 6 '22
 See also Airplane engines—Performance;
 Airplanes—Speed

Radiators

- See Airplane engines—Radiators

Repair

- Repair equipment of airplane and seaplane
 stations. A. Black. *il diags Am Mach* 58:373-
 9 Mr 8 '23

Safety devices and measures

- Airplane and safety. A. J. Lynch. *il Nat*
Safety N 7:21-3 F '23
 Eliminating fires in airplanes. C. H. Butman.
Aviation 12:508 My 1 '22
 Gas armour for aircraft. F. L. M. Boothby.
Aeronautical J 26:413-16 O '22
 New safety devices for aeroplanes. *Aerial*
Age 15:420-1 Ag '22
 Parachutes and life packs. F. Smith. *il Avi-
 ation* 11:682 D 12 '21

See also Airplanes—Fuel tanks

Shock absorbers

- Designing landing gear shock absorbers. O.
 E. Ross. *Aviation* 13:215-18 Ag 21 '22
 Energy absorbing capacity of vulcanized rub-
 ber. H. P. Gurney and C. H. Tavenor. *J*
Ind & Eng Chem 14:134-9 F '22

Airplanes—Continued**Specifications**

American and foreign airplane specifications: tabulation. *Automotive Ind* 48:454-9 F '22 '23
 Specifications of American and foreign airplanes, 1921-1922; tabulation. *Automotive Ind* 46:376-9 F '16 '22

Speed

Proper thought adds forty miles to speed. *il Aerial Age* 16:271 Je '23
 Timing of airplane races. B. R. Shaw. *il diag Aerial Age* 16:171-2 Ap '23
 Timing of airplane speeds. E: P. Warner. *Aviation* 14:16-17 Ja 1 '23
See also Airplane races

Speed changing device

American airplane with change speed device. *Aerial Age* 15:547-8 N '22

Standards

Aeronautical standardization. *Aviation* 12:564-6, 596-8; 14:269-70 My 15-22 '22, Mr 5 '23

Storage

Notes on the storage of aircraft. P. V. Hoare. *il Aeronautical J* 26:231-54 Je; 219-42 Jl '22

Testing

Aerodynamical report and tests on the Eggleston air-cell giant biplane. *il Aerial Age* 14:323-4+ D 12 '21
 Ceiling test of new Longren. *Aviation* 12:457 Ap 17 '22
 Dummy aircraft observer. *il Sci Am* 129:111 Ag '23
 Les essais en vol des avions nouveaux au service technique de l'aéronautique. A. Lesage. *il diags plans Génie Civil* 81:53-9, 83-7 Jl 15-22 '22
 Light aeroplane trials at Lypmne. *Engineering* 116:502-3 O 19 '23
 Naval airplanes tested at Detroit air meet. *il Pop Mech* 39:23 Ja '23
 Performance test of Spad 13 equipped with 220 h.p. Wright engine. *il Aerial Age* 14:344-5 D 19 '21
 Performance testing of aircraft. T. M. Barlow. *il diags Aeronautical J* 26:152-76 My '22
 Prices for wind tunnel tests at the Massachusetts institute of technology. *Aerial Age* 14:463 Ja 23 '22
 Testing aircraft to destruction. W: D. Douglas. *il diags Aeronautical J* 26:195-222; Discussion. 222-30 Je '22
 Testing of aircraft structures and components. W: D. Douglas. *Engineer* 136:33-4 Jl 13 '23
 Tests of Navy Curtiss racer. *Aviation* 15:372 S 24 '23
See also Aerodynamic laboratories; Airplane engines—Testing; Airplane wings—Testing; Airplanes—Model testing; Wind tunnels

Turn indicators

Turn indicators. R. C. Sylvander and E. W. Rounds. *il U S Nat Advisory Com for Aeronautics* 1921:646-63 '23

Weight

Construction weights of foreign civil airplanes. *Aviation* 14:265 Mr 5 '23
 Estimation of weight of aeroplane parts. E: P. Warner. *Roy Aeronautical Soc J* 27:26-34 Ja '23

Airplanes, Mail

Aeromarine night mail plane. *il Aviation* 15:274-5 S 3 '23
 Curtiss night mail plane. *il Aviation* 15:272-3 S 3 '23
 Glenn L. Martin night mail plane. *il Aviation* 15:270-1 S 3 '23
 New air mail ship—type DHM-2. *Aerial Age* 14:513 F 6 '22
 New mail plane shows increased efficiency. *il Aviation* 13:560 O 23 '22

Airplanes, Military

Aircraft development since the armistice. *Aviation* 15:6-9 Jl 2 '23

Airplanes in the public consciousness. C. H. Claudy. *il Sci Am* 128:32+ Ja '23
 Ambulance aeroplane. *Aerial Age* 14:595 F 27 '22; Same. *Aviation* 12:290 Mr 6 '22
 Anti-infantry airplane carries 30 guns. *il Pop Mech* 36:817 D '21
 Army and navy entries in the Pulitzer trophy race. *il Aviation* 15:400-3 O 1 '23
 Avro Aldershot bomber. *il Aviation* 14:275 Mr 5 '23
 Barling bomber is ready for trial flights. *il Aviation* 15:38-40 Jl 9 '23
 Boulton & Paul Bolton metal bomber. *il Aviation* 13:809 D 18 '22
 Britain builds monster bombing airplane. *il Pop Mech* 40:246 Ag '23
 Characteristics of the aircraft entered in the Pulitzer trophy race. *il Aviation* 13:416-20 O 2 '22
 Could a sport plane be used in wartime? H. E. Hartney. *il Aviation* 12:70-1 Ja 16 '22
 Cox Klemm model CK2 training plane. *il Aviation* 15:339 S 17 '23
 Curtiss to build 50 Martin bombers. *Aviation* 12:198 F 13 '22
 Dazzle-painted airplane confuses the eyes. *il Pop Mech* 40:175 Ag '23
 Development of the fighting aeroplane. F. M. Green. *diags Aeronautical J* 26:46-55 F '22; Same abr. *Aviation* 12:340-3 Mr 20 '22; Discussion. *Aeronautical J* 26:56-62 F '22
 Douglas DT4 bombing plane. *il Aviation* 15:446 O 8 '23
 England builds giant torpedo plane. *Aerial Age* 16:21-2 Ja '23
 Farman A2 observation airplane. *il Aviation* 13:750 D 4 '22
 L. W. F. giant bomber successful in trial flights. *il Aerial Age* 15:554-5 N '22
 Largest American airplane; the Barling bomber. *il Aviation* 13:562-3 O 23 '22
 Largest bombing plane in America tried out by United States army. *il Pop Mech* 38:886-7 D '22
 Martin observation airplane. *il Aviation* 13:772-3 D 11 '22
 Military-airplane development and construction in peacetime. F. H. Russell. *Soc Auto Eng J* 12:296-8 Mr '23; Discussion. 12:362-3 Ap '23
 Navy spotting plane. *il Aerial Age* 16:31-2 Ja '23
 Navy's first all-metal plane has no blind spots. *il Pop Mech* 39:211 F '23
 New Caproni airplanes. *diags Aviation* 14:45 Ja 8 '23
 New Dornier pursuit plane. *Aviation* 14:222 F 19 '23
 New Japanese military airplanes. *il Aviation* 13:214 Ag 21 '22
 New pursuit airplane for the Army air service. *Aerial Age* 16:338 Jl '23
 1,000 H. P. Avro-Napier bomber. F. A. de V. Robertson. *il Aerial Age* 16:71-2 F '23
 Specialised aircraft. W. D. Beatty. *Aeronautical J* 26:92-101; Discussion. 101-7 Mr '22
 Wibault night bombing biplane. J. J. Ide. *Aviation* 12:509 My 1 '22
 World's largest airplane being assembled. *il Pop Mech* 39:500-1 Ap '23
 Wright all-metal pursuit airplane. *il Aviation* 14:364-6 Ap 2 '23; Same. *Aerial Age* 16:215-17 My '23
See also Torpedoplanes

Testing

Barling bomber successfully flight tested. *Aviation* 15:281 S 3 '23

Airplanes, Radio controlled. *See* Airplanes—Control

Airplanes, Soaring

Dr Nimführ's soaring airplane. *Sci Am* 127:29 Jl '22

See also Gliders

Airplanes in advertising

Publicity by aeroplane. A. Carlier. *Aerial Age* 15:153 Ap 24 '22

Selling by airplane. *Aviation* 12:166 F 6 '22

See also Skywriting

Airplanes in agriculture

- Aeroplanes used in experimental work in the study of rust spores. *Aerial Age* 15:227+ My 15 '22
- Airplanes in the Department of agriculture. *Aerial Age* 16:246-7 My '23
- Fighting boll weevil by means of airplanes. *il Aviation* 15:210-12 Ag 20 '23
- Germes trapped by airplane fighting wheat rust. *Pop Mech* 39:321 Je '23
- Spraying trees from the air. *il Sci Am* 126:333 My '22

Airplanes in forestry. See Forest patrol, Aerial

Airship engines

- American development in large bore aircraft engines; the Wright 400 hp. dirigible engine. H. Chase. *il diags plan Automotive Ind* 46:852-6 Ap 20 '22
- Packard dirigible engine. *Automotive Ind* 47:803 O 26 '22
- Packard model 1551 300 hp. airship engine. J. G. Vincent. *il Aviation* 14:686-7 Je 25 '23
- Recent aircraft engine development; administrative report of the N.A.C.A. *Aviation* 14:104 Ja 22 '23
- Recent aircraft engine developments. C. F. Taylor. *il diags Soc Auto Eng J* 10:204-6 Mr '22
- Recent developments in aircraft engines in the navy. B. G. Leighton. *il diags Soc Auto Eng J* 12:325-34 Ap '23; Same. *Aerial Age* 16:220-6 My '23
- Wright dirigible engine and its development for the navy. G. J. Mead. *Aerial Age* 15:342-3 Je 19 '22
- Wright 6-cylinder airship engine. *il Aviation* 12:504-5 My 1 '22

Gearing

- Gear-driven airship has novel transmission features. H. T. Kraft. *il diags Automotive Ind* 46:219-22 F 2 '22

Testing

- Aerial engine establishes new endurance record. *il Pop Mech* 38:379 D '22

Airship fabric

See also Goldbeaters' skins

Airship propellers

- Make reversible propeller for dirigible balloon. *il Pop Mech* 38:251 Ag '22

Airships

- African cruise of Zeppelin L59; German naval airship made 4250 mile voyage to succor beleaguered German force in East Africa. *Aviation* 13:126 Jl 31 '22
- Airship for long-haul heavy-traffic service. R. H. Upson. *diags Mech Eng* 45:235-7 Ap '23; Excerpt. *Automotive Ind* 47:1286 D 28 '22
- Airship of the future. H. T. Kraft. *Aviation* 12:627 My 29 '22
- Airship service to India and Australia. *Aviation* 12:667 Je 5 '22
- Airships. G. H. Scott. *Aerial Age* 14:590-3 F 27 '22; Abstract, with discussion. *Engineering* 113:187-9 F 17 '21
- Airships a necessity for the United States. C. A. Tinker. *Aviation* 14:662-3 Je 18 '23
- Airships for passenger transportation. R. Upson. *il Aviation* 11:598-600 N 21 '21
- Big and fast liners of the future. E. Foerster. *il diags plan Sci Am* 128:221-3 Ap '23
- British airship situation. C. C. Turner. *Aerial Age* 14:232 N 14 '21
- British Imperial airship scheme; abstracts. C. D. Burney. *Aviation* 14:266-8 Mr 5 '23; *Engineering* 115:183 F 9 '23; *Génie Civil* 82:329-31 Ap 7 '23; Discussion. *Engineering* 115:183-4 F 9 '23
- Commercial aspect of airship transport. *Engineering* 116:37; Discussion. 37-8 Jl 13 '23
- Dawn of a new era in passenger transportation. C. P. Burgess. *il Aerial Age* 16:132-5 Mr '23
- Dead weight of the airship and the number of passengers that can be carried. Crocco. *Aerial Age* 14:566-70 F 20 '22
- Description of U.S. army airship RN1. *il Aviation* 15:276-7 S 3 '23

Development of the lighter-than-air airship. E. Schildhauer. *il Boston Soc C E J* 9:269-83 D '22; Abstract. *Aerial Age* 16:226-7 My '23

Drag of Zeppelin airships. M. M. Munk. *U S Nat Advisory Com for Aeronautics* 1921:217-27 '23

Field of airship transportation distinct from other carriers. R. H. Upson. *Automotive Ind* 47:1286 D 28 '22

Future airships wholly of metal. H. T. Kraft. *Aerial Age* 15:341 Je 19 '22

Germany's naval airships and their war record. Engineer 133:513-14 My 12 '22

Goodyear gear-driven airship. H. T. Kraft. *il Aerial Age* 14:473-4+ Ja 23 '22; Same. *Aviation* 12:101-2 Ja 23 '22

Goodyear type AC airship. R. C. Pierce. *il Aviation* 12:517 My 1 '22

Italian invents airless airship. *Aerial Age* 14:620 Mr 6 '22

Largest non-rigid airship completed. *il Automotive Ind* 49:313 Ag 16 '23

Night flight of airship TC2. *Aviation* 15:195 Ag 13 '23

Non-dimensional coefficients for comparison of airship characteristics. P. Jaray. *Aviation* 14:314-15; Discussion. 315-17 Mr 19 '23

Organisation of a colonial airship service. V. C. Richmond. *map Aeronautical J* 25:588-611 N '21

Partial vacuum airship. *Aviation* 12:205 F 13 '22

Present state of airship development. G. H. Scott. *Aeronautical J* 26:23-31; Discussion. 32-9 Ja '22

Projet de dirigeable, système Vaugan-Gargiulo, à rarefaction variable. E. Garuffa. *il diags plans Génie Civil* 79:536-41 D 17 '21

La résistance des grands dirigeables et les services de transports aériens. A. Pold-loué. *Génie Civil* 80:153-4 F 18 '22

Rith non-rigid dirigible. W. Knight. *diags Aerial Age* 15:54-5 Mr 27 '22

Shackleton aid says airship could go to Pole and back within a week. *Sci Am* 129:291 O '23

Should our airships be limited in size? *Aviation* 12:368 Mr 27 '22

Spain to Argentine airship service. *il Aviation* 11:656-8 D 5 '21

Traffic airships with special reference to economy. W. Leyenstetter. *Aerial Age* 14:495-8, 520-2+ Ja 30-F 6 '22

Transcontinental airship flight. *Aviation* 13:386 S 25 '22

Vacuum airship. Engineer 133:73 Ja 20 '22

See also Aeronautics; Airship engines; Aviation; Hangars

Anchorage

See Airships—Mooring

Design

Determination of surface area for airships. E. P. Warner. *Aviation* 12:450-1 Ap 17 '22

Determining economical and constructional limits of airships. G. A. Crocco. *il Aviation* 14:184-5 F 12 '23

How airship accidents lead to airship progress. C. A. Oldroyd. *diags Sci Am* 127:40-1 Ji '22

Relation between aeronautic research and aircraft design. J. S. Ames. *il diags Roy Aeronautical Soc J* 27:381-404 Ag '23

Failures

British report on the loss of airship R38. *Aviation* 12:311-12 Mr 13 '22

Loss of the R. 38. *Engineering* 113:265-6 Mr 3 '22

R-38 tragedy due to copying models. *Aerial Age* 14:561 F 20 '22

Report of the Aeronautical research committee on the R-38. *Aerial Age* 14:612-14 Mr 6 '22

See also Airships, Semi-rigid—Failures

Fireproofing

Can airships be made fireproof? R. Upson. *Automotive Ind* 46:497-8 Mr 2 '22

Airships—Continued

Gas

See also Currenium; Helium

Manufacture

Metal construction. R. Verduzio. Aerial Age 15:372-3 Je 26 '22
 Rubber as applied to aircraft; abstract. J. W. W. Dyer. Engineering 114:434-5 O 6 '22

Model testing

Hydrostatic test of an airship model. diags Aerial Age 15:154-5+ Ap 24 '22
 Method of testing models of dirigible balloons. il Pop Mech 38:225 Ag '22

Mooring

Landing platform which permits a dirigible to land head to the wind. il diags Sci Am 126:400-1 Je '22
 New navy airship-mooring mast. E. Jones. il Pop Mech 38:692-3 N '22
 Portable airship mooring mast. il Aviation 11:732 D 26 '21; Same. Aerial Age 14:327 D 12 '21
 U. S. navy airship mooring mast. il diag Aviation 13:661-2 N 13 '22
 Why the mooring mast. S. H. Phillips. Aviation 13:750 D 4 '22
 See also Aviation landing stations—Seadromes

Rudders

Rudder pressures and airship R. 38. diags Engineering 112:651-2 N 11 '21

Safety devices and measures

Gas armour for aircraft. F. L. M. Boothby. Aeronautical J 26:413-16 O '22
 Lightning protector for balloons and airships. S. R. Winters. Aviation 14:446-7 Ap 23 '23

Standards

Report of International conference on standardized airship fittings and operation. Aerial Age 15:541-2 N '22

Strains and stresses

Bending moments, envelope, and cable stresses in non-rigid airships. C. P. Burgess. diags U S Nat Advisory Com for Aeronautics 1921:143-56 '23
 Distribution of pressure on airship bodies. L. Prandtl. diags U S Nat Advisory Com for Aeronautics 1921:172-5 '23

Testing

Navy tests guard lives of air-craft crews. il Pop Mech 40:394 S '23
 New army airship D-2 makes successful test flights. Aerial Age 16:196 Ap '23
 Trials of Goodyear type AC airship. Aviation 12:395-6 Ap 3 '22
 Trials of new Goodyear army airship TC1. il Aviation 14:371 Ap 2 '23

See also Airships—Model testing

Airships, Rigid

Characteristics of U. S. naval airship ZR3. diags Aviation 14:366 Ap 2 '23
 Design of navy's giant airship ZR-1 approved. Aerial Age 16:36 Ja '23
 First trial flight of U. S. naval airship ZR1. Aviation 15:311 S 10 '23
 Improvements in built-up airship girders. S. H. Phillips. diags Aviation 13:828-30 D 25 '22
 Longitudinal strength of rigid airships; with discussion. W. Hovgaard. Marine Eng 27:777-8 D '22
 Naval airship ZR1 visits New York city. il Aviation 15:362-4 S 24 '23
 Navy's new dirigible, ZR-1, completes trial flight successfully. H. Chase. il diags Automotive Ind 49:474-8 S 6 '23
 New design of airship will use non-explosive gas. il Pop Mech 38:9 Ji '22
 New type of rigid airship. H. K. Ihrig. diag Aviation 15:283 S 3 '23
 Our giant ZR-1 in the making. il Sci Am 128:235 Ap '23

Proposed type of rigid airship suitable for commercial or war-time service, and a depot ship with mooring mast, evolved from a war-time cruiser. il diags Sci Am 128:83 F '23; Same. Aviation 14:272-3 Ap 2 '23
 Record dirigible flight. Aviation 15:445 O 8 '23
 Semirigid versus rigid airships. U. Nobile. il diags Aviation 11:683-4 D 11 '21
 Structural engineering in dirigible airship work; building the navy airship ZR1. F. E. Schmitt. il diags Eng N 91:212-20 Ag 9 '23; Same cond. Am Mach 59:367-71 S 6 '23
 U. S. navy airship ZR1. il Aviation 13:254-6 Ag 28 '22
 Why navy recommends completion of ZR-1. Automotive Ind 46:1388 Je 22 '22
 ZR1 makes successful 2200 mile flight. Aviation 15:490-1 O 15 '23

Airships, Semi-rigid

America's latest airship—Roma. il Sci Am 126:259 Ap '22
 Christening of the army airship Roma. il Aviation 12:15-16 Ja 2 '22
 18-ton Parseval semi-rigid airship PL27. il Aerial Age 15:402-4 Ag '22
 Engines on the airship Roma to be changed. Aerial Age 14:499 Ja 30 '22
 Explanation of the Roma picture. il Aviation 12:339 Mr 20 '22
 Goodyear semi-rigid dirigible. Aerial Age 15:554 N '22
 Italian type O.S. airship. il Aviation 13:781 D 11 '22
 Italian type SCA1 airship. il Aviation 12:486 Ap 24 '22
 Roma christened. Aerial Age 14:399 Ja 2 '22
 Roma makes maiden trip. Aviation 11:717 D 19 '21
 Semirigid versus rigid airships. U. Nobile. il diags Aviation 11:683-4 D 11 '21
 To use duralumin in Goodyear ship. Aerial Age 15:460 S '22

Failures

Giant dirigible Roma meets with disaster. il Pop Mech 37:518 Ap '22
 Lighter-than-air situation; official inquiry into the Roma accident. il Aviation 12:280-2 Mr 6 '22
 Report on accident to the airship Roma. il diags Aviation 13:148-52 Ag 7 '22
 Roma destroyed with great loss of life. il Aviation 12:251 F 27 '22
 Roma disaster. Aerial Age 14:610-11 Mr 6 '22

Airships as airplane carriers

Air service plans flying aircraft carriers. Aviation 12:392 Ap 3 '22
 Building dirigible to carry 12 planes. Aerial Age 16:244-5 My '23

Airways. See Air routes

Akron, Ohio

Zoning ordinance adopted at Akron, Ohio. Eng N 89:517 S 28 '22

Bridges

Completion of a notable concrete viaduct. il Sci Am 128:99 F '23
 New Akron viaduct eliminates bad hills and saves railway \$14,500 annually. il Elec Ry J 60:809 N 18 '22
 North Hill viaduct, Akron, Ohio, completed. D. M. Taylor. il diags map plans Ry R 71:700-4 N 18 '22

Rapid transit

Akron people respond to appeal for higher fare. E. B. Atchley. Elec Ry J 62:370-1 S 8 '23
 Urban bus operation and cost. A. C. Blinn. Aera 11:805-10 F '23

Streets

Street cleaning methods and costs at Akron, Ohio. F. C. Tolles. Eng N 89:523-4 S 28 '22

Water supply

History of the corrosion of the 36-inch steel force main at Akron, Ohio. G. G. Dixon. il map N E Water Works Assn J 36:157-69; Discussion. 181-8 Je '22

Akron, Ohio—Water supply—Continued

Investigation of electrolysis on steel force main at Akron, Ohio. V: B. Phillips. *diag N E Water Works Assn J* 36:170-80; Discussion. 181-8 Je '22

Alabama

See Roads—Alabama

Alabama power company

Annual report—year ended Dec. 31 1922. *Comm & Fin Chr* 117:81-3 Jl 7 '23

Gorgas plant at Muscle Shoals is sold to Alabama power company. *Elec W* 82:670-1 S 29 '23

Alabaster

Heteromorphism of calcium sulphate; alabaster and its synthesis. M. Copisarow. *Chem Soc J* 123:796-9 Ap '23

Alabastine

Sampling idea as applied to general advertising. *Ptr Ink* 121:73-4 N 16 '22

Alaska

Alaskan affairs. T. A. Rickard. *Eng & Min J* 113:901 My 27 '22

General information regarding the territory of Alaska. 116p U.S. Dept. of Interior, Washington '23

President Harding's views regarding Alaska. *Comm & Fin Chr* 117:961-3 S 1 '23

Secretary of Agriculture Wallace on President Harding's views on Alaska. *Comm & Fin Chr* 117:959-61 S 1 '23

See also Coal mines and mining—Alaska; Geology—Alaska; Katmai, Mount; Railroads—Alaska; Roads—Alaska

Description and travel

Our strenuous Geological survey. F. E. Mitchell. *il Sci Am* 127:332-3+ N '22

Industries and resources

Alaska a land of great promise. S. C. Bone. *il Am Ind* 23:5-8 S '22

Alaska—rich prize for U.S. ships. A. M. Sutton. *il Marine R* 52:319-24 Ag '22

See also Coal mines and mining—Alaska; Gold mines and mining—Alaska; Mines and mineral resources—Alaska; Petroleum—Alaska; Water power—Alaska

Alaska Juneau gold mining company

Alaska Juneau enterprise. T. A. Rickard. *Eng & Min J* 114:180 Jl 29 '22

Albania**Economic conditions**

Economic conditions in Albania. M. Blake. U S Bur For & Dom Com Trade Information Bul 83:1-10 '23

Albany, New York**Rapid transit**

\$500,000 for improvements in Albany. *Elec Ry J* 61:656 Ap 14 '23

Water supply

Twenty years of filtration practice at Albany. G: E. Willcomb. *Am Water Works Assn J* 10:97-126 Ja '23

Alberta

See also Coal—Alberta

Politics and government

Farm bloc in full power. W. E. Dymoke. *Nation's Business* 11:54+ F '23

Albrecht, Fred W.

Sketch. F. B. Barton. *System* 41:687-9 Je '22

Albumen

Oil and albumen content of seeds. Kleberger. *Sci Am* 125A:116 D '21

Albuquerque, New Mexico

See also Electric plants (central stations)—Albuquerque, New Mexico

Alcement. See Cement**Alchemy**

Alchemistic symbols for now common metals. J. L. Howe. *il Min & Met* 191:50 N '22

Ancient and modern alchemy. P. D. Foote. *diags Chem Age* 31:337-41, 423-4 Ag-S '23

Thomas Norton, an alchemist of Bristol. E. J. Holmyard. **Soc Chem Ind J (Chem & Ind)* 42:574-7 Je 15 '23

Alcogas

Alcogas, new fuel, makes advertising bow. *Ptr Ink* 121:113-14 O 5 '22

Alcohol

Action of alcohol on the sulphates of ammonium. H. E. Dunncliff. *Chem Soc J* 123:476-84 Mr '23

Alcohol in commerce and industry. C: Simmonds. 119p Pitman '22

Attitude of the anti-saloon league toward industrial alcohol. W. B. Wheeler. *Oil Paint & Drug Rep* 102:v+ sec 2 S 18 '22

Degree of ionization of ethyl alcohol; from measurements of conductivity. P. S. Danner and J. H. Hildebrand. *diags Am Chem Soc J* 44:2824-31 D '22

Degree of ionization of ethyl alcohol; from measurements of electromotive force. P. S. Danner. *diags Am Chem Soc J* 44:2832-41 D '22

Effect of acids and salts upon the hydrolysis of wood. E. C. Sherrard and W. H. Gauger. *Ind & Eng Chem* 15:1164-5 N '23

Effect of salts upon the acid hydrolysis of wood. E. C. Sherrard and W. H. Gauger. *Ind & Eng Chem* 15:63-4 Ja '23

Efficiency and design of rectifying columns for binary mixtures. W. K. Lewis. *diag J Ind & Eng Chem* 14:492-7 Je '22

Equilibria in the systems carbon disulfide: methyl alcohol, and carbon disulfide:ethyl alcohol. E. C. McKelvy and D. H. Simpson. *Am Chem Soc J* 44:105-15 Ja '22

Industrial alcohol production and uses in the Philippines. H. I. Cole. *Chem Age* 30:489-92 N '22

Industrial and power alcohol. R. C. Farmer. 110p Pitman '21

Method for expressing the value of mixing agents between hydrocarbons and 95 per cent. vol. alcohol. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 9:129-32 Ap '23

Power alcohol, its production and utilisation. G. W. Monier-Williams. 323p Oxford '22

Preliminary note on the interchange of alcohol radicals in esters. A. Shimomura and J. B. Cohen. *Chem Soc J* 121:883-7, 2051-9 My, O '22

Refractive indices of solutions of hydrochloric acid, acetic acid and ethanol in water at 25° and 30°. H. M. Elsey and G: L. Lynn. *J Phys Chem* 27:342-5 Ap '23

Selective solvent action by the constituents of aqueous alcohol. R. Wright. *Chem Soc J* 121:2251-6 O '22

Solubility of benzene in weak alcohol. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 8:213-17 Ap '22

Studies on catalysis; dehydration and addition reactions of ethyl alcohol; formation of acetal and mercaptans. F. A. Gilfillan. *Am Chem Soc J* 44:1323-33 Je '22

Surface tension of mixtures of alcohol and water at 25°. L: L. Bircumshaw. *Chem Soc J* 121:887-91 My '22

Systems ethyl alcohol—water—paraffins from +30° C. to -30° C. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 8:181-93 Ap '22

Titration in ethyl alcohol as solvent. E. R. Bishop, E. B. Kittredge and J. H. Hildebrand. *Am Chem Soc J* 44:135-40 Ja '22

Variation of the index of refraction of water, ethyl alcohol, and carbon bisulphide, with the temperature. E. E. Hall and A. R. Payne. *Phys R* 20:249-53 S '22

See also Fermentation; Prohibition

Analysis

Detection of pentose, formaldehyde and methyl alcohol. J. B. Sumner. *Am Chem Soc J* 45:2378-80 O '23

Determination of acetone and of ethyl alcohol in mixtures of the two. J. H. Bushill. *Soc Chem Ind J* 42:216-18 My 18 '23

See also Alcohol, Denatured—Analysis; Alcohol, Wood—Analysis

Laws and regulations

Druggists favor separate commissioner to supervise industrial alcohol trade. *Chem & Met Eng* 29:725-6 O 15 '23

Alcohol—Laws and regulations—*Continued*

Governmental regulation of the industrial use of alcohol. C. P. Smith. Oil Paint & Drug Rep 102:xii-xiii sec 2 S 18 '22

See also Alcohol, Denatured

Manufacture

Alcohol as a by-product of a Mexican plant. Pop Mech 37:934 Je '22

L'emploi de l'alcool comme carburant; procédés de préparation. E. Grandmougin. Génie Civil 83:5-8 JI 7 '23

Ethyl alcohol from western larch. Chem Age 30:389 S '22

Ethyl alcohol from western larch. E. C. Sherrard. J Ind & Eng Chem 14:948-9 O '22

Ethylene as a source of alcohol. J. D. Davis. Chem & Met Eng 28:116-17 Ja 17 '23

Ethylene from Trent amalgams as a source of alcohol. J. D. Davis. Chem & Met Eng 27:1087-8 N 29 '22; Same. Am Gas J 117:653-4+ D 9 '22

La fabrication de l'alcool absolu. J. Nourry. diag Soc Ing Civils Bul 76:227-33 Ja '23

Manufacture of ethyl alcohol from wood waste. F. W. Kressmann. il U S Agric Bul 983:1-100 '22

New source of industrial alcohol; waste farm products. E. S. Broussard. Am Dyestuff Rep 12:758+ O 22 '23

Power alcohol from calcium carbide. R. Furness. Chem Age (Lond) 8:280-1, 304-5 Mr 17-24 '23

La préparation industrielle de l'alcool. E. Grandmougin. diag Génie Civil 83:198-202, 224-8, 246-8 S 1-15 '23

Preparation of absolute alcohol with calcium chloride and lime. W. A. Noyes. diag Am Chem Soc J 45:857-62 Mr '23

Un procédé pour la production de l'alcool absolu industriel et son application à la préparation du carburant national. C. Mariller and Van Ruymbeke. Génie Civil 81:375 O 21 '22

Producing alcohol from coal gas. Gas Age 50:411-14 S 20 '22

Production of acetone, alcohol, and acids from oat and peanut hulls. E. B. Fred, W. H. Peterson and J. A. Anderson. Ind & Eng Chem 15:126 F '23

Production of ethyl alcohol from acetaldehyde. Chem & Met Eng 26:799 Ap 26 '22

Production of sulphite alcohol. R. Heinzelmann. Paper Tr J 74:49-51 My 25; 75:56-8 JI 6 '22

Profit from sulphite waste liquor. R. H. McKee. Paper 33:5-7+ N 1 '23; Same. Paper Tr J 77:49-50 O 11 '23

Recovering values from waste products by distillation: the manufacture of yeast, alcohol, ether and other products from the waste of sugar plantations. H. Arnstein. diag Chem & Met Eng 29:485-7 S 10 '23

Transportation

Alcohol freights are subject of discussion. Oil Paint & Drug Rep 104:21 O 8 '23

Freight rates and the price of alcohol. Chem Age 31:462 O '23

Alcohol, Denatured

Alcohol and the bootlegger. I. Ginsberg. il Sci Am 128:370+ Je '23

Alcohol radiator service provides jobber with good margin. R. B. Stafford. Nat Pet N 14:21-2 D 20 '22

Alcohol regulations and nomenclature. Can Chem & Met 7:68 Mr '23

La dénaturation de l'alcool. R. P. Duchemin. Chimie & Ind 7:1213-21 Je '22

Denatured alcohol in Canada. R. E. Gilmore. Can Chem & Met 7:116-18, 155-8 My-Je '23; Same. Soc Chem Ind J (Chem & Ind) 42:802-8 Ag 24 '23

Denatured alcohol production. Ind & Eng Chem 15:1086-7 O '23

Industrial alcohol for the chemical engineer. J. M. Doran. Chem & Met Eng 27:346-6 Ag 23 '22

New denaturing formula for motor fuel alcohol. Chem & Met Eng 28:38 Ja 3 '23

Ohio filling station men win fight to sell denatured alcohol. Nat Pet N 14:19 Ja 18 '22

Public welfare demands minimum of restriction on the production and use of industrial alcohol. J. M. Doran. Chem Age 29:488-9 D '21

Report of committee on alcohol. Oil Paint & Drug Rep 100:51-2 N 2 '21

Analysis

Analyse des alcools dénaturés. A. Kling and A. Lassieur. Chimie & Ind 10:44-8 JI '23

Alcohol, Physiological effect of

Alcohol and industrial efficiency; abstract. E. L. Collis and T. Oliver. J Ind Hygiene 4:131-2 D '22

Influence of alcohol on various muscular acts; abstract. H. M. Vernon. J Ind Hygiene 5:sup39 Je '23

Alcohol, Wood

Alcohol and the bootlegger. I. Ginsberg. il Sci Am 128:370+ Je '23

Conversion of methyl chloride to methanol. R. H. McKee and S. P. Burke. diag Ind & Eng Chem 15:682-8, 788-95 JI-Ag '23

Equilibrium in systems composed of water and alcohols: methyl alcohol, pinacol, glycerol, and erythritol. N. A. Pushin and A. A. Glagoleva. Chem Soc J 121:2313-22 D '22

Purification of methyl alcohol by means of sodium hypochlorite. R. C. Menzies. Chem Soc J 121:2787-93 D '22

Wood alcohol and methanol. Chem & Met Eng 28:308 My 7 '23

Analysis

Detection of pentose, formaldehyde and methyl alcohol. J. B. Sumner. Am Chem Soc J 45:2378-80 O '23

Estimation of acetone in methyl alcohol and the purification of methyl alcohol by sodium hypiodide. H. H. Bates, J. M. Mullaly and H. Hartley. Chem Soc J 123:401-4 F '23

Alcohol as fuel

Adoption par la Chambre des députés d'un carburant national permettant l'utilisation de l'alcool industriel. A. Grebel. Génie Civil 82:128-30 F 10 '23

Alcohol as a motor-fuel constituent. H. A. Gardner. Ind & Eng Chem 15:483-5 My '23

Alcohol for internal combustion engines. Engineer 133:534 My 12 '22

Alcohol for motor fuel. bibliog Soc Auto Eng J 10:364-5 My '22

Alcohol motor fuel research. Nat Pet N 14:39+ Ag 2 '22

Alcohol the motor fuel of the future. C. C. Green. Chem Age (Lond) 9:84-5 JI 28 '23

Alcohol yields higher thermal efficiency than other fuels. Automotive Ind 48:876-7 Ap 19 '23

Automotive engineering development rests largely on fuel research. H. Chase. diag Automotive Ind 46:1219-31 Je 8 '22

Le carburant national et l'industrie de la distillation. Mariller. Chimie & Ind 7:1071-7; Discussion. 1077-8 Je '22

L'emploi de l'alcool comme carburant; procédés de préparation. E. Grandmougin. Génie Civil 83:5-8 JI 7 '23

France may make use of alcohol mixture compulsory. Automotive Ind 46:1122 My 25 '22

French government to sell alcohol below cost. Automotive Ind 48:877 Ap 19 '23

Gasoline and alcohol as fuels of the future. Sci Am 128:381 Je '23

Industrial alcohol production and uses in the Philippines. H. I. Cole. Chem Age 30:489-92 N '22

Paris buses test efficiency of alcohol as engine fuel. Automotive Ind 49:257 Ag 9 '23

Possibilities of the plant growth of the moist tropics to furnish materials for liquid fuel. H. N. Whitford. J Ind & Eng Chem 14:151-2 F '22

Le problème du carburant national en France; symposium. D. Berthelot and others. Soc Ing Civils Bul 76:31-294 Ja '23; Abstracts. Génie Civil 82:239-40, 288-9, 358-9, 370-3 Mr 10, 24, Ap 14-21 '23

Production of power alcohol in the British Empire. Can Chem & Met 7:250 O '23

Alcohol as fuel—Continued

Use of alcohol as fuel in exported vehicles.
H. Chase. *Automotive Ind* 46:771-3 Ap '22

Alcohols

Arsenated *n*-arylamino alcohols. C. S. Hamilton. *Am Chem Soc J* 45:2751-4 N '23
Dipropargyl methylene ether. H. H. Guest. *Am Chem Soc J* 45:1804-7 JI '23
Elimination of the amino-group of tertiary amino-alcohols. A. McKenzie and A. C. Richardson. *Chem Soc J* 123:79-91 Ja '23
Higher alcohols from petroleum olefins. W. W. Clough and C. O. Johns. *Ind & Eng Chem* 15:1030-2 O '23
Interaction of aliphatic alcohols and beta-gamma-dibromopropyl isothiocyanate. R. M. Hann. *Am Chem Soc J* 45:482-6 F '23
Introduction of the chloroethyl group into phenols, alcohols, and amino-compounds. G. R. Clemon and W. H. Perkin, jr. *Chem Soc J* 121:642-9 Ap '22
Ionization of alcohols. R. J. Williams and R. W. Truesdail. *Am Chem Soc J* 45:1348-53 Je '23
New method for the preparation of alkamines. J. Takeda and S. Kuroda. *Chem Soc J* 122 pt 1:272-5 Mr '22
Proteinogenous amino-alcohols and cholines; abstract. P. Karrer and others. *Chem Soc J* 122 pt 1:813-15 S '22
Purification and some physical properties of certain aliphatic alcohols. R. F. Brunel. *Am Chem Soc J* 45:1334-8 My '23
Reaction of alcohols with bromomethylphthalimide and its use for the separation and identification of alcohols. H. H. Hopkins. *Am Chem Soc J* 45:541-4 F '23
Some properties of α -disubstituted esters. J. Leroid. *Chem Soc J* 122 pt 1:215-18 Mr '22
Studies in mutual solubility; the mutual solubility of glycerol and alcohols, aldehydes, phenols, and their derivatives. B. C. McEwen. *Chem Soc J* 123:2234-8 S '23
Synthesis of keto-alcohols and polyhydroxy-alcohols from cyclic ketones and formaldehyde. C. Mannich and W. Brose. *Chem Soc J* 124 pt 1:565-7 Je '23
Über die acetone-Verbindung des anhydro-eneapeptits; ein Beitrag zur Kenntnis der acetone-Verbindungen mehrwertiger Alkohole. C. Mannich und W. Brose. *Deutsche Chem Gesell Ber* 55:3155-7 O '22
Über synthesen einiger primärer Alkohole aus monomolekularem formaldehyd und Grignardschen Verbindungen. K. Ziegler und P. Tiemann. *diag Deutsche Chem Gesell Ber* 55:3406-16 N '22; Abstract. *Chem Soc J* 124 pt 1:30-2 Ja '23
Urethanes from chlorine-substituted secondary and tertiary alcohols. L. Yoder. *Am Chem Soc J* 45:475-9 F '23
Use of paraformaldehyde (gaseous formaldehyde) and paraldehyde (gaseous acetaldehyde) in the synthesis of alcohols. C. E. Wood and F. Scarf. *diags Soc Chem Ind J* 42:13-15 Ja 12 '23
See also Allyl alcohol; Amyl alcohol; Butyl alcohol; Isopropyl alcohol; Mercaptans

Aldehydes

Aldehydes derived from cinchonine, quinine, and their acyl compounds. L. Seekles. *Chem Soc J* 124 pt 1:237-8 Mr '23
Condensation products of arspenamine with aldehydes. G. W. Raiziss and A. C. Blatt. *Am Chem Soc J* 44:2023-7 S '22
Direct acetalisation of aldehydes. R. D. Haworth and A. Lapworth. *Chem Soc J* 121:76-85 Ja '22
Die fuchsin-schweflige Säure und ihre Farb-reaktion mit Aldehyden. H. Wieland and G. Scheuing. *Deutsche Chem Gesell Ber* 54:2527-55 N '21; Abstract. *Chem Soc J* 122 pt 1:58-9 Ja '22
 γ -oxy-aldehyde mit tertiärem Hydroxyl [γ -oxy-aldehyde]. B. Helferich und M. Gehrke. *Deutsche Chem Gesell Ber* 54:2640-7 N '21; Abstract. *Chem Soc J* 123 pt 1:9-10 Ja '22
Platinum oxide as a catalyst in the reduction of organic compounds; reduction of aldehydes. W. H. Carothers and R. Adams. *Am Chem Soc J* 45:1071-86 Ap '23

Simplification of the Gattermann synthesis of hydroxy aldehydes. R. Adams and I. Levine. *Am Chem Soc J* 45:2373-7 O '23
Studies in mutual solubility; the mutual solubility of glycerol and alcohols, aldehydes, phenols, and their derivatives. B. C. McEwen. *Chem Soc J* 123:2234-8 S '23
Synthese disaccharid-artiger Substanzen aus monooxy-aldehyden. B. Helferich und R. Weidenhagen. *Deutsche Chem Gesell Ber* 55:3348-54 O '22
Synthese und eigenschaften eines 6-oxy-aldehyds. B. Helferich und T. Malkomes. *Deutsche Chem Gesell Ber* 55:702-8 Mr '22
Über benzo-polymethylen-Verbindungen; die zwei *ar*-aldehyde des tetralins. J. v. Braun. *Deutsche Chem Gesell Ber* 55:1700-9 Je '22; Abstract. *Chem Soc J* 122 pt 1:748-9 Ag '22
Über die *ar*-aldehyde des tetrahydro-naphthalins. K. Fleischer und G. Feldmeier. *Deutsche Chem Gesell Ber* 55:3290-3 O '22
Über die darstellung von aldehyden aus säurechloriden; dialdehyde. F. Zetzsche und C. Flüttsch. *Deutsche Chem Gesell Ber* 54:2888-93 N '21
Über die darstellung von aldehyden aus säurechloriden; Fr. Zetzsche und Fl. Enderlin; Synthese des decandials. K. W. Rosenmund und F. Zetzsche. *Deutsche Chem Gesell Ber* 55:609-12 Mr '22
Über die kondensation von α -halogen-ketonen mit aldehyden. K. H. Bauer und F. Werner. *Deutsche Chem Gesell Ber* 55:2494-2500 S '22
Über die reduktion von naphthol-carbon-säuren zu aldehyden. H. Weil und W. Heerd. *Deutsche Chem Gesell Ber* 55:224-30 Ja '22; Abstract. *Chem Soc J* 122 pt 1:256-7 Mr '22
Vermischte notizen über die aldehyd-Verbindungen von oxy-aminen und über partielle acylierung dieser amine. M. Bergmann, R. Uhlts und F. Camacho. *Deutsche Chem Gesell Ber* 55:2796-2812 S '22; Abstract. *Chem Soc J* 122 pt 1:1180-2 D '22
See also Amino aldehydes; Cuminaldehyde; Furfural

Aldehydobenzoic acids

Solubility of the aldehydobenzoic acids. N. V. Sidgwick and H. Clayton. *Chem Soc J* 121:2263-7 O '22

Aldehydosalicylic acids

Aldehydosalicylic acids and their derivatives. E. J. Wayne and J. B. Cohen. *Chem Soc J* 121:1022-9 Je '22

Alden, H. W., 1870-
Sketch. *por Soc Auto Eng J* 12:160-1 F '23

Aldol

Correlation of additive reactions with tautomeric change; the aldol reaction. E. H. Usherwood. *Chem Soc J* 123:1717-26 JI '23

Aldoses

Revision of Rosanoff's diagram of the aldose sugars. J. H. Willaman and C. A. Morrow. *Am Chem Soc J* 45:1273-80 My '23

Alfalfa

Nitrogen compounds in alfalfa hay. H. G. Miller. *Am Chem Soc J* 43:2656-63 D '21

Algae

Algae as cause of odours in water. *Engineer* 132:677-8 D '23 '21

Algae as limestone makers and climatic indicators. W. S. Glook. *Am J Sci 5th ser* 6:377-406; Bibliography. 406-8 N '23

Copper sulphate treatment for preventing algal growths in lakes and reservoirs; experiences at Fairmont, Minn. N. L. Huff. *Eng & Contr* 58:33-6 JI 12 '22; Same. *Can Eng* 43:298-301 Ag '22

Experiences with algae at Davenport. C. R. Henderson. *Am Water Works Assn J* 9:622-3 JI '22; Same. *Eng & Contr* 58:123 Ag '22; Same. *Can Eng* 43:348 S 12 '22

Long record of microscopical examinations. G. C. Whipple. *Am Water Works Assn J* 9:436-41 My '22

See also Agar-agar

Algebra

Algebraic numbers; report of the committee on algebraic numbers, National research council. L. E. Dickson and others. *bibliog Nat Research Council Bul v 5*, pt 3:1-96 F '23

Algebra—Continued

Algebras and their arithmetics. L. E. Dickson. 241p Univ. of Chicago press '23

See also Equations, Theory of

Study and teaching

Psychology of algebra. E. L. Thorndike and others. 483p Macmillan '23

Algiers**Harbor**

Les travaux d'extension du port d'Alger. P. Calfas. il diags plan Génie Civil 83:73-7 J1 28 '23

Alignment charts. See Charts, Calculating

Alignment of machinery. See Alineament of machinery

Alineament of machinery

Accurate methods of aligning steam turbines. E. G. Barker. il diags Power 58:378-80, 526-7 S 4, O 2 '23

Aligning a frequency changer set. il diags Power 58:298-9 Ag 21 '23

Center-aligning device for Lincoln milling machine. W. C. Adams. diag Am Mach 59: 487 S 27 '23

Quick and accurate way to align a steam engine. G. Grow. diags Power 57:26-7 Ja 2 '23

Quick and ready methods of aligning an engine. T. Airey. diags Power 57:1015-16 Je 26 '23

Alizarin

Alizarin-iron lakes. A. W. Bull and J. R. Adams. J Phys Chem 25:660-4 N '21

Lime and cotton. W. B. Nanson. Am Dyestuff Rep 12:241-6+ Mr 26 '23

Researches on residual affinity and coordination; cobaltic lakes of the alizarin series. G. T. Morgan and J. D. M. Smith. Chem Soc J 121:160-9 Ja '22

Über die einwirkung von brom auf chinizarin und alizarin. O. Dimroth, E. Schultze and E. Heinze. Deutsche Chem Gesell Ber 54:3035-50 D '21

Alkali halides

Precision measurements of crystals of the alkali halides. W. P. Davey. Phys R 21: 143-61 F '23

Alkali hydroxides. See Alkalies

Alkali lands

Pumping assists reclamation of alkali lands. W. W. Weir. Eng N 90:344 F 22 '23

Alkali metal acetates

Solubilities of the alkali formates and acetates in water. N. V. Sidgwick and J. A. H. R. Gentle. Chem Soc J 121:1837-43 S '22

Alkali metal benzoates

Solubility of the alkali salts of benzoic and the hydroxybenzoic acids in water. N. V. Sidgwick and E. K. Ewbank. Chem Soc J 121:1844-53 S '22

Alkali metal formates

Solubilities of the alkali formates and acetates in water. N. V. Sidgwick and J. A. H. R. Gentle. Chem Soc J 121:1837-43 S '22

Alkali metal hydrogen sulfates

Hydrogen sulphates of the alkali metals and ammonium. H. B. Dunncliff. Chem Soc J 123:731-8 Ap '23

Alkali metal sulfites

Equilibria in aqueous solutions of the alkali metal bisulphites. E. C. C. Baly and R. A. Bailey. Chem Soc J 121:1813-21 S '22

Alkali metals

Action of the alkali metals on triphenylmethyl and its compounds. C. A. Kraus and T. Kawamura. Am Chem Soc J 45:2756-63 N '23

Electrolysis with a dropping mercury cathode; deposition of alkali and alkaline earth metals. J. Heyrovsky. diags Philos Mag 6th ser 45:303-15 F '23

Relative visibility of spectra when an electric discharge is passed through the vapours of alkali amalgams. F. H. Newman. diag Philos Mag 6th ser 45:181-9, pl 1 Ja '23

Using the alkaline and alkaline earth metals in alloys. C. Vickers. Foundry 49:855-6 N 1 '21

See also Potassium; Sodium

Alkali silver thiosulfates

Über alkali-silber-thiosulfate und ihr ammoniak-additionsvermögen. E. Jonsson. Deutsche Chem Gesell Ber 54:2556-64 N '21; Abstract. Chem Soc J 122 pt 2:57-8 Ja '22

Alkali sulfates

Die überführung von alkalisulfaten in chloride. R. Otto. Deutsche Chem Gesell Ber 55: 3435-6 N '22

Alkalies

Action of alkalies on fibers. W. A. Lawrence. Am Dyestuff Rep 12:631 Ag 27 '23

Action of solutions of alkali hydroxides on copper oxide and on copper, and the existence of salts of cupric acid. H. J. M. Creighton. Am Chem Soc J 45:1237-43 My '23

Alkali works chief inspector's report. Gas J (Lond) 163:255-6 J1 11 '23

Alkali works in 1921. Engineering 114:717-18 D 8 '22

Estimation of alkalis in rocks by indirect method. F. Walker. Chem Soc J 123:2336-41 S '23

Infra-red absorption spectra of alkali hydroxides. G. E. Grantham. diags plan Phys R 18:339-49 N '21

Perchlorates of the alkali and alkaline earth metals and ammonium; their solubility in water and other solvents. H. H. Willard and G. F. Smith. Am Chem Soc J 45:286-97 F '23

Production of alkalinity by bacteria as registered by different indicators. J. A. Reddie. Soc Chem Ind J 42:326-32 Ag 3 '23

Radii of the alkali and halogen ions and of the atoms of inert gases. W. P. Davey. Phys R 22:211-20 S '23

Reaction between alkalies and certain nitrocyclopropane derivatives. E. P. Kohler and L. I. Smith. Am Chem Soc J 44:624-34 Mr '22

Scientific washing. F. H. Guernsey. Am Dyestuff Rep 12:563-8, 796, 816-17 J1 30, N 5 '23

See also Alkali metals; Ammonia; Ammonium hydroxide; Concrete, Effect of alkalies on; Potash; Potassium; Potassium hydroxide; Sodium; Sodium compounds; Sodium hydroxide; United alkali company

Alkalimetry

Electrometric acidimetry and alkalimetry without the use of hydrogen. P. A. van der Meulen and F. Wilcoxon. Ind & Eng Chem 15:62-3 Ja '23

Some applications of oxygen electrode, air electrode, and oxidation potential measurements to acidimetry and alkalimetry. N. H. Furman. Am Chem Soc J 44:2685-97 D '22

Symmetrical diphenyl-guanidine as a standard in acidimetry and alkalimetry. C. A. Carlton. Am Chem Soc J 44:1469-74 J1 '22

Tests of the alkalimetric method for the determination of phosphorus. G. E. F. Lundell and J. I. Hoffman. Ind & Eng Chem 15:171-3 F '23

Alkaline earth chlorides

Conversion of alkaline-earth sulphates into chlorides. P. P. Budnikoff and E. A. Shilov. Soc Chem Ind J 42:297-8 J1 6 '23

Alkaloids

Identification of alkaloids under the microscope from the form of their picrate crystals. B. E. Nelson and H. A. Leonard. Am Chem Soc J 44:369-73 F '22

Some microchemical tests for alkaloids. C. H. Stephenson. 110p Lippincott '21

Über das di-[N-methyl- α -pyrrolidyl]-methan; mitteilung über die alkaloid-der hygrinreihe. K. Hess and F. Anselm. diag Deutsche Chem Gesell Ber 54:2310-26 O '21; Abstract. Chem Soc J 120 pt 1:881-2 D '21

Use of the newer indicators in titrations of alkaloids. W. J. McGill. Am Chem Soc J 44: 2156-60 O '22

Alkaloids—Continued

Zur konstitution der alkaloiden der colombowurzel. E. Späth und K. Böhm. Deutsche Chem Gesell Ber 55:2985-95 O '22; Abstract. Chem Soc J 122 pt 1:1174-5 D '22

See also Harmine; Morphine; Physostigmine

Alkalines. See Alcohols**Alkyl iodides**

Reactivity of alkyl iodides with sodium benzyloxyde and the effect of temperature on such reactions. P. C. Haywood. Chem Soc J 121:1904-21 S '22

Zur kenntnis der keton-anile; darstellung aliphatischer keton-anile und alkalische spaltung von keton-anil-jodaalkylaten. E. Knoevenagel. Deutsche Chem Gesell Ber 54:1722-30 S '21; Abstract. Chem Soc J 120 pt 1:785-6 N '21

Alkyl lactates

Rotatory dispersion of the esters of lactic acid; normal esters. C. E. Wood, J. E. Such and F. Scarf. Chem Soc J 123:600-16 Mr '23

Alkyl malonic acids

Amide formation from esters of secondary alkyl malonic acids. A. W. Dox and L. Yoder. Am Chem Soc J 44:1564-7 JI '22

Alkylamines

Über ein neues alkamin und einige seiner derivative. H. Dersin. Deutsche Chem Gesell Ber 54:3158-62 D '21; Abstract. Chem Soc J 122 pt 1:141-2 F '22

Alkylamino acids

Über eine synthese von N-alkylden-amino-säuren und ihre überführung in N-alkylaminosäuren durch hydrierung. H. Scheibler und P. Baumgarten. Deutsche Chem Gesell Ber 55:1358-79 My '22; Abstract. Chem Soc J 122 pt 1:655-7 JI '22

Alkylation

Alkylierung von aminen mit sulfonsäureestern. Z. Földi. Deutsche Chem Gesell Ber 55:1535-43 Je '22

Benzyl ethers of carbohydrates. M. Gomberg and C. C. Buchler. Am Chem Soc J 43:1904-11 Ag '21

Method for the preparation of αβ-trialkylated glutaric acids. G. A. R. Kon and J. F. Thorpe. Chem Soc J 121:1795-1803 S '22

Physostigmine; alkylation products of eseroline. G. Barger and E. Stedman. Chem Soc J 123:758-69 Ap '23

Researches on pyrimidines; alkylation of 2-mercapto-pyrimidines. W. J. Horn. Am Chem Soc J 43:2603-11 D '21

Tautomerism of amidines; alkylation of open-chain amidines. P. L. Pyman. Chem Soc J 123:367-70 F '23

Alkylbenzyl barbituric acids. See Barbituric acids**Alkylguanidines**

Preparation of alkylguanidines. R. Phillips and H. T. Clarke. Am Chem Soc J 45:1755-7 JI '23

Alkylhydrazones

Alkylhydrazones. O. L. Brady and G. P. McHugh. Chem Soc J 121:1648-52 Ag '22

Alkyldieneamino acids

Über eine synthese von N-alkylden-amino-säuren und ihre überführung in N-alkylaminosäuren durch hydrierung. H. Scheibler und P. Baumgarten. Deutsche Chem Gesell Ber 55:1358-79 My '22; Abstract. Chem Soc J 122 pt 1:655-7 JI '22

Alkyldienecyanoacetic acids

Syntheses of alkyldienecyanoacetic acids and of substituted succinic acids; acids containing aromatic residues. A. Lapworth and J. A. McRae. Chem Soc J 121:1699-1712 S '22

Syntheses of alkyldienecyanoacetic acids and of substituted succinic acids; preparation of acids containing saturated aliphatic residues and the constitution of the aliphatic alkyldienecyanoacetic esters. A. Lapworth and J. A. McRae. Chem Soc J 121:2741-55 D '22

Alkylmalonic esters

Pyrimidines from alkylmalonic esters and aromatic amidines. A. W. Dox and L. Yoder. Am Chem Soc J 44:361-6 F '22

Alkyloxyquinaldines

Notes from the research laboratory, Eastman kodak company. H. L. Gray and G. O. Gutekunst. J Fr Inst 194:687-8 N '22

The 6-alkyloxyquinaldines. G. O. Gutekunst and H. LeB. Gray. Am Chem Soc J 44:1741-6 Ag '22

Alkyloxyquinolines

Darstellung einiger alkyloxy-chinoline und ihrer tetrahydro-derivate. A. Sonn and F. Benirschke. Deutsche Chem Gesell Ber 54:1730-8 S '21

Alkylpyrazolone

Beitrag zur kenntnis der 1-alkyl-3-chlorpyrazole und der 1-alkyl-3-pyrazolone. C. A. Rojahn. Deutsche Chem Gesell Ber 55:2959-71 O '22; Abstract. Chem Soc J 122 pt 1:1183-5 D '22

Alkylsulfur thiocyanates

Alkyl-schwefelrhodanide. H. Lecher and M. Wittwer. Deutsche Chem Gesell Ber 55:1474-80 My '22; Abstract. Chem Soc J 122 pt 1:641-2 JI '22

Allantoin

Allantoin und seine methylderivate. H. Biltz and F. Max. Deutsche Chem Gesell Ber 54:2451-76 O '21; Abstract. Chem Soc J 120 pt 1:1893-5 D '21

Allantoxaidin

Aufklärung einiger umsetzungen der oxonsäure und des allantoxaidins. H. Biltz and R. Robl. Deutsche Chem Gesell Ber 54:2441-8 O '21; Abstract. Chem Soc J 120 pt 1:1891-3 D '21

Allen, Arthur Watts, 1879-

Assistant editor, Engineering and mining journal-press, por Eng & Min J 114:356 Ag 26 '22

Allen, William Frederick

Fortieth birthday of standard time. Ry Age 75:866 N 10 '23

Allentown, Pennsylvania**Sewerage**

Successful operation of direct oxidation process of sewage treatment at Allentown. H. F. Bascom. il Munic Eng 63:165-71 N '22; Same. Can Eng 45:261-4 Ag 28 '23; Same abr. Eng & Contr (W W) 58:32-6 O 11 '22; Abstract, with discussion. Eng N 89:659-62 O 19 '22

Allied debts. See Debts, Public**Allied powers. Supreme council**

Cannes conference—adoption of resolution for international economic conference. Comm & Fin Chr 114:126-7 Ja 14 '22

Allis-Chalmers manufacturing company

9th annual report for the fiscal year ended December 31, 1921. Comm & Fin Chr 114:1793 Ap 22 '22

10th annual report—for the fiscal year ended December 31, 1922. Comm & Fin Chr 116:1794 Ap 21 '23

Allotropy

Theory of allotropy. M. Copisarow. diags Am Chem Soc J 43:1870-88 Ag '21

Theory of allotropy. A. Smits. 397p Longmans '22

Alloy steels. See Steel alloys**Alloys**

Acid-resisting alloys for use in mine water. G. M. Enos. il diags plan Coal Age 23:665-8 Ap 26 '23

Acid resisting metals and alloys. G. A. Drysdale. Brass W 17:311-13 N '21; Same. Mech Eng 44:579-80+ S '22; Same cond. Foundry 49:975-7 D 15 '21

Alloys resistant to corrosion; discussion. Engineering 115:517-18 Ap 27 '23; Elec R (Lond) 92:716 My 4 '23

Analysis of non-ferrous alloys. F. Ibbotson and L. Aitchison. 2d ed. 246p Longmans '22

Arsenical bearing metals; abstract. H. J. Roast and C. F. Pascoe. Min & Met 182:63-4 F '22

Art of alloying. W. Guertler. il Brass W 18:229-34, 257-9 Ag-S '22

Chemical properties of alloys; abstract. G. Tammann. Chem Soc J 120 pt 2:647-8 N '21

Alloys—Continued

Constitution and age-hardening of the quaternary alloys of aluminum, copper, magnesium, and magnesium silicide; abstracts with discussion. M. L. V. Gayler. *Engineer* 136: 317 S 21 '23; *Engineering* 116:341 S 14 '23

Contraction and shrinkage of alloys as related to foundry practice. Metal Ind 21:63 F '23

Cored crystals and metallic compounds. E. C. Bain. *diags Chem & Met Eng* 28:65-9 Ja 10 '23

Crystal structure of various Heusler alloys by the use of X-rays. J. F. T. Young. *Philos Mag* 6th ser 46:291-305, pl 4 Ag '23

Discussion on cohesion. W. Rosenhain. *Soc Chem Ind J (Chem & Ind)* 42:932-4 S 28 '23

Extra-light alloys and their utilisation in aeronautics. A. M. Portevin and R. de Fleury. *Engineering* 115:796 Je 29 '23

High temperature alloys; abstracts. M. A. Hunter. *Mech Eng* 45:266 Ap '23; *Power* 57: 310 F 20 '23

Inner structure of alloys; abstracts. W. Rosenhain. *diags Engineering* 115:591-4 My 11 '23; *Engineer* 135:471-2 My 4 '23

List of alloys. W. Campbell. *Am Soc T M Pro* 22 pt 1:213-42 '22; *Excerpts, Metal Ind* 21: 99, 143-4, 189-90, 281-2, 360-2 Mr-May, JI, S '23; *Discussion, Am Soc T M Pro* 22 pt 1: 243-4 '22

Metallic alloys. G. H. Gulliver. 4th ed. 439p Lippincott '21

Metals for high temperature. F. A. Fahrenwald. *Chem & Met Eng* 28:680-1 Ap 16 '23

New magnetic alloy of very high permeability. *Sci Am* 129:359 N '23

Non-corrosive alloy. *Chem & Met Eng* 29: 24-5 JI 2 '23

Nonferrous alloy progress in 1921. H. W. Gillett. *J Ind & Eng Chem* 14:865-7 S '22

Nonferrous alloys recently patented. *Foundry* 50:362a My 1 '22

Non-ferrous metals in engineering; abstracts. H. Fowler. *Engineer* 136:288-9 S 14 '23; *Iron Age* 112:835-6 S 27 '23

Properties of metals and alloys at low temperatures. *Aviation* 12:511 My 1 '22

Readily fusible alloys. *Chem Age* 31:235 My '23

Relative merit of heat resisting alloys for enamel burning racks. E. P. Poste. *Am Cer Soc J* 5:811-16 N '22

Seigerungerscheinungen in metallegierungen; with discussion. O. Bauer and H. Arndt. *il diags Stahl & Eisen* 42:1346-56 Ag 31 '22; *Same (Liquation phenomena in metal alloys)*. *Brass W* 19:103-7, 160-2 Ap-May '23

Some electrical properties of alloys at high temperatures. M. A. Hunter and A. Jones. *Am Electrochem Soc Trans v* 42 (preprint 15):139-58; *Discussion, 158a-c S* '22

Some problems in non-ferrous metallurgy. J. H. Ransom. *Am Inst Chem Eng Trans v* 13 pt 2:215-22 '20-'21

Stainless metals of commerce. J. K. Smith. *Iron Age* 112:615, 650-1 S 6 '23

Structure of eutectics. F. L. Brady. *il Engineering* 114:474-7, 503-6 O 13-20 '22

Structure of eutectics. A. M. Portevin. *il Engineering* 115:477-80, 505-7, pl 30-1 Ap 13-20 '23

Thermal, electrical and magnetic properties of alloys. A. W. Smith. (Bul. no. 20) 85p Eng. exp. sta. of the Ohio state univ., Columbus '21

Use of non-ferrous alloys under superheat. H. C. Dews. *il Engineering* 114:541-2 N 3 '22

Using the alkaline metals in alloys. C. Vickers. *Foundry* 49:855-6 N 1 '21

White metals. W. A. Cowan. *Ind & Eng Chem* 15:29-31 Ja '23; *Same cond. Brass W* 19:151-2 My '23

White metals. A. H. Munday, C. C. Bissett and J. Cartland. *Metal Ind* 21:13-14, 62-3, 106, 191-2, 241 Ja-Mr, My-Je '23; *Same cond. Engineering* 114:441-3 O 6 '22; *Discussion, Engineer* 134:319 S 29 '22

Wrought nonferrous alloys in 1922. W. H. Bassett. *Ind & Eng Chem* 15:31-2 Ja '23

X-ray examination of alloys. *Engineering* 113:206 F 17 '22

X-rays as a means of determining the composition of alloys. T. S. Fuller. *il Gen Elec R* 25:746-50 D '22

See also Aluminum alloys; Amalgams; Babbitt metal; Bearing metals; Brass; Bronze; Calite; Cobalt alloys; Copper alloys; Diamond alloy; Duralumth; Fray metal; Gun metal; Invar; Iron alloys; Magnesium alloys; Metallography; Metallurgy; Monel metal; Nickel alloys; Nickel-chromium alloys; Solutions, Solid; Steel alloys; Stellite; Tin alloys; Tin lead alloys

Specifications

Non-ferrous metals and alloys. *Am Soc T M Pro* 22 pt 1:200-6 '22

Standards

Wrought non-ferrous alloys; proposed S.A.E. standard. *Soc Auto Eng J* 10:482-4 Je '22

Allyl alcohol

Conversion of allyl alcohol to glyceryl chloro- and bromo-hydrins. J. Read and E. Hurst. *Chem Soc J* 121:989-99 Je '22

Allyl cinnamalacetate

Polymerization of allyl cinnamalacetate. F. F. Blicke. *Am Chem Soc J* 45:1562-6 Je '23

Allyl ethers

Allyl ethers of various carbohydrates. C. G. Tomecko and R. Adams. *Am Chem Soc J* 45:2698-2701 N '23

Allylselenourea

Über äthyl- und allyl-selenharnstoff und ihre halogenalkylate. H. Schmidt. *Deutsche Chem Gesell Ber* 54:2067-70 S '21

Alnoite

Genetic features of alnoitic rocks at Isle Cadieux, Quebec. N. L. Bowen. *diags Am J Sci* 5th ser 3:1-34, pl 1 Ja '22

Alpax. See Aluminum alloys**Alpha rays**

Active modifications of hydrogen and nitrogen produced by α rays. F. H. Newman. *diags Philos Mag* 6th ser 43:455-62 Mr '22

Attempt to detect induced radioactivity resulting from α -ray bombardment. A. G. Shenstone. *diag Philos Mag* 6th ser 43:938-43 My '22

Chemical action produced by radon; characteristics of the alpha-ray bulb as a source of ionization. D. C. Bardwell and H. A. Doerner. *Am Chem Soc J* 45:2593-9 N '23

Chemical action produced by radon; the determination by a chemical method of the mean effective path of alpha particles in small spheres. S. C. Lind and A. C. Bardwell. *diag Am Chem Soc J* 45:2585-92 N '23

Collisions of a particles with hydrogen nuclei. J. Chadwick and E. S. Bieler. *diags Philos Mag* 6th ser 42:923-40 D '21

Decrease of energy of a particles on passing through matter. G. H. Henderson. *Philos Mag* 6th ser 44:680-8 O '22

Disintegration of elements by a particles. E. Rutherford and J. Chadwick. *diags Philos Mag* 6th ser 44:417-32 S '22

Distribution of range of recoil atoms. K. T. Compton. *Phys R* 19:233-6 Mr '22

Excitation of γ radiation by a particles from radium emanation. F. P. Slater. *diags Philos Mag* 6th ser 42:904-23 D '21

Life history of an α particle from radium. E. Rutherford. *Engineering* 115:769-70 Je 22 '23

Multiple-valency in the ionization by alpha rays. T. R. Wilkins. *Phys R* 19:210-20 Mr '22

Range of alpha-particles from polonium in various gases. C. W. van der Merwe. *Philos Mag* 6th ser 45:379-81, pl 4 F '23

Straggling of a particles by matter. G. H. Henderson. *Philos Mag* 6th ser 44:42-52 JI '22

Transmuting the elements. R. D. Rusk. *il diag Pop Mech* 38:917-18 D '22

Alphabeting

Rules for alphabetical filing by words in the dictionary catalog of a library. J. B. Childs. Urbana, Ill. '22

Alphabets

Da Vinci's Roman capitals. Ptg Art 39:265 My '22

See also Lettering

Alsace

See Potash—Alsace

Alternating current motors. See Electric motors, Alternating

Alternating currents. See Electric currents, Alternating

Alternators. See Electric generators, Alternating

Althouse chemical company

Althouse chemical company appoints selling agent. Color Tr J 12:65 F '23

Altimeters

Airplane-height indicator for night flying. il diags Pop Mech 39:703 My '23

Altimeters and barographs. A. H. Mears, H. B. Henrickson and W. G. Brombacher. il diags U S Nat Advisory Com for Aeronautics 1921:501-23 '23

50,000 ft. altimeter. il Aviation 15:243 Ag 27 '23

New type of altimeter. Aviation 13:744 D 4 '22

Optical altitude indicator for night landing. J: A. C. Warner. il diags Aerial Age 16:274-5 Je '23

Precision altimeter design. J: B. Peterson and J: R. Freeman, jr. diags U S Nat Advisory Com for Aeronautics 1921:524-33 '23

See also Barometer-altimeter

Testing

Testing of barometers and altimeters. il U S Bur Stand Circ 46:1-22 '22

Altiplanigraph

L'altiplanigraph, système D. S. de Lavaud, pour les levés topographiques. il diags Génie Civil 81:593-5 D 23 '22

Altitude

Calculating altitudes for record purposes. C: H. Colvin. Aviation 15:440 O 8 '23

Altitude, Influence of

Effects of high altitudes. Aerial Age 14:501 Ja 30 '22

Problem of life at high altitudes. W: S. Black. il Eng & Min J 114:800-4 N 4 '22

Scientists study influence of high altitude on life. Pop Mech 37:54 Ja '22

Alum

Crystal structure of the alums. R. W. G. Wyckoff. il diags Am J Sci 5th ser 5:209-17 Mr '23

Prechlorination-alum treatment of soft, colored waters. A. L. Gammage. Eng N 89: 391-2 S 7 '22

Use of sulphuric acid with alum in water purification. J: R. Baylis. Eng N 89:351 Ag 31 '22

See also Aluminum potassium sulfate; Aluminum sulfate

Alumina

Action of alumina, titania and thoria upon ethyl and isopropyl acetates. H. Adkins and A. C. Krause. diags Am Chem Soc J 44:385-92 F '22

Alleged adsorption of alumina from aluminum sulfate solutions by cellulose. A. Tingle. J Ind & Eng Chem 14:198-9 Mr '22

Alumina as an absorbent for water in organic combustion. H. L. Fisher, H. L. Faust and G. W. Walden. J Ind & Eng Chem 14:1138-3 D '22

Alumina from clay. C. E. Williams and C. E. Simms. Eng & Min J 114:1152 D 30 '22

Analysis of high alumina products. C. A. Underwood. Am Cer Soc J (Bul) 6:152-61 Je '23

Developments in the manufacture of refractories of fused alumina. M. F. Beecher. Am Cer Soc J 6:292-4 Ja '23

Extraction of nickel and alumina from Cuban iron ores. C. R. Hayward. flow sheet diags Chem & Met Eng 26:261-6 F 8 '22

High alumina refractories. J. L. Crawford. Am Cer Soc J 6:290-1 Ja '23

Mechanism of the dehydration of crystalline aluminum hydroxide and of the adsorption of water by the resulting alumina. L. H. Milligan. J Phys Chem 26:247-55 Mr '22

Mordants. W. D. Bancroft. J Phys Chem 26: 501-36 Je '22

La production de la potasse et de l'alumine à partir des leucites italiennes au moyen du chlore. U. Pomilio, bibliog il diags Chimie & Ind 7:425-37 Mr '22

Reactions of alum with cellulose. A. Tingle. Paper 29:9-10 Mr 1 '22

Reactions of formic acid at the surface of alumina; the selective activation of alumina. H. Adkins and B. H. Nissen. Am Chem Soc J 45:809-15 Mr '23

Selective activation of alumina for decarboxylation or for dehydration. H. Adkins. Am Chem Soc J 44:2175-86 O '22

Silica and alumina. J. Scott. il Chem Age (Lond) 9:sup10-11+ S 15 '23

Tests on Miguet process for obtaining alumina from clay. Chem & Met Eng 27:848 O 25 '22; Same. Brick & Clay Rec 61:720 N 14 '22

Alumina cement. See Cement

Aluminum

Action of several salt solutions on aluminium, copper, lead and zinc. C. H. Crowe. Can Chem & Met 6:151-2 Jl '22

Advantages of light-weight reciprocating parts. L. H. Pomeroy. Soc Auto Eng J 11:508-15; Discussion. 515-19 D '22

All-aluminum cycle engine light and powerful. il Pop Mech 39:720 My '23

Aluminium and its alloys, their properties, thermal treatment and industrial application. C: A. M. Grard. 184p Constable & co., London '21

Aluminium field coils for replacing copper save 60 per cent weight. il Elec Ry J 60:10 Jl 1 '22

Aluminium films. il Sci Am 127:43 Jl '22

Aluminium for chemical construction. E. Blough. il Chem & Met Eng 28:686 Ap 16 '23

Aluminium in steel. W. H. Keen. Iron Age 110:1574 D 14 '22

Aluminium overhead transmission lines. il diags Elec R (Lond) 91:220-2 Ag 18 '22

Aluminium pistons. diags Automobile Eng 12: 277-82 S '22

Aluminium pistons. F. Jehle and F. Jardine. il diags Soc Auto Eng J 11:225-8; Discussion. 228-31 S '22

Aluminium repairing. W: H. H. Platt. 70p C. Lockwood & son, London '22

Aluminium sheet sizes proposed. Soc Auto Eng J 13:418-19 N '23

Brittleness developed in aluminium and duralumin by stress and corrosion. H: S. Rawdon, A. I. Krynsky and J. F. T. Berliner. il Chem & Met Eng 26:154-8 Ja 25 '22

Coming of the aluminium age. Dr Hackh. Brass W 18:53-4 F '22

Distortion of an aluminium crystal during a tensile test. G. I. Taylor. Engineering 115: 403 Mr 30 '23

Experiences with aluminium wires. A. G. Erftwerk. Elec W 81:113 Ja 13 '23

Forged aluminium vs. steel for connecting rods. L. H. Pomeroy. Automotive Ind 47: 978-80 N 16 '22

German car of novel design employs many aluminium parts. B. R. Dierfeld. il diags Automotive Ind 46:701-6 Mr 30 '22

German trials of aluminium pistons. Automotive Ind 45:904 N 10 '21

Germans study light alloys in high speed engines. Automotive Ind 47:323 Ag 17 '22

Heat required to melt and superheat aluminium. R. J. Anderson. Foundry 50:720a, 758a S 1-15 '22

How to build aluminium tanks for automotive use. diags Automotive Ind 47:21-2 Jl 6 '22

Hudson adopts aluminium piston. il Automotive Ind 46:1001-2 My 11 '22

Influence of cerium on aluminium and other light metal alloys. R. E. Search. Metal Ind 20:142-4 Ap '22

Intermetallic actions; the system aluminium-arsenic. Q. A. Mansuri. Chem Soc J 121: 2272-7 O '22

Aluminum—Continued

- Light metal research will affect future car and truck design. *Automotive Ind* 46:1278-83 Je 8 '22
- Manganese, aluminum, and iron ratio as related to soil toxicity. R. H. Carr and P. H. Brewer. *Ind & Eng Chem* 15:634-7 Je '23
- Melting aluminum for rolling. *Brass W* 19:272-3 Ag '23
- New and novel use for aluminum; stage scenery. *Sci Am* 129:254 O '23
- Physical properties of aluminum. W. Rosenhain. *Foundry* 50:834a O 15 '22
- Polishing aluminum and its alloys for metallographic study. E. H. Dix, jr. *il Chem & Met Eng* 27:1217-20 D 20 '22
- Preparation of aluminum for nickel plating. *Chem Age* 31:473 O '23
- Procédé d'obtention de cristaux d'alumine. *diag Génie Civil* 82:636 Je 30 '23
- Les progrès dans l'industrie de l'aluminium. Guérin. *Génie Civil* 82:455-6 My 12 '23
- Properties of single crystals of aluminum. H. C. H. Carpenter and C. F. Elam. *il Chem & Met Eng* 26:514-15 Mr 15 '22
- Protection by aluminum. *Iron Age* 110:276 Ag 3 '22
- Ratio of mass to weight for bismuth and aluminum. H. A. Wilson. *Phys R* 20:75-7 Jl '22
- Report of the British electrical and allied industries research association upon tests on hard drawn aluminium wires and cables for overhead transmission lines. *Inst E E J* 61:1013-25 S '23
- Report of the British electrical and allied industries research association upon tests on steel-cored aluminium cables for overhead transmission lines. *Inst E E J* 61:1041-3 S '23
- Separation of iron and aluminum from manganese and certain other elements. G. E. F. Lundell and H. B. Knowles. *Am Chem Soc J* 45:676-81 Mr '23
- Solders for aluminum. *il U S Bur Stand Circ* 78:1-14 '23
- Tests of aluminum solders. *Automotive Ind* 47:168 Jl 27 '22
- Thermal expansion of nickel, monel metal, stellite, stainless steel, and aluminum. W. H. Souder and P. Hidnert. *U S Bur Stand Sci Pa* 426:497-519 '22
- Welding aluminum in automotive parts manufacture. H. C. Knerr. *il diags Automotive Ind* 48:726-31 Mr 29 '23
- Working sheet aluminum in car construction. A. Eyles. *il diags Sheet Metal Worker* 13:575-8 S 29 '22

See also Alumina; Bauxite

Analysis

- Determination of aluminum as phosphate. G. E. F. Lundell and H. B. Knowles. *J Ind & Eng Chem* 14:1136-7 D '22
- Determination of metallic aluminum and aluminum oxide in commercial metal. H. V. Churchill; J. H. Capps. *J Ind & Eng Chem* 14:81-2 Ja '22
- Die fällung des aluminiums durch thiosulfat und seine trennung vom eisen. G. Leimbach. *Deutsche Chem Gesell Ber* 55:3161-3 O '22
- Tentative methods of chemical analysis of aluminum and light aluminum alloys. *Am Soc T M Pro* 21:499-521 '21

Specifications

- Aluminum sheet and strip; S.A.E. standard specification no. 78. *Soc Auto Eng J* 10:482-3 Je '22; Same. *Automotive Ind* 46:1330-1 Je 15 '22

Testing

- Tests on work-hardened aluminium sheet. H. C. H. Carpenter and C. C. Smith. *diags Engineering* 115:316-18; Discussion. 310 Mr 9 '23

Aluminum alloys

- Age-hardening makes alloys valuable. *Pop Mech* 38:8 Jl '22
- Alloys of aluminum. *Am Mach* 56:740-2 My 18 '22
- Alloys of aluminum. *Foundry* 51:572a Jl 15 '23

- Alloys of aluminum with silicon. *Foundry* 50:30-1 Ja 1 '22
- Aluminum alloy of high strength. F. C. Frary. *Chem & Met Eng* 27:1042 N 22 '22
- Aluminum-alloy piston. J. E. Diamond. *Soc Auto Eng J* 11:258-61; Discussion. 228-31 S '22
- Aluminum alloys for casting. *Chem & Met Eng* 27:501-3 S 6 '22; Same. *Brass W* 18:330-2 N '22
- Aluminum-copper alloys. R. J. Anderson. *diag Am Electrochem Soc Trans v* 40 (preprint 16):207-36 S '21; Same abr. *Brass W* 17:335-8, 364-8 N-D '21
- Aluminum-silicon alloys. Z. Jeffries. *il Chem & Met Eng* 26:750-4 Ap 19 '22
- Aluminum-zinc-copper alloys. *Foundry* 51:534a Jl 1 '23
- Cerium in aluminum alloys. H. W. Gillett and V. H. Schnee. *Ind & Eng Chem* 15:709-11 Jl '23
- Constitution and age-hardening of alloys of aluminum with copper, magnesium, and silicon in the solid state; abstracts with discussion. M. L. V. Gayler. *Engineering* 114:394 S 29 '22; *Engineer* 134:319-20 S 29 '22; *Brass W* 18:292 O '22
- Contraction and shrinkage of nonferrous alloys as related to casting practice. R. J. Anderson. *Brass W* 19:231-5 Jl '23
- Contraction of light aluminum alloys. R. J. Anderson. *Foundry* 51:832a, 872a O 15-N 1 '23
- Copper-rich aluminium-copper alloys. D. Stockdale. *il Engineering* 114:396-8; Discussion. 395-6 S 29 '22
- Cracking in aluminum alloys. R. J. Anderson. *il Foundry* 50:669-74 Ag 15 '22
- Data on aluminum alloys. *Foundry* 50:758a S 15 '22
- Effect of impurities on the oxidation and swelling of zinc-aluminum alloys. H. E. Brauer and W. M. Peirce. *Min & Met* 188:39-40 Ag '22
- Effect of silicon and manganese on aluminum alloys. *Chem & Met Eng* 29:364 Ag 27 '23
- L'emploi des alliages légers en aéronautique. *Génie Civil* 80:404-7 My 6 '22
- L'étude dilatométrique des alliages d'aluminium avec le magnésium et le silicium. A. Portevin and P. Chevenard. *Génie Civil* 82:184-5 F 24 '23
- Further study of the alloys of aluminum and zinc. D. Hanson and M. L. V. Gayler. *il Engineering* 113:538-40, 666-7 Ap 28, My 26 '22
- Heat treatment and mechanical properties of alloys of aluminum with small percentages of copper. D. Hanson and M. L. V. Gayler. *Engineering* 115:343-4 Mr 16 '23
- Influence of cerium on aluminum and other light metal alloys. R. E. Search. *Metal Ind* 20:142-4 Ap '22
- Magnesium vs. iron for hardening a complex aluminum alloy. *Chem & Met Eng* 29:19 Jl 2 '23
- Melting and pouring aluminum alloys. *Am Mach* 57:1-4 Jl 6 '22
- Metals used for die-castings. A. G. Carman. *il Mach* 29:516-18 Mr '23
- Modification of aluminum-silicon alloys. J. J. Curran. *il Chem & Met Eng* 27:360-1 Ag 23 '22
- New aluminum alloys of high strength. *il diag Chem & Met Eng* 26:689-94 Ap 12 '22
- New aluminum-silicon alloys. R. E. Search. *Metal Ind* 20:183-5 My '22
- New light aluminum alloy having strength of soft steel. *diag Eng & Contr* 57:615 Je 28 '22
- Nonferrous alloy progress in 1921. H. W. Gillett. *J Ind & Eng Chem* 14:865-7 S '22
- Un nouvel alliage d'aluminium; l'alpax. L. Guillet. *il Génie Civil* 82:413-19, 441-4 My 5-12 '23
- Papers on aluminum alloys at American foundrymen's association meeting. *Iron Age* 111:1338-9 My 10 '23
- Preparation of light aluminum-copper casting alloys. R. J. Anderson. *U S Bur Mines Tech Pa* 287:1-44, pl 1-6 '22; Excerpt. *Iron Age* 110:1687 D 28 '22

Aluminum alloys—Continued

Production and heat treatment of chill-castings in an aluminum alloy (Y). W. Rosenhain, S. L. Archbutt and S. A. E. Wells. *il Engineering* 115:347-51 Mr 16 '23; Same cond. *Chem & Met Eng* 29:106-10 Jl 16 '23; Abstract, *Automotive Ind* 48:972-3 My 3 '23; Summary, *Engineer* 135:291 Mr 16 '23; Discussion, *Engineering* 115:320-1 Mr 16 '23; *Engineer* 135:291 Mr 16 '23

Progress made in forging aluminum. *Automotive Ind* 46:1280-2 Je 8 '22

Properties and manufacture of aluminum-silicon alloys. J. D. Edwards. *il Chem & Met Eng* 27:654-5 S 27 '22

Properties of aluminum alloys. *Am Mach* 56: 805-6 Je 1 '22

Recent progress in the application of aluminum alloy alpac in the foundry. R. De Fleury. *Brass W* 19:199-201, 266-7 Je, Ag '23; Discussion, *Metal Ind* 21:183 My '23

Reo aluminum alloy pistons. F. H. Colvin. *il Am Mach* 56:772-3 My 25 '22

Reports of the Light alloys sub-committee. 364p Gt. Brit. Air ministry. Aeronautical research com., London '22

Researches on aluminum alloys; summary of the eleventh report to the alloys research committee. W. Rosenhain, S. L. Archbutt and D. Hanson. *Engineering* 112:613-15, 644-5 O 28-N 4 '21; Same, *Engineer* 132:461-3, 489-90 O 28-N 4 '21; Discussion, *Engineering* 112:594-6, 624-7 O 28-N 4 '21; *Engineer* 132:447, 476-7 O 28-N 4 '21

Researching aluminum. I. Hanzel. *Brass W* 19:263-4 Ag '23

Some cases of failure in aluminum alloys. W. Rosenhain. *il Engineering* 113:308 Mr 10 '22; Same, *Metal Ind* 20:140 Ap '22; Discussion, *Engineering* 113:318 Mr 17 '22

Some properties of the copper-rich aluminum-copper alloys. R. C. Reader. *il Engineering* 115:344-7 Mr 16 '23; Summary, *Engineer* 135:292 Mr 16 '23; Discussion, *Engineering* 115:322 Mr 16 '23; *Engineer* 135:292 Mr 16 '23

Studies on aluminum alloys capable of improvement by aging. W. Fraenkel and E. Scheuer. *Chem & Met Eng* 27:510-11 S 6 '22

Sur une méthode industrielle de dosage des alliages légers d'aluminium. P. Pascal. *Chimie & Ind* 9:264-9 F '23

Thermal properties of aluminum-silicon alloys. J. D. Edwards. *diags Chem & Met Eng* 28:165-9 Ja 21 '23

Use of lighter alloys for engineering structures. O. W. Ellis. *Can Eng* 43:553-6 N 21 '22; Same, *Eng & Contr (Bldgs)* 58:140-4 D 27 '22

Use of wrought aluminum alloys in automobile construction. W. Rosenhain. *Automotive Ind* 45:862-4 N 3 '21; Discussion, 45: 1130-1; 46:526-7, 826-7 D 8 '21, Mr 2, Ap 13 '22

Y alloy (aluminum-copper-nickel-magnesium). *il diags Chem & Met Eng* 26:785-7 Ap 26 '22

See also Aluminum bronze; Calite; Duralumin; Heusler alloys

Analysis

Rapid analysis of aluminum alloys. K. Ols-hausen-Schönberger. *Chem & Met Eng* 28: 242-3 F 7 '23

Tentative methods of chemical analysis of aluminum and light aluminum alloys. *Am Soc T M Pro* 21:508-21 '21

Testing

L'obtention, par traitement thermique, d'alliages légers à haute résistance ne contenant pas de magnésium. A. Portevin and F. Le Chatellier. *Génie Civil* 83:186-7 Ag 11 '23

Physical properties of some copper-silicon-aluminum alloys when sand cast. E. H. Dix, jr. and A. J. Lyon. *il Am Soc T M Pro* 22 pt 2:250-65 '22; Same, *Foundry* 51:331-6 Ap 15 '23

Aluminum bronze

Aluminum bronze as an engineering material. W. M. Corse. *il Mech Eng* 45:283-4+ My '23; Same cond. *Chem & Met Eng* 28:863-4 My 14 '23

Aluminum bronze castings. F. J. Decker. *Am Mach* 58:796 My 31 '23

Casting of aluminum bronze. C. Vickers. *diags Foundry* 50:958-60 D 1 '22

Etching aluminum bronze. J. Strauss. *il Chem & Met Eng* 28:852-3 My 14 '23

Heat-treatment of aluminum bronze. A. A. Blue. *il diags Chem & Met Eng* 25:1043-8 D 7 '21; Correction, 25:1140 D 21 '21; Discussion, 26:388-9 Mr 1 '22

Molding flanged bushings. C. Vickers. *diags Foundry* 51:97-100 F 1 '23

New French aluminum bronze money. *il diags Engineer* 134:74 Jl 21 '22; Same cond. *Iron Age* 110:649 S 14 '22; Same cond. *Metal Ind* 20:381 O '22

Notes on B & M metal, an aluminum bronze. E. S. Wheeler. *Metal Ind* 21:165-6 Ap '23

Aluminum chloride

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit benzil, stibien und phenanthren. R. Scholl and G. Schwarzer. *Deutsche Chem Gesell Ber* 55:324-30 F '22

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit phenoläthern und mit diphenyl-methan. R. Scholl and C. Seer. *Deutsche Chem Gesell Ber* 55:330-41 F '22

Anhydrous aluminum chloride. *Chem Age* 31: 283 Je '23

Anhydrous aluminum chloride. O. C. Ralston. *diags U S Bur Mines Tech Pa* 321: 1-38 '23; Abstract, *Chem Age* 31:349-51 Ag '23

Carbonizing dress goods with aluminum chloride. F. Biery. *Am Dyestuff Rep* 12:392 My 21 '23

Carbonizing with chloride of alumina. R. O. Fernandez. *Am Dyestuff Rep* 12:389-92; Discussion, 393-4 My 21 '23

Friedel and Crafts' reaction; bromophthalic anhydrides, benzene and aluminum chloride. H. N. Stephens. *Am Chem Soc J* 43: 1950-6 Ag '21

Friedel-Crafts' reaction; migration of alkyl groups in the benzene nucleus. M. Copisarow. *Chem Soc J* 119:1806-10 N '21

Friedel and Crafts' reaction; some substituted phthalic anhydrides with toluene and aluminum chloride. W. A. Lawrance. *Am Chem Soc J* 43:2577-81 D '21

Friedel and Crafts' reaction; the carbomethoxy-benzoyl chlorides with aromatic hydrocarbons and aluminum chloride. M. E. Smith. *Am Chem Soc J* 43:1920-4 Ag '21

Henry Howard's way of making aluminum chloride. *Chem Age* 30:517 N '22

McAfee process for the cracking of petroleum. *Chem Age* 30:406-7 S '22

Über den umsatz von azoverbindungen und ihren salzen mit aromatischen kohlenwasserstoffen und aluminiumchlorid. R. Pummerer and J. Binapff. *Deutsche Chem Gesell Ber* 54:2768-84 N '21

Über die abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid. R. Scholl, C. Seer and H. Neumann. *Deutsche Chem Gesell Ber* 55:109-26 Ja '22

Aluminum founding

Aluminum alloys for casting. *Chem & Met Eng* 27:501-3 S 6 '22; Same, *Brass W* 18: 330-2 N '22

Aluminium die-casting. F. A. Livermore. *Automobile Eng* 12:341 N '22

Aluminum melting practice. R. J. Anderson. *Foundry* 50:737-41, 792-6, 823-6, 866-70, 919-24 S 15-N 15 '22

Aluminum sweeper castings. P. Dwyer. *il Foundry* 51:209-15 Mr 15 '23

Casting aluminum pistons in iron chills. W. J. Reardon. *diags Metal Ind* 20:8 Ja '22

Casting automobile aluminum radiator shells. W. A. Mills, jr. *Metal Ind* 21:187 My '23

Contraction and shrinkage of nonferrous alloys as related to casting practice. R. J. Anderson. *Brass W* 19:231-5 Jl '23

Cracking in aluminum alloys. R. J. Anderson. *il Foundry* 50:669-74 Ag 15 '22

Aluminum founding—Continued

- Double face aluminum plates. J. Hines. Foundry 51:505-6 Je 15 '23
- Effects of over-heating and repeated melting on aluminum. W. Rosenhain and J. D. Grogan. Engineering 114:414-15 S 29 '22; Discussion. Engineer 134:319 S 29 '22
- Glimpses of a modern aluminum foundry. F. H. Colvin. *il Am Mach* 58:65 Ja 11 '23
- Important session of A.F.A. on aluminum foundry problems. *Iron Age* 109:1743-4+ Je 22 '22
- Inclusions in aluminum-alloy sand castings. R. J. Anderson. *il U S Bur Mines Tech Pa* 290:1-23 '22; Abstract. *Am Mach* 57:758 N 16 '22
- Iron-pot melting practice for aluminum alloys. R. J. Anderson. *Metal Ind* 19:189-90, 246-7, 285-7, 360-2, 397-9; 20:60-1, 309-11, 342-4 My-Jl, S-O '21, F, Ag-S '22
- Makes large aluminum cowl. D. Partridge. *il Foundry* 50:820-2 O 15 '22
- Melting and pouring aluminum alloys. *Am Mach* 57:1-4 Jl 6 '22
- Melts aluminum in electric furnace. H. E. Diller. *il Foundry* 50:345-51 My 1 '22
- Metal patterns for the foundry. J. F. Hines. *il Mach* 29:695-7, 932-3 My, Ag '23
- Metallurgical requirements of refractories for use in the aluminum industry. R. J. Anderson. *Am Cer Soc J* 6:1090-3 O '23
- Molding practice for aluminum alloys. *Chem & Met Eng* 27:555-7 S 13 '22
- Molds for aluminum castings. *Am Mach* 56:896-8 Je 15 '22
- Overheating aluminum. *Iron Age* 110:990 O 19 '22
- Physical properties of some copper-silicon-aluminum alloys when sand cast. E. H. Dix, jr. and A. J. Lyon. *il Am Soc T M Pro* 22 pt 2:250-65 '22; Same. *Foundry* 51:331-6 Ap 15 '23
- Production and heat treatment of chill-castings in an aluminum alloy (Y). W. Rosenhain, S. L. Archbutt and S. A. E. Wells. *il Engineering* 115:347-51 Mr 16 '23; Same cond. *Chem & Met Eng* 29:106-10 Jl 16 '23; Abstract. *Automotive Ind* 48:972-3 My 3 '23; Summary. *Engineer* 135:291 Mr 16 '23; Discussion. *Engineering* 115:320-1 Mr 16 '23; *Engineer* 135:291 Mr 16 '23
- Shop has diversity of methods; nonferrous metals cast in dies as well as in sand molds. H. E. Diller. *il Foundry* 50:895-9 N 15 '22

See also Aluminum bronze

Aluminum hydroxide

- Aluminum hydroxide; abstract. R. Willstätter and H. Kraut. *Soc Dyers & Col J* 39:116-17 Ap '23
- Aluminum hydroxide solution. J. W. Cox, jr. *Chem & Met Eng* 29:279 Ag 13 '23
- Centrifugal method for preparing colloidal ferric hydroxide, aluminum hydroxide and silicic acid. R. Bradfield. *Am Chem Soc J* 44:965-74 My '22
- Mechanism of the dehydration of crystalline aluminum hydroxide and of the adsorption of water by the resulting alumina. L. H. Milligan. *J Phys Chem* 26:247-55 Mr '22
- Some facts about residual alum in filtered water. A. M. Buswell and G. P. Edwards. *bibliog diag Chem & Met Eng* 26:826-9 My 3 '22; Same. *Eng & Contr* 57:442-4 My 10 '22

Aluminum industry

- Aluminum in 1922. *Iron Age* 111:891 Mr 29 '23
- Aluminum industry for 1921. *Metal Ind* 20:5 Ja '22
- Aluminum industry for 1922. *Metal Ind* 21:17 Ja '23
- Aluminum industry has greatly expanded. F. E. Wormser. *Eng & Min J* 113:555 Ap 1 '22
- Bauxite and aluminum. T. P. Maynard. *Chem Age* 30:86-8 F '22
- Bauxite and aluminum in 1921. J. M. Hill. *U S Geol S Min Res of U S* 1921, pt 1:63-70 '22
- Bauxite and aluminum in 1922. J. M. Hill. *U S Geol S Min Res of U S* 1922, pt 1:87-96 '23
- German aluminum industry. *Eng & Min J* 116:448 S 15 '23

Mineral industry of the British Empire and foreign countries (1913-1919). 35p Great Britain Imperial mineral resources bureau, London '21

- Nonferrous metal industry; aluminum. A. L. Scott. *Brass W* 18:121-3 Ap '22
- Production of aluminum in 1921. *Iron Age* 109:1750 Je 22 '22
- Recovery of secondary aluminum in 1921. *Brass W* 18:370 D '22

Aluminum nitrate

- Solubility of aluminum nitrate crystals in solutions of nitric acid of various strengths at various temperatures. L. H. Milligan. *Am Chem Soc J* 44:567-70 Mr '22

Aluminum oxide. See Alumina**Aluminum phosphate**

- Determination of aluminum as phosphate. G. E. F. Lundell and H. B. Knowles. *J Ind & Eng Chem* 14:1136-7 D '22

Aluminum potassium sulfate

- Mordanting of wool with potash alum. W. W. Paddon. *J Phys Chem* 26:790-3 N '22

Aluminum silicates

- Deformation studies of silicates and aluminum silicates of the alkalies. B. A. Rice. *Am Cer Soc J* 6:525-47 Mr '23
- See also Kaolin; Sillimanite

Aluminum sulfate

- Basic aluminum sulfate. F. S. Williamson. *J Phys Chem* 27:284-9 Mr '23
- Evaporator design; influence of the properties of aluminum sulfate solutions. W. L. Badger and J. S. France. *Ind & Eng Chem* 15:364 Ap '23
- Experiments in water coagulation with aluminum sulphate; relation of hydrogen-ion concentration to precipitation and dissolution of aluminum hydroxide. F. E. Daniels. *Eng N* 91:93 Jl 19 '23
- Manufacture of aluminum sulphate; recovery from china clay. *Chem Age (Lond)* 9:sup 15 Jl 21 '23
- New method of purifying water. H. W. Clark. *N E Water Works Assn J* 36:385-7; Discussion. 388-91 S '22
- Substitutes for alum in papermaking. M. Cline. *Tech Assn Pa ser* 3:17-19 D '20
- Sulphate of alumina in the sizing of paper. F. M. Bouvier. *Paper Tr J* 75:51-2 O 19 '22
- System potassium sulphate—aluminum sulphate—water at 25°. H. T. S. Britton. *Chem Soc J* 121:982-6 Je '22

- Treatment of hard, impure water with aluminum sulphate. W. Gore. *Can Eng* 42:519-21 My 23 '22; Same. *Eng & Contr* 58:134-5 Ag 9 '22

See also Alum

Analysis

- Analytical and testing methods. E. C. Tucker. *Tech Assn Pa ser* 4:52-6 Je '21; Abstract. *Paper* 29:18 N 16 '21

Aluminum ware

- Press tools for aluminum ware. F. A. Stanley. *il Am Mach* 56:437-8 Mr 23 '22

Advertising

- Wider distribution as a means of getting consumer to use product properly. M. Hastings, jr. *Ptr Ink* 120:49-50+ Jl 6 '22

Cleaning

- Cleaning of aluminum utensils. R. Seligman and P. Williams. *Metal Ind* 21:61 F '23

Alunite

- Alunite and its products. R. H. Tingley. *il diag Eng & Min J* 115:494-7 Mr 17 '23

Amalgam fuel. See Fuel, Plastic**Amalgamated clothing workers of America**

- Clothing workers of Chicago, 1910-1922. 424p Amalgamated clothing workers of America, Chicago '22

- Development of collective bargaining in the men's clothing industry in the United States. M. Gadsby. *Monthly Labor R* 14:1093-1108 Je '22

Amalgamated clothing workers of America—*Continued*

Meeting the labor problem in the clothing industry. H. S. Gilbertson. Administration 5: 181-9 F '23

Library

Amalgamated libraries. Special Lib 13:70-1 My '22

Amalgamation

All-amalgamation practice at Boundary Red Mountain mine. flow sheet Eng & Min J 115:939 My '23

Amalgamation and all-cyanidation. H. Hanson. Eng & Min J 115:896 My 19 '23

Fundamentals of amalgamation. A. W. Allen. diags Eng & Min J 116:275-80 Ag 18 '23

Wetting and amalgamation. Min & Sci P 123:665, 772-3, 881-2, 919 N 12, D 3, 24-31 '21

Amalgams

Electrochemical behavior of liquid sodium amalgams. T. W. Richards and J. B. Conant. diags Am Chem Soc J 44:601-11 Mr '22

Electrolytic preparation of calcium amalgam. B. S. Neuhausen. Am Chem Soc J 44:1445-7 Jl '22

Electro-preparation of solid alkali amalgams in quantity. P. M. Giesy and J. R. Withrow. diags Ind & Eng Chem 15:57-60 Ja '23

Heat of solution of thallium in dilute thallium amalgams. T. W. Richards and C. P. Smyth. Am Chem Soc J 45:1455-60 Je '23

Relative densities of alkali-metal amalgams and mercury. E. C. Bain and J. R. Withrow. J Phys Chem 25:535-44 O '21

Relative visibility of spectra when an electric discharge is passed through the vapours of alkali amalgams. F. H. Newman. diags Philos Mag 6th ser 45:181-9, pl 1 Ja '23

Solid thallium amalgams and the electrode potential of pure thallium. T. W. Richards and C. P. Smyth. diags Am Chem Soc J 44: 524-45 Mr '22

Ambergris

Eighty pounds of ambergris worth a small fortune. il Pop Mech 38:95 Jl '22

Ambulances

Ambulance aeroplane. Aerial Age 14:595 F 27 '22; Same. Aviation 12:290 Mr 6 '22

Ameba

Preventive medicine and sanitation in relation to human efficiency. C. A. Kofoed. il W Soc E J 28:195-212; Discussion. 212-13 My '23

American academy in Rome

Memorial Park; collaborative problem of the American academy in Rome. J. K. Smith. il plans Arch Rec 51:275-80 Mr '22

American academy of arts and letters

New building. New York city. Arch & Bldg 55:45, pl 99-102 My '23

American art. See Art, American**American association for the advancement of science**

Engineering section meeting. Toronto, Dec. 27-30. Can Eng 42:109-10 Ja 3 '22

American association of advertising agencies

How American association of advertising agencies works for the good of advertising. J. Benson. Ptr Ink 123:17-20+ My 24 '23

Reports on work to produce more for the advertiser's dollar. Ptr Ink 125:17-20+ O 18 '23

6th annual convention. New York, Oct. 11-12. Ptr Ink 121:25-6 O 19 '22

American association of engineers

Convention. Salt Lake City, June 5-7. Eng N 88:1011-12 Je 15 '22

Decentralization and the association's experience. F. H. Newell. Eng N 90:1014 Je 7 '23

Extracts from address at 8th annual delegate convention. Salt Lake City, June 5. H. O. Garman. Chem Age 30:331-2 Jl '22

9th annual convention. C. E. Drayer. Prof Eng 8:13-28 Je '23

9th annual convention. Norfolk, May 7-9. Eng N 90:888-91 My 17 '23

What A.A.E. did in 1921. C. E. Drayer. Eng & Contr 57:75-6 Ja 18 '22

American association of freight traffic officers Meeting. St Louis, Mo., Oct. 23. Ry Age 75: 817-20 N 3 '23

American association of ice and refrigeration

11th annual meeting. Washington, June 6-7. Refrig W 57:11-18 Je '22

12th annual meeting. Washington, D.C., April 24-25. Refrig W 58:21-6 My '23

Meeting. New York, June 13. Refrig W 58: 21-5 Jl '23

American association of oil burner manufacturers

Oil burners multiply; builders organize; laboratories give service. Nat Pet N 15:25-6 O 3 '23

American association of passenger traffic officers

Annual convention. French Lick, Ind., Nov. 14-15. Ry Age 71:983-4 N 19 '21

66th annual convention. Louisville, Ky., Oct. 10-11. Ry Age 73:742 O 21 '22

American association of petroleum geologists

First regional meeting. Denver, Col., Oct. 26-28. A. J. Hazlett. Nat Pet N 14:25-6 N 1 '22

Meeting. Oklahoma City, March 9-11. P. Wagner. Nat Pet N 14:23-4+ Mr 15 '22

8th annual meeting. Shreveport, La. P. Wagner. Nat Pet N 15:23-5 Mr 28 '23

Petroleum geologists meet at Los Angeles. T. A. Rickard. Eng & Min J 116:643-4 O 13 '23

American association of port authorities

11th annual convention. Toronto, Sept. 14-16. Can Eng 43:387-9 S 26 '22

American association of railroad superintendents

30th annual convention. Kansas City, June 13-15. Ry Age 74:1526-32, 1708-9 Je 23-30 '23; Ry R 72:1082-94 Je 23 '23

American association of state highway officials

Annual meeting. Omaha, Neb., Dec. 5-8. Good Roads 61:284-6 D 21 '21

Convention. Kansas City, Dec. 4-7. Eng N 89:1011+ D 14 '22

American association of textile chemists and colorists

2d annual meeting. New York, Dec. 2. Am Dyestuff Rep 12:97-104 Ja 29 '23

American association of woolen and worsted manufacturers

15th annual meeting. New York, December 7. Textile World 60:3369+ D 10 '21

16th annual meeting. Textile World 62:3303-4 D 9 '22

Semi-annual meeting. New York, July 17. Textile World 64:351 Jl 21 '23

Trade disputes methods revised. Textile World 61:2843 My 13 '22

American automobile association

21st annual meeting. New York city, May 22. Good Roads 64:197 My 23 '23

American bankers' association

Activities of the American bankers' association. J. H. Puellicher. Comm & Fin Chr 116:2846-7 Je 23 '23

American bankers association; resolutions on gold reserve, excessive taxation, excessive labor costs, European situation, &c. Comm & Fin Chr 117:1412-14 S 29 '23

48th annual convention. New York, Oct. 2-7. Comm & Fin Chr 115:1597-1600 O 7; 91-194 sec 2 O 29 '22

48th annual convention. New York, Oct. 2-7. C. H. Getz. Annalist 20:349 O 9 '22

49th convention. Atlantic City, N.J., Sept. 24-27. Comm & Fin Chr 117:69-153 sec 2 O 13 '23

What the bankers' convention accomplished. B. M. Anderson, jr. Annalist 20:347-8+ O 9 '22

American boiler manufacturers' association

34th annual convention. Shawnee-on-Delaware, Pa., June 5-7. Iron Age 109:1706 Je 15 '22; Power 55:951 Je 13 '22

35th annual convention. Hot Springs, Va., June 4-6. Power 57:957-8 Je 12 '23

Winter meeting. Pittsburgh, Feb. 13. Power 55:320-1 F 21 '22

American car and foundry company

23d annual report—for the year ending April 30, 1922. *Comm & Fin Chr* 115:85 J1 1 '22
 24th annual report for year ending April 30, 1923. *Comm & Fin Chr* 116:3014 Je 30 '23

American ceramic society

Canadian meeting, Aug. 14-19. *il Chem & Met Eng* 27:486-8 S 6 '22

Ceramic engineers meet in automobile manufacturing centers. *il Chem & Met Eng* 29:316-18 Ag 20 '23

Designs, tests, processes, equipment discussed at meeting. *Oil Paint & Drug Rep* 104:iii+ sec 2 S 24 '23

Historical statement of the origin of the American ceramic society. E: Orton, Jr. *Am Cer Soc J* 6:2-10 Ja '23

Silver jubilee convention, Pittsburgh, Feb. 12-16. *Brick & Clay Rec* 62:319-22+ F 20 '23; *Chem & Met Eng* 28:394-9 F 28 '23; *Iron Tr R* 72:597-8 F 22 '23; *Foundry* 51:187 Mr 1 '23

25 years of the American ceramic society. N. W. Binns. *Am Cer Soc J* 6:10-23 Ja '23

24th annual meeting, St Louis, Feb. 27-March 3. *Chem & Met Eng* 26:488-92 Mr 15 '22

Year book, 1921-22. *Am Cer Soc J* 5 pt 2:1-234 Ap '22

Art division

Art division of the American ceramic society. F: H. Rhead. *Am Cer Soc J* 5:57-65 F '22

American chamber of economics

The American chamber of economics conducts a consultation and educational service for executives, in economic principles. Its supervising director is George E. Roberts, vice president of the National City bank of New York

American chemical society

Abstract of industrial division papers at spring 1923 meeting. *Brass W* 19:114-17 Ap '23

Chemical segregation in America. *Chem Age* 30:277-8 Je '22

63d meeting, Birmingham, Apr. 3-7. *Chem & Met Eng* 26:724-41 Ap 19 '22; *J Ind & Eng Chem* 14:357, 449-52 My '22

64th meeting, Pittsburgh, Sept. 4-8. *Chem & Met Eng* 27:580-96 S 20 '22; *Can Chem & Met* 6:221-3 O '22

65th meeting, New Haven, Conn. *Chem & Met Eng* 28:666-75 Ap 16 '23; *Oil Paint & Drug Rep* 103:20+ Ap 9 '23

66th meeting, Milwaukee. *Chem & Met Eng* 29:571-80 S 24 '23

Petroleum section

Oil chemists form permanent organization at fall meeting. *Nat Pet N* 14:21-2 S 13 '22

American concrete institute

Annual convention, Cleveland, Feb. 13-16. *Eng N* 88:331-2 F 23 '22

Annual convention program, Cleveland, Feb. 13-16. *Can Eng* 42:133 Ja 10 '22

19th annual convention, Cincinnati, Ohio, Jan. 22-25. *Eng N* 90:223-4 F 1 '23

American construction council

American construction council. A. S. Bent. *Eng & Contr* 57:620 Je 28 '22

American construction council organizes. *Eng N* 88:1053-4+ Je 22 '22; *Concrete* 20:227-8 Je '22; *Eng & Contr* 57:624; 58:194 Je 28, Ag 23 '22; *Bldg Age* 44:25-6 J1 '22; *Pub Works* 53:7 J1 1 '22

Building congress idea. W: S. Parker. *Arch Forum* 36:235-6 Je '22

Co-ordinating all the elements of a great industry. W. H. Booth. *Eng N* 88:1085-6 Je 29 '22

First annual meeting, New York, Sept. 21-22. *Concrete* 23:169 O '23

One year's progress of American construction council. *Bldg Age* 45:88 O '23

Taking the "if" out of construction. *Sci Am* 128:387 Je '23

Uniting the construction industry. N. F. Hoggson and E. J. Russell. *Bldg Age* 44:27-8 Je '22

American cotton association

Convention, Columbia, South Carolina, Oct. 16. *Comm & Fin Chr* 117:1845-7 O 27 '23

American cotton exchange

American cotton exchange suspends operations. *Comm & Fin Chr* 115:1390-1 S 23 '22

American cotton growers' exchange

Cotton has the co-op fever. O. M. Kile.

Nation's Business 10:32-3 N '22

New exchange co-ordinates cotton co-operatives. *Textile World* 62:1779-80 S 30 '22

American cotton manufacturers' association

Addresses and reports at Richmond convention. *Textile World* 63:3336+ My 19 '23

Committee reports at 26th annual convention. *Textile World* 61:3343-4+ Je 3 '22

Resolutions passed by A.C.M.A. *Textile World* 63:3314 My 19 '23

26th annual convention, Washington, May 26-27. *Textile World* 61:3325-6+ Je 3 '22

27th annual convention, Richmond, Va., May 16-17. *Textile World* 63:3311-12+ My 19 '23

American cotton oil company

American cotton oil transfers trade-marked brands to Gold Dust corporation. *Ptr Ink* 124:10+ S 27 '23

American drop forging institute

First annual convention, Detroit, Oct. 3. *Iron Age* 110:937-8 O 12 '22

Scheme of operations of American association which is to meet in Detroit. *Iron Age* 110:719 S 21 '22

American drug manufacturers' association

11th annual meeting, New York city, June 5-8. *Oil Paint & Drug Rep* 101:20-1+ Je 12 '22

12th annual meeting, New York. *Oil Paint & Drug Rep* 103:20+ Ap 23 '23

Story of Reporter trade associations. W. J. Woodruff. *Oil Paint & Drug Rep* 101:23 Mr 28 '22

American dyes institute

Work of Dyes institute fully explained. *Textile World* 61:1659-61 Mr 18 '22

American electric power company (formerly American railways company)

Refinancing plan. *Elec Ry J* 61:142, 658-9 Ja 20, Ap 14 '23

American electric railway accountants' association

25th annual meeting, Chicago, Oct. 2-5. *Elec Ry J* 60:634-7 O 14 '22

26th annual convention, Atlantic City, Oct. 9-11. *Elec Ry J* 62:699-704 O 20 '23

What Accountants' association has done. M. W. Glover. *Elec Ry J* 61:365-7 Mr 3 '23

American electric railway association

American association committees appointed. *Elec Ry J* 58:958-60 N 26 '21

41st annual convention, Chicago, Oct. 4-7. *Elec Ry J* 60:569-80, 741-4 O 7, N 4 '22; *Aera* 11:227-314 O '22; *Bus Transportation* 1:541-7 O '22

42d annual convention, Atlantic City, Oct. 8-13. *Elec Ry J* 62:616-32 O 13 '23

Midyear conference, Indianapolis, Feb. 28-March 1. *Elec Ry J* 59:348-74 Mr 4 '22

What the American electric railway association does and stands for. R. I. Todd. *Elec Ry J* 59:525 Mr 25 '22

What the Chicago convention meant to the individual electric railway man and his company. *Aera* 11:526-31 D '22

Company sections

Company sections of the A.E.R.A. *Aera* 11:1085-1100 Ap '23

American electric railway claims association

Annual convention, Chicago, Oct. 2-5. C. G. Rice. *Elec Ry J* 60:663-81 O 21 '22

Annual convention, Atlantic City, Oct. 8-10. *Elec Ry J* 62:691-7 O 20 '23

American electric railway engineering association

Annual convention, Chicago, Oct. 4-7. *Elec Ry J* 60:593-606 O 7 '22

Annual convention, Atlantic City, Oct. 8-12. *Elec Ry J* 62:645-60 O 13 '23

Engineering association and its plans. C. S. Kimball. *Elec Ry J* 59:18-20 Ja 7 '22

American electric railway transportation and traffic association

- 13th annual convention, Chicago, Oct. 4-7.
Elec Ry J 60:581-93 O 7 '22
14th annual convention, Atlantic City, Oct. 8-10.
Elec Ry J 62:633-43 O 13 '23

American electrochemical society

- By-laws of electrodeposition division. Brass W 18:59-60 F '22
Fall meeting, Lake Placid, N.Y., Sept. 29-Oct. 1.
Metal Ind 19:436-43 N '21
41st general meeting, Baltimore, April 27-29.
Chem & Met Eng 26:873-80 My 10 '22; Iron Age 109:1203-5 My 4 '22
42d annual convention, Montreal, Canada, Sept. 21-23.
Iron Age 110:799-802 S 28 '22; Iron Tr R 71:863 S 28 '22; Can Chem & Met 6:220-1 O '22; Chem & Met Eng 27:676-83 O 4 '22; Elec W 80:769-72 O 7 '22
43d general meeting, New York city, May 3-5.
Chem & Met Eng 28:854-8 My 14 '23; Iron Age 111:1325-8 My 10 '23; Iron Tr R 72:1399 My 10 '23
44th general meeting, Dayton, Ohio, Sept. 27-29.
Chem & Met Eng 29:657-61 O 8 '23; Iron Age 112:899 O 4 '23

American electroplaters' society

- Annual banquet of the New York branch, Feb. 18.
Metal Ind 20:106-8 Mr '22
Annual meeting of the New York branch, February 17.
Metal Ind 21:107-8 Mr '23
10th annual convention, Cincinnati, June 28-July 1.
Brass W 17:203-6 JI '22
10th annual convention, Cincinnati, O., June 28-July 1.
E. E. Meyers. Metal Ind 20:255-8 JI '22
11th annual convention. W: H. Mason. II
Metal Ind 21:223-7, 267-70 Je-JI '23
11th annual convention, Providence, July 2-5.
Brass W 19:173-5, 209-16 Je-JI '23

American engineering standards committee

- How the American engineering standards committee works. Power 57:655-6 Ap 24 '23; Power Pl Eng 27:502 My 1 '23
New standardization projects under the A.E.S.C. Mech Eng 44:208 Mr '22
Report of representation on American engineering standards committee. A. H. Hall. Am Gas Assn General Sessions sec v 3:53-8 '21
Report of the signal section on the organization and activities of the American engineering standards committee. Ry Age 74:695-6 Mr 15 '23

American expeditionary force. See United States—Army—Expeditionary force**American face brick association**

- Annual convention, West Baden, Ind., Dec. 5-7.
Brick & Clay Rec 61:858-64 D 12 '22
What has been accomplished by the A.F.B.A. in promotion work. G. C. Mars. Brick & Clay Rec 59:892-5 D 13 '21

American farm bureau federation

- Farm bloc policies and the engineer. II Chem & Met Eng 29:220-1 Ag 6 '23
What's back of the farm bloc. Nation's Business 10:45+ Ja '22

American federation of arts

- 13th annual convention, Washington, D.C., May 17-19.
F. N. Levy. Arch Rec 52:81-3 JI '22

American federation of labor

- 42d annual convention, Cincinnati, Ohio, June 12-24.
Comm & Fin Chr 115:147-8 JI 8 '22; Monthly Labor R 15:419-23 Ag '22
Labor and politics. M. R. Carroll. 206p Houghton '23

Bibliography

- American federation of labor. D: J. Saposs. Lib J 48:314-16 Ap 1 '23

American foundrymen's association

- Cleveland the convention city of the American foundrymen's association. R. M. Polhamus. II Metal Ind 21:137-42 Ap '23
Index of the transactions. 191p American foundrymen's assn., Chicago '21
President summarizes work. C. R. Messinger. Foundry 51:403-4 My 15 '23
Rochester the foundrymen's convention city. G. B. Ellis. II plan Metal Ind 20:173-8 My '22

Technical program for the annual convention to be held in Cleveland, April 28-May 3.
Il Brass W 19:75-8 Mr '23

Tentative program and exhibition at Rochester convention. Foundry 50:396-406 My 15 '22

26th annual convention, Rochester, New York, June 5-9.
Iron Age 109:1525-6, 1663-6, 1707-11, 1743-4+ Je 1, 15-22 '22; Iron Tr R 70:1571-6, 1636-7, 1732-5 Je 1-15 '22; Brass W 18:137-9, 171-8 My-Je '22; Am Mach 56:908a Je 15 '22; Chem & Met Eng 26:1107-10 Je 14 '22; Foundry 50:475-80 Je 15 '22

27th annual convention, Cleveland, April 28-May 3.
Am Mach 58:716-a My 10 '23; Brass W 19:137-43 My '23; Chem & Met Eng 28:859-60 My 14 '23; Foundry 51:298-307, 387-91 Ap 15, My 15 '23; Iron Age 111:1269-72, 1331-42, 1423-6 My 3-17 '23; Iron Tr R 72:sup69-71, 1394 Ap 26, My 10 '23; Metal Ind 21:181-5 My '23

American gas association

- A. G. A. constitution to be changed. Gas Age 50:445 O 7 '22
The A. G. A., what it is and why. J. R. Jennings. Gas Age 52:425-8 O 13 '23
Association ideals. O. H. Fogg. Am Gas J 119:308-9 O 13 '23
Convention keynote sounded in industrial gas. J. R. Jennings. Gas Age 52:481-3 O 20 '23
3d annual convention, Chicago. Am Gas J 115:403-6, 433-4, 442-4 N 5-12 '21
4th annual convention, Atlantic City. Gas Age 50:559-70+, 599-602 O 28-N 4 '22; Chem & Met Eng 27:920-4 N 8 '22; Dom Eng 101:197-8 N 4 '22
5th annual convention, Atlantic City, N.J., Oct. 15-23.
Am Gas J 119:329 O 16 '23; Dom Eng 105:171-5 O 27 '23; Gas Age 52:538-41, 542-4 O 27 '23

Industrial gas section holds first meeting, Atlantic City. H. O. Andrew. Gas Age 52:527-8 O 27 '23

Industrial gas section organized, June 6th, New York city. Am Gas J 118:506-7 Je 9 '23

Industrial men favor new section devoted to industrial fuel activities. Gas Age 50:731-3, 773-5, 807-8 N 25-D 9 '22

Program for A.G.A. 5th annual convention. Am Gas J 119:185-7 S 1 '23; Gas Age 52:473-4 O 13 '23

Prosperous times ahead. C: A. Munroe. Am Gas J 115:435-6+ N 12 '21; Same. Gas Age 48:613-15 N 12 '21

Story of its development and the fulfillment of its watchword "lets go". Am Gas J 119:297-307 O 13 '23

Unity of purpose marks 3d A.G.A. meet. R. O. Jaspersen. Gas Age 48:645-7 N 19 '21
What the A. G. A. is doing today. J. R. Jennings. Il Gas Age 50:501-6 O 21 '22

Work of the sections. Am Gas J 119:311-15 O 13 '23

American gear manufacturers' association

- Chicago convention, Oct. 9-11.
Iron Age 110:993-6 O 19 '22
Gear makers urge better cost systems and discuss technical problems at their convention. P. M. Heldt. Automotive Ind 47:768-74 O 19 '22

Meeting, Lake Mohonk, N.Y., Oct. 25-27.
P. M. Heldt. Automotive Ind 49:903-7 N 1 '23
Semi-annual convention, Chicago, Oct. 9-11.
Iron Age 110:993-6 O 19 '22; Mach 29:191-2 N '22

Semi-annual meeting, Lake Mohonk, N.Y., Oct. 25-27.
Am Mach 59:678b N 1 '23; Iron Tr R 73:1248-9 N 1 '23; Iron Age 112:1182-3+ N 1 '23; Mach 30:187-8 N '23

6th annual convention, Buffalo, April 20-22.
P. M. Heldt. Automotive Ind 46:901-6 Ap 27 '22

6th annual meeting, Buffalo, April 20-22.
Iron Age 109:1134-7 Ap 27 '22; Am Mach 56:652c Ap 27 '22; Iron Tr R 70:1199 Ap 27 '22; Mach 28:711-12 My '22

7th annual convention, Cleveland, April 19-21.
Am Mach 58:644d Ap 26 '23; Iron Age 111:1189-92 Ap 26 '23; Iron Tr R 72:1250 Ap 26 '23; Mach 29:689-91 My '23

7th annual meeting, Cleveland, P. M. Heldt. Automotive Ind 48:932-6 Ap 26 '23
Standardization work. Mach 28:342 D '21

- American Guernsey cattle club**
American Guernsey cattle club building, Peterborough, N.H. Arch Forum 37:pl 55-6 S '22
- American hardwood manufacturers' association**
Hardwood decision is limited. Nation's Business 10:13 F '22
Hardwood lumber case. E. H. Naylor. Administration 3:487-93 Ap '22
Open price association and the Sherman anti-trust act. A. H. Stockder. Am Mach 56:296-8 F 23 '22
Trade associations and statistics; future activities of organizations along these lines and the program of the Hardwood lumber group. L. C. Bell. Am Ind 24:10-13 Ag '23
U.S. Supreme court holds open competition plan of American hardwood manufacturers' association illegal. Comm & Fin Chr 113: 2782-5 D 31 '21
- American institute of accountants**
Report of the president. C. H. Nau. J Account 34:241-8 O '22
- American institute of architects**
55th annual convention. L. La Beaume. Am Inst Arch J 10:213-16 Jl '22
55th convention, Chicago, June 7-9. Am Arch 121:499-510 Je 21 '22; Arch Forum 37:1-4 Jl '22; Arch Rec 52:119-20 Ag '22
56th annual convention, Washington, May 16-18. Arch Forum 38:311-12 Je '23; Am Arch 123:485-95 Je 6 '23; Arch Rec 54:94-6 Jl '23
Meeting, Denver, Colorado, Dec. 13-15. Am Arch 123:75 Ja 17 '23
Opportunities and purposes as stated in a section of the report of the Board of directors rendered May 16, 1923. Eng & Contr (Bldgs) 60:374 Ag 22 '23
See also Washington, D.C.—Octagon house
- American institute of baking**
Science and art of baking. Chem & Met Eng 27:1009 N 22 '22
- American institute of banking**
History, New York chapter, inc., 1901-1922. A. E. Leiser. 131p American inst. of banking, New York '23
- American institute of chemical engineers**
American institute of chemical engineers. J. C. Olsen. Chem Age 30:394-6 S '22
14th annual meeting, Baltimore, Dec. 6-9. il Chem & Met Eng 25:1124-9 D 21 '21
15th annual meeting, Richmond, Va., Dec. 6-9. il Chem & Met Eng 27:1204-10 D 20 '22
15th semi-annual convention, Wilmington, June 20-22. Chem & Met Eng 29:5-11 Jl 2 '23
Semi-annual meeting, Niagara Falls, June 19-22. Chem & Met Eng 27:8-13 Jl 5 '22
- American institute of chemists** (formerly American institute of chemistry)
Aims and purposes of the American institute of chemistry. F. D. Crane. Chem & Met Eng 28:457 Mr 7 '23
American institute of chemistry. Chem Age 31:326 Jl '23
American institute of chemistry. Chem Age 29:472, 495-7; 30:75-6, 124-6 N-D '21, F-Mr '22
American institute of chemistry. N. A. Clark. Chem Age 30:460 O '22
American institute of chemistry. R. B. Pilcher. Chem Age 31:133-5 Mr '23
Chemical segregation in America. Chem Age 30:361-2 Ag '22
Constitution and by-laws adopted; members of council. Chem Age 31:88-90 F '23
Economic chemical segregation. Chem Age 31: 419-22 S '23
First regular meeting of New York chapter, New York city, May 28. Chem Age 31:279-80 Je '23
1st regular meeting; (with list of charter members.) Chem Age 31:177-82 Ap '23
Initial organization meeting held Jan. 23, 1923. Chem Age 31:40-2 Ja '23
Mid-west opinion on the formation of an economic organization of chemists. O. Eisen-schm. Chem Age 30:233-5 My '22
- National professional economic organization founded in New York, January 22, 1923. H. G. Byers. Chem Age 31:49-50 F '23
Observations in American chemistry. Chem Age 31:293-5 Jl '23
Organization of the New York chapter of the American institute of chemistry. Chem Age 31:209-11 My '23
2d general business meeting, New York, Sept. 20. Chem Age 31:447-8 O '23; Chem & Met Eng 29:643 O 1 '23
- American institute of electrical engineers**
11th annual Pacific coast convention, Vancouver, B.C., Aug. 8-11. Elec W 80:423-33 Ag 26 '22
12th Pacific coast convention, Del Monte, Cal., Oct. 2-5. Elec W 82:799-806 O 20 '23
10th midwinter convention, New York, Feb. 15-17. Elec Ry J 59:325 F 25 '22; Elec W 79:376 F 25 '22; Power 55:360-1 F 28 '22
11th midwinter convention, New York, Feb. 14-16. Elec W 81:437-51 F 24 '23
Officers of A.I.E.E. formally elected at annual business meeting. Elec W 79:1087 My 27 '22
Spring convention, Pittsburgh, April 24-27. Elec W 81:1019-32 My 5 '23; Iron Tr R 72:1324-5 My 3 '23
Technical committee annual reports, 1921-1922. Am Inst E E J 41:894-912, 935-51 N-D '22
38th annual convention, Niagara Falls, Ontario, June 26-30. Elec W 80:17-20, 69-81 Jl 1-8 '22; Power Pl Eng 26:780-2 Ag 1 '22
39th annual convention, Swampscott, Mass., June 25-29. Elec W 82:14-23 Jl 7 '23; Am Inst E E J 42:866-71 Ag '23
- American institute of mining and metallurgical engineers**
A.I.M.E. visit Quebec and Ontario. Can Chem & Met 7:236-8 S '23; Eng & Min J 116:379-80, 421-3 S 1-8 '23
Conference of the advisory committee on nonferrous alloys of the Institute of metals division, April 25. Brass W 18:144 My '22
Institute meets in San Francisco. il Eng & Min J 114:640-3 O 7 '22
Institute of metals division meeting, New York, Feb. 20-21. Metal Ind 20:93-6 Mr '22
Institute of metals division meeting, New York, Feb. 19-21. Metal Ind 21:100-1 Mr '23
Institute of metals division meeting, Rochester, June 5-9. Brass W 18:173-5 Je '22; Foundry 50:480-2 Je 15 '22; Metal Ind 20: 213-17 Je '22
Iron and steel sessions, held as a part of the 127th meeting in New York. Iron Age 111:609-12 Mr 1 '23; Iron Tr R 72:671-3 Mr 1 '23; Foundry 51:231-2 Mr 15 '23
Membership in the Institute. D. H. Fairchild. Eng & Min J 115:613-15 Ap 7 '23
New amendments to Institute by-laws. Min & Met 181:41-2 Ja '22
Official institute reports for the year 1921. Min & Met 184:44-6 Ap '22
125th meeting, New York, Feb. 20-23. Chem & Met Eng 26:391-3 Mr 1 '22; Coal Age 21:407 Mr 9 '22; Eng & Min J 113:371-4 Mr 4 '22; Iron Age 109:586-7+ Mr 2 '22; Iron Tr R 70:616-17 Mr 2 '22; Min & Met 183:7-16 Mr '22
126th meeting, San Francisco, Sept. 25-29. H. R. Hanley. Min & Met 191:17-22 N '22
127th meeting, New York, Feb. 19-22. Eng & Min J 115:370-2 F 24 '23; Mech Eng 45: 271-2 Ap '23
127th meeting, New York city, Feb. 19-22. R. D. Hall. Coal Age 23:412-15 Mr 8 '23
Technical sessions of the annual convention held at Montreal, August 30. Iron Tr R 73: 656-7 S 6 '23; Iron Age 112:621-2 S 6 '23
- American institute of steel construction**
1st annual meeting, Pittsburgh, Nov. 23. Eng N 89:953 N 30 '22; Iron Tr R 71:1498-1500 N 30 '22; Iron Age 110:1445-6 N 30 '22
- American institute of textile chemists and colorists**
American institute of textile chemists and colorists. Chem Age 29:434, 468 O-N '21
- American institute of weights and measures**
Annual meeting, New York, Dec. 9. Am Mach 55:986 D 15 '21

American international corporation
Report for the year 1921. Comm & Fin Chr 114:1190-2 Mr 18 '22
Report to the stockholders at the annual meeting, April 4, 1923. Comm & Fin Chr 116:1196-8 Mr 17 '23

American iron and steel institute
Discussions of the Institute papers. Iron Age 111:1642-4 Je 7 '23

20th general meeting, New York, Nov. 18. Blast F & Steel Pl 9:681-706 D '21; Chem & Met Eng 25:950-2 N 23 '21; Iron Age 108:1319-24 N 24 '21; Iron Tr R 69:1338-9 N 24 '21

21st general meeting and annual spring session, New York city, May 26. Chem & Met Eng 26:1014-15 My 31 '22; Iron Tr R 70:1542-3 Je 1 '22; Blast F & Steel Pl 10:301-2 Je '22

22d semi-annual meeting, New York, Oct. 27. Blast F & Steel Pl 10:541-2 N '22; Chem & Met Eng 27:867-8 N 1 '22; Iron Age 110:1125-39 N 2 '22; Iron Tr R 71:1186-1206 N 2 '22

23d general meeting, New York, May 25. Iron Tr R 72:1594-5 My 31 '23; Iron Age 111:1545-9 My 31 '23; Chem & Met Eng 28:987 Je 4 '23; Blast F & Steel Pl 11:311+ Je '23

24th semi-annual meeting, New York. Iron Age 112:1163-5 N 1 '23; Iron Tr R 73:1226-7+ N 1 '23

American iron, steel and heavy hardware association

13th annual convention, Washington, May 23-25. Iron Tr R 70:1584-5 Je 1 '22; Iron Age 109:1521+ Je 1 '22

American leather chemists' association
19th annual meeting, Bigwin Inn, Muskoka, June 21-23. Can Chem & Met 6:159-60 Jl '22

American malleable castings association
Enlarging activities. Iron Age 110:1315-16 N 16 '22

American management association (formerly National personnel association)

American management association. Management Eng 4:272-3 Ap '23
Annual convention, New York, Oct. 29-31. Iron Tr R 73:1318 N 3 '23

Organization meeting, New York, March 14. Mech Eng 45:327 My '23

Supplants National personnel body devoted to human factor. Iron Tr R 72:889 Mr 22 '23

American manufacturers of toilet articles
29th annual meeting, New York, April 10-12. Oil Paint & Drug Rep 103:20 Ap 16 '23

American marine association
Annual meeting, New York, Dec. 10. Marine Eng 27:766 D '22
Marine congress, conventions and exposition, New York city, November 5-10. Marine Eng 28:681-4+ N '23

American marine standards committee
Marine standards committee ready for action. Marine Eng 28:411-12 Jl '23

Meeting, New York, April 17. Marine Eng 28:256 My '23

American merchant marine library association
Plan library on each American ship. Marine R 52:326 Ag '22

Story of the American merchant marine library association. E. B. Tower. Special Lib 14:69-72 My '23

American mining congress
25th annual convention, Cleveland, Ohio. Coal Age 22:526-8, 633-4. 715-16 O 5, 19, N 2 '22; Comm & Fin Chr 115:2119-20 N 11 '22; Eng & Min J 114:729-32 O 21 '22; Iron Tr R 71:979 O 12 '22

26th annual convention, Milwaukee, Wis., Sept. 24-29. Coal Age 24:459, 523-6, 593-6 S 20, O 4, 18 '23; Eng & Min J 116:593-5 O 6 '23

American museum of natural history. See New York (city)—American museum of natural history

American newspaper publishers' association
Newspaper convention endorses agency commission system. Ptr Ink 119:25-8+ My 4 '22

Report of annual convention. Ptr Ink 123:25-8+ My 3 '23

Bureau of advertising

Newspaper advertising bureau reports increased business. Ptr Ink 123:10+ Ap 26 '23
Year of expansion for newspaper Bureau of advertising. Ptr Ink 119:10+ Ap 27 '22

American oil chemists society
13th annual convention, New Orleans. Chem & Met Eng 26:1186-7 Je 21 '22; J Ind & Eng Chem 14:659-60 Jl '22

14th annual convention, Hot Springs, April 30-May 1. Chem & Met Eng 28:895-6 My 21 '23

American oil men's association
A.O.M.A. draws big crowd. W. K. Halbert. Net Pet N 15:25-6 Mr 14 '23

A.O.M.A. to foster industrial peace among all branches. E. E. Smith. Nat Pet N 15:30-2b Mr 14 '23

Mid-year business session, Chicago, Oct. 2-4. Oil Paint & Drug Rep 104:20 O 8 '23

New oil association is launched; will convene March 6, 7 and 8. Nat Pet N 15:17-18 F 21 '23

American order of steam and electrical engineers
36th annual convention, Philadelphia, June 5-9. Power 55:993 Je 20 '22

American paper and pulp association
45th meeting, New York, April 10-14. Paper 30:134-40+ Ap 19 '22

46th annual meeting, New York, April 12. Paper 31:7-10 Ap 18 '23; Paper Tr J 76:287+ Ap 12 '23

Paper men hold conference in Chicago. Paper Tr J 77:62+ O 18 '23

American petroleum institute
Co-operation urged at annual meeting of fuel men with S. A. E. Automotive Ind 45:1123-9 D 8 '21

Many new avenues for research work cited at technical sessions. V. B. Guthrie. Nat Pet N 13:41-3 D 14 '21

2d annual meeting, Chicago, Dec. 6-8. Nat Pet N 13:23-4 D 14 '21; Oil Paint & Drug Rep 100:9-13+ sec 2 D 12 '21

3d annual meeting, St Louis, Dec. 6-8. Nat Pet N 14:24-5 D 13 '22; Oil Paint & Drug Rep 102:44c-f D 18 '22; Am Pet Inst Bul 3:1-150 D 30 '22; Soc Auto Eng J 12:118-21 Ja '23

American photoengravers' association
27th annual convention, Chicago, July 19-21. Inland Ptr 71:715-16 Ag '23

American physical society
Minutes of the Chicago meeting, Dec. 1 and 2, 1922, and abstracts of papers. Phys R 21:195-215 F '23

American phytopathological society
13th annual meeting, Toronto, Canada. Sci Am 126:231 Ap '22

American-Polish chamber of commerce and industry in the United States

3d annual meeting, New York city, May 18. Am Ind 22:34 Je '22

American public health association
50th annual meeting and semicentennial celebration New York city, Nov. 14-18. Pub Works 51:414-16 N 26 '21

52d annual meeting, Boston, Oct. 8-11. Eng N 91:654-5 O 18 '23

Semi-centennial celebration, New York, Nov. 14-18. Eng N 87:869+ N 24 '21

American publishers' conference
National conference of publishers formed. Ptr Ink 118:28 Mr 23 '22

American pulp and paper mill superintendents' association

Convention, Kalamazoo, Mich., June 1-3. Paper Tr J 74:16-21 Je 8 '22

Convention, Springfield, Mass., May 31. Paper 32:9-14 Je 13 '23

American railway association
American railway association. 134p American railway assn., New York '21

Annual meeting, New York, Nov. 16. Ry Age 71:985-6 N 19 '21

American railway association—Continued**Car service division**

Car service division appoints district managers; duties and suggestions. Ry Age 74: 243-4 Ja 20 '23

Equipment painting section

1st annual convention, Cleveland, Ohio, Sept. 4-6. Ry Age 75:446 S 8 '23; Ry Mech Eng 97:687-93 O '23

Freight claim division

31st annual session, Denver, June 20-22. Ry Age 73:21-2 Jl 1 '22
32d annual session, Montreal, May 29-Je 1. Ry Age 74:1338, 1373 Je 2-9 '23; Ry R 72: 1049-50 Je 16 '23

Freight station section

Annual meeting, Philadelphia, June 20-22. Ry Age 73:27-8 Jl 1 '22

Mechanical division

3d annual meeting, Atlantic City, June 14. Ry R 70:961-3 Je 24 '22; Elec Ry J 59:1003-4 Je 24 '22
4th annual meeting, Chicago, June 20. Ry Age 74:1537-1659 Je 23 '23; Ry R 72:1063-81, 1131-63 Je 23-30 '23; Ry Mech Eng 97:420-541 Jl '23

Purchases and stores division

3d annual meeting, Atlantic City, June 19. Ry R 70:963-4 Je 24 '22

Regional advisory boards

A.R.A. organizes regional advisory boards. Ry Age 74:1361-4 Je 9 '23; Abstract. Ry R 72:1052-3 Je 16 '23
Regional advisory boards. D. C. Conn. Ry Age 75:818-19 N 3 '23
Two newly formed regional boards hold meetings, Ohio valley and Great Lakes. Ry R 73:568-70 O 20 '23

Safety division

Annual meeting, St Louis, Mo., April 25-27. Ry Age 74:1097-8 My 5 '23
2d convention of Safety section, Chicago, May 3-5. Ry Age 72:1131-2 My 13 '22

Signal section

27th annual meeting, Spring Lake, N.J., June 14-16. Ry Age 72:1479, 1733-4 Je 17-24 '22; Ry R 70:1015-17 Je 24 '22
28th annual meeting, Chicago, March 13-15. Ry Age 74:638-57, 692-702, 705, 735-41 Mr 14-16 '23; Ry R 72:518-22 Mr 17 '23
Meeting, New York, Nov. 21-22. Ry Age 73: 983-4 N 25 '22
28 years' progress in signaling; some facts about the Signal association. Ry Age 74: 600-2 Mr 13 '23

Telegraph and telephone section

Annual convention, Colorado Springs, Sept. 18-20. Ry Age 75:541-2 S 22 '23
5th session, Richmond, Va., March 21. Ry Age 72:775-6 Mr 25 '22
6th session, Chicago, Dec. 12-14. Ry Age 73: 1141-2 D 16 '22; Ry R 71:865 D 16 '22

Transportation division

Annual meeting, Chicago, April 25. Ry Age 74:1107-9 My 5 '23

American railway bridge and building association

32d annual convention, Cincinnati, Ohio, Oct. 17-19. Ry R 71:554-60 O 21 '22; Ry Age 73: 747-52 O 21 '22
33d annual convention, Seattle, Wash., Oct. 16-18. Ry Age 75:709-15 O 20 '23; Ry R 73: 585-6 O 20 '23

American railway development association

14th annual convention, Denver, Colorado, May 10-12. Ry Age 72:1177-8 My 20 '22
15th annual convention, St Louis, Mo., May 9-11. Ry Age 74:1203-5 My 19 '23
Semi-annual meeting, Chicago, Nov. 10-11. il Ry Age 71:995-8 N 19 '21

American railway engineering association

A.R.E.A. completes most successful year.

Ry Age 74:598-9 Mr 13 '23

23d annual convention, Chicago, Mar. 14-16. Elec Ry J 59:526-9 Mr 25 '22; Eng N 88: 498-501, 503 Mr 23 '22; Ry R 70:373-89 Mr 18 '22

24th annual convention, Chicago, March 13-15. Ry R 72:500-7+ Mr 17 '23; Elec Ry J 61: 523-5 Mr 24 '23; Eng N 90:539-44 Mr 22 '23; Ry Age 74:615-37, 657-61, 667-91, 702-9, 713-34 Mr 14-16 '23

American railway express company

Express company equipment. Sci Am 129:235 O '23

New rules for express employees announced. Ry Age 72:523-4 Mr 4 '22

American railway tool foremen's association

11th annual convention, Chicago, Aug. 29-31. Ry Age 75:398, 425-6 S 1-8 '23

American relief administration

Report on American measures for Russian famine relief. H. Hoover. Comm & Fin Chr 115:380-1 Jl 22 '22

American river, California

Hydroelectric development on the American river. map Am Inst E E J 41:341 My '22

American road builders' association

Abstracts of some of the papers presented at the 19th annual meeting. Eng N 88:202-4 F 2 '22

Annual meeting for the election of officers, New York city, May 15. Good Roads 62:284 My 17 '22

Election of new officers and directors. Good Roads 64:195 My 23 '23; Same. Eng & Contr (R & S) 59:1259 Je 6 '23

13th American good roads congress, Chicago, Jan. 15-19. Good Roads 64:35+ Ja 24 '23; Eng N 90:178 Ja 25 '23

19th annual convention, Chicago, Jan. 17-20. Eng N 88:152-6 Ja 26 '22; Good Roads 62: 23-7, 49-54 Ja 11, 25 '22; Pub Works 52:74-5 Ja 28 '22

American rolling mill company

Earning power of research as demonstrated by the experience of the American rolling mill company. D. M. Strickland. il Ind & Eng Chem 15:78-9 Ja '23

How we made last year our best year. G. M. Verity. il System 42:19-23+ Jl '22

See also Armco association

American savings building and loan institute

Lumber dealers help people save money to build homes. Ptr Ink 123:137-8+ My 24 '23

American short line railroad association

Annual meeting, Chicago, Oct. 3-4. Ry R 73:513-14 O 6 '23; Ry Age 75:677-8 O 13 '23

Annual meeting, Washington, April 25-26. Ry Age 72:1029-31 Ap 29 '22

Annual meeting, Washington, D.C., April 25-26. B. M. Robinson. Ry R 70:631-3 My 6 '22

American smelters securities company

23d annual report for the calendar year ended December 31, 1921. Comm & Fin Chr 114: 1429-31 Ap 1 '22

American smelting and refining company

A. S. & R. denies that it has not welfare of ore producers at heart. Eng & Min J 114: 555 S 23 '22

Outlook for American smelting & refining co. H. J. Wolf. Eng & Min J 114:171-2 Jl 22 '22

23d annual report for the calendar year ended December 31, 1921. Comm & Fin Chr 114: 1429-31 Ap 1 '22

24th annual report for the year ended Dec. 31, 1922. Comm & Fin Chr 116:1068-70 Mr 10 '23; Excerpt. Eng & Min J 115:518 Mr 17 '23

American society for municipal improvements

27th annual convention, Baltimore, Oct. 24-28. Pub Works 51:352-5, 377-8 N 5-12 '21

28th annual convention, Cleveland, Oct. 2-6. Eng N 89:627-8, 658-62 O 12-19 '22; Pub Works 53:183-7, 224-6 O-N '22

American society for steel treating

4th annual convention, Detroit, Oct. 2-7. Chem & Met Eng 27:727-30 O 11 '22; Iron Age 110:931-7 O 12 '22; Iron Tr R 71:1004-6 O 12 '22; Ry Mech Eng 96:647-50 N '22

4th sectional meeting, Bethlehem, Pa. Iron Age 111:1779-80+ Je 21 '23

5th annual convention and international exposition, Pittsburgh, Oct. 8-12. Iron Age 112:826-33, 981, 1047-58 S 27, O 11-13 '23; Iron Tr R 73:956-7, 1010-11, 1113-16 O 4-18 '23; Blast F & Steel Pl 11:513 O '23; Chem & Met Eng 29:756-7 O 22 '23; Foundry 51:882-3 N 1 '23

Rise of steel treaters is rapid. E. F. Ross. Iron Tr R 73:951-5 O 4 '23

Sectional meeting of steel treaters, New York, March 3. Iron Age 109:647-8 Mr 9 '22

Technical sessions, Pittsburgh, May 25-27. Iron Tr R 70:1586-7 Je 1 '22; Iron Age 109:1523 Je 1 '22

American society for testing materials

Activities in the field of ceramics. C. L. Warwick. Am Cer Soc J 6:219-23 Ja '23

Committee D-13 on textile materials meets in Atlantic City. Textile World 62:196 Jl 8 '22

Committee D-13 to broaden scope of activities discussed at meeting in Atlantic City. Textile World 64:69-70 Jl 7 '23

Fall meeting of committee D-13 in Philadelphia. Textile World 64:2627-8 N 3 '23

Influence of the work of the American society for testing materials upon the execution of public works. G. S. Webster. Am Soc T M Pro 21:39-46 '21

Progress in standardization of testing methods and specifications. C. D. Young. Can Eng 43:474-6 O 24 '22; Same. Eng & Contr 58:190-2 Ag 23 '22

Session on non-ferrous metals and corrosion of the 25th annual meeting. Metal Ind 20:265 Jl '22

25th annual meeting, Atlantic City, June 26-30. Chem & Met Eng 27:14-16 Jl 5 '22; Eng N 89:28-32 Jl 6 '22; Iron Age 110:13-18 Jl 6 '22; Iron Tr R 71:46-8 Jl 6 '22; Ry Age 73:33 Jl 1 '22; Foundry 50:595-7 Jl 15 '22

26th annual meeting, Atlantic City, N.J., June 25-29. Iron Age 111:1861; 112:11-16 Je 28-Jl 5 '23; Iron Tr R 73:48-51 Jl 5 '23; Eng N 91:22-8, 52-7, 142-7 Jl 5-12, 26 '23; Chem & Met Eng 29:63-4 Jl 9 '23; Foundry 51:562+ Jl 15 '23; Metal Ind 21:283-4 Jl '23

American society of civil engineers

Address at the annual convention, June 21, 1922. J. R. Freeman. Am Soc C E Pro 48:1351-6 Ag '22

Address at the annual convention in Chicago, July 11, 1923. C. F. Loweth. Am Soc C E Pro 49:1363-75 S '23

Am. Soc. C. E. again rejects affiliation in Federated engineering societies. map Eng N 90:683 Ap 12 '23

Annual convention, Portsmouth, N.H., June 19-20. Eng N 89:1094 Je 29 '22

Annual meeting, New York, Jan. 17-19. Eng N 90:166-9 Ja 25 '23

53d annual convention, Chicago, July 11-13. Eng N 91:102-3 Jl 19 '23

For and against the Am. Soc. C. E. joining the federation. Eng N 90:406-7 Mr 1 '23

Meeting, San Francisco, Oct. 16-19. Eng N 89:663-4 O 19 '22

Spring meeting, Dayton, Apr. 5-7. Eng N 88:620-2 Ap 13 '22

Three score years and ten. Eng N 89:729 N 2 '22

American society of heating and ventilating engineers

Semi-annual meeting, Buffalo and Detroit, June 6-10. Dom Eng 99:535-9+ Je 17 '22; Sanitary & Heat Eng 97:362-3 Je 16 '22; Sheet Metal Worker 13:371-3 Je 23 '22; Am Soc Heat & V E J 28:547-60 Jl '22; Heat & Ven 19:49-60 Jl '22

Semi-annual meeting, Chicago, May 21-23. Dom Eng 103:430-8+ Je 2 '23; Heat & Ven 20:51-60 Je '23; Sheet Metal Worker 14:373+ Je 3 '23

23th annual meeting, New York, Jan. 24-26. Am Soc Heat & V E J 28:205-40 Mr '22; Power 55:199 Ja 31 '22; Dom Eng 98:226-30

F 4 '22; Heat & Ven 19:41-8 F '22; Sanitary & Heat Eng 97:74-7 F 10 '22; Sheet Metal Worker 13:18-21 F 3 '22

29th annual meeting, New York city and Washington, January 23-26. il Dom Eng 102:224-6+ F 3 '23; Sheet Metal Worker 14:20-1 F 2 '23; Sanitary & Heat Eng 99:90-1+ F 9 '23; Power Pl Eng 27:300-1 Mr 1 '23; Heat & Ven 20:51-3 F '23

Research laboratory

Reports of cooperative work by Laboratory and the U.S. Bureau of mines. Am Soc Heat & V E J 29:107-14 Mr '23

Research in the heating and ventilating field. J. I. Lyle. Am Soc Heat & V E J 27:873-7 D '21

American society of marine designers

Marine draftsmen change society's name at annual convention, New York, Nov. 17-19. Marine R 52:26 Ja '22

10th annual convention, New York, Nov. 18. Marine Eng 26:894 D '21

American society of mechanical engineers

42nd annual meeting, New York, Dec. 5-9. Mech Eng 44:11-21 Ja '22; Am Mach 55:985-6 D 15 '21; Iron Age 108:1554-6 D 15 '21; Iron Tr R 69:1476, 1568-70 D 8-15 '21; Power 54:954-68 D 20 '21; Mach 28:371-2 Ja '22; Management Eng 2:51-2 Ja '22

43d annual convention, New York, Dec. 4-7. Am Mach 57:944-944b D 14 '22; Elec W 80:1283-91 D 9 '22; Iron Tr R 71:1644-6 D 14 '22; Power 56:906-36 D 12 '22; Elec Ry J 60:950-1 D 16 '22; Mech Eng 45:59-67 Ja '23

Fuel problems discussed at New Haven branch. Power 54:822-3 N 22 '21

2d annual meeting of the textile division. Textile World 60:3486 D 17 '21

Spring meeting, Atlanta, Ga., May 8-11. Elec W 79:1042 My 20 '22; Am Mach 56:746-7 My 18 '22; Iron Tr R 70:1414-16 My 18 '22; Power 55:832-3 My 23 '22; Mach 28:787 Je '22; Management Eng 2:376-7 Je '22; Power Pl Eng 26:588-9 Je 1 '22

Spring meeting, Montreal, May 28-31. Can Eng 44:567+ Je 5 '23; Iron Age 111:1625-7 Je 7 '23; Iron Tr R 72:1690 Je 7 '23; Power Pl Eng 27:653-5 Je 15 '23; Mech Eng 45:424-9 Jl '23; Power 57:913-14 Je 5 '23; Am Mach 58:856c-d Je 7 '23

American society of refrigerating engineers

Constitution and by-laws of the American society of refrigerating engineers, with alphabetical list of members. Refrig Eng 10:37-49 Jl '23

9th western meeting, Detroit, May 24-26. Power 55:912-13 Je 6 '22

10th western meeting, St. Louis, Mo., April 30-May 2. Refrig Eng 9:343-55 My '23

17th annual meeting, New York, Dec. 6-7. Power 54:991 D 20 '21

18th annual meeting, New York, Dec. 4-6. Refrig W 57:24-8 D '22; Refrig Eng 9:186-209 D '22

American society of sanitary engineering

17th annual meeting, Sandusky, Ohio, August 22-24. Sanitary & Heat Eng 98:140-5 S 8 '22; Dom Eng 100:414-17 S '22

18th annual convention, Davenport, Iowa, Sept. 11-14. Dom Eng 104:592-9 S 22 '23; Sanitary & Heat Eng 100:181-7+ S 21 '23

American specification institute

American specification institute. Am Arch 123:sup14+ Ja 3 '23

Annual fall conference. Am Arch 120:490-2+; 121:40-5 D 21 '21-Ja 4 '22

Discussion of the plan and scope of the American specification institute. Am Arch 120:369-70, 415-16 N 9-23 '21

American steel and wire company**Industrial museum**

Story of wire in picture and product; the industrial museum of the American steel & wire co. at Worcester. J. Nelson. il Iron Age 111:733-8 Mr 15 '23

American sugar refining company, Baltimore, Maryland

Boiler plant of the American sugar refining company, Baltimore, Md. *il diag Power* 56: 2-8 J1 4 '22

American supply and machinery manufacturers' association

Annual convention, Atlantic City, N.J., May 8-10. *Iron Age* 109:1362-4 M 18 '22; *Am Mach* 56:760b M 18 '22

Convention, Cincinnati, May 17-19. *Am Mach* 58:782d M 24 '23; *Iron Age* 111:1491-2+ M 24 '23; *Iron Tr R* 72:1545-6 M 24 '23

American telephone and telegraph company

American telephone & telegraph company building. *il plan Arch & Bldg* 55:24-5, pl 54-61 M 18 '23

Annual report for the year ending Dec. 31, 1921. *Comm & Fin Chr* 114:957-61 M 4 '22

Annual report for the year ending Dec. 31, 1922. *Comm & Fin Chr* 116:1064-8 M 10 '23

Savings we make by planning 20 years ahead. H. B. Thayer. *il System* 44:46-9+ J1 '23

American tobacco growers' co-operative exchange

Formation of American tobacco growers' co-operative exchange. *Comm & Fin Chr* 115: 2228 N 18 '22

American trade association executives

3d annual convention, Buck Hill Falls, Pa., Oct. 25-27. *Nation's Business* 10:52+ D '22

American valuation. See Tariff—United States**American warehousemen's association**

Directory, June, 1922. 11p Charles L. Criss, General Sec., 1110 Bessemer Bldg., Pittsburgh, Pa. '22

American water works association

42d annual convention, Philadelphia, Pa., May 15-19. *Pub Works* 52:379-81, 405-6, 427-9 M 27-Je 10 '22; *Can Eng* 42:528 M 23 '22

43d annual convention, Detroit, May 21-25. *Can Eng* 44:559-61 Je 5 '23; *Eng & Contr* (W W) 59:1326 Je 13 '23; *Pub Works* 54: 203-6, 226-8 Je-J1 '23

Annual meeting of Canadian section. *Can Eng* 42:501-2 M 16 '22

3d annual meeting of the Canadian section, Windsor, Ont., May 19-21. *Can Eng* 44:545-7 M 29 '23

Constitution, list of past presidents, list of officers 1922-1923, list of sections, list of committees 1922-1923, list of members. *Am Water Works Assn J* 9:supl-90 S '22; Published annually in September

Convention program, Philadelphia, May 15-19. *Eng & Contr* 57:457-8 M 10 '22

2d mid-winter meeting of the Canadian section, Toronto, February 22-23. *Can Eng* 44: 289-97 M 6 '23

American welding society

2d annual meeting, New York, April 24-27. *Am Mach* 58:680a M 3 '23; *Elec Ry J* 61: 773 M 5 '23; *Iron Age* 111:1261+ M 3 '23

3d annual meeting, Chicago, Oct. 2-5. *Iron Age* 110:929-30 O 12 '22

3d fall meeting, Pittsburgh, Oct. 24-26. *Iron Age* 112:1201 N 1 '23

American wheat growers' associated, inc.

Wheat growers in session in Minnesota. *Comm & Fin Chr* 117:845-6 Ag 25 '23

American wholesale coal association

6th annual convention, Detroit, June 1-2. E. W. Davidson. *Coal Age* 21:971-2 Je 8 '22

7th annual convention, Cincinnati, June 12-13. *Coal Age* 23:1023-4 Je 21 '23

American window glass company

Report for year ended Aug. 31, 1922. *Comm & Fin Chr* 117:1881-2 O 27 '23

American wood preservers' association

Annual meeting, Chicago, Jan. 24-26. *Eng N* 88:207+ F 2 '22

18th annual convention, Chicago, Jan. 24-26. *Ry Mech Eng* 96:269 Ap '22

19th annual convention, New Orleans, La., Jan. 23-25. *Ry Age* 74:333-7 F 3 '23

American woolen company

Building of the American woolen co. family. S. Sayward. *il Textile World* 60:3091+ N 26 '21

23d annual report for the fiscal year ending December 31, 1921. *Textile World* 61:1536 M 11 '22; Same. *Comm & Fin Chr* 114:1081 M 11 '22

24th annual report for the year ending Dec. 31, 1922. *Comm & Fin Chr* 116:1078-9 M 10 '23

American zinc institute

American zinc institute. F. E. Wormser. *Eng & Min J* 113:819-22 M 13 '22

Meeting at St Louis, P. R. Coldren. *Eng & Min J* 113:829 M 13 '22

Zinc institute decides on national campaign to advertise products. P. R. Coldren. *Eng & Min J* 115:854 M 12 '23

American zinc, lead and smelting company

Facts for the stockholder. *Eng & Min J* 116: 173 J1 28 '23

Americanisms

America's English. E. N. Teall. *Inland Ptr* 71:871-2 S '23

That American language, by H. L. Mencken. Review, by E. N. Teall. *Inland Ptr* 71:710-11 Ag '23

Americanization

Americanization work proving successful. *Elec Ry J* 61:373 M 3 '23

Americanizing utility employees. *Gas Age* 51:281-2 M 3 '23

Building both citizens and team-workers. *Factory* 28:476+ Ap '22

Is education of trackmen worth while? *Ry Age* 73:1225-6 D 30 '22

Leavening of Lebanon. T. M. Knappen. *Nation's Business* 10:30-1 O '22

Little book for immigrants in Boston. 103p Boston Committee for Americanism of the city of Boston '21

Radio's important place in the work of Americanization. R. Olyphant. *Wireless Age* 9:27 J1 '22

See also Immigrants in the United States

Bibliography

Immigration and community Americanization. A. D. Grace, p. 89-94 Acme ptg. & pub. co., Minneapolis '21

Amherst college, Amherst, Massachusetts

Converse memorial library, Amherst college, Amherst, Mass. *Arch Forum* 36:pl 35-7 M 18 '22

Amides

Amide formation from esters of secondary alkyl malonic acids. A. W. Dox and L. Yoder. *Am Chem Soc J* 44:1564-7 J1 '22

Catalytic racemisation of optically active amides. A. McKenzie and I. A. Smith. *Chem Soc J* 121:1348-61 J1 '22

Isomorphism of the amides and substituted amides of dichloro- and chlorobromo-acetic acids. P. V. McKie. *Chem Soc J* 123:2213-17 S '23

Zum Hofmannschen abbau der säure-amide in amine. E. Beckmann and E. Correns. *Deutsche Chem Gesell Ber* 55:848-51 Ap '22

Amidines

Condensation of amidines with ethoxy-methylene derivatives of β -ketonic esters and of β -diketones. P. C. Mitter and J. C. Bardhan. *Chem Soc J* 123:2179-84 S '23

Pyrimidines from alkylmalonic esters and aromatic amidines. A. W. Dox and L. Yoder. *Am Chem Soc J* 44:361-6 F '22

Tautomerism of amidines; alkylation of open-chain amidines. F. L. Pyman. *Chem Soc J* 123:367-70 F '23

Tautomerism of amidines; 2:4- and 2:5-diphenylglyoxalines. R. Burtles and F. L. Pyman. *Chem Soc J* 123:361-7 F '23

Amidophenol. See Amino phenols**Amines**

Alkylierung von aminen mit sulfonsäureestern. Z. Földi. *Deutsche Chem Gesell Ber* 55:1535-43 Je '22

Amin-oxidation, parts 3-5. S. Goldschmidt and others. *Deutsche Chem Gesell Ber* 55: 616-47 M 18 '22

Amines—Continued

Arylamine salts of the anthraquinonesulphonic acids. A. G. Perkin and W. G. Sewell. *Chem Soc J* 42:27-31 Ja 26 '23

Azo-ester reaction with amines and enols; abstract. O: Diels. *Chem Soc J* 122 pt 1: 1191-6 D '22

Chlorosulphonyl derivatives of aromatic amines. R. N: Johnson and S: Smiles. *Chem Soc J* 123:2384-8 S '23

Decomposition of amines in the vapor stage. F. W. Upson and L. Sands. *Am Chem Soc J* 44:2306-10 O '22

Identification of amines. C. S. Marvel and F. E. Smith. *Am Chem Soc J* 45:2696-8 N '23

Mercuri-organic derivatives; the mercurization of aromatic amines and its relation to the theory of substitution. M. S. Kharasch and I. M. Jacobsohn. *Am Chem Soc J* 43: 1894-1903 Ag '21

Photosynthesis of amines. O. W. Snow and J. F: S. Stone. *Chem Soc J* 123:1509-15 Je '23

Reactivity of the oxidised cellulose towards diazotised aromatic amines. A. E. Everest and A. J: Hall. *Soc Dyers & Col J* 39:47-9 F '23

Researches on pseudo-bases; a new synthesis of tertiary amines of the form $R^1CH_2NR^2R^3$. G. M. Robinson and R. Robinson. *Chem Soc J* 123:532-43 Mr '23

Study of amino and oximo derivatives of thymoquinone. R. M. Hixon. *Am Chem Soc J* 45:2333-41 O '23

Synthese von β -ketobasen aus acetophenon, formaldehyd und aminsäuren. C. Mannich and G. Heilner. *Deutsche Chem Gesell Ber* 55:356-65 F '22

Über die azo-ester-reaktion der amine und enole. O: Diels. *Deutsche Chem Gesell Ber* 55:1524-8 Je '22

Über die einwirkung von sulfurylchlorid auf aromatische amine. W. Eller and L. Klemm. *Deutsche Chem Gesell Ber* 55:217-24 Ja '22

Über die gegenseitige verdrängung der aminreste bei anilen. G. Reddelien. *Deutsche Chem Gesell Ber* 54:3121-31 D '21; *Abstract. Chem Soc J* 122 pt 1:145-6 F '22

Über die synthese von β -keto-basen aus fett-aromatischen ketonen, formaldehyd und sekundären aminen. C. Mannich and D. Lammering. *Deutsche Chem Gesell Ber* 55: 3510-26 N '22; *Abstract. Chem Soc J* 124 pt 1:43-5 Ja '23

Umsetzung von α -halogenierten ketonen mit schwach basischen aminen und aufbau von m -phenyl-acridin-abkömmlingen. F. Mayer. and others. *Deutsche Chem Gesell Ber* 55: 2049-58 J '22; *Abstract. Chem Soc J* 122 pt 1:865-7 S '22

Zum Hofmannschen abbau der säure-amide in amine. E. Beckmann and E. Correns. *Deutsche Chem Gesell Ber* 55:848-51 Ap '22

See also Alkylamines; Hydroxyamines

Amino acids

L'alimentation dans ses rapports avec le besoin qualitatif d'azote (amino-acides indispensables) et les facteurs accessoires de la nutrition (vitamines). A. Blanchetiere. *Chimie & Ind* 7:870-8; 8:990-1002 My, N '22; *Bibliography. 8:1002-4 N '22*

Alkalimetrische bestimmung von aminosäuren und peptiden. R: Willstätter and E. Waldschmidt-Leitz. *Deutsche Chem Gesell Ber* 54:2988-93 D '21

Effect of amino acids in retarding the hydrolytic decomposition of an enzyme (pancreatic amylase). H. C. Sherman and F. Walker. *Am Chem Soc J* 45:1960-4 Ag '23

Influence of amino acid in protecting amylase from inactivation by mercury. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 44:2923-6 D '22

Influence of certain amino acids upon the enzymic hydrolysis of starch. H. C. Sherman and F. Walker. *Am Chem Soc J* 43: 2461-9 N '21

Occurrence of polypeptides and free amino acids in the ungerminated wheat kernel. S. L. Jodidi and K. S. Markley. *Am Chem Soc J* 45:2137-44 S '23

Quantitative determination of amino acids of feeds; the amino acids of linseed meal, wheat bran, soy beans and red clover hay. T. S. Hamilton and others. *Am Chem Soc J* 45:815-19 Mr '23

Study of the influence of arginine, histidine, tryptophane and cystine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 43:2469-76 N '21

Synthese von oxy-amino-säuren und die amino-säure aus methyl-cyclopropyl-keton; acetyl-trimethylen. N. D. Zelinsky and E. F. Dengin. *Deutsche Chem Gesell Ber* 55:3354-61 O '22

Über β -amino-dicarbonsäuren und amino-polycarbonsäuren. C. Mannich and E. Ganz. *Deutsche Chem Gesell Ber* 55:3486-3504 N '22; *Abstract. Chem Soc J* 124 pt 1:19-22 Ja '23

Über die darstellung von β -oxy- α -amino-säuren aus olefin-carbonsäuren. W. Schrauth and H. Geller. *Deutsche Chem Gesell Ber* 55:2783-96 S '22; *Abstract. Chem Soc J* 122 pt 1:1125-6 D '22

Über eine synthese von amino-oxy-dicarbonsäuren. C. Mannich and M. Baurath. *Deutsche Chem Gesell Ber* 55:3504-9 N '22

Über versuche zur darstellung des carbonyleyanids und eine methode zur gewinnung ungesättigter amino-säuren. O: Diels, H. Gärtner and R: Kaack. *Deutsche Chem Gesell Ber* 55:3439-48 N '22

See also Glycine

Amino-alcohols. See Alcohols

Amino aldehydes

Über abkömmlinge von amino-aldehyden. E. Radde. *Deutsche Chem Gesell Ber* 55:3174-9 O '22; *Abstract. Chem Soc J* 122 pt 1:1154-6 D '22

Amino compounds

Derivatives of tetrahydrocarbazole; amino-compounds. G: A. Edwards and S. G. P. Plant. *Chem Soc J* 123:2393-9 S '23

Introduction of the chloroethyl group into phenols, alcohols, and amino-compounds. G: R. Clemon and W: H: Perkin, jr. *Chem Soc J* 121:642-9 Ap '22

Amino propanols

Tetrahydro-1, 3, 2-oxazones and substituted gamma-amino propanols. J. S. Pierce and R. Adams. *Am Chem Soc J* 45:790-5 Mr '23

Aminoacenaphthene

Zur kenntnis des 5-amino-acenaphthens. K. Fleischer and K. Schranz. *Deutsche Chem Gesell Ber* 55:3253-80 O '22; *Abstract. Chem Soc J* 122 pt 1:1142-4 D '22

Aminoazo compounds

Constitution of the products arising from the condensation of α -aminoazo-compounds with aldehydes; abstract. O: Fischer. *Chem Soc J* 122 pt 1:956-7 O '22

Aminobenzoic acids

Decomposition of the aminobenzoic acids by boiling water. L. McMaster and R. L. Shriner. *Am Chem Soc J* 45:751-3 Mr '23

Amino-butyric acid

Synthese des β -phenyl- α -alanins und der α -amino- n -buttersäure. T. Curtius and W. Sieber. *Deutsche Chem Gesell Ber* 55:1543-58 Je '22; *Abstract. Chem Soc J* 122 pt 1: 721-3 Ag '22

Aminocrotonic esters

Über einige säurederivate von dinitrilen und β -amino-crotonsäure-ester. E. Benary and M. Hosenfeld. *Deutsche Chem Gesell Ber* 55:3417-29 N '22; *Abstract. Chem Soc J* 124 pt 1:37-9 Ja '23

Aminoglyoxalines

Orientation of the 1:4- and 1:5-dimethyl-glyoxalines; mode of fission of 5-amino-glyoxalines. F. L. Pyman. *Chem Soc J* 121: 2616-26 N '22

Amino hydroxypimelic acids

Synthese von γ -oxy- und γ -oxy- α -amino-pimelinsäuren. H. Leuchs and W. Nagel. Deutsche Chem Gesell Ber 55:3950-60 D '22; Abstract. Chem Soc J 124 pt 1:89-90 F '23

Aminonaphtholdisulfonic acid

Direct cotton black X with green undertone. H. Herlinger. Color Tr J 11:144-5 O '22

Substituted naphthalene-sulfonic acids; a method for identifying H-acid and its intermediates obtained from naphthalene-2,7-disulfonic acid. D. F. J. Lynch. J Ind & Eng Chem 14:964-5 O '22

Amino-para-cymene

Para-cymene studies; the chlorination of 2-amino-para-cymene. A. S. Wheeler and I. V. Giles. Am Chem Soc J 44:2605-12 N '22

Amino-para-xylene

Bromination of 2-amino-para-xylene and certain new azo dyes. A. S. Wheeler and E. W. Constable. Am Chem Soc J 45:1999-2001 Ag '23

Aminophenols

Determination of para-amidophenol in the presence of metol. W. F. A. Ermen. Soc Chem Ind J (Chem & Ind) 42:538 Je 1 '23

Effect of relative positions of hydroxyl and amino radicals in the migration of acetyl from nitrogen to oxygen. L. C. Raiford and H. A. Iddles. Am Chem Soc J 45:469-75 F '23

Electrolytic preparation of ortho-amidophenol. O. W. Brown and J. C. Warner. Am Electrochem Soc Trans v 41 (preprint 12):143-56 Ap '22; Same. J Phys Chem 27:455-65 My '23

Electrolytic preparation of para-amidophenol. J. C. Warner and O. W. Brown. J Phys Chem 27:652-73 O '23

Manufacture of para-amino-phenol base and the hydrochloride. H. M. Gensel. Color Tr J 10:10-11 Ja '22

Migration of acyl from nitrogen to oxygen. L. C. Raiford and J. R. Couture. Am Chem Soc J 44:1792-8 Ag '22

Rings through the meta and para positions of benzene; a study of certain ethers of resorcinol and meta-aminophenol. W. C. Wilson and R. Adams. Am Chem Soc J 45:528-40 F '23

Über 1,3-dimethyl-5-oxy-4-benzaldehyd, hemellitenol und isopseudocumenol. K. v. Auwers and K. Saurwein. Deutsche Chem Gesell Ber 55:2372-89 S '22; Abstract. Chem Soc J 122 pt 1:1031-3 N '22

Aminophenolsulfonic acid

Manufacture of amino-phenol-sulfonic acid (2:1:4). J. R. Minewitch. Color Tr J 9:240-2 D '21

Aminophenylacetic acid

Über die freie *o*-aminophenyl-essigsäure, ihre ester und umsetzungen. P. W. Neber. Deutsche Chem Gesell Ber 55:826-48 Ap '22; Abstract. Chem Soc J 122 pt 1:545-7 Je '22

Aminosulfonic acid

Condensation of aromatic *o*-amino-sulphonic acids with isocyanic acid. J. R. Scott and J. B. Cohen. Chem Soc J 121:2034-51 O '22

Aminotetrahydronaphthalene

Über benzo-polymethylen-verbindungen; pharmakologische analoge des *ac*-, β -amino-tetrahydronaphthalins. J. v. Braun, H. Gruber and G. Kirschbaum. Deutsche Chem Gesell Ber 55:3664-74 D '22; Abstract. Chem Soc J 124 pt 1:107-9 F '23

Aminotriphenylamines

Three amino-triphenylamines. J. Piccard and R. Q. Brewster. Am Chem Soc J 43:2630-1 D '21

Ammeters

Non-residual steel as applied to a simplified ammeter. R. T. Pierce and T. D. Yensen. il diags Elec J 20:160-1 My '23

Radio frequency ammeters and current transformers. P. MacGahan. il Elec J 19:271-3 Je '22

Triplex ammeter used for three-phase circuits. H. A. P. Langstaff. il Elec W 81:924 Ap 21 '23

Testing

Checking ammeters and relays. R. Brown. diags Power 58:683-5 O 30 '23

Ammines

Complex metallic ammines; the introduction of di- and tri-basic organic acid radicles into the pentamminecobaltic complex. J. C. Duff. Chem Soc J 123:560-75 Mr '23

Ammino compounds

Complex metallic ammines; *cis*-phthalato-, *cis*-homophthalato-, and other diethylenediaminecobaltic salts. J. C. Duff. Chem Soc J 119:1982-3 D '21

Complex metallic ammines; conductivities of diethylenediaminecobaltic bromides. J. C. Duff. Chem Soc J 121:450-4 Mr '22

Über die löslichkeit von ammoniakaten; beiträg zur kenntnis der löslichkeit. F. Ephraim and P. Mosimann. Deutsche Chem Gesell Ber 55:1608-19 Je '22; Abstract. Chem Soc J 122 pt 2:574-5 Ag '22

See also Cobalt ammines

Ammonia

Action of ammonia water on dicyandiamide. T. L. Davis. Am Chem Soc J 43:2230-3 O '21

Action of ammonium nitrate and of aqueous ammonia on copper; properties of cupric tetrammine nitrite and nitrate. H. Bassett and R. G. Durrant. Chem Soc J 121:2630-40 N '22

Adsorption of ammonia by silica gel. L. Y. Davidheiser and W. A. Patrick. Am Chem Soc J 44:1-8 Ja '22

Alkalinity of ammonia. A. E. C. Smith. Soc Chem Ind J (Chem & Ind) 42:578 Je 15 '23

Ammonia as a refrigerant. W. H. Motz. Can Chem & Met 6:260-4; 7:7-11 D '22-Ja '23

Ammonia heat diagram and how to use it. T. M. Gunn. charts diag Power 56:494-7 S 26 '22

Ammonia losses in carbonization. H. D. Greenwood. Gas J (Lond) 161:750-1 Mr 21 '23

Ammonia still operation graphically is demonstrated. J. S. Unger. Gas Age 52:277-8 S 8 '23

Ammoniacal liquor for softening water. Chevalet. Gas J (Lond) 163:735 S 12 '23

Apparent deviation from Henry's law for the system, ammonia-water. G. Calingaert and F. E. Huggins, jr. Am Chem Soc J 45:915-20 Ap '23

Basic strength of ammonia and allied bases. R. M. Caven. Soc Chem Ind J (Chem & Ind) 42:164-6 F 23 '23

Bildung von acetylen und ammoniak bei der unvollständigen verbrennung. K. A. Hofmann and E. Will. diags Deutsche Chem Gesell Ber 55:3228-33 O '22

Boiling points of ammonia, sulfur dioxide, and nitrous oxide. F. W. Bergstrom. diags J Phys Chem 26:876-94 D '22

Carbon dioxide versus ammonia as a refrigerant. H. J. Macintire. Power 57:288-90 F 20 '23; Same. Refrig Eng 9:318-20 Ap '23

Composition of the liquid phases in a monovariant system, liquid-liquid-vapor, for mixtures of sodium and ammonia. C. A. Kraus and W. W. Lucasse. Am Chem Soc J 44:1949-53 S '22

Composition, purification, and certain constants of ammonia. E. C. McKelvy and C. S. Taylor. U S Bur Stand Sci Pa 465:655-93 '23; Same. Refrig Eng 9:213-25+ Ja '23

Compression refrigerating cycle. W. H. Motz. Refrig Eng 9:267-74+ Mr '23; Abstract. Mech Eng 45:366-7 Je '23

Concentration of ammonia liquor. A. S. Nisbet. Gas J (Lond) 163:747-8; Discussion. 748-9 S 12 '23

Conductance of concentrated solutions of sodium and potassium in liquid ammonia. C. A. Kraus and W. W. Lucasse. diag Am Chem Soc J 43:2529-39 D '21

Control devices employed in testing ammonia catalysts. A. T. Larson and S. Karrer. flow sheet diags J Ind & Eng Chem 14:1012-14 N '22

Crude ammonia liquor as fertilizer. I. Ginsberg. Am Gas J 117:70-1 Jl 22 '22

Ammonia—Continued

- Determining ammonia without distillation. A. Sander. *Am Gas J* 116:576-7 Je 24 '22
- Economic value of precooling liquid ammonia. T. M. Gunn. *Power* 57:357-9 Mr 6 '23
- Equilibrium in liquid mixtures of ammonia and xylene. C: A. Kraus and E: H. Zeitfuchs. *diags Am Chem Soc J* 44:1249-60 Je '22
- Equilibrium in the system ammonia:mercuric cyanide. S. R. Brinkley. *diag Am Chem Soc J* 44:1210-16 Je '22
- Factors influencing the yield of ammonia in the carbonisation of coal. R. A. Mott and H. J. Hodsman. *Soc Chem Ind J* 42:4-12 Ja 5 '23; Same. *Gas J (Lond)* 163:530-1, 578-80, 737-9 Ag 15-22, S 12 '23; Discussion. *Soc Chem Ind J* 42:12, 26, 39-40 Ja 5, 19-26 '23; *Gas J (Lond)* 163:739 S 12 '23
- Flexibility of cast iron radiator sections for direct expansion of ammonia. H. J. Macintire. *il diags Refrig Eng* 9:174-8; Discussion. 178-9. D '22
- Gas masks for gases met in fighting fires. A. C. Fieldner, S. H. Katz and S. P. Kinney. *U S Bur Mines Tech Pa* 248:13-14 '21; Same. *Gas Age* 48:879-80 D 31 '21
- How to use the Mollier ammonia chart. J. R. Randolph. *chart Power Pl Eng* 27:640-3 Je 15 '23
- Manganese in the catalytic oxidation of ammonia. C: S. Piggot. *diag Am Chem Soc J* 43:2034-45 S '21
- Measurement of specific heat of super-heated ammonia. E. F. Mueller. *Refrig Eng* 9:1-2; Discussion. 2-3 JI '22
- Meters for ammonia liquors. A. Thau. *diags Chem & Met Eng* 25:1062-3 D 7 '21
- Modern methods of ammonia absorption. F. W. Steere. *Chem & Met Eng* 29:717-18 O 15 '23
- Molecular weight of the sodium-tellurium complex in liquid ammonia as derived from vapor-pressure measurements. C: A. Kraus and E: H. Zeitfuchs. *diag Am Chem Soc J* 44:2714-28 D '22
- Mollier chart. E. F. Mueller and C. H. Meyers. *Refrig Eng* 9:295-6+ Ap '23
- Mollier chart of properties of ammonia, 1923. U S Bur Stand misc pub 52 '23 [pub. also in *Circ.* 142]
- Nature of the complexes formed between sodium and tellurium in liquid ammonia. C: A. Kraus and C. Y. Chiu. *Am Chem Soc J* 44:1999-2008 S '22
- Nitric acid from saltpetr or synthetic ammonia. G. B. Taylor. *Chem Age* 30:244-6 Je '22; Same. *Chem & Met Eng* 26:1217-19 Je 28 '22
- Nitrogen distribution in verticals. C. H. Stone. *Gas Age* 51:241-3 F 24 '23; Same cond. *Chem & Met Eng* 28:507-8 Mr 14 '23
- Oxidation of ammonia. *Chem & Met Eng* 26:704-5 Ap 12 '22
- Oxidation of ammonia—the work of the Sheffield experiment station. H. A. Curtis. *Chem & Met Eng* 27:699-703 O 4 '22
- Photocatalysis; the photosynthesis of naturally occurring nitrogen compounds from carbon dioxide and ammonia. E: C: C. Baly, I. M. Heilbron and H. J. Stern. *il Chem Soc J* 123:185-97 Ja '23
- Pound of ammonia. J: E. Starr. *Refrig W* 57:19-20 Je '22
- Proper scrubbing and condensing facilities in a coal gas plant and their effect upon tar and ammonia recovery. J. R. Wohrley. *diags Am Gas Assn Technical sec v* 4:349-75 '22; Same. *Gas Age* 50:521-6+ O 21 '22; Abstract. *Am Gas J* 117:494-8 O 27 '22; Discussion. *Am Gas Assn Technical sec v* 4:376-87 '22
- Reactions of strongly electropositive metals with organic substances in liquid ammonia solution. C: A. Kraus and G: F. White. *Am Chem Soc J* 45:768-78 Mr '23
- Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the action of sodium on phenyl halides in liquid ammonia. G: F. White. *diag Am Chem Soc J* 45:779-84 Mr '23
- Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the reduction of nitrobenzene by sodium in liquid ammonia. G: F. White and K. H. Knight. *Am Chem Soc J* 45:1780-7 JI '23
- Reactivity of ammonia. E: C: C. Baly and H. M. Duncan. *Chem Soc J* 121:1008-14 Je '22
- Report on present status of the investigation of the properties of ammonia. A S R E J 8:354-5 Ja '22
- Resistance-temperature coefficient of concentrated solutions of potassium in liquid ammonia and the specific conductance of solutions of potassium in liquid ammonia at intermediate concentrations. C: A. Krause and K. H. Knight. *Am Chem Soc J* 45:2551-5 N '23
- Resistance-temperature coefficient of concentrated solutions of sodium in liquid ammonia. C. A. Kraus and W. W. Lucasse. *Am Chem Soc J* 44:1941-9 S '22
- Scrubbing and condensing coal gas. J. R. Wohrley. *il diags plan Gas Age* 50:521-6+ O 21 '22; Abstract. *Am Gas J* 117:494-8 O 27 '22
- Specific heats of ammonia, sulphur dioxide, and carbon dioxide. J. R. Partington and H. J. Cant. *diags Philos Mag* 6th ser 43:369-80 F '22
- Specific volume of liquid ammonia. C. S. Cragoe and D. R. Harper. *diags U S Bur Stand Sci Pa* 420:287-315 '21
- Specific volume of saturated ammonia vapor. C. S. Cragoe, E. C. McKelvy and G. F. O'Connor. *U S Bur Stand Sci Pa* 467:707-35 '23; Same. *Refrig Eng* 9:239-48+ F '23; Abstract. *Mech Eng* 45:313 My '23
- Study of the system ammonia:magnesium:mercury; the formation of magnesium hexammine. A. G. Loomis. *diags Am Chem Soc J* 44:8-19 Ja '22
- Study of the systems ammonia—water as a basis for a theory of the solution of gases in liquids. B: S. Neuhausen and W. A. Patrick. *diags J Phys Chem* 25:693-720 D '21
- Synthesis of urea from ammonia and carbon dioxide. N. W. Krase and V. L. Gaddy. *diag J Ind & Eng Chem* 14:611-16 JI '22
- Tables of thermodynamic properties of ammonia. U S Bur Stand *Circ* 142:1-48 '23
- Thermodynamics of ammonia compression. W. H. Motz. *Refrig Eng* 9:119-24 O '22; Discussion. 9:124-6+, 233-5, 262 O '22, Ja-F '23
- Treatment of effluent spent liquors from the distillation of ammoniacal liquors. T. L. Bailey. *Gas J (Lond)* 163:256-8 JI 11 '23
- Vapor pressure of sulfur dioxide and ammonia. F. W. Bergstrom. *diags J Phys Chem* 26:358-76 Ap '22
- Viscosity and molecular dimensions of gaseous ammonia, phosphine, and arsine. A. O. Rankine and C. J. Smith. *diag Philos Mag* 6th ser 42:601-14 N '21
- Why pick on ammonia? W. F. Schaphorst. *Power Pl Eng* 26:719-20 JI 15 '22

Analysis

- Sur le dosage de l'azote ammoniacal dans les matières organiques. J. Froidevaux. *Chimie & Ind* 8:792-6 O '22; Discussion. 9:270-1 F '23

Manufacture

- Adoption, par la Chambre des députés, du projet de loi pour la fabrication de l'ammoniaque par le procédé Haber. *Génie Civil* 82:196-9 Mr 3 '23
- Ammonia yields from vertical retorts. G: Braidwood. *il diags Gas J (Lond)* 163:180-8; Discussion. 188-9 JI 4 '23
- L'ammoniaque par le procédé Georges Claude. Lheure. *Soc Ing Civils Bul* 75:326-33 Ap '22
- L'application des gaz de fours à coke à la synthèse de l'ammoniaque. G: Claude. *Génie Civil* 82:159-60 F 17 '23
- Beiträge zur erhöhung der ammoniakausbeute bei der destillation der steinkohle; die gewinnung des im koksofengase enthaltenen zyanwasserstoffs durch umwandlung in ammoniumsulfat. F. Sommer. *diags Stahl & Eisen* 41:852-9 Je 23 '21; Abstract (Increasing ammonia output in coal distillation). *Am Gas J* 116:271-2 Mr 25 '22
- Can ammonia be made, as well as saved, from coke-oven gas? *Coal Age* 24:281-2 Ag 23 '23

Ammonia—Manufacture—Continued

- Casale catalytic apparatus for ammonia synthesis. *diag Chem Age* 30:166-7, Ap '22
- Characteristics of the ammonia synthesis. L. Casale. *Chem Age* 31:117-19 Mr '23
- Claude ammonia process. *Chem & Met Eng* 26:58 Ja 11 '22
- Claude synthetic ammonia process. J. H. West. *Engineering* 112:732-3 N 25 '21; Same. *Engineer* 132:572 N 25 '21
- Contributions to the study of ammonia catalysts. A. T. Larson and others. *diags Chem & Met Eng* 26:493-7, 555-60, 588-93, 647-54, 683-5 Mr 15-Ap 12 '22
- Design and working of ammoniacal liquor stills. P. Parrish. *Engineering* 114:63-4 Jl 21 '22
- Fausser synthetic ammonia process. *diags Chem Age (Lond)* 9:28-30 Jl 14 '23; Same. *Chem Age* 31:413-15 S '23; Same. *Can Chem & Met* 7:253-4 O '23; Abstract. *Soc Chem Ind J (Abstracts)* 42:601-3 Jl 6 '23
- German and American synthetic-ammonia plants. R. S. Tour. *diag Chem & Met Eng* 26:245-8, 307-11, 359-62, 411-15, 463-5 F 8-Mr 8 '22; Same. *Am Inst Chem Eng Trans v* 13 pt 2:273-323 '20-'21
- Nitrogen fixation by the cyanide process. F. E. Bartell. *il diag J Ind & Eng Chem* 14: 699-704 Ag '22
- La politique économique de la France en matière d'engrais azotés. A. Grebel. *Génie Civil* 82:224-5 Mr 10 '23
- Le procédé Haber. Patart. *diags Soc Ing Civils Bul* 75:203-52, pl 23 Ap '22; Abstract. *Génie Civil* 80:499-501 Je 3 '22; Discussion. 80:523-5 Je 10 '22
- Procedure of the synthesis of ammonia. C. Bosch. *il diags Chem Age* 29:451-6 N '21
- Production of ammonia by the sodium cyanide method. F. E. Bartell. *J Ind & Eng Chem* 14:516-21 Je '22
- Production of nitrogen and hydrogen for synthetic ammonia manufacture. H. S. Taylor. *flow sheet diags Chem & Met Eng* 27:1263-6 D 27 '22
- Recovering ammonia in gas plants. F. Plenz. *Am Gas J* 119:29-32 Jl 14 '23
- Sur la fabrication de l'ammoniaque synthétique. C. Lormand. *Chimie & Ind* 9:183-7 Ja '23
- La synthèse de l'ammoniaque. G. Claude. *diags Soc Ing Civils Bul* 75:253-69, pl 25 Ap '22; Abstract. *Génie Civil* 80:501-4 Je 3 '22; Discussion. 80:523-5 Je 10 '22
- Synthesis of ammonia from its elements in the low-voltage arc. H. H. Storch and A. R. Olson. *diags Am Chem Soc J* 45:1605-14 Jl '23
- Synthetic ammonia by the Claude process. *il diags Chem & Met Eng* 28:498-501 Mr 14 '23
- Synthetic ammonia from coke-oven gas. *Chem & Met Eng* 29:105 Jl 16 '23; Same. *Chem Age (Lond)* 9:121 Ag 1 '23
- Les tubes du procédé Georges Claude. L. Guillet. *diag Soc Ing Civils Bul* 75:320-5, pl 27 Ap '22
- La valeur marchande de l'azote dans les différents engrais azotés. C. Harnist. *Soc Ing Civils Bul* 75:334-42 Ap '22

Tables

Ammonia table. *Sci Am* 127:228 O '22

Ammonia compressors

- Ammonia compressor troubles. L. C. Miller. *il diags Power Pl Eng* 26:128-30 Ja 15 '22
- Compound ammonia compression. G. A. Horne. *il diags A S R E J* 8:245-96, 455-87 Ja, My '22; Abstract. *Power* 55:937-8 Je 13 '22; Discussion. A S R E J 8:296-307 Ja '22; *Refrig Eng* 9:95-101; 10:23-33, 83-4 S '22, Jl-Ag '23
- Compressor cylinder design. J. H. H. Voss. *Refrig W* 57:11-15+ My '22
- Diagnosing ammonia compressor troubles. T. M. Gunn. *Power* 56:649-51 O 24 '22
- Effect of clearance on an ammonia compressor. *diags Power* 56:418-20 S 12 '22
- Feather valve compressors of three types, construction and operation. F. L. Fairbanks. *il Refrig Eng* 9:85-90 S '22; Abstract. *Mech Eng* 44:842-3 D '22; Discussion. *Refrig Eng* 9:90-2+ S '22

- High-speed ammonia compressor. *diag Mech Eng* 43:817-18 D '21; Same cond. *Engineering* 112:507-8, 510 O 7 '21
- Horizontal ammonia compressors. *il diags Power Pl Eng* 26:281 Mr 1 '22
- Indicating the ammonia compressors. *diags (supp) Power* 56:369-71 S 5 '22
- Influence of cooling water jacket on the performance of compression refrigerating machines. W. Fischer. *Mech Eng* 44:536 Ag '22
- Inspecting the ammonia compressor for leakage. A. Gass. *diag Power Pl Eng* 27:387 Ap 1 '23
- Is the compound ammonia compressor worth while? H. J. Macintire. *Power* 58:182-4 Jl 31 '23
- Losses in ammonia compressors. S. F. Smith. *Refrig W* 57:25-6 Mr '22
- Multiple effect compression. H. T. Whyte. *diags Refrig Eng* 9:10-11; Discussion. 11+ Jl '22
- Operating ammonia compressors. W. S. Doan. *Refrig W* 57:17-18 Ap '22
- Oscillating ammonia compressor. H. J. Macintire. *il diags Refrig Eng* 9:252-3 F '23; Same abr. *Mech Eng* 45:312-13 My '23; Discussion. *Refrig Eng* 9:253 F '23
- Packing for compressor stuffing boxes; discussion. *Refrig Eng* 10:118-19 O '23
- Performance of single acting simple ammonia compressor, and tubular condensers. G. A. Horne. *il Refrig Eng* 9:143-51 N '22; Abstract. *Mech Eng* 45:129-30 F '23; Discussion. *Refrig Eng* 10:14-21 Jl '23
- Present status of the synchronous motor for direct connection to compressors. T. Schou. *diags Refrig Eng* 9:53-9; Discussion. 59-61+ Ag '22
- Relative temperature and pressure in ammonia compression. *Power* 58:30-1, 191 Jl 3, 31 '23
- Specifications for a synchronous motor for direct connection to an ammonia compressor. *Refrig Eng* 9:194-6 D '22
- Starterless induction motors for ammonia compressors. J. Lebovici. *il A S R E J* 8: 398-402; Discussion. 402-4 Mr '22
- Starting synchronous motors; driving ammonia compressors. A. R. Stevenson, jr. *Power* 55:764-7 My 16 '22; Same. *Refrig Eng* 9:16-19 Jl '22
- Use of the indicator on the modern ammonia compressor. G. E. Porce. *diags Power* 58: 212-14 Ag 7 '23

Lubrication

- Selecting ammonia compressor oils. W. F. Osborne. *Power* 56:566-7 O 10 '22

Repair

- Repairing a damaged ammonia compressor. V. H. Cox. *il Power* 57:137-4 Ja 23 '23
- Repairing small ammonia compressors. J. V. Romig. *diags Pop Mech* 37:127-9 Ja '22

Safety devices and measures

- Making ammonia compressors safe. *il diags Power* 55:727, 906; 56:104 My 9, Je 6, Jl 18 '22

Valves

- Leaky compressor valve affects coil temperature. C. E. Freeman. *diag Power* 55:72 Ja 10 '22
- Valves for high-speed ammonia compressors. J. H. H. Voss. *il Power* 55:619-21 Ap 18 '22

Ammonia condensers

- Advantages of a large ammonia condenser. L. C. Miller. *Power* 56:568-70 O 10 '22
- Ammonia condenser design. O. A. Anderson. *Refrig Eng* 10:115-17; Discussion. 117+ O '23
- Comparative ammonia condenser reports point out inefficiencies. P. W. Evans. *Power* 57: 28-30 Ja 2 '23; Discussion. 57:147, 261-2 Ja 23, F 13 '23
- Condensers in refrigeration. J. E. Starr. *Refrig W* 57:13-14 N '22
- Cooling water for ammonia condenser. A. H. Luedicke. *Power* 55:302 F 21 '22
- Heat transferred in ammonia condenser. R. H. Hyson. *Power* 55:514-15 Mr 28 '22; Discussion. H. A. Leeuw. 56:26-7 Jl 4 '22
- Notes on ammonia condensers. *Power* 56:797 N 21 '22
- Operating characteristics of ammonia condensers. O. A. Anderson. *Power* 57:459-60 Mr 20 '23

Ammonia condensers—Continued

Performance of single acting simple ammonia compressor, and tubular condensers. G: A. Horn. *il Refrig Eng* 9:143-51 N '22; Abstract. *Mech Eng* 45:129-30 F '23; Discussion. *Refriger Eng* 10:14-21 JI '23

Ruling factors in the selection of an ammonia condenser. L. C. Miller. *diags Power* 56: 721-3 N '22

Types and constructions of ammonia condensers. *diags Power* 55:208-10 F 7 '22

Where should the purge cock be located? *diag Power* 56:387, 507 S 5, 26 '22

Testing

Performance tests on a flooded atmospheric type ammonia condenser. H. J. Macintire and E. Beling. *il Refrig Eng* 10:87-90; Discussion. 90-1+ S '23

Ammonia containers

Some tests on welded ammonia containers. E. A. Fessenden. A S R E J 8:426-7; Discussion. 427-32 Mr '22

Tests on welded cylinders. E. A. Fessenden and L. J. Bradford. *il diags Mech Eng* 44: 581-6+ S '22; Discussion. 44:523-4 Ag '22

Ammonia pipe lines. See Piping (refrigerating plants)

Ammoniates. See Ammino compounds

Ammonites

Critical phase in the history of ammonites. C. Diener. *Am J Sci* 5th ser 4:120-6 Ag '22

Ammonium

Über das ammonium; über ammonium-radikale. H. H: Schlubach and F. Ballauf. *diags Deutsche Chem Gesell Ber* 54:2825-34 N '21; Abstract. *Chem Soc J* 122 pt 2:55-6 Ja '22

Über freie ammoniumradikale; weitere untersuchungen über das N,N' -dibenzyl- γ,γ' -dipyridinium und seine homologen, sowie die sog. N,N' -disubstituierten tetrahydro- γ,γ' -dipyridyle. E. Weitz and T. König. *Deutsche Chem Gesell Ber* 55:2864-89 S '22; Abstract. *Chem Soc J* 122 pt 1:1186-8 D '22

Ammonium acetate

Catalysis of the formation and hydrolysis of acetamide by acetic acid. W: A. Noyes and W. F. Goebel. *Am Chem Soc J* 44:2286-95 O '22

Ammonium carbamate

Transformation industrielle de l'ammoniaque en urée, engrais de haute concentration. C. Matignon. *diag Chimie & Ind* 7:1057-70 Je '22

Ammonium chlorate

Spontaneous decomposition of ammonium chlorate. F. Fairbrother. *Am Chem Soc J* 41:2419-22 N '22

Ammonium chloride

Ammonium chloride wins favor over sulphate in Germany. *Chem & Met Eng* 29:79 JI 9 '23

Critical solution temperature for solids in the binary system ammonium chloride-manganous chloride dihydrate. F: W: J. Clendinnen and A. C. D: Rivett. *Chem Soc J* 123: 1841-51 Je '23

Crystal structure of ammonium chloride. R. W. G. Wyckoff. *il diags Am J Sci* 5th ser 4:469-75 D '22

Crystallographic and atomic symmetries of ammonium chloride. R. W. G. Wyckoff. *Am J Sci* 5th ser 3:177-83 Mr '22

Mixed crystal formation in ternary systems containing water, ammonium chloride, and ferrous, cobaltous, or nickel chloride. F: W: J. Clendinnen. *diags Chem Soc J* 121: 801-5 My '22

Mixed crystals and double salts: a comparison of systems containing water, ammonium chloride, and a chloride of manganese, iron, cobalt, nickel or copper. A. C. D: Rivett and F: W: J. Clendinnen. *Chem Soc J* 123: 1634-40 Je '23

Quaternary system ammonium chloride-sodium sulphate-ammonium sulphate-sodium chloride-water. A. C. D: Rivett. *Chem Soc J* 121:379-93 Mr '22

Ternary system ammonium* chloride-ferric chloride-water. F: W: J. Clendinnen. *Chem Soc J* 123:1338-41 Je '23

Ammonium chloropalladite

Crystal structures of potassium chloropalladite and of potassium and ammonium chloropalladites. R. G. Dickinson. *diags Am Chem Soc J* 44:2404-11 N '22

Ammonium chloroplatinate

Crystal structure of ammonium chloroplatinate. R. W. G. Wyckoff and E. Posnjak. *il Am Chem Soc J* 43:2292-2309 N '21

Ammonium chlorostannate

Crystal structures of potassium and ammonium chlorostannates. R. G. Dickinson. *Am Chem Soc J* 44:276-88 F '22

Ammonium citrate**Analysis**

Analysis of solutions of ammonium citrate. C. S. Robinson and S. L. Bandemer. *J Ind & Eng Chem* 14:429-32 My '22

Ammonium compounds

Formation of quaternary ammonium salts. E: de B. Barnett, J. W. Cook and E. P. Driscoll. *Chem Soc J* 123:503-18 Mr '23

Influence of solvents on the velocity of formation of quaternary ammonium salts. J. A. Hawkins. *Chem Soc J* 121:1170-6 Je '22

Mechanism of guanidine formation in fused mixtures of dicyanodiamide and ammonium salts. J. S. Blair and J. M. Braham. *Am Chem Soc J* 44:2342-52 O '22

Methyl and ethyl ammonium-mercuric bromides. R. M. Hann. *Am Chem Soc J* 45: 1763-4 JI '23

Reaction between bromine and ammonium salts and its effect on the precipitation of manganese dioxide. S. G. Simpson. *Am Chem Soc J* 45:1383-91 Ag '23

Über das tetraäthylammonium; über ammonium-radikale. H. H: Schlubach and F. Ballauf. *diags Deutsche Chem Gesell Ber* 54: 2811-25 N '21; Abstract. *Chem Soc J* 122 pt 1:15-16 Ja '22

Über die einwirkung von ozon auf aliphatische und aromatische substituierprokte des ammoniaks. W: Strecker and M. Baltes. *diag Deutsche Chem Gesell Ber* 54: 2693-2703 N '21; Abstract. *Chem Soc J* 122 pt 1:14-15 Ja '22

Über freie ammonium radikale; die existenz des N -benzyl-pyridiniums. E. Weitz and R. Ludwig. *diags Deutsche Chem Gesell Ber* 55:395-413 F '22; Abstract. *Chem Soc J* 122 pt 1:365-7 Ap '22

Velocity of reaction in mixed solvents: the velocity of formation of quaternary ammonium salts; the study of an intramolecular change. J: Dexter, H. McCombie and H. A. Scarborough. *Chem Soc J* 123: 1229-41 My '23

Ammonium fluosilicate

Crystal structure of ammonium fluosilicate. R: M. Bozorth. *Am Chem Soc J* 44:1066-70 My '22

Ammonium hydrogen sulfate

Hydrogen sulphates of the alkali metals and ammonium. H. B. Dunncliff. *Chem Soc J* 123:731-8 Ap '23

Ammonium hydroxide

Basic strength of ammonia and allied bases. R. M. Caven. *Soc Chem Ind J* (Chem & Ind) 42:164-6 F 23 '23; Discussion. T. S. Moore. R. M. Caven. 42:343, 448-9, 641-2, 744-6 Ap 6. My 4. Je 29. Ag 3 '23

Ammonium nitrate

Action of ammonium nitrate and of aqueous ammonia on copper; properties of cupric tetrammine nitrite and nitrate. H: Bassett and R. G. Durrant. *Chem Soc J* 121: 2630-40 N '22

L'azote ammoniacal: sous-produit de la distillation de la houille. A. Grebel. *Soc Ing Civils Bul* 75:293-312 Ap '22

Decomposition of ammonium nitrate by heat. H. L. Saunders. *diags Chem Soc J* 121:698-711 Ap '22

Explosibility of ammonium nitrate. C: E. Munroe. *il Chem & Met Eng* 26:535-42 Mr 22 '22

Manufacture of ammonium nitrate. E. M. Symmes. *il Chem & Met Eng* 26:1069-74 Je 7 '22

Ammonium nitrate—Continued

- Properties of ammonium nitrate; ammonium nitrate and water. I. L. Millican, A. F. Joseph, and T. M. Lowry. *Chem Soc J* 121: 959-63 Je '22
- Properties of ammonium nitrate; the reciprocal salt-pair, ammonium nitrate and potassium chloride. E. P. Perman and H. L. Saunders. *Chem Soc J* 123:841-9 Ap '23
- Properties of ammonium nitrate; the reciprocal salt pair ammonium nitrate and potassium sulphate. E. P. Perman and W. J. Howells. *Chem Soc J* 123:2123-34 S '23
- Properties of ammonium nitrate; the reciprocal salt-pair, ammonium nitrate and sodium chloride. E. P. Perman. *Chem Soc J* 121: 2473-83 N '22
- Sur les équilibres de double décomposition entre sels solubles et sur quelques-unes de leurs applications. E. Rengade. *Chimie & Ind* 7:1090-8 Je '22

Ammonium perhalides

- Perhalides of quaternary ammonium salts. F. D. Chattaway and G. Hoyle. *Chem Soc J* 123:654-62 Mr '23

Ammonium phosphomolybdate

- Co-precipitation of vanadic acid with ammonium phosphomolybdate. J. R. Cain and J. C. Hostetter. *Am Chem Soc J* 43:2552-62 D '21

Ammonium salts. See Ammonium compounds

Ammonium-silver-auric chloride

- Some complex chlorides containing gold; Pollard's ammonium-silver-auric chloride. H. L. Wells. *Am J Sci* 5th ser 3:257-9 Ap '22

Ammonium sulfate

- Action of alcohol on the sulphates of ammonium. H. B. Dunncliff. *Chem Soc J* 123: 476-84 Mr '23
- Ammonium sulphate supply. T. M. Knappen. *Gas Age* 49:204+- F 18 '22
- L'azote ammoniacal; sous-produit de la distillation de la houille. A. Grebel. *Soc Ing Civils Bul* 75:293-312 Ap '22
- Considerations relating to the future of sulphate of ammonia. R. C. Taylor. *Gas J* (Lond) 164:44-5; Discussion. 45-6 O 3 '23
- Determining ammonia without distillation. A. Sander. *Am Gas J* 116:576-7 Je 24 '22
- Fabrication du sulfate d'ammoniaque dans les usines à gaz. A. Grebel. *il diags Chimie & Ind* 9:26-42 Ja '23; Same abr. *Génie Civil* 81:63-9 Jl 15 '22
- Lime consumption in sulphate of ammonia manufacture. H. J. Hailstone. *Gas J* (Lond) 161:331 F 7 '23
- Neutral sulphate of ammonia difficulties. *Chem Age* (Lond) 8:254-5 Mr 10 '23
- Les produits azotés synthétiques, et l'ammoniaque obtenus comme sous-produits de distillation de la houille. A. Grebel. *Génie Civil* 80:567-70 Je 24 '22
- Provan chemical works of the Glasgow corporation. *diags plans Engineering* 115:761-4. 792-4, pl 46 Je 22-23 '23
- Quaternary system ammonium chloride—sodium sulphate—ammonium sulphate—sodium chloride—water. A. C. D. Rivett. *Chem Soc J* 121:379-93 Mr '22
- Quaternary system potassium sulphate—magnesium sulphate—ammonium sulphate—water. A. Weston. *diags Chem Soc J* 121: 1223-37 Jl '22
- Der schmelzpunkt des neutralen ammonium-sulfats. R. Kattwinkel. *Deutsche Chem Gesell Ber* 55:874 Ap '22
- System ammonium sulphate—glucinum sulphate—water at 25°. H. T. S. Britton. *Chem Soc J* 121:2612-16 N '22
- Thirty years' experience with sulfate of ammonia. F. W. Morse. 98p (Bul. no. 204) Massachusetts. Agricultural experiment station. Amherst '21
- Treatment of effluent spent liquors; the problem in ammonia works. *Chem Age* (Lond) 9:58-60 Jl 21 '23
- Unloading the centrifugal. B. C. Lechler. *il Chem & Met Eng* 29:760 O 22 '23
- La valeur marchande de l'azote dans les différents engrais azotés. C. Harnist. *Soc Ing Civils Bul* 75:334-42 Ap '22

Ammonium sulfides

- Ammonium sulphides; patent. *diag Chem & Met Eng* 25:1065 D 7 '21
- Notiz über die umwandlung von ammonium-sulfid und thiosulfaten in sulfate. W. Glud. *Deutsche Chem Gesell Ber* 54:2425-6 O '21
- Polysulphides of the alkali metals; the polysulphides of ammonium. J. S. Thomas and R. W. Riding. *Chem Soc J* 123:1726-38 Jl '23
- Sulphides of ammonium. J. S. Thomas and R. W. Riding. *Chem Soc J* 123:1181-9 Mx '23

Ammonium sulfonitrate

- Facts and fancies about the Oppau explosion. J. Kendall. *Chem & Met Eng* 25:949 N 23 '21
- Oppau disaster; facts and conjectures as to its cause. P. J. Mallmann. *Sci Am* 126:198 Mr '22

Ammonocarbonic acids

- Ammono carbonic acids. E. C. Franklin. *Am Chem Soc J* 44:486-509 Mr '22

Ammonolysis

- Catalytic ammonolysis of beta-naphthol and chlorobenzene in the vapor state. A. M. Howald and A. Lowy. *diags Ind & Eng Chem* 15:397-401 Ap '23

Ammunition

- Development of accurate ammunition; rifle-bullets that have made the long-range target match a contest of endurance. E. C. Crossman. *il Sci Am* 127:98-9 Ag '22
- See also Projectiles; Shells (projectiles); Shot (ammunition)

Amoeba. See Ameba

Amorphous state

- Beilby's amorphous theory. C. Benedicks. *diags Chem & Met Eng* 28:733 Ap 23 '23

Amortization

- Amortization and depreciation in public service corporations. G. H. Johnson. *J Account* 36:7-14 Jl '23
- Amortization claims—requirements and preparation. K. D. Ross. *Administration* 4:715-20 D '22
- Amortization of plant facilities. *Am Mach* 56: 714 My 11 '22
- Amortization of plant facilities. F. H. Figsby. *Am Mach* 56:482-3 Mr 30 '22; Discussion. 56:546 Ap 13 '22
- Amortization—often overlooked in tax returns. M. Rolnik. *Annalist* 19:389 Ap 3 '22
- Amortization under the income tax laws. W. A. Staub. *Administration* 5:309-19 Mr '23
- Does Uncle Sam owe you anything? E. F. DuBrul. *Am Mach* 56:161-4 F 2 '22
- Have you deducted for war facilities? reasons for permitting amortization. F. R. Weaver. *Am Mach* 56:164-6 F 2 '22
- May amortize war equipment. T. W. Dinlocker. *Iron Tr R* 70:743-4 Mr 16 '22
- You are probably entitled to amortization; operation under priority indicates business was essential. J. E. Philbrick. *Am Mach* 56:201-5 F 9 '22
- Amoskeag power development. See Hydroelectric plants—New Hampshire

Amphitheaters

- Los Angeles Coliseum—one of the world's greatest structures. *il Sci Am* 128:321 My '23
- See also Stadia

Ampholytes

- Clay as an ampholyte. O. Arrhenius. *Am Chem Soc J* 44:521-4 Mr '22

Amplifiers

- Electrical sound amplifier uses rigid paper diaphragm. *il diag Pop Mech* 36:894 D '21
- Microphonic amplifier for crystal detector sets. *il diag Sci Am* 128:258 Ap '23
- Un nouvel amplificateur des sons. L. Gaumont. *Génie Civil* 81:547 D 9 '22
- See also Phonetron; Photron; Telephone—Amplifying apparatus; Vacuum tubes
- Amplifiers, Vacuum tube**
- Advantages of radio-frequency amplification. B. Bradbury. *Wireless Age* 10:62 O '22

Amplifiers, Vacuum tube—Continued

Description and operation of an audio-frequency amplifier unit for simple radio receiving outfits. *il diags* U S Bur Stand Circ 141:1-13 '23

Detecting efficiency of the resistance-capacity coupled amplifier to 6,000 meters. W. G. Brombacher. *diag Phys R* 20:433-40 N '22

Detector and two-step amplifier for dry-cell tubes. F. L. Brittin. *il diags Pop Mech* 39: 976-9 Je '23

Distortion in audio frequency amplifiers. S. O. Pearson. *Wireless Age* 11:61- N '23

Effective radio-frequency amplification. G. N. Garrison. *diag Wireless Age* 9:77 Ag '22

Electron tube amplifier using 60-cycle alternating current to supply power for the filaments and plates. P. D. Lowell. *il diags U S Bur Stand Sci Pa* 450:345-52 '22; Same. *Am Inst E E J* 41:488-90 Jl '22; Same *abr. Engineer* 134:281 S 15 '22; Abstract. *J Fr Inst* 194:822-4 D '22

Eliminating the howl. F. J. Shollenberger. *il Wireless Age* 9:30-1 D '21

High amplification circuit to help eliminate static. *diags Wireless Age* 9:64-6 Je '22

Methods of radio frequency amplification. C. Kilgour. *Wireless Age* 10:80- N '22

Moyens permettant d'éviter la distorsion dans les amplificateurs à lampes. *diag Génie Civil* 83:209-10 S 1 '23

New vacuum-tube amplifier aid to partially deaf. *il Pop Mech* 37:704 My '22

Practical reflex amplification. A. Ringel. *diags Wireless Age* 10:60-2 Ja '23

Radio-frequency amplification. F. L. Brittin. *il diags Pop Mech* 40:318-21 Ag '23

Radio-frequency amplifiers. P. D. Lowell. *diags U S Bur Stand Sci Pa* 449:335-43 '22; Excerpts. *J Fr Inst* 194:818-21 D '22

Radio frequency amplifiers and their application to loop reception. A. Ringel and others. *diags Wireless Age* 9:70-5 Jl '22

Resistance neutralization; an application of thermionic amplifier circuits. E. Bennett and L. J. Peters. *diags Am Inst E E J* 41: 234-48 Mr '22

Two-step audio-frequency amplifier. F. L. Brittin. *il diags Pop Mech* 38:157-60 Jl '22

Tuned radio frequency amplification. L. W. Bishop. *il diags Wireless Age* 11:49-50 N '23

Variometer-coupled radio-frequency amplifier for 175-275 meters. S. C. Miller. *il diags Wireless Age* 10:54-6 My '23

Amsler's integrator

Mechanical computation of root mean square values; Amsler's mechanical integrator. L. A. Umansky. *diag Am Inst E E J* 42:1093-5 O '23

Amsterdam, Holland**Architecture**

Amsterdam—old and new. C. S. Stein. *il diags plans Am Inst Arch J* 10:310-28 O '22

Amundsen, Roald

Amundsen's polar air fleet. *Aviation* 12:456 Ap 17 '22

Amusement parks

Amusement park that pays at Rochester, New York. *il map plan Elec Ry J* 61:157-9 Ja 27 '23

Beautiful Mount Tom; Holyoke street railway company has a unique and attractive resort. *il Aera* 11:1430-4 Je '23

Dellwood draws the crowds. J. P. MacCulloch. *il Aera* 11:1444-6 Je '23

Invention and the grifter at the summer amusement parks. E. H. Smith. *il Sci Am* 129:78-9+ Ag '23

Spanish Fort park, New Orleans. B. Schleppe. *il Aera* 11:1447-9 Je '23

Spokane's Natatorium park pays. G. B. Foster. *il Aera* 11:1435-9 Je '23

Tri-city railway's fine parks in Illinois. B. J. Denman. *il Aera* 11:1440-3 Je '23

Amygdalin

Constitution of the disaccharides; biose of amygdalin. W. N. Haworth and G. C. Leitch. *Chem Soc J* 121:1921-9 S '22

Amyl alcohol.

Conductance of sodium iodide in amyl alcohol at very low concentrations. C. A. Kraus and J. E. Bishop. *Am Chem Soc J* 44:2206-12 O '22

Amylase. See Diastase**Amylene**

Action of selenium monochloride upon propylene, butylene and amylenes. C. E. Boord and F. F. Cope. *Am Chem Soc J* 44: 395-401 F '22

Amyloses

Die beziehung der α - und β -polyamylosen zur inhalts- und hüllsubstanz des stärke-korns. H. Pringsheim and K. Goldstein. *Deutsche Chem Gesell Ber* 55:1446-9 My '22; Abstract. *Chem Soc J* 122 pt 1:633-4 Jl '22

Polysaccharides; starch and the amyloses. P. Karrer and others. *Chem Soc J* 120 pt 1: 768-9 N '21

Über die methylierung der poly-amylosen (beiträge zur chemie der stärke). H. Pringsheim and W. Persch. *Deutsche Chem Gesell Ber* 54:3162-8 D '21

Über methyl- und acetylprodukte der poly-amylosen. H. Pringsheim and W. Persch. *Deutsche Chem Gesell Ber* 55:1425-33 My '22; Abstract. *Chem Soc J* 122 pt 1:632 Jl '22

Weiteres über die polyamylosen. H. Pringsheim and D. Dernikos. *Deutsche Chem Gesell Ber* 55:1433-45 My '22; Abstract. *Chem Soc J* 122 pt 1:632-3 Jl '22

Amyotrophy

Progressive amyotrophy resulting from labor; abstract. G. Vincenzo. *J Ind Hygiene* 3:sup181 D '21

Anabiosis. See Death, Apparent**Anaconda copper mining company**

Anaconda copper shares as an investment. H. J. Wolf. *Eng & Min J* 112:1077-8 D 31 '21
Authoritative statement as to properties, &c. *Comm & Fin Chr* 116:406-8 Ja 27 '23

Analytic chemistry. See Chemistry, Analytic**Anatomical models**

Counterfeit presentment; anatomical models —what they are and where they come from. *il Sci Am* 127:34 Jl '22

Anatomy

X-ray is an aid to students in studying anatomy. *Pop Mech* 40:390 S '23

Anchor bolts

Anchor for bolts in stone gets strength from pull. *il Pop Mech* 40:753 N '23

Placing new column foundation anchor bolts while using existing ones. H. J. Finebaum. *diags Eng N* 90:676 Ap 12 '23

Anchors, Guy

Anchorage for overhead line structures. A. W. Malone. *il Elec W* 80:524-5 Mr 3 '23
Insulation design of anchors and tower supports for 110,000-volt 4427-foot span over Carqueuz Straits. L. J. Corbett. *il diags plan Am Inst E E J* 42:887-90 S '23

Anderson, Frederick Paul, 1867-

New director of the research laboratory of the society. *por Am Soc Heat & V E J* 27: 667-70 S '21

Anderson, Sydney

Hunter who wouldn't shoot. J. B. Morrow. *Nation's Business* 10:25-6 My '22

Anderson, Indiana**Rapid transit**

Interurban Indiana union traction earnings increase. *Elec Ry J* 62:273 Ag 18 '23

Andropogon

Constitution of the terpene present in the essential oil from *Andropogon iwarancusa*, Jones. J. L. Simonsen. *Chem Soc J* 121: 2292-9 O '22

Anemometer

Forced convection of heat from a pair of fine heated wires. J. S. G. Thomas. *diag Philos Mag* 6th ser 43:277-87 F '22

Thermometric anemometer. J. S. G. Thomas. *Philos Mag* 6th ser 43:688-98 Ap '22

Wind pressure is bridge hazard. C. O. Burton. *il Iron Tr R* 72:1090-3 Ap 12 '23

Anemometer—Continued**Testing**

- Testing of anemometers. O. J. Hodge. *Am Soc Heat & V E J* 29:75-8 Mr '23
 Tests made of anemometers to detect their errors. *Pop Mech* 38:920 D '22

Aneroid barometers. See Barometers**Anesthetics**

- Local anesthetics. H. Gilman. *J Ind & Eng Chem* 14:812-14 S '22
 New anesthetic from sleeping flowers. *Sci Am* 129:329 N '23

See also Chloroform

Angelique

- Angelique—a wood that resists the attack of the teredo. *il Sci Am* 129:319 N '23

Angle of contact. See Contact angle**Angles**

- Button method of checking angular work. W. G. Holmes. *diags Mach* 29:605 Ap '23
 Calculating a tool angle. E. Heller. *diags Mach* 30:16 S '23
 Calculating resultant angles. E. Heller. *diags plan Mach* 29:394 Ja '23
 Method for laying out angles. A. McAlpine. *Foundry* 50:232a Mr 15 '22
 Physical interpretation of complex angles and their functions. A. Boyajian. *diags Am Inst E E J* 42:155-64 F '23; Discussion. 42:848 Ag '23

Angular velocity. See Rotation**Anhalamine**

- Anhalonium alkaloids; constitution of pello-tine, anhalonidine, and anhalamine. E. Späth. *Chem Soc J* 122 pt 1:163-6 F '22
 Anhalonium alkaloids; synthesis of anhalamine; abstract. E. Späth and H. Röder. *Chem Soc J* 122 pt 1:852-3 S '22

Anhalonidine

- Anhalonium alkaloids; constitution of pello-tine, anhalonidine, and anhalamine. E. Späth. *Chem Soc J* 122 pt 1:163-6 F '22

Anhydrides

- Über das verhalten einiger aus imidazolen bereiteter bis- β -benzoyl-aminol-äthylen-derivate gegenüber säure-anhydriden. A. Windaus and W. Langenbeck. *Deutsche Chem Gesell Ber* 55:3706-8 D '22

Anhydrite

- Geology of gypsum and anhydrite. D. H. Newland. *Econ Geol* 16:393-404 S '21

Anhydroenneheptitol

- Über die acetone-Verbindung des anhydro-enneheptits; ein beitrage zur kenntnis der acetone-Verbindungen mehrwertiger alkohole. C. Mannich and W. Brose. *Deutsche Chem Gesell Ber* 55:3155-7 O '22

Aniline

- Action of arsenious chloride on aniline. J. H. Schmidt. *Am Chem Soc J* 43:2449-54 N '21
 Catalytic preparation of aniline. O. W. Brown and C. O. Henke. *J Phys Chem* 26:161-90, 272-87 F-Mr '22
 Catalytic preparation of azobenzene and aniline. C. O. Henke and O. W. Brown. *J Phys Chem* 26:324-48, 631-8 Ap, O '22
 Interaction of aniline and acetaldehyde. F. G. Mann. *Chem Soc J* 121:2178-8 O '22
 Pure aniline and water emulsions. S. S. Bhatnagar. *J Phys Chem* 25:735-41 D '21
 Über die aufspaltung des γ -pyrons durch anilin und über N-phenyl- γ -pyridon. W. Borsche and I. Bonacker. *Deutsche Chem Gesell Ber* 54:2678-86 N '21; Abstract. *Chem Soc J* 122 pt 1:50-1 Ja '22
 Über die reaktion zwischen acetylen und anilin bei höherer temperatur. R. Majna, T. Unno and K. Ono. *Deutsche Chem Gesell Ber* 55:3854-9 D '22

- Zur kenntnis der oxydation des anilins. S. Goldschmidt and B. Wurzschnitt. *Deutsche Chem Gesell Ber* 55:3220-7 O '22; Abstract. *Chem Soc J* 122 pt 1:1139-40 D '22

See also Nitroanilines

Aniline black

- Dyeing and printing aniline black mixed cotton and silk piece goods. R. Sansone. *Textile Col* 45:160-2 Mr '23

- Dyeing with aniline black. *Color Tr J* 11:24-5 Jl '22

- Effect of aniline black dyeing on factory workers. R. Williamson. *bibliog J Ind Hygiene* 4:507-17 Ap '23

Aniline poisoning

- Effect of aniline black dyeing on factory workers. R. Williamson. *bibliog J Ind Hygiene* 4:507-17 Ap '23

Anilinotriazole

- Constitution of Dimroth's 5-anilinotriazole. P. K. Dutt. *Chem Soc J* 123:265-74 F '23

Anils

- Über die gegenseitige verdrängung der amin-reste bei anilen. G. Reddellien. *Deutsche Chem Gesell Ber* 54:3121-31 D '21; Abstract. *Chem Soc J* 122 pt 1:145-6 F '22

- Über die spaltbarkeit der anile. G. Reddellien and H. Danilof. *Deutsche Chem Gesell Ber* 54:3132-42 D '21; Abstract. *Chem Soc J* 122 pt 1:147-8 F '22

- Zur kenntnis der keton-anile; darstellung aliphatischer keton-anile und alkalische spaltung von keton-anil-jodalkylaten. E. Knoevenagel. *Deutsche Chem Gesell Ber* 54:1722-30 S '21; Abstract. *Chem Soc J* 120 pt 1:785-6 N '21

- Zur kenntnis der keton-anile; konstitution der N-alkyl-ketonanile und überführung aliphatischer keton-anile in chinolin-derivate. E. Knoevenagel and H. Bähr. *Deutsche Chem Gesell Ber* 55:1912-28 Je '22; Abstract. *Chem Soc J* 122 pt 1:750-1 Ag '22

- Zur kenntnis der keton-anile; über fett-aromatische keton-anile. E. Knoevenagel and O. Goos. *Deutsche Chem Gesell Ber* 55:1929-37 Je '22

- Zur kenntnis der keton-anile; über reduktionsprodukte von keton-anilen. E. Knoevenagel. *Deutsche Chem Gesell Ber* 55:2309-21 S '22

Animal experimentation

- Vivisection and animal industry. *Sci Am* 128:101 F '23

Animal industry**Advertising**

- Advertising puppies, peacocks and odorless skunks. A. L. Townsend. *Ptr Ink* 120:138+ Ag 3 '22

Animal light. See Phosphorescence**Animals**

- Children of the wilds brought up on bottles. *il Pop Mech* 40:241 Ag '23

- How science keeps animals healthy in zoos. *il Pop Mech* 40:240 Ag '23

- See also Birds; Fishes; Horses; Insects; Live stock; Snakes

Habits and behavior

- Are most animals color blind? *Sci Am* 129:16 Jl '23

Photographs and photography

- Photographing wild birds and animals. N. Edwards. *il Pop Mech* 37:633-4 Ap '22

Training

- Behind the menagerie guard ropes. F. Braden. *il Pop Mech* 37:705-10 My '22

Animals, Marine. See Fishes; Marine worms**Animals, Predatory**

- Ridding farms of their pests. C. C. Martin. *il Am Ind* 22:17-19 Jl '22

Animals in art

- Animals for the ages. H. H. Dunn. *il Pop Mech* 40:101-3 Jl '23

Anisole

- Über die zersetzung der oxoniumsalze aus thymol-äthyläther und aus anisol durch wasser oder alkalisch reagierende stoffe. F. Kehrman and C. Schmajewski. *Deutsche Chem Gesell Ber* 54:2435-40 O '21

Ann Arbor, Michigan**Architecture**

- William L. Clements library. *Ann Arbor, Mich*; views, plans, folding plates. *Am Arch* 124:340a-1, 341 O 10 '23

Annapolis, Maryland**Architecture**

Harwood house, Annapolis. H. D. Eberlein. il diags plans Arch Forum 37:159-70 O '22

Annapolis Royal, Nova Scotia**Bridges**

Annapolis river bridge, Annapolis Royal, N.S. E. M. Archibald. il diags plan Can Eng 43: 171-3 JI 25 '22

Annealing

Anneal brass. W. K. Crampton. Brass W 17: 225 JI '22

Annealing sheet-metal parts. A. Eyles. Mach 30:204 N '23

Bright annealing of copper wire. P. E. Demmler. Metal Ind 21:151-2 Ap '23

Effect of annealing gray iron. J. F. Harper and R. S. MacPherran. Foundry 51:176-80 Mr 1 '23; Same cond. Iron Age 110:1007-9 O 19 '22

Effect of low-temperature annealing on some mechanical properties of cold-drawn steels. S. H. Rees. Engineering 116:413-14 S 28 '23

Efficacy of annealing overstrained steel. I. H. Cowdrey. Ry Mech Eng 96:590-1 O '22

Improves malleable anneal. E. Miller. Foundry 51:150-1 F 15 '23

Making malleable castings. E. Touceda. diags Foundry 50:622-6+ Ag 1 '22; Same. Iron Tr R 71:516-20+ Ag 24 '22

Malleable anneals not packed. E. K. Smith. il Foundry 50:457-8 Je 1 '22; Same. Iron Tr R 70:1805-6 Je 22 '22

Metallurgy and heat-treatment of steel stampings. R. H. Sherry. il diag Mach 30: 105-8 O '23

Ein neues glühverfahren für unterperlitische stähle. B. Kjerrman. Stahl & Eisen 42: 697-700 My 4 '22

Nitrogenisation of iron and steel by sodium nitrate. L. E. Benson. il Engineering 114: 412-13 S 29 '22; Same. Iron & Steel Inst J 106:95-100, pl 3 no 2 '22; Discussion. Engineer 134:240 S 8 '22; Iron & Steel Inst J 106: 101-2 no 2 '22

Reactions in malleableizing. A. Phillips and E. S. Davenport. il Foundry 50:185-94 Mr 1 '22

17.4 lb. of steel annealed per kilowatt-hour. A. S. Dauch. il Elec W 79:579-80 Mr 25 '22

See also Electric furnaces, Annealing; Furnaces, Annealing; Glass; Iron; Steel; Steel, Heat treatment of

Annealing furnaces. See Electric furnaces, Annealing; Furnaces, Annealing**Anniversaries****Advertising**

Anniversary year offers big advertising opportunities to International silver co. R. Cole. Ptr Ink 118:97-8+ Mr 16 '22

Bringing the consumer into anniversary advertising. Ptr Ink 119:10 Je 15 '22

What can a company say after fifty years? Ptr Ink 123:153-4 Je 21 '23

When another candle is added to the birthday cake. Ptr Ink 123:145-6 Ap 19 '23

Anniversaries. See Yearbooks**Anode rays.** See Canal rays**Anoxemia**

Problem of life at high altitudes. W. S. Black. il Eng & Min J 114:800-4 N 4 '22

Antarctic exploration

Equipment of Shackleton's Antarctic ship fits it for hardship and service. il Pop Mech 36:818-19 D '21

Quest, Norwegian sealing ship refitted for Sir Ernest Shackleton's new Antarctic expedition. il Sci Am 126:35 Ja '22

Anthocyanidins

Synthesis of pyrylium salts in anthocyanidin type. D. D. Pratt and R. Robinson. Chem Soc J 121:1577-85; 123:745-58 Ag '22, Ap '23

Anthocyanins

Coloring matter of red roses. G. Currey. Sci Am 127:35 JI '22

Anthracene

Cancer from handling anthracene cake in the dye industry. Chem & Met Eng 26:497 Mr 15 '22

Carcinoma cutis in an anthracene factory; abstracts. W. J. O'Donovan. J Ind Hygiene 3:sup187-8 D '21; Monthly Labor R 14:178-9 Ja '22

Catalytic oxidation of anthracene to anthraquinone. C. E. Senseman and O. A. Nelson. diag Ind & Eng Chem 15:521-4 My '23

Equations for vapor pressures and latent heats of vaporization of naphthalene, anthracene, phenanthrene, and anthraquinone. O. A. Nelson and C. E. Senseman. Ind & Eng Chem 15:621-2 Je '23

Process of making purified anthracene. Color Tr J 11:152-3 O '22

Structure of the benzene nucleus; synthesis of a naphthalene derivative involving a bridged phase of the nucleus; the constitution of naphthalene and anthracene. W. A. P. Challenor and C. K. Ingold. Chem Soc J 123:2066-81 Ag '23

Studies in the anthracene series. E. de E. Barnett and others. Chem Soc J 121:1376-91, 2059-69; 123:380-94, 1994-2008 JI, O '22, F. Ag '23

Über die einwirkung von schwefelchlorür auf anthracen. P. Friedländer and A. Simon. Deutsche Chem Gesell Ber 55:3969-80 D '22; Abstract. Chem Soc J 124 pt 1:109-10 F '23

Vapor pressure determinations on naphthalene, anthracene, phenanthrene, and anthraquinone between their melting and boiling points. O. A. Nelson and C. E. Senseman. diags J Ind & Eng Chem 14:58-62 Ja '22; Discussion. B. F. Dodge. 14:569-70 Je '22

Anthracenetetrone

Über anthradichinone und anthratrichinone. O. Dimroth and V. Hilcken. Deutsche Chem Gesell Ber 54:3050-63 D '21

Anthranilic acid

Preparation of phenylglycine-o-carboxylic acid; from anthranilic acid and chloroacetic acid. H. L. Haller. J Ind & Eng Chem 14: 1040-4 N '22

Anthrapyridine

Über benzopolymethylen-verbindungen; synthese des α -anthrapyridins aus tetralin. J. v. Braun and H. Gruber. Deutsche Chem Gesell Ber 55:1710-17 Je '22

Anthraquinone

Anthraquinone a useful adjunct in dyeing and printing. il Color Tr J 10:28-30 Ja '22

Anthraquinone manufacture. Chem Age 30: 286 Je '22

Azides, anthranils, and azo-derivatives of anthraquinone; abstract. L. Gattermann and H. Rolfes. Chem Soc J 120 pt 1:817-19 N '21

Catalytic oxidation of anthracene to anthraquinone. C. E. Senseman and O. A. Nelson. diag Ind & Eng Chem 15:521-4 My '23

La chimie de l'anthraquinone. E. Grandmougin. Chimie & Ind 7:627-33, 879-85; 8:47-56; 9:46-52 Ap-May, JI '22, Ja '23

Derivatives of anthraquinone; aliphatic thioethers, dithioethers, and thioether sulfonic acids. E. E. Reid, C. M. Mackall and G. E. Miller. Am Chem Soc J 43:2104-17 S '21

Equations for vapor pressures and latent heats of vaporization of naphthalene, anthracene, phenanthrene, and anthraquinone. O. A. Nelson and C. E. Senseman. Ind & Eng Chem 15:621-2 Je '23

New anthraquinone intermediates for dyestuffs. Color Tr J 11:150-1 O '22

New dyestuff intermediates from anthraquinone. Color Tr J 12:245-6 Je '23

New process for making anthraquinone. Color Tr J 11:149-50 O '22

New vat dyestuff from anthraquinone. Color Tr J 13:18-19 JI '23

Preparation of anthraquinone derivatives. W. N. Haworth and F. W. Atack. Color Tr J 12:143-4 Ap '23

Preparation of anthraquinone intermediates; patent. F. W. Atack. Color Tr J 12:250-2 Je '23

Anthraquinone—Continued

- Process of making anthraquinone and phthalic anhydride. Color Tr J 13:79 S '23
- Purification of anthraquinone. Chem Age 30: 368 Ag '22
- Purification of anthraquinone. Color Tr J 12: 190-1 My '23
- Status of domestic vat dye raw materials. C. J. Thatcher. Chem Age 30:187-8 Ap '22
- Study of 1-hydroxylamino-anthraquinone and some of its derivatives. W. H. Beisler and L. W. Jones. Am Chem Soc J 44:2296-2306 O '22
- Synthesis of anthraquinone from phthalic anhydride and benzene. E. R. Harding. Color Tr J 9:184-6 N '21
- Trihydroxy-methyl-anthraquinones. G. D. Graves, R. Adams and J. H. Gardner. Am Chem Soc J 45:2439-62 O '23
- Vapor pressure determinations on naphthalene, anthracene, phenanthrene, and anthraquinone between their melting and boiling points. O. A. Nelson and C. E. Senseman. diags J Ind & Eng Chem 14:58-62 Ja '22; Discussion. B. F. Dodge. 14:569-70 Je '22
- Vat colours. J. F. Thorpe and C. K. Ingold. 491p Longmans '23
- See also* Dianthraquinonylureas; Hydroxy-anthraquinones

Analysis

- Quantitative determination of anthraquinone. O. A. Nelson and C. E. Senseman. diags J Ind & Eng Chem 14:956-7 O '22
- Anthraquinone sulfonic acids**
- Arylamine salts of the anthraquinonesulphonic acids. A. G. Perkin and W. G. Sewell. Soc Chem Ind J 42:27-31 Ja 26 '23
- Derivatives of anthraquinone; reactions of anthraquinone sulfonic acids with mercaptans. W. S. Hoffman and E. E. Reid. Am Chem Soc J 45:1831-8 Jl '23

Anthrax

- Analysis of 123 cases of anthrax in the Pennsylvania leather industry. H. F. Smyth and E. Bricker. bibliog J Ind Hygiene 4:53-62 Je '22
- Anthrax in the tannery industry. H. Leymann. 30p International labour office, Geneva '23
- Government wool-disinfecting station. il Soc Chem Ind J (Chem & Ind) 42:199-202 Mr 2 '23
- Prevention of anthrax among industrial workers. 15p Great Britain Home dept., London '21
- Serum treatment of anthrax septicaemia; abstract. D. Symmers. J Ind Hygiene 4:sup189 Mr '23
- Survey of occupational anthrax: Germany. Int Labour R 8:269-78 Ag '23

Anthrone

- Studies in the anthracene series. E. de B. Barnett and M. A. Matthews. Chem Soc J 123:380-94 F '23

Anthropology

See Man, Prehistoric

Anti-dimming preparations

- Anti-dimming preparations for glass surfaces. H. A. Kuhn. il diags Chem & Met Eng 28: 762-3 Ap 30 '23

Anti-freeze solutions

- Glucose anti-freeze action unreliable. Automotive Ind 48:820 Ap 12 '23

See also Automobile engines—Radiators

Antimonic acid

- Antimonic acid and the use of sodium antimonate in analysis. E. S. Tomula. Chem Soc J 122 pt 2:74-5 Ja '22

Antimony

- Antimony in China. Engineer 134:97-8 Jl 28 '22
- Antimony in 1922. F. C. Schrader. U S Geol S Min Res of U S 1922, pt 1:97-105 '23; Excerpt. Brass W 19:310 S '23
- Antimony in southwestern Arkansas. G. J. Mitchell. diags map Eng & Min J 114:455-6 S 9 '22

- Antimony mines of Shiu Chow, China. G. D. Hubbard. il diags map Am J Sci 5th ser 4: 453-60 D '22
- Atomic weight of antimony from different sources. S. D. Muzaffar. Am Chem Soc J 45:2009-13 S '23
- China seeks new alloy to use its antimony. Iron Tr R 71:116-17 Jl 13 '22
- Mineral industry of the British Empire and foreign countries (1913-1919). 34p Great Britain Imperial mineral resources bureau, London '21

- Native antimony from Kern county, California. C. H. Behre, jr. Am J Sci 5th ser 2:330-3 D '21

- Production of antimony and lead; works of Cookson & company, Newcastle-on-Tyne, England. il Metal Ind 21:391-3 O '23

- Researches on antimony; tri-*m*-xylylstibine and its derivatives. A. E. Goddard. Chem Soc J 123:2315-23 S '23

Antimony alloys

- The system, lead-antimony. R. S. Dean. il diags Am Chem Soc J 45:1683-8 Jl '23

Antimony compounds

- Abweichendes Verhalten des Lithiumhydroxyds gegenüber Natrium- und Kaliumhydroxyd bei der Hydratisierung der polymeren Aryl-stibinsäuren. H. Schmidt. Deutsche Chem Gesell Ber 55:697-701 Mr '22

- Aromatic antimony compounds; abstract. H. Schmidt. Chem Soc J 122 pt 1:1203-4 D '22

- Microscopic examination of rubber compounds containing antimony pigments. A. F. Hardman. il India Rubber W 68:711 Ag '23

Antimony hydroxides

- Examination of the alleged antimonious hydroxides. C. Lea and J. K. Wood. Chem Soc J 123:259-65 F '23

Antimony oxides

- Crystal structures of the cubic forms of arsenious and antimonous oxides. R. M. Bozorth. diags Am Chem Soc J 45:1621-7 Jl '23

Antimony sulfide

- Antimony sulphide and iron oxide as rubber-compounding ingredients. E. Anderson and W. M. Ames. Soc Chem Ind J 42:136-9 Mr 23 '23

- Composition of golden sulphide of antimony. A. Short and F. H. Sharpe. India Rubber W 67:23 O '22

- Determination of available sulphur in golden sulphide of antimony. B. D. Luff and B. D. Porritt. India Rubber W 66:356 F '22

- Making antimony sulphide. Chem Age 30:370 Ag '22

- Polymorphic transformations of antimony trisulfide. S. Wilson and C. R. McCroskey. Am Chem Soc J 43:2178-9 O '21

See also Stibnite

Antioch college

- College half study half work. A. E. Morgan. Nation's Business 10:44-+ D '22

- Self-supporting college. Sci Am 125A:130 D '21

Antipyrin

- Distribution of certain drugs between immiscible solvents. W. O. Emery and C. D. Wright. Am Chem Soc J 43:2323-35 N '21

Antiseptics

- Effect of certain antiseptics upon the activity of amylases. H. C. Sherman and M. Wayman. Am Chem Soc J 43:2454-61 N '21

- Influence of various antiseptics on the activity of lipase. L. S. Palmer. Am Chem Soc J 44:1527-38 Jl '22

- Relation between chemical constitution and antiseptic action in the coal tar dyes. T. H. Fairbrother and A. Renshaw. Soc Dyers & Col J 39:160-1 My '23

See also Chloramine T; Disinfection and disinfectants; Iodoform; Phenols

Antitoxins

See also Chemotherapy; Dyes, Therapeutic use of

Antonio, Texas

Flood of September, 1921, at San Antonio, Texas. C. T. Bartlett, il maps Am Soc C E Pro 47:443-54 N '21; Discussion. 47:801-2 D '21

Ants

Army ants of British Guiana. P. G. Howes, il Sci Am 129:170 S '23
Simple and cheap way of getting rid of ants. Sci Am 128:35 Ja '23

Anuradhapura, Ceylon

Jungle reveals buried city larger than old Rome. Pop Mech 40:368 S '23

Apartment houses

Amsterdam—old and new. C. S. Stein, il diags plans Am Inst Arch J 10:310-28 O '22
Apartment house for twenty-nine families; Hampton Court, Indianapolis, Ind. il plans Bldg Age 44:28-9 Ja '22
Apartment house, 998 Fifth avenue. Am Arch 121:421 My 24 '22
Apartment house, no. 960 Park avenue, New York; views and plans. Am Arch 122:406-jk, 410 N 8 '22
Apartment house of novel design at Miami, Florida. il plans Bldg Age 44:28-9 S '22
Apartment house, 108th street and Riverside Drive, New York. Am Arch 123:362a-d Ap 25 '23
Apartment house, 300 Park avenue, New York. Arch & Bldg 54:38, pl 58-60 Ap '22
Apartment house, 290 Park avenue, New York. Arch & Bldg 54:37, pl 51-3 Ap '22
Apartment house views and plans, chiefly in New York city. Arch & Bldg 55:pls 22-53 F '23
Apartment houses, New York; views and plans. Am Arch 121:512a-f, 514-16 Je 21 '22
Apartment houses, Park avenue, New York; views and plans. Am Arch 121:254a-f, 265 Mr 29 '22
Apartments for 1,600 families. plans Bldg Age 44:42-3 My '22
Button-control elevator in a new type of moderate-price apartment buildings at Jackson Heights, New York city. il plans Arch Rec 51:486-90 Je '22
Cambridge court. il plans Bldg Age 45:48-9 S '23
Chateau apartments, Jackson Heights, N.Y. Arch & Bldg 55:pl 26 F '23
Co-operative apartment house, 136 East 67th street, New York; views and plans. Arch Forum 37:235, pl 81-2 N '22
Departure in housing finance; the Metropolitan life to build four blocks of apartments in New York city. J: T. Boyd, jr. diag plans Arch Rec 52:132-42 Ag '22
Hawthorne court, Jackson Heights garden apartments. il plans Am Arch 122:464-6 N 22 '22
Housing project of the Metropolitan life insurance company. il plans Am Inst Arch J 10:225-8 Jl '22; Am Arch 122:89-93 Ag 2 '22; Arch Forum 37:29-30 Jl '22
Interesting duplex apartment house in Chicago. W: E. Parsons. il plans Arch Rec 54:214-28 S '23
The James apartment house, Syracuse, N.Y. il plan Bldg Age 45:53-9 Ag '23
Kitchen in a closet for small apartments. il plan Bldg Age 45:50 Ap '23
Modern apartment buildings. Bldg Age 44:41 Jl '22
New features in apartment house building; the Jackson Heights development, New York. E. A. MacDougall. Eng & Contr (Bldgs) 60:653-6 S 26 '23
Old English design for stores and apartments. il plans Bldg Age 44:36-7 Mr '22
Seville apartments. il plan Bldg Age 44:26 Je '22
Shop and apartment building, Falmouth, Mass. Arch Forum 39:41, pl 12-13 Jl '23
Sound proof partitions feature this modern apartment. il plan Bldg Age 44:44-5 D '22
Submitted design for an apartment house in the Borough of the Bronx, New York; office of John Russell Pope, architects. Am Arch 124:110 Ag 1 '23

Tendencies in apartment house design. F. C. Brown, il plans Arch Rec 49:488-502; 50:44-63, 102-17, 198-213, 370-87, 489-503; 51:62-76, 152-69, 249-68, 338-55, 434-46 Je-S, N '21-May '22

Twelve family apartment house. il plan Bldg Age 45:50-1 O '23

Twelve-family dwelling with unusual exterior. il plans Bldg Age 43:34-5 D '21

See also Tenement houses

Cooperative ownership

Co-operative ownership as practiced in Chicago. Arch Forum 36:sup52 Ja '22
Co-operative ownership of apartment buildings. Arch Forum 37:175-8 O '22
Co-operative ownership of apartment buildings. C. S. Taylor. Arch Forum 37:17-20 Jl '22
Financing a cooperative apartment. Bldg Age 45:60-3 Ag '23
New features in apartment house building; the Jackson Heights development, New York. E. A. MacDougall. Eng & Contr (Bldgs) 60:653-6 S 26 '23
Recent progress in developing co-operative apartment buildings. il Arch Forum 37:219-24, pl 81-2 N '22
Single house or co-operative apartment? J. T. Beard, jr. plans Bldg Age 44:50-1 F '22

Electric equipment

Large electrical installation in Seattle apartment. il J Elec 50:263 Ap 1 '23

Apatemyidae

Apatemyidae. E: L. Troxell, il Am J Sci 5th ser 5:503-6 Je '23

Apophyllenic acid

Über apophyllensäure und α,α' -dimethylapophyllensäure. O: Mumm and E. Gottschaldt. Deutsche Chem Gesell Ber 55:2075-82 Jl '22; Abstract. Chem Soc J 122 pt 1: 862-3 S '22

Appalachian mountains

Water, coal, and man power of the western slope of the Southern Appalachian mountains. J. A. Switzer and W. R. Woolrich. maps Mech Eng 45:637-42 N '23; Excerpts. Power 58:747-9 N 6 '23

Apples

Odoriferous constituents of apples: evidence of the presence of geraniol. F: B. Power and V: K. Chesnut. Am Chem Soc J 44:2938-42 D '22

Advertising

Apple Jack of Paradise Valley takes to rustic copy. A. Bradbury. Ptr Ink 121:8+ N 2 '22

Marketing

How Skookum apple advertising helped the industry and private marketing co. took the place of a co-operative federation. H. E. Agnew. Ptr Ink 118:92-3+ Mr 9 '22

Applications for position

Charted personal record used as aid in application for employment. K. B. Skardon. chart Eng N 88:140 Ja 26 '22

Finding your job. N. G. Shidle. 183p Ronald press '21

Fine art of finding a job. Chem Age 30:255-6 Je '22

Hints on job getting. Am Inst E E J 41:sup 130-1 Je '22; Same. Min & Met 187:31-2 Jl '22

How to get the job you want. W: L. Fletcher. 449p Houghton '22

Hunting jobs—and making them. Nation's Business 10:34+ S '22

Making job-seeking easy. A. G. Suttill. chart Management Eng 3:346 D '22

Using brains in getting work. W. Webb. Ind Management 63:20-1 Ja '22

Using brains to get a job. D. C. Taylor. Ind Management 63:178 Mr '22

See also Employment systems

Appraisal. See Valuation

Appreciation

Treatment of appreciation of taxed assets. A. G. Moss. Paper Tr J 77:53-6+ O 25 '23

Apprentices

American shipyard apprenticeships, evening schools and scholarships; abstract. C. F. Bailey. Marine Eng 26:911-12; Discussion. 912 D '21

Apprentice courses are successful. H. R. Simmonds. Il Iron Tr R 72:1377-81 My 10 '23

Apprentice problem as they affect the heating industry. F. W. Howard. Sanitary & Heat Eng 97:41-2+ Ja 27 '22

Apprentice system in the power plant. Power 55:68 Ja 10 '22

Apprentice training in Europe. M. Heir. Inland Ptr 69:365-6 Je '22

Apprentice training in the Austrian metal industry. F. Rager. Int Labour R 7:632-6 Ap '23

Apprentices and craftsmanship. D. K. Boyd. Bldg Age 45:43-4 J1 '23; Same. Eng & Contr Bldgs) 60:172-4 J1 25 '23; Same cond. Brick & Clay Rec 62:1141 Je 26 '23

Apprentices problem. R. H. Kasper. Am Mach 56:90-1 Ja 19 '22

Apprenticeship in a small shop. A. W. Forbes. Il Am Mach 57:245-8 Ag 17 '22

Apprenticeship in the metal trades. 42p National metal trades assn., Chicago '22

Apprenticeship in the printing industry. M. W. Haynes. Inland Ptr 72:92-4 O '23

Apprenticeship, old-fashioned and modern. J. B. Chalmers. Am Mach 58:830 Je 7 '23

Apprenticeship, old-fashioned and modern. J. S. Watts. Am Mach 57:766 N 16 '22

Apprenticeship on the New York Central. C. W. Cross. Ry R 73:60 J1 14 '23

Apprenticeship plan. Dom Eng 104:6-9 J1 7 '23

Apprenticeship question. Sanitary & Heat Eng 97:130-1 Mr 10 '22

Apprenticeship rules and regulations. Sheet Metal Worker 13:890 Ja 19 '23

Apprenticeship system at Rock Island arsenal. W. Baumbach. Il Am Mach 56:512-14 Ap 6 '22

Apprenticeship training program of a large corporation; Worthington pump company. J. F. Biehl. Ind Management 64:209-12+ O '22

Apprenticeships. P. C. Molter. Mach 29:248 N '22

Car department apprentice system. H. L. Shipman. Ry Mech Eng 97:31-2; Discussion. 32-3 Ja '23

Changing conditions present new educational problems in railway service. D. C. Buell. Ry R 69:796-7 D 10 '21

Comprehensive apprenticeship in the building trades. H. Brown. Am Ind 22:22-3 My '22

Constructive apprenticeship movement. Sheet Metal Worker 13:153+ Mr 31 '22

Demand for apprentices grows. A. Trowbridge. Foundry 51:691-3 S 1 '23

Discuss apprentice situation. W. S. Simon. Foundry 51:438-9 Je 1 '23

Education and training in the industries. R. L. Sackett. Mech Eng 44:87-91 F '22

Essentials of a successful system of railway apprentice education. W. B. Russell. Il Ry R 72:582-3 Mr 31 '23

Features of the Reo apprentice system. Il Am Mach 56:894-5 Je 15 '22

How apprentices are handled in New York. H. Weinberger. Sheet Metal Worker 13:549-52 S 15 '22

How are the building trades training apprentices? F. L. Glynn. Eng N 90:62-3 Ja 11 '23

How one large shop trains apprentices; four year agreement used by Atlas roofing co. Il Sheet Metal Worker 13:535-7+ S 15 '22

How the apprentice of yesterday was trained. Inland Ptr 71:386 Je '23

Is the apprenticeship plan coming back? W. L. Stoddard. Factory 28:528-9+ My '22

Law regulating apprenticeship agreements in Finland. Monthly Labor R 17:954-5 O '23

Men and boys in our shops. A. London. Am Mach 57:456-7 S 21 '22

Men's clothing industry—Chicago. Monthly Labor R 17:861-3 O '23

Modern forms of apprenticeship. Int Labour R 7:966-73 Je '23

National apprenticeship plan. Sanitary & Heat Eng 98:40-3+ J1 28 '22

National apprenticeship program. Heat & Vent 20:62 Mr '23

National interests and the discouragement of apprenticeship. T. Rich. Eng & Ind Management 7:77-8 Ja 19 '22

New development in apprenticeship training worked out by the Associated tile manufacturers, the Tile and mantel contractors' association of America, and the Bricklayers, masons' and plasterers' international union of America. Eng & Contr (W W) 60:291 Ag 8 '23

Our future success. C. L. Kennedy. Sanitary & Heat Eng 97:385+ Je 30 '22

Partial survey of sheet metal training. H. A. Daniel. Sheet Metal Worker 14:500-1 J1 20 '23

Plan for solving the apprenticeship problem. R. E. Maloney. Dom Eng 100:148-50+ J1 22 '22

Plan of apprenticeship training presented at National metal trades association convention. Iron Age 109:1133 Ap 27 '22; Abstract. Am Mach 57:100 J1 20 '22

Plumbing apprentice. F. E. Fladd. Sanitary & Heat Eng 99:218+ Ap 6 '23

Plumbing apprentice. J. A. Quinn. Sanitary & Heat Eng 99:464+ Je 29 '23

Problems in training. E. A. Parker. Foundry 51:439-40 Je 1 '23

Programs of apprenticeship and special training in representative corporations. J. V. L. Morris. Il Am Mach 53:565-8, 657-9, 765-6, 847-52, 951-2, 1078-80, 1172-4; 54:13-14, 230-2, 310-12, 505-7, 778-9, 1081-3; 55:131-3, 545-8, 847-9, 958-9; 56:62-3 S 23-O 7, 21, N 4, 18, D 9, 23 '20, Ja 6, F 10, 24, Mr 24, My 5, Je 23, J1 28, O 6, N 24, D 15 '21, Ja 12 '22

Proper handling of apprentices. G. Lamberg. Ry R 73:603-4 O 27 '23

Return of the apprentice. Sci Am 129:228 O '23

San Francisco apprentice system. Dom Eng 104:68 J1 14 '23

Segregate apprentices. F. W. Kirby. Foundry 51:440-2 Je 1 '23

Simple and practical apprenticeship system. D. M. McLean. Am Mach 56:432-3 Mr 23 '22

Solving a national problem; from an interview with George M. Getschow. H. E. Taylor. Dom Eng 103:362-4 D 2 '22

Solving the apprenticeship problem. J. S. Cassidy. Sanitary & Heat Eng 99:256-7+ Ap 20 '23; Abstract. Dom Eng 103:219-20 My 5 '23

Solving the apprenticeship problem. J. A. Quinn. Sanitary & Heat Eng 99:323-4 My 18 '23; Same cond. Dom Eng 103:492-3 Je 9 '23

Specialized training versus apprenticeship. L. E. Gardner. Il Ry Mech Eng 96:225-6 Ap '22

Status of vocational education. Sheet Metal Worker 11:153-5 J1 6 '23

Symposium on foundry training at American foundrymen's association convention. Iron Age 111:1425-6 My 17 '23; Iron Tr R 72:1525-6 My 24 '23

Trade apprenticeship progress. Am Mach 57:920 D 14 '22

Training apprentices in industry. R. L. Sackett. Iron Tr R 71:1769-71 D 28 '22; Same. Mech Eng 45:173-5 Mr '23

Training foundry apprentices. H. A. Frommelt. Il Foundry 51:689-91, 737-9 S 1-15 '23; Same. Iron Tr R 73:1167-71 O 25 '23

Training mechanical department apprentices. J. Purcell. Ry Age 74:1587-9 Je 23 '23; Same. Ry R 72:1071-3 Je 23 '23; Same. Ry Mech Eng 97:497-9 J1 '23; Discussion. Ry Age 74:1589-90 Je 23 '23; Same. Ry Mech Eng 97:499-500 J1 '23

Training of workers in manufacture. J. V. L. Morris. Am Mach 56:85-6, 249-51, 320-2 Ja 19, F 16, Mr 2 '22

Typographical union's apprentice program. Inland Ptr 70:555-6 Ja '23

Apprentices—Continued

Using government money in training apprentices. E. L. Field. *il Dom Eng* 101:84-7 O 21 '22

See also Corporation schools; Employees, Training of; Industrial education; Trade schools

Aqueducts

Apulian aqueduct—southern Italy's water supply. I. Gutmann. *diags map plans Eng N* 90:389-94 Mr 1 '23

Cantilever arms on aqueduct trestle allow unobstructed stream flow. R. A. Hill. *diags plan Eng N* 88:903-4 Je 1 '22

La construction des galeries supportant une forte pression intérieure. *Génie Civil* 82: 500-1 My 26 '23

Progress on the Wanaque project. *il Pub Works* 54:149-53, 191-4 My-Je '23

Siphon carries water under railway tracks. *il Pop Mech* 40:376 S '23

Wooden canal aqueduct replaced with steel. *il Pop Mech* 37:757 My '22

See also Catskill aqueduct

Arachidic acid

Determination of the mixture of arachidic and lignoceric acids in peanut oil by means of magnesium soaps. A. W. Thomas and Chai-Lan Yu. *Am Chem Soc J* 45:113-28 Ja '23

Aræocyon

Aræocyon, a probable old world migrant. M. R. Thorpe. *Am J Sci* 5th ser 3:371-7 My '22

Aragonite

Crystal structures of aragonite (CaCO_3) and related minerals. M. L. Huggins. *diags Phys R* 19:354-62 Ap '22

See also Cone-in-cone

Aralia montana

Untersuchungen über die saponine; die saponine aus den blättern von *aralia montana*. A. W. van der Haar. *Deutsche Chem Gesell Ber* 55:3041-69 O '22; *Abstract. Chem Soc J* 122 pt 1:1168-9 D '22

Arbitration

Arbitrating the trade disputes; new commercial court in New York state, established to relieve the regular institutions of great accumulation of legal disputes. M. H. Grossman. *Am Ind* 23:11-12+ Ja '23

Arbitration. W. F. Weiss. *J Account* 36:327-35 N '23

Arbitration and the business man. J. J. Nevins. *Textile World* 61:660+ F 4 '22

Arbitration clauses in commercial contracts. *Engineering* 114:241-2 Ag 25 '22

Arbitration of business disputes is gaining. E. C. Kreutzberg. *Iron Tr R* 73:1297-8 N 8 '23

Arbitration vs. litigation for the oil man. T. F. Kuper. *Oil Paint & Drug Rep* 103:21 F 19 '23

Business now has its court. A. J. Brosseau. *Nation's Business* 11:24-5 S '23

Clearing house for adjustment of trade abuses between buyer and seller. *Am Ind* 24:10 O '23

Coal men could settle own trade disputes. *Coal Age* 24:108 JI 19 '23

Commercial arbitration. H. A. Dunn and H. P. Dimond. 329p A. Carlisle & co., San Francisco '22

Exporting iron and steel; commercial arbitration. V. G. Iden. *Iron Tr R* 70:1335-7+ My 11 '22

Inauguration of the Court of commercial arbitration, Jan. 19th 1923. 43p International chamber of commerce, Woolworth bldg., New York '23

International arbitration in commercial disputes; the activity of the court established in Paris. *Elec R (Lond)* 91:967-8 D 29 '22

Keeping business out of court. J. H. Barnes. *Nation's Business* 10:11-12 JI '22

Standard construction contracts and arbitration. W. P. Christie. *Eng & Contr (Bldgs)* 59:1445-8 Je 27 '23

Arbitration, Industrial

Compilation of laws relating to mediation, conciliation and arbitration between employers and employees. 51p Govt. print. off., Washington '22

Compulsory arbitration in essential industries. I. C. Waterbury. *Annalist* 19:559 My 22 '22

Compulsory arbitration in Norway. *Monthly Labor R* 15:441-3 Ag '22

Compulsory arbitration in trade disputes. *Elec R (Lond)* 92:669-70 Ap 27 '23

Conciliation and arbitration. See monthly numbers of *Monthly labor review*

Conciliation in agriculture. *Int Labour R* 8: 141-55 JI '23

Conciliation work of the Department of labor. H. L. Kerwin. *Monthly Labor R* 14:576-7, 827-8 Mr-Apr '22

Deprecates compulsory arbitration. T. H. Watkins. *Coal Age* 22:294 Ag 24 '22

Example of arbitration in the San Francisco newspaper publishing industry. D: Weiss. *Monthly Labor R* 17:309-17 Ag '23

History of arbitration in American newspaper publishing industry. D: Weiss. *Monthly Labor R* 17:15-33 JI '23

How Germany settles industrial disputes; conciliation boards. E. Frankel. *Monthly Labor R* 17:578-87 S '23

Individual and collective bargaining under Mexican state labor laws. M. Dobbin. *Monthly Labor R* 17:716-23 S '23

Industrial arbitration in Queensland. T: W. McCawley. *Int Labour R* 5:385-409 Mr '22

Manitoba council of industry. *Int Labour R* 7:560-2 Ap '23

Methods of adjustment of industrial disputes in Germany. *Int Labour R* 5:51-65 Ja '22

Proceedings between the closed-shop division of the typothetæ of Washington, D.C., and Columbia typographical union no. 101. *Inland Ptr* 17:361-2 Je '23

Recent decisions re discharge and discipline. *Monthly Labor R* 16:569-72 Mr '23

University debaters' annual, 1922-1923. p.87-151 H. W. Wilson co. '23

See also Courts, Industrial; Strikes and lockouts

Arbitration, International

See Permanent court of international justice

Arbitration society of America

Arbitrating the trade disputes; new commercial court in New York state, established to relieve the regular institutions of great accumulation of legal disputes. M. H. Grossman. *Am Ind* 23:11-12+ Ja '23

Arbors and mandrels

Design of expanding arbors. N. Hall. *diags Am Mach* 58:385 Mr 8 '23

Design of work-holding arbors. H. P. Losely. *diags Mach* 28:978 Ag '22

Double mandrel for turning crown brasses. *il diags Ry Mech Eng* 97:42 Ja '23

Standardizing shell reamers and arbors. H. S. Kartsher. *il diags Mach* 28:892-5 JI '22

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 55:874-8, 915-18 D 1-8 '21

Turning tool for welding arbors. K. A. Munson. *diag Am Mach* 57:421 S 14 '22

Arbuckle, John, 1839-1912

Romance of package coffee. W: H. Ukers. *por Nation's Business* 11:40+ JI '23

Arbutin

Studies of the glucosides; arbutin. A. K. Macbeth and J: Mackay. *Chem Soc J* 123: 717-24 Mr '23

Arc, Electric. See Electric arc**Arc, Radio. See Radio arc****Arc lamps. See Electric lamps, Arc****Arc welding. See Electric welding, Arc****Arca regulator**

Arca regulator. P. Sandford. *il charts diags Gas J (Lond)* 161:453-5 F 21 '23

Arca regulators. *il diags Engineering* 115:167-70 F 9 '23; *Elec R (Lond)* 93:194 Ag 3 '23

Arcades

Arcades to relieve street traffic—New York city. A. S. Tuttle. *il plan Eng N* 90:710-11 Ap 19 '23

Arched bridges. See Bridges, Arched

Archeology

- Leaves from the archaeologist's note-book. II
Sci Am 128:26-7 Ja '23
Secrets of long-lost races sought in ruins of
once mighty empires. il Pop Mech 40:865-9
D '23
Work of the archaeological explorer. F. N.
Hollingsworth. il Pop Mech 38:595-7 O '22
See also Cliff dwelling; Egypt—Antiquities;
Excavations (archeology); Tut-ankh-amon;
Tomb of

Archery

- Hunting big game with bow and arrow. L.
Abbott. il Pop Mech 39:169-70 F '23

Arches

- Calcul de l'arc à deux articulations à fibre
moyenne parabolique. A. Rogoff. Génie
Civil 81:363-7, 384-7 O 21-28 '22
Calcul de l'arc à deux rotules. L. Légens.
diags Génie Civil 82:421-3 My 5 '23
Calcul de l'arc à deux rotules et à bielle
intermédiaire. C. Molitor. diags Génie Civil
82:59-63 Ja 20 '23
Calcul de l'arc parabolique à rotules, continu
sur deux ouvertures. L. Légens. diags
Génie Civil 82:619-21 Je 30 '23
Calcul général des pièces à deux appuis à
encastrement partiel; applications aux fermes
et aux arcs. L. Gellusseau. diags Génie
Civil 80:359-61, 375-7, 401-3, 564-7 Ap 22-My
6, Je 24 '22
Étude de l'arc à deux articulations, à fibre
moyenne quelconque. A. Rogoff. Génie Civil
82:394-8 Ap 28 '23
Reactions for a particular type of unsym-
metrical arch. C. B. Andrews. diags Am
Soc C E Pro 49:1685-98 O '23
Test arrangement for measuring skew arch
thrust. il Eng N 89:700 O 26 '22
Thrust in skew arches. D. Royse. diags Munic
Eng 62:202-7 Je '22; Same. Can Eng 43:467-
9 O 24 '22
Volumes of jack-arch groins. G. Paaswell.
diags Eng N 89:1024-5 D 14 '22
See also Bridges, Arched

Arches, Concrete

- Comparison of concrete groined arches as an
aid in their design. P. O. Macqueen. Am Soc
C E Pro 48:1665-74 O '22; Same abr. Eng
& Contr (W W) 58:91-7 N 8 '22; Abstract.
Pub Works 54:158-9 My '23; Discussion. Am
Soc C E Pro 49:251-7, 575-8 F-Mr '23
Computing stresses in reinforced concrete
arches and other structures. A. Bull. diags
Concrete 19:242-5 D '21

Architects

- Architect and electrical engineer. M. M.
Samuels. il diags Elec W 82:6-8 JI 7 '23
Architect and his traditions. C. H. Blackall.
Am Arch 124:233-5 S 12 '23
Architect and illuminating practice. W. L.
Stockwell. Eng & Contr (Bldgs) 60:377-8
Ag 22 '23
Architect and social reconstruction. T. Ad-
ams. Am Inst Arch J 10:30-1 F '22
Architect and the banker. A. B. Trowbridge.
Arch Forum 38:277-80 Je '23
Architect as a contractor. J. C. Edwards.
Eng & Contr (Bldgs) 60:395-6 Ag 22 '23
Architect as a factor in the construction
business. T. S. Holden. Arch Rec 52:241-4;
53:374-7 S '22, Ap '23
Architect's agreements with the owner. C. S.
Taylor. Arch Forum 36:169-72, 227-8 My-Je
'22
Architect's business relations with school
boards. C. S. Taylor. Arch Forum 37:91-3
Ag '22
Architect's troubles. W. W. Clifford. Arch
Forum 39:31-2 JI '23
Business factors in architectural practice.
C. S. Taylor. Arch Forum 38:51-4, 191-4, 227-
30 F, Ap-My '23
Contract between architect and owner; form
of agreement adopted by the Illinois so-
ciety of architects. Eng & Contr (Bldgs)
60:190-2 JI 25 '23
Co-operation between engineer and architect.
R. D. Kohn. Eng & Contr (Bldgs) 59:743-4
Mr 28 '23; Same. Can Eng 44:624 Je 26 '23

- Co-operation between the architect and the
electrical engineer. F. Hooper; J. W. Beau-
champ. Inst E E J 61:726-35; Discussion.
736-48 JI '23
Engineer and the architect. W. P. Laird. Eng
& Contr (Bldgs) 59:216-18 Ja 24 '23
Engineer or architect. T. E. Kimball. Eng &
Contr (Bldgs) 59:1195-7 My 23 '23
Extension of architectural service. C. H.
Blake, jr. Am Arch 120:441-2 D 7 '21
The job. S. W. Jones. Am Inst Arch J 11:125-
6+ Mr '23; Excerpt. Eng & Contr (Bldgs)
59:700 Mr 28 '23
Letters from an architect to his son about
to begin practice in a small city. F. E.
Wallis. Am Arch 123:443-5, 555-7; 124:239-
40, 417-18 My 23, Je 20, S 12, N 7 '23 (to be
cont)
Nightmares. Am Arch 121:538-9 Je 21 '22
Practical problems in architectural practice.
R. E. Smith. il Am Arch 120:429-30 D 7
'21
Respective services of constructor and de-
signer. Eng & Contr (Bldgs) 60:152 JI 25
'23; Same. Arch Forum 39:72 JI '23
Strong indictment of architects and the build-
ing industry. E. K. Cornack. Arch Forum
38:sup86-7 F '23
To a certain contemptuous architect. C. H.
Whitaker. Am Inst Arch J 10:103-5 Ap '22
To what extent can an architect delegate his
authority to others. C. H. Blake, jr. Am
Arch 121:309-10 Ap 12 '22
Using practical information to stimulate
your practice. Arch Forum 36:91-4 Mr '22
Will the engineer supersede the architect?
Eng & Contr (Bldgs) 58:5-6 O 25 '22
Will you get your share? Arch Forum 35:
193-5 N '21
See also Advertising—Architects, Appeal
to; Architects' offices; Architectural educa-
tion; Architecture; also International con-
gress of architects; also names of archi-
tects, e. g. McKim, Mead & White

Accounting

- Professional bills and accounts. T. S. Rogers.
Arch Forum 37:179-82 O '22

Advertising

- Architect and advertising. C. T. Ruthen. Eng
& Contr 58:198 Ag 30 '22
Publicity for the architect. H. Taylor. Arch
Forum 39:185-8 O '23
See also Advertising—Architects, Appeal
to

Fees

- Around the secretary's table. Am Inst Arch
J 10:121-4 Ap '22
Competitive bidding on cost plus contracts.
F. W. Lord. Am Inst Arch J 10:32-4 F '22
Straight talks to architects. Arch Forum 36:
71-4 F '22
What is your method of charging for profes-
sional services? Arch Forum 36:29-32 Ja
'22
Working on cost plus professional charges.
R. C. Sturgis. il Am Inst Arch J 9:375-6 D
'21

Law

- Architect and the law. C. H. Blake, jr. Am
Arch 123:339-40 Ap 11 '23
Around the secretary's table. Am Inst Arch
J 10:87-9 Mr '22
By bill. C. H. Blake, jr. Am Arch 121:397-8
My 10 '22
Discharge of the architect—his right to com-
pensation and damages. Am Arch 121:186-
7; 122:245-6 Mr 1, S 13 '22
Legal side of architecture. C. H. Blake. Am
Arch 123:255-6 Mr 14 '23
Ownership of plans. C. H. Blake, jr. Am
Arch 120:353-4 N 9 '21
Right of architect to damages for unauthor-
ized use by owner of building plans and
specifications. L. Childs. Arch & Bldg 55:
76 JI '23; Same. Eng & Contr (Bldgs) 60:
393-4 Ag 22 '23
Right of the architect to a mechanic's lien.
C. H. Blake, jr. Am Arch 122:482-3 N 22 '22
Unreasonable clients. C. H. Blake, jr. Am
Arch 124:251-2 S 12 '23

Architects—Law—Continued

- What are the general powers and duties of an architect to the owner and contractors? Dom Eng 101:331-2 N 25 '22
When the architect's fee is a percentage of total cost. C. H. Blake, jr. Am Arch 123: 519-20 Je 6 '23

See also Architects—Licenses

Licenses

- Architects and law makers. I. K. Pond. Am Arch 123:5-6 Ja 3 '23
More comments on registration laws. A. Peabody. Am Arch 123:173-5 F 14 '23
New law for registration of architects in New York state. Am Arch 122:27-8, 167-8 Jl 5, Ag 16 '22
Tennessee joint registration bill. W: P. Ban- nister. Am Inst Arch J 9:398-9 D '21
Urges license to raise building standards. F. F. Carmiencke. Eng N 88:540-1 Mr 30 '22; Discussion. 88:665 Ap 20 '22

Architects, Official

- City and state architects. Am Inst Arch J 11:113 Mr '23

Architects' offices

- Architectural education; the office. C. H. Blackall. Am Arch 121:213-14+ Mr 15 '22

Management

- Manufacturers' literature—do you file it in the waste basket? Arch Forum 35:233-4 D '21

- Organization in the architect's office. H. Taylor. il charts Arch Forum 39:55-8 Ag '23

Architectural acoustics. See Acoustics, Archi- tectural**Architectural competitions.** See Architecture— Competitions**Architectural drawing**

- Architectural draughtsmanship. W: Rothen- stein. Am Arch 121:455-7 My 24 '22
Architectural drawing. W. B. Field. 161p McGraw-Hill '22

- Four drawings by T. Raffles Davison. Am Arch 123:363-6 Ap 25 '23

- Over the drawing board. B. J. Lubsch. 2d ed., rev. 131p Press of the Am. inst. of archi- tects, New York '23

- Problems in architectural drawing. C. V. Bush. 36p Bruce pub. co., Milwaukee '21

- Six drawings by L. C. Rosenberg. Am Inst Arch J 10:37-41 F '22

See also Architectural rendering; Archi- tecture—Sketching; Blueprints

Architectural education

- Architectural education. C. H. Blackall. Am Arch 121:165-7, 213-14+, 295-7 Mr 1-15, Ap 12 '22

- Architectural education; a teacher's view. A. D. F. Hamlin. Am Arch 121:210-12 Mr 15 '22

- English view of architectural education in the United States. T: E. Tallmadge. Am Inst Arch J 10:231-2 Jl '22

- Retrospective of an architectural education. M. Denison. Am Arch 121:317-19 Ap 12 '22

- State of architectural education in England. C. H. Reilly. Am Arch 123:9-10 Ja 3 '23

- Study of construction in architectural edu- cation. C: W. Killam. Arch Forum 36:173-4 My '22

See also Architecture—Study and teaching

Architectural league of New York

- Architectural league, a clearing-house for pro- fessional information and discussion. L. V. Solon. Arch Rec 53:84-5 Ja '23

- Architectural league of New York and its re- lations to crafts and manufactures. H. V. Magonigle. il Am Arch 121:127-30 F 15 '22

- Thirty-eighth annual exhibition of the Archi- tectural league of New York. il Am Arch 123:139-52, pl 152a-1 F 14 '23

Architectural models

- Cardboard models. L. Grumbine. il diag Am Arch 122:111-14, 135-7+, 177-9 Ag 2-30 '22

- From paper model to concrete arch. il Sci Am 128:110 F '23

- Models in architectural representation. G. L. Geery. Eng & Contr (Bldgs) 60:179-82 Jl 25 '23

- Supplementing the architect and draftsman. F. B. Howe. il plans Pop Mech 39:434-5 Mr '23

- Value of models in architecture. J. Hether- ington. il Am Arch 121:51-2 Ja 18 '22

Architectural rendering

- Architect and the graphic arts; some notes on rendering. F. Weitenkamp. il Arch Rec 53: 464-72 My '23

- Graphic description in architecture. M. A. Spencer. il Arch Rec 53:325-31 Ap '23

Architectural sculpture. See Sculpture**Architectural societies**

See American institute of architects

Architecture

- Address by Thomas Hastings, F.A.I.A., on acceptance of the Royal gold medal of the R.I.B.A. Am Arch 122:96-9 Ag 2 '22

- Appreciation of things made to be seen. P. E. Nobbs. Am Inst Arch J 11:401-4 O '23

- The architect and the engineer. W: L. Steele. Am Inst Arch J 10:62-6 Mr '22

- Architects' and builders' handbook. F. E. Kidder and others. 17th ed., enl. 1907p Wiley '21

- Architectural composition. N. C. Curtis. 250p J. H. Jansen, Cleveland '23

- Architectural design and structural require- ments of loaning institutions. Arch Forum 37:119-22 S '22

- Architectural heresies of a painter. R. Fry. 47p Chatto & Windus, London '21

- Architectural piety. L: Mumford. Am Inst Arch J 11:304+ Ag '23

- Architectural students' handbook. F. R. Yer- bury. 150p Technical journals, 27-29 Tothill st., S.W. 1, London '22

- Architecture and the public press. Am Inst Arch J 10:330-4 O '22

- Architecture and the spirit of the commun- ity. C. F. Gould. Eng & Contr (Bldgs) 60:184-6 Jl 25 '23

- Bridge connecting two buildings; student work, Society of Beaux-arts architects. Am Arch 123:219-21 F 28 '23

- Cours d'architecture et de constructions civiles. E. Arnaud. 5v Impr. des arts et manufactures, Paris '23

- Essays and memorials; reviewing a collection of essays by John W. Simpson. Am Arch 123:457-8 My 23 '23

- Form in civilization; collected papers on art & labour. W: R. Lethaby. 242p Oxford '22

- Honesty in architecture; a tribute and a plea. H: S. Churchill. Eng & Contr (Bldgs) 59: 471-3 F 28 '23

- Justification of the architect is architecture. E. Flagg. Am Arch 121:245-8 Mr 29 '22

- Law of squares. E. Jonson. Arch Rec 52:154- 5 Ag '22

- Literature and architecture. P. E. Nobbs. Am Inst Arch J 11:343-6 S '23

- Planning investment buildings. F. S. Mar- low. diags Am Arch 124:263-7 S 12 '23

- Portfolio of current architecture. See monthly numbers of the Architectural record

- Public and the architect; education of the public. I. K. Pond. Am Arch 123:451-2 My 23 '23

- Question of public information about archi- tecture. J: V. Van Pelt. Am Inst Arch J 10:362-5 N '22

- Regional and vocational influences in archi- tecture. S. C. Ramsey. Am Inst Arch J 11: 317-24 Ag '23

- Relation of classic example to architectural design; with particular reference to the work of Welles Bosworth, architect. Am Arch 122:1-12+ Jl 5 '22

- Significance of the fine arts. 483p Marshall Jones co., Boston '23; Review by C: W. Eliot. Am Inst Arch J 11:220-3 My '23

- Simplified designing methods; mechanical solution of statically indeterminate struc- tures by use of paper models and special gages. il diags Am Arch 122:32-6, 69-74 Jl 5-19 '22

Architecture—Continued

Some thoughts on modern architecture. S. I. Richebourg. *Am Inst Arch J* 10:140-3 My '22
Theories, classical and romantic, by W. G. Newton. Review, by I. K. Pond. *il Am Inst Arch J* 11:349-53 S '23

See also Acoustics; Architectural; Arcades; Arches; Architects; Architectural drawing and other headings beginning Architectural; Armories; Art galleries and museums; Auditoriums; Automobile sales buildings; Automobile service stations; Bandstands; Bank buildings; Barns and stables; Bath-houses; Baths, Public; Bridges; Building; Building materials; Buildings; Capitol buildings; Cathedrals; Cellars; Cemetery buildings; Chimneys; Church architecture; Cloisters; Clubhouses; College architecture; Color in architecture; Columns; Community centers; Concrete construction; Cornices; Cottages; Courthouses; Courts (architecture); Decoration and ornament, Architectural; Department stores; Domes; Doors; Doorways; Factories; Farm buildings; Fire houses; Fire-proof construction; Floors; Foundations; Fountains; Friezes; Garages; Gateways; Grain elevators; Green-houses; Hangars; Heating; High buildings; Hospitals; Hotels; House decoration; Housing projects; Industrial buildings; Iron work, Architectural; Laboratories; Landscape gardening; Library architecture; Loft buildings; Machine shops; Masonry; Memorials; Mercantile buildings; Mine shaft houses; Monuments; Mosques; Moving picture theaters; Moving pictures—Setting and scenery; Municipal buildings; Mural painting and decoration; Naval architecture; Newspaper offices; Office buildings; Orphanages; Parish houses; Park buildings; Partitions; Playgrounds; Playhouses; Plumbing; Prisons; Public buildings; Public comfort stations; Pyramids; Railroads—Buildings and structures; Railroad—Stations; Rest houses; Reviewing stands; Roofs; Schoolhouses; Sheet metal work, Architectural; Stadia; Stairways; Steel construction; Store buildings; Strains and stresses; Strength of materials; Studios; Subway stations; Swimming pools; Tea rooms; Terra cotta; Theaters; Tombs; Towers; Trellis work; Trusses; Tuberculosis, Hospitals and sanatoriums for; Ventilation; Walls; Warehouses; Wells (architecture); Windows; Woodwork; *also* subdivision Architecture under names of cities, e.g. Chicago—Architecture, New York (city)—Architecture; *also* names of buildings, e.g. Westminster Hall, London

Bibliography

Antiquities of the architectural book shelf. V. O. Rees. *il Am Inst Arch J* 11:363-5, 438-41 S. N '23
How to know architecture. R. F. Bach. 5p U.S. Bur. educ., Washington '22

Competitions

Chicago Tribune building competition; views. *Am Arch* 122:545-7, suppl D 20 '22
Chicago Tribune competition. *Am Arch* 121:543-4 Je 21 '22
Chicago Tribune competition. H. H. Kent. *Arch Rec* 53:378-9 Ap '23
Chicago Tribune competition. L. H. Sullivan. *il Arch Rec* 53:151-7 F '23
Chicago Tribune's architectural competition. *il Eng & Contr (Bldgs)* 59:723-9 Mr 28 '23
Competition for the Elks national memorial headquarters building, Chicago, Ill. *il plans* *Am Arch* 122:145-55 Ag 16 '22
First Baptist church competition, Nashville, Tenn. P. E. Burroughs. *il diags* *Am Arch* 122:460-4 N 22 '22
High buildings and beauty. I. K. Pond. *il Arch Forum* 38:41-4 F '23
Simple form of competition. T. C. Young. *Am Arch* 121:93-4 F 1 '22
Word for competitions. *Arch Forum* 38:206 Ap '23

Composition, proportion, etc.

Architectural composition. D. J. Varon. 36p 40 pl W. Helburn, inc., New York '23

Scale in architecture. E. Jonson. *il Arch Rec* 52:449-51 N '22

Scale in interior architecture. J. T. Simpson. *il Arch Forum* 36:36-42, pl 15-16 Ja '22

See also Design

Designs and plans

Can it be built? D. C. Coyle. *il Am Arch* 121:155-8 F 15 '22

Indication in architectural design. D. J. Varon. 2d ed., enl. 48p William T. Comstock co., New York '22

See also Architecture, Domestic—Designs and plans; Blueprints; Church architecture—Designs and plans; Hotels—Designs and plans; Naval architecture—Designs and plans; Schoolhouses—Designs and plans

Preservation

Why drawings of structural work should be preserved. *Eng & Contr (Bldgs)* 59:1420-1 Je 27 '23

Details

Architectural details from the office of Dwight James Baum, architect. *Am Arch* 121:14a-p Ja 4 '22

Architectural series of measured details. W. McQuade. 24 pl Scribner '22

Early American details. *Arch Forum* 38:pl 46 Ja '23

Early English detail and design. R. M. Blackall. *diags plans* *Arch Rec* 52:386-401 N '22

French and Italian details. *il diags* *Am Arch* 122:413-14 N 8 '22

Harwood house, Annapolis. H. D. Eberlein. *il diags plan* *Arch Forum* 37:159-70 O '22

Italian renaissance details. *il diags plans* *Arch Forum* 39:175-8 O '23

Italian renaissance details; a series of measured drawings. F. N. Breed. *Arch Forum* 36:115-17 Mr '22

Italian renaissance details; series of measured drawings. H. Moise. *Arch Forum* 37:215-18 N '22

Manual of architectural compositions. J. T. Haneman. 70 pl Architectural book pub. co., New York '23

See also Decoration and ornament, Architectural; Doors; Doorways; Fireplaces; Grilles; Stairways; Windows

Exhibitions

Architectural league exhibition. J. T. Boyd, jr. *Arch Rec* 51:283-4 Mr '22

Architectural league's exhibition. L. Mumford. *Am Inst Arch J* 11:111-13 Mr '23

Arousing public interest in architecture. E. Bergstrom. *Am Inst Arch J* 11:255-6 Je '23

Boston architectural club exhibition. *Arch Rec* 51:460-2 My '22

Chicago's architectural exhibition. *Am Arch* 123:503 Je 6 '23

Exhibition of American architecture in London. *Am Arch* 121:61-2 Ja 18 '22

Reproductions from the Chicago architectural exhibition. *Am Arch* 121:472i-p Je 7 '22

37th annual exhibition of the Architectural league of New York with a foreword on the development of a better craftsmanship. *il Am Arch* 121:131-8+ F 15 '22

38th annual exhibition of the Architectural league of New York. *il Am Arch* 123:139-52, pl 152a-1 F 14 '23

See also Building trades—Exhibitions; Pittsburgh architectural club

History

History of architecture on the comparative method for students, craftsmen, and amateurs. E. F. Fletcher. 6th ed., rewritten & enl. 932p Scribner '21

Short history of architecture; Europe. R. Sturgis. 578p Macmillan '23

Text-book of the history of architecture. A. D. F. Hamlin. new ed., rev. 479p Longmans '22

Sketching

Architectural sketching tour in Europe and how I did it for less than six hundred dollars. R. W. Sexton. *il Am Arch* 124:94-8 Ag 1 '23

Architecture—Sketching—Continued

- On European sketching. W. P. Barney. il Arch Forum 39:51-4 Ag '23
 Out-door sketching as a help to the architect. T. O. Fraenkel. il Am Arch 120:384-8 N '23 '21
 Sketching and rendering in pencil. A. L. Gup-till. 186p Pencil points press, New York '22

Study and teaching

- University instruction in architecture. C. H. Moore. Arch Rec 50:407-12 N '21
See also Architectural education

Canada

- Illustrations of work in Canada from the office of Nobbs & Hyde. Am Arch 124:14a-i J1 4 '23

England

- Architecture of Robert & James Adam (1758-1794). A. T. Bolton. 2v Scribner '22
 Early English detail and design. R. M. Blackall. diags plans Arch Rec 52:386-401 N '22
 Sir Christopher Wren, 1632-1723. 279p Hodder & Stoughton, London '23
 Sir Christopher Wren, 1632-1723. H. D. Eberlein. il Arch Forum 38:45-50 F '23
See also Architecture, Domestic—England; Tewkesbury abbey

Finland

- House of Parliament, railroad station, and other work of Eliel Saarinen, architect, Helsinki, Finland; views. Am Arch 124:288a-g, 304a-d S 26 '23

France

- Building activity in devastated France. S. Chamberlain. il Am Arch 124:229-32 S 12 '23
 Highlights of a sketching tour in France. S. Chamberlain. il Am Arch 122:485-91; 123:61-5 D 6 '22, Ja 17 '23
 Sketches of a wandering architect in France; pencil drawings. S. Chamberlain. Arch Rec 52:470-8 D '22
 Small French buildings. L: A. Coffin, jr., H. M. Polhemus and A. F. Worthington. 275p Scribner '21
See also Architecture, Domestic—France; Cities and towns—France

Germany

- Skyscrapers in Germany. W. C. Behrendt. il diags Am Inst Arch J 11:365-70 S '23; Same. Eng & Contr (Bldgs) 60:666-71 S 26 '23; Discussion. W. S. Parker. Am Inst Arch J 11:372 S '23

Greece

- See* Architecture, Greek

Hawaiian Islands

- Temple of music and water colosseum, Memorial park, Waikiki beach, Honolulu. G. Burnap. il plans Arch Rec 53:562-8 Je '23

Italy

- Northern Italian details. W. G. Thomas and J. T. Fallon. 24p U. P. C. book co. '23
 Some notes on common brick work from Italy. L. E. Welsh. il Arch Rec 53:423-30, 545-50 My-Je '23
See also Architecture, Domestic—Italy; Architecture, Italian

Japan

- Japanese dietitians. I. K. Pond. il Am Inst Arch J 11:196-7 My '23

Mexico

- Mexican renaissance. W. H. Kilham. il Arch Forum 37:209-14; 38:1-6 N '22, Ja '23

Netherlands

- Some buildings in a Dutch housing community. W. M. Dudok. il plans Arch Forum 38:235-8 My '23

New Mexico

- Primitive basis for modern architecture. R. Henderson. il Arch Rec 54:189-96 Ag '23

New York (state)

- State architect and his works. A. D. F. Hamlin. il diags plans Arch Rec 53:27-43; 54:265-76 Ja, S '23

Pennsylvania

- Early architecture of Pennsylvania. A. L. Kocher. il diags Arch Rec 48:512-30; 49:30-47, 134-55, 232-48, 310-30, 408-22, 518-35; 50:26-43, 146-57, 214-26, 398-406; 51:507-20; 52:121-32, 434-44 D '20-S, N '21, Je, Ag, N '22

Spain

- Ancient Spanish granary. M. Stapley. il diags Arch Rec 51:529-34 Je '22
 Architecture of renaissance Spain—its future as an adapted style. M. Price. Arch Rec 53:575-6 Je '23
 Towered cities. G. G. King. il Am Inst Arch J 9:349-58; 10:346-53, 377-82 N '21, N-D '22

Switzerland

- Impressions of the architectural student in Switzerland. Am Arch 123:226 Mr 14 '23

Texas

- Mission San José. A. B. Ashby. il Arch & Bldg 54:109-10 D '22
 Record of architectural achievement in the state of Texas. R. H. Bryan. il Arch Forum 36:187-92 My '22

Tuscany

- Details of the architecture of Tuscany. H. D. Eberlein. 4p, 105 pl W. Helburn, inc., New York '23

United States

- Architecture and atmosphere. Am Arch 120:478 D 21 '21
 English view of architectural education in the United States. T. E. Tallmadge. Am Inst Arch J 10:231-2 J1 '22
 Les grands immeubles Américains commerciaux et d'habitation. J.-F. Audouin. diags plans Soc Ing Civils Bul 75:9-52, pl 19 Ja '22
 McKim, Mead & White—a history. L. Moses. il Am Arch 121:413-20+, 426a-p My 24 '22
 Selection from the works of Delano & Aldrich. W. L. Bottomley. il Arch Rec 54:3-71 J1 '23
 Skyscrapers in America. G. C. Nimmons. Am Inst Arch J 11:370-2 S '23
 Work of William Lawrence Bottomley. A. W. Colton. il Arch Rec 50:338-57, 418-41 N-D '21
See also Architecture, American; Architecture, Domestic—United States; also subdivision Architecture under names of cities, e.g. Cleveland, Ohio; New York (city); Spokane, Washington

Virginia

- Architectural ramble in Virginia. C. A. Ziegler. il Am Arch 123:531-4; 124:149-51 Je 20, Ag 15 '23

Architecture, American

- American architecture. J. M. Lyle. Am Arch 121:431-2 My 24 '22
 American architecture as regarded by an English professor of architecture. C. H. Reilly. il Am Arch 122:141-2 Ag 16 '22
 American architecture in England. D. Barber and B. G. Goodhue. Am Inst Arch J 10:16-19 Ja '22
 Exhibition of American architecture in London. Am Arch 121:61-2 Ja 18 '22
 How an English architect views American architecture. Am Arch 121:297-8 Ap 12 '22
See also Architecture—United States; Architecture, Colonial; Architecture, Domestic—United States; Architecture, Pueblo

Architecture, Baroque

- Baroque, justice and common sense. C. Fitzgibbon. il Arch Forum 36:43-8, 131-6 F, Ap '22

Architecture, Chinese

- Chinese temple in Formosa. K. W. Dowie. il plan Arch Forum 37:115-18 S '22

Architecture, Colonial

- Colonial interiors; photographs and measured drawings. L. French. 125 pl W. Helburn, New York '23
- Early architecture of Pennsylvania. A. L. Kocher. il diags Arch Rec 48:512-30; 49:30-47, 134-55, 232-48, 310-30, 408-22, 518-35; 50: 26-43, 146-57, 214-26, 398-406 D '20-S, N '21
- Georgian period; original details of measured drawings. 24p U. P. C. book co. '22
- Harwood house, Annapolis. H. D. Eberlein. il diags plans Arch Forum 37:159-70 O '22
- Restoration of a southern colonial estate, York Hall, the residence of Captain George P. Blow, Yorktown, Va. il Arch Forum 35: 211-20, pls 77-84 D '21
- Southern colonial home design. il plans Bldg Age 44:21-3 Je '22

Architecture, Domestic

- Beauty by grouping homes. il Bldg Age 44: 25-7 S '22
- Book of building and interior decorating. R. T. Townsend. 104p Doubleday '23
- Building homes that please. C. G. Peker. il Bldg Age 44:34-8 Ap '22
- Built-in features for modern homes. il Bldg Age 43:36-7; 44:50-1 D '21-Ja '22
- Country residences in Europe and America. L. V. Le Moyne. 2d ed. 653p Putnam '21
- Design of the service units of the home. W. C. Tucker. diags Arch Rec 51:185-8 F '22
- Domestic architecture. L. E. Robinson. 390p Macmillan '21
- House and home. G. Gray. 356p [bibliog. p. 339-43] Lippincott '23
- Interiors adapted from the Italian. W. F. Wheeler. il plans Arch Forum 35:112-17, 155-9, 199-204, 241-6, pl 45-6 S-D '21
- Let us build the backs of our homes as attractive as the fronts. il plans Bldg Age 45:41-3 Je '23
- Making the house fit its site. W. K. Rainsford. il plans Am Arch 120:463-71 D '21
- More house for less money; deviating from building traditions. H. Cary. il Sci Am 128: 158-9 Mr '23
- More light and air for small homes. il plan Pop Mech 40:279 Ag '23
- Relation of pipe organs to architecture; residence organs. C. W. Cameron. il diags plans Am Arch 122:303-9 O 11 '22
- Small house, its possibilities. M. H. Northend. 243p Dodd '23
- Small houses, their economic design and construction. E. Flagg. 152p Scribner '22
- University homes. il plans Bldg Age 44:23-5 My '22

See also Apartment houses; Bungalows; Clubhouses; Concrete houses; Cottages; Country houses; Courts (architecture); Doorways; Dormitories; Farm buildings; Farmhouses; Fireplaces; Fraternity houses; Heating; House decoration; Housing projects; Landscape gardening; Miners' houses; Plumbing; Stairways; Tenement houses

Designs and plans

- Adaptation of seventeenth century New England colonial style to modern home. il plans Bldg Age 44:25-6 Ag '22
- American house. C. S. Keefe, ed. 219 pls. 24p U.P.C. book co. '22
- Architect's own house. il plans Arch Forum 37:145-6, pl 50 S '22
- Attractive Canadian home. il plans Bldg Age 44:32-3 Ap '22
- Attractive seven room house; with quantity survey. il plans Bldg Age 44:40-3 Je '22
- Beautiful home convenient. il plans Bldg Age 44:28-9 Ap '22
- Better homes. J. V. Bogert. Grand Rapids, Mich. '22
- Better homes at less cost; novel methods of design and construction devised by Ernest Flagg. il diags plans Bldg Age 44:19-22 Mr '22
- Brick home of beauty. il plans Bldg Age 44: 52 D '22
- Cambria steel company completes 89 hollow wall houses. E. T. Gray. il diags plans Concrete 20:19-22 Ja '22
- Can a box house be artistic. il diags plans Bldg Age 44:19-25 F '22

- Cellarless house. J. T. Tubby. diags plans Am Inst Arch J 11:326-31 Ag '23
- Cinder block and stucco house for less money. il plans Concrete 22:176-7 My '23
- City house remodeled and its backyard transformed. A. W. McCrear. Am Arch 123:413-14g My 9 '23
- Comfortable home with attractive porches; with quantity survey. diags plans Bldg Age 44:28-32 N '22
- Compact six room house with construction details. il diags plans Bldg Age 45:42-5 Ja '23
- Concrete best for suburban homes. L. C. Thompson. il diags plans Concrete 20:36-8, 140 Ja, Mr '22
- Concrete brick house with unusual foundation. il diags plans Concrete 22:76 F '23
- Concrete house that is all concrete, large fire-proof home. H. F. Tyler. il plans Concrete 22:98-101 Mr '23
- Conservative little home; six room house; with quantity survey. il plans Bldg Age 44: 26-8 My '22
- Convenient colonial house with garage attached; with quantity survey. diags plans Bldg Age 45:46-9 O '23
- Cottage design for narrow lot; with quantity survey. il plans Bldg Age 45:56-9 My '23
- Creating a desire for better building by erecting model homes. il plans Bldg Age 44:19-21, D '22
- Dalzell's homes of moderate size. 144p U. P. C. book co. '21
- Design of the country house. W. L. Bottomley. il plans Arch Rec 50:242-74 O '21
- Designs of beauty for face brick homes; bungalows and stucco houses. il plans Bldg Age 45:54-61 Ja '23
- Domestic architecture by Miller & Reeves; illustrated from recent work at Columbus, Ohio. W. D. Smith. il plans Arch Forum 38: 19-24, pl 15-16 Ja '23
- Domestic architecture of Henry Corwith Dangler, architect. il Arch Forum 36:137-42, pl 49-62 Ap '22
- Dutch colonial home. il plans Bldg Age 45: 48-9 Ap '23
- Dutch colonial home design. il plans Bldg Age 44:19-22 Ja '22
- Dutch colonial seven room house; with quantity survey. il plans Bldg Age 44:33-6 S '22
- Five room home Dutch colonial in design; with quantity survey. il plans Bldg Age 44: 23-31 Jl '22
- Four-family house. il plans Bldg Age 44:44 Ap '22
- Good houses. R. F. Whitehead. 63p Weyerhaeuser forest products, St. Paul, Minnesota '22
- Government house plans. Concrete 19:210 N '21
- Home building development in St Petersburg, Florida. il plans Bldg Age 45:39-41 Mr '23
- Home of beauty. 3d ed. 70p American face brick assn. Chicago '22
- Homes of character. 160p Lewis mfg. co., Bay City, Mich. '22
- Homes of moderate size; a collection of photographs and plans of modern suburban and country homes. K. W. Dalzell. 144p U.P.C. book co. '23
- House at Oak Knoll, Pasadena, Cal.; views and plans. Am Arch 121:512k-l, 513 Je 21 '22
- House at Ogontz, Pa. Am Arch 123:318d-f, 329 O 11 '22
- House at Rydal, Pa.; Oswald C. Hering and Douglass Fitch, architects. Am Arch 122: 318g-h, 330 O 11 '22
- House at Toledo, Ohio; views and plan. Am Arch 122:102n-o Ag 2 '22
- House for the Cincinnati double wall co. Arch & Bldg 54:105, Dwelling house series 19 N '22
- House in Abington, Pa. Am Arch 122:274k-n, 296 S 27 '22
- House of A. A. Fowler, East 71st street, New York city. plans Am Arch 121:472g-h, 477 Je 7 '22
- House of Arthur Barber, Tenafly, N.J. Arch & Bldg 54:49, Dwelling house series 8 My '22

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- House of Arthur K. Bourne, Pasadena, Calif. Arch Forum 37:37, pl 13-14 J1 '22
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- House of C. G. Herget, Pekin, Ill.; views. Am Arch 122:544a-c D 20 '22
- House of Clayton Sedgwick Cooper, East 48th street, New York; views. Am Arch 122:498i-n D 6 '22
- House of Clifford Evans, architect, Dallas, Texas. il diag plans Am Arch 124:140-p, 15-16 J1 4 '23
- House of Darragh Park, Roslyn, Long Island, N.Y. Arch Forum 35:pls 70-3 N '21
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- House of Dr H. R. Mixsell, East 64th street, New York; views and plans. Am Arch 124:258f-60 S 12 '23
- House of Dr Samuel Milbank, 117 East 65th street, New York. Arch Forum 38:205, pl 45-6 Ap '23
- House of Dudley D. Sisher, New York city. Am Arch 121:304-7 Ap 12 '22
- House of E. Burton Lyon, Hempstead, L.I., N.Y.; views. Am Arch 122:544d-f, 561 D 20 '22
- House of Eldridge Gerry Snow, jr., Rye, New York. Am Arch 122:318a-c, 327-8 O 11 '22
- House of Eugene Kienle, Great Neck, L.I. Am Arch 121:53, 60l-o Ja 18 '22
- House of Eugene A. Riette, Manhasset, L.I., N.Y. Am Arch 121:178a-d Mr 1 '22
- House of George F. Rand, Buffalo, N. Y.; views and plans. Am Arch 124:348a-g O 10 '23
- House of H. C. Miner, Riverside, Conn.; views and plan. Am Arch 122:360e-g O 25 '22
- House of H. E. Chubbock, Peoria, Ill.; views. Am Arch 122:498o-p D 6 '22
- House of Harry C. Black, Guilford, Baltimore; views and plans. Arch Forum 39:pls 68-72 O '23
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- House of Mrs Leopold Cahn, Hartsdale, N.Y.; views and plans. Am Arch 121:512g-h, 517 Je 21 '22
- House of Mrs William Hayward, New York. il plans Arch Forum 37:235, pl 73-80 N '22
- House of Montgomery L. Hart, Pelham Manor, N.Y. Arch Forum 35:237, pl 88 D '21
- House of Otto Anwiller, Monroe, Mich.; views and plans. Am Arch 122:360p, 361-2 O 25 '22
- House of Richard Garlick, Youngstown, Ohio. Arch Forum 36:pl 17-20 F '22
- House of Robert Mears, Tenafly, N.J. Am Arch 122:318k, 331 O 11 '22

- House of S. M. Cowgill, Terre Haute, Ind. Am Arch 121:478-9 Je 7 '22
- House of W. E. Knowlton, Tenafly, N.J. il plans Am Arch 123:72-3 Ja 17 '23
- House of W. R. Richardson, Englewood, N.J. il plans Am Arch 124:64-6 J1 18 '23
- House of William P. Hoffman, Riverdale, N.Y.; views and plans. Am Arch 121:300a-1, 308 Ap 12 '22
- House of William V. MacDonald, Belmont, Mass. Arch Forum 35:pls 75-6 N '21
- House of Wm. Van Antwerp, Burlingame, California; views and plans. Arch Forum 37:195, pl 62-8 O '22
- Houses in a row form English home colony. il plans Bldg Age 45:42-3 S '23
- Houses of F. Halderman and W. E. Knowlton, Tenafly, N.J. il plans Arch & Bldg 54: Dwelling house series 11-12 Je '22
- How Building age advertising pages helped in the erection of a servantless cottage at Great Kills, Staten Island. il plans Bldg Age 45:60-1 S '23
- How to plan, finance and build your home. 86p Mountain division of the Architects' small house service bureau, Chamber of commerce bldg, Denver '22
- Hueber brothers' aim isn't cheap houses. il diags plans Concrete 20:39-41 Ja '22
- Illustrations of houses. Arch Forum 38:115-34, 147-69 Mr '23
- Interior of the country house. A. R. Colton and A. W. Colton. il plans Arch Rec 50:275-94 O '21
- La Ranchère, Saint Nom-la-Bretèche, Seine-et-Oise. H. D. Eberlein and L. H. French, jr. il plans Arch Rec 53:307-24 Ap '23
- Livable Dutch colonial seven-room house; with quantity survey. diags plans Bldg Age 45:40-4 F '23
- Livable home of English design. plan Bldg Age 45:58 Ap '23
- Modern American country houses. A. Embury. il plans Arch Forum 38:79-106 Mr '23
- Modern English design of four family house. J. Y. Dunlop. il diags plans Bldg Age 44:24-5 Je '22
- Modern homes. 56p Southern pine assn., New Orleans '21
- Modern homes in a row. il plans Bldg Age 45:36 F '23
- Modernized adaptation of the Home Sweet Home house, Easthampton, L.I., built near the Treasury department building at Washington, D.C. il plans Am Arch 123:496 Je 6 '23
- Monograph of the work of Mellow, Meigs & Howe. 212p Architectural book pub. co., New York '23
- Monolithic concrete architecture. V: H. Wigglesworth. il plans Concrete 21:39-43 Ag '22
- My own concrete house. A. J. R. Curtis. il diags plans Concrete 20:107-12 Mr '22
- New England house of concrete that cannot be told from wood. A. J. R. Curtis. il plans Pop Mech 39:45-8 Ja '23
- 1921 progress in the Gleason house development at East Rochester. il diag plans Concrete 20:9-13 Ja '22
- Office and residence of Frederick Sterner, New York; views and plans. Arch Forum 37:195, pl 57-61 O '22
- Old houses of Michigan. F. Kimball. il diags plans Arch Rec 52:227-40 S '22
- Owner makes novel fire test for new house. plans Pop Mech 39:735 My '22
- Pennsylvania homes. 2d ed. 98p Retail lumber dealers' assn. of Penn., Pittsburgh '22
- Plan book of modern American homes. 108p Standard homes co., Washington, D.C. '21
- Planning the small-town house. W: D. Brinckloe. plan Arch Rec 51:375-6 Ap '22
- Pomander walk, New York. il plans Arch & Bldg 54:2-5 Ja '22
- Quantity survey of two family house. plans Bldg Age 44:24-6 Mr '22
- Residence of Colonel Michael Friedsam. M. Price. il diag plans Arch Rec 52:86-102 Ag '22
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- Town house of a new régime. H. D. Eberlein. *il diags plans Arch Rec* 52:402-14 N '22
- Town house of Thomas W. Lamont, M. Price. *il plans Arch Rec* 51:210-32 Mr '22
- Twin house design; convenient layout of five room home. *il plans Bldg Age* 41:37 S '22
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- Two houses at North Plainfield, N.J. J. T. Simpson and B. Rolston. *Am Arch* 121:177-80, pl 1780-p Mr 1 '22
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- Working drawings of a seven room house. *Bldg Age* 45:71-6 Ja '23
- Your future home; selected collection of plans for small houses. 165p Weyerhaeuser forest products, St. Paul, Minn. '23
- Your home. 52p American lumberman, Chicago '22

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Belgium

- La restauration des régions dévastées belges. H: Marchand. *il diags plans Génie Civil* 80:309-15 Ap 8 '22

California

- House of C. C. Stanley, Pasadena, Cal.; view. *Am Arch* 122:182f-h Ag 30 '22
- House of James Shultz, Los Angeles, Cal.; views. *Am Arch* 123:14h-k Ja 3 '23
- House of Thomas McNamara, Los Angeles, Cal.; views. *Am Arch* 124:386d-f O 24 '23
- Moroccan house in California. H: W. Greene. *plan Arch & Bldg* 55:35-6 Ap '23
- Residence of J. P. Jefferson, Montecito, California. *il plan Arch Rec* 51:8-15 Ja '22
- Some country house architecture in the Far West. E. Grey. *il diags plans Arch Rec* 52:308-44 O '22
- Some recent works of Marston & Van Pelt. P. Duell. *il plans Arch Rec* 52:16-38 JI '22
- Views of some California houses. *Am Arch* 121:388a-l My 10 '22

Central America

- Housing in the American tropics. O. C. Gould. *il Arch & Bldg* 54:23-5 Mr '22

Colorado

- Brick house in Denver, Colorado; views. *Am Arch* 123:456f-i My 23 '23

Connecticut

- Residence of John H. Tyson, Riverside, Connecticut. H. J. Butler. *il plan Arch Rec* 53:66-79 Ja '23

England

- Characteristics of Georgian brickwork in England. N. Lloyd. *il Arch Forum* 38:213-20 My '23
- Cottages, farmhouses and other minor buildings in England of the 16th, 17th and 18th centuries. L. C. Rosenberg. *Architectural book pub. co., New York* '23
- History of everyday things in England. M. Quennell and C. H. B. Quennell. 208p Scribner '22
- House of E. Guy Dawber, architect, Long Wittenham, Berks, England. *il Am Arch* 123:355-8 Ap 25 '23
- Sumptuous simplicity a note on the Elizabethans. P. M. Stratton. *Am Arch* 123:223-5 Mr 14 '23
- See also* Hogarth house, London; Housing—Great Britain; Sulgrave Manor

Europe

- Recent housing work in western Europe. E. E. Wood. *il diag Arch Rec* 53:173-83 F '23

Florida

- Building homes of coral. *il plans Bldg Age* 45:35-7 S '23

France

- Garden cities and model dwellings as conceived by the French. W. P. Mitchell. *il plan Eng & Contr* 57:613-14 Je 28 '22
- House of Madame de Pompadour, Versailles. H. D. Eberlein and L. French, jr. *il plans Arch Rec* 54:321-8 O '23
- La Lanterne, Versailles, Seine-et-Oise. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 53:431-50 My '23
- La Rabatère, Logis d'Olivier le Daim, near Tours, France. J. P. Sims. *il Arch Rec* 51:84-7 Ja '22
- La Ranchère, Saint Nom-la-Bretèche, Seine-et-Oise. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 53:307-24 Ap '23
- Numero 93, rue Royale, Versailles. H. D. Eberlein and L. H. French, jr. *il plan Arch Rec* 53:245-65 Mr '23
- Numero 147, boulevard de la Reine, Versailles. H. D. Eberlein and L. French, jr. *il plan Arch Rec* 54:277-85 S '23
- Octroi, Barrière, Porte Louveciennes, Versailles; house, no. 16 rue d'Angoulême, Versailles. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 53:551-61 Je '23
- Le pavillon de Madame, Versailles. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 54:79-93 JI '23

Architecture, Domestic—France—Continued

Saint Vigor, Viroflay, Seine-et-Oise. H. D. Eberlein and L. H. French, jr. il diags plan Arch Rec 53:116-34 F '23
 La villa Trianon, Versailles. H. D. Eberlein and L. French, jr. il plans Arch Rec 54: 177-87 Ag '23

Germany

Building model homes in Germany. il plans Bldg Age 45:34-5 F '23
 Housing situation in Germany. H. Hecker. il diags plans Am Inst Arch J 11:159-71 Ap '23

Illinois

House of Mrs Alfred Granger, Lake Forest, Ill.; views. Am Arch 124:242a-e S 12 '23

Italy

La Pietra, il Pellegrino, Via Bolognese, near Florence. H. D. Eberlein. il Arch Rec 51: 292-307 Ap '22
 Malcontenta (Villa Foscari), near Gambarare, Canale di Brenta. H. D. Eberlein and R. B. C. M. Carrere. il plan Arch Forum 37: 131-8 S '22
 Poggio Torselli, San Casciano, Val Di Pesa. H. D. Eberlein. il Arch Rec 51:49-61, 101-14 Ja-F '22
 Restorations in the Palazzo di Venezia in Rome. H. D. Eberlein. il diags plans Arch Rec 53:44-65 Ja '23
 Villa Dei Collazzi, Tavarnuzze, Tuscany. H. D. Eberlein. il plan Arch Rec 51:197-209 Mr '22
 Villas of Florence and Tuscany. H. D. Eberlein. 411p Lippincott '22
 Villas of the Veneto; the villa Cornaro at Piombino, near Castelfranco. H. D. Eberlein and R. B. C. M. Carrere. il plan Arch Forum 35:161-8 N '21
 Villas of the Veneto; the villa Velluti, at Mira Vecchia, Canale di Brenta. H. D. Eberlein and R. B. C. M. Carrere. il plan Arch Forum 36:17-24 Ja '22

Long Island

Eight old Long Island houses. il Am Inst Arch J 11:355-62 S '23
 House of Nicholas Brady, Manhasset, L.I., N.Y.; views. Am Arch 121:98f-k F 1 '22
 House of Walter Farwell, Syosset, Long Island, N. Y. Am Arch 122:8-1, 14d-h J1 5 '22
 House of E. F. Hutton, Roslyn, L.I., N.Y.; views. Am Arch 123:60a-h Ja 17 '23

Maryland

Harwood house, Annapolis. H. D. Eberlein. il diags plans Arch Forum 37:159-70 O '22

Massachusetts

President's house, Massachusetts institute of technology; views. Am Arch 122:56n-o J1 19 '22

Michigan

Old houses of Michigan. F. Kimball. il diags plans Arch Rec 52:227-40 S '22

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New Jersey

House at Far Hills, N.J.; views and plans. Am Arch 122:102a-h, 110 Ag 2 '22

New York (state)

Best known home in the world; house of John Howard Payne. il diags plans Bldg Age 45: 43-7 Ap '23
 House of David S. Ball, Riverdale, N.Y.; views. Am Arch 122:561-k J1 19 '22
 House of William Ziegler, jr., East 63d street, New York; views. Am Arch 123:144-g Ja 3 '23

Ohio

Early domestic architecture of Ohio. I. T. Frary. Am Arch 123:307-12 Ap 11 '23
 House of Mrs L. C. Hanna, Cleveland, Ohio; views. Am Arch 121:140a-f F 15 '22
 Residence of Warren Bicknell, esq., Cleveland, Ohio. I. T. Frary. il plans Arch Rec 53:202-22 Mr '23

South Carolina

Development of Charleston architecture. A. Simons. il diags Arch Forum 39:153-60 O '23
 Vanderhorst Row, Charleston, South Carolina; a prototype of the modern apartment house. S. Lapham, jr. il plans Arch Forum 39:59-61 Ag '23

United States

Country house architecture in the Middle West. T. E. Tallmadge. il plan Arch Rec 52:284-307 O '22
 Country house in the Italian manner. M. Price. il plan Arch Rec 51:387-96 My '22
 Current tendencies in country house design in the East. A. Embury. il plans Arch Rec 52:250-83 O '22
 Domestic architecture of Henry Corwith Dangler, architect. il Arch Forum 36:137-42, pl 49-62 Ap '22
 Domestic architecture of the American colonies and of the early republic. S. F. Kimball. 314p Scribner '22

See also Architecture, Colonial

Architecture, Georgian

English Georgian decorative precedent. S. Macomber. il diags Arch Forum 36:79-82 F '22
 Georgian period; photographs and measured drawings of colonial work with text. W: R. Ware. rev. ed. 6v. U.P.C. book co. '23
 See also Architecture, Colonial

Architecture, Gothic

Misapprehensions concerning Gothic architecture. C: H. Moore. Arch Rec 53:369-73 Ap '23

Architecture, Greek

Greek proportions theoretically and otherwise. E. Swartwout. il Am Arch 120:379-83 N 23 '21
 Greek art and architecture, their legacy to us. P. Gardner and R. Blomfield. 76p Oxford '22

Architecture, Italian

Baroque, justice and common sense. C. Fitzgibbon. il Arch Forum 36:43-8, 131-6 F, Ap '22
 Interiors adapted from the Italian. W. F. Wheeler. il plans Arch Forum 35:112-17, 199-204, 241-6, pls 45-6 S, N-D '21

See also Architecture—Italy; Architecture, Domestic—Italy; Architecture, Renaissance

Architecture, Pueblo

Primitive basis for modern architecture. R. Henderson. il Arch Rec 54:189-96 Ag '23

Architecture, Renaissance

Architecture and decorative sculpture of the high and late renaissance in Italy. C. Ricci. 260p Brentano's, New York '23
 Italian renaissance details; a series of measured drawings. F. N. Breed. Arch Forum 36:115-17 Mr '22
 Italian renaissance details; series of measured drawings. H. Moise. Arch Forum 37:215-18 N '22
 Italian renaissance in Detroit. W. F. Paris. il Am Arch 123:15-19-1 Ja 3 '23

Arctic exploration

Amundsen to attempt North pole flight. L. W. Pedrose. il Pop Mech 37:875-7 Je '22
 Curtiss Oriole to the North pole. Aviation 12: 722 Je 19 '22
 Friendly Arctic; its well-stocked larder and how three men lived off the country. il Sci Am 126:334-5 My '22
 New Arctic flying expedition. il Aviation 15: 549 O 29 '23
 Radio in Arctic with explorer MacMillan. il Wirelless Age 10:54 Ag '23
 Shackleton aid says airship could go to Pole and back within a week. Sci Am 129:291 O '23

See also Antarctic exploration

Arctic regions

See also Geology—Greenland

Argal, Philip

Sketch. T. A. Rickard. por Eng & Min J 113: 632 Ap 15 '22

Argentina

Electrical progress in Brazil and the Argentine. Engineer 132:627 D 9 '21

See also Commercial law—Argentina; Labor laws and legislation—Argentina; Motor bus lines—Argentina; Railroads—Argentina; Roads—Argentina

Commerce

Argentina is buying American automotive products. M. T. Meadows. map Automotive Ind 46:1073-5 My 13 '22

Argentine republic—imports of lathes. Am Mach 58:188 F 1 '23

Jewelry and silverware in Argentina, Uruguay and Brazil. S. W. Rosenthal. il U S Bur For & Dom Com 214:89-114 '22

Sending catalogues and circular letters to Argentina. G. S. Brady. Ptr Ink 120:134+ JI 20 '22

See also Commercial law—Argentina

Directories

El anuario argentino. 510p Standard directory co., Buenos Aires; Dixie business book shop, New York '23

Economic conditions

Argentine neither broke nor blue. Am Ind 23:32+ Mr '23

Economic situation of the Argentine Republic. I. Grinfeld. Annalist 21:730 My 28 '23

Foreign securities in American markets—Argentina. Annalist 22:366+ S 17 '23

Industrial progress in Argentina. G. S. Brady. Am Mach 58:60 Ja 4 '23

Industries and resources

Economic development in Argentina since 1921. M. A. Phoebus. U S Bur For & Dom Com Trade Information Bul 156:1-14 '23

Production costs of casein lower in Argentina than in United States. Chem & Met Eng 29:417 S 3 '23

See also Automobile industry and trade—Argentina; Iron industry and trade—Argentina; Paper industry and trade—Argentina; Petroleum—Argentina; Water power—Argentina

Argentite. See Silver sulfide

Argento-jarosite

Argento-jarosite; a new silver mineral. C. A. Schempp. Am J Sci 5th ser 6:73-5 JI '23

Arghan

Arghan—a new fiber. Chem & Met Eng 28:991 Je 4 '23

Capabilities of arghan fibre. J. A. Hunter. il Textile World 64:827 Ag 11 '23

More about arghan fiber. Color Tr J 12:225-6 My '23

New textile fibre; arghan as a substitute for hemp and flax. A. S. Moore. il Textile World 62:566 JI 29 '22

Truth about arghan or pita floja fibre. G. A. Lowry. il Textile World 63:1155-6 F 10 '23

Arginine

Study of the influence of arginine, histidine, tryptophane and cystine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. Am Chem Soc J 43:2469-76 N '21

Argon

Abnormally long free paths of electrons in argon. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 43:1127-3 Je '22

Les gaz rares des gaz naturels. C. Moureu. Chem Soc J 123:1905-47 Ag '23

Motion of electrons in argon. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 43:593-600 Mr '22

Motion of electrons in argon and in hydrogen. J. S. Townsend and V. A. Bailey. diags Philos Mag 6th ser 44:1033-52 N '22

Radiation and ionization potentials of the rare gases and the singlet and enhanced series of argon. W. M. Hicks. Philos Mag 6th ser 45:480-96 Mr '23

Sparking potential in argon at reduced pressures. E. R. Stoekle. Phys R 19:258-9 Mr '22

Arithmetic

How to avoid mistakes in arithmetic. Power 57:62 Ja 9 '23

Rapid arithmetic. T. O. Sloane. 190p Van Nostrand '22

Arithmetic, Commercial

Acme rapid calculation course. H. F. Hippenstiel. 59p Gregg '23

Business arithmetic. G. W. Miner, F. H. Ellwell and F. C. Touton. 410p Ginn '23

Mathematics of finance. H. L. Rietz, A. R. Crathorne and J. C. Rietz. 280p Holt '21

Modern business arithmetic, complete course. H. A. Finney and J. C. Brown. Rev. ed. 485p Holt '22

Practical business arithmetic. H. J. Kiggen. 404p Macmillan '22

See also Accounting; Bookkeeping; Decimal system; Interest tables

Arizona

See also Copper mines and mining—Arizona; Geology—Arizona; Gold mines and mining—Arizona; Mines and mineral resources—Arizona; Roads—Arizona

Law

Anti-injunction law of Arizona held unconstitutional. Monthly Labor R 14:364-8 F '22

Arkansas

See also Drainage—Arkansas; Mines and mineral resources—Arkansas; Petroleum—Arkansas; Petroleum industry and trade—Arkansas; Roads—Arkansas

Arkansas river

Course of river changed by single blast. il Pop Mech 37:58-9 Ja '22

Reservoir storage for Kansas—Colorado water. Pub Works 52:32-3 Ja 14 '22

Arkwright, Preston S., 1871-

Portrait. Elec W 80:410 Ag 26 '22

Armaments

See Aeronautics, Military; Disarmament

Armatures

Armature bands. L. Burstow. Elec R (Lond) 89:774 D 9 '21

Armature practice on Chicago "L." il diag Elec Ry J 61:841-2 My 19 '23

Design of armature windings for direct-current dynamo-electric machinery. H. E. Dance. diags Inst E E J 60:51-7 D '21

Direct current armature windings. M. Phillips. diags Power Pl Eng 26:420-2, 469-72 Ap 15-My 1 '22

Discarded armature cores reclaimed. il Elec Ry J 61:180 Ja 27 '23

Do armatures rub top pole faces? diag Elec Ry J 59:114 Ja 21 '22

Equalizer caused short-circuit on armature. E. C. Parham. diag Power 55:111 Ja 17 '22

Flow method of impregnating fields. il Elec Ry J 58:1078 D 17 '21

Heat flow in armature coils. C. J. Fechheimer. diags Elec W 80:1145-8 N 25 '22

Mathematical development of the theory of the magnetomotive force of windings. A. E. Clayton. diags Inst E E J 61:749-87 JI '23

Methods for laying out coils for d. c. armatures and a. c. stators. A. C. Roe. il diags Elec R 80:159-64 Ap '22

New armature dipping tanks at Erie filled by air pressure. il diag Elec Ry J 62:87-8 JI 21 '23

Novel starter armature eliminates use of soldered commutator joint. diags Automotive Ind 46:1108 My 25 '22

Presse, système Bliss, découpant automatiquement les tôles d'armature de machines électriques. il diag plans Génie Civil 81:570-1 D 16 '22

Properties of the distribution factor of armature windings. B. Hague and S. Neville. diags Inst E E J 60:861-6 Ag '22; Discussion. 61:398-9 Mr '23

Simple device for spreading armature coils. il Elec R 80:248-9 My '22

Simplified representation of direct-current armature windings; abstract. J. Bojko. diag Elec W 78:1084 N 26 '21

See also Commutators

Armatures—Continued

Baking

- Dipping and baking armature coils. J: S. Dean. *Elec Ry J* 61:652-3 Ap 14 '23
 Ovens for baking railway motor armatures. J: S. Dean. *il Elec Ry J* 61:684-6 Ap 21 '23
 Plans to be followed when dipping and baking rewound armatures. J: S. Dean. *il Ind Eng* 81:367-8 Jl '23
 Present status of dipping and baking railway motor armatures. J: S. Dean. *il Aera* 11:1613-25 Jl '23; Excerpt. *Ind Eng* 81:165-6 Mr '23
 What dipping and baking armatures did for one operator. J: S. Dean. *il Elec J* 20:272-3 Jl '23

Repair

- Armature dismantling tools reduce labor costs. *il Elec Ry J* 59:471 Mr 18 '22
 Expediting armature repair work. H: S. Day. *il diags Elec Ry J* 59:434-3 Mr 18 '22
 How mine-motor armatures should be soldered. H. H. Johnston. *il Coal Age* 21:10-11 Ja 5 '22
 Preventing armature bands from breaking. M. A. Anderson. *Power* 56:695 O 31 '22
 Some ways to locate and remove troubles in d.c. armatures. M. Phillips. *diags Ind Eng* 80:435-41+ S '22
 Welding broken armature shafts without removing or injuring coils. *Power* 54:805 N 22 '21

Testing

- Armature testing device. H: Kleiber. *diags Power* 57:806 My 22 '23
 Handling and testing armatures. *diags Coal Age* 23:789-90 My 17 '23
 Localizing armature ground-faults. E. C. Parham. *diag Power* 55:312 F 21 '22
 Locating faults in direct-current armatures—effects of grounds. B. A. Briggs. *diags Power* 54:927-9 D 13 '21
 Locating faults in direct-current armatures—open-circuits in series and parallel windings. B. A. Briggs. *diags Power* 56:237-40 Ag 15 '22
 Locating faults in direct-current armatures—repairing short-circuits. B. A. Briggs. *diags Power* 55:94-7, 303-5, 810-13; 56:50-2 Ja 17, F 21, My 23, Jl 11 '22
 Locating faults in direct-current armatures—testing for grounds in parallel windings. B. A. Briggs. *diags Power* 56:680-2 O 31 '22
 Locating faults in direct-current armatures—testing for grounds in series windings. B. A. Briggs. *diags Power* 57:324-6 F 27 '23
 Locating reversed armature coils with a wattmeter. A. S. McClain. *diags Power* 56:976-7 D 19 '22
 Some ways to locate and remove troubles in d.c. armatures. M. Phillips. *diags Ind Eng* 80:435-41+ S '22
 Split and layer windings for small armatures. A. C. Roe. *il diags Elec R* 80:78-83+ F '22
 Testing series field coils. C: A. Armstrong. *diags Power* 55:627-8 Ap 18 '22

Winding

- Armature winding. D: P. Moreton. 185p American technical society, 58th and Drexel sts., Chicago '23
 Method of winding armature coils to insure thorough impregnation. A. C. Roe. *Ind Eng* 80:601 D '22
 Organized procedure by which ten men can rewind 2,000 armatures per month. *il Elec R* 80:120-6 Mr '22
 Placing winding on locomotive armatures. *diags Coal Age* 24:323-4 Ag 30 '23
 Practical armature winding formulae. L. Wollison. *diags Electrician* 88:496-8 Ap 28 '22
 Simple devices which are useful in winding small armatures. H. E. Ewalt. *il Ind Eng* 81:113-15 F '23
 Special hand winding saves time in rewinding small armatures. A. C. Roe. *diags Ind Eng* 80:502-3 O '22
 Strong and handy armature-winding rack made from pipe and fittings. J. W. Hobart. *diags Ind Eng* 81:418 Ag '23

Taking and recording armature rewinding data. A. C. Roe. *diags Power* 57:169-71 Ja 30 '23

Winding and connecting data for some old direct current armatures. A. C. Roe. *il diags Ind Eng* 81:98-101 F '23

Winding device for staters and armatures. *diags Power* 57:168 Ja 30 '23

Armco association

Making happiness a by-product of industry. G: W. Hanley. *il Ind Management* 63:287-91 My '22

Armco ingot iron

Commercially pure Armco ingot iron. *il Gas J (Lond)* 164:55-6 O 3 '23

Advertising

Advertising to industry's four contact points; Armco ingot iron. B. Chapple. *Ptr Ink* 119:128+ Je 15 '22

Armenia

Our machinery hope of Armenia. B. Acheson. *il Am Ind* 22:37-40 Je '22

Armies

Leading armies of the world. *Sci Am* 125A:96-7 D '21

Armor plate

Aus der geschichte der herstellung der panzerplatten in Deutschland. E. Ehrensberger. *il diags Stahl & Eisen* 42:1129-36, 1276-82, 1320-30 Ag 10-24 '22

How Bethlehem became armament maker. H. F. J. Porter. *Iron Age* 110:1339-41 N 23 '22

Armories

Store architect and his works. A. D. F. Hamlin. *il diag plans Arch Rec* 53:27-43 Ja '23

Armour & company of Delaware

Listing—status, &c. *Comm & Fin Chr* 117:1839 O 27 '23

Armour, P. D.

Press all the time—and know what you are doing. *por System* 43:178-80 F '23

Arms and armor

Romances of metal working—two famous armorers. H. H. Manchester. *Am Mach* 56:404 Mr 16 '22

Why armored suits fail. E: C. Crossman. *il Sci Am* 129:242 O '23

Armstrong cork company

Advertising selling course direct to the dealers' salesmen; Armstrong cork co. appeals directly to retailers' salespeople. G: H. Wicker. *Ptr Ink M* 5:64+ Je '22

Army and navy air service association

Annual meeting, Washington, Oct. 3, 1921. *Aerial Age* 14:268 N 28 '21

Army camps. See Camps, Military

Army supplies. See United States—Army—Equipment; United States—Army—Expeditionary force

Army supply bases

Industrial architecture in concrete. C. Gilbert. *il Arch Forum* 39:33-6 S '23

Aromatic compounds

Application of the octet theory to single-ring aromatic compounds. E. C. Crocker. *il diags Am Chem Soc J* 44:1618-30 Ag '22

Interaction of aromatic disulphides and sulphuric acid. S: Smiles and E. W. McClelland. *Chem Soc J* 121:86-90 Ja '22

Molecular configurations of polynuclear aromatic compounds; 4:6:4'-trinitrodiphenic acid and its resolution into optically active components. G: H. Christie and J. Kenner. *Chem Soc J* 123:779-85 Ap '23

Molecular configurations of polynuclear aromatic compounds; 6:6'-dichlorodiphenic acid; its synthesis and resolution into optically active components. G: H. Christie, C. W. James and J. Kenner. *Chem Soc J* 123:1948-51 Ag '23

Organo-derivatives of bismuth; the preparation and properties of tertiary aromatic bismuthines and their interaction with organic and inorganic halogen compounds. F: Challenger and L. R. Ridgway. *Chem Soc J* 121:104-20 Ja '22

Aromatic compounds—Continued

Organo-derivatives of bismuth; the stability of halogen, cyano-, and thiocyno-derivatives of tertiary aromatic bismuthines. F. Challenger and J. F. Wilkinson. *Chem Soc J* 121:91-104 Ja '22

Über aromatische chlor-amine. S. Goldschmidt and L. Strohmeier. *Deutsche Chem Gesell Ber* 55:2450-70 S '22; *Abstract. Chem Soc J* 122 pt 1:1004-6 N '22

See also Cadalene; Eudalene; Hydrocarbons, Aromatic

Aromatic hydrocarbons. See Hydrocarbons, Aromatic

Arrack

Ceylon arrack. C. T. Symons and W. N. Rae. *Soc Chem Ind J* 42:252-4 Je 8 '23

Arsenals

See also Edgewood arsenal

Employees

Apprenticeship system at Rock Island arsenal. W. Baumbeck. *Il Am Mach* 56:512-14 Ap 6 '22

Arsenic

Arsenic: demand and supply. G. S. Loughlin. *Oil Paint & Drug Rep* 103:31 Mr 29 '23

Arsenic from arsenopyrite. *Eng & Min J* 114:1088 D 16 '22

Arsenic in 1922. V. C. Heikes and G. F. Loughlin. *U S Geol S Min Res of U S* 1922, pt 1:53-76 '23

Arsenic industry in 1921. V. C. Heikes. *Eng & Min J* 113:92-3 Ja 21 '22

Arsenic investigation not in favor with the Federal trade commission. *Oil Paint & Drug Rep* 102:19 D 11 '22

Arsenic output for 1923 under estimate. *Oil Paint & Drug Rep* 104:20 Jl 30 '23; *Chem & Met Eng* 29:247 Ag 6 '23; *Eng & Min J* 116:330 Ag 25 '23

Arsenic reports are not yet reconciled. *Oil Paint & Drug Rep* 103:20 Ap 30 '23

Arsenic situation clarified by conference between producers and users. *Chem & Met Eng* 27:1234+ D 20 '22

Arsenic supply survey shows better outlook. *Oil Paint & Drug Rep* 103:21 Ap 23 '23

Facts and figures of the arsenic shortage. *Chem & Met Eng* 27:1241-2 D 20 '22

How arsenic affects alloys. H. J. Roast and C. F. Pascoe. *Il drugg Foundry* 51:67-70 Ja 15 '23

Intermetallic actions; the system aluminium-arsenic. Q. A. Mansuri. *Chem Soc J* 121:2272-7 O '22

Marketing of arsenic. F. Y. Robertson. *Eng & Min J* 113:868-9 My 20 '22

Mining and refining arsenic in Virginia. P. W. Hanna. *Il Pop Mech* 37:79-80 Ja '22

On the single potential of arsenic and its power to replace other metals in solutions. L. Kahlenberg and J. V. Steinle. *Am Electrochem Soc Trans v* 44 (preprint 20):203-26 S '23

Polymorphism of arsenic. P. N. Laschtschenko. *Chem Soc J* 121:972-8 Je '22

Recent developments in the organic chemistry of arsenic. W. L. Lewis. *bibliog Ind & Eng Chem* 15:17-19 Ja '23

Separation of germanium and arsenic. J. H. Müller. *Am Chem Soc J* 43:2549-52 D '21

Separation of tin and arsenic. L. W. McCay. *Am Chem Soc J* 45:1187-91 My '23

Shortage of arsenic. F. E. Wormser. *Eng & Min J* 114:1141 D 23 '22

Small output of arsenic in Canada. *Chem & Met Eng* 29:377 Ag 27 '23

Some light on the arsenic situation. *Chem & Met Eng* 27:1201 D 20 '22

Study effect of arsenic in iron ore. F. Clements. *Iron Tr R* 71:723 S 14 '22

System tin-arsenic. Q. A. Mansuri. *Il drugg Chem Soc J* 123:214-23 F '23

Why the furore about arsenic? W. D. Pierce. *Il Eng & Min J* 115:657-8 Ap 14 '23

See also Arsenicals; Calcium arsenate

Analysis

Les arsénobenzènes; leur composition, leur toxicité; un nouveau procédé de dosage de l'arsenic de ces produits. F. De Myttenaere. *Chimie & Ind* 10:403-10 S '23

Determination of arsenic in cobalt ores and cobalt nickel speiss by the distillation method. C. A. Knittel. *diag Am Chem & Met* 6:146-7 Jl '22

Errors caused by nitrates and nitrites in the determination of arsenic by the distillation method, and a means for their prevention. J. J. T. Graham and C. M. Smith. *J Ind & Eng Chem* 14:207-9 Mr '22

Die theorie der arsen-distillation und eine neue trennung des arsens von allen metallen im luftstrom. L. Moser and J. Ehrlich. *Deutsche Chem Gesell Ber* 55:437-47 F '22

Die trennung des arsens vom wolfram, vanadin und molybdän mit methylalkohol im luftstrom. L. Moser and J. Ehrlich. *Deutsche Chem Gesell Ber* 55:430-7 F '22

Arsenic alloys

Beitrag zur kenntnis der eisen-arsenlegierungen. P. Oberhoffer and A. Gallaschik. *il Stahl & Eisen* 43:398-400 Mr 22 '23

Arsenic chlorides

Action of arsenious chloride on aniline. J. H. Schmidt. *Am Chem Soc J* 43:2449-54 N '21

See also Arsenic trichloride

Arsenic compounds

Aliphatic arsenic and arsenic acids, and aliphatic-aromatic arsenic acids. A. J. Quick and R. Adams. *Am Chem Soc J* 44:805-16 Ap '22

Arsenated benzanilide and its derivatives. W. L. Lewis and C. S. Hamilton. *Am Chem Soc J* 45:757-62 Mr '23

Arsenated benzophenone and its derivatives. W. L. Lewis and H. C. Cheetham. *Am Chem Soc J* 43:2117-21 S '21

Arsonation of ortho- and meta-cresol. W. G. Christiansen. *Am Chem Soc J* 45:800-4 Mr '23

Reactions of the arsines; condensation of aromatic primary arsines with aldehydes. C. S. Palmer and R. Adams. *Am Chem Soc J* 44:1356-82 Je '22

7-chloro-7,12-dihydro- γ -benzo-phenarsazin and some of its derivatives. W. L. Lewis and C. S. Hamilton. *Am Chem Soc J* 43:2218-23 O '21

Über die einwirkung von schwefelchlorür auf tertiäre aromatische arsine; konstitution des schwefelchlorürs. F. Zuckerkandl and M. Sinai. *Deutsche Chem Gesell Ber* 54:2479-89 O '21; *Abstract. Chem Soc J* 120 pt 1:901-2 D '21

Zur kenntnis organischer arsenverbindungen: über anlagerungsprodukte von jodoform an salze von organischen basen dreiwertiger elemente. W. Steinkopf and G. Schwen. *Deutsche Chem Gesell Ber* 54:2969-75 D '21; *Abstract. Chem Soc J* 122 pt 1:118 F '22

Zur kenntnis organischer arsenverbindungen: über die einwirkung von bromcyan auf phenylierte tertiäre arsine. W. Steinkopf and G. Schwen. *Deutsche Chem Gesell Ber* 54:2791-2801 N '21; *Abstract. Chem Soc J* 122 pt 1:72-3 Ja '22

Zur kenntnis organischer arsenverbindungen: über die einwirkung von bromcyan auf tertiäre arsine. W. Steinkopf, H. Donat and P. Jaeger. *Deutsche Chem Gesell Ber* 55:2597-2614 S '22; *Abstract. Chem Soc J* 122 pt 1:994-6 N '22

Zur kenntnis organischer arsenverbindungen: über die spaltung von alkylierten bzw. arylierten arsinoxybromiden. W. Steinkopf and G. Schwen. *Deutsche Chem Gesell Ber* 54:2802-11 N '21; *Abstract. Chem Soc J* 122 pt 1:71-2 Ja '22

See also Arsenicals; Chlorovinyl chloroarsines

Analysis

Quantitative determination of carbon and hydrogen in organic compounds with arsenic and with mercury. M. Falkov and G. W. Raiziss. *Am Chem Soc J* 45:998-1003 Ap '23

Arsenic oxides

Effect of the oxides of arsenic on the rate of vulcanisation of rubber. B. J. Eaton and R. O. Bishop. *Soc Chem Ind J* 42:303-7 Jl 20 '23

See also Arsenic trioxide

Arsenic poisoning

See Arsenic trichloride

Arsenic sulfides

Action of light on arsenic trisulfide hydrosol. R. V. Murphy and J. H. Mathews. *Am Chem Soc J* 45:16-22 Ja '23

Coagulation of colloidal solutions of arsenious sulphide by electrolytes. E. F. Burton and E. D. MacInnes. *J Phys Chem* 25:517-25 O '21

Induction periods in reactions between thiosulfate and arsenite or arsenate: a useful clock reaction. G. S. Forbes, H. W. Estill and O. J. Walker. *Am Chem Soc J* 44:97-102 Ja '22

Arsenic trichloride

Observations upon the effects of exposure to arsenic trichloride upon health. S. Delépine. *il diag J Ind Hygiene* 4:346-64, 410-23 D '22-Ja '23; Abstract. *Monthly Labor R* 16:813-15 Ap '23

Arsenic trioxide

Crystal structures of the cubic forms of arsenious and antimonous oxides. R. M. Bozorth. *diags Am Chem Soc J* 45:1621-7 Jl '23

Jardine mining co. makes arsenious oxide. *il Eng & Min J* 115:859-60 My 12 '23

Studies on certain physical properties of arsenic trioxide in water solution. E. Anderson and L. G. Story. *Am Chem Soc J* 45:1102-5 My '23

To investigate scarcity of white arsenic. *Chem & Met Eng* 27:1141 D 6 '22

White arsenic makes gold mining profitable. *il Chem & Met Eng* 28:919 My 21 '23

Arsenicals

Arsenated benzophenone and its derivatives. W. L. Lewis and H. C. Cheetham. *Am Chem Soc J* 45:510-15 F '23

Arsenated derivatives of phenyldiketeto-pyrrolidine. J. R. Johnson and R. Adams. *Am Chem Soc J* 45:1307-15 My '23

Improved arsenical insecticide. *Chem Age* 30:250 Je '22

See also Neosalvarsan; Salvarsan; Silver salvarsan; Sulfarsphenamine

Arsenious oxide. See Arsenic trioxide**Arsenobenzene**

Les arsénobenzènes; leur composition, leur toxicité; un nouveau procédé de dosage de l'arsenic de ces produits. F. De Myttenaere. *Chimie & Ind* 10:403-10 S '23

Arsine

On the viscosity and molecular dimensions of gaseous ammonia, phosphine, and arsine. A. O. Rankine and C. J. Smith. *diag Philos Mag* 6th ser 42:601-14 N '21

Arsines. See Arsenic compounds**Arsphenamine.** See Salvarsan**Art**

Antique manner; 1755-1800. F. T. Singleton. *Ptg Art* 38:162-4 O '21

Collected papers on art and labour, by W. R. Lethaby. Review. *Am Inst Arch J* 11:258-60 Je '23

Report of the addresses made in western cities to further the recognition of art. C. H. Walker. *Am Inst Arch J* 11:172-4 Ap '23

Selling by the printed word. R. Ruxton. *Ptg Art* 39:50-4 Mr '22

Significance of the fine arts. 483p Marshall Jones co., Boston '23; Review by C. W. Eliot. *Am Inst Arch J* 11:220-3 My '23

See also Architecture; Decoration and ornament; Design; Design, Decorative; Drawing; Enamel and enameling; Engraving; House decoration; Mural painting and decoration; Photography; Pottery—Design; Sculpture; Stained glass

Exhibitions

Viennese method for artistic display. L. V. Solon. *il Arch Rec* 53:266-71 Mr '23

Art, American

American art traditions. *Arch Forum* 38:32 Ja '23

Art, Ancient

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 40:25-33 S '22

Art, Arabic

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 42:137-43 O '23

Art, Austrian

Viennese method for artistic display. L. V. Solon. *il Arch Rec* 53:266-71 Mr '23

Art, Chinese

Bird's-eye view of Chinese art. B. Laufer. *il Am Inst Arch J* 10:183-99 Je '22

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 41:361-8 Je '23

Art, Commercial

Advertising art promoted by New York art center. *Ptr Ink* 117:50+ N 10 '21

Art at so much per square inch. J. E. Walter. *Ptg Art* 41:551-2 Ag '23

Art for industry's sake. D. L. Perry. *Nation's Business* 11:36-7 S '23

Art in labor. H. W. Kent. *Brass W* 17:340 N '21

Bringing the artist into advertising. *Ptr Ink* 122:138+ Ja 18 '23

Dollars and cents—and design. C. B. Larabee. *il Ptr Ink M* 4:24-6 F '22

It's pretty—but is it art? M. Gross. *Ptg Art* 38:336-8 D '21

Mr Dwiggin rushes to the defense of the artists. *Ptg Art* 38:271-2 N '21

Museum, a factory annex. R. F. Bach. *il Nation's Business* 10:22-4 Ag '22

Putting art in our industries. H. W. Kent. *Am Ind* 22:19-20 Mr '22; Same cond. *Brass W* 17:340 N '21

See also Advertisements, Pictorial; Photography, Commercial

Exhibitions

Art directors' exhibition. E. E. Calkins. *il Ptr Ink M* 5:27-9 N '22

Art, Egyptian

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 41:242-50 My '23

Art, Etruscan

Etruscan mural painting found in their tombs. L. V. Solon. *il Arch Rec* 52:531-3 D '22

Art, French

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 40:353-9, 457-63, 558-65; 41:49-55, 145-51 D '22-Ap '23

Art, Gothic

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 40:139-46 O '22

Art, Greek

Greek proportions theoretically and otherwise. E. Swartwout. *il Am Arch* 120:379-83 N 23 '21

See also Greece—Antiquities

Art, Indian

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 39:573-8 Ag '23

Art, Italian

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 40:235-41 N '22

Art, Japanese

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 41:462-8 Jl '23

Art, Municipal

American Vitruvius. W. Hegemann and E. Peets. 298p Architectural book pub. co., New York '22

See also City planning; Reviewing stands

Art, Persian

Romance of design and ornament as applied to advertising. R. Highet. *il Ptg Art* 42:51-7 S '23

Art, Pompeian

On the trail of Pompeian ornament. F. T. Singleton. Ptg Art 38:551-3; 39:68-71, 163-6, 261-4, 360-2, 453-5 F-Jl '22

Art, Primitive

See Sculpture, Primitive

Art, Renaissance

Department of architectural decoration and furniture. R. L. Morin. il Am Arch 124: 129-35 Ag 1 '23

Art criticism

Appreciation of things made to be seen. P. E. Nobbs. Am Inst Arch J 11:401-4 O '23

Art galleries and museums

American art galleries. New York city. il Arch & Bldg 55:98-100, pl 195-7 O '23

An art gallery; LeBrun traveling scholarship winning design; 2 plates. Am Inst Arch J 11:204-5 My '23

Minneapolis museum of fine arts (1914). Am Arch 121:426e, 435 My 24 '22

Restoration of the Fine Arts building at Chicago, Illinois. G. W. Maher. Am Inst Arch J 11:254-5 Je '23

Restoring the Fine Arts building—Chicago. il Am Inst Arch J 10:111-13 Ap '22

Lighting

L'éclairage naturel des musées de peinture. diag Génie Civil 82:429 My 5 '23

Lighting of public buildings. A. L. Powell and E. Parker. il Illum Eng Soc 16:534-40 no 9 '21

Lighting of the Milwaukee art institute. H. W. Bogner and A. J. Sweet. il diags plans Illum Eng Soc 17:434-51 S '22

Method of picture gallery illumination. H. Rayner, J. W. T. Walsh and H. Buckley. il diags Illum Engr 15:121-6 Ap '22

New developments in art gallery illumination. G. T. Kirby and L. X. Champeau. il diags Illum Eng Soc 18:515-22; Discussion. 522-4 Jl '23

Recent theory of the natural lighting of art galleries. P. P. Cret. diags Am Inst Arch J 11:223-6 My '23; Discussion. B. Jones. 11:256-7 Je '23

Art industries and trade

Art in industry. C. R. Richards. 499p Macmillan '22

Modern decorative art in England. W. G. P. Townsend. V. 1 B. T. Batsford, London; William Helburn, 418 Madison ave., N.Y. '22

Study and teaching

Some industrial art schools of Europe and their lessons for the United States. M. Vachon. U S Bur Educ Bul 1922,no 48:1-59 '23

Art institute of Chicago

Art institute of Chicago; its architectural interest. Am Inst Arch J 10:149-62 My '22

Art libraries

Extension service of the Ryerson library of the Art institute of Chicago. L. E. Kohn. Special Lib 13:186-8 D '22

Art schools

See Master school of united arts, New York

Artesian wells

Filtered well water recommended for Memphis, Tenn. Eng N 89:566-7 O 5 '22

Revamping the artesian water supply of Bryan, Ohio. il Eng N 88:351 Mr 2 '22

Arthritis, Infectious

Infectious arthritis of the spine. J. F. Curran and S. F. Foster. J Ind Hygiene 3:339-42 Mr '22

Artichoke

Thistle gardening in San Francisco. G. A. Orb. il Sci Am 126:181 Mr '22

Artificial cork

Artificial cork. See Cork, Artificial

Artificial daylight

Artificial daylight. See Daylight, Artificial

Artificial silk

Artificial silk. See Silk, Artificial

Artillery

Post-war artillery; developments in large and small guns since the warring days of 1918. C. C. Williams. il Sci Am 127:318-19 N '22

Tanks and chain-track artillery. L. A. Le-gros. il diags plans Engineer 132:592-4, 625-7, 659-60 D 2-16 '21

See also Guns (ordnance)

Artists

See Architects

Arylamines. See Amines**Arylamino ethanols**

Beta-arylamino ethanols. R. Adams and J. B. Segur. Am Chem Soc J 45:785-90 Mr '23

Asbestos

Advice to Canadian asbestos producers. Eng & Min J 116:730 O 27 '23

Arizona asbestos deposit. A. M. Bateman. Econ Geol 18:663-80; Discussion. 681-3 O '23

Asbestos. M. A. Allen and G. M. Butler. (Arizona. Bur. mines. Bul. 113. Mineral technology series, no. 24) 31p University of Arizona, Tucson '21; Abstract. Am Inst Arch J 10:27 Ja '22

Asbestos as a textile fiber. J. M. Matthews. il diag Color Tr J 12:73-6, 117-20 F-Mr '23

Asbestos in 1922. E. Sampson. U S Geol S Min Res of U S 1922, pt 2:31-7 '23

Asbestos in the Union of South Africa. A. L. Hall. Am Cer Soc J 5(Cer A 1):306-7 D '22

Asbestos industry. O. Bowles. Chem Age 31: 163-4 Ap '23

Asbestos mining and milling in Quebec. W. A. RuKeyser. flow sheets il diags Eng & Min J 113:617-25, 670-7 Ap 15-22 '22

Asbestos production drops sharply. Chem & Met Eng 29:353 Ag 27 '23

Asbestos—the conservation product. A. C. Carruthers. il Safety Eng 46:174-8 O '23

Asbestos trade of India. S. B. Banerjee. Eng & Min J 115:616 Ap 7 '23

Asbestos: world production and trade. U S Bur For & Dom Com Trade Information Bul 20:1-10 '22

Automobiles and the asbestos industry. Automotive Ind 46:520-2 Mr 2 '22

Grading of asbestos. Eng & Min J 113:493 Mr 25 '22

High-grade asbestos deposits found in Transvaal. Eng & Mm J 115:541 Mr 24 '23

How asbestos-protected metal was developed commercially. J. H. Young. il Chem & Met Eng 23:244-7 F 7 '23; Abstract. Iron Age 111:1106 Ap 19 '23

Marketing of asbestos. B. Marcuse. il Eng & Min J 114:277-9 Ag 12 '22

Merger of Quebec asbestos mining companies probable. Eng & Min J 116:735 O 27 '23

Milling asbestos ore in Quebec. W. D. Hubbard. flow sheet diags Min & Sci P 123: 932-6 D 31 '21

New asbestos discovery near Barberton, Transvaal. Eng & Min J 113:524 Ap 1 '22

Simple device for the rapid preparation of fine asbestos fiber. B. L. Johnson. diag Ind & Eng Chem 15:632 Je '23

South African asbestos industry expanding. Eng & Min J 116:771 N 3 '23

Spinning of asbestos fibre. il Textile World 62:3437+ D 16 '22

Stopping the leaks: how asbestos insulation improves the performance of electrical apparatus. il Sci Am 127:38 Jl '22

Warm-air furnace insulation. P. Nicholls. Am Soc Heat & V E J 27:690-2 S '21

Asclepias

Crude rubber and paper pulp from an asclepias. il India Rubber W 65:260-1 Ja '22

Ash handling

Ash handling. R. Easton. diags Power 57:814-15 My 23 '23

Ash handling in large generating stations. L. R. Lee. diags Power 55:56-90 Ja 17 '22; Discussion. E. L. McDonald. 55:552-3 Ap 4 '22

Ash handling plant at the Roath power station of the City of Cardiff corporation. diag plan Ind Management (Lond) 10:163-4 S 20 '23

Ash handling plant at the Wakefield corporation electricity works. G. F. Zimmer. diags Eng & Ind Management 7:229-31 F 23 '22

Ashes handling. S. B. Peck. Power Pl Eng 26:319 Mr 15 '22

Ashes removed by and stored in water. Pop Mech 38:186 Ag '22

Ash handling—Continued

- Coal and ash handling. diags Power Pl Eng 26:65-7 Ja 1 '22
- Coal and ash handling plant at Blackburn Meadows generating station, Sheffield. il Eng & Ind Management 6:641-3 D 1 '21
- Coal and ash-handling plant; Royal naval cordite factory, Poole. G. F. Zimmer. il diags Engineering 112:706-7 N 18 '21; Same. Eng & Ind Management 6:701-4 D 15 '21
- Developments in power station design. il diags Engineer 132:530-2, 558-9 N 18-25 '21
- Eliminating ash dust with jet conveyors. diags Power 56:580, 736, 857 O 10, N 7, 28 '22
- Eliminating freezing in ash bins. F. Atkinson. diags Power 56:777 N 14 '22
- Handling ashes by sluicing. C. C. Lance. diags Power 55:503-4 Mr 28 '22; Same. abr. Eng & Ind Management 7:481-2 Je 1 '22
- Handy device for handling ashes. M. M. Brown. diags Power Pl Eng 26:1174 D 1 '22
- Instruction course for custodians and janitors. E. S. Hallett. Heat & Ven 18:42-3 N '21
- Keeping the ash in motion. D: C. Spencer. il Sci Am 129:166 S '23
- Latest locomotive coal and ash handling plants of the London and North-Western railway co. G. F. Zimmer. il diags Ind Management (Lond) 8:227-32 O 19 '22
- Locomotive coal and ash-handling plant at Crewe. il diags plans Engineering 114:511-15, 526, pl 35 O 27 '22
- Mechanical handling in steam power plant management. R. June. il diags Gas Age 52:9-11, 63-5, 103-5 Jl 7, 21-28 '23
- Method of reducing and recording consumption of steam-jet ash conveyor. E. A. Curtis. chart diags Power 57:146 Ja 23 '23
- Methods of ash handling; abstracts. J. Hunter and A. Cotton. diags Mech Eng 45:83-91 F '23; Power 56:996-8 D 19 '22; Elec W 81:147-50 Ja 20 '23; Power Pl Eng 27:121-4 Ja 15 '23; Blast F & Steel Pl 11:210-15, 253-6+ Mr-Apr '23; Ind Management (Lond) 9:310-14 My 17 '23; Discussion. Mech Eng 45:91-2 F '23; Power Pl Eng 27:92-3 Ja 1 '23
- Modern English coal and ash handling plants. il diags Ry R 70:709-11 My 20 '22
- Motorized ash collection at Richmond, Ind. il Munic Eng 64:sup25-6 Mr '23
- New ash handling conveyor. diags Eng & Ind Management 6:449-50 O 20 '21
- New steam-jet ash conveyor has six nozzles. il Power 57:359 Mr 6 '23
- New type of ash conveyor. il Paper 31:137-8 Ap 18 '23
- Novel ash-removal system for power plant. il Pop Mech 38:385 S '22
- Railroad ash handling plant at Brightwood, Pittsburgh, U.S.A. diags plans Eng & Ind Management 6:577-9 N 17 '21
- Remote control for steam-jet ash conveyor. chart Power 56:454 S 19 '22; Power Pl Eng 26:981 O 1 '22; Ind Management (Lond) 8:264 N 2 '22
- Scraper ash conveyor. H. T. Reid. diags plan Power Pl Eng 26:598-9 Je 15 '22
- Steam jet ash conveyor; its history and latest developments. G. F. Zimmer. il Eng & Ind Management 7:262-4 Mr 9 '22
- Successful ash conveying system. C. Longenecker. il diags Blast F & Steel Pl 9:722-4 D '21
- Suction ash plant at the Mersey power company's works, Runcorn. il Eng & Ind Management 8:17-18 Jl 27 '22; Same cond. Elec R (Lond) 91:274-5 Ag 25 '22
- Systems of ash discharge. D: C. Spencer. il diags Power Pl Eng 26:882-3 S 1 '22
- Unit ash conveyor. il Chem & Met Eng 28:905 My 21 '23
- Usco ash conveyor at Wolverhampton. il Electrician 88:801 Je 30 '22
- Water employed to handle coal and ashes. J. S. Clarke. plan Elec W 81:1041-2 My 5 '23

See also Ash pits

Ash hoppers

- Ash hopper design. W. F. Schaphorst. diags Power Pl Eng 26:873 S 1 '22
- Boiler and ash hopper built of cast iron. il diags Power Pl Eng 27:498-9 My 1 '23

Ash pits

- Brady ashpit door. diags Power 58:420 S 11 '23
- Comparison of mechanical ashpits for large terminal. W. H. Eiker. Eng N 88:1049-50 Je 22 '22
- Methods of ash handling. J. Hunter and A. Cotton. diags Blast F & Steel Pl 11:212-15 Mr '23; Same. Mech Eng 45:84-6 F '23
- Report of American railway bridge and building association on construction and maintenance of cinder pits. diags Ry Age 71:781-2 O 22 '21; Same. Ry Mech Eng 95:707-8 N '21
- Report of A. R. E. A. committee. Ry R 72:500-2 Mr 17 '23; Same. Ry Age 74:630-1 Mr 14 '23
- Unusual ash pits feature new engine terminal of the New York Central at Solvay. il diags plans Ry Age 73:154-9 Jl 22 '22
- Water-filled ash pit for boiler plant. diags Eng & Contr 58:129 Ag 9 '22
- Ashburner, Charles Edward**
The first city manager. L: Brownlow. Eng & Contr (R & S) 60:513-14 S 5 '23

Ashes

- Ashes and sawdust the basis of a new box industry. C. M. Lewis. il Sci Am 126:396 Je '22

See also Ash handling; Coal ash

Ashland, Kentucky**Water supply**

- Modern water filtration plant built at Ashland, Kentucky. D. H. Maxwell. il Munic Eng 63:127-30 O '22

Ashtabula, Ohio**Rapid transit**

- Another M. O. experiment in Ashtabula, Ohio. Elec Ry J 59:761 My 6 '22

Asia

See also China; Far East; India; Japan; Machine tool industry—Asia; Roads—Asia

Commerce

- Trading with Asia. F. R. Eldridge. 474p Appleton '21

Description and travel

- Adventures in Asiatic paths. S. Hedin. il Pop Mech 40:362-8, 729-34 S, N '23

Aspen

- Chemistry of pulps; a comparison of the chemical changes of jack pine and aspen woods cooked by the soda process. M. W. Bray and T. M. Andrews. Paper Tr J 76:49-51 My 10 '23

Aspergillus oryzae

- New organic (kojic) acid formed by aspergillus oryzae; abstract. T. Yabuta. Chem Soc J 122 pt 1:939-41 O '22

Asphalt

- Asphalt and related bitumens in 1921. K. W. Cottrell. U S Geol S Min Res of U S 1921, pt 2:69-75 '22
- Asphalt and related bitumens in 1922. K. W. Cottrell. U S Geol S Min Res of U S 1922, pt 2:7-13 '23
- Asphalt; occurrence, production and preparation for use in highway construction. J: B. Hittell. W Soc E J 27:340-50 N '22
- Asphalt simplifications effective January 1. Eng & Contr (Equip R) 60:913-14 O 31 '23
- Colloidal state of matter in its relation to the asphalt industry. C. Richardson. Inst Pet Tech J 8:79-82 Ja '22
- Commercial and technical developments in the asphalt paving and bituminous road fields. Eng N 88:67-9 Ja 12 '22
- Development of the asphalt industry in the United States. P. Hubbard. Can Eng 43:365-6 S 19 '22
- Experiments in improving and maintaining our prairie roads of Alberta with bitumen and soils. K. A. Clark. Can Eng 42:658-9 Je 27 '22; Same. Eng & Contr 58:227-8 S 6 '22
- Factors controlling behavior of asphalt mixtures. J. C. Morrell and L. Kirschbraun. Chem & Met Eng 29:362-4 Ag 27 '23
- Kentucky rock asphalt—the ideal road surface. W. R. Jillson. (ser. 6, v. 2). p. 39-57 Kentucky Geol. survey, Frankfort '21

Asphalt—Continued

Petroleum asphalts in the roofing and waterproofing industries. D. Finley. *il Chem & Met Eng* 27:798-803 O 18 '22
 Relation of shale-oil residue to other bitumens. C. W. Botkin. *Chem & Met Eng* 26:445-8 Mr 8 '22
 Surface treating and liquid asphalts. C. M. Baskin. *diag Can Eng* 45:167-70 Jl 24 '23
 Tests for asphalt cement for asphalt macadam, asphaltic concrete and sheet asphalt pavements. P. Hubbard. *Can Eng* 45:376 O 2 '23

See also Asphalt plants; Pavements, Asphalt; Roads, Asphalt

History

Romances of industry—asphalt. C. S. Lee. *il Am Ind* 23:7-12 Ag '22

Specifications

Advantages of standard specifications for bituminous materials. P. Hubbard. *Good Roads* 64:67-9 F 21 '23; Same. *Can Eng* 44:542-3 My 29 '23

Asphalt cement specifications. G. Abson. *Munic Eng* 63:77-9 S '22

Asphalt specifications—past, present and future. L. M. Law. *Good Roads* 62:111-13 F 22 '22; Same. *Can Eng* 43:156-8 Jl 18 '22; Excerpt. *Eng & Contr* 57:104-5 F 1 '22

Tentative specifications for asphalt cement. *Am Soc T M Pro* 21:681-5 '21

Too many grades of asphalt specified. *Eng N* 89:539-40, 631-2, 675+ S 28, O 12-19 '22

Standards

Asphalt conference cuts varieties to ten. *Eng N* 90:1020-1 Je 7 '23; *Eng & Contr* (R & S) 60:6 Jl 4 '23

Asphalt simplification effective Jan. 1. *Eng N* 91:658 O 18 '23

Asphalt blocks

Use of asphalt blocks. *il Arch & Bldg* 54:8 Ja '22

Asphalt handling

Safe handling of hot asphalt. E. G. Quesnel. *Nat Safety N* 8:39 Ag '23

Steam-jacketed pipe facilitates unloading of tank cars. A. D. Blakeslee. *diags Eng N* 88:139 Ja 26 '22

Asphalt pavements. See Pavements, Asphalt**Asphalt plants**

Exceptional output for asphalt plant. *il Munic Eng* 61:228+ D '21

New portable mixing plant for repaving, resurfacing and laying bituminous pavements. M. L. Patzig. *il Munic Eng* 62:sup28-9 Ja '22

Portable asphalt plant built in three units. *il Pop Mech* 39:386 Mr '23

Inspection

Plant inspection of asphaltic paving mixtures. W. J. Emmons. *Eng & Contr* (R & S) 59:999-1005 My 2 '23; Same cond. *Eng N* 89:1112-16 D 28 '22

Plant inspection of paving material. G. Cobb. *Good Roads* 61:270+ D 14 '21; Excerpt. *Eng & Contr* 56:415 N 2 '21

Plant inspection to insure good bituminous pavements. F. P. Smith. *Can Eng* 42:591-3 Je 6 '22; Same. *Munic Eng* 63:46-51 Ag '22; Same. *Eng & Contr* 58:234-6 S 6 '22

Asphalt plants, Municipal

Cost of municipal asphalt plant operations at Los Angeles. *Eng & Contr* (R & S) 58:53 O 4 '22

Municipal asphalt plant at St Catharines, Ont. W. P. Near. *il diag plan Can Eng* 42:279-80 Mr 7 '22

Municipal asphalt plants. *Munic Eng* 61:207 D '21

Municipal pavement repairing in Newark. J. W. Costello. *il plan Pub Works* 54:41-5 F '23

Washington municipal asphalt plant. *Pub Works* 52:284 Ap 22 '22

Asphalt roads. See Roads, Asphalt**Asphalt shingles****Advertising**

Barber asphalt company's appeal to the senses. R. Cole. *Ptr Ink* 122:33-4+ Mr 8 '23

Asphaltite

Uranium-bearing asphaltite sediments of Utah. F. L. Hess. *il map Eng & Min J* 114:272-6 Ag 12 '22

Aspirators

L'aspirateur Chanard pour la ventilation automatique de locaux divers. *il diags Génie Civil* 52:533 Je 2 '23

Assaying

Assay of battery chips for gold and silver. J. Watson. *Eng & Min J* 113:728-9 Ap 29 '22
 Is the extent of volatilization of metals realized? E. C. Jordan. *Eng & Min J* 114:710-11 O 21 '22

Lead-acetate tartaric-acid method of assaying cyanide solutions. F. Borzynski. *Min & Sci P* 123:860 D 17 '21

Notes on fire assaying. A. T. Sweet. 95p Michigan college of mines, Dept. of metallurgy & ore dressing, Houghton, Mich. '21
 Textbook of fire assaying. E. E. Bugbee. 254p Wiley '22

Traveling crusher station and assay office. *il Pop Mech* 37:678 Mr '22

See also Gold assaying; Ore sampling

Assembling methods

Aligning fixture that aids in assembling. J. Bainter. *il Am Mach* 57:658-9 O 26 '22

Applying the assembly principle to manufacture. *Ind Management* (Lond) 9:195-5 Ap 5 '23

Applying the assembly principle to manufacture. M. A. C. Nicholls. *Eng & Ind Management* 7:218-20 F 23 '22

Assembling by conveyor. W. Ordway. *il Mach* 29:103-6 O '22

Assembling of bevel gears. C. H. Logue. *diags Am Mach* 56:580-4 Ap 20 '22

Assembling, testing and storing motors. F. H. Colvin. *il Am Mach* 57:981-3 D 28 '22

Assembling watch pinion bearings. *il Mach* 28:472-3 F '22

Controlling costs in building experimental machines. F. H. Colvin. *diags Am Mach* 58:503-7 Ap 5 '23

Co-ordinating the bill of materials with shop requirements. G. G. Thompson. *Am Mach* 58:451-4 Mr 22 '23

Effect of plant location and machine grouping on profitable operation. D. S. Kimball. *il Management & Adm* 6:599-604 N '23

Fixtures for assembling calculator wheels. F. H. Colvin. *il Am Mach* 57:292-3 Ag 24 '22

Handling methods in automobile assembly. F. H. Colvin. *il Am Mach* 57:693-4 N 2 '22; Same. *Ind Management* (Lond) 9:56 Ja 25 '23

Illustrated instructions; a control system for machine development. J. Spielvogel. *il Management Eng* 3:365-9 D '22

Individual engine assembly method gets greater accuracy. J. E. Schipper. *il Automotive Ind* 48:773-4 Ap 5 '23

Machining tractor parts and assembling Fordson tractors. J. H. Van Deventer. *il Ind Management* 66:19-27 Jl '23

Main bearing bore used as locating surface in Hinkley crankcase. *Automotive Ind* 48:861-5 Ap 19 '23

Methods used in assembling sweepers. F. H. Colvin. *il Am Mach* 58:281-3 F 22 '23

Methods used in the assembling of 150 engines per day. J. E. Schipper. *il Automotive Ind* 46:818-21 Ap 13 '22

Planning and controlling work in the assembling department of a French shop. E. Julien. *il plan Am Mach* 56:932-3 Je 22 '22

Progressive assembly reduces costs in Franklin trim shop. *il Automotive Ind* 48:1164-6 My 31 '23

Routing automobiles through assembly. *Management & Adm* 6:48 Jl '23

Saving money in the assembly department. R. F. Heller. *Am Mach* 56:623 Ap 27 '22

Saving time in assembling; conveyor methods. A. A. Dowd and F. W. Curtis. *diags Mach* 28:296-300 D '21

Assembling methods—Continued

- Speeding up transmission assembling. *il Am Mach* 59:617-18 O 25 '23
 Ten steps in Marmon assembly. *il Am Mach* 57:338-9 Ag 31 '22
 Trippensee uses sub-assembly methods in building sedan bodies. *J. E. Schipper. il Automotive Ind* 48:507-9 Mr 1 '23

Assessment

- Assessment for benefit; highway construction improves value of property. *K. W. McKay. Can Eng* 42:349 Mr 23 '22
 Determination of the area of assessment; method of fixing areas of assessment for benefit in park and street opening. *B. Scheiman. Eng & Contr (R & S)* 60:722-5 O 3 '23
 Present assessment of a future benefit. *W. G. Kirchoffer. Munic Eng* 64:213-14 Je '23
See also Valuation

Associated advertising clubs of the world

- Advertising clubs' convention. *Ptr Ink* 119:109-10 My 4 '22
 Advertising clubs prepare programme for year. *Ptr Ink* 120:10+ Ag 3 '22
 A.C. of W. financing defended. *Ptr Ink* 118:133-4 Ja 19 '22
 A.C. of W. unites solidly behind Holland as president. *Ptr Ink* 119:41-2+ Je 22 '22
 Associated advertising clubs to effect change in organization. *Ptr Ink* 123:148 Ag 19 '23
 Convention, Atlantic City, June 3-7. *Ptr Ink* 123:93-4+ My 24; 17-20 Je 7 '23
 1st national industrial advertising conference, Milwaukee, June 11-13. *Elec Ky J* 59:987-8 Je 17 '22; *Ptr Ink* 119:25-7+ Je 15 '22
 London convention in 1924 hailed by association leaders as step to broader markets. *Ptr Ink* 123:25-8+ Je 14 '23
 Meredith appoints on-to-London committee. *Ptr Ink* 125:145-6 N 1 '23
 New organization plan offered by T. W. Le Quatte. *Ptr Ink* 118:44 F 2 '22
 19th annual convention, Atlantic City, June 3-7. A. J. Fehrenbach. *Inland Ptr* 71:531-2 JI '23
 Plans for London advertising convention get under way. *Ptr Ink* 124:19-20 Ag 2 '23
 Programme for convention of Associated advertising clubs. *Ptr Ink* 119:186+ My 18 '22
 Welcoming the British advertising delegates. *Ptr Ink* 123:33-4+ Je 7 '23

Associated business papers, inc.

- Business-paper convention with an international flavor. *Ptr Ink* 121:61-2+ O 19 '22
 Move for better business-paper copy started. *Ptr Ink* 125:33-4+ O 25 '23

Associated dress industries of America

- How an association of manufacturers is saving accounts for its members by helping retailers. *J. True. Ptr Ink* 123:77-8+ Ap 26 '23

Associated general contractors of America

- Annual convention, Cleveland, Jan. 17-19. *Eng & Contr* 57:97 Ja 25 '22; *Eng N* 88:166+ Ja 26 '22
 Convention, Los Angeles, Jan. 20-Feb. 3. *Eng N* 90:260-2, 273-4 F 1-8 '23; *Bldg Age* 45:45-6 Mr '23
 Technical progress of A.G.C. shown by committee reports. *Eng N* 90:260-2 F 8 '23

Service bureau

- Great clearing house of construction information. *Eng & Contr* 57:495-6 My 24 '22

Associated industries of Massachusetts

- Associated industries of Massachusetts great power for good in commonwealth. *J. Nelson. Iron Age* 110:1689+ D 28 '22

Associated knit underwear manufacturers of America

- Annual meeting, Atlantic City, May 14-15. *Textile World* 63:3317-18+ My 19 '23
 Code of ethics and standardization will be brought up at Atlantic City convention. *Textile World* 63:3152+ My 12 '23

Associated technical societies of Detroit

- Twelve technical societies of Detroit form central association. *Eng & Contr* 57:86 Ja 25 '22

Associated traffic clubs of America

- Annual convention, Indianapolis, Ind., May 23-24. *Ry Age* 74:1328-9 Je 2 '23

Association advertising. See Advertising, Association**Association and associations**

- Verstaatlisches koalitionsrecht. *F. Goerrig. Stahl & Eisen* 42:619-21 Ap 20 '22
See also Advertising, Association; Benefit societies; Commercial associations; Cooperation; Corporations; Employees' associations; Employers' associations; Professional associations; Trade associations; Trade unions; also names of associations, e.g. American electric railway association

Association of Canadian building and construction industries

- 4th annual conference, Hamilton, Ont., Jan. 17-20. *Can Eng* 42:159-65 Ja 24 '22
 5th annual conference, Quebec City, Feb. 6-9. *Can Eng* 44:254-5 F 20 '23

Association of certifying factory surgeons, inc.

- Report for the year 1921. *J Ind Hygiene* 4:365-9 D '22

Association of Dominion land surveyors

- 15th annual convention, Ottawa. *Can Eng* 42:233-4 F 14 '22
 16th annual meeting, Ottawa, February 7-8. *Can Eng* 44:270-2 F 27 '23

Association of Edison illuminating companies

- Convention, White Sulphur Springs, W. Va., Oct. 10-13. *Elec W* 80:838-9 O 14 '22
 42d convention, Dixville Notch, N.H., Sept. 17-22. *Elec W* 82:675 S 29 '23

Association of electragists international

- Convention, Cincinnati, Oct. 11-14. *Elec W* 80:899 O 21 '22
 Electrical contractors' association changes constitution and name. *Elec W* 79:548 Mr 18 '22

- 23d annual convention, Washington, Oct. 8-13. *Elec W* 82:832 O 20 '23

Association of foreign language A. B. C. publishers

- Foreign language publishers form an association. *Ptr Ink* 124:61 S 20 '23

Association of foreign security dealers of America

- Annual meeting, April 6. *Comm & Fin Chr* 114:1480 Ap 8 '22

Association of governmental labor officials of the United States and Canada

- Proceedings of the seventh annual convention, Seattle, Wash., July 12-15, 1920. *U S Bur Labor Statistics Bul* 266:1-168 '21
 9th annual convention, Harrisburg, Pa., May 22-25. *Monthly Labor R* 15:189-92 JI '22
 10th annual meeting, Richmond, Va., May 1-4, 1923. *Monthly Labor R* 16:1398-1400 Je '23

Association of iron and steel electrical engineers

- Cleveland is ready for 16th annual convention of iron and steel electrical engineers. *il Iron Tr R* 71:660-3 S 7 '22
 16th annual convention, Cleveland, Sept. 11-15. *Elec W* 80:661-5 S 23 '22; *Iron Age* 110:721-4 S 21 '22; *Iron Tr R* 71:798-9 S 21 '22; *Power* 56:471-3 S 19 '22; *Blast F & Steel Pl* 10:520-1 O '22
 17th annual convention, Buffalo, Sept. 24-28. *Iron Tr R* 73:815-18, 857-8, 966-9, S 20-O 4 '23; *Blast F & Steel Pl* 11:463-8 S '23; *Elec W* 82:672 S 29 '23; *Iron Age* 112:920-1 O 4 '23; *Power* 58:549-50 O 2 '23

Association of national advertisers

- Association of national advertisers discusses distribution methods. *Ptr Ink* 121:25-7+ N 30 '22

- Association of national advertisers elects George S. Fowler. *Ptr Ink* 117:17-20 N 24 '21

Association of natural gasoline manufacturers

- First annual convention. *Nat Pet N* 14:21 My 3 '22
 2d annual convention. *J. C. Chatfield. Nat Pet N* 15:29+ My 2 '23

Association of official agricultural chemists

- 38th annual meeting, Washington, D.C., Nov. 15-17. *J Ind & Eng Chem* 14:1166-7 D '22

- Association of professional chemists of Quebec**
Act to incorporate the Association of professional chemists of Quebec. Can Chem & Met 7:122-5 My '23
- Association of railway electrical engineers**
Convention, Atlantic City, June 19. Ry R 71:15-17 Jl 1 '22
13th annual convention, Chicago, Oct. 31-Nov. 3. il Ry Age 73:897-900 N 11 '22
- Association of railway executives**
Association of railway executives moves to Washington. Ry R 71:838 D 9 '22
Association of railway executives to continue, but in modified form. Comm & Fin Chr 115:2231 N 18 '22
- Association technique de fonderie de France**
Joint foundry convention at Liege of Belgian and French foundrymen's associations, Sept. 28-Oct. 1. Foundry 49:835-6 N 1 '21
2d congress, Nancy, Oct. 5-8. Engineering 114:491-2 O 20 '22
- Association technique de fonderie de Liege**
Joint foundry convention at Liege of Belgian and French foundrymen's associations, Sept. 28-Oct. 1. Foundry 49:835-6 N 1 '21
- Associations, Trade.** See Trade associations
- Astoria, Oregon**
City built on piling destroyed by fire. il Pop Mech 39:206-7 F '23
- Astrachan fabrics**
Dyeing astrachan fabrics. Textile World 64:959+ Ag 18 '23; Same. Am Dyestuff Rep 12:716-17 S 24 '23
- Astronomical instruments**
See Sextant; Telescope
- Astronomical models**
Mechanical sun and moon. il Sci Am 126:245 Ap '22
- Astronomical observatories**
New type of astronomical observatory. H. J. Savage. il Am Inst Arch J 9:379 D '21
- Astronomical photography**
Census of the stars: how the astronomer takes count of their number, and identifies them individually. H. N. Russell. il Sci Am 128:78-9+ F '23
Photo telescope has electric driving clock. il Pop Mech 39:171 F '23
Something about the methods and the results of the Einstein verification. H. N. Russell. il Sci Am 129:48 Jl '23
- Astronomy**
See Mechanics, Celestial; Solar system; Stars; Sun
- Asymmetric compounds**
New method for the resolution of asymmetric compounds. A. Shimomura and J. B. Cohen. Chem Soc J 119:1816-25 N '21
- Atchison, Topeka & Santa Fe railroad**
Programs of apprenticeship and special training in representative corporations. J. V. L. Morris. Am Mach 56:62-3 Ja 12 '22
Santa Fe—a study in consistent railroad advertising. E. Hungerford. Ptr Ink 121:53-4+ D 21 '22
Santa Fe back on pre-war earnings basis in 1921. il Ry Age 72:1300-1 Je 3 '22
Santa Fe earns common dividends twice over. map Ry Age 74:1117-19 My 5 '23
Santa Fe is building 212 miles of second track. il map Ry Age 75:335-40 Ag 25 '23
27th annual report for the fiscal year ending Dec. 31, 1921. Comm & Fin Chr 114:1779-82 Ap 22 '22
28th annual report, 1922. Ry Age 74:1135-6 My 5 '23; Excerpts. Comm & Fin Chr 116:2274-5 My 19 '23
- Aterite**
Aterite. F. Milliken, jr. Chem & Met Eng 28:684-5 Ap 16 '23
- Athletics**
Athletics and oxygen supply. Sci Am 128:321 My '23
- Atkins, William Henry, 1859-**
Sketch. por Elec W 79:986 My 20 '22
- Atkinson, Henry Morrell, 1862-**
Sketch. por Elec W 80:1084 N 18 '22
- Atlanta, Georgia**
Rapid transit
\$1,917,044 net in Atlanta. Elec Ry J 61:1021 Je 16 '23
Transportation developments in Atlanta. il diag Elec Ry J 59:741-7 My 6 '22
- Atlantic Coast Line railroad**
Abstracts of annual report for year ended December 31, 1922. Comm & Fin Chr 116:2281-2 My 19 '23
Annual report for fiscal year ended December 31, 1921. Comm & Fin Chr 114:2252-3 My 20 '22
Atlantic Coast Line reports favorable earnings. Ry Age 73:294-5 Ag 12 '22
See also Carolina, Clinchfield and Ohio railroad
- Atlantic Gulf and West Indies steamship lines**
Annual report—for the twelve months ending December 31, 1921. Comm & Fin Chr 114:2137-9 My 13 '22
Annual report for the twelve months ending December 31, 1922. Comm & Fin Chr 116:2152-4 My 12 '23
- Atlantic ocean**
Legendary islands of the Atlantic; the brainstorms of the medieval map-makers. maps Sci Am 127:183 S '22
- Atmosphere**
Atmosphere a giant engine. N. Shaw. Sci Am 126:96 F '22
Auroral spectrum and the upper strata of the atmosphere. L. Vegard. Philos Mag 6th ser 46:193-211 Jl '23
Coefficient of recombination of the natural ions in air, and allied phenomena associated with weak atmospheric ionization. A. D. Power. diag J Fr Inst 196:327-52 S '23
Constitution of the upper strata of the atmosphere. L. Vegard. diags Philos Mag 6th ser 46:577-604, pl 10 O '23
Disturbance of the uniform temperature of the stratosphere by the vertical displacement associated with horizontal motion governed by the geostrophic law. F. J. W. Whipple. Philos Mag 6th ser 45:778-82 Ap '23
Fluid motion relative to a rotating earth. G. Green. Philos Mag 6th ser 44:52-62 Jl '22
Influence of the earth's potential-gradient upon measurements of the mean ionic density of the atmosphere by Ebert ion-counter. J. F. Mackell. diag Phys R 21:436-48 Ap '23
Radiative equilibrium; the insulation of an atmosphere. E. A. Milne. Philos Mag 6th ser 44:872-96 N '22
Theory of the action of the earth's potential-gradient in measurements with the Ebert ion-counter. W. F. G. Swann. Phys R 21:449-55 Ap '23
See also Air; Meteorology
- Atmospheric electricity**
Electric field of the atmosphere during storms. Sci Am 126:7 Ja '22
Unsolved problems of cosmical physics. W. F. G. Swann. diags J Fr Inst 195:433-74 Ap '23
See also Auroras; Lightning; Thunderstorms
- Atmospheric pollution.** See Air pollution
- Atmospheric pressure**
Gage and absolute pressure. A. W. Dew. diags Power 56:562-3 O 10 '22
Unusual accident to a cooking tank. il Locomotive 34:147 Ja '23
Winds and barometric effects on the Great Lakes. J. F. Hayford. Eng N 90:665-8 Ap 12 '23
- Atmospheric temperature**
Heating and ventilating the earth. G. J. O'Connor. diags Heat & Ven 19:38-40 O '22
- Atomic forces**
Cohesion and molecular forces; discussion. W. H. Bragg and others. Engineer 136:302-4 S 21 '23; Engineering 116:359-60 S 21 '23; Soc Chem Ind J (Chem & Ind) 42:930-4 S 28 '23
Heatless light to chain almost limitless flow of power for mankind's use. il Pop Mech 40:704-7 N '23
Utilization of atomic forces. Sci Am 126:121 F '22

Atomic heat

Atomic heats of cadmium and tin at low temperatures. W. H. Rodebush. *Am Chem Soc J* 45:1413-16 Je '23

Atomic models. See Atoms—Models**Atomic theory**

Atomic form with special reference to the configuration of the carbon atom. E. E. Price. 140p Longmans '22

Atomic theory. M. Scott. diags Sibley *J* 37:136-8 Je '23

Problem of two moving charges in its connexion with the atomic theory. S. Boguslawski. *Philos Mag* 6th ser 45:145-60 Ja '23

Atomic weights

Atomgewichtstabellen für das Jahr 1921. *Deutsche Chem Gesell Ber* 54:181-8 sec A S '21

Atomic weight of antimony from different sources. S. D. Muzaffar. *Am Chem Soc J* 45:2009-13 S '23

Atomic weight of gallium. T. W. Richards and W. M. Craig. diags *Am Chem Soc J* 45:1155-67 My '23

Atomic weight of yttrium. H. C. Fogg and C. James. *Am Chem Soc J* 44:307-16 F '22

Atomic weights and isotopes. F. W. Aston. bibliog diags *J Fr Inst* 193:581-608 My '22

Comparison of the atomic weights of terrestrial and meteoric nickel; analysis of nickelous chloride. G. P. Baxter and F. A. Hilton, Jr. *Am Chem Soc J* 45:694-700 Mr '23

Lead has two atomic weights. Brass *W* 17:310 N '21

Purity of atomic weight silver; gases in pure silver and iodine. G. P. Baxter and L. W. Parsons. diag *Am Chem Soc J* 44:577-91 Mr '22

Purity of atomic weight silver; solid impurities. G. P. Baxter. *Am Chem Soc J* 44:591-4 Mr '22

Relative determination of the atomic weight of chlorine in Bamle apatite. M. Dorenfeldt. *Am Chem Soc J* 45:1577-9 J '23

Report of the International Committee on atomic weights for 1921-22. *Am Chem Soc J* 43:1751-3 Ag '21

Revision des atomgewichtes des wismuts; analyse des wismutchlorids und wismutbromids. O. Höhnigschmid and L. Birckenbach. *Deutsche Chem Gesell Ber* 54:1873-1904 S '21

Revision of the atomic weight of titanium; preliminary paper; the analysis of titanium tetrachloride. G. P. Baxter and G. J. Fertig. diags *Am Chem Soc J* 45:1228-33 My '23

Significance of the density of hydrogen bromide with reference to the atomic weight of bromine. G. P. Baxter. *Am Chem Soc J* 44:595-600 Mr '22

Swiss commission on atomic weights. *J Fr Inst* 192:694-5 N '21

28th annual report of the committee on atomic weights; determinations published during 1921. G. P. Baxter. *Am Chem Soc J* 44:427-37 Mr '22

Twenty-ninth annual report of the committee on atomic weights. G. P. Baxter. *Am Chem Soc J* 45:563-72 Mr '23

Zweiter bericht der deutschen atomgewichtskommission; in der zeit von 1916 bis 1920 veröffentlichte abhandlungen. M. Bodenstein and others. *Deutsche Chem Gesell Ber* 55:I-VIII J '22

Atomizers, Mechanical. See Oil burners**Atoms**

Ancient and modern alchemy. P. D. Foote. diags *Chem Age* 31:337-41, 423-4 Ag-S '23

Application of the octet theory to singlering aromatic compounds. E. C. Crocker. il diags *Am Chem Soc J* 44:1618-30 Ag '22

Artificial disintegration of the elements. E. Rutherford. *Chem Soc J* 121:400-15 Mr '22

Atomic disintegration of tungsten. D. M. Goetschius. *Chem & Met Eng* 26:676, 772 Ap 12, 26 '22

Atomic projectiles and their properties. E. Rutherford. il diag *Engineering* 115:242-3, 264-6, 306-8, 338-40, 358-9, 798-800 F 23-Mr 23, Je 29 '23

Atomic radii. M. L. Huggins. diags *Phys R* 19:316-53 Ap '22

Atomic structure. E. P. Lewis. *Sci Am* 126:199 Mr '22

Atomic structure and spectral lines; tr. from 3d German ed. A. Sommerfeld. 626p Dutton '22

Atomic systems based on free electrons, positive and negative, and their stability. R. Hargreaves. diags *Philos Mag* 6th ser 44:1065-1105 D '22

Atomic theories. F. H. Loring. 218p Dutton '21

Atoms and energy. *Engineering* 116:337-8 S 14 '23

Atoms and isotopes. E. Hendrick. *Chem & Met Eng* 26:583-7 Mr 29 '22

Atoms and molecules. A. C. Crehore. il *Philos Mag* 6th ser 43:886-914 My '22

Atoms: their size and number. F. W. Aston. *Sci Am* 128:223 Ap '23

Attempt to prepare nitro-nitrogen trichloride; the conduct of mixtures of nitrogen and chlorine in a flaming arc. W. A. Noyes. diags *Am Chem Soc J* 43:1774-82 Ag '21

Der bau des chemischen atoms, erfahrung und theorie. J. Stark. diags *Stahl & Eisen* 41:1605-11 N 10 '21

Beyond the microscope; a scientific motion picture film that depicts the structure of the atom. S. Dushman. il *Sci Am* 126:372-3 Je '22; Same. Brass *W* 17:208-9 J '22

Binding of electrons by atoms. J. W. Nicholson. *Philos Mag* 6th ser 44:193-203 J '22

Bohr atom and the periodic law. N. V. Sidgwick. *Soc Chem Ind J (Chem & Ind)* 42:901-3 S 21 '23; Abstract. *Engineering* 116:518 O 26 '23

Calculation of the magneton number of an atom in solution. J. H. Smith. *Philos Mag* 6th ser 45:375-8 F '23

Compressibility and the size of atoms. *Sci Am* 129:31 J '23

Compressibility, internal pressure and atomic magnitudes. T. W. Richards. *Am Chem Soc J* 45:422-37 F '23

La constitution des atomes. A. Berthoud. 154p Payot & C^{ie}, Paris '22

Constitution of matter, modern atomic and electron theories. M. Born. Translated from 2d rev. German ed. 80p Dutton '23

Co-ordination compounds and the Bohr atom. N. V. Sidgwick. *Chem Soc J* 123:725-30 Ap '23

Correlation of atomic structure and spectra. H. S. King. *Am Chem Soc J* 44:323-8 F '22

Distribution of electrons around the nucleus in the sodium and chlorine atoms. W. L. Bragg, R. W. James and C. H. Bosanquet. *Philos Mag* 6th ser 44:433-49 S '22

Distribution of range of recoil atoms. K. T. Compton. *Phys R* 19:233-6 Mr '22

Electrical structure of matter. E. Rutherford. *Soc Chem Ind J (Chem & Ind)* 42:874-82 S 14 '23; Same cond. *Engineer* 136:284-5 S 14 '23; Abstracts. *Elec R (Lond)* 93:384-6 S 14 '23; Power 58:627-8 O 16 '23

Electronic structures of atoms. M. L. Huggins. *J Phys Chem* 26:601-25 O '22

Evolution of atoms and isotopes. W. D. Ver-schoyle. 40p J. J. Kellher & co., London '22

Evolution of the elements. E. Rutherford. diag *Engineering* 113:494-6 Ap 21 '22

Explanation of the property of induced polarity of atoms and an interpretation of the theory of partial valencies on an electronic basis. W. O. Kermack and R. Robinson. *Chem Soc J* 121:427-40 Mr '22

Facts bearing on the structure of atoms, particularly of the helium atom. R. A. Millikan. diag *Phys R* 18:456-60 D '21

Flight of atoms photographed. W. D. Harkins. il *Pop Mech* 39:337-8 Mr '23

Fluoro-acetyl derivatives of sugars; optical rotation and atomic dimension. D. H. Brauns. *Am Chem Soc J* 45:2381-90 O '23

General principle of relativity applied to the Rutherford-Bohr atom-model. T. Wereide. *Phys R* 21:391-6 Ap '23

General survey of the present status of the atomic structure problem. D. L. Webster; L. Page. Nat Research Council Bul 2 pt 6:336-95 J '21

Atoms—Continued

- Graphical study of the stability relations of atom nuclei. W. D. Harkins and S. L. Madorsky. *Phys R* 19:135-56 F '22
- Hydrogen molecule. A. C. Crehore. diags *Philos Mag* 6th ser 43:1025-38 Je '22
- Inside the atom. *Sci Am* 127:89 Ag '22
- Ionization and resonance phenomena. C. B. Bazzoni. diags *J Fr Inst* 196:627-51 N '23
- Mathematics of the dicyclic colour theory, and a new theory of the structure of the nitrogen atom. *J. Moir. Chem Soc J* 121:1808-13 S '22
- Method for photographing the disintegration of an atom, and a new type of rays. W. D. Harkins and R. W. Ryan. il diags *Am Chem Soc J* 45:2095-2107 S '23
- New conceptions of matter. G. M. J. Mackay. *Gen Elec R* 25:508-13 Ag '22
- Number of radiating atoms of various dimension within gaseous hydrogen, studied from the point of view of Bohr's atom model. P. Lasareff. *Philos Mag* 6th ser 45:430-2 Mr '23
- Path of an electron in the neighbourhood of an atom. B. B. Baker. *Philos Mag* 6th ser 44:777-86 O '22
- Photographing the ionization tracks of the rest atoms of radioactive elements. D. M. Bose and S. K. Ghosh. diags *Philos Mag* 6th ser 45:1050-4, pl 14 My '23
- Process of light radiation from an atom of a gas leading to a possible interpretation of Planck's quantum by means of electro-dynamics. A. C. Crehore. diags *Philos Mag* 6th ser 45:34-64 Ja '23
- Proof of Einstein's theory from the atom. A. Sommerfeld. *Sci Am* 129:237 O '23
- Quantum mechanism in the atom. E. T. Whittaker. *Sci Am* 129:33 Jl '23
- Radii of the alkali and halogen ions and of the atoms of inert gases. W. P. Davey. *Phys R* 22:211-20 S '23
- Relations between supplied energy, spectral intensities and alterations in different media. L. Hamburger. *Am Electrochem Soc Trans v* 44 (preprint 25):307-18 S '23
- Relations of the elements. E. Rutherford. *Engineering* 113:592-3 My 12 '22
- Relativistic Röntgen L-doublets and the screening constant. J. B. Green. *Phys R* 21:397-401 Ap '23
- Sizes of atoms in crystals. R. N. Pease. *Am Chem Soc J* 44:769-74 Ap '22
- Some properties of resonance radiation and excited atoms. K. T. Compton. *Philos Mag* 6th ser 45:750-60 Ap '23
- Spectra of X-rays and the theory of atomic structure. D. Coster. *Philos Mag* 6th ser 43:1070-1107, pl 23; 44:546-73 Je, S '22
- Stability of atom nuclei, the separation of isotopes, and the whole number rule. W. D. Harkins. diags *J Fr Inst* 194:165-211, 329-56, 521-35, 645-81, 783-814; 195:67-106, 553-73 Ag '22-Ja, Ap '23; Abstract. *Brass W* 18:377 D '22
- Stopping power and atomic number. J. L. Glasson. *Philos Mag* 6th ser 43:477-81 Mr '22
- Structure of atoms. A. E. Stock. rev. & enl. 88p Dutton '23; Review. T. M. Lowry. *Soc Chem Ind J (Chem & Ind)* 42:433-5 Ap 27 '23
- Structure of the atom. H. S. Allen. *Soc Chem Ind J (Chem & Ind)* 42:333-12 Ap 6 '23
- Structure of the atomic nucleus. O. Chwolson. *Chem Soc J* 122 pt 2:209 Mr '22
- Theory of spectra and atomic constitution. N. H. D. Bohr. 126p Macmillan '22
- Theory of spectra and atomic constitution: Bohr's theory. W. L. Bragg. *Soc Chem Ind J (Chem & Ind)* 42:690-2 Jl 13 '23
- Values of the electrical moments of the atoms and their connection with other quantities. R. D. Kleeman. *J Fr Inst* 196:479-93 O '23
- La vie des atomes. A. Eoutaric. 248p E. Flammarion, Paris '23
- Within the atom. O. Lodge. *Sci Am* 129:308-9+ N '23

X-rays reveal atomic structure of matter. R. D. Rusk. *Brass W* 18:131 Ap '22; Same. *Pop Mech* 37:111-12 Ja '22

See also Atomic forces; Atomic heat; Atomic theory; Atomic weights; Electrons; Molecules; Protons; Stereochemistry

Models

Note on a lecture-room demonstration of atomic models. L. V. King. *Philos Mag* 6th ser 44:395-400, pl 2 Ag '22

Possible reconciliation of the atomic models of Bohr and of Lewis and Langmuir. *Sci Am* 127:327 N '22

Atophan. See Cincophen

Atterbury, William W.
Portrait. *System* 43:194 F '23

Attica, Indiana

Bridges

Design and construction of six-span reinforced concrete highway bridge crossing Wabash river at Attica, Indiana. H. A. Hanapel. il *Munic Eng* 63:37-44 Ag '22; Same cond. *Good Roads* 63:29-32 Jl 26 '22

Fountain county's bridge over the Wabash river at Attica, Indiana. il *Eng & Contr* 58:299 S 27 '22

Auckland, New Zealand

Harbor

Several harbor extensions at Auckland, New Zealand. il *Pop Mech* 39:104-5 Ja '23

Auctions

Auctioneer sets out to sell himself. J. H. Collins. *Ptr Ink* 123:33-4+ My 24 '23

High lights on auctioneering. J. P. Gutelius. 263p Nazarene pub. house, Kansas City, Mo. '22

Audiometer

Marvelous audiometer. diags charts Blast F & Steel Pl 11:441-2 Ag '23

Motor cycle noises and the low audiometer. il *Engineer* 134:335-6 S 29 '22

Audit bureau of circulations

Admitting publications of free circulation to membership in the Bureau. *Inland Ptr* 70:58 O '22

All free circulation publications barred by Audit bureau of circulations. *Ptr Ink* 121:17-19 O 26 '22

Audit bureau adopts rules on publicity. *Ptr Ink* 123:68+ My 3 '23

Audit bureau gives free publications year to withdraw from membership. *Ptr Ink* 121:17-18 D 14 '22

Changes in Audit bureau rules. *Ptr Ink* 123:120 My 24 '23

10th annual convention at Chicago. *Ptr Ink* 125:109-10 O 25 '23

Audit reports. See Auditors' reports

Auditing

Audit working papers. J. H. Jackson. 201p American inst. of accountants foundation, New York '23

Auditing. J. E. Toner. 45p La Fayette institute, New York, Philadelphia '21

Auditing of brokerage firms. R. L. Smitley. *Administration* 3:737-40 Je '22

Auditing principles. R. H. Montgomery and W. A. Staub. 494p Ronald press '23

Auditing theory and practice. R. H. Montgomery. 2v. v.1 3d ed., rev. & enl. Ronald press '22

Check list method of auditing & bookkeeping. F. W. Richardson. 63p F. W. Richardson, 39 Cortlandt st., New York '22

Cost audit. C. W. Bennett. *J Account* 34:25-33 Jl '22

Financial audit as viewed by bankers. 56p Scovell, Wellington & co., Boston '22

Planning an audit of an industrial company. C. C. Roberts. *J Account* 33:241-52 Ap '22

Purposes and limitations of a balance-sheet audit. G. B. Buist. *Paper Tr J* 76:58+ F 8 '23

Technical audit. A. H. Rogers. *Min & Met* 186:17-18 Je '22

See also Accounting; Auditors; Auditors' reports

Auditing—Continued**Study and teaching**

- American institute of accountants examination in auditing, November 15, 1921. J Account 33:215-21 Mr '22
- American institute of accountants; examination in auditing, May 18, 1922. J Account 34:217-22 S '22
- American institute of accountants; examination in auditing, November 16, 1922. J Account 35:220-7 Mr '23
- American institute of accountants; examination in auditing, May 16, 1923. J Account 36:213-24 S '23

Audition. See Hearing

Auditoriums

- Acoustics of Great Hall of Wesley Foundation at University of Illinois. F. R. Watson. il Eng & Contr (Bldgs) 59:1423-4 Je 27 '23
- Design and construction of theaters; the auditorium. R. L. Morin. il diags plans Am Arch 122:539-42, 553-6; 123:57-8, 66-71 D 20 '22, Ja 17 '23
- Memorial auditorium, Lowell, Mass. plans Am Arch 122:452a-g, 457-9 N 22 '22
- Municipal auditorium, Colorado Springs, Colorado. il diags plans Am Arch 122:156-8 Ag 16 '22
- Outdoor auditoriums of novel design. il Sci Am 126:389 Je '22
- Relation of pipe organs to architecture; public halls, auditoriums and theatres. C. W. Cameron. il diags Am Arch 122:225-8+ S 13 '22
- Stages in college auditoriums. G. Linnell. diags Arch Forum 38:59-62 F '23
- See also Schoolhouses—Auditoriums; Theaters

Heating and ventilation

- Ventilating equipment of Cleveland's public auditorium. M. A. Boyd. il diags plans Heat & Ven 19:33-40 Je '22
- Ventilating the Cleveland auditorium. C. L. Riley. il diags plans Am Soc Heat & V E J 28:843-52 D '22
- See also Music halls—Heating and ventilation; Theaters—Heating and ventilation

Auditors

- Auditors I have known. M. D. Paine. J Account 34:11-19 Jl '22
- Responsibility of auditors. B. Rose. J Account 35:335-42 My '23

Auditors' reports

- Audit reports—a tool for the executive. W. H. Bell. Administration 5:727-34 Je '23
- What the accountant's report should show the banker. A. L. Moler. Administration 3: 153-63 F '22

Auger machines

- Auger machines and dies. Brick & Clay Rec 63:342+, 486-7 S 4, O 2 '23

Augite

- Mineralogy; augite of Haleakala, Maui, Hawaiian Islands. H. S. Washington and H. E. Merwin. Am J Sci 5th ser 3:117-22 F '22

Augusta, Georgia

- Proposed electrification of the Augusta, Georgia, power canal. N. Wingfield. Munic Eng 65:121-6 S '23

Rapid transit

- Failure of city council to regulate unfair jitney competition prompts local railways to withdraw all cars from service in Augusta, Georgia. Elec Ry J 59:542 Mr 25 '22
- Service restored in Augusta on April 15. Elec Ry J 59:694 Ap 22 '22

Aura

- Human atmosphere; visibility of the human aura demonstrated to the layman. A. A. Hopkins. il Sci Am 126:200+ Mr '22

Auramine

- Present and the future in the manufacture of the auramines. R. Sansone. Color Tr J 10:53-5, 119-21 F-Mr '22
- Volumetric estimation of auramine. W. C. Holmes. Color Tr J 13:45-S Ag '23

Aurine

- Dyes of the aurin type. H. Baines and J. E. Driver. Chem Soc J 123:1214-18 My '23

Auroras

- Auroral spectrum and the upper strata of the atmosphere. L. Vegard. Philos Mag 6th ser 46:193-211 Jl '23
- Constitution of the upper strata of the atmosphere. L. Vegard. diags Philos Mag 6th ser 46:577-604, pl 10 O '23
- Spectrum of aurora. Am J Sci 5th ser 4:324-5 O '22

Australasia

- See Electric industries—Australasia; Mines and mineral resources—Australasia; Petroleum—Australasia

Australia

- See also Geology—Australia; Railroads—Electrification—Australia; Railroads—Australia; Street railroads—Australia

Commerce

- Australian market awaiting American exploitation. R. Dickinson. Ptr Ink 117:81-2 D 22 '21
- See also Coal trade—Australia; Electric industries—Australia; Merchant marine—Australia; Tariff—Australia

Economic conditions

- Australia's industrial problems. Elec R (Lond) 92:189 F 2 '23
- Modern economic history with special reference to Australia. H. Heaton. 2d ed. 288p Workers' educ. assn. of South Australia, Adelaide '22
- See also Labor and laboring classes—Australia; Wages—Australia

Industries and resources

- Australia; a commercial and industrial handbook. A. W. Ferrin. il maps U S Bur For & Dom Com 216:1-162 '22
- Australia's future as a manufacturer. Elec R (Lond) 89:899 D 30 '21
- See also Coal trade—Australia; Electric industries—Australia; Electric plants (central stations)—Australia; Gas, Natural—Australia; Gold mines and mining—Australia; Iron ores—Australia; Machine tool industry—Australia; Machinery industry—Australia; Merchant marine—Australia; Mines and mineral resources—Australia; Oil shales—Australia; Petroleum—Australia; Steel works—Australia

Native races

- Modern stone age men. Sci Am 126:337 My '22

Austria

- Move for union of Austria with Germany or Italy—nation's problems referred to League of nations. Comm & Fin Chr 115:1038-41 S 2 '22
- See also Banks and banking—Austria; Chemical industries—Austria; Cost of living—Austria; Finance—Austria; Hydroelectric plants—Austria; Labor laws—Austria; Railroads—Austria; Railroads and state—Austria

Economic conditions

- Austrian reconstruction plans proposed by League of nations—printing of paper money stopped. Comm & Fin Chr 115:2426-7 D 2 '22
- Austria's new industrial problems. Elec R (Lond) 93:570 O 19 '23
- Economic outlook for Austria and Hungary. J. Moritzen. Annalist 19:150 Ja 23 '22
- Economic situation of Austria. Engineering 114:402-3 S 29 '22
- Henry Morgenthau's plans for reorganizing Austria's industry. Comm & Fin Chr 115:364-5, 1033 Jl 22, S 2 '22
- Labor and wage conditions in Austria. Am Mach 57:317 Ag 24 '22
- League of nations appoints committee to consider Austria's needs. Comm & Fin Chr 115:1149-50 S 9 '22

Austria—Economic conditions.—*Continued*

Present day social and industrial conditions in Austria. W. Gleispach, ed. (Supp. to the Annals, Nov. 1921) 74p. Am. Acad. of Pol. and Soc. Sci., Philadelphia '21

See also Cost of living—Austria; Finance—Austria; Labor and laboring classes—Austria

Industries and resources

Vulcan machine tool works of Vienna. G. L. Carden. *il* Iron Age 111:1630-3 Je 7 '23

Austrian loan. *See* Finance—Austria

Auto bus association of New York state

Independent bus men have definite program. Bus Transportation 1:104-5 F '22
2d annual meeting, Rochester, N.Y., Feb. 15. Bus Transportation 2:152 Mr '23

Autocartograph

Hugershoff autocartograph; ingenious apparatus simplifies process of map drawing from aerial photographs. A. Gradenwitz. *il* map Aviation 13:805-6 D 18 '22

Autoclave

Collapse of the autoclave. W. P. Mason. *il* Ind & Eng Chem 15:735 JI '23

Autogiro. *See* Flying machines

Automatic machinery. *See* Machinery, Automatic

Automatic stop. *See* Railroads—Automatic stop

Automatic substation. *See* Electric substations, Automatic

Automobile accessories industry

Advantages of selling both the jobber and the dealer. E. P. Chalfant. *Automotive Ind* 49:619-20 S 27 '23

Cost of distribution should be reduced. R. W. Sherman. *Automotive Ind* 49:623 S 27 '23

45 per cent of car dealers handle automotive supplies. *Automotive Ind* 49:583-5 S 20 '23

How a specialty was made a staple jobber's line; Dot high-pressure lubricator. D. Kirkland. *Ptr Ink* 124:125-6+ S 20 '23

Making taxicab facts merchandise automotive products. E. H. Glenn. *Ptr Ink* 121:53-4+ N 9 '22

Making the sale a trailer to a bigger sale overcomes selling resistance. H. Burwen. *Ptr Ink* 123:33-4+ My 17 '23

Plugging a wasteful hole in the automobile industry. C. M. Harrison. *Ptr Ink* 120:128+ O 12 '22

See also Automobiles—Equipment and supplies; also Automotive equipment association; Gates rubber company; Motor and accessory manufacturers' association

Advertising

Advertising that furnishes dealers with over-the-counter talk. M. W. Sohn. *Ptr Ink* 125:145-6+ O 4 '23

Advertising to test out market possibilities; how the Bishop & Babcock co. introduced the aquastat. *Ptr Ink* 122:121-2+ F 15 '23

Gabriel's advertising drive on the golf links. *Ptr Ink* 118:77-8 Mr 16 '22

How Westinghouse air-spring sales possibilities were broadened; exclusive rights to dealers. A. Belden. *Ptr Ink* 124:25-8 S 13 '23

When the parts manufacturer cooperates to help sell the complete unit; Packard electric co. G. H. Wicker. *Ptr Ink* 122:133-6 Mr 8 '23

Why bad roads and side roads are being sold to the motorist. W. H. Heath. *Ptr Ink* 124:41-2+ Ag 9 '23

See also Spark plugs—Advertising

Automobile accidents

Automobile accident rate. *Eng & Contr* 57:319-20 Ap 5 '22

Automobile accidents from transportation standpoint. R. W. Emerson. *Elec Ry* J 62:682-4 O 20 '23

Automobile accidents increase. *Elec Ry* J 60:709 O 28 '22

Automobile accidents to children. *Safety Eng* 46:116 S '23

Automobile dealers sponsor a safety-first campaign. *Ptr Ink* 117:101-2 D 29 '21

Automobile fatalities in the United States in 1922. H. P. Stellwagen. *Nat Safety* N 7:23-4 Ap '23

Collisions as seen by motorman. E. S. Wilde. *Aera* 11:1414-18 Je '23; Abstract. *Elec Ry* J 61:890 My 26 '23

Controlling traffic from the bench. C. L. Bartlett. *Nat Safety* N 7:12 Je '23

First step in accident prevention is study of causes. P. H. Smith. *Automotive Ind* 48:1020-1 My 10 '23

Graphic testimony in automobile accident cases. *il* Sci Am 127:255 O '22

Inadequate highway lighting an accident factor. A. W. Devine. *Elec W* 80:127 JI 15 '22

Individual liberty of an automobilist and where it ought to stop. B. Lord. *Safety Eng* 43:145-6 Ap '22

Jail sentences for speeders in Los Angeles. *Nat Safety* N 7:19 Ja '23

Making Delaware a safe state. G. E. Wallis. *il* Nat Safety N 8:11-13 Ag '23

Maryland's road accident map shows great danger of speed. H. D. Williar, Jr. *il* diags Pub Roads 4:15-16 S '21; Same. *Eng & Contr* 56:331 O 5 '21; Same abr. *Good Roads* 61:201-2 O 26 '21

Method of the minute to protect the unwary on the public highways. *il* Safety Eng 44:4-6 JI '22

Motor car death rate rises less rapidly than registrations. *Automotive Ind* 48:859-60 Ap 19 '23

My lady at the wheel. C. T. Fish. *Nat Safety* N 7:25-6 Mr '23

New York saves children's lives by safe street campaigns. *Automotive Ind* 49:170-1 JI 26 '23

Pennsylvania safety engineers discuss school and highway safety. *Safety Eng* 44:181-2+ O '22

Psychology of the automobilist. L. F. Wynne. *Elec Ry* J 62:689-90 O 20 '23

Public safety during 1922. *Nat Safety* N 7:9 F '23

Reducing automobile accidents. *Aera* 11:1674-8 JI '23

Relation of street lighting to traffic accidents. E. A. Anderson and O. F. Haas. *il* Munic Eng 61:177-81 N '21; Abstract. *Elec W* 79:80 Ja 14 '22

Report of the committee on automobile accidents. *Elec Ry* J 62:694 O 20 '23

Road courtesies and education the way to reduce automobile accidents. H. K. Maples. *Safety Eng* 43:146-7 Ap '22

Study of traffic accidents on Iowa highways. *Munic Eng* 65:87-9 Ag '23

Symposium on automobile accidents. *Elec Ry* J 60:671-4 O 21 '22

To increase safety of traffic on highways. *Eng N* 91:61 JI 12 '23

To reduce automobile accidents. *il* Safety Eng 45:139-40 My '23

Traffic accidents in relation to street and highway lighting. C. J. Stahl. *Munic Eng* 64:181-3 My '23; Same. *Eng & Contr* (R & S) 60:226-8 Ag 1 '23

Two greatest menaces. A. C. Carruthers. *il* Safety Eng 45:1-3 Ja '23

When the driver is guilty. *il* Safety Eng 45:39-40 F '23

Where road wrecks happen. *il* Sci Am 126:317 My '22

Who is responsible for most automobile accidents? *Automotive Ind* 47:578-9 S 21 '22

See also Automobile driving; Grade crossing accidents

Automobile body builders' association

Summer meeting, Detroit, June 27. *Automotive Ind* 49:1-11 JI 5 '23

Automobile brakes. *See* Air brakes, Automobile; Brakes, Automobile**Automobile camps.** *See* Camps, Tourists'**Automobile driving**

Anathemas heaped on automobiles by Mark Sullivan. *Automotive Ind* 48:16-17 Ja 4 '23

Education and punishment for reckless drivers. *Eng & Contr* (R & S) 60:467-3 S 5 '23

Introduces veteran motorist to urge safe and sane driving. *Nat Pet* N 15:105-6+ JI 4 '23

Automobile driving—Continued

Our reckless driving. D. H. Maxwell. Eng & Contr (R & S) 60:687-8 O 3 '23
 Vehicular strangulation. H. K. Maples. Safety Eng 46:98-101 Ag '23
 What the taxicab driver knows. W. R. Rasmussen. Nat Safety N 7:15-16 F '23

See also Grade crossing accidents; Motor truck driving

Automobile engineering

Automobile engineering. 6v American technical society. Chicago '22
 Automobile engineering as a profession. H. G. Burford. Automobile Eng 13:316-19 O '23
 Automobile laboratory manual. F. F. Good. 186p McGraw-Hill '22
 Automobile work as a profession. C. A. Prosser. Soc Auto Eng J 12:17-18 Ja '23
 Does factory engineering organization give full consideration to service and service station problems? J. W. Lord. Am Mach 58:228-9 F 8 '23
 Engineering practice leaves much to be accomplished. H. M. Crane and H. Chase. Il diags Automotive Ind 48:61-3 Ja 11 '23
 Need for a wider outlook in automobile engineering. D. J. Smith. Automobile Eng 12:316-19 O '22
 Problems in front of the automotive engineer. C. F. Kettering. Soc Auto Eng J 12:86-8 Ja '23
 Standards of quality are maintained by special department. W. L. Carver. Automotive Ind 49:376-8 Ag '23
 Studies of the automobile. G. B. Upton, Sibley J 36:58-65+, 78-90+, 108-18 Ap-Je '22

See also Automobile engines; Automobile mechanics; Automobile research; Automobiles

Tables, calculations, etc.

Technique of calculation. J. Watt. diags Automobile Eng 13:59-63 F '23

Automobile engines

Air-cooled and water-cooled engines at the Olympia show. Il Automobile Eng 11:395-8 N 24 '21
 Air-cooled automotive engines. C. P. Grimes. Il diags plans Soc Auto Eng J 13:125-33; Discussion. 133-8 Ag '23
 Automobile power plants. B. G. Elliott. 323p McGraw-Hill '23
 Bournonville rotary valve engine. diags Automotive Ind 45:1065-6 D 1 '21
 Citroen which lowered world's fuel consumption record. W. F. Bradley. Il diags Automotive Ind 46:1434-5 Je 29 '22
 Le cognement des moteurs d'automobiles, indice de leur usure. H. Petit. Génie Civil 81:117-18 Ji 29 '22
 Design practice discussed in passenger car session at S.A.E. meeting. P. M. Heldt. Automotive Ind 46:1420-1 Je 29 '22
 Detachable heads, engine and gearbox mounting. Il Automobile Eng 11:405-6 N 24 '21
 Detroit air-cooled car has twin-three engine. Il Automotive Ind 46:215-16 F 2 '22
 Diesel engine for automotive use. Automotive Ind 48:1141 My 24 '23
 Diesel engine for autos to increase mileage. Pop Mech 40:336 S '23
 Diesel engine may be practical for automotive use. Il Automotive Ind 48:1336-7 Je 21 '23
 Elementary thermodynamics of automobile engines. E. H. Hamilton. 287p McGraw-Hill '23
 Engine and gear box mounting. Il Automobile Eng 12:369 N 23 '22
 Engine numbers; proposed revision of S. A. E. standard. Soc Auto Eng J 9:388-9 D '21; Discussion. 10:122-3 F '22
 Engines at the Olympia show. Il diags Automobile Eng 12:355-63 N 23 '22
 Five bearing crankshaft important feature of new Lycoming engine. D. D. Blanchard. Il Automotive Ind 47:968-70 N 16 '22
 Fuel and lubrication changes feature new Premier model. diags Automotive Ind 45:1262-3 D 29 '21

High fuel economy obtained in new Waukesha engine. P. M. Heldt. Il diags Automotive Ind 47:1270-3 D 28 '22
 Injection type auto engine coming, oil men are told. V. B. Guthrie. Nat Pet N 14:40b-c D 13 '22
 Intake, compression, power and exhaust; what happens inside the motor. diags Sci Am 126:53-4 Ja '22
 Italian manufacturer reverts to poppet valve engine. Il diags Automotive Ind 45:1205-8 D 22 '21
 Long-stroke auto engine of easy accessibility. Il diags Pop Mech 39:389 Mr '23
 Low compression vs. high compression moderate-speed engine for motor vehicles. F. Strickland and H. C. Ricardo. Engineering 114:627-30 N 17 '22; Same. Automobile Eng 12:408-12 D '22; Abstracts. Automotive Ind 47:1079-81 N 30 '22; Engineer 134:492 N 10 '22
 Maxwell engine changes. Il Automotive Ind 47:483 S 7 '22
 Midwest adds to line of passenger car engines. diags Automotive Ind 47:1269 D 28 '22
 Midwest now producing passenger car engines. J. E. Schipper. Il Automotive Ind 47:256-7 Ag 10 '22
 More than one way to obtain engine balance. E. H. Sherbondy. Automotive Ind 49:542-3 S 13 '23
 Le moteur à huiles lourdes Peugeot-Tartrais. G. Delanghe. Il diags Génie Civil 82:547-52 Je 9 '23
 New air-cooled auto engine has many novel features. Il Pop Mech 37:559 Ap '22
 New Excelsior engine is fitted with overhead camshaft. Il diags Automotive Ind 48:1170-2 My 31 '23
 New 14-cylinder air cooled radial engine of British design. M. W. Bourdon. Il Automotive Ind 47:975-7 N 16 '22
 New principle of balancing 8-cylinder V-engine feature of 1924 Cadillac. J. E. Schipper. Il diags Automotive Ind 49:516-19 S 13 '23
 New Vauxhall four has Lanchester harmonic balancer. M. W. Bourdon. Il diags Automotive Ind 47:457-61 S 7 '22
 North-Lucas light car. Il diags Automotive Eng 13:98-104 Ap '23
 Overhead camshaft engine on new Leach Power Plus six. Il Automotive Ind 45:1160 D 15 '21
 Packard single-eight. J. G. Vincent and W. R. Griswold. Il diags Soc Auto Eng J 13:257-75 O '23
 Peugeot to produce automotive injection engine. W. F. Bradley. Il diags Automotive Ind 46:269-71 F 9 '22
 Powerplant in new Stutz model incorporates many changes. J. E. Schipper. Il Automotive Ind 46:750-1 Ap 6 '22
 Powerplant trends as seen at the show. H. Chase. Il diags Automotive Ind 46:62-5 Ja 12 '22
 Le XVII^e salon de l'automobile et du cycle (Paris, 4-15 octobre 1922). G. Delanghe. Il diags Génie Civil 81:353-61, 387-94 O 21-28 '22
 Single-sleeve valve engine adapted to various automotive uses. M. W. Bourdon. diags Automotive Ind 47:1063-6 N 30 '22
 Six-cylinder passenger car engine announced by Wisconsin. Il diags Automotive Ind 49:640-2 S 27 '23
 Small Diesel type automotive engine now in production. Il diags Automotive Ind 46:1320-1 Je 15 '22
 Stenger combined poppet and sleeve valve engine. diags Automotive Ind 47:765 O 19 '22
 10-h.p. sleeve-valve motor-car engine. Il diags Engineering 113:618 My 19 '22
 Trojan two-stroke engine has novel cylinder arrangement. diags Automotive Ind 48:931 Ap 26 '23
 Two-stroke motor car engine; an investigation of certain aspects of the two-stroke engine. F. W. Lanchester and R. H. Pearssall. diags Engineering 113:90-2, 122-4 Ja 20-27 '22
 Weidely producing a new engine. J. E. Schipper. Il diags Automotive Ind 46:551-3 Mr 9 '22

Automobile engines—Continued

Wills Sainte Claire car has engine of original design. J. E. Schipper. *il diags Automotive Ind* 45:912-17 N 10 '21

See also Automobiles; Carbureters; Cylinders (engines); Gas and oil engines; Motor cycle engines; Motor truck engines; Newcomb engine; Piston rings; Tractor engines

Air supply

Air washer for the automobile. *il diags Sci Am* 129:253 O '23

See also Air cleaners, Automobile

Bearings

Making Marmon bearings. *il Am Mach* 57:488-9 S 28 '22

Cooling

Advantages of evaporating type of cooling system. A. L. Clayden. *diags Automotive Ind* 47:509-11 S 14 '22; Excerpt. *Mech Eng* 44:740-1 N '22; Discussion. *Automotive Ind* 47:1087-8; 48:337-8 N 30 '22, F 15 '23

Air-cooled automotive engines. C. P. Grimes. *il diags plans Soc Auto Eng J* 13:125-33; Discussion. 133-8 Ag '23

Air cooled engines not inherently more economical. A. L. Clayden. *Automotive Ind* 47:569-70 S 21 '22

Air-cooled engines subject of wide-spread current research. J. E. Schipper. *il diags Automotive Ind* 46:1214-18 Je 8 '22

Air-cooling of 1923. *il Sci Am* 127:397 D '22

Air flow in relation to water cooling. A. L. Clayden. *il diags Automotive Ind* 47:462-6 S 7 '22; Discussion. N. S. Diamant. 47:938-9 N 9 '22

Aircraft-engine practice as applied to air-cooled passenger-car engines. S. D. Heron. *il diags Soc Auto Eng J* 12:31-56 Ja '23; Abstract. *Automotive Ind* 48:118-20 Ja 18 '23; Discussion. *Soc Auto Eng J* 13:16-22+ J1 '23

British oil-cooled car engines. M. W. Bourdon. *il diags Automotive Ind* 46:849-51 Ap 20 '22

Chevrolet copper-cooled car ready for market. J. E. Schipper. *il diags Automotive Ind* 47:1259-65 D 28 '22

Experimental development of air-cooled engine-cylinders. C. F. Taylor. *il Soc Auto Eng J* 12:46-53 Ja '23

Method of vapor-cooling automobile engines. *Pop Mech* 39:64 Ja '23

Neglect of water flow cuts cooling efficiency. A. L. Clayden. *il diags Automotive Ind* 47:306-9 Ag 17 '22; Discussion. N. S. Diamant. 47:938-9 N 9 '22

New Franklin has remodeled cooling system. P. M. Heldt. *il diags Automotive Ind* 47:408-12 Ag 31 '22

Research shows how to increase cylinder fin efficiency. C. B. Dicksee. *diags Automotive Ind* 48:768-72 Ap 5 '23

Some aspects of air-cooled cylinder design and development. S. D. Heron. *il diags plans Soc Auto Eng J* 10:231-60 Ap '22; Discussion. 11:363-7 O '22

See also Automobile engines—Fans; Automobile engines—Radiators

Cylinders

See Automobile engines—Manufacture

Design

Aircraft engine experience as a basis for automobile engine development. H. Dechamps. *Automotive Ind* 46:611-13 Mr 16 '22

Aircraft-engine practice as applied to air-cooled passenger-car engines. S. D. Heron. *il diags Soc Auto Eng J* 12:31-56 Ja '23; Abstract. *Automotive Ind* 48:118-20 Ja 18 '23; Discussion. *Soc Auto Eng J* 13:16-22+ J1 '23

Automobile piston clearance. D. F. Muirhead. *Am Mach* 58:344; 59:667 Mr 1, N 1 '23

Better economy and flexibility are chief aims of engine development. H. Chase. *diag Automotive Ind* 46:1266-9 Je 8 '22

Buick fours and sixes equipped with front wheel band brakes. J. E. Schipper. *diags Automotive Ind* 49:214-15 Ag 2 '23

Combustion chamber design. *diags Automotive Ind* 48:1406-12 Je 28 '23

Connecting rods for V-type engines. *diags Automotive Eng* 12:407 D '22

Continental design features small overhead valve engines. W. F. Bradley. *il diags Automotive Ind* 47:807-13 O 26 '22

Dart announces its first six-cylinder product. J. E. Schipper. *diags Automotive Ind* 47:922-3 N 9 '22

Design of connecting-rods for high-speed engines. M. Platt. *diags Automotive Eng* 13:279-85 S '23

Engine design shows service influence. A. L. Clayden. *il diags Automotive Ind* 48:69-71 Ja 11 '23

Entirely new design embodied in Mitchell engine. *il diags Automotive Ind* 45:1158-60 D 15 '21

European engineering trends shown at Paris show. W. F. Bradley. *il Automotive Ind* 45:804-10 O 27 '21

Even torque and lack of vibration characterize vertical eight. P. M. Heldt. *diags Automotive Ind* 48:817-20 Ap 12 '23

Faun good example of modern German light car design. *diags Automotive Ind* 48:324-8 F 15 '23

Herschell-Spillman engine has clearance dome over valves. *diags Automotive Ind* 48:1178-80 My 31 '23

Interest in eight-in-line engines centers in crankshaft layout. *diag Automotive Ind* 49:166-9 J1 26 '23

Light alloys play prominent part in recent piston design development. *diags Automotive Ind* 48:1381-90 Je 28 '23

Micell crankless motor-car engine and air compressor. *il diags Engineering* 116:427-30, 432 O 5 '23

New frameless Lancia feature of Paris show. W. F. Bradley. *diags Automotive Ind* 47:706-8 O 12 '22

Novel cylinder block and crankcase in new British light car. M. W. Bourdon. *il diags Automotive Ind* 48:1078-80 My 17 '23

Offset cylinders and pistons. J. B. Swan. *Automobile Eng* 12:72-6 Mr '22

Overhead camshaft passenger-car engines. P. M. Heldt. *il diags Soc Auto Eng J* 10:489-98 Je '22; Same. *Automotive Ind* 46:1109-14, 1158-61 My 25-Je 1 '22; Same. *Automobile Eng* 12:397-403 D '22; Discussion. *Soc Auto Eng J* 11:244-7 S '22

Research shows how to increase cylinder fin efficiency. C. B. Dicksee. *diags Automotive Ind* 48:768-72 Ap 5 '23

Scheel-Frontenac entries are powered with rotary valve engines. *il diags Automotive Ind* 48:1120-3 My 21 '23

Single-valve internal-combustion engine design and operation. R. Abell. *il chart diags Soc Auto Eng J* 13:301-9; Discussion. 309 O '23

Some aspects of air-cooled cylinder design and development. S. D. Heron. *il diags plans Soc Auto Eng J* 10:231-60 Ap '22; Discussion. 11:363-7 O '22

Some automobile engines are fitted with longer pistons. J. E. Schipper. *Automotive Ind* 47:310-11 Ag 17 '22

Three-litre Vauxhall racing engine. H. R. Ricardo. *il diags Automotive Eng* 13:2-8 Ja '23

Valve actions in relation to internal-combustion-engine design. C. S. Ricker and J. C. Moore. *diags Soc Auto Eng J* 11:284-9; Discussion. 289-91 S '22

See also Automobile engines—Valves

Exhaust

Adjusting carburetors by exhaust gas analysis. *diag Automotive Ind* 48:18-20 Ja 4 '23

Manifold vaporization and exhaust-gas temperatures. O. C. Berry and C. S. Kegerreis. *il Soc Auto Eng J* 10:171-6 Mr '22; Discussion. 10:402-4 My '22

New interpretation of exhaust-gas analysis. E. H. Lockwood. *Soc Auto Eng J* 12:299-301 Mr '23

Automobile engines—Exhaust—Continued

Sampling and analysis of automobile exhaust gas. A. C. Fieldner and G. W. Jones. *il diags J Fr Inst* 194:613-44 N '22

See also Carbon monoxide

Fans

Internal pressure oiling reduces fan noise and wear. *diag Automotive Ind* 48:1211 Je 7 '23

Fuel

Alcogas, new fuel, makes advertising bow. *Ptr Ink* 121:113-14 O 5 '22

Alcohol for motor fuel. *bibliog Soc Auto Eng J* 10:364-5 My '22

Alcohol the motor fuel of the future. C. C. Green. *Chem Age (Lond)* 9:84-5 J 18 '23

Answer so far given by the joint research program of the United States Bureau of standards and the oil and automotive industries. S. W. Stratton; R. E. Carlson. *il diag map plan Am Pet Inst Bul* 3:89-101 D 30 '22

Application of chemistry to the conservation of motor fuels. T. Midgley, jr. and T. A. Boyd. *J Ind & Eng Chem* 14:849-51 S '22

Automotive engineering development rests largely on fuel research. H. Chase. *diags Automotive Ind* 46:1219-31 Je 8 '22

Benzol blend better motor fuel than straight gasoline; scientific blending is necessary. W. F. Stack. *Nat Pet N* 14:22+ S 6 '22

Blended fuel meets with limited success in France. W. F. Bradley. *Automotive Ind* 47:55-6 J 13 '22; Same. *Nat Pet N* 14:28 Ag 23 '22

Blended fuels for automotive engines. J. C. Smallwood. *Mech Eng* 45:577-8 O '23

Le carburant national; étude sur sa constitution possible. C. Legrand. *diags Chimie & Ind* 10:411-28 S '23

Chemical control of gaseous detonation, with particular reference to the internal combustion engine. T. Midgley, jr. and T. A. Boyd. *Chem & Met Eng* 27:581-2 S 20 '22

Chemical motor knock cure important from oil industry's viewpoint. P. Truesdell. *Nat Pet N* 14:34-5 D 20 '22

Chimera of dollar gasoline. W. K. Lewis. *Chem Age* 31:197-9 My '23; Same. *Nat Pet N* 15:35-6+ My 16 '23; Abstract. *Bus Transportation* 2:313 Je '23

Citroen covers 67.38 miles on gallon of benzol. *Automotive Ind* 46:1350 Je 15 '22

Combustion research an aid to better performance; cause of detonation. H. Chase. *Automotive Ind* 46:1253-6 Je 8 '22

Comparative tests of fuels produce interesting results. H. Chase. *Automotive Ind* 47:609-10 S 23 '22

Connection of the research committee with fuel research. H. M. Crane. *Soc Auto Eng J* 12:207-9 F '23

Crankcase oil dilution blamed too much. *Nat Pet N* 15:27+ Ja 17 '23

Detonation characteristics of blends of aromatic and paraffin hydrocarbons. T. Midgley, jr. and T. A. Boyd. *diag J Ind & Eng Chem* 14:589-93 J 1 '22

Detonation characteristics of some blended motor-fuels. T. Midgley, jr. and T. A. Boyd. *diag Soc Auto Eng J* 10:451-6 Je '22; Same. *Nat Pet N* 14:59-60+ J 1 5 '22; Same cond. *Automotive Ind* 47:23-7 J 1 6 '22; Discussion. *Soc Auto Eng J* 11:247 S '22

Direct determination of dew points of gasoline-air mixtures. W. A. Gruse. *diags Ind & Eng Chem* 15:796-9 Ag '23

Distillation curve becoming generally used as motor fuel index. J. C. Chatfield. *Nat Pet N* 15:34-6 Je 6 '23

Economic motor-fuel volatility. R. E. Carlson. *il chart diag Soc Auto Eng J* 12:139-46; Discussion. 146-50 F '23

Economic motor-fuel volatility. S. M. Lee. *Soc Auto Eng J* 13:3-15 J 1 '23; Discussion. 13:73-4, 226 J 1, S '23

Economic theory of highway grades; tests in Iowa give working equations for both automobiles and commercial vehicles. T. R. Agg. *il diags Eng N* 90:76-9 Ja 11 '23

Effect of compression on detonation and detonation control. H. L. Horning. *Soc Auto Eng J* 13:144-8; Discussion. 148-50 Ag '23

Effect of road surfaces on gasoline consumption. F. R. White. *Eng & Contr (R & S)* 56:184-6 D 6 '22

Experimental data presented by speakers at detonation session. P. M. Heldt. *Automotive Ind* 48:128-32 Ja 18 '23

Fractional distillations of fuel and how to make them. P. S. Tice. *il diags Automotive Ind* 47:120-6 J 20 '22

Free sulphur in motor fuels, etc. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 9:133-9 Ap '23; Abstract. *Soc Chem Ind J (Chem & Ind)* 42:577 Je 15 '23

Fuel waste, its causes and remedies. *Soc Auto Eng J* 12:310-12 Mr '23

Further data on the effective volatility of motor-fuels. R. E. Wilson and D. P. Barnard. *diags Soc Auto Eng J* 12:287-92 Mr '23

Germany's new standardized motor fuel. B. R. Dierfeld. *Automotive Ind* 45:974-5 N 17 '21

Great industries nearer agreement on gasoline problems. H. Chase. *Automotive Ind* 47:1166-8 D 14 '22

Heavy fuel for automobile work. B. R. Dierfeld. *diags Automotive Ind* 12:247-8 Ag '22

Hot-spot method of heavy-fuel preparation. F. C. Mock and M. E. Chandler. *diags Soc Auto Eng J* 11:27-32+ J 1 '22; Same cond. *Automotive Ind* 46:1372-6 Je 22 '22

Internal-combustion engine fuels. C. A. Norman. *Soc Auto Eng J* 10:187-92; Discussion. 192+ Mr '22

Joint fuel sessions of the National automobile chamber of commerce and other automotive interests, with the American petroleum institute, Chicago, Dec. 6-7. *diags Soc Auto Eng J* 10:1-16, 17-24 Ja '22

Many new avenues for research work cited at technical sessions of American petroleum institute. V. B. Guthrie. *Nat Pet N* 13:41-3 D 14 '21

More car-miles per gallon of fuel. O. C. Berry. *Soc Auto Eng J* 11:181-5 Ag '22; Same. *Am Inst Chem Eng Trans* v 13 pt 2:185-98 '20-21; Discussion. *Soc Auto Eng J* 11:185-7 Ag '22

Motor fuel problem. E. H. Leslie. *Am Inst Chem Eng Trans* v 13 pt 2:155-83 '20-21

Motor-fuel symposium. *Ind & Eng Chem* 15:476-88 My '23

Motor fuels. E. H. Leslie. 681p *Chemical catalog co.* '23

Multiple spark plugs and the suppression of knocking. C. A. Norman. *il Automotive Ind* 47:316-18 Ag 17 '22

No gasoline substitute in sight, petroleum chemists say. *Automotive Ind* 48:821-2 Ap 12 '23

Paris buses test efficiency of alcohol as engine fuel. *Automotive Ind* 49:257 Ag 9 '23

Petroleum and automotive engineers discuss common problems. *Soc Auto Eng J* 12:118-21 Ja '23

Petrols for road vehicles and aircraft. O. Thornycroft. *Inst Pet Tech J* 8:376-96 J 1 '22

Physical properties of motor fuels. W. R. Ormandy. *Automotive Eng* 12:90-5 Mr '22; Abstract. *Engineering* 113:234-5 F 24 '22

Practical progress in S.A.E. fuel research program. *diags Automotive Ind* 46:924-5 Ap 27 '22

Le problème du carburant national en France; symposium. D. Berthelot and others. *Soc Ing Civils Bul* 76:31-294 Ja '23; Abstracts. *Génie Civil* 82:239-40, 288-9, 358-9, 370-3 Mr 10, 24, Ap 14-21 '23

Proper utilization of natural gasoline. L. F. Bayer. *Soc Auto Eng J* 12:273-5 Mr '23

Puissance et rendement des moteurs légers alimentés par des carburants non détonants. F. Schwerts. *Soc Ing Civils Bul* 76:295-306 Ja '23

Research aimed at solution of fuel problem; abstracts of papers at S.A.E. meeting. H. Chase. *Automotive Ind* 46:1412-16 Je 29 '22

Research promises fuel saving. *Soc Auto Eng J* 12:241-2 F '23

Responsibility of the petroleum and the automotive industries to the public. H. L. Horning. *Soc Auto Eng J* 10:20-4 Ja '22; Same. *Nat Pet N* 13:39-40+ D 14 '21

Automobile engines—Fuel—Continued

- S.A.E. seeks to overcome prevalent misunderstanding of fuel tests. H. C. Dickinson. *Automotive Ind* 48:285 F 8 '23
- Society's research sheds new light on fuel problem. V. H. Gottschalk. *Soc Auto Eng J* 12:3-9, 211-12 Ja-F '23
- Stretching the gasoline supply. *il Sci Am* 128:381 Je '23
- Substitute automotive fuels obtained from lignite and peat. P. M. Heldt. *Automotive Ind* 49:536-7 S 13 '23
- Summer driving tests show heavy fuels equal light in mileage. P. Truesdell. *Nat Pet N* 14:30-1 D 13 '22
- Tellurium compounds increase efficiency of gasoline. *Sci Am* 126:343 My '22
- Test data released in fuel and research sessions. H. Chase. *Automotive Ind* 48:122-5 Ja 18 '23
- Le III^e concours de consommation des automobiles (Le Mans, 28 mai 1922). *il diags plans Génie Civil* 80:513-17 Je 10 '22
- Turbulence as factor governing spark advance eagerly discussed topic. *Automotive Ind* 48:1427-30 Je 28 '23
- Two-cent gasoline—a pitfall for the unwary investor. *Sci Am* 126:386 Je '22
- Use of acetone in composite engine-fuels. R. F. Remler. *Soc Auto Eng J* 13:23-4 Jl '23; Same abr. *Chem & Met Eng* 29:230 Ag 6 '23
- Volatility of motor fuel. R. E. Wilson. *diags Soc Auto Eng J* 10:6, 17-20 Ja '22
- What warm weather tests of fuels indicate. *il diags Automotive Ind* 47:1168-71 D 14 '22
- Wine growers have new fuel for cars. *Automotive Ind* 46:493 F 23 '22
- Winter tests show lower mileage with heavy fuels. H. C. Dickinson and J. A. C. Warner. *Soc Auto Eng J* 13:87-92 Jl '23; Discussion. 13:73-4, 226 Jl '23
- See also Alcohol as fuel; Automobile engines—Exhaust; Benzol (commercial benzene); Gas and oil engines—Fuel; Gasoline; Kerosene; Tetralin

Bibliography

- Fuel and highway-problem bibliography. H. C. Dickinson. *Soc Auto Eng J* 9:441-2 D '21

Fuel feeding

- Chemically controlled automobile. G. G. Brown. *il diags J Ind & Eng Chem* 14:6-12 Ja '22; Abstract. *Mech Eng* 44:193-5 Mr '22
- Discussion of present methods of fuel vaporization. N. J. Thompson. *diags Automotive Ind* 46:515-17 Mr 2 '22
- Feeding the automobile engine. *il Sci Am* 129:338 N '23
- Hot-spot method of heavy-fuel preparation. F. C. Mock and M. E. Chandler. *diags Soc Auto Eng J* 11:27-32+ Jl '22; Same cond. *Automotive Ind* 46:1372-6 Je 22 '22; Discussion. *Soc Auto Eng J* 11:474-6+ D '22
- Kerosene-mixing chamber for automotive engines. *diag Pop Mech* 37:607 Ap '22
- New fuel feed system uses vacuum created by oil pump. *diags Automotive Ind* 47:764-5 O 19 '22
- New system of carburation. G. Keith and W. A. Whatmough. *diags Automobile Eng* 13:55-9, 203-4 F, Jl '23; Excerpts. *Mech Eng* 45:251-2 Ap '23; Discussion. R. W. A. Brewer. *Automobile Eng* 13:141-2 My '23
- Relation of carburetion to fuel economy. J. N. Golten. *Automotive Ind* 46:666-9, 714-17 Mr 23-30 '22
- System for complete fuel gasification. *il diags Automotive Ind* 46:569-10 Mr 2 '22; Discussion. 46:676-7 Mr 23 '22

See also Airplane engines—Fuel feeding; Automobile engines—Manifolds; Carbureters; Gas and oil engines—Ignition

Ignition

- Spark-advance in internal-combustion engines. G. B. Upton. *Soc Auto Eng J* 13:111-21+ Ag '23; Same cond. *Automotive Ind* 49:14-18, 76-82 Jl 5-12 '23; Discussion. *Soc Auto Eng J* 13:227-33 S '23

Ignition devices

- Automobile ignition. H. P. Manly. 439p Drake '22

- Automobile ignition; a review of systems. C. Baxter. *diags Engineering* 113:578-9 My 12 '22
- Battery ignition. A. M. Codd. *diags Automobile Eng* 13:42-4 F '23
- Duty of high-tension ignition apparatus. J. D. Morgan. *diags Automobile Eng* 12:413-15 D '22; Abstracts. *Engineering* 114:592 N 10 '22; *Automotive Ind* 48:272-4 F 8 '23
- Electrical ignition apparatus for internal combustion engines. E. O. Turner. *Engineering* 114:375-8 S 22 '22; Excerpt. *Power* 56:742 N 7 '22; Abstract. *Elec R (Lond)* 91:460-1 S 29 '22; Discussion. *Engineering* 114:358 S 22 '22; *Elec R (Lond)* 91:461-2 S 29 '22
- High tension ignition for Ford magneto. *diag Automotive Ind* 46:1319 Je 15 '22
- How to build battery ignition condensers commercially. R. E. Marbury. *diags Automotive Ind* 47:166-8 Jl 27 '22
- Influence of sales and service departments on ignition design. A. H. Packer. *Automotive Ind* 46:1325-7 Je 15 '22
- New constant potential generator furnishes ignition current. W. P. Loudon. *diags Automotive Ind* 48:562-5 Mr 8 '23
- What are the essentials of a good ignition system? C. H. Kindl. *diags Automotive Ind* 47:516-19 S 14 '22

See also Automobiles—Electric equipment; Gas and oil engines—Ignition; Magnetos

Lubrication

- Analysis of a point in crank lubrication. *diags Automotive Ind* 46:462-3 F 23 '22
- Audible low oil warning. *Sci Am* 127:46 Jl '22
- Automatic oil feed for auto. *diag Pop Mech* 40:808 N '23
- Boosts motor oil sales 323 per cent through gospel of lubrication. P. Truesdell. *Nat Pet N* 15:52-4+ Jl 25 '23
- Cause of carbon in gas engines. W. F. Osborne. *Power* 56:761-2 N 14 '22
- Crankcase lubricating oil; S.A.E. proposed specifications. *Soc Auto Eng J* 10:533; 11:213-15, 449-50 Je, Ag, N '22
- Crankcase lubricating oils; proposed S.A.E. standard. *Soc Auto Eng J* 11:540 D '22; Discussion. 12:223-4 F '23
- Crankcase oil dilution problem and its solution. W. F. Parish. *il diags Soc Auto Eng J* 11:35-45 Jl '22; Abstract. *Sci Am* 128:43 Ja '23; Discussion. *Soc Auto Eng J* 11:45-7 Jl '22
- Crankcase oil tests feature Illinois company's lubrication service. *Nat Pet N* 15:26+ Ja 3 '23
- Different oiling systems. F. R. Porter. *Automotive Ind* 47:627-8; Discussion. 628-9 S 28 '22
- Dilution of crankcase oil is serious factor even in summer. A. L. Clayden. *Automotive Ind* 49:415-17 Ag 30 '23
- Discussion of automobile oils. A. C. Carpenter. *Nat Pet N* 15:18 S 12 '23
- Effect of dilution upon viscosity and oiliness of lubricant. A. L. Clayden. *Automotive Ind* 47:1023-4 N '22
- Engineering and industrial standardization. *Mech Eng* 44:770-1 N '22
- Evils of crankcase oil dilution in internal combustion engines. W. F. Parish. *Nat Pet N* 15:45-6+ O 17 '23; Abstract. *Am Mach* 59:616 O 25 '23
- Factors affecting oil consumption in engines. *Automotive Ind* 47:263-4 Ag 10 '22
- Force feed system seldom justified for passenger car work. G. A. Round. *Automotive Ind* 47:628; Discussion. 628-9 S 28 '22
- Internal pressure oiling reduces fan noise and wear. *diag Automotive Ind* 48:1211 Je 7 '23
- Lubrication for racing engines. *Automotive Ind* 49:139, 337, 803 Jl 19, Ag 16, O 18 '23
- Oil consumption. A. A. Bull. *il diags Soc Auto Eng J* 10:513-22 Je '22; Discussion. 11:232-6, 491-4+ S, D '22; *Automotive Ind* 47:674-5 O 5 '22
- Oil consumption and pumping; abstracts of papers at S.A.E. meeting. *diags Automotive Ind* 46:1416-18 Je 29 '22
- Oil is not a substitute for repairs in worn automobile engine. A. B. Dawson. *Nat Pet N* 15:41-2+ My 2 '23

Automobile engines—Lubrication—Continued

Oil-pumping. G: A. Round. diags Soc Auto Eng J 10:509-12 Je '22; Abstract. Automotive Ind 46:1363 Je 22 '22; Discussion. Soc Auto Eng J 11:232-6 S '22

Performance of lubricants needs more research. H. Chase. Automotive Ind 47:19-20 Jl 6 '22; Discussion. A. L. Clayden. 47:180 Jl 27 '22

Well-designed pistons prevent oil pumping troubles. Automotive Ind 48:779-80, 1090-1 Ap 5, My 17 '23

When oil is good? W: F. Parish. Inst Pet Tech J 8:224-9 Ap '22

See also Automobiles—Lubrication; Gas and oil engines—Lubrication

Manifolds

Coat-finishing exhaust-manifolds. Soc Auto Eng J 12:21 Ja '23

Correct manufacturing a basis problem of vertical eight. P. M. Heldt. diags Automotive Ind 48:1328-30 Je 21 '23

Fundamental data for use in hot spot design. C. S. Kegerreis. Automotive Ind 47:363-5 Ag 24 '22

Manifold vaporization and exhaust-gas temperatures. O. C. Berry and C. S. Kegerreis. il Soc Auto Eng J 10:171-6 Mr '22; Discussion. 10:402-4 My '22

Uniflow manifold under development by the Brookins mfg. co., inc. il diag Automotive Ind 45:925 N 10 '21

Manufacture

British motor castings methods. B. Shaw and J. Edgar. diags plan Foundry 50:10-16, 57-62, 103-7, 149-52, 198-202, 236-9 Ja 1-Mr 15 '22

Burnishing automobile cylinders. il diags Mach 30:98 O '23

Cylinders for the Mack motor. F. H. Colvin. il diags Am Mach 56:173-4 F 2 '22

Economy and precision in connecting rod manufacture. J. E. Schipper. il Automotive Ind 47:117-19 Jl 20 '22

Eliminating skilled foundry labor; special machines and conveyors result in producing 500 Chevrolet 4-cylinder castings per day. F. L. Prentiss. il diag Iron Age 111:949-54 Ap 5 '23

Engine design aids rapid machining of combustion chamber. J. E. Schipper. il Automotive Ind 47:1019-20 N 23 '22

Expanding laps for automobile engine cylinders. H. Hicks. diags Am Mach 58:850 Je 7 '23

Ford engine cylinder production. P. E. Haglund and I. B. Scofield. il diag plan Soc Auto Eng J 11:463-71 D '22

Germans study light alloys in high speed engines. Automotive Ind 47:323 Ag 17 '22

Grinding and other practices in motor building. F. C. Hudson. Am Mach 57:913-14 D 14 '22

Heat treating motor castings. il diags plan Foundry 51:108-10 F 1 '23

Increasing the durability of truck parts by special production methods. D. D. Blanchard. il diags Automotive Ind 48:22-5 Ja 4 '23

Individual engine assembly method gets greater accuracy. J. E. Schipper. il Automotive Ind 48:773-4 Ap 5 '23

Laboratory control in automobile castings. H: M. Lane. Iron Age 112:212-14 Jl 26 '23

Machine operations on Ford cylinders and Fordson pistons. J: H. Van Deventer. il diags Ind Management 65:359-68 Je '23

Machining duralumin connecting-rods. F. H. Colvin. il Am Mach 58:321-3 Mr 1 '23

Machining the Bean motor cylinders; methods used in a well equipped English motor plant. I. W. Chubb. il diags Am Mach 55:827-30 N 24 '21

Main bearing bore used as locating surface in Hinkley crankcase. Automotive Ind 48:861-5 Ap 19 '23

Making a profit under light production load conditions. J. E. Schipper. il Automotive Ind 46:959-63 My 4 '22

Making Packard auto castings. P. Dwyer. il Foundry 50:131-5+, 180-4 F 15-Mr 1 '22

Making Wills Sainte Claire connecting-rods. F: R. Daniels. il diags Mach 29:196-200, 293-7 N-D '22

Mechanical aids speed production of motor castings in Cleveland foundry. P. Dwyer. il diag plans Iron Tr R 72:1225-31 Ap 26 '23; Same. Foundry 51:289-97 Ap 15 '23

Methods used in the assembling of 150 engines per day. J. E. Schipper. il Automotive Ind 46:818-21 Ap 13 '22

Milling shifter fork trunnions. A. H. Schwab. diags Mach 28:614 Ap '22

New foundry process secures uniform hardness in cylinder bore. diags Automotive Ind 47:422-3 Ag 31 '22

Operating Wilson foundry. D. R. Wilson. il plan Foundry 51:218-25, 269-74, 323-7 Mr 15-Ap 15 '23

Operations on the cylinders of the Wills Sainte Claire. F. H. Colvin. il diags Am Mach 56:216-18 F 9 '22

Quantity production of automobile cores. H: M. Lane. il Iron Age 111:745-51 Mr 15 '23

Quantity tonnage of automobile castings. H: M. Lane. il Iron Age 111:1562-4 My 31 '23

Reboring automobile cylinders. G: Wilson. il diags Mach 29:700-1 My '23

Regrinding, reboring or reaming cylinders. Am Mach 58:744, 881 My 17, Je 14 '23

Sand and molding for automobile castings; quantity production at plant of Wilson foundry & machine co., Pontiac, Mich. H: M. Lane. il Iron Age 111:1173-6 Ap 26 '23

Some unique features of automobile production. W: Dunk. Soc Auto Eng J 11:398-401 N '22; Same. Am Mach 57:843-6 N 30 '22; Excerpts. Automotive Ind 47:864-6 N 2 '22; Discussion. Soc Auto Eng J 12:25-6 Ja '23

Studies automotive castings. H. B. Swan. Foundry 51:414-18 My 15 '23; Same, without tables. Iron Tr R 72:1455-8 My 17 '23

Technical men direct foundry. H. E. Diller. il plan Foundry 50:775-82 O 1 '22

Ten steps in Marmox assembly. il Am Mach 57:338-9 Ag 31 '22

Using diamond tools in motor building. G. T. Linting. il Am Mach 57:437-9 S 21 '22

See also Automobile parts; Pistons

Mufflers

Mufflers; proposed S. A. E recommended practice. diag Soc Auto Eng J 9:391 D '21

Performance

More car-miles per gallon of fuel. O. C. Berry. Soc Auto Eng J 11:181-5 Ag '22; Same. Am Inst Chem Eng Trans v 13 pt 2:185-98 20-'21; Discussion. Soc Auto Eng J 11:185-7 Ag '22

Valve actions in relation to internal-combustion-engine design. C. S. Ricker and J. C. Moore. diags Soc Auto Eng J 11:284-9; Discussion. 289-91 S '22

Radiators

Alcohol radiator service provides jobber with good margin. R. B. Stafford. Nat Pet N 14: 21-2 D 20 '22

Are cores with indirect radiating surface as effective as all-direct types? S. R. Swenson. il Automotive Ind 48:679-81 Mr 22 '23

Casting automobile aluminum radiator shells. W. A. Mills, jr. Metal Ind 21:187 My '23

Cooling capacity of automobile radiators. E. H. Lockwood. Soc Auto Eng J 12:57-61 Ja '23; Abstracts. Automotive Ind 48:120-2 Ja 18 '23; Bus Transportation 2:149-50 Mr '23; Discussion. Soc Auto Eng J 13:30-6 Jl '23

Copper tube extrusion and the manufacture of radiator cores. H. Chase. il plan Automotive Ind 45:870-3 N 3 '21

Invading new markets to keep surplus equipment at work. il Ptr Ink 119:41-2 Je 29 '22

Making fin and tube type radiator cores. H. Chase. il diag Automotive Ind 47:929-31 N 9 '22

Manual of automotive radiator construction and repair. 185p F. L. Curfman mfg. co., Maryville, Mo. '21

New water-steam cooling system operates without pump. C. I. Preston. il diags Automotive Ind 49:581-2 S 20 '23

Automobile engines—Radiators—Continued

Radiator repairing. P. N. Richardson. 114p
American automobile digest, Cincinnati '22
Seam lock is feature of new radiator construction. B. M. Ikert, diags Automotive Ind 47:66-7 JI 13 '22
Sectional radiator has spiral flow of air. il Pop Mech 39:594 Ap '23

See also Anti-freeze solutions; Automobile engines—Fans; Motor truck engines—Radiators

Terminology

Radiator nomenclature; proposed revision of S. A. E. standard. Soc Auto Eng J 12:581 Je '23; Discussion. 13:84-5 JI '23
Revised nomenclature for radiator cores is proposed. H. Chase. Automotive Ind 48:610-11 Mr 15 '23
Suggested terminology for various types of radiator cores. H. Chase. Automotive Ind 47:971-2 N 16 '22; Excerpt. Soc Auto Eng J 12:127 Ja '23

Repair

Automobile repair shop practice. il Mach 28: 359-62 Ja '22

Specifications

American stock engine specifications for 1922; tabulation. Automotive Ind 46:386-7 F 16 '22
American stock engine specifications; tabulation. Automotive Ind 48:428-31 F 22 '23
Serrated shaft fittings; proposed S.A.E. recommended practice. diags Soc Auto Eng J 10:486-8, 523 Je '22; Same. Automotive Ind 46:1333 Je 15 '22

Starting devices

See Automobiles—Starting devices

Supercharging

Supercharging engines. G. H. T. Alston. Mech Eng 43:814-15 D '21; Abstract. Automobile Eng 11:337-41 O '21

Testing

Charging of two-stroke engines. W. Morgan. diags Automobile Eng 13:24-31 Ja '23
Deposits of carbon are influenced by temperature of surface. il Automotive Ind 48:524-5 Mr 1 '23
Investigation of certain aspects of the two-stroke engine for automobile vehicles. F. W. Lancheater and R. H. Pearsall. diags Automobile Eng 12:55-62 F '22
New method for determining engine friction losses. Automotive Ind 47:369 Ag 24 '22
On the testing of engines. H. R. Ricardo. il diags Automobile Eng 13:250-5 Ag '23; Same cond. Automotive Ind 49:527-31 S 13 '23
Puissance et rendement des moteurs légers alimentés par des carburants non détonants. F. Schwerts. Soc Ing Civils Bul 76:295-306 Ja '23
Works and laboratory of Messrs Ricardo & co. (engineers), ltd. il diags Automobile Eng 13:275-8 S '23

Valves

A-V-A automatic adjuster reduces valve clearance to minimum. diag Automotive Ind 49: 373 Ag 23 '23
British maker adopts new slide valve engine. M. W. Bourdon. il diags Automotive Ind 46:460-1 F 23 '22
Experiments on cams and poppet valves. G. E. Scholes. il diags Automobile Eng 12:151-7 My '22
Overhead valve gear on engines at the Olympia show. il diags Automobile Eng 11: 399-401 N 24 '21
Poppet valves with cast iron heads; preliminary report of S. A. E. committee. diag Soc Auto Eng J 12:406-7 Ap '23
Quieter valve operating mechanisms feature recent car designs. J. E. Schipper. Automotive Ind 47:181 JI 27 '22
Revised poppet valve standards submitted for approval. Automotive Ind 48:831 Ap 12 '23
Sleeve-valve engines. E. B. Wood. diags Automobile Eng 13:183-8 Je '23

Special alloys in exhaust valve construction. il Automotive Ind 45:1263 D 29 '21
Valve rotator for poppet valve engines. diag Automotive Ind 47:1273 D 28 '22

Automobile factories

André Citroën establishments. il plan Engineering 113:705-8, pl 37-8 Je 9 '22
Designing a modern automobile plant; Willys corporation works at Elizabeth, N.J. P. L. Battey. il diags plan Iron Age 109:652-6, 713-16 Mr 9-16 '22
Durant motor plant extension, Leaside, Ontario. il diags plans Can Eng 43:651-5 D 26 '22
Features of a French automobile plant. il Iron Age 112:672-3 S 13 '23
Ford principles and practice at River Rouge. J. H. Van Deventer. il plan (supp) Ind Management .64:131-7, 195-201, 321-8; 65:1-11, 67-76, 149-60, 205-13, 257-67, 359-68; 66: 85-95, 151-9 S-O, D '22-Je, Ag-S '23
French industrial building construction; Citroën's automobile factories. H. M. Lane. il Iron Age 112:967-9 O 11 '23
Glimpse into the works of the Studebaker corporation of America. il Ind Eng 81:328-30 JI '23
Lincoln motor car factory. il (supp) Engineer 135:140 F 9 '23
Modern automobile plant. P. L. Battey. il diag plan Management Eng 2:167-72 Mr '22
New plant of the Fisher body Ohio co. il diags plan Power Pl Eng 26:201-9 F 15 '22
Re-lighting the factory—an aid to better quality. T. H. White. il Factory 31:42-4 JI '23
Some engineering features of the Ford plant at River Rouge. L. B. Breedlove. il W Soc E J 28:472-84 O '23
Works of the Société anonyme Renault. il plans Engineering 113:639-43, 656, pl 29-32 My 26 '22
See also Automobile engines—Manufacture; Automobiles—Manufacture; also Ford motor company

Electric equipment

Automobile industry highly electrified. Elec W 82:582 S 22 '23

Employees

Features of the Reo apprentice system. il Am Mach 56:894-5 Je 15 '22
Wages and hours of labor in the automobile industry in 1922. Monthly Labor R 16:748-50 Ap '23

Equipment

Application of conveyor equipment to a small production plant. H. P. Harrison. il Soc Auto Eng J 13:357-65 N '23; Same cond. Automotive Ind 49:887-92 N 1 '23

Layout

Designing a modern automobile plant; Willys corporation works at Elizabeth, N.J. P. L. Battey. il diags plan Iron Age 109:652-6 Mr 9 '22

Management

Autocratic management in production does not give best results. N. G. Shidle. Automotive Ind 49:877-8 N 1 '23
Better use of available labor needed in automobile plants. N. G. Shidle. Automotive Ind 48:566-7 Mr 8 '23
Complexity of production problems increasing each year. W. L. Carver. Automotive Ind 49:872-6 N 1 '23
Factory cooperation with dealers make better service possible. D. D. Blanchard. Automotive Ind 48:1140-1 My 24 '23
Factory engineering staff and its relation to service. J. W. Lord. Soc Auto Eng J 13: 93-5; Discussion. 95-100 JI '23
Handling material in automotive plant. M. R. Dennison. il Iron Age 110:1269-73 N 16 '22
Needless numbers are a nuisance. D. Davis. Automotive Ind 47:213-16 Ag 3 '22
Plant production organized around a material-handling plan; plant no. 2 of the Studebaker corporation. il Elec R 80:59-62 F '22

Automobile factories—Management—Continued
Works organization. T. E. Pattinson. il
Automobile Eng 12:84-6 Mr '22
Works practice of the Austin motor com-
pany, ltd. il Automobile Eng 12:44-50 F
'22

Safety devices and measures

What safety means at Buick. C. T. Fish. il
Nat Safety N 8:9-12 S '23

Automobile fenders. See Automobiles—Fenders

Automobile fuel. See Automobile engines—Fuel

Automobile horns

Briggs & Stratton motor operated horn. diag
Automotive Ind 46:501 Mr 2 '22
Double diaphragm vibrator horn. diag Auto-
motive Ind 46:817 Ap 13 '22

Advertising

Klaxon's bargain drive to offset the slump.
R. W. Johnson. Ptr Ink 119:109-10+ Je 15
'22

Automobile industry and trade

Agricultural sections are best market for low
priced vehicles. J. Dalton. Automotive Ind
49:745-6 O 11 '23

American automotive products competing
successfully in world markets. Automotive
Ind 46:1069-70 My 18 '22

Automobile commodities in 1923. J. C. Howell.
Bus Transportation 2:83 F '23

Automobile—giant of industry. B. Hender-
son. il Am Ind 22:27-30 Ja '22

Automobile industry and its future. L. P.
Ayres. 32p Cleveland trust co., Cleveland
'21

Automobile selling sense. C. Knoble. 225p
Prentice-Hall '23

Automotive industry can avoid ills of sec-
ondary inflation. H. Tipper. Automotive Ind
47:631-3 S 28 '22

Automotive manufacturers hold same views
on big problems. Automotive Ind 47:206-8
Ag 3 '22

Bodies have become most important factor
in making sales. R. C. Getsinger. Auto-
motive Ind 49:4-7 Jl 5 '23

Building better dealers important job for fac-
tory sales managers. Automotive Ind 48:
321-3 F 15 '23

Car and tire manufacturers have profited by
giving public square deal. Automotive Ind
49:172-3 Jl 26 '23

Car manufacturers and body builders can co-
operate more closely. Automotive Ind 49:
418-20 Ag 30 '23

Careful purchasing anticipates changing trade
conditions. N. G. Shidle. Automotive Ind 48:
751-3 Ap 5 '23

Charting the future market of the automobile
industry. C. A. Musselman. Ptr Ink 120:
130+ S 21 '22

Common-sense methods mean automotive
prosperity. R. H. Grant. Automotive Ind
46:286-9 F 9 '22

Cut selling costs by closer study of methods.
H. Tipper. Automotive Ind 47:990-1 N 16
'22

Dealer complains of his factory relations.
Automotive Ind 47:830-1 O 26 '22

Dealer education major merchandising prob-
lem before manufacturers. J. Dalton. Auto-
motive Ind 47:983-5 N 16 '22

Dealer mortality in automotive field not ex-
ceptionally large. H. Tipper. Automotive
Ind 46:928-9 Ap 27 '22

Definite working outline needed for market
research. Automotive Ind 48:1338-9 Je 21
'23

Distributing channels important marketing
factors. H. Tipper. Automotive Ind 45:1282-
3 D 29 '21

Distributors or factory branches? H. Tipper.
Automotive Ind 46:140-1, 190-1 Ja 19-26 '22

Economic problem of marketing. H. Tipper.
Automotive Ind 45:882-3 N 3 '21

Exports of foreign nations show scope of
world automotive trade. Automotive Ind
46:412-17 F 16 '22

Factories to play larger part in dealer educa-
tion. N. G. Shidle. Automotive Ind 47:1266-8
D 28 '22

Franklin automobile company establishes a
definite basis of comparison in competitive
selling. Ptr Ink 123:121-3 Je 7 '23

Functions of the dealer in car distribution.
H. Tipper. Automotive Ind 46:240-1 F 2
'22

Future—what does it hold? J. Dalton. Auto-
motive Ind 48:1009-11 My 10 '23

Getting better district managers. N. G. Shidle.
Automotive Ind 47:1016-18, 1077-8 N 23-30 '22

Growing demand for more flexible production
equipment. H. Tipper. Automotive Ind 47:
1090-1 N 30 '22

Has automobile production reached peak? C.
E. Wright. Iron Age 110:1411-12 N 30 '22

How car makers can assist dealers in handling
time sales. Automotive Ind 47:654-5 O 5 '22

Improving the dealer contract. H. Tipper.
Automotive Ind 46:478-9 F 23 '22

Jobbers' practices disturb producers. Auto-
motive Ind 49:653+ S 27 '23

Keen competition forces jobbers to restrict
lines. N. G. Adair. Automotive Ind 47:932-3
N 9 '22

Keen sales competition in middle priced car
field. N. G. Shidle; R. B. Prescott. charts
Automotive Ind 46:647-50 Mr 23 '22

Making salesmen out of automotive factory
workers. Automotive Ind 46:1018-19 My 11
'22

Market never will be lacking for assembled
vehicles. J. Dalton. Automotive Ind 47:1209-
11 D 21 '22

Market research activity increasing in pas-
senger car field. N. G. Shidle. Automotive
Ind 46:1203-5 Je 8 '22

Marketing costs. H. Tipper. Automotive Ind
45:982-3, 1182-3 N 17, D 15 '21

Marketing problems of the automotive indus-
try. H. Tipper. Automotive Ind 45:801-3 O
27 '21

Method of analyzing territorial markets. H.
Tipper. Automotive Ind 46:828-9 Ap 13 '22

Methods more important than figures in mar-
keting plans. H. Tipper. Automotive Ind
46:778-9 Ap 6 '22

More automobile dealers are needed. H. Tip-
per. Automotive Ind 46:1028-9 My 11 '22

More definite planning needed in market
study. N. G. Shidle. Automotive Ind 46:697-
8 Mr 30 '22

Motor car development just begun. W. C.
Durant. Automotive Ind 47:651-3 O 5 '22

New kind of competition; cutting the selling
cost. F. L. Klingensmith. Ptr Ink 117:57-8+
D 29 '21

New merchandising era dawns with New
York show. J. Dalton. Automotive Ind 48:
51-3 Ja 11 '23

One way to cut down factory sales costs. H.
Tipper. Automotive Ind 48:1344-5 Je 21 '23

Opportunity for small producer's success has
not waned. J. Dalton. Automotive Ind 49:
155-7 Jl 26 '23

Paige develops practical sales analysis plan.
Automotive Ind 48:331 F 15 '23

Precedent of small use in predicting future
of automotive industry. H. Tipper. Auto-
motive Ind 48:1190-1 My 31 '23

Production man's place in our industry. A. B.
C. Hardy. Soc Auto Eng J 11:561-3 D '22

Production program or quotas—which comes
first? N. G. Shidle. Automotive Ind 46:47-9
Ap 6 '22

Sales managers of future must be real econo-
mists. J. Dalton. Automotive Ind 48:1263-
5 Je 14 '23

Sales methods must be improved to meet
competition. J. Dalton. Automotive Ind 47:
801-3 O 26 '22

Sales promotion movement of the A. E. A.
N. G. Adair. Automotive Ind 45:1180-1 D 15
'21

Selling sales ideas to salesmen. V. E.
Burnett. Ptr Ink M 7:80+ O '23

Study of car markets demands careful analy-
sis. H. Tipper. Automotive Ind 46:678-9 Mr
23 '22

Success in future will depend upon sales-
manship. J. Dalton. Automotive Ind 48:
159-61 Ja 25 '23

Time sales of automobiles have reached enor-
mous proportions. Automotive Ind 49:160-
2 Jl 26 '23

Automobile industry and trade—Continued

- Use of steel by the automobile industry. A. H. Chamberlain. Iron Age 111:1705-7 Je 14 '23; Excerpts. Iron Tr R 72:1656 Je 7 '23
 Using the jobber to increase parts sales. T. E. Challenger. Automotive Ind 47:556-7 S 21 '22
 What the A.E.A. means to the car and truck manufacturers. C. Jennings. Automotive Ind 46:1431-3 Je 29 '22
 When dealers are making money factories profit. R. W. Sherman. Automotive Ind 48:1313-15 Je 21 '23

See also Automobile accessories industry—Advertising; Automobile factories; Automobile renting; Automobile service stations; Automobiles—Prices; Electric vehicles; Garages; Motor truck industry and trade; Tractor industry and trade; also Ford motor company; Franklin automobile company; General motors corporation; Studebaker corporation

Advertising

- Automobile dealers sponsor a safety-first campaign. Ptr Ink 117:101-2 D 29 '21
 Buick in big advertising effort with lower prices. G. A. Nichols. Ptr Ink 120:17-19 Ag 3 '22
 Cadillac combines dignity with punch in advertising. G. A. Nichols. Ptr Ink 125:33-4+ O 4 '23
 Chevrolet plan lends flavor of realism to dealers' windows. il Ptr Ink M 5:94+ D '22
 Chevrolet's campaign to control distribution and maintain volume. G. A. Nichols. Ptr Ink 122:17-20+ Ja 11 '23
 Choosing the methods of advertising a high-priced product. A. J. Rogers. Ptr Ink 118:96+ F 23 '22
 Dealers object to exclusive factory advertising control. Automotive Ind 47:1138-9; 48:286-7 D 7 '22, F 8 '23
 Giving an advertising identity to automobile bodies. C. M. Harrison. Ptr Ink 120:53-4+ S 21 '22
 How automotive advertising value can be increased. H. Tipper. Automotive Ind 48:632-3 Mr 15 '23
 How Buick brought in 1,000,000 people to inspect new models; simplicity in advertising best. G. A. Nichols. Ptr Ink 124:17-20 S 6 '23
 How they said it in 1905. S. C. Lambert. Ptr Ink 122:85-6+ F 1 '23
 Intelligent appeal is essential in car advertising. L. P. Wight. Automotive Ind 47:1214-15 D 21 '22
 Jungle contest helps local dealer advertise used cars. Ptr Ink 123:115-16 My 17 '23
 M.A.M.A. advertising managers stress value of specialized parts. Automotive Ind 48:266-70 F 8 '23
 Making good with a new business in an off-year. W. C. Durant. Ptr Ink 117:3-4+ D 1 '21
 Motor transportation acknowledges debt to advertising. G. M. Graham. Ptr Ink 123:163-4 Je 7 '23
 Organization replaces sensation in making car announcements. N. G. Shidle. Automotive Ind 49:255-6 Ag 9 '23
 Publicity must have real news value to be successful. J. Dalton. Automotive Ind 49:470-2 S 6 '23
 Rolls-Royce advertises to help competing dealers. R. L. Burdick. Ptr Ink 119:25-7 Ap 13 '22
 Sell the dealer is best way to reduce advertising costs; advertising managers council of the M.A.M.A. discuss cost problems. Automotive Ind 47:558-9 S 21 '22
 \$7,000,000 to be spent in year's advertising for Ford automobile. G. A. Nichols. Ptr Ink 124:17-20 Ag 23 '23
 Successful advertising must have active backing by dealers; N.A.C.C. advertising managers stress importance of dealer in automotive selling scheme. Automotive Ind 46:1382-4 Je 22 '22
 Turn the spotlight on your mass selling methods. H. Tipper. Automotive Ind 47:82-3 JI 13 '22

Twenty merchandising helps given to dealers in introducing new models. Automotive Ind 49:20-1 JI 5 '23

Directories

California automobile map and purchasing directory. California map purchasing co., San Francisco '22

Finance

- Automobile finance companies needed to help dealers. H. Tipper. Automotive Ind 47:182-3 JI 27 '22
 Credit requirements have outgrown facilities for financing car sales. H. Tipper. Automotive Ind 46:1128-9 My 25 '22
 Integration and mergers in the automotive industry. C. A. Dana. Automotive Ind 47:554-5 S 21 '22
 Investment bankers report on industry. Automotive Ind 49:923 N 1 '23
 Receivable companies. A. E. Duncan. Comm & Fin Chr 117:151-5 sec 2 O 13 '23
 Why is an automobile finance company? Automotive Ind 47:919-21 N 9 '22

Service

- Automotive-service cooperation between manufacturer and dealer. J. F. Page. Soc Auto Eng J 12:205-6 F '23
 Better service can be obtained by making maintenance pay. D. D. Blanchard. Automotive Ind 48:1187-8 My 31 '23
 Car market depends on local service. H. Tipper. Automotive Ind 46:528-9 Mr 2 '22
 Car owner is boss of automobile industry. N. A. Hawkins. Automotive Ind 45:1021-5 N 24 '21
 Car-owner versus the service-man. J. F. Page. Soc Auto Eng J 11:139-41; Discussion. 141-2+ Ag '22
 Cooperation in the solution of service problems. B. B. Bachman. Soc Auto Eng J 13:384-6 N '23
 Designers and service men agree on need for cooperation. Automotive Ind 48:313-16 F 15 '23
 Development of a modern service-system. D. T. Hastings. chart Soc Auto Eng J 12:193-204 F '23; Discussion. 12:539-44 Je 25 '23
 Factory engineering-staff and its relation to service. J. W. Lord. Soc Auto Eng J 13:95-5; Discussion. 95-100 JI '23
 Flat rate system will have marked effect on future car design. J. E. Schipper. Automotive Ind 48:873-4 Ap 19 '23
 Great value of service is emphasized at Chicago S.A.E. meeting. B. M. Ikert. Automotive Ind 48:262-3 F 8 '23
 Meaning of service to the automotive industry. C. Jennings. Automotive Ind 45:851-3 N 3 '21
 More manufacturers adopt flat rate system of service. Automotive Ind 46:1104-5 My 25 '22
 Packard links up service reports with engineering work. J. E. Schipper. Automotive Ind 48:1225-6 JI 7 '23
 Poor service is largely responsible for used car problem. L. Ruthenburg. Automotive Ind 48:51-6 Mr 8 '23
 Service and its relation to the industry. O. C. Funderburk. il diags Soc Auto Eng J 12:265-72 Mr '23; Discussion. 12:535-8 Je '23
 Service and sales are bound together inseparably. J. Dalton. Automotive Ind 48:1-3 Ja 4 '23
 Service as it isn't. H. Campbell. Am Mach 56:302-3 F 23 '22
 Service expense is a part of selling cost. H. Tipper. Automotive Ind 46:1440-1 Je 29 '22
 Service from the engineer's viewpoint. B. B. Bachman. Soc Auto Eng J 13:60-2 JI '23
 See also Automobile schools; Automobile service stations; Automobiles—Electric equipment service; Tractor industry and trade.—Service

Statistics

Automobiles on farms almost equal telephones in number. Automotive Ind 47:276-7 Ag 10 '22

Automobile industry and trade—Statistics**—Continued**

- 14,743,468 motor vehicles registered throughout the world. *Automotive Ind* 48:365-71 F 22 '23
- Revised world registration figures show increased total. D. Beecroft. *Automotive Ind* 47:104-6 J1 20 '22
- Statistics for use in making sales plans. N. G. Shidle. *Automotive Ind* 45:951-5 N 17 '21
- Study of 1922 statistical story shows few trend shifts. *Automotive Ind* 48:359-64 F 22 '23
- 12,588,949 motor vehicles in use throughout the world. D. Beecroft. map. *Automotive Ind* 46:309-19 F 16 '22
- Use of statistics entails knowledge of their source. H. Tipper. *Automotive Ind* 47:732-3 O 12 '22

Used cars

- Dealer representatives discuss used car selling plans. N. G. Adair. *Automotive Ind* 47:564-6 S 21 '22
- How Westcott is offering dealers added selling protection. B. F. Berfield. *Ptr Ink* 124:93-4+ S 6 '23
- Jingle contest helps local dealer advertise used cars. *Ptr Ink* 123:115-16 My 17 '23
- Manufacturer and dealer prosperity hit by used car trading. M. W. Franklin. *Automotive Ind* 48:716-18 Mr 29 '23
- Manufacturers can help solve the used car problem. N. G. Shidle. *Automotive Ind* 46:159-61 Ja 26 '22
- Manufacturers must help dealers solve used car problem. N. G. Adair. *Automotive Ind* 48:136-8 Ja 18 '23
- Market analysis essential to used car sales. H. Tipper. *Automotive Ind* 46:547-8+ Mr 9 '22
- Pepping used cars for quick sale to unwary buyers. *il Pop Mech* 40:817-19 D '23
- Plan for used cars to be nationalized. *Automotive Ind* 49:763+ O 11 '23
- Poor service is largely responsible for used car problem. L. Ruthenburg. *Automotive Ind* 48:554-6 Mr 8 '23
- Rapid growth of replacement sales altering market plans. H. Tipper. *Automotive Ind* 48:986-7 My 3 '23
- Single market for new and used cars. H. Tipper. *Automotive Ind* 48:213-14 F 1 '23
- Trading discounts make used car problem acute. *Automotive Ind* 48:222-3 F 1 '23
- Trying to solve the problem of the trade-in. H. Burwen. *Ptr Ink* 123:99-100+ My 3 '23
- Used car is automobile industry's most serious problem. A. Macauley. *Automotive Ind* 47:1189 D 14 '22
- What the industry thinks about used car plans. *Automotive Ind* 46:824-5 Ap 13 '22

Alaska

- 10 miles of new road sell 90 cars in Alaska. *Automotive Ind* 47:226-7 Ag 3 '22

Argentina

- American automobile holds dominant place in Argentine Republic. *Automotive Ind* 46:1024-5 My 11 '22
- American car in the Argentine market. *Sci Am* 125A:91 D '21
- Argentina offers biggest market in southern continent. G. S. Brady. *Automotive Ind* 47:1236-9 D 21 '22
- Argentine automotive market. M. T. Meadows. *Automotive Ind* 45:877 N 3 '21
- Argentine market for motor vehicles. G. S. Brady. U S Bur For & Dom Com Trade Information Bul 84:1-17 '23
- Automotive market in Argentina. *Automotive Ind* 46:574-5 Mr 9 '22
- Better cattle market makes big sales probable in Argentina. *Automotive Ind* 48:981-2 My 3 '23
- Buenos Aires can buy more low priced cars. G. E. Quisenberry. *Automotive Ind* 47:75-6 J1 13 '22
- Buenos Aires show a stimulation to sales. *Automotive Ind* 45:1271 D 29 '21
- Local assembly plants will help secure Argentine market. M. T. Meadows. *Automotive Ind* 47:176-7 J1 27 '22

Belgium

- American automobiles in Belgium. *Automotive Ind* 46:958 My 4 '22
- American strength in Belgian market indicated at Brussels show. W. F. Bradley. *il Automotive Ind* 48:233-41 F 1 '23
- Constructive sales methods develop Belgian automotive market. L. H. Schultz. *Automotive Ind* 49:592-3 S 20 '23
- Trend toward light car in Belgium aid to American manufacturers. *il Automotive Ind* 46:1174 Je 1 '22

Brazil

- Automobile in Brazil. F. P. Santos. *Automotive Ind* 46:675-6 Mr 23 '22
- Distribution policy for the Brazilian market. *Automotive Ind* 45:1080-1 D 1 '21

British Malaya

- Automotive markets in China, British Malaya, and Chosen. W. I. Irvine. *il U S Bur For & Dom Com* 221:1-105 '23

California

- Analysis of car sales in California. *Automotive Ind* 48:966-7 My 3 '23

Canada

- Canadian exports—passenger cars, 1921 and 1922; tabulation. *Automotive Ind* 48:481 F 22 '23
- Canadian exports; tabulation. *Automotive Ind* 46:416 F 16 '22

China

- Automotive markets in China, British Malaya, and Chosen. W. I. Irvine. *il U S Bur For & Dom Com* 221:1-105 '23
- Changes in design make foreign service difficult; service and sales conditions in China. H. A. Trussell. *Automotive Ind* 47:30-1 J1 6 '22

Cuba

- Cuban automotive sales will expand with highway development. G. E. Quisenberry. *Automotive Ind* 48:1222-4 Je 7 '23
- Cuban motor vehicle sales now on upgrade. *Automotive Ind* 47:1184-5 D 14 '22
- Higher sugar prices open up Cuba automotive market. G. E. Quisenberry. *Automotive Ind* 48:1167-9 My 31 '23

Czechoslovakia

- Czech automotive industry. H. Obermeyer and A. L. Greene. *il Am Mach* 59:59-62 J1 12 '23
- Special tariff in effect for Czechoslovakian automobile factories. *Automotive Ind* 46:1015 My 11 '22

Denmark

- Low-priced American cars can be sold to Denmark. E. C. Petrie. *Automotive Ind* 47:280-1 Ag 10 '22

Dutch East Indies

- Analysis of Netherlands East Indies as an automotive market. J. A. Fowler. map. *Automotive Ind* 46:970-4 My 4 '22

Europe

- European conditions more favorable for motor vehicle sales. *Automotive Ind* 47:1233 D 21 '22

France

- La répartition des automobiles en France, en 1920. maps Génie Civil 79:544-5 D 17 '21

Germany

- Conservation, the keynote of German motor industries. H. Obermeyer and A. L. Greene. *il Am Mach* 58:581-3 Ap 19 '23
- German automobile exports for 1920. *Automotive Ind* 45:1081 D 1 '21
- Rising prices and low exchange hurt German car makers. B. R. Dierfeld. *Automotive Ind* 46:947-8 My 4 '22

Great Britain

- British exports—motor vehicle chassis; tabulation. *Automotive Ind* 48:482 F 22 '23

Automobile industry and trade—Great Britain—Continued

British exports; tabulation. *Automotive Ind* 46:413-14 F 16 '22
 British parts exports; tabulation. *Automotive Ind* 46:412 F 16 '22
 Mass production in British motor industries; Austin motor company. H. Obermeyer and A. L. Greene. *il Am Mach* 57:524-6 O 5 '22
 Need for a wider outlook in automobile engineering. D. J. Smith. *Engineering* 114:495-6 O 20 '22

Illinois

Analysis of car sales in Illinois shows state lagging. *Automotive Ind* 49:74-5 J1 12 '23

Japan

- Chauffeur bribing hinders car sales in Japan. W. I. Irvine. *Automotive Ind* 47:377-8 Ag 24 '22
- Japan as an automotive market. W. I. Irvine. *il U S Bur For & Dom Com* 217:1-64 '22
- Japanese will buy few cars and trucks in 1922. W. I. Irvine. *Automotive Ind* 46:1020-1 My 11 '22

Kenya

Good prospects for motor transport development in Kenya. *Automotive Ind* 48:1113 My 24 '23

Korea

Korea will buy from 200 to 400 cars each year. W. R. Irvine. *Automotive Ind* 47:528-9 S 14 '22

Latin America

Cable reports show improved automotive business in Spanish speaking countries. *Automotive Ind* 47:259 Ag 10 '22
 Growth of specialized companies helps Latin-American sales. R. J. Archer. *Automotive Ind* 48:923-4 Ap 26 '23

See also Automobile industry—South America

Mexico

Tariff and taxes fail to check sale of motor vehicle in Mexico. *Automotive Ind* 47:1036-7 N 23 '22

Minneapolis

Buying power. 28p *Minneapolis Journal*. Minneapolis '23

Netherlands

Automotive trade in the Netherlands shows improvement. *Automotive Ind* 48:671 Mr 22 '23
 Liberal credit policy will develop automotive market in Holland. E. C. Petrie. *Automotive Ind* 47:1287-8 D 28 '22

New York

Analysis of car sales in New York. *Automotive Ind* 48:866-7 Ap 19 '23

Ohio

Analysis of car sales in Ohio shows changing trends. *Automotive Ind* 48:1220-1 Je 7 '23

Pacific coast

Progressive dealers make Pacific coast growing future market. G. Lee. *Automotive Ind* 47:477-8 S 7 '22
 What the Pacific coast dealers are thinking about. G. Lee. *Automotive Ind* 47:576-7 S 21 '22

Peru

Peru in need of motor transportation—American car makers can supply it. *Automotive Ind* 47:128 J1 20 '22
 Peruvian business situation. *Automotive Ind* 45:983 N 17 '21
 Trade balance shows prosperity in Peru. *Automotive Ind* 49:866 O 25 '23

Philippine Islands

Philippine business revival will expand motor vehicle market. *Automotive Ind* 48:282 F 8 '23
 Philippines as a market for automotive products. R. C. Bennett. *Automotive Ind* 46:822-3 Ap 13 '22

Portugal

Portugal on eve of motor vehicle transport expansion. E. C. Petrie. *Automotive Ind* 48:832-3 Ap 12 '23
 Portuguese rural centers offer sales outlet. *Automotive Ind* 49:261 Ag 9 '23

Rhodesia

American cars dominate Rhodesian market. *Automotive Ind* 47:262 Ag 10 '22

Scandinavia

Scandinavian nations now good market for American cars. B. Jacobsson. *map Automotive Ind* 47:1134-6 D 7 '22
 Used car becomes real sales problem in Scandinavia. H. G. Zimmerman. *Automotive Ind* 49:532-3 S 13 '23

Siam

Siam has again begun to buy automobiles. *Automotive Ind* 47:1089 N 30 '22

South Africa

Automotive business to have banner year in South Africa. *Automotive Ind* 48:908 Ap 26 '23
 Potential car sales in South Africa estimated at 60,000. P. J. Stevenson. *Automotive Ind* 46:1386-7 Je 22 '22
 South African market will absorb 5000 cars in 1923. *Automotive Ind* 49:19 J1 5 '23

South America

South American market ripe for sales expansion. J. D. Mooney. *Automotive Ind* 47:601-2 S 28 '22
 See also Automobile industry and trade—Latin America

Southern states

Conditions favorable for selling in the South. J. Dalton. *Automotive Ind* 47:351-3 Ag 24 '22
 Good fall business in South seems certain. R. H. Bethea. *Automotive Ind* 49:459-61 S 6 '23
 Highway developments improving southern motor market. J. Dalton. *Automotive Ind* 47:678-9 O 5 '22
 Southern dealers want greater cooperation from factories. J. Dalton. *Automotive Ind* 47:454-6 S 7 '22

Spain

Automobile importers' association organized in Spain. L. H. Schultz. *Automotive Ind* 49:266-7 Ag 9 '23
 Modern methods gaining recognition among Spanish car salesmen. L. H. Schultz. *Automotive Ind* 49:331-2 Ag 16 '23
 Motor vehicle entering utility stage in Spanish market. *Automotive Ind* 48:233 F 1 '23
 Wider sale of American accessories possible in Spanish market. L. H. Schultz. *Automotive Ind* 49:385-6 Ag 23 '23

Sweden

Demand for motor vehicles reviving in Sweden. E. C. Petrie. *Automotive Ind* 47:328-9 Ag 17 '22

Switzerland

Switzerland demands cheap and light motor vehicles. *Automotive Ind* 46:1124-5 My 25 '22

United States

Activity of the automobile industry in 1922. *Comm & Fin Chr* 116:13 Ja 6 '23
 All signs point to better business in corn belt states. D. Beecroft. *Nat Pet N* 14:61-2 Ja 11 '22
 American exports of cars, trucks, tires, motorcycles and tractors for December. *Automotive Ind* 48:630-1 Mr 15 '23
 American farmer will be bigger purchaser in 1923. F. M. Loomis. *Automotive Ind* 47:1281-3 D 28 '22
 American makers sure of bigger export sales in 1923. G. E. Quisenberry. *Automotive Ind* 48:162-4 Ja 25 '23

Automobile industry and trade—United States—

—*Continued*
 Automobile outlook for 1922. A. Reeves. Am Mach 56:124 Ja 26 '22
 Automobile production at high levels. Comm & Fin Chr 117:1399 S 29 '23
 Automobile registration of 1921 reflected in tank wagon prices. Nat Pet N 14:19 Ja 25 '22
 Automotive production statistics show industrial stability. R. B. Prescott. Automotive Ind 46:325-9 F 16 '22
 Builders of closed bodies assured of big business in 1923. Automotive Ind 47:1084-5 N 30 '22
 Business revival evidenced by specific reports. Automotive Ind 46:873-5 Ap 20 '22
 Distributors should be reconciled to territorial changes. N. G. Shidle. Automotive Ind 49:421-3 Ag 30 '23
 Economics rather than weather govern automobile sales. J. Dalton. Automotive Ind 48:1209-11 Je 7 '23
 Export figures show sound basis for future business. G. E. Quisenberry. Automotive Ind 46:399-402 F 16 '22
 Exports may take up sales slack if home demand declines. J. Dalton. Automotive Ind 48:905-8 Ap 26 '23
 Exports of automotive parts, 1907-1921; tabulation. Automotive Ind 46:403 F 16 '22
 Final registration figure for U.S. 12,364,377 cars and trucks. Automotive Ind 48:372-6 F 22 '23
 First M.A.M.A. export session portends greater foreign business. Automotive Ind 47:562-3 S 21 '22
 First omens, warning of inflation, appear on horizon. J. Dalton. Automotive Ind 48:551-3 Mr 8 '23
 Five million motor vehicles sold in last twelve months. J. Dalton. Automotive Ind 48:805-8 Ap 12 '23
 46 companies made 1,000 or more cars in first half of 1923. J. Dalton. Automotive Ind 49:821-3 O 25 '23
 Freight blockade will delay industrial recovery. J. Dalton. Automotive Ind 47:101-3 Jl 20 '22
 Good business for rest of year seems assured. J. C. Dalton. Automotive Ind 46:797-800 Ap 13 '22
 Hoover tells automotive exporters world markets are theirs. Automotive Ind 48:1316-18 Je 21 '23
 Industry assured of 2,000,000 production each year. J. Dalton. Automotive Ind 49:409-11 Ag 30 '23
 Its position strong, industry can proceed confidently. J. Dalton. Automotive Ind 49:513-15 S 13 '23
 Manufactures in export trade. J. W. Drake. Automotive Ind 48:1070 My 17 '23
 New commodity divisions will give industry many advantages. Automotive Ind 45:878-9 N 3 '21
 1922 cornbelt sales limited, but better business is ahead. D. Beecroft. Automotive Ind 45:1276-8 D 29 '21
 1922 export sales record exceeded only by 1920. Automotive Ind 48:468-70 F 22 '23
 \$90,000,000 business in high priced cars during 1922. N. G. Shidle. Automotive Ind 47:51-3+ Jl 13 '22
 94% of sales will be of cars selling under \$2,000. N. G. Shidle. Automotive Ind 45:1201-4 D 22 '21
 1,000,000 motor vehicles built in four months. J. Dalton. Automotive Ind 47:504-6 S 14 '22
 Passenger car exports from 1907 to 1921; tabulation. Automotive Ind 46:404-5 F 16 '22
 Passenger car exports from 1914 to 1922; tabulation. Automotive Ind 48:472-3 F 22 '23
 Percentage of Ford gain slips behind other leaders. J. Dalton and H. Tipper. chart Automotive Ind 48:651-3 Mr 22 '23
 Position of the American automobile industry. A. L. Clayden. Automobile Eng 12:11-12 Ja '22
 Proportion of Fords varies greatly in different states. Automotive Ind 49:480-3 S 6 '23

Registrations grow more rapidly than population. N. G. Shidle. Automotive Ind 47:959-61 N 16 '22
 Revised figures show U.S. car and truck registration of 10,505,660. Automotive Ind 46:320-4 F 16 '22
 Road capacity is chief limiting factor in future sales. J. Dalton. Automotive Ind 48:501-3 Mr 1 '23
 Substantial business is probable for rest of year. J. Dalton. Automotive Ind 49:59-61 Jl 12 '23
 10,449,785 cars and trucks were registered in 1921. Automotive Ind 46:69-72 Ja 12 '22
 10,608,127 cars and trucks registered on July 1, 1922. Automotive Ind 47:151-4 Jl 27 '22
 13,048,128 was registration total on July 1, 1923. Automotive Ind 49:55-8 Jl 12 '23
 12,357,376 cars and trucks registered in United States. Automotive Ind 48:83-6 Ja 11 '23
 252,000 record production in May; what next? J. Dalton. Automotive Ind 46:1309-10 Je 15 '22
 \$2000-\$3000 car production probably less in 1922. N. G. Shidle. Automotive Ind 46:997-1000 My 11 '22
 What is ahead for the automobile industry? W. P. Chrysler. Annalist 22:533+ O 22 '23
 Where does your best market lie, and why? A. W. Douglas. Ptr Ink 117:17-19 D 8 '21
See also Motor truck industry and trade—United States; United States—Foreign and domestic commerce, Bureau of—Automotive division

Venezuela

Venezuelan market for motor vehicles. H. C. Plummer. il Automotive Ind 46:281-4 F 9 '22

Automobile insurance. *See* Insurance, Automobile

Automobile laws and regulations

Automobile head-lamp regulation. J. J. Shanley. Soc Auto Eng J 13:249 S '23
 Baltimore plan of parking regulation. J. E. Cullen. il Elec Ry J 59:783-6 My 13 '22
 Jailing cars instead of owners. S. H. Silbert. Nat Safety N 8:39 S '23
 Law applied to motor vehicles. C. J. Bab-bitt, 3d ed. by A. W. Blakemore. 1654p J. Byrne & co., Washington '23
 Law for the motorist at railroad crossings; rights and duties of automobilists and others, as defined in recent state and federal court decisions. Ry Age 75:761-5 O 27 '23
 Law of automobiles. X. P. Huddy. 6th ed., by A. F. Curtis. 1348p M. Bender & co., Albany, N.Y. '22
 Motor vehicle act and the Highway travel act. C. H. Widdifield. 200p Carswell co., Toronto '20
 Motor vehicle headlighting in Massachusetts. A. W. Devine. Illum Eng Soc 16:507-18; Discussion. 518-32 no 8 '21
 Motor vehicle transportation. H. C. Spurr. 696p Public utilities reports, inc., Rochester, N.Y. '22
 Standards for license plate lighting formulated by joint committee. P. M. Heldt. Automotive Ind 48:26-7 Ja 4 '23
 State laws and public safety. R. B. Stoeckel. Nat Safety N 8:14 Ag '23
 State laws governing motor vehicle lighting need uniformity. Automotive Ind 47:265-9 Ag 10 '22
 State regulation of motor car headlamps. Am Inst E E J 41:223-5 Mr '22
 State regulation of state motor vehicle common carriers. H. Meixell. Automotive Ind 46:722-6 Mr 30 '22
 What the judge can do to make our streets safer. L. C. Fish. Nat Safety N 8:19+ Jl '23
See also Automobile parking; Grade crossings—Law; Motor vehicles—Laws and regulations; Traffic regulations

Automobile lighting. *See* Automobiles—Lighting

Automobile locks

- Keyless auto lock acts when car is stopped. *il Pop Mech* 40:167 Ag '23
 Your automobile and the thief. E. H. Smith. *il Sci Am* 128:366-7+ Je '23

Automobile mechanics

- Training automotive mechanics. *Soc Auto Eng J* 12:99 Ja '23

Automobile parking

- Parking space for autos in skyscraper plan. *il Pop Mech* 40:226 Ag '23
 Regulating the parking of automobiles. J. Ihlder. *Munic Eng* 65:152-8 O '23; Excerpts. *Automotive Ind* 48:1331-3 Je 21 '23; Same. *Eng & Contr (R & S)* 60:244-7 Ag 1 '23
 Some suggestions for municipal traffic relief. H. W. Slauson. *Munic Eng* 65:162-5 O '23; Same cond. *Automotive Ind* 49:564-5 S 20 '23
 Stationary traffic hazard on highways. R. B. Stoeckel. *il Am Ind* 24:21-2 O '23
 Street docks for parking cars. *Eng N* 91:359 Ag 30 '23

Automobile parts

- Brass forgings a new industrial product. *il Automotive Ind* 46:524 Mr 2 '22
 British parts exports; tabulation. *Automotive Ind* 46:412 F 16 '22
 Changes in design make foreign service difficult; service and sales conditions in China. H. A. Trussell. *Automotive Ind* 47:30-1 JI 6 '22
 Dealers need factory co-operation to organize parts departments. P. H. Smith. *Automotive Ind* 48:172-3 Ja 25 '23
 Exports of automotive parts, 1907-1921; tabulation. *Automotive Ind* 46:403 F 16 '22
 Exports of automotive parts, 1912-1922 (not including engines and tires); tabulation. *Automotive Ind* 48:471 F 22 '23
 Newly developed parts make appearance at show. P. M. Heldt. *il diags Automotive Ind* 48:72-6 Ja 11 '23
 Parts and fittings division report; proposed revision of S. A. E. standard. *diags Soc Auto Eng J* 9:427-8 D '21
 Parts distribution methods fail to meet business needs. H. Tipper. *Automotive Ind* 48:782-3 Ap 5 '23

Automobile patents

- Women contribute heavily to automotive patents. *Automotive Ind* 48:1083 My 17 '23

Automobile racing

- Les Grands Prix de l'Automobile-club de France en 1922, sur le circuit de Strasbourg. *il map Genie Civil* 81:115-16 JI 29 '22
 Indianapolis race proves superiority of American design. *il Automotive Ind* 48:1215-17 Je 7 '23
 Milton again wins at Indianapolis. *il Automotive Ind* 48:1194+ My 31 '23
 National speedway favored for next French Grand Prix; recent race was run on worst roads ever used. *il Automotive Ind* 49:174-6 JI 26 '23
 122 cu. in. Grand Prix engines better last year's 183 in. record. W. F. Bradley. *il Automotive Ind* 47:107-11 JI 20 '22
 Some mechanical details of French Grand Prix racing cars. W. F. Bradley. *il Automotive Ind* 47:210-12 Ag 3 '22
 Success of supercharger chief feature of European Grand Prix. W. F. Bradley. *il Automotive Ind* 49:676-7 O 4 '23
 Thirty-three cars expected to start in 509-mile Indianapolis race. *il Automotive Ind* 48:1116-23 My 24 '23

Automobile renting

- Men and methods; M. W. Henderson. A. V. Levering. *System* 42:698-9 D '22

Automobile research

- Automotive-engineering research. H. C. Dickinson. *bibliog Soc Auto Eng J* 9:437-42 D '21
 British automotive research devoted to securing operating economy. M. W. Bourdon. *Automotive Ind* 46:1322-4 Je 15 '22
 Broad scope of General Motors' research. *Automotive Ind* 47:230 Ag 3 '22

- Progress of the research department. H. C. Dickinson. *Soc Auto Eng J* 11:249-52; Discussion. 253-5 S '22
 Research essential to industrial progress. D. Beecroft. *Automotive Ind* 46:1197-1202 Je 8 '22

- Research necessary to automotive development. H. C. Dickinson. *Automotive Ind* 46:1338-9 Je 15 '22

- Science and industry in America. W. Rosenhain. *Engineer* 136:358-9 O 5 '23

- Society's research sheds new light on fuel problem. V. H. Gottschalk. *Soc Auto Eng J* 12:3-9 Ja '23

- University research laboratories provide industrial aid. H. Tipper. *Automotive Ind* 48:582-3 Mr 8 '23

Automobile resistance

- Automobile air resistance measured in wind tunnel. *il Automotive Ind* 47:1137 D 7 '22
 Chassis friction losses. E. H. Lockwood. *il diags Soc Auto Eng J* 11:415-26; Discussion. 426-9 N '22
 Studies of the automobile. G. B. Upton. *Sibley J* 36:58-65+, 78-90+ Ap-May '22
 Tests of wind resistance on motor vehicles. H. S. Carter. *Eng & Contr (R & S)* 59:555-6 Mr 7 '23

Automobile sales buildings

- Building for the General Motors company, Detroit, Michigan. *Am Arch* 120:392b-1, 393-8 N 23 '21
 Don Lee motor salesroom, San Francisco, Cal.; views. *Am Arch* 122:452k-1 N 22 '22
 General Motors building, Detroit, Mich. *Arch & Bldg* 53:88, pl 181-3 N '21

Automobile schools

- Factory school trains service men to do better repair work. *Automotive Ind* 48:1177 My 31 '23
 Learning while earning. *il Sci Am* 126:199 Mr '22

Automobile service stations

- Does factory engineering organization give full consideration to service and service station problems? J. W. Lord. *Am Mach* 58:228-9 F 8 '23
 How General Motors is planning to give ideal service. J. H. Pile. *plans Automotive Ind* 47:174-5 JI 27 '22
 Modern automobile service station, Springfield, Mass. *il plans Bldg Age* 44:44-5 S '22
 Planning of automobile service stations. W. J. Watson. *il diags plans Am Arch* 121:32-8 Ja 4 '22
 Service and its relation to the industry. O. C. Funderburk. *il diags Soc Auto Eng J* 12:265-72 Mr '23; Discussion. 12:535-8 Je '23
 Service in a White station. F. H. Colvin. *il plan Am Mach* 56:429-32 Mr 23 '22
 See also Automobile engines—Repair; Automobiles—Electric equipment service; Garages; Gasoline service stations

Advertising

- When winter comes must service station's business slump? *Ptr Ink* 118:89-90 F 2 '22

Equipment

- Improved drain pits care for 10 cars. *il Nat Pet N* 14:39 Je 7 '22

Management

- Automotive service methods and equipment. H. Campbell. *il Am Mach* 55:619-23, 710-13, 789-91, 870-3, 1026-8; 56:59-61, 125-7, 521-2, 692-3, 782-4, 854-6, 920-2; 57:4-6, 89-91; 58:411-13, 659-61, 721-3; 59:213-16, 255-8 O 20, N 3, 17, D 1, 29 '21, Ja 12, 26, Ap 6, My 11, 25, Je 8, 22, JI 6, 20 '22, Mr 15, My 3, 17, Ag 9-16 '23
 Modern methods in service industries. L. G. Rowe. *il Ind Management* 65:77-83 F '23
 Service station management. C. L. Jones. 171p Van Nostrand '22
 Something for service station men to think about. N. A. Hawkins. *Am Mach* 56:634-5 Ap 27 '22
 We make free service pay us in selling automobile tires. E. Ramsdell. *il System* 42:705-7+ D '22

- Automobile steel.** See Steel, Automobile
- Automobile tires.** See Tires, Automobile
- Automobile touring**
 Förgotten fireside. M. K. Powers. Ptr Ink 119:132+ Ap 27 '22
See also Camps, Tourists'
- Automobile touring companies**
 Michigan corporation builds business for individual owners of touring cars. map Bus Transportation 2:5-6 Ja '23
- Automobile traffic.** See Road traffic; Street traffic
- Automobiles**
 All-Japanese car, the Jitsuyo, now in production. Automotive Ind 47:147 Jl 20 '22
 Armstrong-Siddeley new four-cylinder added to six-cylinder line. M. W. Bourdon. il Automotive Ind 49:362-3 Ag '23 '23
 Automobiles and near-automobiles. il Sci Am 129:329 N '23
 Automotive manual for laboratory and repair shop. A. L. Taylor and A. H. Blake. 178p Macmillan '23
 Automotive reference book. 376p Michigan state auto school, Detroit '21
 Automotive reference manual, specification section. 443p Automotive service bur., Baltimore '23
 Automotive trade training. R. F. Kuns. 620p Bruce pub. co., Milwaukee '22
 Average automobile carries less than two passengers. Elec Ry J 61:646 Ap 14 '23
 Average life of automobile increases to 6.7 years. P. M. Heldt. Automotive Ind 49:387-8 Ag '23 '23
 Battery replaces magneto ignition in new locomobile model. Automotive Ind 47:1111 D 7 '22
 Branham automobile reference book. 448p Ben P. Branham co., Chicago '22
 British light car built within motorcycle sidecar limit; the new Austin. M. W. Bourdon. il Automotive Ind 47:261-2 Ag 10 '22
 British light cars design variations. M. W. Bourdon. il Automotive Ind 45:1108-11 D 8 '21
 British racing cars show unusual design features. M. W. Bourdon. Automotive Ind 47:62 Jl 13 '22
 Buick chassis and body models; numerous changes in 1923. J. E. Schipper. il Automotive Ind 47:155-8 Jl 27 '22
 Buick fours and sixes equipped with front wheel band brakes. J. E. Schipper. il diags Automotive Ind 49:211-17 Ag 2 '23
 Cadillac shop manual. 208p Cadillac motor car co., Detroit '22
 Case making many parts used in new model. il Automotive Ind 46:164-5 Ja 26 '22
 Catalogue of the mechanical engineering collection in the United States National museum. C. W. Mitman. (Bul. 119) 118p Smithsonian institution, Washington '22
 Chevrolet copper-cooled car ready for market. J. E. Schipper. il diags Automotive Ind 47:1259-65 D 28 '22
 Chevrolet Superior touring car. il Automotive Ind 47:727 O 12 '22
 Cole eight—several changes. diags Automotive Ind 45:1004-5+ N 24 '21
 Combined inlet and exhaust manifold on new Cole. il Automotive Ind 47:260 Ag 10 '22
 Continental manufacturers turn to light cars. W. F. Bradley. il diags Automotive Ind 45:7-11 Ja 5 '22
 Continental six for \$1,000 cars. J. E. Schipper. il diags Automotive Ind 47:160-1 Jl 27 '22
 Courier line comprises nine body types. J. E. Schipper. il Automotive Ind 47:1234-5 D 21 '22
 Dort announces its first six-cylinder product. J. E. Schipper. diags Automotive Ind 47:922-3 N 9 '22
 Dort features utility closed cars in new line. il Automotive Ind 46:166 Ja 26 '22
 Dort new features are roomier bodies and lower frame. il diags Automotive Ind 49:845 O 25 '23
 Duesenberg reflects experience gained with racing cars. J. E. Schipper. il diags plan Automotive Ind 45:854-7 N 3 '21
 Durant product makes good impression. H. Chase. diags Automotive Ind 46:601-4 Mr 16 '22
 Dyke's automobile and gasoline engine encyclopedia. A. L. Dyke. 13th ed., rewritten & enl. 1226p Goodheart-Willcox co., Chicago '22
 Earl car is larger edition of Briscoe. J. E. Schipper. il Automotive Ind 45:811+ O 27 '21
 Engineering features of automobile salon. P. M. Heldt. Automotive Ind 45:1122 D 8 '21
 Engineering features of British cars evidenced at the London show. M. W. Bourdon. il diags Automotive Ind 45:1006-14 N 24 '21
 Farman has novel racing sedan. il Automotive Ind 48:665 Mr 22 '23
 First one-man racing car ready for speedway. il Pop Mech 39:665 Mr 23 '23
 Ford car: its design, production and service. S. Evans. il diags Engineering 114:722-3 D 8 '22
 Ford new model has higher radiator and hood. il Automotive Ind 49:420 Ag 30 '23
 Foreign models predominate at Belgian show. W. F. Bradley. il Automotive Ind 45:1-4 Ja 5 '22
 Frontenac four-cylinder car has brakes on all wheels. J. E. Schipper. il diag Automotive Ind 45:5-6 Ja 5 '22
 Handley-Knight refinements in 1922. J. E. Schipper. il Automotive Ind 45:1112 D 8 '21
 Hudson and Jewett announce new body models. il Automotive Ind 47:209 Ag 3 '22
 Hupmobile mechanical refinements and improved bodies. il Automotive Ind 49:220-1 Ag 2 '23
 Latest English car has straight eight motor. il Pop Mech 37:56 Ja '22
 Liberty builds business type coupé. diags Automotive Ind 47:159 Jl 27 '22
 Light auto is evolved from motorcycle and sidecar. il Pop Mech 38:847 D '22
 Low center of gravity features German Heim car. il diags Automotive Ind 49:575 S 20 '23
 Luxurious automobiles for Indian royalty. il Pop Mech 37:421-2 Mr '22
 Many desirable features combined in new light car. il Pop Mech 36:891 D '21
 Many new cars at New York show. J. E. Schipper. il diags Automotive Ind 46:53-8 Ja 12 '22
 Mercer adds six to present four-cylinder line. H. Chase. il Automotive Ind 47:760-3 O 19 '22
 Miller building six novel racing cars for 1923 speed events. il Automotive Ind 48:714-15 Mr 29 '23
 Model T Ford car, truck and tractor conversion sets, also Fordson farm tractor and F.A. lighting and starting system, construction, operation and repair. V: W. Page. Rev. ed., enl. 414p Henley '23
 Modern motor car practice. W. H. Berry. ed. 582p Oxford '21
 Moll car, German product, designed for quantity production. E. R. Dierfeld. il diags Automotive Ind 47:973-4 N 16 '22
 Motor vehicles and their engines. E. S. Fraser and R. B. Jones. 2d ed., rev. & enl. 374p Van Nostrand '22
 New Canadian chassis is replete with engineering interest; Lavoie closed cars. H. Chase. il diags Automotive Ind 48:177-84 Ja 25 '23
 New European automobiles present novel features. il Pop Mech 37:88 Ja '22
 New frameless Lancia feature of Paris show. W. F. Bradley. diags Automotive Ind 47:706-8 O 12 '22
 New French light car has four-cylinder air cooled engine. W. F. Bradley. il Automotive Ind 47:567-8 S 21 '22
 New low priced Roamer car, Barley six, assembled from well known parts. il diags Automotive Ind 47:662-3 O 5 '22
 New principle of balancing 8-cylinder V-engine feature of 1924 Cadillac. J. E. Schipper. il diag Automotive Ind 49:516-19 S 13 '23

Automobiles--Continued

New small cars feature British automobile show. M. W. Bourdon. *il* Automotive Ind 45:901-1 N 10 '21

1922 car. J. M. Bird. *Sci Am* 126:161 Mr '22

Notes on auto mechanics. W. H. Ahrens. 39p

Baron de Hirsch trade school press, New York '22

Oldsmobile model has six cylinder L-head engine. W. L. Carver. *il* diags Automotive Ind 49:634-9 S 27 '23

Overland sedan detachable seats are chief feature. *il* Automotive Ind 49:694-5 O 4 '23

Packard has eight-in-line engine and four wheel brakes. J. E. Schipper. *il* diags Automotive Ind 48:1266-74 Je 14 '23

Packard single-eight. J. G. Vincent and W. R. Griswold. *il* diags Soc Auto Eng J 13:257-75 O '23

Packard single six has minor changes. *il* Automotive Ind 46:899-900 Ap 27 '22

Passenger-car developments and prophecies. F. E. Watts. *Soc Auto Eng J* 12:177-8 F '23

Peerless (1923) carries semi-elliptic springs. J. E. Schipper. *il* Automotive Ind 47:354-6 Ag 24 '22

Précis d'automobile. A. Contet. 417p Dunod, Paris '21

Queer stream-lined craft that may be used as a hydro-plane, racing automobile, amphibious boat, or non-sinkable lifeboat. *il* Sci Am 129:324-5 N '23

Les recettes du chauffeur. L. Baudry de Saunier. 2v E. Flammarion, Paris '22

Rickenbacker fitted with air cleaner and plate clutch. J. E. Schipper. *il* diags Automotive Ind 47:1212-13 D 21 '22

Rickenbacker six-cylinder car; original engineering features. J. E. Schipper. *il* diags Automotive Ind 45:1258-61 D 29 '21

Rolling palace has the comforts of home. *il* Sci Am 129:343 N '23

Rolls Royce (new 20 h.p.) has overhead valves and unit powerplant. M. W. Bourdon. *il* Automotive Ind 47:814-17 O 26 '22

Sekine car; novel design of chassis and body. *il* diags Automotive Ind 48:1322-6; 49:186-7 Je 21, Jl 26 '23

Small car. *Engineering* 114:620-1 N 17 '22

Special British design features shown in three new models. M. W. Bourdon. *il* Automotive Ind 47:1113-21 D 7 '22

Star body models and chassis parts. *il* Automotive Ind 46:1380-1 Je 22 '22

Stevens-Duryea producing high grade six. H. Chase. *il* diags Automotive Ind 45:1061-4 D 1 '21

Studies of the automobile. G. B. Upton. *Sibley J* 36:58-65+, 73-90+, 108-18 Ap-Je '22

Sunbeams win first and second places in Grand Prix race. W. F. Bradley. *il* Automotive Ind 49:28-32 Jl 5 '23

Talbot-Darracq new racing cars generate 70 h.p. at 5000 r.p.m. W. F. Bradley. *il* Automotive Ind 49:428-9 Ag 30 '23

Thirty-three cars expected to start in 500-mile Indianapolis race. *il* Automotive Ind 48:1116-19 My 24 '23

Trend of French cycle cars and light cars. W. F. Bradley. *il* diags plans Automotive Ind 46:801-6 Ap 13 '22

Le III^e concours de consommation des automobiles (Le Mans, 28 mai 1922). *il* diags plans Génie Civil 80:513-17 Je 10 '22

Trojan motor car. *Mech Eng* 44:604 S '22

Tubular backbone frame reinforcement used on new Flint. *il* diags Automotive Ind 49:122-7 Jl 19 '23

20th century guide for automobile operators. J. Rosbloom and O. R. Sawley. 252p Western technical bk. co., Seattle, Wash. '21

Unit body and chassis construction features British Lagonda. M. W. Bourdon. *il* diags Automotive Ind 49:62-3 Jl 12 '23

Vellie to concentrate on production of one new model. *il* diags Automotive Ind 46:136-8 Ja 19 '22

Washington sees Durant new \$348 Star. *il* Automotive Ind 46:582+ Mr 9 '22

Wheels propel auto-boat on land or in water. *il* Pop Mech 36:809 D '21

When the automobile was new as seen in Popular mechanics twenty years ago. *il* Pop Mech 40:668-9 N '23

When will automobiles be perfect? *Sci Am* 128:82 F '23

See also Automobile engines; Automobile industry and trade, and other headings beginning Automobile; Electric trucks; Electric vehicles; Garages; Jitney buses; Motor buses; Motor cycles; Motor trucks; Snow motor; Taxicabs; Tires, Automobile; Tractors

Accidents

See Automobile accidents

Air cleaners

See Air cleaners, Automobile

Axles

American stock axle specifications; tabulation. *Automotive Ind* 48:432-5 F 22 '23

Building axles for the Franklin. F. H. Colvin. *il* Am Mach 57:617-19 O 19 '22

Combining accuracy and quantity in differential carrier manufacture. J. E. Schipper. *il* Automotive Ind 47:424-6 Ag 31 '22

Dynamometer rear axle tests do not tell whole story. W. F. Rockwell. *Automotive Ind* 48:1290-1 Je 14 '23

Effects of front axle rake and centrifugal force. A. D. Robbins. *diag* Automotive Ind 48:257 F 8 '23

Front axles. *il* Automotive Eng 12:380 N 23 '22

Front axles. *il* diags Automotive Eng 11:421-2 N 24 '21

Front axles and steering knuckles. F. H. Colvin. *il* Am Mach 55:1011-13 D 22 '21

Front wheel brakes on new U.S. axle. *diag* Automotive Ind 48:275 F 8 '23

Grinding differential spider arms. C. Kotersall. *diags* Am Mach 55:1009-10 D 22 '21

Inspection the keynote in axle plant. *il* Iron Age 110:987-90 O 19 '22

Machining differential housings on a production basis. H. A. Loudon and H. S. Deal. *il* diags Automotive Ind 48:234-7 F 1 '23

Manufacture of automobile front axles. E. K. Hammond. *il* diags Mach 29:939-42 Ag '23

Novel front axles of foreign design. *diags* Automotive Ind 48:1391 Je 28 '23

Quantity production of passenger car axles. J. E. Schipper. *il* Automotive Ind 46:670-2 Mr 23 '22

Rear-axle gear calculations by the compressive-stress method. J. Jandasek. *diag* Soc Auto Eng J 11:375-9 O '22

Rear axle worm-shafts; an investigation of their deflection under load. D. C. McIntosh. *diags* Automotive Eng 13:172-3 Je '23

Rear axles. *il* Automotive Eng 12:374-9 N 23 '22

Specifications of American stock axles for 1922; tabulation. *Automotive Ind* 46:388-9 F 16 '22

Torbensen passenger car axles have numerous refinements in design. *il* diags Automotive Ind 48:514-15 Mr 1 '23

Transmission and rear axle. *il* Automotive Eng 11:411-15 N 24 '21

Using a single locating point in differential carrier production. J. E. Schipper. *il* diags Automotive Ind 47:520-3 S 14 '22

See also Automobiles--Gearing; Motor trucks--Axles

Bearing adapter

Dies for an automobile bearing adapter. J. A. Honegger. *diags* Mach 30:194-5 N '23

Bearings

Ball and roller bearings division report. *Soc Auto Eng J* 12:566-8 Je '23; Discussion. 13: 80-1 Jl '23

Endurance of ball bearings, with particular reference to automobile practice. A. W. Macaulay. *diags* Automobile Eng 13:213-23 Jl '23; Same cond. *Automotive Ind* 49: 130-5 Jl 19 '23

Experience notes from a production notebook; sources and causes of noise in automobiles. H. J. Crain and J. Brodie. *Soc Auto Eng J* 11:409-12+ N '22; Same cond. *Automotive Ind* 47:862-4 N 2 '22; Discussion. *Soc Auto Eng J* 12:22-5 Ja '23

Automobiles—Bearings—Continued

Machine tool methods being perfected for bearing installation. *Automotive Ind* 48:1227-30 Je 7 '23

White bearing metals; proposed extension of S.A.E. standard. *Soc Auto Eng J* 10:483-4 Je '22; Same. *Automotive Ind* 46:1331 Je 15 '22; Revised specifications. *Soc Auto Eng J* 11:550 D '22; Same. *Mach* 29:460 F '23

See also Timken roller bearing company, Canton, Ohio

Bodies

Bodies have become most important factor in making sales. R. C. Getsinger. *Automotive Ind* 49:4-7 Jl 5 '23

Body nomenclature; proposed revision of S. A. E. standard. *il Soc Auto Eng J* 9:430-2 D '21

Body production system combines progressive and group methods. J. E. Schipper. *il Automotive Ind* 47:1221-4 D 21 '22

British association agrees on standard body nomenclature. *Automotive Ind* 48:1186 My 31 '23

Can satisfactory bodies be made from sectional stampings? *il Automotive Ind* 48:165-6 Ja 25 '23

Car manufacturers and body builders can cooperate more closely. *Automotive Ind* 49:418-20 Ag 30 '23

Careful inspection characterizes quality body building on Packard closed cars. J. E. Schipper. *il Automotive Ind* 48:672-5 Mr 22 '23

Changes in body design at the automobile salon. G. J. Mercer. *il Automotive Ind* 45:1054-6, 1115-21 D 1-8 '21

Cheaper closed-body construction. G. J. Mercer. *il Soc Auto Eng J* 12:213-16 F '23; Discussion. 248-50, 450-5 F, My '23

Closed body production costs minimized in Essex coach. J. E. Schipper. *il Automotive Ind* 45:956-7 N 17 '21

Door locks and handles; proposed S.A.E. recommended practice. *Soc Auto Eng J* 11:542 D '22

European efforts to reduce car weights bring radical body construction. W. F. Bradley. *il diag Automotive Ind* 47:11-12 Jl 6 '22

Ford principles and practice at River Rouge. J. H. Van Deventer. *il Ind Management* 66:85-95, 151-9 Ag-S '23

French makers are experimenting with fabric covered bodies. W. F. Bradley. *Automotive Ind* 48:765-7 Ap 5 '23

Growing demand for low priced closed car. *Automotive Ind* 45:1001-3 N 24 '21

How to reduce body production costs, topic of body session. N. G. Shidle. *il Automotive Ind* 48:112-15 Ja 13 '23

Ideal automobile lines. *Sci Am* 128:46 Ja '23
Improved but cheaper closed bodies are predicted. J. E. Schipper. *Automotive Ind* 47:127 Jl 20 '22

Lumber situation demands utilization of new woods for bodies. G. J. Mercer. *diags Automotive Ind* 47:13-15 Jl 6 '22

Manufacturing and shipping costs cut by building bodies in sections. J. E. Schipper. *il Automotive Ind* 48:215-17 F 1 '23

Manufacturing automobile body panels. G. J. Mercer. *il Mach* 28:803-6 Je '22

Manufacturing methods hold attention of body engineers. J. E. Schipper. *Automotive Ind* 48:1414-15 Je 28 '23

Means for lightening door pillars in body construction. G. J. Mercer. *diags Automotive Ind* 46:272-3 F 9 '22

New features added to many 1922 body models. G. J. Mercer. *il diags Automotive Ind* 46:223-8 F 2 '22

New styles at body builders' show. G. Mercer. *il Automotive Ind* 48:134-5 Ja 18 '23

Passenger-car body division report; proposed S. A. E. recommended practice. *diags Soc Auto Eng J* 9:428-30 D '21

Recent developments in bodywork on British cars. M. W. Bourdon. *diags Automotive Ind* 45:1057-60 D 1 '21

Semi-racing roadster body of new design. G. J. Mercer. *diags Automotive Ind* 45:1155 D 15 '21

Sport model body gains fast in general popularity. G. J. Mercer. *il diag Automotive Ind* 47:1014-15 N 23 '22

Steel tubing used for framework of new sedan body. *il diags Automotive Ind* 48:4-6 Ja 4 '23

Trend toward utility bodies at show. G. J. Mercer. *il Automotive Ind* 46:65-8 Ja 12 '22

Trippensee uses sub-assembly methods in building sedan bodies. J. E. Schipper. *il Automotive Ind* 48:507-9 Mr 1 '23

Widman uses high-bake enamel panels in production of Jewett brougham. W. L. Carver. *il Automotive Ind* 49:681-4 O 4 '23

See also Automobiles—Tops; Automobiles—Upholstery; *also* Automobile body builders' association

Braking

Engine as a brake. *Sci Am* 128:86, 157 F-Mr '23

See also Air brakes, Automobile; Brakes, Automobile

Camping equipment

Building a camp car. R. F. Kuns. *il diags plan Pop Mech* 40:147-53, 310-14 Jl-Ag '23

Designing camping cars and trailers. H. W. Perry. *il Automotive Ind* 47:324-7 Ag 17 '22

Motor touring home. *il Sci Am* 129:193 S '23
Traveling homes for automobile tourists being manufactured in standard models. *il Pop Mech* 39:88-9 Ja '23

Car

Some simple pointers on how to keep a car. H. Hollingshead. *Sci Am* 125A:39 N '21; Discussion. 126:277, 345 Ap-My '22

(See also Automobile driving; Automobiles—Cleaning; Automobiles—Repair

Chassis

American passenger car chassis design shows refinement of detail. *Automotive Ind* 48:377-9 F 22 '23

Automobile chassis. B. G. Elliott. 233p McGraw-Hill '23

Le châssis d'automobile Rochet-Schneider (type 20 h.p.) et le châssis Peugeot (type 18 h.p.). G. Delanghe. *il Génie Civil* 81:473-4 N 18 '22

Chassis friction losses. E. H. Lockwood. *il diags Soc Auto Eng J* 11:415-26; Discussion. 426-9 N '22

8 h.p. Rover chassis. *il diags Automobile Eng* 12:258-64 S '22

11.9 h.p. Star chassis. *il diags Automobile Eng* 13:130-5 My '23

Elgin chassis has been completely redesigned. P. M. Heldt. *il Automotive Ind* 46:134-5 Ja 19 '22

5-ton Saurer chassis. *il diags Automobile Eng* 12:226-36 Ag '22

5-ton Straker-Squire chassis. *il diags Automobile Eng* 12:130-8 My '22

40-50 h.p. Napier chassis. *il diags Automobile Eng* 11:430-7 D '21

Gray chassis—an interesting design for quantity production. J. E. Schipper. *diags Automotive Ind* 47:656-61 O 5 '22

Gwynne 8 chassis. *il diags Automobile Eng* 13:226-31 Ag '23

Motor vehicle engineering; the chassis. E. Favary. 463p McGraw-Hill '22

New chassis models shown by thirteen makers. J. E. Schipper. *il Automotive Ind* 48:53-60 Ja 11 '23

New Rumlper chassis. *il diags Automobile Eng* 12:194-203 Jl '22

New six-cylinder Franklin chassis. *il diags Automobile Eng* 13:34-41 F '23

New 23-60 h.p. Vauxhall chassis. *il diags Automobile Eng* 12:290-3 O '22

9.5 h.p. Rhode chassis. *il diags Automobile Eng* 13:290-7 O '23

16-20 h.p. Cubitt chassis. *il diags Automobile Eng* 12:34-40 F '22

Sterling now in production on new chassis with four body models. *il Automotive Ind* 49:840-1 O 25 '23

Steyr chassis. *il diags Automobile Eng* 13:253-64 S '23

Automobiles—Chassis—Continued

- 30-cwt. Shefflex chassis. il diags plan Automobile Eng 12:322-8 N '22
 35-50 h.p. Alfa-Romeo chassis. diags Automobile Eng 12:2-6 Ja '22
 34 h.p. Marmon chassis. il diags Automobile Eng 12:162-70 Je '22
 12 h.p. A.B.C. chassis. il diags Automobile Eng 12:98-104 Ap '22
 12 h.p. Vulcan chassis. il diags Automobile Eng 12:386-92 D '22
 12-40 h.p. Alvis chassis. il diags Automobile Eng 13:194-202 Ji '23
 12-20 h.p. Bianchi chassis. il diags Automobile Eng 12:66-71 Mr '22
 12-24 h.p. Crouch chassis. il diags Automobile Eng 13:162-9 Je '23

Cleaning

- Cleaning auto running gear in a washbowl. il Pop Mech 33:178-9 Ag '22

Clutches

- American stock clutch specifications; tabulation. Automotive Ind 48:430-1 F 22 '23
 Assembling the locomobile clutch. M. Wright. il Am Mach 58:262 F 15 '23
 Automatic declutcher introduced at Paris show. diags Automotive Ind 45:922 N 10 '21
 Brown-Lipe announces new single plate clutch. diags Automotive Ind 48:316 F 15 '23
 Clutch facings; proposed S.A.E. recommended practice. diags Soc Auto Eng J 11:546 D '22
 Clutches. il diag Automobile Eng 11:410-11; 12:370-1 N 24 '21, N 23 '22
 Detroit gear and machine co.'s new single plate clutch. diag Automotive Ind 46:473 F 23 '22
 European and American automotive brake and clutch practice. H. G. Farwell. il diags Soc Auto Eng J 11:67-72; Discussion. 72-80 Ji '22
 Manufacture and assembly of a cork insert disk clutch. J. E. Schipper. il Automotive Ind 45:823-6 O 27 '21
 New Baker self-aligning single-plate clutch. diag Automotive Ind 46:1391 Je 22 '22
 New friction clutch of radical design developed in France. diags Automotive Ind 46:609-10 Mr 16 '22
 Recent clutch designs. diags Automotive Ind 48:1392-7 Je 28 '23
 Two new clutches added to M. & E. line. diags Automotive Ind 47:1280 D 28 '22

Control

- Flexibility of car's drive shown by demonstration. il Pop Mech 39:747 My '23
 Uniform regulation of engine speed. H. De-champs. diags Automotive Ind 47:1174-5 D 14 '22

See also Automobiles—Stopping; Brakes, Automobile

Cost of operation

- Light car and the motor cycle and sidecar compared. W. H. Hingston. diags Automobile Eng 12:346-51 N '22
 What the trolley car has to learn from the automobile. H. L. Andrews. Gen Elec R 25:280-4 My '22

See also Electric trucks—Cost of operation; Motor trucks—Cost of operation

Costs

- 1923 trend of motor prices. J. W. Scoville. Comm & Fin Chr 116:232-3 Ja 20 '23

Curtains

- Simplex side curtains designed for quick lowering. il diags Automotive Ind 49:642 S 27 '23

Design

- Advantages of light-weight reciprocating parts. L. H. Pomeroy. Soc Auto Eng J 11:508-15; Discussion. 515-19 D '22
 American passenger car design trends as revealed by 1922 specifications. H. Chase. Automotive Ind 46:330-1 F 16 '22

- Automobile calculations—practical methods for the designer. J. Watt. diags Automobile Eng 12:183-91, 216-23 Je-Jl '22
 Automobile steering linkage. P. Cormack. diags Philos Mag 6th ser 46:665-71 O '23
 Les automobiles à transmission par arbre longitudinal à cardans. A. Petot. Génie Civil 82:17-18 Ja 6 '23
 British Cubitt car designed to compete with American products. M. W. Bourdon. il diags Automotive Ind 46:1006-9 My 11 '22
 British design shows marked trend toward overhead valve engines. M. W. Bourdon. Automotive Ind 48:387-+ F 22 '23
 Building a camp car. R. F. Kuns. il diags plan Pop Mech 40:147-53 Ji '23
 Continental design features small overhead valve engines. W. F. Bradley. il diags Automotive Ind 47:807-13 O 26 '22
 Design tendencies in British chassis. M. W. Bourdon. Automotive Ind 46:338-9 F 16 '22
 Durability and silence stressed in chassis design. F. M. Heldt. il diags Automotive Ind 48:64-9 Ja 11 '23
 8 h.p. Rover chassis. il diags Automobile Eng 12:258-64 S '22
 11-9 h.p. Star chassis. il diags Automobile Eng 13:130-5 My '23
 Engineering details of the new Star chassis. diags Automotive Ind 47:162-3 Ji 27 '22
 European engineering trends shown at Paris show. W. F. Bradley. il Automotive Ind 45:804-10 O 27 '21
 5-ton Saurer chassis. il diags Automobile Eng 12:226-36 Ag '22
 5-ton Straker-Squire chassis. il diags Automobile Eng 12:130-8 My '22
 Four-bearing Knight six powers new R. & V. model. diags Automotive Ind 48:13-15 Ja 4 '23
 40-50 h.p. Napier chassis. il diags Automobile Eng 11:430-7 D '21
 French car builders increase number of types. W. F. Bradley. Automotive Ind 48:393-4 F 22 '23
 French motor car design. Engineer 134:388 O 13 '22
 Future design of road vehicles; abstracts with discussion. J. Thornycroft. Engineer 133:581-2 My 26 '22; Engineering 113:649-50 My 26 '22
 German automobile shaped like a raindrop. il Pop Mech 37:690-1 My '22
 German car of novel design employs many aluminum parts. B. R. Dierfeld. il diags Automotive Ind 46:701-6 Mr 30 '22
 German passenger car of radical design. il diags Automotive Ind 45:812-16 O 27 '21
 German Priamus chassis replete with novel features. B. R. Dierfeld. il diags Automotive Ind 48:719-23 Mr 29 '23
 Gwynne 8 chassis. il diags Automobile Eng 13:226-31 Ag '23
 Lack of accessibility causes just criticism by service men. B. M. Ikert. diags Automotive Ind 46:464-8 F 23 '22
 Modern German car chassis have unique details. B. R. Dierfeld. diags Automotive Ind 47:359-62 Ag 24 '22
 New Rumber chassis. il diags Automobile Eng 12:194-203 Ji '22
 New six-cylinder Franklin chassis. il diags Automobile Eng 13:34-41 F '23
 New 23-60 h.p. Vauxhall chassis. il diags Automobile Eng 12:290-8 O '22
 9-5 h.p. Rhode chassis. il diags Automobile Eng 13:290-7 O '23
 North-Lucas light car. il diag Automobile Eng 13:98-104 Ap '23
 Oakland 1924 model differs radically from previous design. W. L. Carver. il diags Automotive Ind 49:462-9 S 6 '23
 Principles of automobile body design. K. Forbes. 336p Ware bros. co., Philadelphia '22
 Rain-drop auto. E. A. Dime. il diag plan Sci Am 126:105 F '22
 Reduction in number of German passenger car models. B. R. Dierfeld. Automotive Ind 48:395 F 22 '23
 Relative movements between axle and frame; the location of brake, steering, and similar connections. F. A. S. Acres. diags Automobile Eng 13:9-10 Ja '23

Automobiles—Design—Continued

- Service-man's critical estimate of automotive engineering. B. M. Ikert. diags Soc Auto Eng J 10:263-9 Ap '22; Discussion. 11:173-9 Ag '22
- 16-20 h.p. Cubitt chassis. il diags Automobile Eng 12:34-40 F '22
- Steyr chassis. il diags Automobile Eng 13:258-64 S '23
- Testing of materials and its effect on engineering. G. B. Upton. Soc Auto Eng J 13:296-9; Discussion. 299-300, 312 O '23
- 35-50 h.p. Alfa-Romeo chassis. diags Automobile Eng 12:2-6 Ja '22
- 34 h.p. Marmon chassis. il diags Automobile Eng 12:162-70 Je '22
- Trend in French 'passenger car design. W. F. Bradley. Automotive Ind 46:348 F 16 '22
- Trends in chassis design at the New York show. P. M. Heldt. il diags Automotive Ind 46:58-62 Ja 12 '22
- 12 h.p. A.B.C. chassis. il diags Automobile Eng 12:98-104 Ap '22
- 12 h.p. Vulcan chassis. il diags Automobile Eng 12:386-92 D '22
- 12-40 h.p. Alvis chassis. il diags Automobile Eng 13:194-202 Jl '23
- 12-20 h.p. Bianchi chassis. il diags Automobile Eng 12:66-71 Mr '22
- 12'24 h.p. Crouch chassis. il diags Automobile Eng 13:162-9 Je '23
- What do your dealers think of your car? N. G. Shidle. Automotive Ind 47:1-3 Jl 6 '22
- Wills Sainte Claire car has engine of original design. J. E. Schipper. il diags Automotive Ind 45:912-17 N 10 '21
- See also Automobile engines—Design; Automobiles—Bodies; Automobiles—Chassis; Automobiles—Weight

Differential

See Automobiles—Gearing

Electric equipment

- Automobile ignition, starting, and lighting. C. B. Hayward. 819p American tech. soc., Chicago '23
- Automotive repair. J. C. Wright. v 3 387p Wiley '23
- Electrical equipment. il Automobile Eng 12:363-8 N 23 '22
- Electrical equipment standards modified by committee. Automotive Ind 47:1172-3 D 14 '22
- Electricity and its application to automotive vehicles. P. M. Stone. 844p Van Nostrand '23
- Electricity at the motor show. Electrician 87:683 N 25 '21; Elec R (Lond) 89:656 N 11 '21
- Fiat voltage regulating system prevents battery overcharging. diag Automotive Ind 49:491 S 6 '23
- Function and operation of the vibrating voltage regulator. W. P. Loudon. il diags Automotive Ind 46:813-17 Ap 13 '22
- Generating, starting, lighting and ignition of automotive vehicles and gas engines. S. P. Reed. 335p Ingram-Rutledge co., San Francisco '23
- Generator flange mountings; proposed revision of S.A.E. standard. diags Soc Auto Eng J 11:536 D '22
- Home study course in automotive electricity. 3v American bureau of engineering, Chicago '22
- Maintenance effects of automotive electrical equipment standardization. A. H. Packer. Soc Auto Eng J 12:283-6 Mr '23; Same cond. Automotive Ind 48:263-4 F 8 '23; Discussion. Soc Auto Eng J 12:538-9 Je '23
- Midgley-Scholey electric equipment for motor vehicles. il diags Engineering 114:392-3 S 29 '22
- Practical contact attachment. Sci Am 128:37 Ja '23
- Problems met in design of third brush generators. W. P. Loudon. il diags Automotive Ind 47:1124-7 D 7 '22
- Research develops electrical equipment to meet variable operating conditions. A. M. Dudley. Automotive Ind 46:1387 Je 22 '22

- S.A.E. proposed specifications for magnet wire. Soc Auto Eng J 12:568-70 Je '23
- Standard auto-electrician's manual. Standard eng. & pub. co., Boston '21
- Standardization program of the Automotive electric association. D. Beecroft. Automotive Ind 47:480-1 S 7 '22; Discussion. 47:630, 680-1, 988-9 S 28-O 5, N 16 '22
- Starting and lighting troubles, remedies and repair. H. P. Manly. 459p Drake '22
- Suggestions for improvement in electric wiring for automobiles. W. S. Haggott. Automotive Ind 46:1010-11 My 11 '22; Same, with discussion. Soc Auto Eng J 11:430-2 N '22
- Wells' auto-electricians' handbook. H. L. Wells. 174 l. Automotive pub. co., Chicago '22
- Wells' automotive wiring manual. H. L. Wells. 7th ed. 716p Automotive pub. co., Chicago '22

See also Automobile engines—Ignition devices; Automobiles—Lighting; Automobiles—Starting devices; Magnetos; Storage batteries

Electric equipment service

- Develops plan to solve electric equipment service problem. Automotive Ind 47:1284-6 D 28 '22
- Exclusive electric service stations supported by equipment makers. D. Beecroft. Automotive Ind 49:586-90 S 20 '23

Endless belt drive

- Across the Sahara desert by motor car. il Soc Auto Eng J 12:502 My '23
- Autos with endless tread successful in Norway. il Pop Mech 39:927 Je '23
- Belt device replaces rear wheels. il Bus Transportation 2:438 S '23
- Crossing the Sahara by motor car. il diags map Engineer 135:414-15 Ap 20 '23
- Gasoline camels; Kégresse-Hinstin endless-belt automobile. il Sci Am 128:153+ Mr '23
- Kégresse-Hinstin cars for the Sahara expedition. il map Engineering 115:13 Ja 5 '23
- Motor car fleet to cross Sahara. il map Automotive Ind 47:1186-8 D 14 '22
- Motor cars cross Sahara desert. C. Gaines. il map Pop Mech 39:355-6 Mr '23
- Le propulseur Kégresse à bande souple. G. Delanghe. il diags map Génie Civil 82:293-300 Mr 31 '23

Equipment and supplies

See Air brakes, Automobile; Air cleaners, Automobile; Automobile accessories industry; Automobile engines; Automobile engines—Mufflers; Automobile horns; Automobile locks; Automobiles—Camping equipment; Automobiles—Electric equipment; Automobiles—Steering gear; Brakes, Automobile; Carbureters; Gasoline savers, Automobile; Magnetos; Oil filters; Shock absorbers; Spark plugs; Tires, Automobile

Exhibitions

- American strength in Belgian market indicated at Brussels show. W. F. Bradley. il Automotive Ind 48:238-41 F 1 '23
- Bright commercial outlook revealed at Paris show. W. F. Bradley. il Automotive Ind 49:834-9 O 25 '23
- British engineering trends shown at Olympia exhibit. M. W. Bourdon. il diags Automotive Ind 47:1025-32 N 23 '22
- Buenos Aires show a stimulation to sales. Automotive Ind 45:1271 D 29 '21
- Engineering features of British cars evidenced at the London show. M. W. Bourdon. il diags Automotive Ind 45:1006-14 N 24 '21
- La XV^e exposition de l'automobile de Londres (4-12 novembre 1921). diags Génie Civil 79:535-6 D 17 '21
- Foreign models predominate at Belgian show. W. F. Bradley. il Automotive Ind 45:1-4 Ja 5 '22
- German show is largest ever held despite economic troubles. B. R. Dierfeld. il Automotive Ind 49:774-8 O 18 '23
- Hawkins flays national shows. N. A. Hawkins. Automotive Ind 48:144 Ja 18 '23; Discussion. 48:228-9, 532-3 F 1, Mr 1 '23

Automobiles—Exhibitions—Continued

Low-priced bodies dominant feature of closed car show at New York. *il* Automotive Ind 47:603-5 S 28 '22

Mechanical refinements are numerous at Paris show. W. F. Bradley. *il* Automotive Ind 49:728-30 O 11 '23

Merchandising is dominant note at Chicago show. J. Dalton. *il* Automotive Ind 48:209-13 F 1 '23

Motor car exhibition at Olympia and the White City. *il* Engineer 132:480-1, 516-19, 536-8 N 4-18 '21; Engineering 112:670 N 11 '21

Motor car shows. *il* diag Engineer 134:462-3, 489-92, 498, 522-4, 544-6 N 3-24 '22

New models make appearance at third annual closed car show, New York. *il* Automotive Ind 49:667-73 O 4 '23

New small cars feature British automobile show. M. W. Bourdon. *il* Automotive Ind 45:901-4 N 10 '21

Novel body design features shown at 18th annual automobile salon. *il* Automotive Ind 47:1112-18 D 7 '22

Paris auto-salon. *il* Engineering 116:485-7 O 19 '23

Paris automobile show. *il* diags Automobile Eng 11:378-9 N '21

Paris automobile show. *il* diags Automobile Eng 12:333-6 N '22

Paris automobile show largest ever held in France. W. F. Bradley. *il* Automotive Ind 47:701-4 O 12 '22

Rise of service coupés and sport models a feature of show. G. J. Mercer. *il* diags Automotive Ind 48:77-82 Ja 11 '23

Le salon de l'automobile, à Londres (3-11 novembre 1922). G. Delanghe. *il* diags plan Génie Civil 81:494-6 N 25 '22

Le XVI^e salon de l'automobile et du cycle (Paris, 5-16 octobre 1921). G. Birlé. *il* diags Génie Civil 79:361-70, 397-9, 405-8 O 29-N 12 '21

Le XVII^e salon de l'automobile et du cycle (Paris, 4-15 octobre 1922). G. Delanghe. *il* diags Génie Civil 81:353-61, 387-94, 412-17 O 21-N 4 '22

Le XVIII^e salon de l'automobile et du cycle. G. Delanghe. *il* diags Génie Civil 83:361-75, 401-8, 424-39 O 20-N 3 '23

Show manager says car exhibitions should be improved. H. Buckman. Automotive Ind 48:604-5 Mr 15 '23

Spanish show forecasts early trade revival. W. F. Bradley. *il* Automotive Ind 46:1311-14 Je 15 '22

Trend toward smaller models feature of British show. M. W. Bourdon. *il* Automotive Ind 47:909-18 N 9 '22

22d annual national automobile show. Chicago. J. E. Schipper. *il* Automotive Ind 46:213-14+ F 2 '22

22d national automobile show. New York city, Jan. 7. Automotive Ind 46:51-2 Ja 12 '22

What brought back the buying spirit to our town; automobile show at Holdrege, Nebraska. S. Wills. *il* System 42:415-17+ O '22

Fenders

Automatic collision-dodger. *il* Sci Am 127:243 O '22; Pop Mech 38:555 O '22

Automotive pattern drafting. W. Scholl. diags Sheet Metal Worker 13:840-4; 14:83-4, 204-6, 405-7, 490-1+ Ja 5, Mr 2, Ap 13, Je 22, Jl 20 '23

Folding fender for auto scoops up victims. *il* Pop Mech 40:166 Ag '23

Head-on collisions try auto bumper's strength. *il* diag Pop Mech 40:694 N '23

New automatic life-saving fender for automobiles. *il* Pop Mech 38:576 O '22

Preventive methods eliminate rust in fender enameling process. J. E. Schipper. *il* Automotive Ind 48:1026-7 My 10 '23

Protecting the pedestrian from auto wheels. *il* Safety Eng 44:76 Ag '22

Rubber bumpers added to spring device. diag Bus Transportation 2:489 O '23

Self-acting auto bumper also kills engine. *il* Pop Mech 38:899 D '22

Friction losses

Relation between fluid friction and transmission efficiency. N. MacCoull. *il* diag Soc Auto Eng J 10:193-9 Mr '22; Discussion. 10:372-4 My '22

Fuel

See Automobile engines—Fuel

Fuel tanks

Automotive pattern drafting. W. Scholl. diags Sheet Metal Worker 14:46-7, 113-15 F 16. Mr 16 '23

Gearing

Accessory drives and starters. *il* Automobile Eng 11:402-4 N 24 '21

Accurate manufacture of automobile gears. A. B. Bassoff. diags Mach 30:208-12 N '23

American stock gearset specifications for 1922; tabulation. Automotive Ind 46:390 F 16 '22

American stock gearset specifications for 1923; tabulation. Automotive Ind 48:436 F 22 '23

Assembling of bevel gears. C. H. Logue. diags Am Mach 56:580-4 Ap 20 '22

Automatic variable gear. E. W. Walford. diags Automobile Eng 13:52-3 F '23; Same abr. Mech Eng 45:252-3 Ap '23

Carbonizing automobile gears by means of the acetylene torch. M. Wright. *il* Am Mach 57:930-1 D 14 '22

Chandler adopts new type of gearset for 1924 model. *il* Automotive Ind 49:645-6 S 27 '23

Cost-reducing tooling equipments for automobile gears and ball races. R. E. Flanders. *il* diags Mach 28:395-8, 447-51 Ja-F '22

Cutting down rejections in pinion shaft production. J. E. Schipper. *il* Automotive Ind 47:320-3 Ag 17 '22

Detachable heads, engine and gearbox mounting. *il* Automotive Eng 11:405-6 N 24 '21

Efficient method of transmission production. J. E. Schipper. *il* Automotive Ind 46:869-72 Ap 20 '22

Engine and gear box mounting. *il* Automotive Eng 12:369 N 23 '22

Experience notes from a production notebook; sources and causes of noise in automobiles. H. J. Crain and J. Brodie. Soc Auto Eng J 11:409-12+ N '22; Same cond. Automotive Ind 47:862-4 N 2 '22; Same cond. Am Mach 57:846-9 N 30 '22; Discussion. Soc Auto Eng J 12:22-5 Ja '23

Ford type Krohn differential. *il* diags Automotive Ind 46:857-8 Ap 20 '22

Front wheel driving. O. E. Szekely. Automotive Ind 46:578-9 Mr 9 '22

Gear grinding. R. S. Drummond. *il* Soc Auto Eng J 12:173-6 F '23

Gear-grinding and tooth-forms. G. Muffly. *il* diags Soc Auto Eng J 12:545-55 Je '23; Abstracts. Automotive Ind 48:809 Ap 12 '23; Mech Eng 45:362-3 Je '23; Discussion. Soc Auto Eng J 12:555-9 Je '23; Correction. 13:248+ S '23

Gear-shift innovations. Sci Am 126:7 Ja '22

Gear steel. *il* diags Automobile Eng 13:232-7 Ag '23

Gear tooth shape and its relation to standardization. E. W. Miller. diags Automotive Ind 45:1167-73 D 15 '21

Gearboxes. *il* Automotive Eng 11:407-8; 12:371-4 N 24 '21, N 23 '22

Gears. Soc Auto Eng J 11:88-90, 195-6 Jl-Ag '22

Helical wheels in gearboxes. O. D. North. *il* diags Automobile Eng 12:87-9 Mr '22

Investigation of tooth wear with automobile gear steels. E. R. Ross. *il* diags Automotive Ind 45:865-9 N 3 '21; Same cond. Am Mach 56:515-19 Ap 6 '22; Discussion. G. A. Ungar. Automotive Ind 46:188 Ja 26 '22

Lewis constants determined for long addendum gears. P. M. Heldt. diags Automotive Ind 47:219-21 Ag 3 '22

Machining a differential carrier. R. Brainerd. *il* diags Am Mach 53:342 Mr 1 '23

Machining the Pierce-Arrow gear shifter fork. *il* Am Mach 57:222 Ag 10 '22

Automobiles—Gearing—Continued

- Marked increase in use of chains for front end drives. J. E. Schipper. *il* diags Automotive Ind 47:8-10 J1 6 '22
- Mechanical gear shifting mechanism. *il* diags Automotive Ind 46:217-18 F 2 '22
- Methods and tools used in machining the Peerless differential carrier and gear case. F. H. Colvin. *il* diags Am Mach 55:912-14 D 8 '21
- Motor car gear-boxes. H. F. L. Orcutt. Engineering 112:830-1, 870-2, 897-9 D 16-30 '21; Same. Automotive Eng 12:22-30 Ja '22; Excerpts. Automotive Ind 46:511-14, 563-5, 617-21 Mr 2-16 '22
- New differential prevents stalling when one wheel turns free. diags Automotive Ind 48:979-80 My 3 '23
- New mechanical gearshift eliminates levers in front compartment. diags Automotive Ind 49:108-9 J1 19 '23
- Practical difficulties in automatic transmission gear design. P. M. Heldt. diags Automotive Ind 47:164-5 J1 27 '22
- Progress report of axle and wheel division on differentials. Soc Auto Eng J 12:229-30 F '23
- Proposed S.A.E. recommended practice for two-piece differential case. diags Soc Auto Eng J 12:124-5 Ja '23
- Rear-axle gear calculations by the compressive-stress method. J. Jandasek. diags Soc Auto Eng J 11:375-9 O '22
- Relation between fluid friction and transmission efficiency. N. MacCoull. *il* diags Soc Auto Eng J 10:193-9 Mr '22; Discussion. 10:372-4 My '22
- Shifting speeds with an oil pump; details of a new British variable-speed gear without gear-wheels. P. J. Risdon. *il* Sci Am 129:334+ N '23
- Some causes of gear-tooth errors and their detection. K. L. Herrmann. diags Soc Auto Eng J 11:391-7 N '22; Same. Automotive Ind 47:869-73 N 2 '22; Same cond. Am Mach 57:841-3 N 30 '22; Abstract. Mech Eng 45:50-1 Ja '23; Discussion. Soc Auto Eng J 12:26-7 Ja '23
- Spur gears. J. W. Snarry. diags Automotive Eng 12:393-6 D '22
- Standardizing differential gears. Automotive Ind 45:923 N 10 '21
- Studies of the automobile. B. G. Upton. Sibley J 36:78-90+, 108-18 My-Je '22
- Study of material and methods needed in non-metallic gear production. J. E. Schipper. *il* diags Automotive Ind 48:1084-6 My 17 '23; Discussion. 49:55 J1 12 '23
- Tooth pressure calculations. R. H. Boyd. chart Automotive Eng 13:223 J1 '23
- Transmission and rear axle. *il* Automotive Eng 11:411-15 N 24 '21
- Transmission standardization. Automotive Ind 45:973 N 17 '21
- Turret lathe tooling; equipment for machining differential gear housings. I. F. Yeoman. *il* diags plan Mach 28:356-8, 447-51 Ja-F '22
- Two pinion differentials. *il* diags Automotive Eng 12:336 N '22
- What is the most logical location for non-metallic gears. T. C. Roantree. *il* Automotive Ind 49:284-5 Ag 9 '23
- Wills Sainte Claire transmission case. F. H. Colvin. *il* diags Am Mach 56:323-5 Mr 2 '22

See also Automobiles—Endless belt drive; Automobiles—Steering gear

Heating

- Motor cars now heated by hot water. *il* Pop Mech 38:672 N '22

Hoods

- Automotive pattern drafting. W. Scholl. diags Sheet Metal Worker 13:894-7 Ja 19 '23
- Forming the Franklin grille. *il* Am Mach 57:643 O 26 '22

Ignition

See Automobile engines—Ignition devices

Inspection

- Few Marmon inspection methods. *il* Am Mach 57:449 S 21 '22

Insurance

See Insurance, Automobile

Laws and regulations

See Automobile laws and regulations

Lighting

- Analysis of the automobile headlight problem. P. G. Nutting. J Fr Inst 196:529-35 O '23
- Auto lights under fenders remove strong glare. *il* Pop Mech 40:403 S '23
- Automobile head-lamp regulation. J. J. Shanley. Soc Auto Eng J 13:249 S '23
- Automobile headlight regulation. L. C. Porter and R. W. Jordan. Gen Elec R 25:120-4 F '22
- Automobile light signals both safety and danger. *il* Pop Mech 39:73 Ja '23
- Bright lights—but no glare. *il* Sci Am 129:259 O '23
- British encourage development of non-glare headlamps. M. W. Bourdon. *il* diags Automotive Ind 48:329-30 F 15 '23
- Bureau of standards tests reveal many defective headlamps. T. S. Sligh, jr. diags Automotive Ind 49:71-3 J1 12 '23
- Combinaison de réflecteurs, applicable aux phares d'automobiles. Marsat. diags Génie Civil 83:88-9 J1 28 '23
- Determination by various observers of the desired road illumination from automobile headlamps. H. H. Magdick and R. N. Falge. Illum Eng Soc 16:480-506; Discussion. 518-32 no 8 '21
- Double-reflector type of head-lamp. B. Heymann. *il* diags Soc Auto Eng J 12:100-4 Ja '23
- Fluted reflectors for automobile headlamps. *il* Am Inst E E J 42:754 J1 '23
- Foot-candle meter adapted to automobile headlight tests. *il* Am Inst E E J 41:770 O '22
- Grubb non-dazzle headlamp. diags Illum Engr 14:241-2 D '21
- Head-lamp illumination; S.A.E. recommended standards. Soc Auto Eng J 11:200-1 Ag '22
- Headlamp without beam modifying lens. *il* diags Automotive Ind 46:81 Ja 12 '22
- Head-lamps; proposed revision of S.A.E. recommended practice. Soc Auto Eng J 10:480-1 Je '22; Same. Automotive Ind 46:1330 Je 15 '22
- Headlight focusing problems. *il* Sci Am 129:262 O '23
- How to secure proper illumination of rear license plates. J. A. Summers and W. G. Morrison. *il* diags Automotive Ind 47:1082-3 N 30 '22
- Illumination diagrams for showing headlighting device performance. F. H. Ford. Soc Auto Eng J 13:333-7 O '23
- Importance of better automobile head-lamps and proper adjustment. R. N. Falge and W. C. Brown. *il* Soc Auto Eng J 13:25-9 J1 '23; Same, without *il*. Bus Transportation 2:349-51 J1 '23; Excerpts. Automotive Ind 48:1431-3 Je 28 '23; Discussion. Soc Auto Eng J 13:221-6 S '23
- Interim report of committee on motor vehicle lighting. Illum Eng Soc 17:103-12 F '22
- Laboratory tests for minimum illumination and maximum glare values; report of S.A.E. standards committee. Soc Auto Eng J 11:201-3; Discussion. 203-4 Ag '22
- Lights for motor and horse drawn vehicles. D. Becroft. Eng & Contr (R & S) 56:174-7 D 6 '22
- Magnetically controlled tilting mirror used in new lamp. *il* Automotive Ind 48:725 Mr 29 '23
- Massachusetts starts enforcement of tail-light laws. Am Inst E E J 42:366 Ap '22
- Motor-vehicle head-lamps and road-lighting. R. C. Gowdy and J. G. Balsillie. *il* charts Soc Auto Eng J 11:557-60 D '22
- Motor vehicle headlighting in Massachusetts. A. W. Devine. Illum Eng Soc 16:507-18; Discussion. 518-32 no 8 '21

Automobiles—Lighting—Continued

Novel headlight lens obviates need for focusing bulbs. R. N. Falge and W. C. Brown. *il Automotive Ind* 49:643-4 S 27 '23; Abstract. *Bus Transportation* 2:493-4 O '23

Present status of automobile headlighting regulation. *Illum Eng Soc* 16:469-73 no 8 '21

Report of committee on motor vehicle lighting. *Illum Eng Soc* 16:474-9; Discussion. 518-32 no 8 '21

Report of committee on motor vehicle lighting, 1921-1922. *Illum Eng Soc* 18:29-32; Discussion. 32-5 Ja '23

Specifications for automobile headlights. *Ilum Engr* 14:189-91 O '21

Specifications for tail-lamp illumination discussed. *Soc Auto Eng J* 11:453 N '22

Specifications governing the acceptability of electric tail lamps for motor vehicles. *Illum Eng Soc* 18:208-10 F '23

Standards for license plate lighting formulated by joint committee. P. M. Heldt. *Automotive Ind* 48:26-7 Ja 4 '23

State laws governing motor vehicle lighting need uniformity. *Automotive Ind* 47:265-9 Ag 10 '22

State regulation of motor car headlamps. *Am Inst E E J* 41:223-5 Mr '22

Suggestions for adjusting head-lamps. R. N. Falge. *Soc Auto Eng J* 13:351-2 O '23

Tail-lamp and registration number-plate illumination; proposed S.A.E. recommended practice. *Soc Auto Eng J* 12:221-3 F '23

Whitehead headlight. *diag Ilum Engr* 14:242-3 D '21

Why headlight glare? G. H. Dacy. *il Sci Am* 129:320+ N '23

See also Automobiles—Electric equipment

Lubrication

Chalco automatic chassis lubrication system. *diag Automotive Ind* 46:950 My 4 '22

Chassis lubrication. B. Darrach, jr. *Automotive Ind* 46:1076 My 18 '22

High pressure lubrication for the automobile. *il Sci Am* 129:262 O '23

Improved distribution given by centralized oiling system. *diags Automotive Ind* 46:1056 My 18 '22

Various methods of chassis lubrication. C. T. Myers. *Automotive Ind* 45:1067-9 D 1 '21; Discussion. 46:476-7, 1388-9 F 23, Je 22 '22

See also Automobile engines—Lubrication

Manifolds

See Automobile engines—Manifolds

Manufacture

Addition of simple fixtures lowers manufacturing costs. *diags Automotive Ind* 49:380-2 Ag 23 '23

Applications of the electrical oven in the automobile industry. L. F. Leurey. *il J Elec* 50:295 Ap 15 '23

Applying the assembly principle to manufacture. M. A. C. Nicholls. *Eng & Ind Management* 7:218-20 F 23 '22

Are automobile manufacturing methods applicable to the textile industry? D. T. Hamilton. *Am Mach* 55:994-5 D 22 '21

Automobile pattern drafting. F. X. Morio. 60p U. P. C. book co. '22

Automobile production work on turret lathes. E. K. Hammond. *il Mach* 28:261-4 D '21

Automobile shop practice. E. K. Hammond and F. D. Jones. 306p Industrial press, New York '23

Automobiles and the asbestos industry. *Automotive Ind* 46:520-2 Mr 2 '22

Automobile's influence on machine tool industry. F. K. Hendrickson. *Automotive Ind* 45:926-7 N 10 '21

Automotive pattern drafting. W. Scholl. *diags Sheet Metal Worker* 13:840-4, 894-7; 14:6-7+, 46-7, 83-4+, 113-15, 204-6, 283-5, 405-7, 490-1+, Ja 5-Mr 16, Ap 13, My 11, Je 22, Jl 20 '23

Automotive use of copper and brass increasing constantly. W. C. Hirsch. *Automotive Ind* 48:1282-3 Je 14 '23

Better cars at lower price—a production achievement. J. E. Schipper. *Automotive Ind* 46:1147-9+ Je 1 '22

Body production system combines progressive and group methods. J. E. Schipper. *il Automotive Ind* 47:1221-4 D 21 '22

Careful inspection characterizes quality body building on Packard closed cars. J. E. Schipper. *il Automotive Ind* 48:672-5 Mr 22 '23

Cost-reducing tooling equipments; tooling equipments employed for machining steering knuckles and other automobile forgings. R. E. Flanders. *il diags Mach* 28:301-5 D '21

Defects in automobile steel sheets. G. F. Constock. *il Iron Age* 111:1475-80 My 24 '23

Developments in production grinding in the automotive industry. O. A. Knight. *il diags Soc Auto Eng J* 13:387-92 N '23; Same. *Am Mach* 59:787-90 N 29 '23

Experience notes from a production notebook: sources and causes of noise in automobiles. H. J. Crain and J. Brodie. *Soc Auto Eng J* 11:409-12+ N '22; Same cond. *Automotive Ind* 47:862-4 N 2 '22; Same cond. *Am Mach* 57:846-9 N 30 '22; Discussion. *Soc Auto Eng J* 12:22-5 Ja '23

Grinding in the automotive industry. *il diags Mach* 28:855-62, 946-51 Jl-Ag '22

Handling methods in automobile assembly. F. H. Colvin. *il Am Mach* 57:693-4 N 2 '22; Same. *Ind Management (Lond)* 9:56 Ja 25 '23

Improved methods in locomobile shop. L. S. Love. *il diags Iron Age* 111:1763-9 Je 21 '23

Influence of the automobile on the design of presses and dies. N. W. Dorman. *Sibley J* 36:91-3 My '22

Influence of the automotive industry on thread-cutting tools. C. N. Kirkpatrick and G. G. Vink. *il diags Am Mach* 56:479-81 Mr 30 '22

Large scale production made possible by modern methods. J. E. Schipper. *il Automotive Ind* 45:1221-4 D 22 '21

Light car production. *il Automotive Eng* 13:174-7 Je '23

Light metal research will affect future car and truck design. *Automotive Ind* 46:1278-83 Je 8 '22

Manufacture of Jewett sedan shows progress in pressed metal work. J. E. Schipper. *il Automotive Ind* 47:1180-3 D 14 '22

Manufacturing and shipping costs cut by building bodies in sections. J. E. Schipper. *il Automotive Ind* 48:215-17 F 1 '23

Mass production in British motor industries: Austin motor company. H. Obermeyer and A. L. Greene. *il Am Mach* 57:524-6 O 5 '22

Meteor works of the Rover company. *il Automotive Eng* 13:114-9 My '22

Modern grinding practice; a review of the application of this process to automobile work. *il chart diags Automotive Eng* 13:11-15 Ja '23

Production efficiency offsets rise in wages and material prices; overhead conveyor installation cuts unit cost of enameling windshield frames at Ternstedt plant. *il plan Automotive Ind* 48:1181-2 My 31 '23

Production men ask detailed questions about machine tool possibilities. *Automotive Ind* 49:879-81 N 1 '23

Production work in a contract shop. F. R. Daniels. *il diags Mach* 28:603-7, 702-5 Ap-My '22

Progressive assembly reduces costs in Franklin trim shop. *il Automotive Ind* 48:1164-6 My 31 '23

Relation of power presses and dies to the automobile industry. H. J. Hinde. *diag Engineering* 112:523 O 7 '21; Same. *Automotive Ind* 45:978-9 N 17 '21; Same. *Eng & Ind Management* 6:724-5 D 22 '21

Research on wood products aids economical automobile production. *Automotive Ind* 46:1284-5 Je 8 '22

Routing automobiles through assembly. *Management & Adm* 6:48 Jl '23

Seeking simple production methods saves time and money. W. L. Carver. *il Automotive Ind* 49:276-80 Ag 9 '23

Automobiles—Manufacture—Continued

Selection of machine-tools. A. J. Baker. Soc Auto Eng J 11:520-3 D '22
Small car production; methods of Belsize motors, ltd. il Automobile Eng 13:208-12 J1 '23

Some grinding operations at the Marmon plant. il Am Mach 57:538-9 O 5 '22

Some interesting production methods. il Automobile Eng 13:45-51 F '23

Some points in manufacturing. O. Stromborg. il Engineer 132:695-6, 706 D 30 '21

Speeding up transmission assembling. il Am Mach 59:617-18 O 25 '23

Standard versus special machine-tools for automotive production. R. K. Mitchell. Soc Auto Eng J 11:472-3 D '22; Same cond. Am Mach 57:852-3 N 30 '22

Thames-side motor car works. il Engineer 136:77-8 J1 20 '23

Trippensee uses sub-assembly methods in building sedan bodies. J. E. Schipper. il Automobile Ind 48:507-9 Mr 1 '23

Use of wrought aluminum alloys in automobile construction. W. Rosenhain. Automotive Ind 45:862-4 N 3 '21; Discussion. 45: 1130-1; 46:526-7 D 8 '21, Mr 2 '22

Welding aluminum in automotive parts manufacture. H. C. Knerr. il diags Automotive Ind 48:726-31 Mr 29 '23

What about automobile shops? A. L. De Leeuw and K. H. Condit. Am Mach 59: 643-5, 683-4, 723-4, 753-4 N 1-22 '23

Widman uses high-bake enamel panels in production of Jewett brougham. W. L. Carver. il Automobile Ind 49:681-4 O 4 '23

See also Automobile engines—Manufacture; Automobile factories; Automobile parts; Automobiles—Painting; Automobiles—Weight; Japanning; Steel, Automobile

Number plates

Proposed S.A.E. standard for license plates. diags Soc Auto Eng J 12:126 Ja '23

Speeding up the auto-tag industry. il Sci Am 127:255 O '22

Numbers

Engine and frame numbers; discussion by S.A.E. standards committee. diags Soc Auto Eng J 11:210-13 Ag '22; Excerpt. Automotive Ind 47:222-3 Ag 3 '22

Painting

Automobile finishing-varnish. L. V. Pulsifer. Soc Auto Eng J 12:89-94 Ja '23; Same cond. Automotive Ind 48:115-17 Ja 18 '23; Discussion. Soc Auto Eng J 12:335-41, 456-8 Ap-My '23

Body finishing costs are reduced by progressive system. il Automotive Ind 49:328-30 Ag 16 '23

Expediting body finish operations by use of drying equipment. J. E. Schipper. il plan Automotive Ind 46:718-21 Mr 30 '22

Labor costs halved by use of Duco in finishing Oakland bodies. W. L. Carver. Automotive Ind 49:524-6 S 13 '23

Manufacture and application of automobile varnishes and paints. L. V. Pulsifer. Soc Auto Eng J 10:12-16 Ja '22; Excerpts. Automotive Ind 46:119-20 Ja 19 '22; Discussion. Soc Auto Eng J 10:388-94 My '22

Relation of the chemical engineer to the manufacture and application of automobile finishes. C. D. Holley. il diags Am Inst Chem Eng Trans v 13 pt 2:199-208 '20-'21

See also Duco finish

Parking

See Automobile laws and regulations; Automobile parking; Traffic regulations

Prices

Car makers striving to escape higher retail prices. J. Dalton. Automotive Ind 48:855-8 Ap 19 '23

Competition brings price cuts; sales stimulated. J. Dalton. Automotive Ind 47:251-2 Ag 10 '22

New kind of competition; cutting the selling cost. F. L. Klingensmith. Ptr Ink 117:57-8-D 29 '21

1923 trend of motor prices. J. W. Scoville. Comm & Fin Chr 116:232-3 Ja 20 '23
Price changes announced at New York show. Automotive Ind 46:91-4 Ja 12 '22
Prices today, on the average, are 3 per cent lower than they were on January 1. Automotive Ind 49:713 O 4 '23
71 per cent of cars sell for less than \$1,000. N. G. Shidle and E. B. Prescott. Automotive Ind 47:451-3 S 7 '22

Radiator splash shields

Automotive pattern drafting. W. Scholl. diags plan Sheet Metal Worker 14:6-7- F 2 '23

Radiators

See Automobile engines—Radiators; Motor truck engines—Radiators

Repair

Auto repair practice. L. A. Emerson and L. C. Jones. 443p Century '23

Automobile crankshaft repair work. il Mach 28:567-8 Mr '22

Automotive repair. J. C. Wright. 2v 530; 417p Wiley '21-'22

Automotive service methods and equipment. H. Campbell. il Am Mach 55:619-23, 710-13, 789-91, 870-3, 1026-8; 56:59-61, 125-7, 521-2, 692-3, 782-4, 854-6, 920-2; 57:4-6, 89-91; 58:411-13, 659-61, 721-3; 59:213-16, 255-8, 355-8, 429-32 O 20, N 3, 17, D 1, 29, '21, Ja 12, 26, Ap 6, My 11, 25, Je 8, 22, J1 6, 20 '22, Mr 15, My 3, 17, Ag 9-16, S 6, 20 '23

Automotive trade training. R. F. Kuns. 620p Bruce pub. co., Milwaukee '22

Chassis repairs. Sci Am 128:49 Ja '23

Disassembling the Marmon for repair work. F. H. Colvin. il Am Mach 57:725-6 N 9 '22

Ford car, truck and tractor repair. A. A. Good. 229p McGraw-Hill '22

Making auto bumps pay the overhead. W. Scholl. diags Sheet Metal Worker 13:789-91-D 22 '22

Need of straightening in automobile repair work. D. A. Hampson. Am Mach 58:760 My 24 '23

Service and its relation to the industry. O. C. Funderburk. il diags Soc Auto Eng J 12: 265-72 Mr '23; Discussion. 12:535-8 Je '23

Service-man's critical estimate of automotive engineering. B. M. Ikert. diags Soc Auto Eng J 10:263-9 Ap '22; Discussion. 11:173-9 Ag '22

Short cuts on auto repairing. 189p American automobile digest, Cincinnati, O. '22

Substitutes for welding in auto repairs. D. A. Hampson. diags Am Mach 58:44-5 Ja 4 '23

Systemisation of repair methods. R. Twelve-trees. il diags Automotive Ind 12:145-8 My '22

Why customers send their friends to us. F. B. Connelly. System 42:540-1- N '22

See also Automobile engines—Repair; Automobile service stations; Garages—Management

Running board shields

Automotive pattern drafting. W. Scholl. diags Sheet Metal Worker 14:283-5 My 11 '23

Seats

Body seating-dimensions. G. E. Goddard. diags Soc Auto Eng J 10:117-20 F '22; Same. Automotive Ind 46:230-2 F 2 '22; Discussion. Soc Auto Eng J 10:394-5 My '22

See Shock absorbers

See Snow motor

Specifications

American passenger car chassis specifications; tabulation. Automotive Ind 46:332-5; 48:380-3 F 16 '22, F 22 '23

American passenger car export specifications; tabulation. Automotive Ind 46:337; 48:386 F 16 '22, F 22 '23

British passenger car chassis specifications for 1922; tabulation. Automotive Ind 46: 340-3 F 16 '22

Automobiles—Specifications—Continued

- British passenger car chassis specifications for 1923; tabulation. *Automotive Ind* 48:388-91 F 22 '23
- Continental passenger car chassis specifications; tabulation. *Automotive Ind* 46:344-7; 48:396-401 F 16 '22, F 22 '23

Speed

- Automotive vehicle speed records. *Automotive Ind* 46:428-9 F 16 '22
- L'influence de la vitesse des véhicules sur la facilité de traversée d'une chaussée fréquentée par les piétons. G. Morin. *Génie Civil* 82:528-30 Je 2 '23
- Uniform regulation of engine speed. H. De-champs. *diags Automotive Ind* 47:1174-5 D 14 '22

Springs

- Automobile spring steel; proposed S.A.E. recommended practice. *diags Soc Auto Eng J* 10:478-80 Je '22; Same. *Automotive Ind* 46:1329-30 Je 15 '22
- Can more flexible front springs be successfully used? G. L. McCain. *diags Automotive Ind* 48:516-17 Mr 1 '23
- Coleman spring suspension which secures greater flexibility. *diags Automotive Ind* 46:969 My 4 '22
- Combination shearing and forming die for high production. W. E. Hill. *diags Am Mach* 58:559-60 Ap 12 '23
- Design and functioning of laminated automobile suspension springs. A. A. Remington. *diags Automotive Eng* 12:118-27 Ap '22; Same abr. *Automotive Ind* 46:757-63, 807-12 Ap 6-13 '22
- Design of motor car suspensions. A. A. Remington. *diags Automotive Eng* 12:139-41 My '22
- European makers adopt quarter elliptic springs for light cars. M. W. Bourdon. *diags Automotive Ind* 46:1153-7 Je 1 '22
- Four new methods in spring production. J. E. Schipper. *il Automotive Ind* 47:821-3 O 26 '22
- Front springs. *il Automotive Eng* 11:448-9 D '21
- Keeping springs young. *il Sci Am* 127:401 D '22
- Manufacture of leaf springs. E. K. Hammond. *il Mach* 29:769-71 Je '23
- Modern methods of making leaf springs. E. F. Lake. *il Iron Age* 109:1269-74, 1343-6 My 11-18 '22
- New departure in vehicle spring design. *il diags Automotive Ind* 46:173-4 Ja 26 '22
- New spring design makes master leaf thinner than shorter plates. *diags Automotive Ind* 49:117-20 Jl 19 '23
- New suspension system. chart *diags Automobile Eng* 12:343-5 N '22
- New system of spring-suspension for automobile vehicles. H. M. Crane. *il diag Soc Auto Eng J* 10:463-5 Je '22; Abstract. *Automotive Ind* 46:1421-2 Je 29 '22; Discussion. *Soc Auto Eng J* 11:237-40 S '22
- Notes on spring action. *Soc Auto Eng J* 12:312-14 Mr '23
- Novel spring assembly. *il Sci Am* 129:260 O '23
- Novel type of suspension interests British car manufacturers. M. W. Bourdon. *diags Automotive Ind* 45:858-9 N 3 '21
- Phosphor bronze strip for flat springs; S.A.E. standard specification no. 77. *Soc Auto Eng J* 10:482 Je '22; Same. *Automotive Ind* 46:1330 Je 15 '22
- Principles of vehicle suspension. H. S. Rowell. *diags Automotive Eng* 13:118-22 Ap '23
- Radical departure in suspension springs. *diags Automotive Ind* 47:921 N 9 '22
- Rear suspension. *il diags Automobile Eng* 11:415-21 N 24 '21
- Relative movements between axle and frame; the location of brake, steering, and similar connections. F. A. S. Acres. *diags Automobile Eng* 13:9-10 Ja '23
- Remedy for spring breakage. F. Franz. *diags Automotive Ind* 45:924-5 N 10 '21
- Road spring manufacture; current practice in the United States of America. P. H. Parr. *il diags Automobile Eng* 11:438-45 D '21

- Spring shackle improvements and substitutes. *diags Automotive Ind* 48:1402-3 Je 28 '23
- Spring-suspension and spring materials. R. E. Northway. *Soc Auto Eng J* 12:620-1 Je '23
- Springing and comfort. *Soc Auto Eng J* 11:553-4 D '22
- Springs and suspension. *il diag Automobile Eng* 12:381-4 N 23 '22
- La suspension des voitures automobiles, système Brouillet. *il diags Génie Civil* 79:495-6 D 3 '21
- See also Motor buses—Springs; Motor trucks—Springs

Standards

- Automobile standardization in Great Britain. A. A. Remington. *Soc Auto Eng J* 9:377-8 D '21
- Conference on standardization held in Washington. *Bus Transportation* 2:201 Ap '23
- Current standardization work. *Soc Auto Eng J* 7:558-61; 8:512-13; 9:118, 209-12, 285-7, 345-7; 10:69-72, 298-300, 433-9; 12:124-8, 315-16, 404-8 D '20, My, Ag-N '21, Ja, Ap-My '22, Ja, Mr-Ap '23
- Eliminating needless cost and confusion. D. G. Baird. *Ind Management* 65:334-7 Je '23
- Executive view of automotive electric standardization. G. E. Griffin. *Automotive Ind* 47:1072-3 N 30 '22
- Executives should foster use of standards. H. Chase. *Automotive Ind* 45:1101-7 D 8 '21
- Increased use of standards essential to future automotive prosperity. F. E. Moskovics. *Automotive Ind* 47:671 O 5 '22
- Industrial standardization. G: W. Watson. *Automobile Eng* 11:356-8 O '21; Same cond. *Soc Auto Eng J* 9:359-63 D '21
- Maintenance effects of automotive electrical equipment standardization. A. H. Packer. *Soc Auto Eng J* 12:283-6 Mr '23; Discussion. 12:538-9 Je '23
- More about standardization. *Ptr Ink* 120:123-4 Ag 10 '22
- New impetus given standards by Washington meeting. N. G. Shide. *Automotive Ind* 48:601-3 Mr 15 '23
- New S.A.E. standards report of interest to many manufacturers. *diags Automotive Ind* 46:1328-36, 1428, 1430 Je 15, 29 '22
- Production and marketing economy obtained by use of standards. D. C. Fenner. *Automotive Ind* 48:167 Ja 25 '23
- Reports of divisions to Standards committee of the S.A.E. *Soc Auto Eng J* 10:475-88+; 11:198-215, 448-53, 529-47; 12:565-85 Je, Ag, N-D '22, Je '23
- Several new standards proposed at S.A.E. meeting. *Automotive Ind* 48:1340-1 Je 21 '23
- Simplification conference committee. *Soc Auto Eng J* 12:365-6 Ap '23
- S. A. E. standardization. G: W. Dunham. *Soc Auto Eng J* 9:371-4 D '21
- S.A.E. standards committee adopts fifteen division reports. J. E. Schipper. *diag Automotive Ind* 48:185-9 Ja 25 '23
- S.A.E. standards committee meeting. *Soc Auto Eng J* 12:217-30 F '23
- S. A. E. standards; their value, recognition and future development. B. B. Bachman. *Soc Auto Eng J* 9:355-6 D '21
- Standardisation of the motor car parts. H. G. Burford. *Engineer* 136:402-3 O 12 '23
- Standards committee meeting. *Automotive Ind* 46:122-4 Ja 19 '22
- Tentative standardization work. *Soc Auto Eng J* 12:486-9 My '23
- Tire and rim association standards. *diags India Rubber W* 67:358 Mr '23
- Transmission standardization. *Automotive Ind* 45:973 N 17 '21

Starting devices

- Accessory drives and starters. *il Automobile Eng* 11:402-4 N 24 '21
- Car that will not stall. *il Sci Am* 127:414 D '22
- Device to facilitate starting. *diag Automotive Ind* 47:970 N 16 '22

Automobiles—Starting devices—Continued

Novel starter armature eliminates use of soldered commutator joint. diags Automotive Ind 46:1108 My 25 '22
 Remy starter with right angle drive used on copper cooled Chevrolet. il diags Automotive Ind 48:557-8, Mr 8 '23

See also Automobiles—Electric equipment

Steering gear

Automobile steering linkage. P. Cormack. diags Philos Mag 6th ser 46:665-71 O '23
 Better and safer steering systems advocated. W. J. P. Moore. Automotive Ind 48:627-8 Mr 15 '23
 Correct steering system layout prevents wheel wobble. C. T. Myers. diags Automotive Ind 48:575-7 Mr 8 '23
 Critical study of modern steering system design. H. Chase. diags Automotive Ind 47:1225-32, 1276-80 D 21-28 '22; Same. Soc Auto Eng J 12:377-88 Ap '23; Same. Automobile Eng 13:265-72 S '23; Discussion. Automotive Ind 48:110-12, 580-1 Ja 18, Mr 8 '23; Soc Auto Eng J 12:234, 236, 388-97; 13:205-6 F, Ap, S '23
 Hard steering result of inaccurate manufacture and assembly. E. M. Caskey. Automotive Ind 47:1068-9 N 30 '22
 Marles steering gear. il diags Automobile Eng 12:9 Ja '22
 New model Lavine steering gear. diags Automotive Ind 45:1227 D 22 '21
 New steering gear. il Sci Am 128:403 Je '23
 New weldless type of drag link. diag Automotive Ind 46:806 Ap 13 '22
 Recent steering gear designs. diags Automotive Ind 48:1404-5 Je 28 '23
 Ross producing new cam and lever type of steering gear. il Automotive Ind 48:271 F 8 '23

Ross steering gear for passenger cars. il Automotive Ind 46:271 F 9 '22
 Some present-day steering gears. il diags Automobile Eng 12:405-6 D '22
 Steering gear design. P. Cormack. diags Automobile Eng 12:249-50 Ag '22
 Steering system stresses reduced with transversely raked pivots. O. M. Burkhardt. diags Automotive Ind 47:1178-9; 48:984-5 D 14 '22, My 3 '23

What makes for easier steering in passenger cars? J. E. Schipper. diag Automotive Ind 47:716-17 O 12 '22

Wheel wobble and other faults in the steering system. A. L. Clayden. diags Automotive Ind 47:667-70 O 5 '22; Discussion. 47:831, 937-8, 1038-40; 48:288-9 O 26, N 9, 23 '22, F 8 '23

Stopping

Automobile control, city planning and traffic regulation. H. S. Swan. Eng N 90:351-3 F 22 '23

Distances required for stopping. P. M. Heldt. diag Automotive Ind 48:280-1 F 8 '23

L'influence de la vitesse des véhicules sur la facilité de traversée d'une chaussée fréquentée par les piétons. G. Morin. Génie Civil 82:528-30 Je 2 '23

See also Automobiles—Braking; Automobiles—Control

Tables, calculations, etc.

Studies of the automobile. B. G. Upton. Sibley J 36:108-13 Je '22

Taxation

French method of taxation serious obstacle to sale of American automobiles. Automotive Ind 46:1435 Je 29 '22

New automobile tax recommended for New York. Bus Transportation 1:246-7 Ap '22

Passenger car registration fees generally low. Automotive Ind 45:1272-5 D 29 '21

See also Motor vehicles—Taxation

Terminology

Automobile nomenclature; proposed revision of S. A. E. standard. Soc Auto Eng J 11:541 D '22

British association agrees on standard body nomenclature. Automotive Ind 48:1186 My 31 '23

British standardize on American nomenclature. M. W. Bourdon. Automotive Ind 47:421 Ag 31 '22

Henslowe's motor dictionary, English-Spanish, Spanish-English. L. Henslowe, comp. 92p Peter Reilly co., 133 N. 13th st., Philadelphia

Touring car versus phaeton. G. J. Mercer. Automotive Ind 47:759 O 19 '22

Testing

Autos given road test in garage. il Pop Mech 37:73 Ja '22

Can we afford the Ford; comparative efficiencies of leading cars. G. G. Brown. J Ind & Eng Chem 14:972-3 O '22

Chassis testing plant. diags Automobile Eng 12:20-1 Ja '22

Fiat factory roof track cuts chassis testing costs 60 per cent. il Automotive Ind 48:1173-4 My 31 '23

New motor-car testing apparatus gives complete road performance data. G. H. Dacy. il Pop Mech 38:501-2 O '22

Rear wheel dynamometer tests and their significance to the engineer. H. Chase. il chart diags Automotive Ind 46:859-68 Ap 20 '22

Sixteen-to-one automobile testing. S. R. Winters. il diags Sci Am 129:162 S '23

Some road tests with a new type of accelerometer; the Drewry testometer. S. H. Woods. diag Automotive Ind 45:970-2 N 17 '21

Special device gives new cars severe test. il Automotive Ind 49:429 Ag 30 '23

Two S.A.E. sections join in discussion of chassis losses. Automotive Ind 46:926-7 Ap 27 '22

Theft

Automobile thefts on the increase. Am Ind 23:30 S '22

Your automobile and the thief. E. H. Smith. il Sci Am 128:366-7+ Je '23

See also Automobile locks; Automobiles—Numbers

Tire carriers

Few interesting tire carriers. diags Automotive Ind 48:1398-1401 Je 28 '23

Tires

See Tires, Automobile

Tops

Advantages of permanent tops repay added cost of production. J. Ferguson. diags Automotive Ind 49:234-5 Ag 2 '23

How to avoid some awkward features in phaeton top construction. J. Ferguson. diags Automotive Ind 48:1175-6 My 31 '23

Refinement of tops for open models will help foreign sales. J. D. Mooney. Automotive Ind 48:1413 Je 23 '23

Some notes on the California top; with discussion. P. W. Steinbeck. il diags Soc Auto Eng J 10:366-8 My '22

Testing leather substitutes and top materials. J. B. Davis. il diags Soc Auto Eng J 12:276-82 Mr '23; Discussion. 12:449-50 My '23

Weather protection on British open cars. M. W. Bourdon. il diags Automotive Ind 45:1163-6 D 15 '21

What can manufacturers do to promote open car sales? Automotive Ind 49:83-4 Jl 12 '23

What is best form of top for cars with open bodies? Automotive Ind 49:128-9 Jl 19 '23

Transmission

New sliding change speed gearsets announced in Europe. il diags Automotive Ind 49:830-3 O 25 '23

Power losses in universal joints. O. D. North. diags Automobile Eng 12:171-3 Je '22

Sperry electric transmission provides for direct drive. il diags Automotive Ind 47:711-14 O 12 '22

See also Automobiles—Gearing

Transportation

All-steel automobile cab construction on the U. P. system. il diags plans Ry R 72:53-8 Ja 6 '23

Automobiles—Transportation—Continued

- Automobile carrying fleet developed on Great Lakes. *il* Marine Eng 28:496-7 Ag '23
 Best representative examples of box and automobile cars built in 1922. *il* Ry R 72:40-3 Ja 6 '23
 Chicago, Milwaukee & St Paul automobile cars. *il* diags plans Ry Mech Eng 97:97-105 F '23
 Design of automobile car presents special problems. *il* diags plans Ry R 71:731-9, 799 N 25-D 2 '22
 Dodge brothers use progressive crating system for export. Automotive Ind 48:1345 Je 21 '23

Tubing and hose

- New tube has no splice. *il* Automotive Ind 46:721 Mr 30 '22

Upholstery

- Automobile leather production. A. G. Wikoff. Chem & Met Eng 29:309-13 Ag 20 '23
 Closed cars and upholstery goods. Textile World 63:3480-1 My 26 '23
 Harmony in car upholstery. R. S. Quaintance. Soc Auto Eng J 10:131-4 F '22; Excerpts. Automotive Ind 46:118 Ja 19 '22; Discussion. Soc Auto Eng J 10:400-2 My '22
 Upholstery leather specifications being prepared by S.A.E. to obtain uniformity. diags Soc Auto Eng J 13:344-6 O '23

Weight

- Advantages of light-weight reciprocating parts. L. H. Pomeroy. Soc Auto Eng J 11: 508-15; Discussion. 515-19 D '22
 Permissible proportion of unsprung weight. Automotive Ind 46:1176-7 Je 1 '22

Wheels

- Anti-mud-splashers compulsory in Europe. *il* Pop Mech 39:580 Ap '23
 Automobile rims made in thirty minutes. F. L. Prentiss. *il* Iron Age 112:1233-6 N 8 '23
 Axle and wheels division report; front wheel mountings. Soc Auto Eng J 12:566-8 Je '23; Discussion. 13:79-80 Jl '23
 Camber and gather relationships in front-wheel alignment. J. C. Sproull. diags Soc Auto Eng J 11:91-2+ Jl '22
 Comparative merits of steel disc and wood wheels for automobiles. J. W. White. diags Soc Auto Eng J 13:207-11; Discussion. 211-12 S '23
 How pressed steel wheels are made. J. E. Schipper. Automotive Ind 47:71-4 Jl 13 '22
 Improved demountable rim for motor-car wheels. *il* Pop Mech 39:379 Mr '23
 Making welded pressed-steel automobile wheels. *il* Mach 29:757-61 Je '23
 Nichols two-piece rim eliminates bolts, screws, hinges and rivets. *il* Automotive Ind 49: 165 Jl 26 '23
 Passenger-car front-wheel hubs; S.A.E. tentative dimensions. Soc Auto Eng J 12:315 Mr '23
 Pneumatic hub. A. Gradenwitz. *il* Sci Am 126:127 F '22
 Spring wheel. C. P. Schwarz. diags Automobile Eng 13:238-42 Ag '23
 Steel felloes for wood wheels; S.A.E. recommended practice. Soc Auto Eng J 12:316 Mr '23
 Tooling equipment for automobile hubs and pistons. R. E. Flanders. *il* diags Mach 28: 640-4 Ap '22
 Wire wheels. W. W. Davison. *il* Soc Auto Eng J 13:201-4+ S '23
See also Automobiles—Axles; Tires, Automobile

Windows

- New window regulator operates by means of eccentrics. diags Automotive Ind 49:227 Ag 2 '23
 Simple window regulator. diags Automotive Ind 46:351 Ap 20 '22
 Straight-line center lift feature of new window regulator. *il* Automotive Ind 49:378 Ag 23 '23

Automobiles, Electric. *See* Electric vehicles

Automobiles, Industrial

- If we buy cars for our men—. System 43: 756-8+ Je '23
 It cuts selling costs and increases sales. System 44:59-61+ Jl '23
 New type of commercial car for salesmen. *il* Sci Am 127:199 S '22
 Use of automobiles in small-town sales work. J. J. Witherspoon. *Ptr Ink M* 6:23-4+ Ap '23
See also Motor trucks

Automobiles, Radio controlled

- Air service develops radio controlled automobile. *il* Aviation 11:690 D 12 '21

Automobiles, Steam

- Future design of road vehicles; abstracts with discussion. J. Thornycroft. Engineer 133:581-2 My 26 '22; Engineering 113:649-50 My 26 '22
 Latest Stanley chassis incorporates numerous refinements. P. M. Heldt. diags Automotive Ind 48:617-22 Mr 15 '23
 Steam car that is different. *il* Sci Am 126: 262 Ap '22
 Steam touring car similar in form to gasoline car. *il* Pop Mech 37:693 My '22
 Winslow automotive boiler. C. B. Page. *il* diags Soc Auto Eng J 11:265-71; Discussion. 271-2+ S '22
See also Motor trucks, Steam

Automobiles and roads

- Comparative gasoline consumption on different road surfaces. A. B. Cutter. *Munic Eng* 64:193-5 My '23; Same. Good Roads 65:3-4 Jl 4 '23; Same abr. Eng & Contr (R & S) 59:1254 Je 6 '23
 Economic considerations in choice of a pavement. C. C. Williams. Eng & Contr (R & S) 59:9-11 Ja 3 '23
 Economic study of highway design and location. O. L. Kipp. Eng N 90:699-701 Ap 19 '23
 Economic theory of highway grades; tests in Iowa give working equations for both automobiles and commercial vehicles. T. R. Agg. *il* diags Eng N 90:76-9 Ja 11 '23
 Effect of road surfaces on gasoline consumption. F. R. White. Eng & Contr (R & S) 56:184-6 D 6 '22
 Farmers and city dwellers benefit equally from use of automobile. G. M. Graham. Automotive Ind 47:885-6 N 2 '22
 Holding the road. Soc Auto Eng J 11:256-7 S '22
 Making western highway programs build car sales. N. G. Shidle. Automotive Ind 47:501-3 S 14 '22
 Quality of brakes has marked effect on capacity of highways. W. S. James. Automotive Ind 49:412-14 Ag 30 '23
 Twenty-two miles of highway sell hundreds of cars and trucks. H. Hyde. map Automotive Ind 47:1176-7 D 14 '22
See also Motor trucks and roads; Road traffic

Automobiles in postal service

- Politics prevents use of automotive equipment for rural mail delivery. Automotive Ind 47: 178-9 Jl 27 '22

See also Motor trucks in postal service

Automobiles on rails

- Automobiles on railroad tracks. J. Hewes. *il* Am Mach 58:142 Ja 25 '23

Automotive electric association

- Summer convention, Old Orchard, Me., Aug. 28-31. D: Beecroft. Automotive Ind 47:480-1 S 7 '22

Automotive equipment association

- Annual convention, Chicago, Nov. 13-17. N. G. Adair. Automotive Ind 47:1012-13 N 23 '22

- Plugging a wasteful hole in the automobile industry. C. M. Harrison. *Ptr Ink* 120:128+ O 12 '22

- What the A.E.A. means to the car and truck manufacturers. C. Jennings. Automotive Ind 46:1431-3 Je 29 '22

Automotive industries

- Automotive consumption outstanding feature of 1922 metal markets. W. C. Hirsch. Automotive Ind 48:7-12 Ja 4 '23

Automotive industries—Continued

Automotive industry organizes for international trade. *Automotive Ind* 46:920-3 Ap 27 '22

See also Aircraft industry; Airplane industry and trade; Automobile industry and trade; Motor truck industry and trade; Motorcycle industry and trade; Tractor industry and trade

Canada

Canadian motor vehicle output makes big gain in 1922. *Automotive Ind* 48:1339 Je 21 '23

Great Britain

Motor transport makes great strides in Europe. P. Johnson. *Automotive Ind* 49:271-3 Ag 9 '23

United States

Automotive exports from United States by customs districts, 1922. *Automotive Ind* 48:875 Ap 19 '23

Closed car production in 1921 gains 96 per cent over 1919. *Automotive Ind* 48:20 Ja 4 '23

Exports of cars, trucks and tires for February, 1923; tabulation. *Automotive Ind* 48:1036-7 My 10 '23

Exports of passenger cars, trucks, tires, tractors, motorcycles and aircraft for February, 1922. *Automotive Ind* 46:876-7 Ap 20 '22

1923 automotive exports will be double 1922 totals. N. G. Shidle. *Automotive Ind* 49:359-61 Ag 23 '23

Tractor, motorcycle, battery and spark plug exports for 1st quarter. *Automotive Ind* 49:25 Ji 5 '23

Autoplate machine

How an inventor straightened out a labor tangle. J. H. Collins. *il Sci Am* 126:102-3 F '22

Autotransformers. See Electric transformers—Autotransformers**Autunite**

Beiträge zur kenntnis der kalk-uran-glimmer (autunite). F. Henrich. *Deutsche Chem Gesell Ber* 55:1212-15 My '22

Average

Averages—straight and weighted. *Power* 57:91 Ja 16 '23

Aviation

Across the continent in twenty-two hours. *il Aerial Age* 15:536+ N '22

Airplane lands in Grand Cañon. R. C. Folger. *il Pop Mech* 38:838-40 D '22

American legion flying meet. *il Aviation* 11:564-5 N 14 '21

Army-Fokker crosses continent in 27 hours; Lieuts. Kelly and Macready fly non-stop from New York to San Diego at speed of 93½ m.p.h. *il Aviation* 14:524-6 My 14 '23

Aviation meet to be held at Hartford, Nov. 10-11. *Aviation* 13:512-13 O 16 '22

Aviation meeting at Omaha. *il Aviation* 11:565-70 N 14 '21

Aviation progress in Vermont; meet at Brattleboro. *Aviation* 13:324 S 11 '22

Book of the sky. M. Luckiesh. 236p Dutton '22

Cross-country night flight from Washington to New York City. *Aviation* 13:229 Ag 21 '22

Flying in California. R. J. Smith. *Aerial Age* 15:548-9 N '22

Flying meet at Tarkio, Mo. *Aviation* 13:258 Ag 28 '22

14,000 miles through the air. R. M. Smith. 136p Macmillan '22

From jungleland into skyland. H. Norden. *Aerial Age* 15:56-7 Mr 27 '22

General Patrick makes long airship flight. *Aviation* 11:624 N 28 '21

Geology as an aid to air navigation. M. G. Christie. *Aviation* 14:609-11 Je 4 '23

Marine corps flight from coast to coast. *Aviation* 14:607-8 Je 4 '23

Naples aviation meeting. A. Baciocchi. *il Aviation* 13:317 S 11 '22

New Arctic flying expedition. *il Aviation* 15:549 O 29 '23

Night flying. *Aviation* 14:427 Ap 16 '23

Organizing a successful meet. W. W. Wyman. *Aerial Age* 15:453 S '22

Pilots and planes that reached the port of missing men. *il Pop Mech* 40:890-3 D '23

Round-the world flight; itinerary. *Aviation* 13:192 Ag 14 '22

South Atlantic flight. *Aerial Age* 15:280 My 29 '22

Third aviators' armistice dinner. *Aviation* 11:604-5 N 21 '21

2000 mile flight of the army Fokker T2. *Aviation* 14:8-11 Ja 1 '23

See also Aerodynamic laboratories; Aeronautics; Aeronautics, Commercial; Air routes; Airplane races; Airplanes; Airships; Altitude, Influence of; Aviators; Aviettes; Balloon races; Flying boats; Gliders; Parachutes; Radio telegraph in aviation; Seaplanes; United States—Air service; Wind tunnels; *also* International air traffic association

Accidents

Safety of flying. J. F. Hardecker. *Am Mach* 58:764 My 24 '23

Strain from extreme speed wrecks racing airplane. *il Pop Mech* 36:877 D '21

Contact flying

Experiments in contact flying at Mitchel field; with a description of the apparatus for making contact. *Aviation* 14:374 Ap 2 '23

Endurance records

JL6 makes new world's duration record. *il Aviation* 12:38-40 Ja 9 '22

Larsen plane establishes world's endurance record. *Aerial Age* 14:413+ Ja 9 '22

Latest endurance flight by First Lieuts. Lowell H. Smith and John P. Richter. *Aviation* 15:165-7 Ag 6 '23

New F.A.I. duration record. *il Aviation* 13:634 N 6 '22

Official report of endurance of Lieuts. Kelly and Macready on transcontinental non-stop flight from San Diego to New York. *Aerial Age* 16:32-3 Ja '23

T2 makes new duration record. *il Aviation* 13:505 O 16 '22

U.S. captures duration and distance records. *Aviation* 14:449-50 Ap 23 '23

Lighthouses

See Air routes—Lighting

Records

Official world's records for the year 1922; as recognized by the international aeronautic federation. *Aviation* 14:192 F 12 '23

World's airplane record recognized by the F.A.I. *il Aviation* 15:410-11 O 1 '23

World's aviation records, up to December 31, 1921. *Aerial Age* 14:620 Mr 6 '22; *Automotive Ind* 46:429 F 16 '22; *Aviation* 13:468 O 9 '22

Safety devices and measures

Aerial laws and survey of safety in flight urged by Aeronautical chamber of commerce in annual report. *Aerial Age* 15:246-7 My 22 '22

Aeronautical safety code; an outline of the work accomplished by the organizations elaborating this code. *Aviation* 13:606 O 30 '22

Aircraft safety code committee meets. *Aerial Age* 16:26 Ja '23

Aircraft to run on sky cable. *Aerial Age* 14:340 D 19 '21

Greater safety for air travellers; radio or carrier pigeons. *il Aviation* 13:11-12 Ji 3 '22

Loth guide cable for flying in fog. *il diags Aviation* 12:422-3 Ap 10 '22

Safeguarding flying during fogs or at night. *Automotive Ind* 47:427 Ag 31 '22

Six big factors in flying safely. *Aerial Age* 14:294 D 5 '21

Wireless waves guide air navigators through night and fog. H. A. Lane. *il Pop Mech* 37:329-30 Mr '22

Aviation—Continued

Speed records

- Across America in eight hours by utilizing the anti-trade winds. *il Sci Am* 127:149 S '22
- American pilots made new world's speed records. *Aviation* 14:396 Ap 9 '23
- Another non-stop flight record. *il Aerial Age* 16:338-9 Jl '23
- Army flier speeds 220 miles an hour. *il Aviation* 13:504 O 16 '22
- General Mitchell's maximum speed record. *Aviation* 13:717 N 27 '22
- Lieut. L. J. Maitland makes new world speed record. *il Aviation* 14:443 Ap 23 '23
- New seaplane speed record. *Aviation* 14:189 F 12 '23
- Regarding American airplane speed records. *il Aviation* 14:466-7 Ap 30 '23
- Remarkable one-stop airplane flight made by Lieut. J. H. Doolittle, from the Atlantic to the Pacific coast. *Aviation* 13:747 D 4 '22
- Second dawn to dusk flight attempt. *il Aviation* 15:118-19 Jl 30 '23

Transatlantic flight

See Air routes, Transatlantic

Winter flying

- Winter flying. E. W. Stedman. *il Aeronautical J* 26:360-74 S '22

Aviation engines. See Airplane engines; Airship engines

Aviation fields

- Airway field system and investment. A. Black. plans map *Aviation* 12:248-50 F 27 '22
- Marking aerodromes. P. James. *Aerial Age* 14:586+ F 27 '22
- \$2,000,000 aviation field recently completed at San Francisco. *il Pop Mech* 37:250-1 F '22

Aviation landing stations

- Airplane landing field layout. *Aerial Age* 15:555 N '22
- Airway landing fields. C. E. Crumrine. *il Aerial Age* 16:181 Ap '23
- Camp site guide, including all airplane landings in the U.S. 115p U.S. touring information bur., inc., Waterloo, Iowa '23
- Famous trading post now airplane station. *il Pop Mech* 38:669 N '22
- Has your town a landing field; aeronautical safety code lists necessary requirements. *Aviation* 15:186-7 Ag 13 '23
- How to lay out and build an airplane landing field. A. Black. *diags Eng N* 89:504-7 S 28 '22
- Landing field buildings; types, sizes and cost of buildings for civil aeroplane landing fields. A. Black. *il diags Aerial Age* 15:494-9 O '22
- Landing fields in the United States. *Aerial Age* 15:222-4, 252-3 My 15-22 '22
- Landing fields in vicinity of Los Angeles. F. A. Carpenter. map *Aviation* 14:530-1 My 14 '23
- Landing places for seaplanes along the Atlantic coast. E. Easter. *Aerial Age* 15:174-5 My 1 '22; Same abr. *Aviation* 12:506-7 S My 1 '22
- Notices to aviators issued by Hydrographic office, U.S. navy. *Aviation* 12:175, 227, 263, 318, 377, 396, 428-9, 455, 663-5; 13:69-71, 160, 191, 385, 516; 14:21 F 6, 20-27, Mr 13, 27-4p 17, Je 5, Jl 17, Ag 7-14, S 25, O 16 '22, Ja 1 '23
- Organization of airports. *il Aviation* 12:660-2 Je 5 '22
- Progress of construction work on St Louis field. A. B. Birge. *il Aviation* 15:307-8 S 10 '23
- Promoting the establishment of landing fields. *Aerial Age* 15:417 Ag '22
- Some errors in landing field layout. A. Black. *diags plans Aviation* 13:693-4 N 20 '22

See also Air ports; Airships—Mooring

Equipment

- Improved equipment for night flying. *il Aviation* 14:130-1 Ja 29 '23
- Maintenance and operating equipment of airplane and seaplane stations. A. Black. *il diags Aerial Age* 16:15-19+ Ja '23

Fire protection

- Fire protection for landing fields. A. Black. *Safety Eng* 44:206-9 D '22
- McCook has practical fire system. *Aerial Age* 16:290-1 Je '23

Seadromes

- Commercial ocean transit by airplane; proposed service between New York and Europe with seadromes 400 miles apart. E. R. Armstrong. chart *diags Aviation* 14:602-6 Je 4 '23

Terminology

- Proposed landing field nomenclature. A. Black and D. R. Black. *Aviation* 14:188-9 F 12 '23

Aviation schools

- Establishment of aviation schools. E. Kempe. *Aerial Age* 14:295-6 D 5 '21
- New Curtiss aviation school, Garden City. *Aerial Age* 15:508-9 O '22

See also Aviators—Training

Aviators

- Aviator. H: C. McComas. 214p Dutton '22
- Biographic notes of the pilots entered in the Detroit meet. *Aviation* 13:455-7, 460-7 O 9 '22
- Human machine in aviation. E: C. Schneider. *Aerial Age* 15:82-3+ Ap 3 '22
- Who's who in American aeronautics. *Aviation* 11:573-4, 601-3, 629-30, 661, 687-8, 712-13; 12: 17-18, 50, 75, 108, 140, 200, 231, 264, 289, 313, 347, 373, 400, 427, 453-4, 484, 544, 572; 13:228, 318, 351, 609, 632-3, 664, 692, 746, 812; 14: 18, 245 N 14-D 19 '21, Ja 2-30, F 13-Ap 24, My 8-15, Ag 21, S 11-18, O 30-N 20, D 4, 18 '22, Ja 1, F 26 '23
- Who's who in American aeronautics. Gardner, Moffat co., New York '22
- See also Altitude, Influence of; Insurance, Life—Aviation risks

Licenses

- Underwriters' laboratories issue first list of American pilot and aircraft registrations. *il Aviation* 12:160-1 F 6 '22; *Aerial Age* 15: 53 Mr 27 '22

Training

- Methods of aeroplane flying instruction. *Aeronautical J* 26:177-83; Discussion. 183-90 My '22

Aviettes

- La double traversée de la Manche en moto-aviette (6 mai 1923). *il Génie Civil* 82:475-6 My 19 '23
- Grand Prix de la moto-aviette reviewed. *il Aviation* 15:213-15 Ag 20 '23

Avogadro constant

- Molecular scattering and extinction of light in liquids and the determination of the Avogadro constant. C. V. Raman and K. S. Rao. *Philos Mag* 6th ser 45:625-40 Mr '23

Awning industry

Accounting

- Awning manufacturers won to cost accounting. C. I. Weikert. *Nation's Business* 11:78+ Mr '23

Advertising

- Standardization prepares the ground for a new national advertiser. the Duban shade corporation. W. B. Edwards. *Ptr Ink* 122: 17-18 Mr 29 '23

Tables and ready-reckoners

- Saunders advanced encyclopedic cost system. H: J. Saunders. 1921 ed. 143p H: J. Saunders, Minneapolis '21

Axes

- Employ steam-operated ax for chopping redwood. *il Pop Mech* 37:906 Je '22

Axle generators. See Car lighting

Axles

- L'accident du chemin de fer de Versailles, le 8 mai 1842. C. Fremont. *il Génie Civil* 80:403-4 My 6 '22
- Axle collars. J: S. Dean. *Elec J* 19:397-8 S '22
- See also Automobiles—Axles; Bearings; Car axles; Locomotives—Axles; Motor buses—Axles; Motor trucks—Axles

Axles—Continued

Manufacture

Rough machining cause of axle failures. A. Norton. Elec Ry J 58:908 N 19 '21

Testing

Testing axles for flaws by hydraulic pressure. il Elec Ry J 61:775 My 5 '23

Ayer, Francis Wayland, 1848-1923

Sketch. por Ptr Ink 122:25-7 Mr 8 '23; Inland Ptr 71:102 Ap '23

Ayer, N. W., and son

Ayer honors Jarvis A. Wood and its oldest client. Ptr Ink 124:61-2+ S 27 '23

N. W. Ayer & son win suit against U.S. rubber co. for \$178,620.87. Ptr Ink 123:17-20+ Ap 26 '23

Azelaic acid

Electro-synthesis of azelaic and thapsic acids. M. Carmichael. Chem Soc J 121:2545-9 N '22

Azides

Azides of thiocarbamic acids. E. Oliveri-Mandala. Chem Soc J 120 pt 1:900-1 D '21

Azido-carbondisulfide

Azido-carbondisulfide: formation, preparation and general properties. A. W. Browne and others. Am Chem Soc J 45:2541-50 N '23

Azido-dithiocarbonic acid

Azido-dithiocarbonic acid: formation, preparation and properties. G. B. L. Smith and others. Am Chem Soc J 45:2604-13 N '23

Azimuth

Azimuths of the sun for latitudes extending to 70 degrees from the equator, 10th ed., enl. (Pub. no. 71) 226p U.S. Hydrographic office, Washington '21

See also Meridian

Azine dyes. See Dyes and dyeing

Azo compounds

Aminoazo-, hydroxyazo-, and hydrazo-compounds; abstract. G. Charrier. Chem Soc J 122 pt 1:769-72 Ag '22

Attempts to prepare red sulphide dyes; mercaptan derivatives of azo-dyes. E. R. Watson and S. Dutt. Chem Soc J 121:2414-19 N '22

Azo-ester reaction with amines and enols; abstract. O. Diels. Chem Soc J 122 pt 1:1194-6 D '22

Beiträge zum mechanismus der kupplungsreaktion; über 1.8-naphthalsultam und sein N-methyl-derivat als azokomponenten. W. König and K. Köhler. Deutsche Chem Gesell Ber 55:2139-49 Jl '22

Bromination of 2-amino-para-xylene and certain new azo dyes. A. S. Wheeler and E. W. Constable. Am Chem Soc J 45:1999-2001 Ag '23

Mechanism of the formation of azo-compounds. T. K. Walker. Soc Dyers & Col J 39:293-7 O '23

Über den umsatz von azoverbindungen und ihren salzen mit aromatischen kohlenwasserstoffen und aluminiumchlorid. R. Pummerer and J. Binapfl. Deutsche Chem Gesell Ber 54:2768-84 N '21

Über die oniumsalze der azokörper. F. Kehrman and R. van der Laar. Deutsche Chem Gesell Ber 55:511-12 F '22

Vat dyes of the azo-series. D. N. Mukerji. Chem Soc J 121:2879-82 D '22

Azo dyes. See Azo compounds; Dyes and dyeing

Azobenzene

Catalytic preparation of azobenzene and aniline. C. O. Henke and O. W. Brown. J Phys Chem 26:324-48, 631-8 Ap, O '22

Azobenzene hydrochloride

Über die reaktion zwischen azobenzol-chlorhydrat und aromatischen kohlenwasserstoffen. R. Pummerer and others. Deutsche Chem Gesell Ber 55:3095-3104 O '22

Azomethine compounds

Azomethine derivatives of the 2- and 4-hydroxy-4-naphthaldehydes. G. T. Morgan and H. G. Reeves. Chem Soc J 121:1-7 Ja '22

Azo-salicylic acids

Researches on residual affinity and coordination; cobaltamine and chromic lakes of the azo-salicylic acids. G. T. Morgan and J. D. M. Smith. Chem Soc J 121:2866-74 D '22

Azulene

Experiments on azulene. R. E. Kremers. Am Chem Soc J 45:717-23 Mr '23

B

Baalbek

Temple city of Baalbek. P. W. Copeland. il plan Am Arch 124:139-44 Ag 15 '23

Babbitt metal

Babbitt—a material for roll bearings. W. S. Standiford. Blast F & Steel Pl 10:166-71 Mr '22

Babbitt metal. L. D. Allen. Mach 29:114-15 O '22

Characteristics of bearing metals. E. T. Keenan. Power 54:977-8 D 20 '21

Metals used for die-castings. A. G. Carman. il Mach 29:516-18 Mr '23

Rapid analysis of babbitts and bronzes. E. W. McMullen. Brass W 18:64 F '22

Selection and use of babbitt metal. L. D. Allen. diag Mach 29:211-13 N '22

Use of babbitt metal for bearings. diags Power Pl Eng 27:981-2 O 1 '23

Specifications

White bearing metals; proposed extension of S.A.E. standard. Soc Auto Eng J 10:483-4 Je '22; Same. Automotive Ind 46:1331 Je 15 '22; Revised specifications. Soc Auto Eng J 11:550 D '22; Same. Mach 29:460 F '23

Babbitting

Babbitt—a material for roll bearings. W. S. Standiford. Blast F & Steel Pl 10:166-71 Mr '22

Babbitting bearing shells. L. C. Fox. il Am Mach 56:308 F 23 '22

Babbitting crosshead shoes. diags Ry Mech Eng 97:772-3 N '23

Babbitting fixtures. il diags Mach 29:959-60 Ag '23

Babbitting large bearings by centrifugal machine. F. C. Hudson. il Am Mach 59:150 Jl 26 '23

Babbitting motor bearings. T. D. Lynch. Elec J 19:391-2 S '22

Convenient babbitt furnace. il Elec Ry J 60:78 Jl 15 '22

How to babbitt motor bearings. Coal Age 24:252 Ag 16 '23

How to make babbitted bearings that will last long and run cool and smoothly. G. H. Radebaugh. il Coal Age 22:829-32 N 23 '22

Methods of making babbitted bearings. F. H. Colvin. il Am Mach 58:735-7 My 17 '23

Pouring and fitting babbitt linings. A. H. Levy. il Power 58:484-7 S 25 '23

Science of babbitting bearings. il Elec Ry J 61:321-2 F 24 '23

Suggestions on rebabbitting bearings. M. M. Brown. Elec W 79:434 Mr 4 '22; Discussion. K. F. Smith. 79:886 My 6 '22

See also Bearings

Babcock and Wilcox company

Works of the French Babcock and Wilcox company. il diags Engineering 113:674-6, pl 33-4 Je 2 '22

Babingtonite

Babingtonite from the contact metamorphic deposits of the Yakuki mine, Province Iwaki, Japan. M. Watanabe. diags Am J Sci 5th ser 4:159-64 Ag '22

Baby carriages

Advertising

What to do when a million babies have no carriages. G. A. Nichols. il Ptr Ink 119:3-4+ Je 8 '22

Bacillus asterosporous

Gas production by an aerobic spore bearing bacillus. H. Lisk. *Am Water Works Assn J* 10:139-44 Ja '23

Bacillus coli

Movement of bacillus coli in ground water with resulting pollution of wells. C. W. Stiles and H. R. Crohurst. *Eng & Contr (W W)* 60:100-2 Jl 11 '23; Same. *Eng N* 91:425 S 13 '23

Back strain

Back and foot strain. P. D. Wilson. *il diags J Ind Hygiene* 4:106-24 Jl '22

Dagnosis of industrial back conditions. J. W. Sever. *U S Bur Labor Statistics Bul* 333:165-9 '23

Backwater suppressors

Features of hydroelectric power plant designs; development and application of back-water suppressor. J. A. Sirnit. *diags plan Eng & Contr (W W)* 59:105-10 Ja 10 '23; Same cond. *Elec W* 79:1161-4 Je 10 '22; Same cond. *Eng N* 88:964-6 Je 8 '22

Utilization of surplus flood water to suppress backwater upon water power developments. F. A. Nagler. *il diags Gen Elec R* 25:598-602 O '22

Bacteria, Nitrifying

La fixation biologique de l'azote de l'air et la solubilisation de l'azote organique par certaines bactéries du sol. G. Truffaut. *il Chimie & Ind* 9:1094-1108 Je '23

Bacteriology

Agricultural and industrial bacteriology. R. E. Buchanan. 468p Appleton '21

Bacteria and the chemist. A. I. Kendall. *Ind & Eng Chem* 15:1001-2 O '23

Bacteriology. H. W. Conn and H. J. Conn. 441p Williams & Wilkins co., Baltimore '23

Civilization and the microbe. A. I. Kendall. 231p Houghton '23

Discussion on the action of bacteria on cellulose materials. *Soc Chem Ind J* 42:279-87 Je 29 '23

Life-cycles of bacteria. *il Sci Am* 128:31 Ja '23

Logan's explanation of the origin of Indiana's kaolin; discussion. W. H. Bucher. *Econ Geol* 16:481-92 N '21

Method of detecting biochemical reactions in various fluids by means of aniline dyes. E. W. Hammond. *Can Chem & Met* 6:58 Mr '22

Microbes and weather. *Sci Am* 128:169 Mr '23

New strategies employed in war on bacteria. *Pop Mech* 37:190 F '22

Our smallest toilers. H. A. Mount. *il Sci Am* 128:170-1 Mr '23

Ozone and bacteria. W. J. Lohman and P. W. MacMillan. *Am Soc Heat & V E J* 28:316-20 Ap '22; Excerpts. *Heat & Ven* 19:55 Ap '22

Practical bacteriology for chemical students. D. Ellis. 136p Longmans '23

Production of alkalinity by bacteria as registered by different indicators. J. A. Reddie. *Soc Chem Ind J* 42:326-32 Ag 3 '23

Textbook of bacteriology. H. Zinsser. 5th ed. 1193p Appleton '22

Text-book of general bacteriology. E. O. Jordan. 7th ed. rev. 744p W. B. Saunders co., Philadelphia and London '21

See also *Bacillus asterosporous*; *Water-Bacteriology*

Culture media

Kitchen is run for germs by government experts. *il Pop Mech* 40:583 O '23

Reactions of culture media. G. C. Bunker and H. Schubert. *bibliog il diags plan Am Water Works Assn J* 9:63-116; Discussion. 125-9 Ja '22

Reactions of culture media. G. C. Bunker and H. Schubert. *Am Water Works Assn J* 10:672-85 Jl '23

Bakeland, Leo H.

Portrait. *Chem Age* 30:71 F '22

Baeyer, Adolph von, 1835-1917

Baeyer memorial lecture. W. H. Perkin. *por Chem Soc J* 123:1520-46 Je '23; Abstract. *Chem Age (Lond)* 8:536-7 My 19 '23

Sketch. J. L. Howe. *por Am Chem Soc J* 45: sup51-4 Mr '23

Baffles

Refractory concrete baffles. *il diags Power Pl Eng* 26:148 Ja 15 '22

Savings that can be effected by tight boiler settings; proper baffles and reductions in furnace repairs. A. F. Brosky. *il Coal Age* 21:840-2 My 18 '22

Tests of a large type W Stirling boiler. P. W. Thompson. *diags Mech Eng* 45:25-31+ Ja '23; Same cond. *Power* 57:128-31 Ja 23 '23

Will change from vertical to horizontal baffling increase furnace temperatures? *Power* 58:109, 341 Jl 17, Ag 28 '23

Bagasse

Insulating lumber from sugar mill bagasse. A. G. Wikoff. *il Chem & Met Eng* 29:360-2 Ag 27 '23

Lumber from sugar-cane waste. C. R. Ferrall. *Sci Am* 126:398 Je '22

Preparation and evaluation of a decolorizing char from bagasse. C. E. Coates. *J Ind & Eng Chem* 14:295-8 Ap '22

Sugar cane bagasse as paper stock. H. Kumagawa and K. Shimomura. *Paper* 32:7-10 My 2 '23

Sugar-mill waste yields durable building material. T. E. Dabney. *il Pop Mech* 36: 806-8 D '21

See also *Celotex*

Bagasse as fuel

Burning bagasse in the Gilchrist furnace. *il Power* 55:784 My 16 '22

Bagging machine

Machinery for bagging superphosphate. K. Warming. *il Chem & Met Eng* 28:893-4 My 21 '23; Same. *Ind Management (Lond)* 9: 275-7 My 3 '23; Same. *Chimie & Ind* 9:43-5 Ja '23

Baghdad railroad

Berlin to Bagdad and the Chester plan. F. Simpich. *il Nation's Business* 11:20-2 Jl '23

See also *Bagdad*

See also *Bagdad*

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See also *Bagdad*

See also *Bagdad*

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See also *Bagdad*

Bakers and bakeries—Continued

- Gas trims electricity in bakeries. H. S. Babb. Gas Age 50:793-4 D 9 '22
- Giving the hot dog a new sales outlet. Ptr Ink 121:129-30+ O 5 '22
- Heating and sanitary fittings in modern English bakery. J. Y. Dunlop. il diags plans Sanitary & Heat Eng 98:216-18 O 20 '22
- Improving quality and reducing labor with gas. J. E. Bullard. Am Gas J 116:365-6 Ap 22 '22
- My best ideas come from other lines. D. R. Cohen. il System 42:552-3 N '22
- Stale bread loss as a problem of the baking industry. J. S. Davis and W. Eldred. 71p Stanford univ., Calif. '23
- Uneeda bakers start up new Buffalo plant. il diags plan Power Pl Eng 27:857-66 S 1 '23
- When a manufacturer decides to go direct to consumer; Van de Kamp stores. C. A. Goddard. il Ptr Ink M 5:48+ J1 '22

See also Bread; also American institute of baking

Accounting

- Keeping cost records in the modern bakery. H. L. King. Ind Management 64:336-40 D '22

Advertising

- Consumer, dealer and salesman tied up with the factory. J. A. Lutz. Ptr Ink 119:149-50+ My 18 '22
- Crisco advertised as a baker's salesman. Ptr Ink 121:81-2 O 26 '22
- Fleischmann helps sell the other man's product. R. Bostick. Ptr Ink M 5:32-4 S '22
- Hitching to a prepared market with a new product; Peter Rabbit crackers. F. B. Barton. Ptr Ink 123:77-8+ My 17 '23
- New Orleans pie baker sells 20,000 pies daily. Ptr Ink 120:90+ J1 13 '22
- Pie advertising takes on the dignity of a campaign. Ptr Ink 121:81-2+ N 30 '22
- Story of the market expansion of a southern baker. Ptr Ink 124:50+ S 13 '23
- "Toast for breakfast" substitutes for "eat more wheat." Ptr Ink 124:10+ Ag 2 '23
- See also Bread—Advertising; Cake—Advertising

Baking

- Automatic continuous baking oven. W. A. Darrah. W Soc E J 27:233-8 Ag '22
- Baxter's practical up-to-date receipt book for bakers. R. Baxter. 126p Laird & Lee, Chicago '22
- Biscuit and cake manufacture. W. Platt. Chem Age 30:157-60, 203-6 Ap-May '22
- Chemist enters a new industry. H. E. Barnard. Ind & Eng Chem 15:449-50 My '23
- Determination of strength of neutralizing power of acid calcium phosphates. W. E. Wadman. J Ind & Eng Chem 13:1146-8 D '21
- Earning power of research. I. K. Russell. il Ind & Eng Chem 15:645-7 Je '23
- Science course for bakers. D. Ellis. 175p Blackie & son, Ltd., London '23
- Standard book for the baker. F. L. Gienandt. 4th ed., rev. & enl. 254p F. L. Gienandt, Boston '22

See also Bakers and bakeries; Bread; Cake; Flour; Shortening (cookery); also American institute of baking

Baking powder

- Lactate of lime in baking powder; patent. Chem Age 30:515 N '22

See also Calumet baking powder company

Analysis

- Determination of carbon dioxide in baking powder. C. S. Robinson and S. L. Bandemer. J Ind & Eng Chem 14:119 F '22

Balance of trade

- America in European markets. Annalist 22: 262+ Ag 27 '23
- Imports, exports and trade balances of the principal countries of the world since the World War reduced to a gold basis. Annalist 21:539+ Ap 16 '23
- International trade balance in theory and practice. T. H. Boggs. 221p Macmillan '22

Our approaching unfavorable balance of trade. A. L. Bishop. Administration 2:609-15 N '21

Trade balances. H. Withers. Annalist 22: 123 J1 23 '23

Balance sheets

- Audit reports—a tool for the executive. W. H. Bell. Administration 5:731-3 Je '23
- Balance-sheet uniformity. L. G. Peloubet. J Account 36:336-8 N '23
- Balance sheets and profit and loss statements. 36p Bur. of commercial and ind. affairs, Boston Chamber of commerce '22
- Balance sheets, how to read and understand them. P. Tovey. 77p Pitman '21
- Business forecasting in the Edison industries. R. H. Allen and J. J. Mehl. Administration 4:409-20 O '22
- Consolidated balance-sheet—mutual stock holdings. H. A. Finney. J Account 33:368-84 My '22
- Interpreting financial statements. R. E. Badger. Administration 5:595-604 My '23
- Municipal balance-sheet. R. G. Walker. J Account 35:186-201 Mr '23
- Purposes and limitations of a balance-sheet audit. G. B. Buist. J Account 34:182-9 S '22
- Surplus of corporations. P. W. Pinkerton. Administration 5:459-64 Ap '23

Balancer sets

- Balancer set for battery charging. H. M. Phillips. diags Power Pl Eng 26:657-9 J1 1 '22
- Method of regulating the voltages on the two sides of a three-wire D. C. system equalized by static balancers. R. D. Archibald. diags Inst E E J 60:303-6; Discussion. 306-7 Mr '22

Balances

- Effect of variation in weight of the riders and plummets of the Westphal balance upon the accuracy of specific-gravity determinations. E. A. Tschudy. Am Chem Soc J 44:2130-5 O '22
- Observations on the construction and use of the Steele-Grant microbalance. E. J. Hartung. diags Philos Mag 6th ser 43:1056-64 Je '22

See also Aerodynamic balances; Eötvös balance; Scales

Balancing machines

- Balancing machine utilized in the field for quickly correcting turbine operation. H. D. Fisher. il diags Power 57:480-1 Mr 27 '23
- Brake device applied to a running-balance machine. C. Kotersall. diags Am Mach 56: 604-5 Ap 20 '22
- Dynamic balancing machine. Engineer 134: 201 Ag 25 '22
- New crankshaft balancing machine. P. M. Heldt. il Automotive Ind 46:518-19 Mr 2 '22
- New principles in rotative balance. A. F. Moyer. il diags Soc Auto Eng J 11:368-72 O '22; Discussion. 11:372; 12:562-4 O '22, Je '23
- Olsen-Carwen static-dynamic balancing machines. il Am Mach 59:336 S 6 '23
- Precision balancing machines. il Sci Am 129: 190 S '23
- Recent developments in balancing machines. C. R. Soderberg. diags Mech Eng 45:353-5+ Je '23; Same. Engineering 116:159-61 Ag 3 '23

Balancing of machinery

- Balancing crankshafts in the Chalmers plant. F. C. Hudson. il Am Mach 58:268 F 15 '23
- Balancing of machine parts. D. S. Kimball. diags Sibley J 37:56-9 Mr '23
- Exponential method in the analysis of the balance of reciprocating masses. P. Cormack. Engineering 112:778-80 D 9 '21
- Mechanical balance of rotating machinery. P. G. Bernholz. diags Power Pl Eng 27: 891-2 S 1 '23
- Studying mechanisms in motion by the Eliverson oscilloscope. P. Davey. il diags Mach 29:927-32 Ag '23
- Treatise on engine balance using exponentials. P. Cormack. 151p Dutton '23

See also Balancing machines

Balata

- Buying balata belting. Eng & Ind Management 7:366 Ap 20 '22
 Three methods for reclaiming balata. India Rubber W 67:112 N '22

Baldachins

- Beaux-arts institute of design; awards. Am Arch 124:269-74 S 12 '23

Baldwin, Archibald Stuart, 1861-1922

- Sketch. por W Soc E J 28:55-9 F '23

Baldwin, Lewis Warrington, 1875-

- L. W. Baldwin president of the Missouri Pacific. por Ry Age 74:867-8 Mr 31 '23

Baldwin, Thomas Scott, 1854-1923

- Passing of a great aeronautical pioneer. L. d'Orcey. por Aviation 14:584-5 My 28 '23

Baldwin locomotive works

- Exporting transportation. F: Simpich. il Nation's Business 11:33-5 F '23
 Glimpse into the Baldwin locomotive works. il Ind Eng 81:424-5 S '23

Baling presses

- Electrically operated baling press. il diags Engineering 114:176, 178 Ag 11 '22
 Galland-Henning motor-driven toggle baler. il Am Mach 59:195 Ag 2 '23

See also Bundling machines, Scrap metal

Balkan states

- Business as done in the Balkans, do it tomorrow, motto. Nat Pet N 15:97+ S 26 '23
 Re-Balkanizing of the Balkans and the return of the Turks. Comm & Fin Chr 115:1877-8 O 28 '22

Ball bearings

- Advice as to the lubrication of the ball bearings of mine-locomotive motors. E. Ashworth. Coal Age 21:49 Ja 12 '22

- Anti-friction bearings for electric cars. O. R. Wikander. il diags Elec Ry J 60:935-40 D 16 '22

- Anti-friction bearings in the pulp and paper industry. G. H. Spencer. Paper Tr J 76:181+ Ap 12 '23; Same. Tech Assn Pa ser 6:114-17 Je '23

- Anti-friction bearings in the steel mill. A. M. MacCutcheon. diags Iron Age 110:267-8, 354-5, 423-4 Ag 3-17 '22

- Approach of flat elastic plates under load when separated by a ball of similar material. J. Goodman. diag Engineering 116:244-6 Ag 24 '23

- Assembling balls in bearings. T. Covey. diags Mach 29:139 O '22

- Ball and roller bearings for use on electric motors. G. Fox. Power 56:135 Jl 25 '22

- Ball and roller bearings: their design and performance. A. W. Macaulay. diags Engineering 113:87 Ja 20 '22

- Ball and roller bearings with details of their installation on lineshafts. G. A. Van Brunt. il diags Ind Eng 80:420-9+ S '22

- Ball bearing notable for its size. il Iron Age 110:720 S 21 '22

- Ball bearings for textile works. Electrician 88:228 F 24 '22

- Ball bearings in textile mills. H. N. Pascoe. Mach 29:90 O '22

- Ball bearings: the N.K.A. transmission bearing. diags Eng & Ind Management 7:293-4 Mr 23 '22

- Ball thrust bearing solves trouble given by disk-type bearing. E. D. Searing. diag Elec W 81:396 F 17 '23

- Contact area of an elastic sphere when compressed between flat elastic plates. J. Goodman. Engineering 116:133 Ag 3 '23

- Determining the friction and carrying capacity of ball and roller bearings. A. P. Child. il Am Mach 59:500-1 O 4 '23

- Efficiency in power transmission. P. N. Case. il Textile World 63:1575+ Mr 3 '23

- Endurance of ball bearings, with particular reference to automobile practice. A. W. Macaulay. diags Automobile Eng 13:213-23 Jl '23; Same cond. Automobile Ind 49:130-5 Jl 19 '23

- Mounting ball bearings. T. C. Delaval-Crow. Am Mach 56:284-7 F 23 '22

- Principles of bearings. L: Langhaar. 125p Langhaar ball bearing co., Aurora, Ind. '22

- Removal of ball bearings from mine-locomotive motors. E. Ashworth. il diags Coal Age 22:51-2 Jl 13 '22

- Research finds answers to questions about ball bearing quality. H. G. Freeland. Automotive Ind 49:368-9 Ag 23 '23

- Saving bearing friction waste. C. A. Gauss. il Textile World 63:3019+ My 5 '23

- Some notes on ball bearings. il Eng & Ind Management 6:693-9 D 15 '21

- Some service results of ball bearings. C: T. Perry. Elec Ry J 58:905-6 N 19 '21

- Wire saving by the use of ball bearings. J: Kepke, Jr. Paper Tr J 75:53 Jl 13 '22

See also Bearings

Manufacture

- Ball bearings and how they are made. R. G. Skerrett. il Sci Am 129:330-1+ N '23

- Grinding in the automotive industry. il diags Mach 28:946-51 Ag '22

- Manufacture of chromium ball-bearing steel in the Heroult furnace. F. T. Sisco. il Chem & Met Eng 26:71-6 Ja 11 '22

- Manufacture of chromium steel. P. Girod. Chem & Met Eng 28:844 My 14 '23

- Making bearings by unit system. H. R. Simonds. il diag Iron Tr R 72:801-6 Mr 15 '23

Standards

- Accurate standards of comparison needed in precision measurements. C: Hellyar. Automotive Ind 49:479 S 6 '23

- Metric-type thrust ball-bearings; proposed S.A.E. standard. Soc Auto Eng J 11:530-6 D '22; Discussion. 12:225-9 F '23

- Proposals of the S.A.E. committee on international standardization. Soc Auto Eng J 11:117 Jl '22

Testing

- Friction and carrying capacity of ball and roller bearings. H. L. Whittemore and S. N. Petrenko. il U S Bur Stand Tech Pa 201:1-34 '21; Abstract. J Fr Inst 192:805-7 D '21; Same. Am Mach 55:842 N 24 '21

Ball mills. See Tube mills**Ballast**

- Cost of ballast cleaning: Santa Fe Ry. Eng N 91:524 S 27 '23

- Cost of cleaning ballast by machine and hand; Pennsylvania R.R. il diags Eng N 91:149-50 Jl 26 '23

- Crushed stone for railroad ballast. T. Bloecher, jr. Eng & Contr (Ry) 59:907-8 Ap 18 '23

- Digging out ballast. C: Weiss. Ry R 73:237-8 Ag 18 '23

- Methods and cost of cleaning ballast. il Eng & Contr (Ry) 60:583-6 S 19 '23

- Organization and distribution of small ballast raising gang. Eng & Contr 57:73 Ja 18 '22

- Reclaiming copper smelter slag for track ballast. Eng & Contr 58:62 Jl 19 '22

- Report of A. R. E. A. committee on ballast. Ry R 72:501-2 Mr 17 '23; Ry Age 74:628-30 Mr 14 '23

- Report of A. R. E. A. committee on ballast. Ry R 70:375-6 Mr 18 '22

- Salt mine waste used for track ballast. il Elec Ry J 60:395 S 16 '22

- Using bitulithic waste as ballast. Elec Ry J 59:828 My 20 '22

See also Railroads—Track

Ballistics

- See also Photography of projectiles; Projectiles

Balloon fabric**Testing**

- Apparatus to test fabrics to the bursting point. il Pop Mech 38:171 Ag '22

Balloon gas

See Helium

Balloon races

- Army wins 13th National balloon race. Aviation 12:688-91 Je 12 '22
 Belgium again wins Gordon Bennett race. Aviation 15:438-9 O 8 '23
 Experiences in the National balloon race. il Aviation 12:746-9 Je 26 '22
 General regulations of National balloon race. Indianapolis, July 4. Aviation 14:668-9 Je 18 '23
 Gordon Bennett balloon race. H. E. Honeywell. Aviation 13:421 O 2 '22
 Gordon Bennett cup race. Aviation 13:225 Ag 21 '22
 International balloon race ends in doubt. il Pop Mech 38:516 O '22
 Results of the 14th National balloon race. Aviation 15:71, 121-3 Jl 16, 30 '23

Balloon tire. See Tires, Automobile**Balloons**

- Ballooning: its use in science and sport. C. C. Turner. Aerial Age 14:254 N 21 '21
 Employment and specifications of pilot balloons. G. V. Whittle. Aviation 14:448 Ap 23 '23
 Free balloon without top-valve. Sci Am 129:242 O '23
 New type of aircraft—the jumping balloon. il Aviation 14:472-3 Ap 30 '23
 New-type spherical balloon has propeller control. il Pop Mech 39:673 My '23
 Record in balloon construction. il Sci Am 127:266 O '22
 Rules of the air for balloonists. Aviation 15:102 Jl 23 '23
 Teaching balloon control to observers. F. B. Howe. il Pop Mech 37:225-6 F '22
 Unusual balloon flight over Manila bay. Aviation 12:100 Ja 23 '22
 Value of barrage balloons. G. Fontaine. Aviation 14:690 Je 25 '23

See also Aeronautics; Airships; Aviation

Safety devices and measures

- Beating lightning at its own favorite game. Sci Am 127:329 N '22
 Device protects balloons against lightning. il Pop Mech 39:345 Mr '23
 Free balloon hazards in flying over water. il Aviation 15:93-5 Jl 23 '23
 Lightning protector for balloons and airships. S. R. Winters. Aviation 14:446-7 Ap 23 '23

Balloons, Dirigible. See Airships**Ballot, John, 1861-1922**

- Appreciation. E. H. Nutter. Eng & Min J 113:1012-13 Je 10 '22

Balls

- Turning a ball in the lathe. E. W. Cable. diags Mach 29:224 N '22

See also Ball bearings; Golf balls

Balls, Rubber

- German manufacture of hollow rubber balls. il India Rubber W 69:19-20 O '23
 Machining hard rubber balls and disks for water meters. il India Rubber W 69:21-2 O '23
 Vacuum process of hollow-ball making. il diags India Rubber W 66:537-8 My '22

Balls, Steel

- Making steel balls. A. L. De Leeuw. il diags Am Mach 57:945-8, 985-8 D 21-28 '22
 Scleroscope hardness of steel balls. A. L. Collins. diags Iron Age 108:1331-3 D 1 '21
 Weight of steel balls. D. H. Fairchild. diags Eng & Min J 116:197 Ag 4 '23; Discussion. 116:357, 465, 591, 685 S 1, 15, O 6, 20 '23

Inspection

- Inspection methods in a steel-ball factory. F. Johnstone-Taylor. Am Mach 59:398 S 13 '23

Testing

- Testing steel balls for hardness. F. Johnstone-Taylor. Am Mach 59:697 N 8 '23

Balmer series. See Spectrum**Balsa wood**

- Wood substitute for cork found in South America. il Pop Mech 40:743 N '23

Balsam-wool

- New heat insulator—balsam-wool. H. F. Weiss. il Chem & Met Eng 29:534-6 S 17 '23; Same. Concrete 23:149-50 O '23

Baltimore, Maryland**Harbor**

- Baltimore plans \$50,000,000 harbor project. Eng N 88:542 Mr 30 '22

Rapid transit

- Baltimore adopts trolley bus. Elec Ry J 60:760 N 4 '22
 Baltimore has 6-mile trolley-bus line. A. Hughes, jr. il Bus Transportation 1:631-4 D '22

Sewerage

- Miscellaneous problems in sewer design and maintenance. M. J. Ruark. Munic Eng 62:29-32+ Ja '22; Same. Can Eng 42:587-9 Je 6 '22; Abstract. Pub Works 51:394-5 N 19 '21
 Sludge digestion tanks at the Baltimore sewage works. C. E. Keefer. il diags plan Pub Works 53:97-101 Ag '22

Streets

- Baltimore vehicular traffic study. J. A. Stoll. map Elec Ry J 61:76-8 Ja 13 '23

Water supply

- Balancing reservoir of Baltimore water supply. W. A. Megraw. diags Eng & Contr 58:36-7 Jl 12 '22; Same. Pub Works 53:87-8 Jl 29 '22
 Construction of the Loch Raven dam of the Baltimore water works. W. A. Megraw. Munic Eng 62:217-20 Je '22; Same. Pub Works 52:437-9, 460-2 Je 17-24 '22; Same. Eng & Contr 58:124-6 Ag 9 '22
 Design of the proposed water filtration plant at Baltimore. J. W. Armstrong. Am Water Works Assn J 10:535-55 Jl '23
 Microorganisms in the Baltimore water supply. J. R. Baylis. Am Water Works Assn J 9:712-30 S '22
 Operating and new constructional features of Baltimore water works. J. W. Armstrong. Munic Eng 61:234-6+ D '21
 Water wastes, meters and rates at Baltimore. V. B. Siems. Eng & Contr (W W) 60:261-70, 551-62, 751-64 Ag 8, S 12, O 10 '23

Baltimore and Ohio railroad

- Annual report for the calendar year 1921. Comm & Fin Chr 115:1334-7 S 16 '22; Same. Ry Age 73:539-42 S 16 '22
 Annual report for 1922. Comm & Fin Chr 117:903-6 Ag 25 '23; Same. Ry Age 75:366-9 Ag 25 '23
 Baltimore & Ohio common dividend restored. map Ry Age 75:621-4 O 6 '23
 Baltimore & Ohio shows much improvement in 1921. map Ry Age 71:1165-7 D 10 '21
 Will Baltimore & Ohio pay a common dividend? il Ry Age 73:517-19 S 16 '22

Balustrades. See Railings**Bamboo**

- Bamboo dikes aid land reclamation and river-channel control in China. il Eng N 88:862 My 25 '22
 Bamboo pulping apparatus. diags Paper 29:11-12 Ja 11 '22
 Manufacture of paper from bamboo. Paper 32:9-10 S 12 '23
 Use of bamboo in paper manufacture. Paper Tr J 74:32 My 18 '22
 See also Bridges, Bamboo

Bananas

- Banana and its uses. W. A. Murrill. il Sci Am 125A:118-19 D '21
 Banana handling between the West Indies and the Port of Bristol. G. F. Zimmer. il Ind Management (Lond) 9:147-50, 179-85 Mr 8-22 '23
 Studies of enzyme action: the spontaneous increase in sucrose activity of banana extracts. G. McGuire and K. G. Falk. Am Chem Soc J 45:1539-51 Je '23

Bandstands

- Park architecture. H. W. Peaslee. il Arch Rec 51:269-74 Mr '22

Bank' accounting

Accountancy of banking. C: E. Hammett, chart Administration 3:11-28 Ja '22
Bank bookkeeping. A. K. Schulz. 189p Am. inst. of banking, New York '22

Bank advertising

Adapting commercial advertising to the bank's needs. G. A. O'Reilly. Ptr Ink 118: 137-8 Ja 19 '22
Advertise the savings pass book; exit the red flag. F. J. Wade. Ptr Ink 124:41-2+ J1 19 '23
Advertising a bank on the department store plan. Ptr Ink 121:82+ D 21 '22
Advertising for the joint stock land banks. Ptr Ink 120:120+ S 14 '22
Bank advertising that people will read. L: L. Clarke. Ptr Ink 124:109-10+ Ag 2 '23
Bank combines the institutional and selling appeals. Ptr Ink 123:121-2 Ap 12 '23
Bank explains its advertising follow-up. Ptr Ink 120:133 J1 13 '22
Bank finds continuous advertising needed to tame wildcats. Ptr Ink 124:65-6+ Ag 30 '23
Bank markets products for its customers under its own brand name. J. M. Mosely. Ptr Ink 119:17-20 Je 22 '22
Bank president who continues to direct bank's advertising. C: S. Calwell. Ptr Ink 119:140+ Ap 27 '22
Bank windows that advertise soap and slicing machines. D. M. Hubbard. Ptr Ink M 4:90+ Ap '22
California bank advertises itself with its state. Ptr Ink 119:74+ Je 1 '22
Charley Teller puts personality into his bank's advertising. Ptr Ink 118:130+ Mr 9 '22
Co-operative advertising to take mystery out of banking. E. B. Weiss. Ptr Ink 123:81-2+ My 3 '23
Copy ideas put fresh interest into a savings campaign. Ptr Ink 122:26-7 Ja 11 '23
Elimination of irregular mediums furnishes fund for joint campaign of New Orleans banks. F. W. Ellsworth. Ptr Ink 123:105-6+ Je 14 '23
Federal reserve board's attitude toward advertisements of member banks. Comm & Fin Chr 116:1491-2 Ap 7 '23
Financial advertising services adopt standards of practice. Ptr Ink 124:109-10 S 27 '23
Financial statement becomes an advertising asset. K. B. White. Ptr Ink M 4:43+ F '22
House organs for banks. E: H. Kittredge. Ptr Art 41:453-7 J1 '23
How a bank got 10,000 friends in twelve banking hours. Ptr Ink 122:126+ Mr 8 '23
How a city bank was traded marked through advertising. Ptr Ink 120:125+ S 7 '22
How should a bank determine its advertising appropriation? G. P. Knapp. Ptr Ink 123: 107-8 Ap 19 '23
Land banks discuss advertising plans. Ptr Ink 124:49 S 13 '23
MacGregor's book of bank advertising. T. D. MacGregor. 388p Bankers pub. co., New York '21
Merchandising save-at-shop banking to employers and employees. C. H. Handerson. Ptr Ink 125:97-8+ O 25 '23
New Orleans bank gives new twist to thrift copy. J: P. Wilder. il Ptr Ink 119:25-6 Je 8 '22
Newspaper advertising as a business builder. W. R. Morehouse. Comm & Fin Chr 117: 133-5; Discussion. 135-7 sec 2 O 13 '23
Reaching the man who reads as he runs. Ptr Ink 119:117-18 Ap 20 '22
Report of publicity committee of the Investment bankers' association. Comm & Fin Chr 115:1809-10 O 21 '22
Savings bank advertising. V: A. Lersner. Comm & Fin Chr 115:172-3 sec 2 O 21 '22
Savings banks use advertising co-operatively. J. M. Mosely. Ptr Ink 118:92+ Mr 2 '22
Selling copy in this bank's advertising. Ptr Ink 117:53-4 D 22 '21
Something different in bank advertising. Ptr Ink 118:153+ Ja 19 '22
Stability is keynote of co-operative savings bank advertising. D. Kirkland. Ptr Ink 122: 92+ Mr 29 '23

Success stories displace sermons as bank advertising copy. Ptr Ink 122:10+ Mr 1 '23
12,358 new accounts in 3 months. C. B. Hazlewood. il System 42:48-50+ J1 '22
What advertising mediums bring best results. Comm & Fin Chr 114:2790-1 Je 24 '22
What have banks to sell? J. H. Puelicher. Ptr Ink 122:33-4+ F 15 '23
Why banks do not advertise in England. Ptr Ink 120:81 Ag 24 '22
Why not advertise banks like soaps or soups? C. H. Handerson. Ptr Ink 123:97-8+ Je 7 '23
Why the active head of a bank should direct advertising. E. B. Wilson. Ptr Ink 122:64+ F 22 '23
Window-display principle in newspaper advertising. Ptr Ink 122:69-70+ Mr 8 '23
See also Bonds—Advertising; Investments—Advertising; Trust companies—Advertising

Bibliography

Banks desert the cold and formal. Ptr Ink 121:97-8 N 9 '22
Bank buildings
Addition to National Park bank, New York; views. Am Arch 122:144a-c Ag 16 '22
Addition to National Park bank, 214 Broadway, New York city. Arch & Bldg 54:pl 181-3 N '22
American National bank building, San Francisco, Cal.; views. Am Arch 122:144m-p Ag 16 '22
Architecture of banks. F: C. Hiron. il plans Arch Forum 38:253-62 Je '23
Artistic design of modern building for bank. il plan Bldg Age 44:52 My '22
Bank building for Hincks Bros. & co., Bridgeport, Conn.; views and plans. Am Arch 121:254j-l, 267 Mr 29 '22
Bank building forms a community center. il plans Bldg Age 45:64-5 My '23
Bank foundation designed to resist flood uplift. J: W. Pickworth. diags plans Eng N 91:712-14 N 1 '23
Bank of colonial design, Lower Moreland township, Pennsylvania. il plan Bldg Age 44:26 Ja '22
Bank of Italy, San Francisco, Cal.; views. Am Arch 122:56a-g J1 19 '22
Better bank buildings due to careful planning. il plan Bldg Age 45:52-3 Ja '23
Bowers savings bank, New York city. Arch & Bldg 55:81-2, pl 156-63 Ag '23
Brick bank design. il plan Bldg Age 44:40 F '22
Chelsea national bank, Atlantic City, N.J. Arch & Bldg 54:104, pl 188-9 N '22
Citizens' savings bank, New York. Am Arch 123:362e Ap 25 '23
Colonial architecture lends character to modern bank. il plan Bldg Age 44:34-5 N '22
Constructing new 10-story building on and around old 4-story structure; United States National bank building at Denver, Colo. W. H. Wheeler. diags Eng & Contr 58: 305-6 S 27 '22
Cooling systems for buildings. A. M. Feldman. diags plans Am Arch 124:379-82 O 24 '23
Creating an American style of architecture; Winona savings bank, Winona, Minn. il plans Bldg Age 45:29-33 F '23
Dignified design for bank. il plans Bldg Age 45:44-5 O '23
Dignity and convenience features of this bank. il plan Bldg Age 44:41 O '22
East Brooklyn savings bank, Brooklyn, N.Y. il Arch & Bldg 54:61-2, pl 94-6 Je '22
East Brooklyn savings bank, Brooklyn, N.Y.; views and plans. Am Arch 122:360a-d, 363-5 O 25 '22
Economic considerations in bank planning. C. S. Taylor. Arch Forum 38:281-2 Je '23
Exterior details of building for the Bowers savings bank, East 42nd street, New York. Am Arch 124:pl 106a-f Ag 1 '23
Federal reserve bank, Dallas, Texas; view and plans. Arch Forum 36:pl 73 My '22
Federal reserve bank of Richmond. il diags plans Arch Forum 36:175-6, pl 65-70 My '22
Federal reserve bank of St Louis, Mo. Am Arch 124:60a-b J1 18 '23

Bank buildings—Continued

- First national bank building, Jersey City, N.J. Arch & Bldg 54:79, pl 122-6 Ag '22
- First national bank, Detroit, Mich. plans Arch & Bldg 54:60-1, pl 87-93 Je '22
- Floor plan of banking room, Trust company of New Jersey. Arch & Bldg 54:pl 75 My '22
- Gotham national bank, New York. Arch & Bldg 53:94, pl 202-5 D '21
- Harris. Forbes building, Boston, Mass. Arch & Bldg 55:37-8, pl 85-6 Ap '23
- Hibernia bank and trust company, New Orleans, La. il Arch & Bldg 54:26-7, pl 32-7 Mr '22
- Illinois merchants bank building. 33p Illinois trust safety deposit co., Chicago '22
- Individual bank building meeting the needs of suburbs and small cities. W. J. Ball. il plans Arch Forum 38:293-6 Je '23
- Lawyers' mortgage company building, New York city, M. Price. il diags plans Arch Rec 52:52-62 Jl '22
- Materials for bank interiors. F. A. Fairbrother. il plan Arch Forum 38:287-92 Je '23
- Midwood trust co., Brooklyn, N.Y. Arch & Bldg 54:97-8, pl 175-6 O '22
- Modern bank design. il plan Bldg Age 43:42 D '21
- National city bank building; Madison avenue, 42d and 43d streets, New York. Arch Forum 36:15-16, pls 8-12 Ja '22
- National Shawmut bank addition, Boston, Mass. Arch & Bldg 54:80-1, pl 133-4 Ag '22
- National Shawmut bank of Boston, Comm & Fin Chr 117:1090-1 S 8 '23
- North River savings bank, New York. Arch & Bldg 55:39, pl 90-2 Ap '23
- Northern national bank, Toledo, Ohio; views. Am Arch 122:1021-j Ag '22
- Passaic national bank & trust co., Passaic, N. J.; views. Arch Rec 54:239-45 S '23
- Planning of banks. P. Sawyer. il diags plans Arch Forum 38:263-72, pl 65-88 Je '23
- Power for Federal reserve bank, Cleveland. il diags plan Power Pl Eng 27:1063-9 N 1 '23
- Power plant of the First national bank, Jersey City, New Jersey. il plan Power 56:310-14 Ag 29 '22
- Roosevelt savings bank, Brooklyn, New York; views and plans. Am Arch 124:242f-h, 243 S 12 '23
- Second national bank, Erie, Pa. Arch & Bldg 54:48-9, pl 79-81 My '22
- Second national bank, Erie, Pa.; views and plans. Am Arch 122:14n-p, 15-16 Jl 5 '22
- Some ideas on bank buildings—artistic and practical. A. Hopkins. il plans Arch Forum 36:1-8, pl 1-7 Ja '22
- Traveling scholarship of the Alabama marble company; competitions. il Am Arch 124:391-8 O 24 '23
- U.S. mortgage & trust company, New York. Arch & Bldg 54:111, pl 196-3 D '22
- Waterbury national bank, Waterbury, Conn.; views and plans. Am Arch 122:14k-m, 17-19 Jl 5 '22

See also Bank of England; Vaults

Heating and ventilation

- Heating and ventilating a small bank building. C. L. Hubbard. il diags Dom Eng 100:366-8 Ag 26 '22
- Heating and ventilating of bank buildings. A. K. Ohmes. diags plans Arch Forum 38:301-4 Je '23
- Improving air conditions in a Chicago bank building. E. V. Hill. plans Heat & Ven 19:37-41 N; 38-42 D '22

Layout

- Layout and equipment of banks. E. F. Abell. plans Arch Forum 38:273-6 Je '23

Lighting

- Lighting of banks. A. L. Powell. il Arch Forum 38:297-300 Je '23
- Recent departures from usual lighting practice in public spaces and offices; Cosmopolitan state bank, Chicago. A. D. Curtis and J. L. Stair. diag plan Illum Eng Soc 16:567-9 no 9 '21

Screens

- Design of bank screens and furniture. C. A. Holmes. diags Arch Forum 38:283-6 Je '23

Bank employees

- Third attempt to unionize bank clerks. Comm & Fin Chr 117:1190-1 S 15 '23

Bank failures

- Failure of Home bank of Canada. Comm & Fin Chr 117:1855-6 O 27 '23

Bank furniture

- Design of bank screens and furniture. C. A. Holmes. diags Arch Forum 38:283-6 Je '23

Bank holidays. See Holidays**Bank libraries. See Financial libraries****Bank notes**

- Profit from circulation of National bank notes. Comm & Fin Chr 117:1731-2 O 20 '23

Bank of England

- Proposed rebuilding of the Bank of England; review of recent articles. E. Swartwout. il diags plans Am Arch 122:519-23 D 6 '22

Bank of Montreal. See Banks and banking—Canada**Bank officials****Salaries**

- Gov. Harding's reply to Senate resolution regarding reserve bank salaries. Comm & Fin Chr 113:2359-61 sec 1 D 3 '21
- Reply of Federal reserve board to Senate resolution respecting salaries. Reserve bank buildings and franchise tax. Comm & Fin Chr 113:2130-4 N 19 '21

Bank protection. See Canals—Bank protection; Rivers—Bank protection**Bank vaults. See Vaults****Bankers**

See Advertising and bankers

Directories

See Banks and banking—Directories

Bankers' association for foreign trade

- Convention, Cleveland, Feb. 10. Comm & Fin Chr 114:680 F 18 '22

Bankers associations

- See American bankers' association; Investment bankers' association of America

Bankhead highway. See Roads—Texas**Banking law**

- Banking act of 1923 for the state of Pennsylvania. G. J. Campbell. 77p Smith bros. co. inc., Pittsburgh '23
- Banking law of New York. G. W. Morgan and A. J. Parker. 567p Banks law pub. co., New York '23
- Banking laws. 167p Tribune co., Charleston, W.Va. '21
- Banking laws governing the organization, powers, functions and supervision of state banks and trust companies. F. C. Bramwell, comp. 128p State ptg. dept., Salem, Or. '21
- Banking laws of the state of Oklahoma. M. M. Thomas. 156p M. M. Thomas, Oklahoma City '21
- Bill passed by House limiting national bank reports to three a year; text. Comm & Fin Chr 115:254 Jl 15 '22
- Digest of legal opinions of Thomas B. Paton. T. B. Paton, jr. 3d ed. 760p American bankers assn., New York '22
- New banking laws for Mexico. J. Clausen. Comm & Fin Chr 113:2239-40 N 26 '21
- New Spanish banking law. Comm & Fin Chr 115:926-7 Ag 26 '22
- Pennsylvania Supreme court concedes right of national banks in state to act in fiduciary capacity. Comm & Fin Chr 116:2342-3 My 26 '23
- Pratt's handbook of instructions on the organization, consolidation, powers and liquidation of national banks. 217p A. S. Pratt & sons, Washington '23
- Report of A. B. A. committee on protective laws. Comm & Fin Chr 117:120-1 sec 2 O 13 '23

Banking law—Continued

Report of the committee of the A.B.A. on federal legislation. *Comm & Fin Chr* 115:117-19 sec 2 O 21 '22

Report of the committee of the A.B.A. on state legislation. C. B. Hazlewood. *Comm & Fin Chr* 115:116-17 sec 2 O 21 '22

Right of national banks to transact a trust business in Pennsylvania upheld. *Comm & Fin Chr* 115:2431-2 D 2 '22

See also Checks; Federal reserve banks; Intermediate credit banks; Trust companies

Bankruptcy

Bankruptcy and insolvency laws of Argentina. W. H. Robertson. *U S Bur For & Dom Com Trade Information Bul* 126:1-20 '23

Goods in bankruptcy. W. Gustin. *Chem & Met Eng* 28:458 Mr 7 '23

Law and practice in bankruptcy under the national bankruptcy act of 1898. W. M. Collier. Bender & co., Albany, N.Y. '23

Law and practice of bankruptcy in Canada. L. Duncan. 798p Carswell co., Ltd., Toronto '22

Law of bankruptcy. A. W. Bays. 278p Callaghan & co., Chicago '22

Treatise on the bankruptcy law of the United States. H. Remington. 3d ed. Lawyers co-operative pub. co., Rochester, N.Y. '23

Treatise on the law and practice of bankruptcy. H. C. Black. 3d ed. 2v. Vernon law bk. co., Kansas City, Mo. '22

Trustees in British insolvencies. W. J. Greenwood. *J Account* 36:186-95 S '23

See also Business failures; Debtor and creditor

Banks and banking

Accountant and banker. S. S. Marsh. *J Account* 34:20-4 Jl '22

Another yardstick of banking conditions. R. H. Tingley. *Annalist* 18:511-12 N 28 '21

Bank agricultural department. R. A. Ward. 137p Bankers pub. co., New York '23

Bank directors; how they should examine their bank. O. W. Birkhead. 78p Bankers pub. co., New York '22

Banking, a new conception of an old science. A. W. Russel. *Annalist* 19:653-4, 680-1; 20:5-6, 31-2, 55-6, 81-2, 105, 126 Je 19-Ag 7 '22

Banking and business. H. P. Willis and G. W. Edwards. 573p Harper '22

Banking and credit. D. R. Dewey and M. J. Shugrue. 506p Ronald press '22

Banking cooperation in the protection of investors. J. Westerfield. *Annalist* 20:317 O 2 '22

Banking principles and practice. R. B. Westerfield. 5v. Ronald press '21

Borrowing from your bank. S. H. Patterson. *Management & Admin* 6:563-71 N '23

Buncoing the banker. S. H. Adams. *Nation's Business* 10:22-4 Je '22

Business analysis for bank loans. C. E. Woods. *Administration* 2:734-8 D '21

Commercial banker's function in business. C. Wadsworth. *Chem & Met Eng* 28:487-8 Mr 14 '23

Difficult science of being right. *Nation's Business* 10:57-8 Mr '22

Elementary banking. 480p American institute of banking, New York '22

Function of the banker. R. Estcourt. *Annalist* 22:575-8 O 29 '23

Grading the office job. F. A. Kingsbury. *Administration* 5:267-74, 393-401, 537-48, 669-80 Mr-Je '23

How banks can benefit by aerial transport. J. G. Lonsdale. *Aviation* 15:309-10 S 10 '23

How business with foreign countries is financed, 1923. 51p Guaranty trust co. of New York '23

How shall a bank proceed when it has distress merchandise for sale? *Ptr Ink* 119:109-10+ Je 8 '22

How the banker can help the retailer in his business. T. J. Kavanaugh. *Dom Eng* 101:230-1 N 11 '22

How to succeed in the bank. W. R. Morehouse. 199p Bank business builders, associates, Los Angeles '23

Information the banker wants about your business. H. C. Robinson. *Ptr Ink M* 5:29-30 Je '22

Making use of a bank. J. A. Fitzgerald. 371p Holt '23

Materials for the study of banking. J. D. Magee. 763p Prentice-Hall '23

Men and methods; L. M. Pool. A. F. Harlow. *System* 41:285-6 Mr '22

Men and methods; Walter W. Head. J. W. Hanbery. *System* 41:686-7 Je '22

Nine improvements on the way it was always done. W. H. Leffingwell. *il plans System* 42:274-7+ S '22

Outline in bank organization and administration. Rev. ed. 82p American inst. of banking, 15 W. 37th st., New York '22

Paying teller's department. G. G. Munn. 144p Bankers pub. co., New York '22

Practical problems of state banking. M. Cousins. *Comm & Fin Chr* 115:161-3 sec 2 O 21 '22

Relations of banker and contractor. H. S. McKee. *Eng & Contr (Ry)* 59:903-5 Ap 18 '23

Selecting suitable bonds for retailing by banks. F. A. Freeman. *Comm & Fin Chr* 115:724-6 Ag 12 '22

Should bankers manage? *System* 43:174 F '23

Theory and history of banking. C. F. Dunbar, O. M. W. Sprague and H. P. Willis. 4th ed. 321p Putnam '22

What must a corporation do to borrow money from a bank? C. Wadsworth. *Chem & Met Eng* 28:758-61 Ap 30 '23

Widening field of banking usefulness. A. M. Leinbach. *Annalist* 20:151 Ag 14 '22

Your bank account—how the bank analyzes it. T. J. Kavanaugh. *Dom Eng* 101:49-50 O 14 '22

See also Acceptances; Agricultural credit; Bank accounting; Bank advertising; Bank buildings; Bank failures; Bank notes; Checks; Clearing houses; Credit; Credit unions; Discount; Federal farm land banks; Federal reserve banks; Foreign exchange; Interest; Interest tables; Intermediate credit banks; Land banks; Letters of credit; Loans. Foreign; Loans. Small; Morris plan banks; Safe deposits; Savings banks; School savings banks; Trust companies; *also* American bankers' association

Branch banking

Association of Missouri banks and trust companies opposed to branch banking. *Comm & Fin Chr* 115:1269-70 S 16 '22

Attorney-General Daugherty's ruling on branches of national banks. *Comm & Fin Chr* 117:1515-16 O 6 '23

Branch banking. *Comm & Fin Chr* 115:333-4 Jl 22 '22

Branch banking. J. E. Barber. *Annalist* 20:281-8 S 18 '22

Branch banking and the Controller of the currency. *Comm & Fin Chr* 117:1816-18 O 27 '23

Branch banking controversy. *Annalist* 22:230-4 Ag 20 '23

Branch banking; discussion at the American bankers' association convention. *Comm & Fin Chr* 115:125-9 sec 2 O 21 '22

Branch banking—First national bank in St Louis vs. state of Missouri; editorial. *Comm & Fin Chr* 116:2187 My 19 '23

Examination of opposition to branch banking. R. B. Westerfield. *Annalist* 20:318-9 O 2 '22

Government and branch banking. *Comm & Fin Chr* 117:11-12 Jl 7 '23

Government's brief in branch bank proceedings. *Comm & Fin Chr* 117:1959-60 N 3 '23

Missouri banks combine in attack on branch banking. *Ptr Ink* 120:19 Ag 17 '22

National banks and branch banking. *Comm & Fin Chr* 115:23-4 Jl 15 '22

Opinion of Supreme court of Missouri holding national bank branches to be in violation of federal and state laws; text. *Comm & Fin Chr* 116:1128-31 Mr 17 '23

Pennsylvania bankers' association records its opposition to branch banking. *Comm & Fin Chr* 116:2587 Je 9 '23

Banks and banking—Branch banking—*Continued*
 Resolution of Minnesota legislature opposing branches of national banks; associations formed to oppose national bank branches. Comm & Fin Chr 116:676-7 F 17 '23
 Views on branches of national banks. H: M. Dawes. Comm & Fin Chr 117:1834-8 O 27 '23

Directories

Bank directory of New England. National Shawmut bank of Boston, Boston '22
 Fitch listings of investment banks and brokers, United States and Canada. Fitch pub. co., New York, Chicago '21
 Rand McNally bankers' roster of the United States and Canada. Rand, McNally & co., Chicago, New York '22

Guaranty of deposits

Forms of guaranty by banks and bankers. Comm & Fin Chr 117:136 JI 14 '23
 Oklahoma bank deposit guaranty law dead. Comm & Fin Chr 116:1857-8 Ap 28 '23

History

Century of banking in New York. Comm & Fin Chr 115:1144-5 S 9 '22
 History of banking in Iowa. H. H. Preston. 458p State historical society of Iowa, Iowa City '22

Safe deposits

See Safe deposits

Statistics

Banks and trust companies. Published in monthly Bank and quotation section of Commercial and financial chronicle

Tables, calculations, etc.

American bank calculator; computes: interest, time, maturity dates. L. F. Whalen. American bank calculator co., Omaha, Neb. '23

Taxation

Bill passed by Congress providing for taxation of national banks by states. Comm & Fin Chr 116:1127-8 Mr 17 '23
 Bill providing for taxation of national banks by states passed by conferences. Comm & Fin Chr 116:1008-9 Mr 10 '23
 Decision holding invalid New York state tax on national bank shares involves huge sums. Comm & Fin Chr 115:2756-7 D 23 '22
 Hearing on bill to permit states to tax national banks; text. Comm & Fin Chr 114:569-71 F 11 '22
 Hearing on protests against assessments under law taxing bank shares and moneyed capital in New York. Comm & Fin Chr 117:827-8 Ag 25 '23
 House passes bill amending law for state taxation of national banks. Comm & Fin Chr 114:2667-8 Je 17 '22
 Legislation proposed in New York for taxation of national bank shares. Comm & Fin Chr 116:1601 Ap 14 '23
 New York Senate passes bill for taxation of national bank shares. Comm & Fin Chr 116:1845-6 Ap 28 '23
 Proposed legislation providing for taxation by states of national banks approved by Senate committee. Comm & Fin Chr 115:2868-9 D 30 '22
 Senate passes bill providing for taxation by states of national banks. Comm & Fin Chr 116:367-8 Ja 27 '23
 Text of decision holding invalid New York state tax on national bank shares. Comm & Fin Chr 115:2867-8 D 30 '22
 Text of law taxing bank shares and moneyed capital in New York. Comm & Fin Chr 117:731-4 Ag 18 '23
 Walker bill taxing bank shares and moneyed capital in New York signed by Governor Smith. Comm & Fin Chr 116:2588-9 Je 9 '23

Austria

Austro-Hungarian bank and its successor. I. S. Pratt. Annalist 20:413-14 O 23 '22
 Organization of the Austrian national bank. Annalist 21:410+ Mr 19 '23

California

Banking conditions in California. Comm & Fin Chr 114:465-6 F 4 '22

Canada

Home bank of Canada, with \$22,000,000 deposits, closes its doors. Comm & Fin Chr 117:842-3 Ag 25 '23
 105th annual meeting, Bank of Montreal. Comm & Fin Chr 115:2663-4 D 16 '22

Chile

Monetary and banking policy of Chile. G. Subercaseaux. 217p Oxford '22

China

Chinese national banks, from their founding to the moratorium. R. O. Hall. 291p Ballantyne & sons, Washington, D.C. '21

Cuba

Banking situation in Cuba. L. Pym. Annalist 20:244 S 11 '22

France

Operations of the Credit Foncier—France's great mortgage loan bank. Comm & Fin Chr 115:928-9 Ag 26 '22

Germany

Die bankfrage einst und jetzt. D. P. Steller. Stahl & Eisen 42:700-6 My 4 '22
 Efficiency of German banks during the past year. M. Walk. Annalist 20:535 N 20 '22
 Financial capital becoming dominated by industrial capital. A. Heichler. Annalist 22:546 O 22 '23

Great Britain

British banking: foreign policies of the Big Five banks. L. R. Robinson. U S Bur For & Dom Com Trade Information Bul 117:1-11 '23
 Foreign credit facilities in the United Kingdom. L. R. Robinson. U S Bur For & Dom Com Trade Information Bul 99:1-46 '23
 London money market. W: F. Spalding. 215p Pitman '22

Louisiana

Development of banking in Louisiana during 1922. Comm & Fin Chr 116:571-2 F 10 '23

Mexico

New banking laws for Mexico. J: Clausen. Comm & Fin Chr 113:2239-40 N 26 '21

Missouri

Bank of the state of Missouri. J: R. Cable. 321p [bibliog. p. 314-19] Columbia university, New York '23

New York (city)

Century of banking in New York, 1822-1922. H: W. Lanier. 335p Doran '22

Oklahoma

Oklahoma bank deposit guaranty law dead. Comm & Fin Chr 116:1857-8 Ap 28 '23

Peru

Federal reserve act of Peru; text. Comm & Fin Chr 115:128-31 JI 8 '22
 Organization of Federal reserve bank of Peru. Comm & Fin Chr 114:2184 My 20 '22

Philippine Islands

Message of Governor-General Wood on Philippine national bank. Comm & Fin Chr 117:861-2 Ag 25 '23

Russia

Prof. Gustav Cassel, adviser to Russian state bank—operations of bank. Comm & Fin Chr 115:2101-2 N 11 '22

Spain

New Spanish banking law. Comm & Fin Chr 115:926-7 Ag 26 '22

Texas

Texas state deposit guarantee system criticised. C. O. Austin. Comm & Fin Chr 115:1582-3 O 7 '22

Banks and banking—Continued**United States**

- American banking practice. W. H. Kniffin. 389p McGraw-Hill '21
- Annual report for the year ended Oct. 31, 1922, of the Comptroller of currency. D. R. Crissinger. Comm & Fin Chr 116:674-6 F 17 '23
- Banking policy through the crisis and depression. B. M. Anderson, jr. Annalist 19: 37, 39 Ja 9 '22
- Bill passed providing for 99-year charters for national banks; text. Comm & Fin Chr 115:133-4 JI 8 '22
- Increase in resources of national banks nearly 22 billions. Comm & Fin Chr 116:900 Mr 3 '23
- Increase in resources of national banks since 1914. Comm & Fin Chr 113:2243-4 N 26 '21
- Industrial banking in the United States. D. P. DeYoung. Annalist 20:293+ S 25 '22
- New year finds a strong banking situation. W. F. Wamsley. Annalist 21:49+ Ja 8 '23
- Our overseas banking problem. W. F. Gehhart. Am Ind 22:37-8 My '22
- Promise of the banking year. W. F. Wamsley. Annalist 19:66 Ja 9 '22
- Resources of state banking institutions in United States. Comm & Fin Chr 115:368 JI 22 '22
- Resources of state banking institutions in United States. R. N. Sims. Comm & Fin Chr 117:273-4 JI 21 '23
- Review of banking activity during last two years. D. R. Crissinger. Comm & Fin Chr 116:1957 My 5 '23
- Standard state banking. E. H. Wolcott. Comm & Fin Chr 117:143-7 sec 2 O 13 '23
- See also Banks and banking—Taxation

Banks and banking, Cooperative

- Evolution of people's banks. D. S. Tucker. (Studies in history, economics and public law, v. 102, no. 1) 272p Columbia univ., New York '22

See also Banks and banking, Trade union; Credit unions

Banks and banking, International

- International bank of issue. F. Todd. Annalist 18:536-7 D 5 '21
- Proposal for world bank—gold reserve bank. F. A. Vanderlip. Comm & Fin Chr 113: 2125-6 N 19 '21
- Senator Hitchcock's bill for Bank of nations. Comm & Fin Chr 113:2665-6 D 24 '21
- Senator Hitchcock's proposed Bank of nations. Comm & Fin Chr 113:2126-7 N 19 '21

Banks and banking, Trade union

- Bank projects of labor unions—locomotive firemen decide against movement. Comm & Fin Chr 114:2533-4 Je 10 '22
- Banking activities of the Brotherhood of locomotive engineers. Ry R 73:298-9 S 1 '23
- Labor bank. Comm & Fin Chr 115:2309; 116: 450-1, 1944, 2090-1 N 25 '22, F 3, My 5-12 '23
- Labor banks in the United States. Monthly Labor R 16:854-8 Ap '23
- Labor unions in the field of banking. L. W. Moffett. Iron Age 112:1039+ O 18 '23
- Labor's money. R. Boeckel. 181p Harcourt '23

Baptistries**Heating**

- Methods of heating baptistry. diag Gas Age 49:694-5 Je 3 '22

Barber shops**Advertising**

- New chords struck in barber shop advertising. B. A. Grimes. Ptr Ink 124:101-2 Ag 9 '23
- Policies that helped small business become big advertiser. J. A. Murphy. Ptr Ink M 4: 26-3 D '21

Barbituric acids

- Alkylbenzyl barbituric acids. A. W. Dox and L. Yoder. Am Chem Soc J 44:1141-5 My '22
- Course of the bromination of allyl-substituted imino-barbituric acids. O. Diels and others. Chem Soc J 124 pt 1:950-2 S '23

- 5,5-diarylbarbituric acids. A. W. Dox and A. Thomas. Am Chem Soc J 45:1811-16 JI '23

- Some dialkylbarbituric acids with tertiary amino grouping. A. W. Dox and L. Yoder. Am Chem Soc J 45:1757-62 JI '23
- Some new hypnotics of the barbituric acid series. H. A. Shonle and A. Mement. Am Chem Soc J 45:243-9 Ja '23
- Über die barbitursäure. W. Bock. Deutsche Chem Gesell Ber 55:3400-5 N '22

Bardt process. See Copper metallurgy—Bardt process**Bargain sales**

- Plan that built August business. P. F. O'Shea. il System 44:172-4+ Ag '23
- Why people come to these sales. System 42: 160 Ag '22

Barges

- Barges of new type built of both wood and steel. il Pop Mech 39:194-5 F '23
- Experimental towboats. 195p U.S. Engineer dept., Washington, D.C. '22
- Gigantic service barge for Mississippi shipping. il Pop Mech 37:57 Ja '22
- Modern dock appliances. D. Fife. il diags Engineering 116:61-4 JI 13 '23
- New barges for Erie canal are electrically driven. il Pop Mech 39:130 Mr '23
- New era in transportation; a proposed 1100-mile system of train ferriage on the Father of waters. S. W. Allender. il diag Sci Am 127:94-5 Ag '22
- Nonsinkable barge made of balsa wood. il Pop Mech 39:23 Ja '23
- Results of government operation of Mississippi and Warrior river barge lines. Ry R 72:706-7 Ap 21 '23
- Sea-going ships for the State barge canal. il diag plan Sci Am 129:157 S 23
- Separating barge for oily ballast water. il diags plans Engineer 135:91-2 Ja 26 '23
- Ships within ships: a new system of barge transport. il Sci Am 127:173 S '22
- Steel manufacturers utilize great inland waterways. W. H. Lloyd. il Iron Tr R 70: 1325-3 My 11 '22; Same. Marine R 52:247-50 Je '22
- Twin barges with one deck as support of a derrick. il Pop Mech 38:831 D '22
- See also Motor barges

Barges, Concrete

- War-time concrete barges now used for river terminal. il Eng N 89:350-1 Ag 31 '22

Barite

- Barium and strontium in Canada. Eng & Min J 114:320 Ag 19 '22
- Barytes and barium products in 1920. G. W. Stose. U S Geol S Min Res of U S 1920, pt 2:189-99 '21
- Barytes and barium products output and sales in 1922. Oil Paint & Drug Rep 161:39 JI 30 '23
- Barytes: occurrence, mining, uses. R. B. Ladoo. flow sheets il Eng & Min J 115:319-24 F 17 '23
- Bleaching barytes. Chem Age 31:212 My '23
- Marketing of barytes. S. W. Thompson. Eng & Min J 114:109-10 JI 15 '22
- Mining barytes in Ireland. F. H. Ahier. flow sheet il Eng & Min J 114:404-5 S 2 '22
- Preparation and uses of barytes. Eng & Min J 112:1061 D 31 '21

Barium

- Barium and strontium in Canada. H. S. Spence. 100p Canada Dept. of mines, Ottawa '22

See also Barite

Barium carbonate**Testing**

- Testing barium carbonate for use in terra cotta bodies. W. L. Howat and G. A. Williams. Am Cer Soc J (Bul) 6:161-3 Je '23

Barium chloride

- Action of barium chloride on sulfate in fused salts. H. E. Batsford. diag Ind & Eng Chem 15:1044 O '23
- Barium chloride from black ash waste. Chem & Met Eng 27:1089 N 29 '22

Barium compounds

Barytes and barium products in 1920. G. W. Stose. U S Geol S Min Res of U S 1920, pt 2:189-99 '21

Barytes and barium products output and sales in 1922. Oil Paint & Drug Rep 104:39 J1 30 '23

Barium peroxide

Barium peroxide; patent. Chem Age 31:44 Ja '23

Catalytic influence of foreign oxides on the decomposition of silver oxide, mercuric oxide and barium peroxide. J. Kendall and F. J. Fuchs. diag Am Chem Soc J 43:2017-31 S '21

Barium silicate

Silicates of strontium and barium. P. Eskola. diags Am J Sci 5th ser 4:331-75 N '22

Barium sulfate

Blanc fixe and sodium sulphhydrate. Chem Age 31:332 J1 '23

See also Barite

Barium sulfide

Making metal sulphides. Chem Age 31:274 Je '23

Bark

Discussion on waste in the industry at fall meeting of T.A.P.P.I. Paper Tr J 75:47-50 N 9 '22

Drying of wood refuse by means of stack gases. il diags Paper Tr J 75:60+ D 28 '22

First progress report T.A.P.P.I. committee on waste in the industry; white water losses and bark utilization. Paper Tr J 75:46-7 O 5 '22

Mechanical extraction of moisture from bark. Paper Tr J 75:49-50 O 5 '22

Utilization of bark and wood refuse as fuel. E. R. Schafer. Paper Tr J 75:51-4 O 5 '22

Utilization of bark as fuel. E. R. Schafer. Paper Tr J 74:57-8 My 25 '22

Utilization of waste bark. Paper Tr J 76:155-6+ Ap 12 '23; Same. Tech Assn Pa ser 6: 16-18; Discussion. 167-8 Je '23

Barley

Amylases of the cereal grains—the insoluble amylase of barley. J. L. Baker and H. F. E. Hulton. Chem Soc J 121:1929-34 S '22

Estimation of starch in barley and wheat. A. R. Ling. Soc Chem Ind J 42:48-50 F 9 '23

Barns and stables

Making the old barn new. J. L. Strahan. il diags Bldg Age 45:66-8 O '23

Modern barns made attractive. il Bldg Age 44:44 Ja '22

Modern dairy barn. il Bldg Age 43:47 D '21

Modern good looking barns replace the ugly type. il Bldg Age 44:44 J1 '22

Round barn design. il Bldg Age 44:47 O '22

Simple barn framing. J. S. Strahan. Bldg Age 45:62+ F '23; Discussion. 45:77-9+ Ag '23

See also Garages

Heating and ventilation

New ventilation device prevents drafts. il Pop Mech 39:514 Ap '23

Barnsdall corporation

3d annual statement, 1921. Comm & Fin Chr 114:1311-12 Mr 25 '22

Barograph

Altimeters and barographs. A. H. Mears. H. B. Henriksen and W. G. Brombacher. il diags U S Nat Advisory Com for Aeronautics 1921:501-23 '23

Barometer-altimeter

Pocket barometer-altimeter. Sci Am 128:35 Ja '23

Barometers

Aneroid investigations in Germany; abstract. E. Warburg and W. Heuse. Aerial Age 14: 296-7 D 5 '21

Better barometers. il Sci Am 129:261 O '23

Effect of rise and fall of barometer on the escape of gas in mines. Coal Age 21:928-9 Je 1 '22

Gage and absolute pressure. A. W. Dew. diags Power 56:562-3 O 10 '22

New Uehling combined barometer and vacuum recorder. diags Power 57:633 Ap 24 '23

Practical ideas for the engineer. diags Marine R 52:395-6 S '22

See also Statoscope

Testing

Testing of barometers and altimeters. il U S Bur Stand Circ 46:1-22 '22

Barometers, Aerial

Mercurial barometer for airships. Aviation 11:572 N 14 '21

Barometers, Marine

Effect of the rolling of a ship on the readings of a marine mercury barometer. M. A. Giblett. Philos Mag 6th ser 46:707-16 O '23

Barometric pressure. See Atmospheric pressure**Baroque architecture. See Architecture, Baroque****Barrages**

Rand water supply and Vaal river barrage. il diags Engineering 116:203-5 Ag 17 '23

Sukkur barrage. diags plans Engineer 134: 190-1; 136:459 Ag 25 '22, O 26 '23

Vaal river scheme and barrage. W. Ingham. il (supp) diags Engineer 134:576-8 D 1 '22

Water storage and distribution control. E. B. Hall. diags Can Eng 45:303-4 S 11 '23

See also Dams; Rivers—Regulation

Barre, Herbert A., 1875-

Portrait. Elec W 80:464 S 2 '22

Barrel washing machine

Conveying at the brewers' exhibition. il Ind Management (Lond) 8:385-6 D 28 '22

Barrels

Barrel patterns. R. R. McGowan. diags Foundry 50:670a Ag 15 '22

Control of the gelling point of glue; with specific application to drying barrel linings in hot weather. R. E. Wilson and W. B. Ross. Ind & Eng Chem 15:367-70 Ap '23

Economic storage of barrels; with warehouse layout. M. W. Potts. il diags plan Management Eng 3:213-19 O '22; Same. Chem & Met Eng 28:293-6, 345-8, 404-7 F 14-28 '23; Same. Ind Management (Lond) 9:247-50, 261-3 Ap 19-My 3 '23

Electric transporter for barrels. il Elec R (Lond) 90:406-7 Mr 24 '22

Keeping track of empty barrels. Management Eng 2:46 Ja '22

Machine for heading barrels. Chem & Met Eng 29:676 O 8 '23

Stewart's patent cask-lifter. il Ind Management (Lond) 9:281 My 3 '23

Wooden barrels for chemicals. Chem & Met Eng 27:1231 D 20 '22

Barrels, Concrete

Water barrels of concrete adopted by railroads. il Pop Mech 39:756 My '23

Barrels, Sheet metal

Collapsible sheet metal barrel. il Sheet Metal Worker 11:362 Je 8 '23

Barrels, Steel

Making of steel pitch barrels. il diags Sheet Metal Worker 12:841-3 Ja 6 '22

Would center on 3 steel barrel types. W. K. Halbert. Nat Pet N 15:32k-1 O 10 '23

Barry, John Garrett, 1868-

Vice-president of the General electric co.; sketch. por Elec Ry J 60:730-1 O 28 '22; Elec W 80:918 O 28 '22

Barter

Desire to swap is basis of unusual business; helping men trade guns. Ptr Ink M 7:110+ O '23

International barter. B. S. Cutler. Annalist 18:534-5 D 5 '21

Barytes. See Barite**Basalt**

Devil's postpile in the Sierra Nevada mountains. J. L. Von Blon. il Pop Mech 38:54-6 J1 '22

Emploi du basalte dans l'industrie chimique. L. Drin. Chimie & Ind 7:662-3 Ap '22

Bascule bridges. See Bridges, Bascule**Baseball**

Home-run secret sought inside of baseballs. il Pop Mech 40:3-4 J1 '23

Basements. See Cellars

Bases (chemistry)

Basic strength of ammonia and allied bases. R. M. Caven. *Soc Chem Ind J (Chem & Ind)* 42:164-6 F '23

Researches on pseudo-bases; a new synthesis of tertiary amines of the form $R\cdot CH_2\cdot NR'R''$. G. M. Robinson and R. Robinson. *Chem Soc J* 123:532-43 Mr '23

Strengths of cobaltamine bases and Werner's theory of bases. A. B. Lamb and V. Yngve. *Am Chem Soc J* 43:2352-66 N '21

Baskerville, Charles, 1870-1922

Sketch. *por Chem & Met Eng* 26:280 F 8 '22

Basset process. See Steel metallurgy—Basset process**Basswood**

Utilization of basswood. W. D. Brush. *Am Inst Arch J* 11:XIII+ Ag '23

Bast fibers

Behaviour of bast fibers under the influence of caustic alkalis. C. R. Nodder and R. W. Kinkead. *il Textile Inst J* 14:T133-56, pl 1-2 Je '23; Abstract. *Soc Dyers & Col J* 39:283-4 S '23

Bleaching of yarn made from bast fibres. E. Clayton. *Soc Dyers & Col J* 39:31-7 F '23; Same. *Am Dyestuff Rep* 12:335-40 Ap 23 '23

Cottonizing of bast fibers and the potential industrial value of this process. O. Johannsen. *il Color Tr J* 11:42-5 Jl '22

Bates test road. See Roads, Experimental**Bath, England**

Bath; a planned city. R. Atkinson. *il Am Inst Arch J* 11:95-109 Mr '23

Bath tubs

How sanitary ware is made. P. Dwyer. *il diag Foundry* 50:935-41, 997-1002 D 1-15 '22

Bathhouses

Hot-spring bathhouse for Salt Lake City. G. F. Paul. *il Pop Mech* 38:532-3 O '22

Le Brun traveling scholarship competition, 1922. *Am Arch* 121:389-95 My 10 '22

Recent park bath house types. G. Burnap. *il Arch Rec* 54:286-90 S '23

Reinforced concrete bath house withstands sulfur vapors. *il diags Concrete* 22:18-20 Ja '23

Sanitation of bathhouses. W. P. Gerhard. *il plans Arch & Bldg* 54:33-5, 43-5, 55-8, 71-3, 82-4 Ap-Ag '22

Bathing suits**Advertising**

Boosts sale of cement for swimming pools to sell more bathing suits. C. M. Harrison. *Pir Ink M* 7:78+ N '23

Batholith

British Columbia batholith and related ore deposits. P. D. Wilson. *map Min & Met* 188: 34-7 Ag '22

Bathrooms

Concerning bathrooms. *il Bldg Age* 45:79 O '23

Baths

Story of the bath. E. L. Barker. *Dom Eng* 102:7-13 Ja 6 '23

See also Bathhouses; Swimming pools

Baths, Public

Energy conquers fate; New Orleans master plumbers' association win their fight to keep only free public bath house in operation. *il Sanitary & Heat Eng* 97:61-2+ F 10 '22

See also Bathhouses

Batik

Dyeing processes for batiks. J. F. Springer. *Color Tr J* 11:251-2 D '22

First lessons in batik. G. C. Lewis. 87p Prang co., Chicago, New York '21

Bats

Bat pest in Ceylon. *il Sci Am* 126:128 F '22

Batteries, Electric. See Electric batteries; Storage batteries**Battleships.** See Warships**Baum, Dwight James**

Architectural details from the office of Dwight James Baum, architect. *Am Arch* 121:144-p Ja 4 '22

Baum, Frank G., 1870-

Portrait. *Elec W* 80:752 O 7 '22

Bauxite

Account of an investigation of some Georgia clays and bauxites. R. B. Gilmore and A. H. Fessler. *il map Am Cer Soc J* 5:193-202 S '22

Bauxite, a constituent of alcement. R. B.

Ladoo. *il Concrete* 23:sup6-7 Jl '23

Bauxite and aluminum. T. P. Maynard. *Chem Age* 30:86-8 F '22

Bauxite and aluminum in 1921. J. M. Hill.

Eng & Min J 113:95 Ja 21 '22

Bauxite and aluminum in 1921. J. M. Hill.

U S Geol S Min Res of U S 1921, pt 1:63-70 '22

Bauxite and aluminum in 1922. J. M. Hill.

U S Geol S Min Res of U S 1922, pt 1:87-96 '23

Bauxite mining resumed in Guiana. *il Eng & Min J* 116:723-4 O 27 '23

Bauxite; occurrence, mining, and uses. R. B.

Ladoo. *il Eng & Min J* 114:805-9 N 4 '22

Composition and properties of diaspor, bauxite and gibbsite. R. M. Howe and R. F.

Ferguson. *Am Cer Soc J* 6:496-500 Mr '23

Formation of bauxite in sink-holes. G. I.

Adams. *Econ Geol* 18:410-12 Je '23

Georgia's clays and bauxites. *il Brick & Clay Rec* 61:637-9 O 31 '22

Marketing of bauxite. J. M. Hill. *map Eng & Min J* 115:800-2 My 5 '23

Production of the French bauxite mines. Eng & Min J 113:206 F 4 '22

Bawdin mine. See Mines and mineral resources—Burma**Bayonne, N.J.****Railroads**

Important terminal project at Bayonne. *Ry R* 73:323-4 S 1 '23

Bazin, Henri

L'œuvre de Bazin et la relativité en hydraulique. C. Rabut. *Génie Civil* 82:343-6 Ap 14 '23

Beacom, Thomas H., 1866-

T. H. Beacom made receiver for D. & R. G. W. *por Ry Age* 75:251-2 Ag 11 '23

Beads

Beads gain in sales when retailers are shown how to sell them. A. Belden. *Pir Ink* 124: 123-4 Jl 12 '23

Beams. See Girders**Beans**

Wonderful selenium eye sorts had beans from good with more than human accuracy. R. C. Folger. *il Pop Mech* 39:839-41 Je '23

See also Castor beans; Soy beans

Bearing metals

Alloy-steel and bearing alloys. J. A. Mathews. *Soc Auto Eng J* 12:614-15 Je '23

Aluminum-base metal for motor bearings gives low cost. A. B. Creelman. *il Elec Ry J* 60:79 Jl 15 '22

Bearings and bearing metals. C. H. Bierbaum. *diags Mach* 29:298-300 D '22

Bearings and bearing metals. H. B. Trix. *Power* 57:284 F 20 '23; Discussion. E. Andrews. 57:941-2 Je 12 '23

Characteristics of bearing metals. E. T. Keenan. *Power* 54:977-8 D 20 '21

Effect of small quantities of nickel upon high-grade bearing metal. A. H. Munday and C. C. Bissett. *Engineering* 116:347-9 S 14 '23

Effect of tin and copper proportions on bearing metals. C. S. Landon. *Soc Auto Eng J* 12:615-16 Je '23

Electrolytically-produced calcium-barium-lead alloys comprising Frary metal. W. A. Cowan, L. D. Simpkins and G. O. Hiers. *il diags Am Electrochem Soc Trans v* 40 (preprint 17):237-58 S '21; Same abr. *Chem & Met Eng* 25:1181-5 D 28 '21

Genelite—a new bearing material. E. G. Gilson. *il Mach* 29:123-4 O '22

Genelite: an improved bearing alloy. E. G. Gilson. *il Gen Elec R* 24:949-51 N '21; Same. *Metal Ind* 20:98-9 Mr '22

General Motors develops porous bearing metal; Durex. *Automotive Ind* 49:793 O 13 '23

Bearing metals—Continued

- How arsenic affects alloys. H. J. Roast and C. F. Pascoe. *il* diags Foundry 51:67-70 Ja 15 '23; Abstract. *Min & Met* 182:63-4 F '22; Same. *Metal Ind* 20:95 Mr '22
- Metals for car and power house bearings. H. H. Buckman. *Elec Ry J* 60:47-8 Jl 8 '22
- New bearing metal of unusual properties; Ferrymetal. *Sci Am* 127:82 Ag '22
- Physical properties of the A.S.T.M. tentative standard white metal bearing alloys. J. R. Freeman, jr. *Am Soc T M Pro* 22 pt 1:207-11 '22
- Some pointers on bearings. A. L. Gear. *il* *Elec R* 80:265-70+ Je '22
- Stewart bearing metal. *Am Mach* 57:671 O 26 '22
- Study of bearing metals. C. H. Bierbaum. *il* *diags Chem & Met Eng* 28:304-8 F 14 '23; Excerpt. *Engineer* 135:420 Ap 20 '23
- Tests on high-tin bearing metals. P. W. Priestley. *Chem & Met Eng* 27:928-31 N 8 '22
- White metals. A. H. Munday, C. C. Bissett and J. Cartland. *il* *Metal Ind* 21:13-14, 62-3 Ja-F '23; Same cond. *Engineering* 114:441 O 6 '22

See also Babbitt metal

Testing

- Testing bearing metals and lubricants. F. Johnstone-Taylor. *diags Am Mach* 58:700-2 My 10 '23
- Tests on bearing metals. H. A. Holz. *diag Chem & Met Eng* 27:1061-2 N 29 '22
- Bearing pressure diagrams.** See Gas and oil engines—Bearing pressure diagrams

Bearings

- Advantages of the ring-oiling bearing. W. F. Osborne. *Power* 55:697-8 My 2 '22
- Bearings and bearing metals. C. H. Bierbaum. *diags Mach* 29:298-300 D '22
- Bushed versus babbitted bearings. J. S. Watts. *diag Am Mach* 59:563 O 11 '23
- Chadwick bearings. *il* *Am Mach* 58:314 F 22 '23
- Does an engine bearing need a cap? F. W. Bosch. *diags Power* 57:893-5 Je 5 '23
- Federal hot-bearing alarms. *diags Power* 54:1008 D 27 '21
- Few points about bearings. H. R. Fowler. *diag Am Mach* 59:64-5 Jl 12 '23
- Hand versus machine finished bearings. E. A. Dixie. *Am Mach* 55:888-90 D 1 '21
- How hot does a bearing run? W. F. Osborne. *diag Power* 55:975-6 Je 20 '22
- How to babbitt motor bearings. *Coal Age* 24:252 Ag 16 '22
- How to make babbitted bearings that will last long and run cool and smoothly. G. H. Radebaugh. *il* *Coal Age* 22:829-32 N 23 '22
- Laws of bearing and dry friction similar when loads are high. P. M. Heldt. *diags Automotive Ind* 49:573-5, 735-9, 800-1, 842-4 S 20, O 11-25 '23
- Lubrication of bearings. J. S. Watts. *diags Am Mach* 56:222-3 F 9 '22
- Maintenance and lubrication of railway bearings. H. Cordell. *Elec Ry J* 60:298-300; Discussion. J. H. Kouny. 300-1 Ag 26 '22
- Making bearings for model machinery. H. Greene. *diags Pop Mech* 37:320-1 F '22
- Methods of making babbitted bearings. F. H. Colvin. *il* *Am Mach* 58:735-7 My 17 '23
- New departure produces new type of bearing intended especially for use in front wheels. *il* *diag Automotive Ind* 47:217-18 Ag 3 '22
- Oil-engine bearing clearances. J. Spugg. *Power* 56:136 Jl 25 '22
- Paper mill transmission machinery. G. N. Vanderhoef. *Paper* 31:7-12 S 6 '22
- Plain or anti-friction bearings for rail-cars? D. A. Hampson. *Automotive Ind* 47:1038 N 23 '22
- Pouring and fitting babbitt linings. A. H. Levy. *il* *Power* 58:484-7 S 25 '23
- Power lost in shaft bearings. H. M. Brayton. *chart diag Am Mach* 58:861-3 Je 14 '23
- Recommendations for bearings. D. M. Petty. *Iron Age* 112:906-7 O 4 '23
- Reducing bearing troubles. G. Harvey. *Power Pl Eng* 25:1112-13 N 15 '21

- Reducing cost of fitting connecting-rod bearings. A. K. Schwarz. *diag Mach* 28:271 D '21
- Refitting bearings in automobile crankcases. *il* *Mach* 28:631 Ap '22
- Removable journals for textile plant rolls. C. W. Dalton. *diags Mach* 30:217-18 N '23
- Renewing a main engine bearing. *diags Power Pl Eng* 26:1168 D 1 '22
- Some pointers on bearings. A. L. Gear. *il* *Elec R* 80:265-70+ Je '22
- Thickness and resistance of oil films in high speed bearings. G. Stoney, R. O. Boswall and J. Massey. *diags Engineering* 113:249-50 Mr 3 '22; Same. *Soc Auto Eng J* 13:101-3 Jl '23
- Unusual method of scraping a babbitted bearing. *diags Power Pl Eng* 27:491-2, 645-6, 843-4 My 1, Je 15, Ag 15 '23
- Use of babbitt metal for bearings. *diags Power Pl Eng* 27:981-2 O 1 '23

See also Airplane engines—Bearings; Automobile engines—Bearings; Automobiles—Bearings; Babbitt metal; Babbitting; Ball bearings; Bearing metals; Cars—Bearings; Electric motors—Bearings; Electric motors, Railway—Bearings; Gas and oil engines—Bearings; Lubrication and lubricants; Roller bearings; Thrust bearings

Specifications

- Proposed bearing standardization. *Automotive Ind* 45:33 Ja 5 '22
- Bearings, Thrust.** See Thrust bearings
- Beaters.** See Paper making machinery
- Beating process.** See Paper making—Beating
- Beaumont, Texas**
- Inland sawmill town becomes seaport. *il* *Marine R* 53:352-3 S '23
- Beaux-arts institute of design**
- Notification of awards. Published in bi-weekly numbers of American architect and the architectural review
- Beaver Valley traction company**
- Adjusting fare to length of ride. *plan Elec Ry J* 57:670-6; 59:673-5 Ap 9 '21, Ap 22 '22
- Beccari system.** See Refuse disposal
- Beckmann transformation.** See Molecular rearrangements
- Bed spreads**
- Advertising
- Bed spreads are named and advertised after thirty-two years. R. Dickinson. *Ptr Ink* 122:130+ F 22 '23
- Bed springs**
- Advertising
- How "pioneer advertising" has paid; Way sagless spring company. J. M. Anderson. *Ptr Ink* 121:33-4+ O 5 '22

Bedaux system

- Application of Bedaux management methods in the Robbins & Myers plants. L. C. Morrow. *charts Am Mach* 57:249-55, 294-8 Ag 17-24 '22
- Bedaux principle of human power measurement. L. C. Morrow. *Am Mach* 56:241-5 F 16 '22
- Practical training for foremen. P. L. Burkhard. *Iron Tr R* 71:172 Jl 20 '22
- Simple method increases output. H. P. Drake. *Iron Tr R* 71:646+ S 7 '22

Beds

- Bedsteads, springs and mattresses. (Simplified practice recommendation no. 2) 9p U.S. Bur. of stand., Washington '22
- New type of electric welded tubular steel bedstead. *il* *Sci Am* 128:395 Je '23
- See also Murphy door bed company

Beech-nut packing company

- Automatic equipment and chemical control. G. L. Montgomery. *il* *Chem & Met Eng* 27:150-4 Jl 26 '22
- Combination package that is sample of a line; Beech-nut food products. J. F. Cameron. *il* *Ptr Ink M* 5:61 O '22
- Handling the finished products of industry. G. L. Montgomery. *il* *diags Chem & Met Eng* 27:199-203 Ag 2 '22

Beech-nut packing company—Continued

Turning a dull-season business into profits:
Beech-nut packing company. J. Gore. il
Factory 30:276-8+ Mr '23

Beef**Freezing**

Brine freezing of beef. Refrig W 57:30 J1 '22

Beer. See Brewing**Bees**

Are bees color blind? Sci Am 129:157 S '23
Science and bee-culture. il Sci Am 127:44 J1 '22

Beet sugar. See Beets and beet sugar**Beet sugar factories. See Sugar factories****Beet workers**

Work of children and mothers in beet fields
of Colorado and Michigan. Monthly Labor
R 16:1047-51 My '23

Beetles

Bread beetle: a living yeast producer. Sci Am
128:39 Ja '23

Beets and beet sugar

Advertising to supply an industry with ade-
quate raw material. S. C. Lambert. Ptr Ink
119:138+ Je 8 '22

Beet-sugar industry in the U.S. in 1920. C. O.
Townsend. map Chem & Met Eng 26:81 Ja
11 '22

Determination of sugar in cossettes by the
Pellet method. S. J. Osborn. Ind & Eng
Chem 15:787-8 Ag '23

Diffusion process in beet-sugar industry. R.
W. Shafor. diags Chem & Met Eng 29:472-4
S 10 '23

Fundamental research on purification methods
the greatest need in the beet sugar indus-
try. H. W. Dahlberg. Chem & Met Eng
27:463-4 Ag 30 '22

Harvesting sugar-beet seed in sleds. il Sci Am
127:405 D '22

Preliminary report on sugar beets in Louisi-
ana. C. E. Coates and A. F. Kidder. J Ind
& Eng Chem 14:213-14 Mr '22

Reclaiming beet sugar refuse from settling
basins. diags Ind Management (Lond) 10:
168-9 S 20 '23

Advertising

Beet sugar advertising directed at consum-
ers' prejudice. Ptr Ink 120:165+ Ag 17 '22

Begging

Begging as a business. J. Morrow. il Nation's
Business 10:28-9 J1 '22

Belgian Congo. See Kongo, Belgian**Belgium**

See also Architecture, Domestic—Belgium;
Automobile industry and trade—Belgium;
Cement industry and trade—Belgium; Coal
mines and mining—Belgium; Electricity sup-
ply—Belgium; Railroads—Belgium; Roads—
Belgium; Rubber industry and trade—Bel-
gium

Commerce

Import and export schedule of Belgium. U S
Bur For & Dom Com misc ser 107:1-28 '22

Economic conditions

Belgium of to-day. 40p R. G. Dun & co., New
York '22

Economic life of Belgium from the indus-
trial point of view. J. Carlier. Annalist
22:39-40 J1 9 '23

Economic situation in Belgium. Engineering
113:690-1 Je 2 '22; Elec R (Lond) 90:822-3 Je
9 '22

European conditions as I saw them. J. S.
Negru. Chem & Met Eng 27:917-19 N 8 '22
Trade and progress of Belgium. Engineering
115:659-60 My 25 '23

See also Labor and laboring classes—Bel-
gium; Wages—Belgium

Foreign relations**Netherlands**

Economic aspects of the tension existing be-
tween Holland and Belgium. C. Hervy-
Cousin. Annalist 21:791+ Je 11 '23

Industries and resources

Belgian finance and industry. S. H. Cross
and E. A. Welden. U S Bur For & Dom
Com Trade Information Bul 146:1-17 '23

Belin system. See Phototelegraphy**Bell, Alexander Graham, 1847-1922**

Bell and his telephone; little known facts.
por Sci Am 127:232 O '22

Sketch. por Elec R (Lond) 91:202-3 Ag 11
'22; Elec W 80:289 Ag 5 '22; Electrician 89:
157 Ag 11 '22; Engineering 114:183 Ag 11
'22; Eng & Ind Management 8:46 Ag 10 '22;
Mech Eng 44:618 S '22

Bell, J. Mackintosh

Geologists of note. J. C. Murray. por Eng &
Min J 115:1140 Je 30 '23

Bell, Louis, 1864-1923

In memoriam. A. E. Kennelly. por Illum Eng
Soc 18:502-10 J1 '23

Sketch. por Elec W 81:1485 Je 23 '23

Belle alkali company, Belle, West Virginia

Up-to-date methods in a bleaching powder
plant. G. L. Montgomery. il diags plans
Chem & Met Eng 26:1038-42 My 31 '22

Bells

Masterpiece of bronze welding; bell in the
Berlin cathedral. P. Powell. diags Brass W
19:243-6 Ag '23

Système électrique pour la sonnerie de cloches
à la volée. diag Génie Civil 83:264 S 15 '23

Manufacture

Ancient art of bell making records the prog-
ress of mankind. il Pop Mech 40:596-8 O '23

Bells, Locomotive. See Locomotive bells**Belt conveyors. See Conveying machinery****Belt courses, Concrete**

How to make forms for concrete buildings—
belt courses and cornices. W. F. Lockhardt.
diags Concrete 21:45-7 Ag '22

Belt shifters

Kleckler belt shifter. il Am Mach 56:721 My
11 '22

Belt tightener

Belt tightener for Heald internal grinding
machines. il Am Mach 58:275 F 15 '23

Belting

Air trapped between layers of belt causes
damage. J. O. Benefiel. Power Pl Eng 27:
843 Ag 15 '23

Belt dressing. W. F. Schaphorst. Textile
World 63:3695+ Je 2 '23

Belt drive betterments. L. M. Francis. Am
Mach 59:518 O 4 '23

Belt drive kink. W. F. Schaphorst. diag Tex-
tile World 64:101 J1 7 '23

Belt drives and machine design. J. L. Alden.
Textile World 61:77+ Ja 7 '22

Belt drives for electrical machinery. il Eng
& Ind Management 7:291-2 Mr 23 '22

Belt drives in the machine shop. F. P. Terry.
Am Mach 58:583 Ap 19 '23

Belt reclaiming. Textile World 60:2877 N 12
'21

Belt slip. K. W. Knorr. Textile World 63:
1583+ Mr 3 '23

Belting difficulties overcome. H. A. Jahnke.
diags Power Pl Eng 26:919-20 S 15 '22

Belting hints. Eng & Min J 113:872 My 20 '22

Belts and their care. F. H. Sweet. diags
Power 54:723-4 N 8 '21

Best speed for a belt. W. F. Schaphorst.
chart Eng & Min J 116:680 O 20 '23

Buying balata belting. Eng & Ind Manage-
ment 7:366 Ap 20 '22

Castor oil on belts. W. F. Schaphorst. Textile
World 60:3609+ D 24 '21

Centrifugal tension in belting. il diag Power
Pl Eng 26:876-7, 971, 1124-5; 27:291, 341, 495
S 1, O 1, N 15 '22, Mr 1-15, My 1 '23

Conveyor and elevator belts for rock crush-
ing plant. diags Eng & Ind Management 7:
519-20 Je 15 '22

Cooperative industrial research; leather belting
manufacturers establish research de-
partment at Cornell university. L. W. Arny.
il Textile World 62:77+ J1 1 '22

Cutting the belting bill in half. E. R. Belton.
il Factory 29:680-1 D '22

Belting—Continued

Engineering data. 56p Alexander bros., Philadelphia '19
Essai d'une théorie du fonctionnement des courroies. Auclair. Génie Civil 81:119-20 JI 29 '22
Fabric-base and leather belts. F. E. Gooding. *il* diags *Ind Eng* 81:147-52 Mr '23
Fan belts and pulleys; proposed revision of S. A. E. recommended practice. diags Soc Auto Eng J 9:389-90 D '21
Fundamentals of power transmission by belting. L: W. Army. diag *Power Pl Eng* 27:238 F 15 '23; Same. *Ind Management* (Lond) 10:73-4 Ag 9 '23
Grain vs. flesh side for leather belts. L. W. Army. *Ind Management* 63:79-80 F '22; Same cond. Eng & Min J 112:1063 D 31 '21; Same cond. *Power Pl Eng* 26:178 F 1 '22; Same cond. *Ry Mech Eng* 96:94 F '22; Same cond. *Textile World* 61:3531+ Je 10 '22; Abstract. *Am Mach* 56:143 Ja 26 '22
Group drives and direct connected motors. L: W. Army. *Ind Management* 64:380-1 D '22
How a leather belt transmits power. J. E. Rhoads and R. R. Tatnall. *Am Mach* 58:629-31 Ap 26 '23; Same. *Textile World* 63:3685-6+ Je 2 '23; Abstracts. Eng & Min J 115:783-4 Ap 28 '23; *Power Pl Eng* 27:534-5 My 15 '23; *Power* 58:116-17 JI 17 '23; *Iron Age* 112:484-5 Ag 23 '23
Idlers versus tighteners. R. Grimshaw. *Power* 56:386 S 5 '22
Improved belt slide rule. C. G. Barth. *Management Eng* 2:351-4 Je '22
Joining the ends of belting. Eng & Min J 114:87 JI 8 '22
Joining the ends of belting. L: W. Army. *Ind Management* 64:252-3 O '22; Same abr. *Textile World* 62:1311+ S 2 '22; Excerpt. *Power Pl Eng* 26:668 JI 1 '22
Keeping a belt tight. J. T. Towilson. *il* *Am Mach* 56:785-6 My 25 '22
Leather belting research. J. E. Rhoads. *Iron Age* 109:543-4 F 23 '22; Same. *Textile World* 61:1549+ Mr 11 '22; Abstract. *Power* 55:40 Ja 3 '22
Making belt joints. M. W. Edgar. *Am Mach* 59:275-6 Ag 23 '23
Making leather belts endless. L: W. Army. *il* *Textile World* 64:91+, 1263+, 2001 JI 7, S 1, O 6 '23; Same. *Mach* 29:898-9, 1003, 30:95 JI-Ag, O '23; Same. Eng & Min J 116:175-6, 308, 572 JI 28, Ag 18, S 29 '23; Same. *Ind Eng* 81:309, 365, 413-15, 459-60 Je-S '23; Same. *Power Pl Eng* 27:977-81 O 1 '23
Mechanical transmission of power. F. E. Cardullo and F. D. Jones. *il* *Mach* 29:85-9 O '22
Methods of machine tool design. A. L. DeLeeuw. diags *Am Mach* 56:857-60, 878-81, 923-7, 964-6 Je 8-29 '22
Nature's invisible idler pulley. W. F. Schaphorst. diag Eng & Min J 115:276 F 10 '23
Operating conditions affecting belt service. F. E. Gooding. *il* diags *Ind Eng* 81:189-96 Ap '23; Discussion. 324-5 Je '23
Power transmission by belting. W. G. Dunkley. diags Eng & *Ind Management* 7:280-1 Mr 23 '22
Power transmission by belting. P: F. O'Shea. diags *Mach* 28:814-16 Je '22
Power transmission in the machine shop. F. P. Terry. *Am Mach* 56:856 Je 8 '22
Power transmitted by belts. W. F. Schaphorst. *Textile World* 62:744+ Ag 5 '22
Power transmitting capacity of a belt. R. C. Moore. diags *Paper* 31:12-13 Mr 21 '23
Practical facts about belting. *Paper* 31:10-11 F 28 '23
Pulleys having cork inserts set in face are used to keep belt from slipping. *il* *Coal Age* 22:358 S 7 '22
Reclaimed leather belting; salvaged leather belts reinforced with woven cotton fabric. *il* *Mach* 28:363-5 Ja '22
Reclaiming leather belts. F. E. Gooding. *il* *Ind Eng* 81:304-9+ Je '23
Rope and belt gearing. Eng & *Ind Management* 8:7 JI 27 '22
Sand prevents belt slipping. H. A. Jahnke. diag *Power Pl Eng* 26:338-9 Mr 15 '22
Servicing industrial belts. F. E. Gooding. *il* *Ind Eng* 81:236-40+ My '23

Solutions to some belting problems. H. A. Jahnke. diags *Power Pl Eng* 26:957-9 O 1 '22
Some notes on belting. Eng & *Ind Management* 7:289 Mr 23 '22
Special covering prevents belt from slipping. *il* *Pop Mech* 38:283 Ag '22
Splicing and care of leather, rubber and canvas belts. G. H. Radebaugh. *il* *Coal Age* 21:687-90 Ap 27 '22
Tension in belts. N. G. Near. *Mach* 28:358 Ja '22
Transmission capacity and length of belt. *Power* 57:773 My 15 '23
Transmitting power with rubber belting. A. M. Oliver. *Power Pl Eng* 26:377-8 Ap 1 '22
What is the most economical belt? W. F. Schaphorst. *Power Pl Eng* 25:1107 N 15 '21
What will leather belts do? A. B. Harvey. *Textile World* 64:1801+ S 29 '23
Which side—flesh or grain? R. F. Jones. *Factory* 29:42 JI '22
Which side of the belt should go next to the pulley? *Power* 55:225-6 F 7 '22
Woven cotton belt has great flexibility. *il* *Coal Age* 21:486 Mr 23 '22
See also Conveyor belts; Power transmission; Pulleys; Shafting

Advertising

Animating the main talking point; advertising around its famous Duxbak trademark. R. Perry. *Ptr Ink* 122:89-90+ Ja 4 '23
Jewell belting company finds an advertisable specialty after 153 years. E. B. Weiss. *Ptr Ink* 123:66+ Je 21 '23

Cost

Estimating costs of mechanical rubber goods. J. J. Dawson. *India Rubber W* 68:762 S '23
Present method of obtaining cost per lb. of rubber belt. *Ind Management* 65:142-3 Mr '23

Specifications

Federal specifications for belting. L: W. Army. *Textile World* 62:743+ Ag 5 '22
Leather belting specifications. *Power* 56:340-1 Ag 29 '22; *Power Pl Eng* 26:804, 1199-1200 Ag 15, D 15 '22; *Am Mach* 57:928-9 D 14 '22; *Iron Tr R* 71:1632 D 14 '22
New federal specifications for leather belting. L: W. Army. *Ind Management* 65:92 F '23; Same cond. *Brass W* 19:166 My '23
Tentative specifications for rubber belting for power transmission. *Am Soc T M Pro* 21:795-8 '21

Tables, calculations, etc.

Arc of contact. W. F. Schaphorst. chart *Textile World* 64:831+ Ag 11 '23; Same. *Power Pl Eng* 27:976 O 1 '23
Chart for balata belts. W. F. Schaphorst. Eng & Min J 116:24-5 JI 7 '23
Chart gives power of belts. W. F. Schaphorst. *Ry Mech Eng* 95:687 N '21
Charts for determining belt widths. T: J. Cook. *Mach* 28:562-4 Mr '22
Determining power transmitted through leather belt drives. *Coal Age* 24:634 O 25 '23
Measuring the tension in leather belts. W. F. Schaphorst. diag *Brick & Clay Rec* 60:45 Ja 10 '22; Same. *Textile World* 61:2079+ Ap 8 '22
Methods of calculating the diameters of open-belt speed cones. D: Turcott. diag *Mech Eng* 45:387-9 Je '23

Testing

Résultats d'expériences, faites au Conservatoire des arts et métiers, sur le rendement industriel des courroies. Génie Civil 83:187 Ag 25 '23
Standard tests for leather belting. diags *Mach* 29:371 Ja '23

Belting, Steel

Experimental investigation of steel belting. F. G. Hampton and W. E. Helmick. Eng & *Ind Management* 7:574-5; 8:13-15, 82-4, 116-20 JI 13-27, Ag 24-S 7 '22
Handling by conveyor belts. H. Carlson. *Gas Age* 50:903-4 D 30 '22; Same. *Paper Tr J* 75:58-9 S 14 '22

Belting, Steel—Continued

- Long carbon-steel belts of extreme flexibility. Pop Mech 37:580 Ap '22
- Machinery driven by steel belt. J. D. Knox. il chart Iron Tr R 70:1114-16 Ap 20 '22; Abstract. Mech Eng 44:531-2 Ag '22
- Steel belt conveyors. il Chem & Met Eng 28: 861-2 My 14 '23
- Swedish steel belt conveyors. H. Carlson. il diags Iron Age 109:321-3 F 2 '22; Same. Gas Age 49:383-5 Ap 1 '22
- Use of steel bands for power transmitting and conveying purposes. B. Kruger. W Soc E J 26:428-32 D '21; Same. Iron Age 109: 640-2 Mr 9 '22; Abstract. Mech Eng 44:124-5 F '22
- Utilizing steel belt conveyors. H. Carlson. il Iron Tr R 71:781-2+ S 21 '22; Same. Chem Age 30:419-20 S '22

Testing

- Performance tests of steel belts with compressed spruce pulleys. G. L. Young and G. V. D. Marx. il diag Mech Eng 45:246-7 Ap '23

Belts**Advertising**

- Maker of washable belt for men strives to multiply sales. Ptr Ink 120:81+ Jl 20 '22

Bemis, Tennessee

- Bemis mill village development. T. S. Rogers. il Textile World 61:3517+ Je 10 '22

Ben Day process

- Avoiding the danger zones of Ben Day. Ptr Ink 117:121-2+ N 10 '21

Bending

- Appliances for bending steel panels for railway cars. A. Eyles. diags Am Mach 59:668 N 1 '23
- Bending center-suspension brackets. W. J. Wiggins. il diags Ry Mech Eng 96:40-1 Ja '22
- Cold bending of rods and tubes. J. F. Springer. diags Gas Age 48:885-7 D 31 '21
- Power calculations for bending rolls. A. L. Roberts. diags Mach 29:512-15 Mr '23
- See also* Pipe bending

Bending, Hydraulic

- Hydraulic bulging and bending. diags plans Mach 29:381-4 Ja '23

Bending machines

- Davis-Bournonville tube-bending machine. il Am Mach 56:492-3 Mr 30 '22; Mach 28:673-4 Ap '22
- Excelsior no. 14 angle-bending machine. il Am Mach 56:681 My 4 '22; Iron Age 109:932 Ap 6 '22
- Hercules type PB machine for bending angles cold. il Iron Age 112:978 O 11 '23
- Hilles & Jones no. 9 bending roll. il Am Mach 59:673 N 1 '23; Iron Age 112:1185 N 1 '23
- Machine for bending tennis racket tubing. il Iron Age 109:803 Mr 23 '22
- Power-driven machine bends pipes and bars. il Pop Mech 36:882 D '21
- Sedgwick plate-bending machine. il diags Engineering 115:300-1 Mr 9 '23
- Wallace no. 15 bending machine. il Am Mach 58:495 Mr 29 '23

Bending moment

- Bending moments, envelope, and cable stresses in non-rigid airships. C. P. Burgess. diags U S Nat Advisory Com for Aeronautics 1921:143-56 '23
- Bending moments in pins or shafts determined graphically. A. M. Winslow. diags Eng N 89:568-9 O 5 '22
- Determination graphique des moments fléchissants maxima dans une poutre supportant des charges mobiles par l'intermédiaire des traverses. Smoukovich and Barbillion. Génie Civil 79:533-5 D 17 '21
- Theory of bending. W. Hovgaard. Engineering 116:478-80 O 12 '23; Excerpt. Engineer 136:275 S 14 '23

Benefit societies

- Advantages of benefit associations. L. D. Wordtke. Textile World 62:3559+ D 23 '22
- Employe welfare work that pays. H. A. Ley. Am Ind 22:33-4+ Mr '22

- Employees' mutual benefit associations. 19 numb. 1. Bloomfield and Bloomfield, Boston, Mass. '22

- Financial incentives for employees and executives. D. Bloomfield. v 2, p 176-216 H. W. Wilson co. '23

- Half million paid in benefits by Mutual benefit association of Montreal tramways company. J. E. Hutcheson. Aera 11:1595-7 Jl '23

- How an employees' association grew. R. B. Tallman. N E L A Bul 10:568-70 S '23

- New spirit guides management: mutual benefit system combined with shop committee plan. W. Baum. Iron Tr R 71:996-8 O 12 '22
- Results of mutual benefit association. F. A. Anderson. Elec Ry J 58:1118-19 D 21 '21

Bibliography

- Bibliography on mutual benefit work. L. J. Dublin. Ptr Ink 119:161+ Ap 27 '22

- Benham. Webster Lane, 1882- President of A.A.E. por Eng N 90:848 My 10 '23

- Benjamin, Reuben B., 1869- Sketch. por Elec W 81:1252 Je 2 '23

- Benn, John, 1850-1922 Sketch. por Electrician 88:448 Ap 14 '22

- Benton, Linn Boyd, 1844-

- Linn Boyd Benton—the man and his work. H. L. Bullen. por (front) il Inland Ptr 70: 60-4 O '22

Bentonite

- Bentonite. Min & Sci P 123:784 D 3 '21
- Bentonite: a natural product with industrial possibilities. R. B. Ladoo. Chem Age 29:493-4 D '21; Same. Eng & Min J 112:819-20 N 19 '21; Abstract. J Fr Inst 193:123-4 Ja '22
- Making new paper from old paper stock. S. D. Wells. Paper 30:7-10 Je 7 '22; Same. Paper Tr J 74:47-50 Je 22 '22; Abstract. Chem Age 30:348 Ag '22
- Many uses for little-known mineral, bentonite. Sci Am 126:275 Ap '22
- Properties of some clay-like materials of the bentonite type. H. G. Schurecht and H. W. Douda. il Am Cer Soc J 6:940-8 Ag '23
- Reusing old newspapers for printing thru the use of bentonite. F. L. Holmes. il Pop Mech 38:685-6 N '22
- Use of bentonite for suspending enamels. M. E. Manson. Am Cer Soc J 6:790-3 Jl '23
- Use of bentonite in de-inking of newspapers gives promise of forest conservation. Chem & Met Eng 27:744 O 11 '22

Benzalacetone

- Reaction between cyano-acetic esters and benzalacetone. E. P. Kohler and P. Allen, jr. Am Chem Soc J 45:1987-90 Ag '23

Benzaldehyde

- Aryl 1,3-benzo-dioxanes (aryl methylene-saligenins). R. Adams. A. W. Sloan and B. S. Taylor. Am Chem Soc J 45:2417-20 O '23
- Equilibrium between benzaldehyde and benzoin. E. Anderson and R. A. Jacobson. Am Chem Soc J 45:836-9 Mr '23
- See also* Hydroxybenzaldehydes; Nitrobenzaldehydes

Benzalpinacolone

- Reduction products of benzalpinacolone. G. A. Hill, C. S. Spear and J. S. Lachowicz. Am Chem Soc J 45:1557-62 Je '23

Benzamides. See Benzochloramides**Benzanthrone**

- Some reactions of benzanthrone. A. G. Perkin and G. D. Spencer. Chem Soc J 121:474-82 Mr '22

Benzaurine

- Benzaurine: abstract. R. Meyer and W. Gerloff. Soc Dyers & Col J 39:118 Ap '23

Benzone

- Appareil Pfisterer, pour le lavage continu des benzols. diag Génie Civil 81:543 D 9 '22
- Benzene and mineral lubricants. J. Formánek. 256p Scott, Greenwood & son, London '21
- Benzene purification: abstract. S. S. Heide. J Ind & Eng Chem 14:491-2 Je '22
- Benzol; its recovery, rectification and uses. S. E. Whitehead. 209p Van Nostrand

Benzene—Continued

Comparative methods of debenzolising wash oil and the recovery of wash oil from blast furnace gas. F. D. Whittaker. *Chem Age (Lond)* 8:460 Ap 28 '23

Conjugation and the structure of benzene. M. L. Huggins. *diags Am Chem Soc J* 44: 1607-17 Ag '22

Constitution of benzene. R. Fraser. *il diags Chem Soc J* 121:188-96 Ja '22

Cumulative effect of the chlorine atom and the methyl and sulphonyl chloride groups on substitution in the benzene nucleus. W. Davies. *Chem Soc J* 121:785-91 My '22

Efficient benzole recovery. *Gas J (Lond)* 162: 155 Ap 15 '23

Die einwirkung von sulfurylazid auf benzol. F. Schmidt. *Deutsche Chem Gesell Ber* 55: 1581-3 Je '22

Electrolytic and chemical chlorination of benzene. A. Lowy and H. S. Frank. *diag Am Electrochem Soc Trans v* 43 (preprint 24): 501-11 My '23

Electron theory of chemistry. J. J. Thomson. *diags Philos Mag* 6th ser 46:497-514 S '23

Ethylation of benzene and naphthalene. C. H. Milligan and E. E. Reid. *Am Chem Soc J* 44:206-10 Ja '22

La fabrique de benzol de nouveau modèle annexée à la cokerie de l'usine sidérurgique d'Oxelösund. Glückauf. *diags Chimie & Ind* 7:275-6 F '22

Fluorescence spectrum of benzene vapour. W. H. McVicker and J. K. Marsh. *Chem Soc J* 123:820-2 Ap '23

Friedel and Crafts' reaction; bromophthalic anhydrides, benzene and aluminum chloride. H. N. Stephens. *Am Chem Soc J* 43: 1950-6 Ag '21

Friedel-Crafts' reaction; migration of alkyl groups in the benzene nucleus. M. Copisarow. *Chem Soc J* 119:1806-10 N '21

Influence of nitro-groups on the reactivity of substituents in the benzene nucleus; heteronuclear dinitro-derivatives. H. Burton and J. Kenner. *Chem Soc J* 121:489-96, 675-82 Mr-Apr '22

Influence of nitro-groups on the reactivity of substituents in the benzene nucleus; reactions of 2:5- and 4:5-dinitro-*m*-xylenes. K. Ibbotson and J. Kenner. *Chem Soc J* 123: 1260-8 My '23

Instance of the apparent effect of the entering group on the position of substitution in the benzene nucleus. W. Davies. *Chem Soc J* 121:806-15 My '22

Molecular scattering of light in benzene, vapor and liquid. K. R. Ramanathan. *Phys R* 21: 564-72 My '23

Mutual solubility of liquids; the solubility of water in benzene. A. E. Hill. *Am Chem Soc J* 45:1151-5 My '23

Observations on the recovery and rectification of benzol. T. Westhorpe. *Chem Age (Lond)* 8:343-4 Mr 31 '23

Practice and control of benzol recovery from gas; the use of solid absorbents. R. Furness. *Soc Chem Ind J (Chem & Ind)* 42:850-4 S 7 '23

Reactions of phosgene with benzene and *m*-xylene in the presence of aluminium chloride. R. E. Wilson and E. W. Fuller. *J Ind & Eng Chem* 14:406-9 My '22

Relation between the composition of vapor and liquor in distillation. E. Piron. *diags Chem & Met Eng* 26:317-20 F 15 '22

Rings through the meta and para positions of benzene; a study of certain ethers of resorcinol and meta-aminophenol. W. C. Wilson and R. Adams. *Am Chem Soc J* 45: 528-40 F '23

Some hydrogenation products of benzene and naphthalene. N. Heaton. *Chem Age (Lond)* 8:486-7 My 5 '23

Structure of benzene. M. L. Huggins. *diags Am Chem Soc J* 45:264-73 F '23

Structure of the benzene nucleus; intra-nuclear tautomerism. C. K. Ingold. *Chem Soc J* 121:1133-43 Je '22

Structure of the benzene nucleus; reactivity of bridged linkings. C. K. Ingold. *Chem Soc J* 123:2081-8 Ag '23

Structure of the benzene nucleus; synthesis of a naphthalene derivative involving a bridged phase of the nucleus; the constitution of naphthalene and anthracene. W. A. P. Challenor and C. K. Ingold. *Chem Soc J* 123:2066-81 Ag '23

Structure of the benzene nucleus; synthetic formation of the bridged modification of the nucleus. C. K. Ingold. *Chem Soc J* 121: 1143-53 Je '22

Studies in the hydrogenation of benzene. G. Dougherty and H. S. Taylor. *diags J Phys Chem* 27:533-57 Je '23

Substitution in vicinal trisubstituted benzene derivatives. W. Davies. *Chem Soc J* 123: 1575-93 Je '23

Suggested application of results of research to the practice of benzol recovery. T. Bid-dulph-Smith. *Chem Age (Lond)* 8:593-4 Je 2 '23; Same. *Gas J (Lond)* 163:254 Jl 11 '23

Sur la distillation d'un mélange de benzène, toluène et méta-xylène. L. Gay. *Chimie & Ind* 7:851-4 My '22

System ethyl alcohol—water—aromatic hydrocarbons from 30°C. to -30°C. W. R. Ormandy and E. C. Craven. *diag Inst Pet Tech J* 7:422-39 D '21

System, silver perchlorate-water-benzene. A. E. Hill. *diags Am Chem Soc J* 44:1163-93 Je '22

Tesla-luminescence spectra; some monosubstitution products of benzene. W. H. McVicker, J. K. Marsh and A. W. Stewart. *il Chem Soc J* 123:2147-63, pl 1 S '23

Tesla-luminescence spectra; the effect of varying temperature and pressure on the benzene spectrum. W. H. McVicker and J. K. Marsh. *Chem Soc J* 123:817-20 Ap '23

Tesla-luminescence spectra; the form of apparatus and the spectrum of benzene. W. H. McVicker, J. K. Marsh and A. W. Stewart. *il diags Chem Soc J* 123:642-54 Mr '23

über die anlagerung von benzol an chinon. R. Pummerer and E. Frell. *Deutsche Chem Gesell Ber* 55:3105-16 O '22; Abstract. *Chem Soc J* 122 pt 1:1164-5 D '22

Vapor pressure of volatile solvents. R. E. Wilson and E. P. Wyld. *diag Ind & Eng Chem* 15:801-9 Ag '23

Variation of refractive index and density of benzene with temperature. W. B. Parker and G. Thompson. *Chem Soc J* 121:1341-3 Jl '22

Zum benzol-problem: der benzol-ring in substituentsprodukten. A. v. Weinberg. *Deutsche Chem Gesell Ber* 54:2171-5 S '21

Zum benzol-problem: die naphthalin formel. A. v. Weinberg. *Deutsche Chem Gesell Ber* 54:2168-71 S '21

See also Benzol (commercial benzene)

Benzene poisoning

Benzene poisoning in American industry. A. Hamilton. *Monthly Labor R* 14:1246 Je '22

Benzol poisoning in a can-manufacturing plant. *Monthly Labor R* 16:1357-8 Je '23

Benzol poisoning; its occurrence and prevention. C. F. Horan. *Chem Age* 30:407-9 S '22; Same abstr. *Chem & Met Eng* 27:605-7 S 20 '22

Influence of benzol upon certain aspects of metabolism. F. P. Underhill and E. R. Harris. *bibliog J Ind Hygiene* 4:491-500 Mr '23

New researches on the blood and the blood-forming organs in benzol intoxication; abstract. G. Fontana. *J Ind Hygiene* 3:sup183-4 D '21

Poisoning by benzol carbon tetrachloride cement, with special reference to the early symptoms of benzol poisoning. E. B. Starr. *J Ind Hygiene* 4:203-11; Bibliography. 211 S '22

Benzenedisulfonic acid

Benzenedisulfonic acid from benzenemono-sulfonic acid. C. E. Senseman. *J Ind & Eng Chem* 13:1124-6 D '21

Benzenone

Über umwandlungsprodukte des 1-methyl-1-trichlormethyl-cyclohexadien-(2,5)-ons-(4). K. v. Auwers and W. Jülicher. *Deutsche Chem Gesell Ber* 55:2167-91 Jl '22; Abstract. *Chem Soc J* 122 pt 1:841-3 S '22

- Benzidine**
Contribution to the structure of benzidine. R. Adams, J. E. Bullock and W. C. Wilson. Am Chem Soc J 45:521-7 F '23
- Benzil**
Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit benzil, stilben und phenanthren. R. Scholl and G. Schwarzer. Deutsche Chem Gesell Ber 55:324-30 F '22
- Action of ultraviolet light upon diketones. C. W. Porter, H. C. Ramsperger and C. Steel. Am Chem Soc J 45:1827-30 JI '23
- Benzil rearrangement; Cannizzaro's reaction. A. Lachman. Am Chem Soc J 45:2356-63 O '23
- Benzile der superoxydform (pseudobenzile). A. Schönborg and O. Kraemer. Deutsche Chem Gesell Ber 55:1174-94 My '22; Abstract. Chem Soc J 122 pt 1:663-5 JI '22
- Benzile der super-oxyd-form; über *o,o'*-diäthoxy-benzil, ein auch in lösung farbloses benzil-derivat. A. Schönborg and W. Malchow. Deutsche Chem Gesell Ber 55:3746-52 D '22; Abstract. Chem Soc J 124 pt 1:115 F '23
- Rearrangement of benzil to benzilic acid. A. Lachman. Am Chem Soc J 44:330-40; 45:1509-14, 1522-35 F '22, Je '23
- Über die spaltung eines 1,2-diketones in seine farbige (krystallisierte) ketonform und seine farblose (krystallisierte) super-oxydform. A. Schönborg and W. Bleyberg. Deutsche Chem Gesell Ber 55:3753-8 D '22
- Benzilic acid**
Rearrangement of benzil to benzilic acid. A. Lachman. Am Chem Soc J 44:330-40; 45:1509-14 F '22, Je '23
- Benzoates**
Beziehungen zwischen konstitution und pharmakologischer wirkung bei benzoessäure- und tropensäure-estern von alkalinen. J. v. Braun, O. Braunsdorf and K. Rāth. Deutsche Chem Gesell Ber 55:1666-80 Je '22; Abstract. Chem Soc J 122 pt 1:759-61 Ag '22
- Velocity of reaction in mixed solvents; the velocity of saponification of the ethyl esters of some monosubstituted benzoic acids. A. E. Cashmore, H. McCombie and H. A. Scarborough. Chem Soc J 121:243-53 F '22
- See also Alkali metal benzoates; Hydroxybenzoates
- Benzobispyrrole**
Synthesis of *m-a*-benzobispyrrole derivatives. W. Davies and E. H. C. Hickox. Chem Soc J 121:2640-55 N '22
- Benzobisthiazoles**
Benzobisthiazoles. S. R. H. Edge. Chem Soc J 121:772-5; 123:153-6, 1011-14, 2330-3 My '22, Ja, My, S '23
- Benzochloroamides**
Preparation and properties of the benzochloroamides. G. R. Elliott. Chem Soc J 121:202-9 Ja '22
- Benzo-dioxanes**
Aryl 1,3-benzo-dioxanes (aryl methylene-saligenins). R. Adams, A. W. Sloan and B. S. Taylor. Am Chem Soc J 45:2417-20 O '23
- Benzofuranones**
Studies in the coumaranone series; the preparation of 4- and 6-chlorocoumaran-2-ones and their conversion into 2- and 4-chloro-flavonols respectively, and some derivatives of *o*- and *p*-chlorophenoxyacetic acids. T. H. Minton and H. Stephen. Chem Soc J 121:1598-1603 Ag '22
- Benzofurans**
Mercurated 1-methyl-1,2-dihydro-benzofurans. L. E. Mills and R. Adams. Am Chem Soc J 45:1842-54 JI '23
- Benzohydrol, Para-para-bis (dimethylamino).**
See Michler's hydrol
- Benzoic acid**
Benzoic acid. Chem Age 31:473 O '23
Benzoic acid from benzyl chloride. Chem & Met Eng 29:411-12 S 3 '23
- Benzoic acid standards. N. R. Levy. Chem Age 30:69 F '22
See also Hydroxybenzoyl-benzoic acid
- Benzoin**
Benzil rearrangement—benzoin. A. Lachman. Am Chem Soc J 45:1529-35 Je '23
Equilibrium between benzaldehyde and benzoin. E. Anderson and R. A. Jacobson. Am Chem Soc J 45:836-9 Mr '23
See also Hydroxydeoxybenzoin
- Benzol (commercial benzene)**
Approvisionnement de la France en hydrocarbures; fixation du pouvoir calorifique. P. Mallet. Soc Ing Civils Bul 74:321-36 JI '21
Benzene as a motor fuel. J. J. Lawton. J Ind & Eng Chem 14:635 JI '22
Benzol as a motor fuel. A. C. Fieldner and G. W. Jones. Chem & Met Eng 29:543 S 17 '23; Same. Soc Auto Eng J 13:379 N '23
Benzol blend better motor fuel than straight gasoline; scientific blending is necessary. W. F. Stack. Nat Pet N 14:22+ S 6 '22
Citroen covers 67.38 miles on gallon of benzol. Automotive Ind 46:1350 Je 15 '22
Comparative figures on gasoline and benzol as fuel. W. K. Halbert. Nat Pet N 14:35 Ap 26 '22
Comparative merits of benzol and gasoline as engine fuels. W. O. Hinckley. Soc Auto Eng J 11:359-60; Discussion. 360-2 O '22
Débenzolage du gaz de houille et la limitation de son pouvoir calorifique. C. Berthelot. Soc Ing Civils Bul 74:337-72 JI '21
Thirty years in the U.S.A. benzol market. D. W. Jayne. Chem Age (Lond) 9:369-70 O 6 '23
See also Benzene
- Taxation**
Suggested taxation of motor benzole. W. G. Adam. Gas J (Lond) 162:683-4 Je 13 '23
- Benzonaphthaparathiazine**
Linear benzonaphthaparathiazine; abstract. K. Fries and F. Kerkow. Chem Soc J 122 pt 1:577-9 Je '22
- Benzophenone**
Arsenated benzophenone and its derivatives. W. L. Lewis and H. C. Cheetham. Am Chem Soc J 43:2117-21; 45:510-15 S '21, F '23
- Benzophenone chloride**
Action of sodium methoxide and its homologues on benzophenone chloride and benzylidene chloride. J. E. Mackenzie. Chem Soc J 121:1695-9 S '22
- Benzophenone-tetracarboxylic acid**
Optically active forms of the keto-dilactone of benzophenone-2,4,2':4'-tetracarboxylic acid. W. H. Mills and C. R. Nodder. Chem Soc J 119:2094-2104 D '21
- Benzopolymethylene compounds**
Cyclische analoge des atophans. J. v. Braun and P. Wolff. Deutsche Chem Gesell Ber 55:3675-88 D '22
Über benzo-polymethylen-verbindungen; oxymethylen- und β -lacton-derivate der terphenyl- und hydroxy-terphenyl-reihe. J. v. Braun, O. Braunsdorf and G. Kirschbaum. Deutsche Chem Gesell Ber 55:3648-63 D '22; Abstract. Chem Soc J 124 pt 1:105-7 F '23
Über benzo-polymethylen-verbindungen; pharmakologische analoge des α - β -amino-tetrahydro-naphthalins. J. v. Braun, H. Gruber and G. Kirschbaum. Deutsche Chem Gesell Ber 55:3664-74 D '22; Abstract. Chem Soc J 124 pt 1:107-9 F '23
- Benzopyrylium compounds**
Benzopyrylium salts of distyryl ketones. J. S. Buck and I. M. Heilbron. Chem Soc J 121:1198-1212 JI '22
Benzopyrylium salts of distyryl ketones; salts and metallic complexes of 4'-dimethylamino-2-styrylbenzopyrylium. J. S. Buck and I. M. Heilbron. Chem Soc J 123:1395-1404 Je '23
Über die ringöffnung in der phenopyrylium-reihe. H. Decker and P. Becker. Deutsche Chem Gesell Ber 55:375-94 F '22; Abstract. Chem Soc J 122 pt 1:358-9 Ap '22

Benzoquinones. See Quinones

Benzothiazoles

Cyanine dyes; cyanine dyes of the benzothiazole series. W: H. Mills. Chem Soc J 121: 455-66 Mr '22

Studies in the benzothiazole series; the pseudo-bases of the benzothiazole quaternary salts. W: H. Mills, L. M. Clark and J. A. Aeschlimann. Chem Soc J 123:2353-62 S '23

Studies in the benzothiazole series; thio-2-methylbenzothiazolone and its oxidation products. W: H. Mills, L. M. Clark and J. A. Aeschlimann. Chem Soc J 123:2362-70 S '23

See also Mercapto-benzothiazole

Benzoxazole

Über benzoxazol-derivate. S. Skraup and M. Moser. Deutsche Chem Gesell Ber 55:1080-1101 Ap '22; Abstract. Chem Soc J 122 pt 1: 574-6 Je '22

Zusammenhang zwischen fluorescenz und chemischer konstitution bei benzoxazol-derivaten. F. Henrich. Deutsche Chem Gesell Ber 54:2492-2511; 55:3911-21 O '21, D '22; Abstract. Chem Soc J 120 pt 1:886-9; 124 pt 1:145 D '21, F '23

Benzoyl chloride

Chlorination of benzoyl chloride. E: Hope and G: C. Riley. Chem Soc J 121:2510-27 N '22

Benzoyl acetic acid

Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of acetoacetic and benzoyl acetic esters and of benzoyl acetone. A. K. Macbeth. Chem Soc J 123:1122-30 My '23

Benzoyl acetone

Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of acetoacetic and benzoyl acetic esters and of benzoyl acetone. A. K. Macbeth. Chem Soc J 123:1122-30 My '23

Benzoylacrylic acid

Isomeric esters of benzoylacrylic acid. G. P. Rice. Am Chem Soc J 44:222-38 Ja '23

Benzoylation

Über benzoylierungsprodukte des α -amino-pyridins. A. E. Tschischibabin and J. G. Bylinkin. Deutsche Chem Gesell Ber 55: 998-1002 Ap '22

Über die benzoylierung und benzylierung des 2,5-diketo-piperazins. T. Sasaki and T. Hashimoto. Deutsche Chem Gesell Ber 54: 2688-93 N '21

Benzoylbenzoin

Mechanism of the formation of benzoylbenzoin by treatment of benzoylmandelonitrile with an alcoholic solution of sodium ethoxide. H. Greene and R. Robinson. Chem Soc J 121:2182-96 O '22

Benzoylmandelonitrile

Mechanism of the formation of benzoylbenzoin by treatment of benzoylmandelonitrile with an alcoholic solution of sodium ethoxide. H. Greene and R. Robinson. Chem Soc J 121:2182-96 O '22

Benzoyl-phenylacetylene

Addition of malonic esters to benzoyl-phenylacetylene. E. P. Kohler. Am Chem Soc J 44:379-85 F '22

Benzyl azide (α -triazotoluene)

Der zerfall des benzylazids in indifferenten medien und in malonester. T. Curtius and G. Ehrhart. Deutsche Chem Gesell Ber 55: 1559-71 Je '22; Abstract. Chem Soc J 122 pt 1:775-6 Ag '22

Benzyl chloride

Benzyl ethers of carbohydrates. M. Gomborg and C. C. Buchler. Am Chem Soc J 43:1904-11 Ag '21

Benzyl disulfoxide

Decomposition of benzyl disulphoxide. J: A. Smythe. Chem Soc J 121:1400-5 JI '22

Benzyl esters

Preparation of benzyl esters of some high-boiling acids. T. J. Thompson and G. J. Leuck. Am Chem Soc J 44:2894-6 D '22

Benzyl succinate

Enzyme hydrolysis of benzyl succinate. J. W. Howard. Am Chem Soc J 44:1763-5 Ag '22

Benzyl sulfide

Addition compounds of gold halides with benzyl sulfide. G: M. Smith. Am Chem Soc J 44:1769-75 Ag '22

Benzylation

Über die benzylierung und benzylierung des 2,5-diketo-piperazins. T. Sasaki and T. Hashimoto. Deutsche Chem Gesell Ber 54: 2688-93 N '21

Benzylidene-anthranilic acids

Action of acetic anhydride on some benzylidene-anthranilic acids. J. B. Ekeley, E. C. Rogers and M. Swisher. Am Chem Soc J 44:1756-8 Ag '22

Benzylidenebenzhydrazide chloride

Über die umsetzung von benzal-benzhydrazidchlorid und dibenzhydrazidchlorid mit natriumazid. R. Stollé and A. Netz. Deutsche Chem Gesell Ber 55:1297-1305 My '22

Benzylidene chloride

Action of sodium methoxide and its homologues on benzophenone chloride and benzylidene chloride. J: E. Mackenzie. Chem Soc J 121:1695-9 S '22

Benzylidene piperitone

Piperitone; benzylidene-*al*-piperitone. J: Read and H: G: Smith. diags Chem Soc J 121:574-82 Ap '22

Benzylmethylcarbinol

Investigations on the dependence of rotatory power on chemical constitution; some *n*-alkyl ethers of *d*-benzylmethylcarbinol. H: Phillips. Chem Soc J 123:22-31 Ja '23

Benzyloxy-triphenylmethyl

Triphenylmethyl; para-benzyloxy- and paramethoxy-triphenylmethyl. M. Gomborg and C. C. Buchler. Am Chem Soc J 45:207-22 Ja '23

Benzylopyridinium

Über freie ammonium radikale; die existenz des *N*-benzyl-pyridiniums. E. Weitz and R. Ludwig. diags Deutsche Chem Gesell Ber 55:395-413 F '22; Abstract. Chem Soc J 122 pt 1:365-7 Ap '22

Berain, Jean, 1650-1722

Great ornamentalists. F. T. Singleton. Ptg Art 38:469-70 Ja '22

Berberine

Über die umwandlung des berberins in das palmatin. E. Späth and N. Lang. Deutsche Chem Gesell Ber 54:3064-74 D '21; Abstract. Chem Soc J 122 pt 1:166 F '22

Berkeley, California

Berkeley conflagration. *il* Safety Eng 46:192-3 O '23

New U. S. port for Asia's trade. H. H. Dunn. *il* plans Marine R 52:155-8 Ap '22

Berlin, Germany

Economic conditions

Minimum of subsistence costs in Berlin in October, 1921. Monthly Labor R 14:91-3 Ja '22

Rapid transit

Berlin recasts its municipally-owned railways. Elec Ry J 62:717 O 20 '23

German railways fail. Elec Ry J 62:423 S 15 '23

New York, London, Paris and Berlin transit compared. D. L. Turner. map Elec Ry J 61:79-84, 153-6 Ja 13, 27 '23

Present and future of Berlin street railways. L. Adler. Elec Ry J 60:608 O 7 '22

Streets

Grunewald automobile race-course, Berlin. A. Gradenwitz. *il* Sci Am 126:48 Ja '22

Water supply

Deferrizing additional water supply of Berlin. G. M. Fair. *il* diags plan Eng N 91:426-9 S 13 '23

Berliner machine. See Helicopters

Bermuda

A government uses advertising to solve business problems. R. Dickinson. *Ptr Ink* 122: 17-18 Ja 25 '23

Bernoulli's theorem

On the inversion of Bernoulli's theorem. C. Jordan. *Philos Mag* 6th ser 45:732-5 Ap '23

Berthelot, Pierre Eugène Marcelin, 1827-1907

Critical examination of Berthelot's work upon Arabic chemistry. E. J. Holmyard. *Soc Chem Ind J* (Chem & Ind) 42:958-63, 976-80 O 5-12 '23

Beryl

Beryl as a constituent in high tension insulator porcelain. R. Twells, Jr. *Am Cer Soc J* 5:228-34 My '22

Beryllium

Beryllium. *Chem & Met Eng* 27:656 S 27 '22
Method for the quantitative separation of beryllium and uranium. P. H. M.-P. Brinton and R. B. Ellestad. *Am Chem Soc J* 45:395-8 F '23

Revision des atomgewichtes des berylliums; analyse des berylliumchlorids. O. Höning-schmid and L. Birckenbach. *Deutsche Chem Gesell Ber* 55:4-12 Ja '22

Beryllium chloride

Revision des atomgewichtes des berylliums; analyse des berylliumchlorids. O. Höning-schmid and L. Birckenbach. *Deutsche Chem Gesell Ber* 55:4-12 Ja '22

Beryllium halides

Studies concerning the direct preparation of organoberyllium halides. H. Gilman. *Am Chem Soc J* 45:2693-5 N '23

Beryllium sulfate

System ammonium sulphate-glucinum sulphate-water at 25°. H. T. S. Britton. *Chem Soc J* 121:2612-16 N '22

Bessel's functions

First root of Bessel functions of fractional order. A. Ono. *Philos Mag* 6th ser 42:1020-1 D '21

Tables of the Bessel function. H. E. H. Wrinch and D. Wrinch. *Philos Mag* 6th ser 45:846-9 My '23

Treatise on Bessel functions and their applications to physics. A. Gray and G. B. Mathews. 2d ed. 327p Macmillan '22

Treatise on the theory of Bessel functions. G. N. Watson. 804p Macmillan '22

Bessemer & Lake Erie railroad

Consolidation opposed. *Iron Age* 111:1484 My 24 '23

Bessemer process

How Bethlehem became armament maker. H. F. J. Porter. *Iron Age* 110:1339-41 N 23 '22

Konstruktive vorschläge für Thomasbirnen. B. Versen. *diag Stahl & Eisen* 42:1125-6 JI 20 '22

Modern Bessemer plant of the Pennsylvania engineering works, New Castle, Pa. il diags plans *Iron Tr R* 70:813-19 Mr 23 '22

La nouvelle aciérie Bessemer de la Steel and tube company, à Indiana Harbor (Indiana, É.-U.) il diags plans *Génie Civil* 80:73-5 Ja 28 '23

Ueber stahlwerksteer. E. Herzog. *diags Stahl & Eisen* 43:1063-73 Ag 16 '23

Beta rays

Beta rays and atomic number. J. L. Glas-son. *Philos Mag* 6th ser 43:393-6 F '22

Fluorescence and coloration of glass produced by β-rays. J. R. Clarke. *Philos Mag* 6th ser 45:735-6 Ap '23

Radio-activity. E. Rutherford. il diags *Engineering* 113:464-6 Ap 14 '22

Betaines

Betaine der zimtsäure-reihe; mitteilung über betaine. P. Pfeiffer and G. Haefelin. *Deutsche Chem Gesell Ber* 55:1769-88 Je '22; Abstract. *Chem Soc J* 122 pt 1:738-9 Ag '22

Zur theorie der betaine; mitteilung über betaine. P. Pfeiffer. *Deutsche Chem Gesell Ber* 55:1762-9 Je '22; Abstract. *Chem Soc J* 122 pt 1:720-1 Ag '22

Bethlehem, Pennsylvania**Bridges**

Hill-to-hill bridge. F. W. Skinner. il diags plans *Pub Works* 54:233-6, 251-3, 299-301 JI-S '23

Bethlehem steel company

Electrical applications in Bethlehem plant of Bethlehem steel company. D. M. Petty and A. J. Standing. il diags *Blast F & Steel* P1 11:304-10, 368-77 Je-JI '23

How Bethlehem became armament maker. H. F. J. Porter. *Iron Age* 110:1339-41 N 23 '22

Bethlehem steel corporation

Bethlehem absorbs Lackawanna. *Iron Tr R* 70:1386-7 My 18 '22; *Iron Age* 109:1369-70 My 18 '22

Bethlehem-Lackawanna merger approved. *Iron Age* 110:473 Ag 24 '22

Daugherty gives approval to steel mergers. *Iron Tr R* 71:252-3+ JI 27 '22

18th annual report for the fiscal year ended December 31, 1922. *Comm & Fin Chr* 116: 1308-9 Mr 24 '23

First quarterly statement issued. *Iron Age* 112:270 Ag 2 '23

Five years of employee representation under the Bethlehem plan. J. Calder. *Iron Age* 111:1689-97 Je 14 '23

Midvale merged with Bethlehem. *Iron Tr R* 71:1468-9 N 30 '22

Better business commission, National. See National better business commission**Better schools league**

Illiteracy—a target for advertising; Better schools league plans. *Ptr Ink* 124:25-6 JI 26 '23

Better tires company

How to make dealer service an actual selling force. G. A. Nichols. *Ptr Ink* 122:129-30+ Ja 18 '23

Betulin

Zur kenntnis des betulins. O. Dischendorfer. *Deutsche Chem Gesell Ber* 55:3692-3 D '22

Zur kenntnis des betulins. H. Schulze and K. Pieroh. *Deutsche Chem Gesell Ber* 55: 2332-46 S '22; Abstract. *Chem Soc J* 122 pt 1:1045-6 N '22

Bevel gearing. See Gearing, Bevel**Beverages**

Carbon dioxide content of beverages; a rapid method for determination. J. Cannizzaro. *Ind & Eng Chem* 15:1074-5 O '23

Making tea from holly. S. R. Winters. *il Sci Am* 126:181 Mr '22

Non-intoxicants. C. A. Nowak. 295p C. A. Nowak, St Louis, Mo. '22

Selling bottled beverages. 64p H. S. Rich & co., Chicago '22

See also Arrack; Bottling; Cider; Cocoa; Coffee; Wine

Advertising

How Whistle fortifies dealers with advertising. E. M. Wickes. *Ptr Ink* 120:138+ JI 20 '22

See also Fruit juices—Advertising

Manufacture

Automatic equipment and chemical control. G. L. Montgomery. *il Chem & Met Eng* 27: 150-4 JI 26 '22

Bible

Rare copy of Bible donated to American library. *il Pop Mech* 38:744-5 N '22

Bibliography

Bibliography and research. K. C. Walker. *J Ind & Eng Chem* 14:1085-6 N '22

Projet d'une nouvelle bibliographie des Sociétés savantes de la France. G. Bigourdan. *Génie Civil* 83:164 Ag 18 '23

See also Catalogs, Booksellers; Mining libraries, Private; also subdivision Bibliography under various subjects, e.g. Chemistry—Bibliography; Paper—Bibliography; Petroleum—Bibliography; Railroads—Bibliography

Bibliography—Continued

Bibliography

List of manuscript bibliographies in astronomy, mathematics and physics. C. J. West and C. Hull. (Reprint and Circ. Ser. 39) p4-7 25c National research council, 1701 Massachusetts av, Washington, D.C.

Manuscript bibliographies in chemistry and chemical technology. C. J. West and C. Hull. J Ind & Eng Chem 14:1075-8, 1148-51 N-D '22; Same. (Reprint & Circ. Ser. 36) 17p '22 25c National research council

Bicarbonates

Bicarbonate equilibrium. J. W. Shipley and I. R. McHaffie. Soc Chem Ind J 42:319-20, 321-3 JI 27-Ag 3 '23

Bichromate of potash. See Potassium dichromate

Bichromates. See Dichromates

Bicycles

Cycle industry. W. F. Grew. 123p Pitman '21
Revolutionary bicycle drive. Sci Am 126:133-4 F '22

See also Motor cycles

Manufacture

Making pressed-steel bicycle frame parts. il diags Mach 29:184-6 N '22

Reorganizing the factory to meet sales competition. Factory 28:654+ Je '22

Bicyclic compounds

Synthesis of a new bicyclic nitrogen ring; isogranatane derivatives; preparation of an isomer of homococaine. S. M. McElvain and R. Adams. Am Chem Soc J 45:2738-50 N '23

Bile

Does bile inhibit or stimulate growth of the colon group? M. Levine. Am Water Works Assn J 9:612-16 JI '22

Bile acids

Untersuchungen über die konstitution der gallensäuren; über biliodansäure (letschsäure). W. Borsche, O. Weickert and R. Meyer. Deutsche Chem Gesell Ber 54:3177-82 D '21

Untersuchungen über die konstitution der gallensäuren. W. Borsche and F. Hallwass. Deutsche Chem Gesell Ber 55:3318-31 O '22; Abstract. Chem Soc J 122 pt 1:1158-60 D '22

Zur kenntnis ungesättigter gallensäuren; abhandlung: über ein isomeres der apo-cholsäure. F. Bödecker and H. Volk. Deutsche Chem Gesell Ber 54:2489-92 O '21

Zur kenntnis ungesättigter gallensäuren; über die beziehungen der apo-cholsäure, dioxy-cholsäure (schmp, 260°) und cholsäure zur desoxy-cholsäure. F. Bödecker and H. Volk. Deutsche Chem Gesell Ber 55:2302-9 S '22

Bile pigments

Synthetic researches on the constitution of bile pigments; abstract. H. Fischer and E. Loy. Chem Soc J 124 pt 1:718-20 JI '23

Billboards

Billboard blight; what to do about it. (Bul. no. 22) 22p Municipal art soc. of N.Y., New York Mr '22

Flutter in lighted signboards. Elec W 82:461 S 1 '23

What shall we do about the billboard? Am Arch 123:362 Ap 25 '23

See also Painted bulletin advertising association

Billing

Advantages of machine billing. I. P. Marking. Elec W 82:187-9 JI 28 '23

Combined system of collections for water, gas and light. Eng N 88:642 Ap 20 '22

Direct billing by meter readers cuts cost. J. R. Kaiserman. Elec W 77:1251-2 My 28 '21; Excerpts. Eng & Contr 57:143 F 8 '22

Getting around the labor charge. Dom Eng 102:266 F 10 '23

See also Collecting of accounts; Gas bills

Bills of lading

Commission prescribes through export bill of lading. Ry Age 71:1226 D 17 '21

Hague rules. Nation's Business 11:54-5+ Je 5 '23

Hague rules, 1921; discussion by merchant marine group at the convention of the U.S. Chamber of commerce. Nation's Business 10:38+ Je 5 '22

Hague rules 1921 regarding bills of lading analyzed by N. Y. Board of trade and transportation. Comm & Fin Chr 115:1396 S 23 '22

New uniform export bill of lading. W. Fawcett. Marine Eng 27:162-4 Mr '22

Standardizing ocean bills of lading. R. E. Annin. Marine Eng 27:607-9 O '22

See also Shipment of goods

Bin gates

Inexpensive overhead bin gate. G. W. McAlpin. diags Eng N 88:1035 Je 22 '22

Binaphthyl

Nitration of 1,1'-binaphthyl. C. S. Schoepfle. Am Chem Soc J 45:1566-71 Je '23

Binary vapor engines. See Steam engines—Binary vapor engines

Bingham, Millard Fillmore, 1847-1921

Skeich. por Inland Ptr 68:664 F '22

Bins

Withdrawing fine material from bins. diag Concrete 21:sup39-40 S '22

See also Bin gates; Ore bins

Bins, Concrete

See also Coal bins, Concrete

Bins, Steel

New Timber Butte bins. W. J. Tait. il diag plan Eng & Min J 116:549-50 S 29 '23

Biological chemistry

Biochemistry; a study of the origin, reactions, and equilibria of living matter. B. Moore. 340p Longmans '21

Chemical basis of growth and senescence. T. B. Robertson. 389p [bibliog p 335-66] Lippincott '23

Discussion on micro-organisms and their application to industry and research. Soc Chem Ind J 42:169-80 Ap 27 '23

Fundamentals of organic biological chemistry. T. G. Phillips. 260p Appleton '23

Quantitative method for the determination of total sulfur in biological material. M. Stockholm and F. C. Koch. Am Chem Soc J 45:1953-9 Ag '23

See also Blood; Botanical chemistry; Physiological chemistry

Biological physics

Plants as inventors; sound engineering principles practiced by members of the vegetable kingdom. A. Gradenwitz. diags Sci Am 126:402-3 Je '22

Biology

Between two worlds. E. Bade. il Sci Am 128: 34 Ja '23

See also Cells; Electrophysiology; Heredity; Life; Plants

Bibliography

List of manuscript bibliographies in the biological sciences. C. J. West and C. Hull. (Reprint and Circ. Ser. 45) p. 1-51 50c National research council, 1701 Massachusetts av, Washington, D.C. '23

Biot-Savart's law

Generalization of Biot-Savart's law. H. Poritsky. Phys R 21:360-4 Mr '23

Bird-lime

Japanese bird-lime; abstract. H. Yanagisawa and N. Takashima. Chem Soc J 122 pt 1: 652 JI '22

Bird song

Wild birds and their music. Sci Am 127:42 JI '22

Birds

Sense of smell in birds. J. H. Gurney. Sci Am 128:17 Ja '23

Flight

See Flight

Birds—Continued**Photographs and photography**

Photographing wild birds and animals. N. Edwards. *il Pop Mech* 37:633-4 Ap '22

Birks, William M.

William M. Birks, who has seven large jewelry stores which, he points out, are not a chain. A. Van Vlissingen, jr. *por System* 42:263-5 S '22

Birmingham, Alabama**Rapid transit**

Birmingham curbs jitneys. *Aera* 11:1495-7 Je '23
Election rules jitneys out of Birmingham. *Elec Ry J* 62:390 S 8 '23
Ordinance requires Birmingham railway to equip cars after Jim Crow law. *Elec Ry J* 61:533-4 Mr 24 '23
Plans being made for reorganization of the Birmingham railway. *Elec Ry J* 62:662 O 13 '23
Seeks to revoke charter. *Elec Ry J* 60:827 N 18 '22
Settlement has been reached in Birmingham. *Elec Ry J* 61:857-8 My 19 '23

Water supply

Birmingham's water works system. N. M. Berberich and W. A. Hardenbergh. *il Pub Works* 52:331-4 My 13 '22

Birmingham, England

See also Electric plants (central stations) —Birmingham, England

Rapid transit

Birmingham's experiment with trackless trolley. A. Baker. *Elec R (Lond)* 93:312-13 Ag 31 '23; Abstract. *Elec Ry J* 62:377 S 8 '23; Discussion. *Elec R (Lond)* 93:313-15 Ag 31 '23
Railless traction at Birmingham. *il Elec R (Lond)* 92:220-3 F 9 '23

Birth rate

Small families—their significance to advertisers. S. C. Lambert. *Ptr Ink* 118:83+ Mr 23 '22

Bis (dimethylamino)-benzohydrol. See Michler's hydrol**Bisacetylaminoethylene**

Über das Verhalten einiger aus Imidazolen bereiteter bis-[acyl-amino]-äthylen-derivate. A. Windaus, W. Dörries and H. Jensen. *Deutsche Chem Gesell Ber* 54:2745-55 N '21; Abstract. *Chem Soc J* 122 pt 1:60-1 Ja '22

Biscuits

Biscuit and cake manufacture. W. Platt. *Chem Age* 30:157-60, 203-6 Ap-May '22
Conveying biscuits. G. F. Zimmer. *il diags Ind Management (Lond)* 8:321-3 N 30 '22

See also National biscuit company

Bisminocamphor

Studies on the dependence of optical rotatory power on chemical constitution; aryl derivatives of bisminocamphor. B. K. Singh, M. Singh, and J. Lal. *Chem Soc J* 119:1971-6 D '21

Bismarck, North Dakota**Bridges**

Open-well piers and subdivided Warren trusses of Bismarck-Mandan bridge. C. A. P. Turner. *il diags Eng N* 88:180-3 F 2 '22

Bismuth

Bismuth, selenium, and tellurium in 1922. V. C. Heikes. *U S Geol S Min Res of U S* 1922, pt 1:15-25 '23
Concentrating an ore of wolfram, bismuth, and molybdenite in Australia. H. W. Bowater. *flow sheets Min & Sci P* 123:821-4 D 10 '21
Condition of bismuth salts in aqueous solutions and the molal electrode-potential of bismuth. D. F. Smith. *Am Chem Soc J* 45:360-70 F '23
Crystal structure of bismuth. L. W. McKeehan. *diags J Fr Inst* 195:59-66 Ja '23

Determination of silver in bismuth metal. W. H. Jacobson. *Eng & Min J* 114:636 O 7 '22
Effect of field direction on magneto-resistance. C. W. Heaps. *Phys R* 19:7-19 Ja '22
Electrode potential of bismuth determined by equilibrium measurements. E. H. Swift. *Am Chem Soc J* 45:371-7 F '23
Equilibrium of the ternary system bismuth-zinc. S. D. Muzaffar. *il Chem Soc J* 123:2341-52 S '23
Gravitational acceleration of bismuth. H. H. Potter. *Phys R* 19:187-8 F '22
Marketing of bismuth. H. M. Brush. *Eng & Min J* 115:272 F 10 '23

Organo-derivatives of bismuth; the preparation and properties of tertiary aromatic bismuthines and their interaction with organic and inorganic halogen compounds. F. Challenger and L. R. Ridgway. *Chem Soc J* 121:104-20 Ja '22

Organo-derivatives of bismuth; the stability of halogen, cyano-, and thiocyno-derivatives of tertiary aromatic bismuthines. F. Challenger and J. F. Wilkinson. *Chem Soc J* 121:91-104 Ja '22

Ratio of mass to weight for bismuth and aluminum. H. A. Wilson. *Phys R* 20:75-7 Jl '22

Revision des atomgewichtes des wismuts; analyse des wismutchlorids und wismutbromids. O. Hönigschmid and L. Birckenbach. *Deutsche Chem Gesell Ber* 54:1873-1904 S '21

Subsalts of bismuth. H. G. Denham. *Am Chem Soc J* 43:2367-71 N '21

Bismuth bromide

Revision des atomgewichtes des wismuts; analyse des wismutchlorids und wismutbromids. O. Hönigschmid and L. Birckenbach. *Deutsche Chem Gesell Ber* 54:1873-1904 S '21

Bismuth chloride

Revision des atomgewichtes des wismuts; analyse des wismutchloride und wismutbromids. O. Hönigschmid and L. Birckenbach. *Deutsche Chem Gesell Ber* 54:1873-1904 S '21

Bismuth hydride

Über die darstellung gasförmiger metallhydride aus legierungen und lösungen. F. Paneth, A. Johannsen and M. Matthies. *Deutsche Chem Gesell Ber* 55:769-75 Mr '22
Über die darstellung gasförmiger metallhydride durch glimmentladung. F. Paneth, M. Matthies and E. Schmidt-Hebbel. *diags Deutsche Chem Gesell Ber* 55:775-89 Mr '22

Bismuth nitrate

Condition of bismuth salts in aqueous solutions and the molal electrode-potential of bismuth. D. F. Smith. *Am Chem Soc J* 45:360-70 F '23

Bismuth perchlorate

Condition of bismuth salts in aqueous solutions and the molal electrode-potential of bismuth. D. F. Smith. *Am Chem Soc J* 45:360-70 F '23

Bismuthyl cobaltinitrites

Study of the cobaltinitrites of bismuth and cadmium. S. C. Ogburn, jr. *Am Chem Soc J* 45:641-5 Mr '23

Bisulfites

Equilibria in aqueous solutions of the alkali metal bisulphites. E. C. C. Baly and R. A. Bailey. *Chem Soc J* 121:1813-21 S '22

Bitulithic pavements. See Pavements, Bitulithic**Bituminous materials**

Atabasca tar sands for city streets. C. C. Sutherland. *il diags Can Eng* 44:551-5 Je 5 '23; Discussion. L. Simpson. 45:333 S 18 '23

Bituminous sands of Alberta. K. A. Clark. *Can Chem & Met* 6:203-4 S '22

Experiments in improving and maintaining our prairie roads. K. A. Clark. *Can Eng* 42: 658-9 Je 27 '22; Same. *Eng & Contr* 58:227-8 S 6 '22

Maintenance of macadam roads with bituminous materials. H. S. Perry. *Munic Eng* 64:162-70 Ap '23

Bituminous materials—Continued

Protective coatings for shipbuilding purposes—bituminous compositions. H. H. Thayer. *Marine Eng* 28:369-71 Je '23

See also Asphalt; Coal tar; Manjak; Oil shales; Pavements, Bituminous; Road oils; Roads, Bituminous; Tar

Analysis

Tentative method of test for water in petroleum products. *diags Nat Pet N* 15:101+ O 17 '23

Specifications

Tentative specifications of A.S.T.M. Am Soc T M Pro 21:681-707 '21

Bituminous pavements. See Pavements, Bituminous

Bituminous roads. See Roads, Bituminous

Bituminous sand. See Bituminous materials

Biurets

Synthesen mit cyanamid; darstellung von thio-carbamincyaniden, carbamincyaniden und biureten. E. Fromm and H. Wenzl. *Deutsche Chem Gesell Ber* 55:804-13 Mr '22

Black

Black dyeing of tussur silk. W. S. Chester. *Textile Col* 45:89, 92-3, 222-5, 288-91, 379-81 F, Ap-Je '23

Direct cotton black X with green undertone. H. Herlinger. *Color Tr J* 11:144-5 O '22

Dyeing feathers black. J. R. Wilson. *Textile Col* 45:109-12 F '23

Dyeing of direct blacks on cotton piece goods. R. Sansone. *Am Dyestuff Rep* 12:95-6, 113-20, 343-8, 451-6, 546-8+, 632-6, 813-16+, 858-62 Ja 29, My 7, Je 18, Jl 30, Ag 27, N 5-19 '23

Manufacture and use of black pigments. H. L. Blachford. *Can Chem & Met* 6:156-8, 180-2 Jl-Ag '22

New black union dyestuff from paranitroaniline. *Color Tr J* 11:252-3 D '22

Production of fast black shades on the fiber. *Color Tr J* 10:64 F '22

Three types of black hoisery. W. C. Dodson. *Textile Col* 45:355-9 Je '23

See also Aniline black; Bone black; Carbon black; Sulfur black

Black walnut. See Walnut

Blackdamp

Can blackdamp become explosive. *Coal Age* 24:147-8 Jl 26 '23

Blacksmithing

Blacksmith's pocket book. T. Wormald. 87p Van Nostrand '21

Interesting examples of blacksmith shop work. W. J. Wiggin. *il diags Ry Mech Eng* 95:703-4 N '21

Nine blacksmith's tools and how he uses them. G. A. Radebaugh. *il diags Coal Age* 22:707-11 N 2 '22

See also Forging; Welding

Blade graders. See Road making machinery

Blake, John Bidwell, 1864-1923

Sketch. por W Soc E J 28:[current news] 202-4 O '23

Blanc, Mont

Cable-way among the clouds; how passengers are to be carried up Mont Blanc in a suspended cage. F. H. Burlingham. *il Sci Am* 127:304-5 N '22

Blanc, John Carlisle

Thirty years of bridge engineering on the Pennsylvania lines; an appreciation. *por Eng N* 90:490-1 Mr 15 '23

Blankets

Manufacture of fancy woolen blankets. *il Textile World* 61:2075+ Ap 8 '22

Secrets hidden in blankets unraveled by science. *il Pop Mech* 40:17 Jl '23

Blast furnace gas

Adapting electrical cleaning to blast furnace gases. N. H. Gellert. *il diags Gen Elec R* 25:428-35 Jl '22

Analyzing gas washing losses. H. S. Watts. *Iron Tr R* 70:1179-81 Ap 27 '22

Beiträge zur kenntnis des filterstaubes der trockengichtgasreinigung. B. Osann. *Stahl & Eisen* 43:466-7 Ap 5 '23

Blast furnace waste heat utilized. H. Hermanns. *diags Blast F & Steel Pl* 10:531-4 O '22

British blast-furnace gas engines. *il Power* 56:608-9 O 17 '22

Burning blast furnace gas. G. D. Bradshaw. *charts diags Blast F & Steel Pl* 11:250-2 Ap '23

Burning blast-furnace gas under boilers. G. Fox and F. H. Willcox. *Power* 54:930-1 D 13 '21

Central-station utilization of by-product power from steel plants. L. B. Breedlove. *Elec W* 82:761-2 O 13 '23

Comparative methods of debenzolizing wash oil and the recovery of wash oil from blast furnace gas. F. D. Whittaker. *Chem Age (Lond)* 8:160 Ap 28 '23

Composition of blast-furnace gases. *Chem & Met Eng* 28:553 Mr 21 '23

Feld scrubber for cleaning metallurgical smoke. W. F. Lamoreaux. *il diags Eng & Min J* 113:198-206 F 4 '22

Filtering dirty gas through flue dust. G. B. Cramp. *diags Iron Age* 112:1111-14 O 25 '23

Fuel gases in iron and steel plants; abstracts. H. S. Watts. *Iron Age* 110:153-7 Jl 20 '22; *Iron Tr R* 70:605-9 Mr 2 '22

Gas engine power station of Palmers' ship-building and iron company. *il diags Engineering* 116:195-8, 208, 283-92, 364-6, 368, 454-7 pl 14, 21 Ag 17, S 7, 21, O 12 '23

Influence of gas cleaning on plant economy. W. N. Flanagan. *Blast F & Steel Pl* 10:89-92 Ja '22

Notes on the Schneider gas engine. H. A. A. Dombrain. *il Electrician* 87:643-6 N 18 '21

Powdered coal meets load variations in blast-furnace gas plant. *diags Power* 58:718-21 N 6 '23

Recovering flue dust completely. G. B. Cramp. *plans Iron Tr R* 70:459-63 F 16 '22

Reduction of fuel wastes in the steel industry. F. G. Cutler. *Mech Eng* 44:237-8+ Ap '22; Same. *Iron Tr R* 70:1040-2 Ap 13 '22; Same. *Blast F & Steel Pl* 10:291-4 My '22; Same cond. *Power Pl Eng* 26:465-7 My 1 '22; Excerpts. *Chem & Met Eng* 26:844-5 My 3 '22; Discussion. *Mech Eng* 44:465-6 Jl '22

Removal of solid and liquid particles from gases. A. F. Nesbit. *diags Blast F & Steel Pl* 10:637-41 D '22

Steam power from blast-furnace gas. G. Fox and F. H. Willcox. *il diags Power* 54:706-9 N 8 '21

Trend in blast furnace gas cleaning. F. E. Kling. *diags Blast F & Steel Pl* 11:44-6 Ja '23

Ueber pyrophoren gichtstaub. J. W. Gilles. *Stahl & Eisen* 42:884-9; Discussion. 889-91 Je 8 '22

Ueber veränderungen in der gichtgaszusammensetzung beim an- und ausblasen des hochofens sowie beim umsetzen verschiedener möller. P. Geimer. *diags Stahl & Eisen* 43:681-6 My 24 '23

Value of clean blast-furnace gas. N. H. Gellert. *Mech Eng* 44:305-10 My '22; Same. *Iron Tr R* 70:1401-6 My 18 '22; Same abr. *Chem & Met Eng* 26:1170-4 Je 21 '22

Wirtschaftlichkeit neuzeitlicher hochofen-gasreinigungen im Ruhr- und Minettebezirk. M. Schlipköter. *diags Stahl & Eisen* 42:285-90, 408-22, pl 1 F '23, Mr 16 '22; Discussion. 43:194-9 F 8 '23

Zur verbesserung der wärmewirtschaft der hüttenwerke. G. Neumann. *diags Stahl & Eisen* 41:1561-9 N 3 '21

Blast furnace slag. See Slag

Blast furnace stoves

Hot blast stove rating. F. H. Willcox. *Blast F & Steel Pl* 10:29-32 Ja '22

Monolithic lining for hot blast stoves. *il Iron Age* 112:404 Ag 16 '23; Same. *Iron Tr R* 73:462 Ag 16 '23; Same. *Chem & Met Eng* 29:632-3 O 1 '23

Blast furnace workers

Wages and hours of labor in blast furnaces in 1922. Monthly Labor R 16:1003-7 My '23; Iron Tr R 72:1623 My 31 '23

Blast furnaces

Action of sulphur on steamed coke. Chem & Met Eng 29:708 O 15 '23

Alabama furnace breaks output record. H. R. Stuyvesant. Iron Age 109:1443-5 My 25 '22; Same. Blast F & Steel Pl 10:343-6 Je '22

Banking a blast furnace. Iron Age 111:1629 Je 7 '23

Bases of modern blast-furnace practice. A. K. Reese. diags Engineering 114:312-16 S 8 '22; Same. Blast F & Steel Pl 10:495-9, 568-74 O-N '22; Same. Iron Tr R 71:989-95, 1410-13 O 12, N 23 '22; Same. Engineer 134:406-7, 463-4, 505-7 O 20, N 3-10 '22; Same. Iron & Steel Inst J 106:9-43 no 2 '22; Same abr. Iron Age 110:1207-8, 1253-4, 1353-5 N 9, 23 '22; Abstract. Chem & Met Eng 27:1037-8 N 22 '22; Discussion. Engineering 114:303-4 S 8 '22; Engineer 134:239-40 S 8 '22; Iron & Steel Inst J 106:44-59 no 2 '22; Iron Age 110:732-3 S 21 '22

Die bedeutung des hochöfners in der wärme-wirtschaft. K. Rummel. Stahl & Eisen 41: 1848-51; Discussion. 1851-3 D 22 '21; Translation (Fuel economy of steel plants). Blast F & Steel Pl 10:347-51 Je '22

Blast furnace and the manufacture of pig iron. R. Forsythe, rev. by C. A. Meissner and J. A. Mohr. 3d ed., 371p U. P. C. book co. '22

Blast furnace building in China. G. G. Green. Iron Age 108:1483-4 D 8 '21

Blast furnace operations during the year. J. A. Mohr. diags Blast F & Steel Pl 11: 22-4 Ja '23

Blast-furnace practice. C. Johns. Engineer 134:412 O 20 '22

Blast furnace study. Iron Age 111:1854 Je 28 '23

Blowing in French blast furnaces. diags Iron Age 112:745-8 S 20 '23

Buckshot, its cause and remedy. W. G. Imhoff. il Iron Tr R 73:1304-8 N 8 '23

Completes trial run on experimental stack. Iron Tr R 72:1887 Je 28 '23

Control of silicon in the blast furnace. S. L. Goodale. Blast F & Steel Pl 10:274-8, 367-70 My, Jl '22

Eastern company rebuilds blast furnace; the Thomas iron co. at Hokendauqua, Pa. R. Peters, jr. il diags Blast F & Steel Pl 10:267-9 My '22; Same. Iron Age 109:1221-3 My 4 '22; Same. Iron Tr R 70:1258-60 My 4 '22

Eastern steel company new blast furnace, Pottstown, Pa. R. Peters, jr. il diags Blast F & Steel Pl 10:113-16 F '22; Same. Iron Tr R 70:325-8 F 2 '22; Same. Iron Age 109:331-4 F 2 '22

Efficient operation of the blast furnace. T. A. Peebles. Blast F & Steel Pl 10:412-13 Ag '22

Emporium iron company rebuild furnace. il diags Blast F & Steel Pl 10:478-80 S '22; Same. Iron Age 110:588-9 S 7 '22; Same. Iron Tr R 71:651-3 S 7 '22

Étude sur la théorie des gazogènes; application à la conduite du haut fourneau. A. Korevaar. Chimie & Ind 8:23-5 Jl '22

First modern blast furnace in North China. P. F. Kohlhaas. il diags Blast F & Steel Pl 11:37-43 Ja '23

Ford principles and practice at River Rouge: how the blast furnace unit fits into the Ford industrial chain. J. H. Van Deventer. il Ind Management 64:321-8 D '22

Fortschritte auf dem gebiete der kokserzeugung, der einfluss der kokschaffenheit auf den hochofenbetrieb und vorschläge für die verbesserung des letzteren. Stahl & Eisen 42:297-303, 382-8, 1284-90 F 23, Mr 9, Ag 17 '22

Heat balances of blast furnace and steel plants. W. Trinks. diags Blast F & Steel Pl 10:451-6 S '22

Hochofenanlage in Creusot. diags Stahl & Eisen 42:1850-3 D 14 '22

Indian blast furnace nears completion. il Iron Tr R 70:1182 Ap 27 '22; Iron Age 109:1152 Ap 27 '22

Die innere form des hochofens. C. Zix. diags Stahl & Eisen 43:949-50 Jl 19 '23

Investigates sulphur effect in coke. J. H.

Thompson. Iron Tr R 73:1180-1 O 25 '23

Ironmaking progresses in 1922. R. H. Sweetser. Iron Tr R 72:57-8 Ja 1 '23

Joliet furnace blows in. il Blast F & Steel Pl 11:242-3 Ap '23

Lead blast-furnace department of the Great Falls zinc plant. R. B. Caples. Eng & Min J 115:719 Ap 21 '22

Making iron from magnetic ore. G. P. Pilling. Iron Tr R 72:1085-8 Ap 12 '23; Same.

Blast F & Steel Pl 11:148-52 F '23; Same cond. Iron Age 111:145-8 Ja 11 '23; Abstract.

Min & Met 192:32-3 D '22

Martins Ferry, Ohio, stack is enlarged. J. D.

Knox. il Iron Tr R 72:1081-4 Ap 12 '23

Modern blast furnace plant on the Yangtse. E. A. Sperry. il map plan Iron Age 110: 416-18 Ag 17 '22

New blast furnace at McKeesport. D. N. Watkins. diags Blast F & Steel Pl 10:32-4 Ja '22

New Claire furnace. G. F. Tegan. il Iron Age 110:1422-3 N 30 '22

Obtaining large blast furnace production. D. T. Croxton. Iron Age 111:897-900 Mr 29 '23

Same. Iron Tr R 72:1009-13 Ap 5 '23

Pioneer furnace and its worthy successor. R.

C. Henslett. il Blast F & Steel Pl 11:31-6

Ja '23

Les précautions à prendre pour la mise à feu d'un haut fourneau. M. Derclaye. diags

Génie Civil 83:41-2 Jl 14 '23; Discussion. F. Clerc. 83:139 Ag 11 '23

Present-day iron blast-furnace practice. R. H. Sweetser. Min & Met 183:43-5 Mr '22

Same. Blast F & Steel Pl 10:209-10 Ap '22

Problems of blast-furnace and steelworks practice. F. Samuelson. Iron & Steel Inst J 105:29-50 no 1 '23; Same cond. Engineer

133:490-1 My 5 '22; Same cond. Iron Age 109:1446-8 My 25 '22; Excerpts. Iron Tr R

71:238-40 Jl 27 '22

Producing iron and steel in China. L. W. Hoyt. Iron Tr R 72:227-30, 303-5 Ja 18-25 '23

Reactivity of coke as a factor in the fuel economy of the blast-furnace. E. R. Sutcliffe and E. C. Evans. diags Iron & Steel

Inst J 107:27-78, pl 1-2 no 1 '23; Same. Engineering 115:603-5, 638-40, 664-7 My 11-25

'23; Abstracts. Engineer 135:529 My 18 '23; Iron Age 111:1527-8 My 24 '23; Discussion.

Iron & Steel Inst J 107:79-96 no 1 '23; Engineering 115:610-11 My 18 '23; Engineer

135:529-30 My 18 '23; Iron Age 111:1528 My 24 '23

Rebuilt Coatesville stack. diags Iron Age 111: 1040-1 Ap 12 '23

Recently rebuilt blast furnace Lorain no. 4

National tube company. il Blast F & Steel

Pl 11:269-71 My '23

Roberts type of by-product coke ovens. M.

W. Ditto. il diags Iron Age 109:580-3+, 649-

50 Mr 2-9 '22; Same cond. Iron Tr R 70:664-

7+ Mr 9 '22

Die rohstoffe und ihre vorbereitung für den

hochofenbetrieb in Nordamerika. H. A.

Brassier. diags Stahl & Eisen 43:1-9, 44-9,

69-73 Ja 4-18 '23

Seek to reduce losses in ironmaking. L. A.

Touzalin. Iron Tr R 70:29-30 Ja 5 '22

Stand des deutschen ausbaues der lothring-

ischen und luxemburgischen eisenindustrie

bis zum jahre 1918; die karlshütte in

Diedenhofen. W. Haug. il diags plan Stahl

& Eisen 42:728-34 My 11 '22

Die temperaturen vor den formen des hoch-

ofens und ihre abhängigkeit von winder-

wärmung, kokssatz und kokschaffenheit.

Dienschlag. Stahl & Eisen 43:471-4 Ap 5 '23

Ueber den einfluss der gas- und windge-

schwindigkeit auf den wärmeübergang im

gitterwerk von hochofen-winderhitzern. C.

Schwarz. Stahl & Eisen 42:1385-92, 1424-30,

1456-60, 1519-23 S 7-21, O 5 '22; Discussion.

43:882-5 Jl 5 '23

Ueber die praktischen erfolge neuer theorien

des hochofens. W. Mathesius. Stahl &

Eisen 43:873-9, 907-12 Jl 5-12 '23

Ueber noch wenig bekannte schwierigkeiten

im hochofen durch schwefelelend. A. Kil-

ling. Stahl & Eisen 42:968-70; Discussion.

970-1 Je 22 '22

Blast furnaces—Continued

Ueberwachungsrichtung für wassergekühlte hochöfenformen und schutzkästen; abstract. E. Vogel. Stahl & Eisen 43:1280-1 O 4 '23

Die ungleichmässigkeit der gaslieferung von hochöfen und die schwankungen der zur abgabe zur verfügung stehenden mengen. H. Meyer. Stahl & Eisen 43:757-8 Je 7 '23

See also Air heaters; Blast furnace gas; Cupola furnaces; Flux; Iron metallurgy; Iron works; Slag

Air conditions

Elevated intake for blast furnace air. A. Gradenwitz. il Iron Age 110:1700 D 28 '22

Influence of superheating, of drying the blast, and of enrichment, on the working of blast-furnaces; abstracts. Derclaye. Iron & Steel Inst J 106:300-2 no 2 '22; Mech Eng 45:192 Mr '23

Luftverhältnisse in hüttenanlagen und billige beschaffungsmöglichkeit trockener luft; discussion. K. Knöch; J. Bronn. Stahl & Eisen 42:1747-50 N 23 '22

Oxygen in blast furnaces. Iron Age 112:717-18 S 13 '23

Oxygenated blast for furnaces; patent. Chem Age 31:140 Mr '23

Die speicherung von gasüberschüssen in den widerhitzern. K. Rummel. Stahl & Eisen 43:225-33 F 15 '23

Use of preheated, dry, moist and oxygen-enriched air in gas producers, cupolas and blast furnaces; abstracts. J. Seigle. Mech Eng 45:662-3 N '23; Génie Civil 83:330 O 6 '23

Verwendungsmöglichkeiten der lindelfuft in hochöfenbetrieben. T. Wagner. Stahl & Eisen 42:456-60 Mr 23 '22

Bibliography

Recent books of interest to blast furnace operators. E. H. McClelland. Blast F & Steel Pl 10:201 Mr '22

By-products

Recovery of potash as a by-product in the blast furnace industry. W. H. Ross and A. R. Merz. J Ind & Eng Chem 14:302-3 Ap '22

See also Blast furnace gas

Charging

Blast-furnace filling. D. E. Roberts. diags Iron & Steel Inst J 105:51-67, pl 1 no 1 '22; Same. Engineering 113:599-603 My 12 '22; Same cond. Engineer 133:541 My 19 '22; Discussion. Iron & Steel Inst J 105:68-81 no 1 '22; Engineering 113:595-6 My 12 '22; Engineer 133:541 My 19 '22

Some essentials for success in pyritic smelting. A. J. Bone. Eng & Min J 113:247-9 F 11 '22

Ueber hochöfen-begichtung. T. A. Tesch. diags Stahl & Eisen 43:590-3 My 3 '23

Electric equipment

Utilization of electric power about the blast furnace. G. Fox. Elec J 19:369-71 S '22

Equipment

Buckets and skips for blast furnaces. D. E. Roberts. diags Iron Age 109:1595-8 Je 8 '22

Development of mechanical handling devices in Germany during and since the war. G. F. Zimmer. il Eng & Ind Management 7:334-40 Ap 6 '22

Labor-saving blast furnace equipment. il diag Iron Age 111:1846-8 Je 28 '23; Same. Iron Tr R 72:1885-6 Je 28 '23

See also Blowers

Failures

Another lead blast-furnace crucible resists confinement when not in use. R. B. Caples. il Eng & Min J 115:964 Je 2 '23

Brick column lifts furnace top. G. M. Hohl. il diags Iron Tr R 72:1813-19+ Je 21 '23

Metallurgical phenomenon; how a crack in the wall of a lead blast furnace crucible developed. D. W. Jessup. il Eng & Min J 115:546 Mr 24 '23

Fuel

Burning coke in blast furnaces. G. St J. Perrott and S. P. Kinney. diag Iron Tr R 72:941-6 Mr 29 '23

Coke quality and blast furnace operations. F. W. Sperr and D. L. Jacobsen. diags Blast F & Steel Pl 11:314-18, 378-83, 426-31 Je-Ag '23

Combustibility of blast furnace coke. R. A. Sherman and S. P. Kinney. Iron Age 111:1339-44 Je 28 '23

Combustibility of blast furnace fuels. E. R. Sutcliffe and E. C. Evans. il Blast F & Steel Pl 10:427-36 Ag '22

Plan to penalize high-ash coal. R. H. Sweetser. Iron Tr R 70:1060-1 Ap 13 '22

Reactivity of coke as a factor in the fuel economy of the blast furnace. E. R. Sutcliffe and E. C. Evans. Engineering 115:603-5, 638-40, 664-7 My 11-25 '23 Abstract. Engineer 125:529 My 18 '23; Abstract. Iron Age 111:1527-8 My 24 '23; Discussion. Engineering 115:610-11 My 18 '23; Engineer 135:529-30 My 18 '23; Iron Age 111:1528 My 24 '23

Ueber versuche mit verschiedenen brennstoffen bei der hochöfenanlage der Gebrüder Böhler & co., A.-G., in Vordernberg. F. Zeyringer. diags Stahl & Eisen 43:1215-19 S 20 '23

Linings

Disintegration of blast furnace linings. P. O. Menke. Blast F & Steel Pl 10:116-18 F '22; Same. Iron Age 109:528-9 F 23 '22; Same. Iron Tr R 70:1409-10 My 18 '22; Discussion. R. M. Howe. Blast F & Steel Pl 10:161-3 Mr '22

Monolithic linings. Sci Am 129:276 O '23

Solving furnace lining problems. C. E. Nesbitt and M. L. Bell. il diag Iron Tr R 72:1603-7 My 31 '23; Same cond. Iron Age 111:1557-9, 1640-2 My 31-Je 7 '23; Abstract. Brick & Clay Rec 62:1042-3 Je 12 '23; Discussion. J. H. France. Iron Tr R 72:1822 Je 21 '23

Safety devices and measures

Reducing furnace-gas hazards. G. M. Hohl. diag Iron Tr R 71:787-90 S 21 '22

Blasting

Blasting a channel through a river's rocky bottom. il plan Sci Am 127:408-9 D '22

Blasting in quarries and open-pit mines. N. S. Greensfelder. Eng & Contr (Ry) 58:140 D 20 '22

Blasting machine-mined coal. Coal Age 22:59 Jl 13 '22

Blowing post holes with dynamite saves expense. Elec W 78:1131 D 3 '21

Bridge boosting—a new job for dynamite. H. S. Arbo. il Pop Mech 38:11-13 Jl '22

Charging holes with steel-headed tamping bars. O. H. Jones. Coal Age 22:637-8 O 19 '22; Discussion. J. Rose. 22:880-1 N 30 '22

Connections for electrical firing in blasting. N. S. Greensfelder. Eng & Contr (Ry) 58:158-60 D 20 '22

Construction methods on a canyon-side road in Wyoming. R. L. Silver. il diags map Eng N 90:988-91 Je 7 '23

Course of river changed by single blast. il Pop Mech 37:58-9 Ja '22

Ditching with dynamite. J. Alexander. il Pop Mech 40:39 Jl '23

Do and don't of loading dynamite. diags Eng & Min J 114:307 Ag 12 '22

Dynamite frees ice-bound boats. C. M. Niles. il Pop Mech 39:578-9 Ap '23

Dynamiting bedrock over a subway tunnel in New York harbor. Sci Am 129:163 S '23

Economical blasting with T.N.T. J. L. Clarke. Pub Works 51:335 O 29 '21; Same. Munic Eng 61:198+ N '21

Electric blasting-type ohmmeter-galvanometer. Eng & Min J 115:872 My 12 '23

Explosive contractor. Eng & Contr (Ry) 60:340-1 Ag 15 '23

Explosives in water engineering. Can Eng 44:412 Ap 17 '23

Hillside shattered by one dynamite blast. il Pop Mech 40:905 D '23

How to avoid waste of explosives. R. N. Van Winkle. Eng & Contr (R & S) 60:507-8 S 5 '23

Blasting—Continued

- How to eliminate misfiring of center shots. Eng & Contr 58:266 S 20 '22; Same. Eng & Min J 114:814 N 4 '22; Same. Eng N 89:899 N 23 '22
- How to load dynamite. A. La Motte. diags Eng & Contr (Ry) 58:38-9 O 18 '22; Abstract. Good Roads 63:107 S 20 '22
- Improvement in mudcapping methods. il Eng & Contr (Ry) 60:625-6 S 19 '23
- Improvement needed in shottfiring. O. Bullock. Coal Age 22:171 Ag 3 '22
- Lifting bottom in mine openings without disturbing timber sets. A. F. Brosky. diag Coal Age 22:1031 D 28 '22
- Liquid-air explosives in Europe. G. Joubert. Eng & Min J 115:627 Ap 7 '23
- Liquid-oxygen explosive is demonstrated at Martinsburg, W. Va. A. H. Hubbell. il Eng & Min J 115:331-2 F 17 '23; Same. Coal Age 23:376-7 Mr 1 '23
- Liquid oxygen for blasting operations. M. H. Curlya and G. H. Clevenger. Eng N 90:677 Ap 12 '23
- Method of breaking up ice gorges with explosives. S. R. Russell. Eng & Contr 57:186 F 22 '22
- Methods of blasting drilled wells to increase flow of water. S. R. Russell. diags Eng & Contr 57:129-30 F 8 '22; Same. Munic Eng 62:70-2+ F '22; Same. Pub Works 52:164-6 Mr 4 '22
- Mixing salt with the stemming, in blasting. Coal Age 21:172, 413, 455 Ja 26, Mr 9-16 '22
- Practical manufacture and use of liquid oxygen explosive for breaking ore. A. D. Akin. Eng & Min J 114:978-90 D 2 '22
- Promoting efficiency in drilling and blasting. B. F. Tillson. il diag Eng & Min J 113:446-50 Mr 18 '22; Discussion. 113:760, 853-5, 950-1; 114:402-3 My 6, 20, Je 3, S 2 '22
- Remove subaqueous ledge above rapid transit tunnel. E. Burr. diags Eng N 89:1021-3 D 14 '22
- Removing concrete foundations by blasting. C. E. Spicer. diag Eng & Contr 57:85-6 Ja 25 '22
- Scientific quarry blasting. J. Barab. diags Concrete 22:sup60-2, sup81-2 Ap-May '23; Excerpt. Eng & Contr (Ry) 59:1094-5 My 16 '23
- Shooting machine mined coal. T. Allen. diag Coal Age 22:498 S 28 '22
- Shot-firing by electricity. N. S. Greensfelder. Min & Met 189:56 S '22
- Smokeless powder as a blasting agent. Eng & Min J 114:502 S 16 '22
- Suggestions for ditch blasters. Eng & Contr (Ry) 60:835-6 O 17 '23
- Tunnel, or coyote method of blasting. J. C. Cushing. il Eng & Contr (Ry) 60:137-9 Jl 18 '23
- Use of explosives in production of crushed stone. S. R. Russell. Eng & Contr 57:371-4 Ap 19 '22; Excerpts. Pub Works 52:443-4 Je 17 '22
- Wet straw aids blasting machine foundation. H. A. Fee. Elec W 82:490-1 S 8 '23
- See also Coal mines and mining—Explosives; Detonators; Explosives; Mining engineering; Quarries and quarrying

Safety devices and measures

- Dangerous practices in blasting. Coal Age 20:724 N 3 '21
- Eliminating danger of the small shothole. il Coal Age 21:570 Ap 6 '22
- L'emploi des gaines de sureté dans le tir des explosifs. Génie Civil 81:467-9 N 18 '22
- Handling safety fuse. Eng & Min J 113:871-2 My 20 '22
- Inspector forbids solid shooting. Coal Age 20:966-7 D 15 '21
- Need of the certification of shottfirsers in the practice of coal mining. A. Waugh. Coal Age 21:1050-1 Je 22 '22
- Precautions taken to guard men from seam outbursts. F. C. Cornet. Coal Age 23:408-11 Mr 8 '23
- Reducing ventilation in a mine when firing shots. I. C. Parfitt. Coal Age 22:550 O 5 '22
- Safe method of blasting chutes. Eng & Contr (Ry) 60:128 Jl 18 '23
- Blaw-Knox company**
Hammer-welding plant of the Blaw-Knox co. E. E. Thum. il diags Chem & Met Eng 25:747-51 O 19 '21; Abstract. Mech Eng 43:819 D '21
- Bleacheries**
Danvers bleachery rearrangement. il Textile World 63:2474+ Ap 11 '23
- Bleaching**
Acid chlorine bleaching process. E. Ristenpart. Am Dyestuff Rep 12:510-12 Jl 16 '23
- Bleaching. S. H. Higgins. 137p University press, London; Longmans '21
- Bleaching and dyeing in one operation. Color Tr J 10:168-9 Ap '22
- Bleaching and related processes as applied to textile fibers and other materials. J. M. Matthews. 676p Chemical catalog co. '21
- Bleaching by means of sodium hypochlorite. W. M. Inman. Soc Dyers & Col J 39:78-81 Mr '23; Same. Am Dyestuff Rep 12:690-3 S 24 '23
- Bleaching equipment. J. F. Springer. il Color Tr J 13:101-5, 179-82 S, N '23
- Bleaching of ligno-cellulose. C. G. Schwalbe and H. Wenzyl. Paper 31:9-13+ F 14 '23
- Catalysts in bleaching and dyeing. A. J. Hall. Am Dyestuff Rep 12:33-5 Ja 1 '23
- Chemistry and the bleaching industry. S. H. Higgins. Soc Chem Ind J (Chem & Ind) 42:1026-8 O 26 '23
- Comparisons of the bleaching action of hypochlorous acid and chlorine. R. L. Taylor. Color Tr J 11:30-3 Jl '22
- Continuous bleaching. W. L. Conrad. il Am Dyestuff Rep 12:415-17 Je 4 '23
- Developments in the use of bleaching agents for textiles and paper pulp. W. M. Inman. v Can Chem & Met 7:63 Mr '23
- Economic advantages of regenerating kier liquors. M. Freiburger. Color Tr J 10:64-5 F '22
- Evolution of bleaching. S. H. Higgins. Textile Inst J 14:T209-16, T277-86, pl 1-2 Ag-S '23; Same (pt. 1). Soc Dyers & Col J 39:265-70 S '23
- Hydrogen peroxide bleaching. I. E. Weber. Soc Dyers & Col J 39:209-14 Jl '23
- Hydrometers unsuited to electrolytic bleaching. G. E. Sanderson. Textile Col 45:98-101, 168-70 F-M '23
- Hypochlorite bleaching agents. B. De Puys-ter. Color Tr J 13:29-32 Jl '23
- Improved method of kier boiling and bleaching; patent. diag Color Tr J 12:39-40 Ja '23
- Influence of formaldehyde on the chlorine bleaching process. E. Ristenpart, P. Weyrich and P. Wieland. Am Dyestuff Rep 12:637-42 Ag 27 '23
- Modern bleachery engineering. F. P. Bascom and J. C. McDowell. Textile World 64:635+ Ag 4 '23; Same. Am Dyestuff Rep 12:663-5 S 10 '23
- Modern washing processes. F. N. Thies. Color Tr J 12:122-8 Mr '23
- Mohr's bleaching process. A. Kertess. Color Tr J 13:175-6 N '23
- New bleaching process with potassium permanganate. Am Dyestuff Rep 12:643-4 Ag 27 '23
- New process and apparatus for bleaching without boiling. diags Color Tr J 11:29 Jl '22
- Nitre cake for bleaching and dyeing. A. B. Norton. Textile Col 45:631-3 O '23 (to be cont)
- Permanganate of soda as a bleaching agent. v W. B. Nanson. Am Dyestuff Rep 12:556-60 Jl 30 '23
- Preparation of bleaching liquors from liquid chlorine. J. H. MacMahon. Oil Paint & Drug Rep 104:xiii+ sec 2 S 24 '23
- Process of bleaching and dyeing in a single operation. Color Tr J 12:136-7 Mr '23
- Process of bleaching paper and fabrics employing liquidated chlorine. Color Tr J 12:38-9 Ja '23
- Proper control of bleach liquors. il Color Tr J 12:131-2 Mr '23
- Relation of bleached goods to the trade. H. D. Martin. Color Tr J 11:117-18 S '22

Bleaching—Continued

- Sodium hypochlorite or javel water. B. De Puyster. Color Tr J 13:172-5 N '23
- Sulphur compounds used in bleaching and dyeing. A. J. Hall. Textile Col 45:163-5 Mr '23
- Temperature control in the dye house and bleachery. B. F. Wadsworth. Textile Col 45: 103-6, 171-4+, 239-42, 307-10, 375-8, 511-15 F-Je. Ag '23
- Testing of bleach-liquor. R. E. Gegenheimer. il Textile Col 45:167-8 Mr '23
- Textile bleaching. A. B. Steven. 134p Pitman '21
- Textile mill conundrums. J. J. Sokolinski. Am Dyestuff Rep 12:764-6 O 22 '23
- Uses of malt extract. A. J. Hall. Color Tr J 9:252 D '21
- Various hypochlorite bleaching agents. J. MacGregor. Color Tr J 13:105-6 S '23
- See also Decolorization; Desizing (textiles); Dyes and dyeing; Hair—Dyeing and bleaching; Paper making—Bleaching; Stains—Removal

Cotton

- Absorption of methylene-blue by cotton; effect of bleaching. C. Birtwell, D. A. Clibbens and B. P. Ridge. diag Textile Inst J 14:297-313 S '23
- Acid alkaline chlorine bleach for cotton. E. Ristenpart. Color Tr J 11:274 D '22
- Bleaching cotton glove cloth. Textile World 63:1411+ F 24 '23
- Bleaching cotton with hypochlorous acid. S. R. Trotman. Soc Chem Ind J 42:2-3 Ja 5 '23
- Bleaching heavy goods with sodium peroxide. F. P. Seddon. Color Tr J 11:226-7 N '22
- Bleaching of cotton. J. M. Matthews. Color Tr J 9:172-6 N '21
- Bleaching of cotton fabrics. A. J. Hall. Textile Col 45:35-6 Ja '23
- Bleaching of cotton with hypochlorous acid. R. L. Taylor. Soc Chem Ind J 42:79-80 Mr '23
- Cotton bleaching in European practise. J. Richter. il diags Color Tr J 11:119-22 S '22
- Effect of hypochlorous acid solutions and of bleaching liquors on cellulose. E. Knecht and J. P. Egan. Soc Dyers & Col J 39:67-72; Discussion. 72-3 Mr '23
- Electricity in bleaching cotton. R. Sansone. diag Textile World 64:497+, 1081+ Jl 28, Ag 25 '23
- Influence of bleach on strength. I. Ginsberg. Textile World 63:4189+ Je 30 '23
- Lime and cotton. W. B. Nanson. Am Dyestuff Rep 12:241-6+ Mr 26 '23
- Mistakes in cotton bleaching. Am Dyestuff Rep 12:822 N 5 '23
- Scientific klier boil. Fellows. Color Tr J 11: 165-7 O 22
- Sodium peroxide in cotton bleaching. Color Tr J 13:185-6 N '23

Food

- Safer way of bleaching foods. Sci Am 128: 111 F '23

Linen

- Action of metal impurities on linen during bleaching. il Color Tr J 11:122-5 S '22
- Bleaching of yarn made from bast fibres. E. Clayton. Soc Dyers & Col J 39:31-7 F '23
- Same. Am Dyestuff Rep 12:335-40 Ap 23 '23

Patents

- Improved apparatus for impregnating cloth. diags Color Tr J 11:182-3 O '22
- New compound for removing stains. Color Tr J 12:227 My '23
- New form of bleaching apparatus. diag Color Tr J 13:140-1 O '23
- Process of preparing liquid bleach solutions. diag Color Tr J 12:178-80 Ap '23

See also Bleaching powder

Silk

- Bleaching of silk. M. N. Conklin. Color Tr J 12:211-12; 13:28-9 My, Jl '23
- Bleaching silk. G. Emmons. Am Dyestuff Rep 12:382-4+ My 21 '23

Wool

- Bleaching wool and half-silk goods. diags Am Dyestuff Rep 12:461-2+, 505-6 Je 18-Jl 2 '23

Bleaching machinery

- Apparatus for bleaching cloth in open-width. J. Richter. il diags Color Tr J 11:215-19 N '22
- Machine for bleaching yarn in form of cheeses. diags Color Tr J 13:26-8 Jl '23
- Machine for washing and saturating cloth for bleaching kiers. diags Color Tr J 12: 132-3 Mr '23
- Machinery for washing cloth in rope form; patent. diags Color Tr J 12:28-9 Ja '23
- New English apparatus for bleaching. diag Color Tr J 11:89 Ag '22

Bleaching powder

- Bleaching powder and its action in bleaching. R. L. Taylor. 78p J. Heywood Ltd., Manchester, Eng. '22
- Bleaching powder; loss of strength during storage. Textile World 61:427+ Ja 28 '22
- Bleaching—powder; patent. Chem & Met Eng 27:946 N 8 '22
- Up-to-date methods in a bleaching powder plant. G. L. Montgomery. il diags plans Chem & Met Eng 26:1038-42 My 31 '22

Blind

- Blind and deaf girl develops wonderful sense of touch and smell. F. L. Holmes. il Pop Mech 37:13-14 Ja '22
- Blind efficiently operate machine tools. H. Hermanns. il Iron Age 109:733 Mr 16 '22
- Blind taught to fix shoes on machines. il Pop Mech 40:370 S '23
- Dreams of the blind. E. Lenk. Sci Am 127:84 Ag '22
- L'emploi des aveugles dans l'industrie. Gervais-Balard. Génie Civil 81:181-2 Ag 19 '22
- Employment of the blind in workshops. il Engineering 112:715-17 N 25 '21
- Employment of war-blinded in German industries. H. Hermanns. il Am Mach 55: 1023-5 D 29 '21
- Example of service to the blind. W. Seeley. il Wireless Age 10:39-40 O '22
- Radio blesses the lives of the blind. W. Seeley. il Wireless Age 9:29-30+ Jl '22
- What radio means to the blind. il Wireless Age 9:45+ Ag '22

See also Typewriters for the blind

Blindness

See Eye—Diseases and defects; Eye—Injuries

Bliss, E. W., company, Brooklyn

- Eastern manufacturer combines plants. Iron Tr R 72:1614 My 31 '23

Block power plants. See Power plants, Block**Blondelion**

- Blondelion. V. Karapetoff. il Sibley J 36:130-1 Je '22
- The blondelion; a kinematic device which indicates the performance of a polyphase synchronous generator or motor. V. Karapetoff. il diags Am Inst E E J 42:234-46 Mr '23; Abstract. Elec W 81:444 F 24 '23

Blood, William Henry, jr., 1866-

- Portrait. Elec W 80:360 Ag 19 '22

Blood

- Effect of exercise on blood constituents. N. W. Rakestraw. Sci Am 126:174 Mr '22

Analysis

- New quantitative method for the determination of iron in the blood. A. L. Brown. Am Chem Soc J 44:423-5 F '22
- PYRO tannic acid method for the quantitative determination of carbon monoxide in blood and air. R. R. Sayers, W. P. Yant and G. W. Jones. il Safety Eng 46:138-42 S '23
- Tannic acid method for the quantitative determination of carbon monoxide in the blood. R. R. Sayers and W. P. Yant. Am Gas Assn General Sessions sec v 4:209-18 '22

Blood stains, Photography of

- Photographing blood stains. C. M. Lewis. il Sci Am 126:123 F '22

Blooming mills. See Rolling mills

Bloomington, Illinois

Water supply

Ground water history at Bloomington. D. H. Maxwell. diags Am Water Works Assn J 10:289-97 Mr '23

Bloomington, Indiana

Water supply

Bloomington water supply problem. P. Hansen. Munic Eng 64:95-100 Mr '23

Blotters

Blotter becomes a house-organ. Ptr Ink M 4:82+ Ja '22

Collection of blotters. Inland Ptr 69:224a-h My '22

Lowly blotter. S. B. Moore. il Ptg Art 41:235-9 My '23

Why we say it with blotters. il System 44:42 Jl '23

See also Blotting paper

Blotting paper

Blotting paper and cardboard. H. Postl. Paper 32:5-8 S 5 '23

Testing

Testing blotting papers. G. Dalen. il diag Paper 32:5-8+ Je 6 '23

Testing of blotting paper. P. L. Houston. Paper Tr J 73:88-90 N 10 '21

Blowers

Centrifugal blast-furnace blower. il diags Engineering 116:170-1 Ag 10 '23

Control of blower motors. H. G. Issertell. il Am Soc Heat & V E J 28:107-18 Mr '22;

Same. Gen Elec R 25:288-95 My '22; Same cond. Power Pl Eng 26:573-5 Je 1 '22; Discussion. Am Soc Heat & V E J 28:119-20 Mr '22

Coppus Vano blower. il Power 54:796 N 22 '21; Power Pl Eng 25:1125 N 15 '21; Eng & Min J 113:703-4 Ap 22 '22

Factors affecting the use of air in oil burning with comparison of cost. W. C. Buell, Jr. diag Eng Soc W Pa 38:201-21; Discussion. 222-6 Jl '22

Fan blower design. H. F. Hagen. il charts diags Am Soc Heat & V E J 28:491-504 Jl '22

First large gas-engine installation in American steel works. E. P. Coleman. Blast F & Steel Pl 11:485-8, 517-20; Discussion. 520-1+ S-O '23

High speed gas boosters. il Gas Age 49:387 Ap 1 '22

Mechanical methods for the propulsion of gases. E. F. Hooper and B. B. Waller. diags Soc Chem Ind J 42:180-4 Ap 27 '23

Propeller blowers for forced-draft furnaces. W. Mueller. diags Mech Eng 44:51-2 Ja '22

Rotary blower made from a tin can. H. Green. diags Pop Mech 40:463-4 S '23

Rotary scavenging blowers for two-stroke marine Diesel engines. il diags Engineering 114:676-8 D 1 '22

Turbo-blowers for mechanical-draft applications. il diag Power 55:307-8 F 21 '22

Turbo-boosters and exhaustors for town gas. il diags Engineering 113:105-6, 108 Ja 27 '22

Turbo compressors growing in demand. il diag Power Pl Eng 27:184-5 F 1 '23

Umbau von hochofen-gebläsenmaschinen. C. Giller. il diags Stahl & Eisen 43:1078-80 Ag 16 '23

Unit furnace blowers. il Power Pl Eng 27:11-12 Ja 1 '23

Use of Argand type of blower for clinkering coals. diags Power Pl Eng 27:188-9 F 1 '23

Das zweite elektrisch angetriebene konvertergebläse der Aktiengesellschaft Peiner walzwerk. F. Hartig. il diags Stahl & Eisen 42:1117-24 Jl 20 '22

See also Blast furnaces; Fans, Mechanical; Mechanical draft; Mine ventilation; Ventilation

Testing

Code for displacement compressors and blowers. Mech Eng 44:45-8+ Ja '22

Blowouts, Magnetic. See Magnetic blowouts

Blowpipes

Homemade gas blowpipe. diag Pop Mech 37:614 Ap '22

Blue

Dyeing of cotton fabrics with logwood blue. H. Sunder. Color Tr J 13:92-6 S '23

New dyestuff of the indigo series. Color Tr J 12:201 My '23

Production of new blue mordant dyestuffs. Color Tr J 13:16 Jl '23

Spectrophotometric identification of dyes. W. C. Holmes. Ind & Eng Chem 15:833-6 Ag '23

Über das blaue oxydationsprodukt des diphenylamins. F. Kehrman and G. Roy. Deutsche Chem Gesell Ber 55:156-8 Ja '22

See also Bluings; Hydron blue; Indigo; Methylene blue; Naphthathiam blue; Prussian blue

Blue gas. See Gas, Water

Blue lead

Blue lead as a rust preventative. il diags Gas Age 51:301-3+ Mr 10 '23

Blue powder

Blue powder in zinc smelting. W. R. Ingalls. Min & Met 184:13-14 Ap '22

Blue prints. See Blueprints

Blue-sky law. See Securities--Law

Blueprinting machinery

Blueprint drier features copper cylinder. il Pop Mech 39:909 Je '23

Blue print washing machine. diag Engineer 135:173 F 16 '23

High-speed blue printing machine. il diags Engineer 132:545 N 18 '21

Blueprints

Blue printing and modern plan copying. B. J. Hall. 130p Pitman '21

Blueprinting from typewritten sheets. H. Broome. Am Mach 57:271 Ag 17 '22; Discussion. C. G. Salmon. 57:547 O 5 '22

How to read blueprints. H. R. Bigelow. 23p Chicago technical college, Chicago '22

McLain's system of reading working drawings or blue prints. D. McLain. 253p McLain's system, inc., Milwaukee, Wis. '21

Making blueprint paper and blueprinting. Coal Age 22:841-2 N 23 '22

Reproductions

Small prints from large drawings. W. F. Lockhardt. Concrete 19:188 N '21; Same. Eng & Contr 56:570 D 21 '21

Bluing

Blue dyes used for tinting white goods in laundries. Color Tr J 10:167-8 Ap '22

Blumea Malcomii

Essential oil from Blumea Malcomii. J. L. Simonsen and M. G. Rau. Chem Soc J 121:876-83 My '22

Board, Paper. See Paper board

Boarding houses

Costs

Boarding house at small mines. C. N. Schuette. Eng & Min J 114:720-1 O 21 '22

Boards of education. See School boards

Boards of trade. See Chambers of commerce

Boardwalks, Concrete

Building reinforced-concrete boardwalk at Coney Island. il diags plan Eng N 89:229-31 Ag 10 '22

Coney's board walk supported on concrete piles. il Concrete 22:21-2 Ja '23

Boats

Building a sectional flat-bottom rowboat. F. St Boulanger. il diags Pop Mech 38:307-8 Ag '22

Western university builds new racing shells. il Pop Mech 39:741 My '23

See also Barges; Canal boats; Dredges; Ferryboats; Fire boats; Flying boats; Freight ships; House boats; Lifeboats; Motor boats; Shipbuilding; Ships; Steamboats; Submarine boats; Torpedo boats; Towboats

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Bobbins

Tightening ferrules on bobbins. diags Textile World 62:773 Ag 5 '22

Body temperature. See Temperature, Animal and human

Bogota, Colombia**Water supply**

Uncontrolled pollution of Bogota water supply. G. C. Bunker. il Eng N 90:921 My 24 '23

Boiler cleaning

Appareil pour nettoyer les chaudières, système paradox. diags Génie Civil 80:577-8 Je 24 '22

Boiler tube cleaners. il Power Pl Eng 27:45-7 Ja 1 '23

Clean furnace surfaces are of great importance. Power Pl Eng 27:18-19 Ja 1 '23

Cleaning boilers of the fire-tube type: diags Power Pl Eng 27:21-5 Ja 1 '23

Cleaning water-tube boilers. M. M. Brown. Power 55:351 F 28 '22

Firing and cleaning of heating boilers. E. Cunningham. diags Dom Eng 97:572-4 D 24 '21

Heating surfaces should be cleaned systematically. Power Pl Eng 27:19-20 Ja 1 '23

Removal of sediment from boilers. il diag Power Pl Eng 27:43-4 Ja 1 '23

Selection of soot removers for paper mill power plants. W. F. Schaphorst. il Paper Tr J 73:42+ D 8 '21

Steam boiler cleaning. J. E. Noble. Power Pl Eng 27:440-1 Ap 15 '23

Use new method to clean Leviathan's boilers. il Marine R 53:233-9 Je '23

See also Boiler scale; Locomotive boilers—Cleaning; Soot blowers

Boiler code. See Boilers—Laws and regulations

Boiler explosions

Another bumped head failure. il Power 55:951 Je 13 '22

Another oil field boiler explosion. C. W. Carter, Jr. il Power 55:991 Je 20 '22

Another score for compulsory boiler inspection. R. S. Gallagher. il Power 57:452 Mr 20 '23

Boiler explosion at a colliery. Engineering 113:312 Mr 10 '22

Boiler explosion at a Louisiana cotton oil mill Locomotive 34:130 Ja '23

Boiler explosion at Bridgeport, Conn. il Locomotive 34:34-5 Ap '22

Boiler explosion at Greenwood, S.C. il Locomotive 34:226-7 O '23

Boiler explosion at Mechanicsville N.Y. il diag Power 54:833-4 N 29 '21; Discussion. 54:1026-7; 55:114 D 27 '21, Ja 17 '22

Boiler explosion: no safety valve; cause of an explosion at the works of the Ouse shipbuilding co., Ltd. Engineering 112:883 D 30 '21

Boiler explosion on a fishing boat. Engineering 113:179 F 10 '22

Boiler explosion on board a dumb barge. Engineering 115:632 My 18 '23

Boiler explosion on board a drift Engineering 114:632 N 17 '22

Boiler explosion on board a steamship. Engineering 114:215 Ag 18 '22

Boiler explosion on steamer Omar D. Conger. il diags Locomotive 34:78-80 Jl '22

Boiler explosions. Engineer 132:681-2 D 23 '21

Boiler explosions. See quarterly numbers of Locomotive

Dampfkeßelsicherheit im in- und auslande Stahl & Eisen 43:505-6 Ap 12 '23; Same (Fewer boiler explosions in Europe). Power 57:1038-9 Je 26 '23

Destructive heat-boiler explosion. il diag Power 57:421 Mr 13 '23

Explosion of a blow down pipe. Engineering 115:602 My 11 '23

Explosion of a boiler at a colliery. Engineering 114:129 Jl 28 '22

Explosion of a cast-iron connecting pipe Engineering 115:236 F 23 '23

Explosion of a Cornish boiler. Engineering 114:263 S 1 '22

Explosion of a Nesdrum boiler. Engineering 114:411-12 S 29 '22

Explosion of a Stirling water-tube boiler. Engineering 115:190 F 9 '23

Explosion of a water-tube boiler. Engineering 114:602 N 10 '22

Les explosions de gaz dans les foyers et carneaux de chaudières. Génie Civil 83:113-14 Ag 4 '23

Heating boiler a hazardous necessity. il Safety Eng 42:232 N '21

Low pressure heating boiler explosion. Engineering 112:775-6 D 2 '21

Low water and removal of fusible plug cause boiler explosion. Power 57:142 Ja 23 '23

Near boiler explosion. G. W. Atkinson. il Power 55:206-7 F 7 '22; Discussion. F. Seymour. 55:553 Ap 4 '22

Saw mill boiler explosion. il Locomotive 34:98 O '22

Should oil-field boilers be exempt? R. L. Hemingway. il Power 54:882-3 D 6 '21

Why good boilers explode. J. Cassidy. diags Power 55:476-7 Mr 21 '22; Discussion. 55:667 Ap 25 '22

See also Boilers—Failures; Locomotive boiler explosions

Boiler furnaces. See Furnaces, Boiler

Boiler inspection

Boiler inspecting. J. F. Hobart. il Power 57:205-6, 291-2, 332-4, 406-7, 478-9, 563, 637-8 F 6, 20-27, Mr 13, 27, Ap 10, 24 '23

Boiler inspection on the G. N. R. Engineer 133:192 F 17 '22

Boiler inspections. Textile World 64:1258+, 1971-2+ S 1, O 6 '23

Inspection and registration of steam boilers. Power 56:651-2 O 24 '22

Justifiable coercion. J. P. Morrison. il Power 56:604 O 17 '22

Should agricultural boilers be exempt? R. L. Hemingway. il Power 55:657 Ap 25 '22

Summary of inspectors' work for 1921. Locomotive 34:59 Ap '22

What will govern boiler inspection? H. N. Hite. Power 56:699 O 31 '22

See also Locomotive boilers

Boiler meters

Meter for recording alkalinity of boiler-feed water. R. C. Arthur and E. A. Keeler. diags Power 55:768-70 My 16 '22

See also Carbon dioxide recorders

Boiler plants

Ashtabula steel co. uses pulverized fuel. il plans Power Pl Eng 27:808-12 Ag 15 '23

Boiler house extension at Boston. il Elec Ry J 61:116 Ja 20 '23

Boiler house of the American sugar refining company at Baltimore, Maryland. E. B. Powell. il diag Mech Eng 44:509-12 Ag '22

Boiler plant of the American sugar refining company, Baltimore, Md. il diag Power 56:2-8 Jl 4 '22

Boiler-room features of Northeast station, Kansas City. il diags Power 58:249-51 Ag 14 '23

Boiler-room performance and practice of the Colfax station, Duquesne light company. C. W. E. Clarke. il diags Mech Eng 44:295-300 Mv '22; Same abr. Power 55:778-81 My 16 '22; Discussion. Mech Eng 44:466-7 Jl '22

Boiler works, Queensferry, Flint, England; views. Am Arch 124:141-1 Jl 4 '23

Central electric generating station at Comines. il diags map plans Engineer 135:249-51, 262 Mr 9 '23; Abstract. Power 57:915 Je 5 '23

Common faults in boiler-plant design. G. C. Cook. Power 55:251 F 14 '22

Comparison of coal and oil fuel costs under steam boilers. H. E. Collins. Power 56:951 D 12 '22

Conserving waste heat in the making of corn syrup. T. Wilson. il diag plans Power 57:122-7 Ja 23 '23

Design of boiler house plant. Eng & Ind Management 7:582-3 Jl 13 '22

Electricity supply at Sheffield: the Blackburn Meadows generating station. il Elec R (Lond) 89:605-8, 628-30 N 4-11 '21; Electrician 87:566-70 N 4 '21

Boiler plants—Continued

Ford principles and practice at River Rouge. J: H. Van Deventer. *il charts Ind Management* 65:206-9 Ap '23

Die fortlaufende wärmetechnische ueberwachung der gasfeuerungen in hüttenbetrieben. H. Wolf. *il Stahl & Eisen* 41:1611-14 N 10 '21

From coal to oil in twenty-six days at the New York Central plant, Yonkers, N.Y. *il Power* 56:712-13 N 7 '22; Same abr. *Elec W* 80:1107-8 N 18 '22; Same cond. *Elec Ry J* 60:777-8 N 11 '22

Importance of the boiler room. H. R. Carr. *Sibley J* 36:125-6+ Je '22

Improving operation of Ft. Sill plant. W. J. Stewart. *Power Pl Eng* 26:431-2 Ap 15 '22

Large boiler plants in the United States and Germany. F. Münzinger. *diags Mech Eng* 45:653-5 N '23

Meeting de luxe service requirements of General motors corporation; mechanical features of the largest office building of its kind in the world. C. C. Wilcox. *il diags plans Power Pl Eng* 27:255-65 Mr 1 '23

Modern steam generating plant; works of the Heppenstall forge & knife company. R. F. Keifer. *il diags plans Blast F & Steel Pl* 10:509-19 O '22

Navajo no. 5 mine turns waste piles into power and solves water problem with 2,882-ft. well. H. B. Cooley. *il diags Coal Age* 24:387-91 S 13 '23

Nechells power station of the Birmingham corporation. W. N. Twelvetees. *il diags Engineering* 115:291-4 Mr 9 '23

New boiler plant for Battle Creek sanitarium. *il diags Power* 55:46-9 Ja 10 '22

New boiler plant for paper mill; modern equipment in plant of Bogota paper and board co. A. McGregor. *il Power Pl Eng* 26:911-12 S 15 '22

New Mac-Sim-Bar boiler plant at Otsego, Mich., saves \$100,000 per year. *il diags Power* 58:352-6 S 4 '23

New plant of the Barber asphalt co. *il diags plans Power Pl Eng* 27:709-16 Jl 15 '23

New plant of the H. H. Franklin mfg. co. *il diags plans Power Pl Eng* 26:297-304 Mr 15 '22

New superpower plant near Paris approaching completion. *il diags plan Elec W* 80:265-70 Ag 5 '22

Northeast station Kansas City, Mo., adds 30,000 kilowatts. T: Wilson. *il diags plan Power* 58:2-7 Jl 3 '23

Plant of Brunswick-Balke-Collender co., Muskegon, Michigan. *il diags plans Power* 57:200-5 F 6 '23

Plant of the Waterway paper products co. *il diag plans Power Pl Eng* 26:985-9 O 15 '22

Power for the Atlantic refining co. *il diags Power Pl Eng* 26:739-46 Ag 1 '22

Power plant designed for steel mill conditions; Indiana Harbor works of the Inland steel co. *il diags Power* 55:566-70 Ap 11 '22

Power plant of the Duratex company has many interesting features. *il charts diag Power* 56:358-62 S 5 '22

Power plant of the First national bank, Jersey City, New Jersey. *il plan Power* 56:310-14 Ag 29 '22

Power plant of the Hawaiian electric company, ltd., Honolulu. H. W. Marvin. *il Power* 57:360-2 Mr 6 '23

Power plant of the Hoover suction sweeper company. *il plan Power* 56:750-4 N 14 '22

Power plant of the Provincial hospital, Weyburn, Sask., Canada. *il diag Power* 56:966-8 D 19 '22

Pulverized fuel plant at Providence. *diags plan Elec Ry J* 61:725-7 Ap 28 '23

Railway power-plant notes. *Power* 58:271 Ag 14 '23

Rebuilding a large boiler plant without interrupting the service. A. Iddles and J. W. May. *il diag Power* 56:402-8 S 12 '22

Rebuilding boiler plant reduces coal consumption over one-half. *il diags Power* 57:546-52 Ap 10 '23

Remodeling Crane company's boiler plant, Bridgeport. *il diag Power* 55:891-3 Je 6 '22

Remodeling electric railway plant at Batavia, Illinois. H. W. Brooks. *il diag Power* 58:678-82 O 30 '23

Resumé of the boiler situation. A. D. Bailey. *diags Power Pl Eng* 26:2-5 Ja 1 '22

Steel-mill power plant of the Follansbee brothers company, Toronto, Ohio. J. Breslove. *il diags Power* 56:116-21 Jl 25 '22

Value of coke, anthracite, and bituminous coal for generating steam in a low-pressure cast-iron boiler. J: Blizard, J. Neil and F. C. Houghten. *diags U S Bur Mines Tech Pa* 303:1-56 '22

West Reading development and operation. *il Power Pl Eng* 27:757-67 Ag 1 '23

Wheeling steel corporation construct new power plant. T: G. Estep. *il charts diags plans Blast F & Steel Pl* 10:329-37 Je '22

Where steam gets 83.1 per cent of heat in fuel; plant of Atlantic refining co. equipped to burn oil, coal or gas. G. M. Levy. *il diags Power Pl Eng* 27:157-61 F 1 '23

Wood refuse power plant. *il diags Engineering* 115:69-71 Ja 19 '23

See also Boilers; Draft; Mechanical draft; Steam plants

Employees

Bonus for boiler room employees. R. June. *Gas Age* 48:814-15 D 17 '21

Bonus schemes and boiler-house economy. C: F. Wade. *Elec R (Lond)* 92:469-70 Mr 23 '23

Equipment

Analyzing the prevention of boiler room losses. E. M. Eliot. *Ind Management* 65:46-8 Ja '23

Building up efficiency in small boiler plants. R. C. Demary. *diags Power Pl Eng* 27:1020-2 O 15 '23

Conditions which affect operation of the furnaces in your boilers should be given careful study. J. G. Worker. *Power Pl Eng* 27:3-6 Ja 1 '23

Control of boilers by temperature and draught measurements. J: B. C. Kershaw. *il diags Engineer* 135:437-41 Ap 27 '23

Developments in power station design. *diags plan Engineer* 132:668-9 D 23 '21

Fuel saving in relation to capital necessary. J. Harrington. *Mech Eng* 43:725-6 N '21; Discussion. 44:113+ F '22

Getting added savings in the power plant. G. M. Levy. *il Factory* 31:175-7+ Ag '23

Heli Gate boilers and their auxiliaries. *il diags plan Power* 55:716-22 My 9 '22

Indicating station load in the boiler room. F. F. Leilich. *il Power* 55:579-80 Ap 11 '22

Power-plant instruments from the fireman's point of view. H. D. Fisher. *Power* 55:69 Ja 10 '22

Power plant of the Duratex company has many interesting features. *il charts diag Power* 56:358-62 S 5 '22

Practical grouping of boiler-room instruments. A. C. Learmonth. *il Power* 58:105-6 Jl 17 '23

Pyrometers in waste-heat boiler plants. J. H. Torrey. *il Power Pl Eng* 26:360-1 Ap 1 '22

Pyrometry of boilers fired with liquid fuel. E. C. Reed. *il diags Eng & Ind Management* 6:743-6 D 29 '21

Special slide rule designed to calculate boiler efficiency. C. H. S. Tupholme. *diag Power Pl Eng* 27:165-6 F 1 '23

Testing devices for boiler plants. W. C. Edge. *Gas Age* 50:407-8 S 30 '22; Same. *Paper Tr J* 75:62-3 S 14 '22

See also Boilers—Equipment; Carbon dioxide recorders; Feed water heaters; Feed water regulators; Fuel economizers; Stokers, Mechanical

Laws and regulations

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Management

Boiler and furnace economy. D. S. Jacobus. *Mech Eng* 43:779-82 D '21; Excerpts. *Power* 54:962-3 D 20 '21; Discussion. *Mech Eng* 44:112-13 F '22

Boiler house control. M. B. Littlefield. *Paper Tr J* 74:41-3 Je 29 '22

Boiler plants—Management—Continued

- Boiler-plant efficiency. V: J. Azbe, diags Mech Eng 43:722-4+ N '21; Same abr. Ry Mech Eng 96:33-5 Ja '22; Excerpts. Power Pl Eng 26:169-72 F '1 '22; Discussion. Mech Eng 44:112 F '22
- Boost the economy of your boiler plant, diag Power Pl Eng 27:2 Ja 1 '23
- Coal saving by modern methods of steam generation. D: Brownlie, Power 56:146-7 JI 25 '22; Discussion. F. W. Dean. 56:582 O 10 '22
- Combustion of coal in boiler furnaces. M. Maffitt. Eng & Contr (W W) 59:831-1 Ap 11 '23
- Conditions which affect operation of the furnaces in your boilers should be given careful study. J. G. Worker. Power Pl Eng 27:3-6 Ja 1 '23
- Control of CO₂ results in steam boiler economy. R. June. il diags Gas Age 52:511-15 O 27 '23
- Cost cutting for industrial power plants. D: M. Myers. Ind Management 63:140-2+, 234-7, 304-9, 366-70; 64:50-4 Mr-Jl '22
- Detailed instructions for boiler-room force. Elec W 81:282, 342, 397 F 3-17 '23
- Determining boiler operating factors. D. C. Hess. diags Am Gas J 117:679-83 D 16 '22; Same. Blast F & Steel Pl 11:169-72 F '23; Same. Gas Age 51:271-4 Mr 3 '23; Same. Ry Mech Eng 97:177-9, 239-41 Mr-Apr '23
- Du Pont plant shows fine safety record; operation of the power department. il plan Power Pl Eng 27:353-60 Ap 1 '23
- Economies in dyehouse boiler plant. G. H. Rome. Soc Dyers & Col J 39:77-8 Mr '23
- Efficiency system for firemen. A. C: Learmonth. Power 58:690 O 30 '23
- Efficient steam generation in the dyeing and allied industries. D: Brownlie. diag Soc Dyers & Col J. 39:93-9; Discussion. 99-100 Ap '23
- Example of good industrial power-plant operation. D. Henderson. Power 56:96-7 JI 18 '22
- Extracts from an operating code. Elec W 81:459, 637, 696, 753, 811, 867, 924, 981, 1042, 1095, 1152, 1281, 1418, 1475, 1528; 82:27, 81, 135, 184-5, 238, 292, 340, 390, 442, 493-4, 543, 610, 663, 714-15, 767, 869, 920 F 22, Mr 17-May 19, Je 2, 16-30, JI 7-O 13, 27-N 3 '23
- Fourteen points of boiler room operation. il Power 55:335 F 28 '22
- Fuel economy on gas-works boilers. T. W. Andrews. Gas J (Lond) 161:82-4; Discussion. 84-5 Ja 10 '23
- Henceforth the combustion engineer will prove powerful factor in the selling of coal. E. W. Davidson. il Coal Age 21:961-4 Je 8 '22
- How a small plant reduced its power bill \$9,200. Factory 30:273-6 Mr '23
- How steam production costs were reduced; abstracts. A. R. Mumford. Power 57:653-4 Ap 24 '23; Power Pl Eng 27:471-6 My 1 '23; Coal Age 23:928-31 Je 7 '23
- How to lower coal costs. C. E. Leshner. Am Mach 56:18 Ja 5 '22
- Improving boiler room practice. R. June. il Gas Age 51:467-70 Ap 14 '23
- Load-dispatching system for working correct number of boilers. C: E. Hague. Elec W 79:88-9 Ja 14 '22
- Making the study of combustion profitable in your own plant. B. Robinson. il Ind Management 64:75-8+ Ag '22
- Manufacture of steam. Engineering 113:493-4 Ap 21 '22
- Modern boiler room operation. I. E. Moulthrop and R. E. Dillon. Gas Age 49:360-2 Mr 25 '22; Same. Power 55:384-6 Mr 7 '22; Excerpts. Elec W 79:786-7 Ap 22 '22
- Modern management methods in the power plant. B. Robinson. il Ind Management 61:346-9; 65:57-61, 121-5 D '22-F '23
- Necessity for and savings possible with better boiler-room operation. C. W. DeForest. Power 55:139-41 Ja 24 '22; Same. Eng & Contr 58:136-7 Ag 9 '22
- Power plant management; efficient combustion practice. R. June. Blast F & Steel Pl 11:546-50 O '23; Same. Gas Age 52:439-42 O 13 '23
- Power plant troubles. H. A. Jahnke, diags Power Pl Eng 25:865-7, 1161-2 S 1, D 1 '21
- Power problems. Ind Management (Lond) 9:400-2 Je 28 '23
- Power problems of vital interest to executives. J. T. Beard. il diags Ind Management 66:46-52, 170-6 JI, S '23
- Reducing fuel consumption in fire brick plant. R. S. Frederick. diags Power Pl Eng 26:720-1 JI 15 '22
- Reduction in banking coal. Power 58:175-6 JI 31 '23
- Refinements of practice in modern power plants. I. L. Kentish-Rankin. Power Pl Eng 25:988-90, 1089-91 O 15, N 15 '21
- Rules for boiler plant maintenance and operation. Concrete 20:sup21 Ja '22
- Safe and efficient boiler operation. diags Power Pl Eng 26:5-14 Ja 1 '22
- Small plant equipped for extensive tests to check weekly performance. J. W. Geiger and H. L. Solberg. il Power 58:53-5 JI 10 '23
- Some boiler room problems. H. A. Jahnke. diags Power Pl Eng 26:865-7 S 1 '22
- Steam power plant management. R. June. il Gas Age 51:737-40; 52:9-11 Je 9, JI 7 '23
- Steam production. J. A. Turnbull. Textile Inst J 14:124-9 F '23
- Thrift in using power. il Factory 28:56+ Ja '22
- Training a fireman in the way he should go. Eng & Ind Management 6:495-7 N 3 '21
- Views of mechanical engineers in Wyoming valley as to proper care and upkeep of boiler furnaces. D. C. Ashmead. il Coal Age 21:1083-7 Je 29 '22
- What management can do to cut fuel costs. Textile World 62:739 Ag 5 '22; Same. Chem Age 30:343-4 Ag '22
- What management should know of coal. R. June. Blast F & Steel Pl 11:495-9+ S '23
- What the plant manager should know about coal. B. Robinson. Ind Management 63:50-4 Ja '22

See also Boilers—Control**Records**

- Boiler-house record keeping and application. C: F. Wade. Elec R (Lond) 92:47-8 Ja 12 '23
- Boiler house records. Engineering 116:369-70 S 21 '23
- Interpreting boiler-house meter readings. W. A. Darter. Power 54:767-8 N 15 '21
- Records stimulate economy. Power Pl Eng 27:85 Ja 1 '23
- Weekly boiler trial sheet. D. Ross-Ross. Power 58:499-501 S 25 '23

Safety devices and measures

- Du Pont plant shows fine safety record; operation of the power department. il plan Power Pl Eng 27:353-60 Ap 1 '23
- Make your plant safe for attendants. il diag Power Pl Eng 27:77-9 Ja 1 '23
- Progress in pulverized fuel firing. F. J. Crolius. Blast F & Steel Pl 10:337-9 Je '22
- Safety appliances approved by the Industrial board. 33p Pennsylvania Industrial board. Harrisburg '20
- Safety devices are essential. il diags Power Pl Eng 27:79-83 Ja 1 '23
- Boiler plates**
- Boiler plate after cold-work or work at blue-heat. H. J. French. Chem & Met Eng 27:211-15 Ag 2 '22
- Effect of rate of loading on tensile properties of boiler plate. H. J. French. Chem & Met Eng 27:309-10 Ag 16 '22
- Fallacy of using 60,000 T.S. steel for boilers. P. E. Terroy. Power 55:549 Ap 4 '22
- Les qualités des tôles d'acier pour conduites forcées et pour chaudières. Génie Civil 82:12-14 Ja 6 '23
- Strength and elasticity of boiler plate at elevated temperatures. H. J. French. Chem & Met Eng 26:1207-9 Je 28 '22

Specifications

- A.S.M.E. proposed specifications for steel boiler plate. Mech Eng 45:380 Je '23

Boiler plates—Continued**Testing**

- Detecting boiler-plate cracks. Power 56:493 S 26 '22
 Detecting defective boiler sheets in the shop. Ry Mech Eng 97:565-6 Ag '23
 Effect of temperature, deformation and rate of loading on the tensile properties of low-carbon steel below the thermal critical range. H. J. French. il diags U S Bur Stand Tech Pa 219:679-725 '22; Abstract. Power 57:1037 Je 26 '23

Boiler scale

- Boiler inspections. Textile World 64:1258+ S 1 '23
 Boiler scale. Textile World 62:751+ Ag 5 '22
 Boiler scale and its removal. Power Pl Eng 26:526-7 My 15 '22
 Furnace atmospheres and the formation of scale. G. C. McCormick. Ry Mech Eng 96:712-13 D '22
 Graphite feeders. J. E. Noble. diags Power Pl Eng 26:183-4 F 1 '22
 Muriatric acid effective in removing scale from pipes. Power 57:301, 532, 567 F 20, Ap 3, My 29 '23
 Pneumatic scaling tools for removing scale. il Eng & Ind Management 7:168-9 F 9 '22
 Removing boiler scale with CO₂. R. J. Cross and R. Irvin. diag Power 55:422-3 Mr 14 '22
 Selecting scale removers for paper mill power plants. W. F. Schaphorst. Paper Tr J 76:34+ Ja 25 '23
 Unusual boiler scale. H. D. Fisher. il Power 58:505 S 25 '23
 Unusual case of tube blistering. M. S. Gerend. Power 56:102 Jl 18 '22
See also Boiler cleaning; Feed water purification

Boiler seams. See Boilers—Joints**Boiler tubes**

- Cause of tube distortion. Power Pl Eng 26:144 Ja 15 '22
 Ess spiral boiler tubes developed in Sweden. Ry Mech Eng 95:783 D '21
 How to combat formation of slag on boiler tubes. H. H. Bates. Am Gas J 117:370, 372-5 O 21 '22; Same. Power Pl Eng 26:1094-8 N 15 '22; Same. Blast F & Steel Pl 10:642-6 D '22; Same cond. Gas Age 51:103-5 Ja 27 '22; Excerpts. Mech Eng 45:53-4 Ja '23; Abstracts. Engineer 134:504 N 10 '22; Engineering 114:521 O 27 '22; Iron Tr R 71:1127-8 O 26 '22
 Installing and maintaining charcoal iron locomotive boiler tubes. G. H. Woodroffe and C. E. Lester. il diags Ry Mech Eng 96:221-5, 274-8 Ap-May '22; Same cond. Ry R 71:306-11 S 2 '22
 Renewing a boiler tube. B. W. Wheeler. diags Power 54:857-8 N 29 '21
 Slagged tubes cause secondary combustion in breeching. R. E. Burke. diag Power 58:187 Jl 31 '23
 Stresses in tubes for high pressure boilers. Power Pl Eng 27:623 Je 15 '23
 Stretching boiler tubes. W. Stevenson. diag Power 57:327 F 27 '23
 Tube trouble from dirty feed water. R. F. Burke. Power 54:813 N 22 '21
 Welding tubes into the tube sheets of boilers. F. H. Williams. il diags Power 56:588-9 O 10 '22; Discussion. 56:663, 816-17, 894; 57:186-7, 339 O 24, N 21, D 5 '22, Ja 30, F 27 '23
 What causes leaky tubes? Power Pl Eng 26:241, 388-90 F 15, Ap 1 '22
 What causes tubes to blister with oil burning? Power 57:609, 729, 868, 909; 58:389 Ap 17, My 8, 29-Je 5, S 4 '23

See also Boiler cleaning; Boilers—Failures; Soot blowers

Advertising

- Advertising a product as old-fashioned. W. F. Mulhall. Ptr Ink 119:33-4 My 4 '22

Manufacture

- Some causes of rejections in boiler tubes. H. G. Carter. il Chem & Met Eng 26:1113 Je 14 '22

Prices

- Boiler tube prices. Iron Age 111:1559 My 31 '23

Specifications

- A.R.A. committee revises boiler tube specifications and submits seven new specifications. Ry R 72:1153-5 Je 30 '23
 Tentative specifications for lap-welded and seamless steel and lap-welded iron boiler tubes. diags Am Soc T M Pro 21:461-7 '21

Boiler water. See Feed water

Boilers

- Another advance in pressure for large boilers. Power 56:424 S 12 '22
 L'avenir des chaudières à vapeur. Von Pritzelwitz. Génie Civil 82:23 Ja 6 '23
 Boiler troubles from the operating man's standpoint. C. J. Smith. Power Pl Eng 27:1073-4 N 1 '23; Same cond. Power 58:749-50 N 6 '23
 Boiler's no good. H. N. Dix, jr. Sanitary & Heat Eng 100:210-11+ O 5 '23; Same. Sheet Metal Worker 14:747-8+ O 26 '23
 Burton four-drum duplex boiler. diag Power 58:412 S 11 '23
 Calumet station to have 1,200-lb. boiler. diag Power 57:838 My 29 '23
 Chaudières Ladd-Belleville produisant par heure près de 13 500 kilogr. de vapeur à 17 kilogr. de pression. diag Génie Civil 81:223 S 2 '22
 Combustible matter in boiler ashes. W. S. Patterson. Soc Chem Ind J (Chem & Ind) 42:904-6 S 21 '23
 Commonwealth Edison innovations; experimental installation of a boiler designed for an operating pressure of 1,200 lb. per square inch. diag Elec W 81:1293-4 Je 2 '23
 Design of steam boilers and pressure vessels. G. B. Haven and G. W. Swett. 2d ed., rev. 435p Wiley '23
 Development of high pressure steam boilers. D. S. Jacobus. diags Power Pl Eng 27:1047-50 O 15 '23; Same. Engineer 136:400-1 O 12 '23; Same cond. Power 58:587-8 O 9 '23; Excerpt. Elec W 82:699-701 O 6 '23; Discussion. Elec W 82:817-18 O 20 '23
 Developments in power station design. il diags Engineer 133:683-5 Je 23 '22
 Economical steaming secured at partial loads. diag Power Pl Eng 27:525 My 15 '23
 Economical use of bituminous fuels. J. B. C. Kershaw. diags Elec W 80:1317-24 D 16 '22
 Field of the large boiler; interesting data on the large boilers installed at the River Rouge plant of the Ford motor company. J. B. Crane. Blast F & Steel Pl 10:289-90 My '22
 German steam boiler designed for 850 pounds pressure. B. Schipira. il diags Power 58:164-6 Jl 31 '23
 Heat transmission, with special reference to the stoker fired boiler. R. M. Howe and S. M. Phelps. Am Cer Soc J 5:420-3; Discussion. 423-9 Jl '22
 High-pressure boilers for the Waukegan power station. diag Power 56:417-18 S 12 '22; Same. Elec W 80:603-4 S 16 '22
 How steam production costs were reduced; abstracts. A. R. Mumford. Power 57:653-4 Ap 24 '23; Power Pl Eng 27:474-6 My 1 '23; Coal Age 23:928-31 Je 7 '23
 Installing new boilers without stopping the plant. il diag Power 55:854 My 30 '22
 Lubrication and the steam boiler. E. L. Gross. Power Pl Eng 26:361-2 Ap 1 '22
 New development in high-pressure steam generation. diags Power 56:131-3 Jl 25 '22; Abstract. Mech Eng 44:607 S '22
 New developments in smokeless combustion. H. M. Nobis. diags Heat & Ven 20:48-9 F '23
 New steam boiler carries enormous pressure. Pop Mech 40:778 N '23
 Principles of boiler design. C. E. Stromeyer. diags Engineer 134:672-3, 669 D 22 '22; Abstract. Mech Eng 45:189-90 Mr '23
 Proper care of boilers prevents water going into steam lines. W. E. Thomson. Elec W 79:1224 Je 17 '22

Boilers—Continued

Reducing the boiler pressure quickly in emergencies. Power 56:773, 857, 1032-3; 57:37, 262 N 14, 28, D 26 '22, Ja 2, F 13 '23
 Résumé of the boiler situation. A. D. Bailey. diags Power Pl Eng 26:2-5 Ja 1 '22
 Rules governing care of stationary boilers. Il Ry Mech Eng 97:625 S '23
 Selecting steam boilers and water softeners for paper mill power plants. W. F. Schaphorst. Il Paper Tr J 73:40+ D 1 '21
 Das speicherproblem in der dampfwirtschaft. C. Kiesselbach. Stahl & Eisen 43:265-73 F 22 '23

Steam boiler for model engines. D. M. Rice. diags Pop Mech 38:643-4 O '22
 Steam boiler practice. V. Z. Caracristi. Gas Age 49:370 Mr 25 '22
 Steam boilers. F. W. Dean. diags N E Water Works Assn J 36:115-39; Discussion. 139-40 Mr '22

Steam boilers and superheaters have again increased in size. Power 57:4-5 Ja 2 '23
 Thickness of shell in return-tubular boilers. E. C. Fisher. Power 56:147-8 Jl 25 '22

Tubes, steam domes and dry pipes. W. H. Wakeman. diags Power 57:596-7 Ap 17 '23; Discussion. A. C. Danks. 58:66-7 Jl 10 '23
 Value of mixtures of coke breeze and bituminous coal as fuel for a hand-fired boiler. J. Blizard and J. Neil. Am Soc Heat & V E J 27:645-55 S '21; Same, without tables. Gas Age 48:848-9 D 24 '21

What happens inside of the water leg? W. J. Fowler. Il Power 55:734 My 9 '22
 What is the best design of firebox? Power 56: 813, 950; 57:148-9 N 21, D 12 '22, Ja 23 '23
 Why did water pass from one boiler to another? W. H. Wakeman. diags Power 55: 433 Mr 14 '22

Zinc in boilers. Power 58:234 Ag 7 '23

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Air heaters

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Blow-off

Blowoff protection for empty boilers. Il Power 58:656 O 23 '23
 Kinks for plumbers and steam fitters. diags Dom Eng 98:167-8 Ja 28 '22
 Piping for blow-off tanks. W. H. Wakeman. diags Dom Eng 103:113-14 Ap 21 '23
 Renewing the blow-off pipes of steam boilers, and piping an exhaust steam injector. W. H. Wakeman. diags Dom Eng 97:440-1 D 3 '21

Circulation

Effect of circulation on locomotive boiler efficiency. F. G. Lister. Ry R 70:787-90 Je 3 '22; Correction. 71:241 Ag 19 '22
 Need for better boiler circulation. C. A. Seley. Ry R 71:17-18 Jl 1 '22
 Some notes on boiler circulation; abstracts. C. A. Seley. Il Ry R 72:578-80 Mr 31 '23; Ry Mech Eng 97:274-5 My '23

Classification

Classification of steam boilers. Power 56:765 N 14 '22

Control

Automatic control for oil fired boilers. S. B. Derby. diags Power Pl Eng 27:875-6 S 1 '23
 Centralized combustion control for boilers. Il diags Power 55:771-4 My 16 '22
 Combustion control for steam boilers. C. H. Smoot. Power 57:354-6 Mr 6 '23; Discussion. 57:690-1, 808-9, 991 My 1, 22, Je 19 '23

Control of boiler operation. E. A. Uehling. Mech Eng 44:438-43 Jl '22

Dry pipes

Dirty steam no longer necessary. L. F. Kuhlman. Blast F & Steel Pl 11:340-1+ Je '23

Efficiency

Auxiliary system and heat balance at the Delaware station of the Philadelphia electric company. E. L. Hopping. diags Mech Eng 43:790-3 D '21; Excerpts. Power 54: 957-8 D 20 '21; Excerpts. Power Pl Eng 26:114-15 Ja 15 '22; Discussion. Mech Eng 44:25-6+ Ja '22; Power 54:960 D 20 '21
 Boiler efficiency under test and working conditions; abstract. D. Wilson. Engineering 114: 463-4 O 13 '22

Can efficiency be determined by flue gas temperature alone? J. R. Darnell. Power Pl Eng 26:821-2 Ag 15 '22

Chemical principles of boiler efficiency. W. St J'S-Findlay. Ind Management (Lond) 8: 255-6 N 2 '22

Effect of superheat on boiler performance. R. A. Holme. Power 58:259-60 Ag 14 '23
 Expectation of efficiency of steam boiler operation. H. R. Carr. Power Pl Eng 26:357-60 Ap 1 '22

Guarantees 85 per cent boiler efficiency. Power 57:1001 Je 19 '23

Keeping down the furnace losses. R. T. Haslam. charts Power 55:372-5 Mr 7 '22

Record boiler efficiency in 60,000-kw. plant. C. W. E. Clarke. Elec W 80:329-30, 722-3 Ag 12, S 30 '22

See also Boiler plants—Management; Boilers—Testing

Electric heating

Electric boiler for heating trains. Ry Age 74: 196 Ja 13 '23

Electric generation of steam. H. Drever and F. Hodson. Il chart Paper 30:73-5+ Ap 19 '22; Same. Paper Tr J 74:249+ Ap 13 '22; Same. Tech Assn Pa ser 5:35-8 Je '22

Electric generator for steam. Il Paper 29:14-15 F 22 '22; Iron Age 109:782 Mr 23 '22; Iron Tr R 70:609 Mr 2 '22; Chem & Met Eng 26:655 Ap 5 '22

Electric steam boilers. G. A. Maillet. diags Paper Tr J 74:48-50 Ja 19 '22; Abstract. Paper 29:23 N 9 '21

Electric steam boilers for using surplus water power. Il diags Elec W 80:1211-12 D 2 '22

Electric steam boilers in western Sweden. W. H. Sholes. Elec W 81:336 F 10 '23

Electric steam boilers increasing in number. Elec W 82:371 Ag 25 '23

Electric steam generator. H. Drever. Il chart J Ind & Eng Chem 14:923-5 O '22

Electric steam generators and their application. P. S. Gregory. Il diags Am Electrochem Soc Trans v 42 (preprint 12):97-108; Discussion. 108a-g S '22

Electrical steam generator has possibilities in the West. J Elec 48:279 Ap 1 '22

Electrically-heated high-pressure steam boilers. Il Elec R (Lond) 92:118-19 Ja 19 '23

Electrically heated steam boilers prove successful in Sweden. E. Velander. Elec W 78: 1026 N 19 '21

15,000-volt electric heating wagon. Il diags Engineer 135:208-9 F 23 '23

G.E. electric steam generator. Il Gen Elec R 26:25-6 Ja '23; Heat & Ven 20:67-8 Ja '23
 Generation of steam by electricity. P. H. Falter. Il Blast F & Steel Pl 11:500-3 S '23; Same abr. Power 57:268-70 F 13 '23

Generation of steam by electricity. F. T. Kaelin. Il diags Can Chem & Met 6:59-62 Mr '22; Same cond. Elec R (Lond) 91:140-1 Jl 28 '22; Abstract. Heat & Ven 19:32 Je '22

Hydro-electric steam generators cost less than coal-fired boilers. Elec W 79:151 Ja 21 '22

Laurentide electric steam generators largest yet installed. W. P. Muir. Il diag Power 57:208-10 F 6 '23

New type of electric steam generator. E. M. Horstkotte. Il Power 56:795-7 N 21 '22; Same cond. Mech Eng 45:54 Ja '23; Discussion. Power 56:991-2 D 19 '22

Boilers—Electric heating—Continued

New uses of electric steam boilers. P. H. Falter. *il Ind Eng* 81:403-5+ Ag '23
 Practical points on the operation of electric steam boilers. P. H. Falter. *il Ind Eng* 81:509-10 O '23
 Small electrically heated steam boiler. E. N. Capron. *diags Pop Mech* 37:975-6 Je '22
 Surplus electrical energy for steam production. *diags Engineer* 133:450 Ap 21 '22
 22,000-volt electric steam boiler. *il Chem & Met Eng* 29:720 O 15 '23
 Using excess power to save coal. E. H. Horstkotte. *il Ind & Eng Chem* 15:913-14 S '23; Same. *Paper Tr J* 77:105-6 O 18 '23

Equipment

Automatic water level adjusting device for boilers. *diags Marine Eng* 27:514 Ag '22
 Equipment used afloat, ashore. *diags Marine R* 52:91 F '22
 Receiver drainage control. *il Power Pl Eng* 26:394-5 Ap 1 '22
 Self-operating water circulator for Scotch boilers. *diags Marine Eng* 27:520 Ag '22
See also Air heaters; Boiler plants—Equipment; Carbon dioxide recorders; Feed water heaters; Feed water regulators; Furnaces, Boiler; Pressure gages; Water gages

Failures

Another lap-seam crack. R. L. Hemingway. *il Power* 56:281-2 Ag 22 '22
 Boiler inspection. *Textile World* 64:1971-2+ O 6 '23
 Boiler-tube failures. H. O'Neil. *diags Power* 56:876-8 D 5 '22; *Abstract. Mech Eng* 45:126-7 F '23
 Cause of boiler shell cracking through girth-seam rivet holes. *Ry Mech Eng* 95:712 N '21
 Caustic embrittlement of boiler metals. R. E. Gleason. *Power* 57:452-3 Mr 20 '23
 Handhole gasket blowout. L. L. Lollard. *diags Power Pl Eng* 26:282-3 Mr 1 '22
 Near boiler explosion. G. W. Atkinson. *il Power* 55:206-7, 383 F 7, Mr 7 '22; *Discussion. F. Seymour.* 55:553 Ap 4 '22
 Was the boiler ruptured or cracked? A. L. H. Street. *Power* 56:187 Ag 1 '22

See also Boiler explosions

Firing

Burning a low grade of fuel on underfeed stokers. *il diags Power* 56:247-51 Ag 15 '22
 Burning low-ash coal. H. D. Fisher. *Power* 55:704-5 My 2 '22
 Coke breeze as fuel for steam boilers in Great Britain. C. H. S. Tupholme. *Gas Age* 52:3-6 Jl 7 '23
 Combustion of coal in boiler furnaces. M. Maffitt. *Am Water Works Assn J* 10:230-5 Mr '23
 Fuel and its efficient application in boiler practice. C. F. Wade. *diags Ind Management (Lond)* 9:7-9 Ja 11 '23
 Improved method of firing abates smoke and saves fuel. *Power* 57:537-8 Ap 3 '23
 Keeping ashes on the move. D. C. Spencer. *Factory* 31:688+ N '23
 Light versus heavy firing. W. E. Chandler. *Power* 55:231-2 F 7 '22
 Light versus heavy firing. W. H. Wakeman. *Power* 54:733 N 8 '21
 Low-ash coal not always desirable. S. W. Flagg. *il diag Power* 55:328-30 F 28 '22
 Nine years with underfeed stokers and Illinois coal. C. C. Cobb, jr. *diag Power* 57:328-30 F 27 '23
 Smoke abatement and air pollution. W. H. Casmey. *Eng & Ind Management* 7:538-9, 576 Je 29-Jl 13 '22
 Stokes anthracite culm and gashouse tar. J. Harrington. *il diag Power* 57:523-4 Ap 3 '23
 Suggestions for hand firing. *diags Power* 56:316 Ag 29 '22
 Three methods of firing a boiler. W. E. Chandler. *Power* 55:34-5 Ja 3 '22
 Underfeed stokers burn low grade of coal. C. E. Reese. *il diag Blast F & Steel Pl* 10:588-91 N '22

See also Boilers—Gas firing; Boilers—Oil firing; Boilers—Pulverized coal firing; Boilers—Wood firing; Boilers, Heating—Firing

Furnaces

See Furnaces, Boiler

Gas firing

Burning blast-furnace gas under boilers. G. Fox and F. H. Willcox. *Power* 54:930-1 D 13 '21
 Gas fired steam boiler calculations. J. P. Leinroth. *Gas Age* 51:169-72 F 10 '23
 Large power plant obtains efficient gas burning. *il Pop Mech* 38:578-9 O '22
 Largest power boilers now in operation. *il Pop Mech* 38:860-1 D '22
 Natural gas as a fuel for central stations. E. A. Quinn. *il diags Elec W* 81:575-7 Mr 10 '23
 Power and fuel consumption of the iron and steel industries of the Pittsburgh district. S. B. Ely and W. F. Rittman. *il Mech Eng* 45:401-6 Jl '23
 Recent developments in connection with gas-fired steam-boilers and the utilization of waste heat for steam-raising purposes. W. Gregson. *Gas J (Lond)* 162:351-5 My 9 '23
 Selling gas-steam boilers. E. W. Berchtold. *Am Gas J* 116:181-3 F 25 '22
 Steam power from blast-furnace gas. G. Fox and F. H. Willcox. *il diag Power* 54:706-9 N 8 '21
 Surface combustion, with special reference to recent developments in radiophragm heating. W. A. Bone. *Gas J (Lond)* 162:423-8 My 16 '23
 Use of coke breeze in conjunction with illuminating gas. Dr Wilde. *Am Gas J* 118:317-20 Ap 14 '23
 Use of low pressure gas burner in oil field boilers. M. P. Youker, G. S. Brewer and C. E. Beecher. *Nat Pet N* 14:32a-h Ja 25 '22
 Use of natural gas under boilers. M. P. Youker. *Gas Age* 49:591-2 My 13 '22
 Versuche mit gasbrennern an kesseln und Cowpern. E. Weymann. *diags Stahl & Eisen* 42:215-21 F 9 '22
See also Boilers, Heating—Gas firing; Boilers, Waste heat

Heat balance

See Boilers—Tables, calculations, etc.

Joints

Calculating the efficiency of boiler seams. R. J. Finch. *diags Ry Mech Eng* 96:193-6 Ap '22
 Efficiency of butt and double-strap joint, double-riveted. *Power* 56:509 S 26 '22
 Lap joints unsuitable for longitudinal seams of return-tubular boilers. *diags Power* 56:29 Jl 4 '22
 Making joints to withstand steam and hot water. W. S. Standiford. *Power* 58:337-8 Ag 28 '23
 Strength of diagonal joint. *diag Power* 58:309 Ag 21 '23

Laws and regulations

Boiler plant testing; suggestions for an improved international code. D. Brownlie. 168p Dutton '22; *Review. Elec R (Lond)* 91:430-1 S 22 '22; *Power* 56:740-1 N 7 '22
 Comments on A.S.M.E. revised code for testing stationary boilers. D. Brownlie. *Power* 57:575-7 Ap 10 '23
 Interpretation of the A.S.M.E. boiler code. *diags Power* 55:113-19, 198, 558-9, 834; 56:300-1, 956; 57:998-9; 58:438 Ja 17, 31, Ap 4, My 23, Ag 22, D 12 '22, Je 19, S 11 '23
 Preliminary report of sub-committee of A.S.M.E. boiler code committee on rules for care of steam boilers and other pressure vessels in service. *Mech Eng* 45:368-79 Je '23
 Report of committee to confer with A.S.M.E. boiler code sub-committee on heating boilers. *Am Soc Heat & V E J* 29:442-59 Jl '23
 Second revision of A.S.M.E. boiler code, 1922. *Mech Eng* 44:460-3, 544-5, 675-7, 850-7 Jl-Ag, O, D '22; *Power* 56:624-6, 666-8 O 17-24 '22

Boilers—Laws and regulations—Continued

Second revision of A.S.M.E. boiler code, 1923. Mech Eng 45:261-3+, 318-19, 379-83 Ap-Je '23
Welding as applied to boilers and other pressure vessels. E. R. Fish. Iron Age 109:590 Mr 2 '22

Why so many calculations in the boiler test code? W. E. Wines. Power 58:27-8 Jl 3 '23

Work of the A.S.M.E. boiler code committee. diag Mech Eng 44:63, 329-31, 397, 610-11; 45: 137+, 261, 443 Ja, My-Je, S '22, F, Ap, Jl '23

See also Engineering law

Manufacture

Boiler department at Elswick works. Engineering 114:366, 373 S 22 '22

Hammer-welding plant of the Blaw-Knox co. E. E. Thum. il diags Chem & Met Eng 25: 747-51 O 19 '21; Abstract. Mech Eng 43:819 D '21

Heater sections made in quantity. il Foundry 50:267-74 Ap 1 '22

Materials used in boiler construction. Power Pl Eng 27:245 F 15 '23

Works of the French Babcock and Wilcox company. il diags Engineering 113:674-6, pl 33-4 Je 2 '22

See also Boiler plates

Oil firing

Adjusting boiler room equipment to special needs. W: S. Dutton. il Factory 27:757-8 D '21

Advantages of oil as fuel. il diags Sanitary & Heat Eng 99:14-17+ Ja 12 '23

Automatic control for oil fired boilers. S. B. Derby. diags Power Pl Eng 27:875-6 S 1 '23

Boiler capacities obtainable per cubic foot of furnace volume. T. B. Stillman. diag Power 55:171-3 Ja 31 '22

Boiler plant operation at St Louis with fuel oil; cost table. Eng & Contr (W W) 60:525 S 12 '23

Boiler plant operation with fuel oil. K. L. Martin. diag Power Pl Eng 27:664-7 Jl 1 '23

Burning fuel oil economically. F. G. Parker. Power 56:940-1 D 12 '22

Burning oil in a stoker furnace. A. A. Fette. il diags Power 58:535-6 O 2 '23

Changing from coal to oil fuel does not eliminate combustion losses. J: W. Shaw. Power 58:148-9 Jl 24 '23

Comparative tests on coal and oil burning boilers. S. A. Smith, jr. Power 55:934 Je 13 '22; Discussion. 56:25, 27, 141-2, 297, 466, 698 Je 4, 25, Ag 22, S 19, O 31 '22

Comparison of coal and oil fuel costs under steam boilers. H. E. Collins. Power 56:951 D 12 '22

Defective oil-burning installation. R. A. Cultra. diag Power 58:542 O 2 '23

Don'ts for the boiler room. W. D. Halsey. Power 56:583 O 10 '22

Double port air register increases oil burning capacity. il diag Power Pl Eng 27:906 S 1 '23

Firing boilers with fuel oil. Blast F & Steel Pl 10:151-2 F '22

Franklin-Stephenson oil-burning furnace. diags Engineering 115:800-1 Je 29 '23

Free school for teaching oil burning. il Marine R 53:408-10 N '23

From coal to oil in twenty-six days at the New York Central plant, Yonkers, N.Y. il Power 56:712-13 N 7 '22; Same abr. Elec W 80:1107-8 N 18 '22; Same cond. Elec Ry J 60:777-8 N 11 '22

Fuel oil helps overcome strike menace. K. R. MacKinnon. diag Elec W 81:631-3 Mr 17 '23

Fuel oil in a Rhode Island central station. N. Stahl. il diags Elec J 20:210-13 Je '23

Fuel oil shows big saving in Singer building. N. King. il Power 56:348-52 S 5 '22

Guardian fuel-oil shutoff regulator. diags Power 55:97 Ja 17 '22

High efficiency oil-burning station. C. H. Delany. il Elec W 81:735-8 Mr 31 '23

Light-oil starting system for auxiliary plant. C. O. Lenz. plan Elec W 82:79-80 Jl 14 '23

New plant of the Barber asphalt co. il diags plans Power Pl Eng 27:709-16 Jl 15 '23

Oil as fuel in industrial power plants. D. Henderson. charts Power Pl Eng 27:974-6 O 1 '23

Oil-burner steam-consumption measurement. A. F. Brewer. diag Power 55:689 My 2 '22

Oil burning in high-pressure boilers. A. W. Patterson. diags Heat & Ven 19:47-9 N '22

Oil burning installation. Power Pl Eng 27: 648, 796-7 Je 15, Ag 1 '23

Oil burning under boilers. L. C. Breed. Iron Age 112:417-18 Ag 16 '23

Oil firing sixty-four boilers at Amoskeag. il diags plan Power 55:920-3 Je 13 '22

Oil fuel for steam generation. C. H. S. Tupholme. diag Power Pl Eng 27:412-13 Ap 15 '23

Operation of oil-burning steam plants. C. H. Delany. Iron Age 109:525-7 F 23 '22

Power plant equipped to burn fuel oil. il Ry Mech Eng 97:621-2 S '23

Remodeling power plant for fuel oil use. diags plans Elec Ry J 61:505-8 Mr 24 '23

Rules for operating small oil burning boilers. W. A. Darter. Power Pl Eng 25:1110-11 N 15 '21

Tamarack power plant. il diag plans Power Pl Eng 26:837-43 S 1 '22

War department turns to fuel oil. W. W. Bowman. il diags Power 58:327-9 Ag 23 '23

What causes tubes to blister with oil burning? Power 57:609, 729, 868, 909; 58:389 Ap 17, My 8, 29-Je 5, S 4 '23

Where steam gets 83.1 per cent of heat in fuel; plant of Atlantic refining co. equipped to burn oil, coal or gas. G. M. Levy. il diags Power Pl Eng 27:157-61 F 1 '23

Will it pay to burn oil instead of coal? W. F. Schaphorst. il chart Ry Mech Eng 97: 624 S '23; Same. Refrig W 58:26-7 Ag '23; Same. Heat & Ven 20:55-6 O '23

Yarrow water-tube boiler with Kermoder system of oil-firing. il Engineering 115:430 Ap 6 '23

See also Boilers, Heating—Oil firing; Boilers, Marine—Oil firing

Pulverized coal firing

Air mixing feature part of pulverized coal burner. diags Power Pl Eng 27:907 S 1 '23

Application of pulverized coal to boilers. J. W. Fuller. Min & Met 180:35-6 D '21

Ashtabula steel co. uses pulverized fuel. il plans Power Pl Eng 27:808-12 Ag 15 '23

Burning coal dust on Coxo stoker. F. B. Orr. diags Power 56:223-4 Ag 8 '22

Burning pulverized anthracite mine waste. O. M. Rau. il diags Elec Ry J 58:945-9 N 26 '21; Same. Power 54:828-32 N 29 '21

Burning pulverized coal with reduced furnace volumes. M. W. Arrowood. diags Power 57: 417-19 Mr 13 '23; Correction. 57:656 Ap 24 '23

Le chauffage au charbon pulvérisé de la centrale de Milwaukee et de l'usine de l'United railways Co., at Providence (E.-U.). diag Génie Civil 82:154-6 F 17 '23

Chauffage au charbon pulvérisé des chaudières de la centrale électrique des mines de Bruay. Génie Civil 81:521-2 D 2 '22

Combustion and mechanical engineers study pulverized fuel for boilers. Coal Age 24: 315 Ag 30 '23

Design features of Cahokia station. diag plan Elec W 80:1461-3 D 30 '22

Developments in power station design. il diag Engineer 132:502-4 N 11 '21

Essais de chauffage d'une chaudière au charbon pulvérisé, aux Mines de Blanzay, à Montceau-les-Mines. diags Génie Civil 81:282 S 23 '22

Experience with powdered coal in Arizona. J. E. Johnson. diag Elec W 78:1121-3 D 3 '21

High efficiency of boiler fed with pulverized coal. Elec Ry J 61:562-3 Mr 31 '23

How powdered coal is burned at Lakeside. Power 56:969-73 D 19 '23

Lakeside electric power station at Milwaukee. D: Brownlie. Engineer 135:480-1 My 4 '23

Modern industrial plant in Milwaukee burns pulverized coal. il diags Power 56:868-74 D 5 '22

Pioneer powdered-coal installation data. W. J. Santmyer. Elec W 81:1527-8 Je 30 '23

Powdered coal as fuel in steam plants. H: Kreisinger and J: Blizard. diags Eng Soc W Fa 38:169-81; Discussion. 182-200 Je '22

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- Powdered coal installation. Whitaker-Glessner plant. Wheeling steel corp. il diag Power 58:333-4 Ag 28 '23
- Powdered coal meets load variations in blast-furnace gas plant. diags Power 58:718-21 N 6 '23
- Powdered coal used exclusively in this industrial plant; Illinois malleable iron company, Chicago. il diags Power 57:84-7 Ja 16 '23
- Power problems of vital interest to executives. J. T. Beard. Ind Management 65:369-74 Je 23
- Power progress during 1922. F. J. Crolius. diags Blast F & Steel Pl 11:104-9 Ja '23
- Progress in pulverized fuel firing. F. J. Crolius. Blast F & Steel Pl 10:337-9 Je '22
- Providence plant installs pulverized-fuel equipment. plans Power 57:680-1 My 1 '23
- Pulverized coal as fuel under steam boilers. W. G. Clark. Elec R 79:929-30 D 17 '21
- Pulverized-coal-burning central station, Bruay mines, France. J. Boyer. diags Mech Eng 45:183-4 Mr '23
- Pulverized coal test on boilers. Blast F & Steel Pl 11:129 Ja '23
- Pulverised fuel. D. L. Selby-Bigge. Iron & Steel Inst J 105:290-6 no 1 '22
- Pulverized-fuel developments. A. J. T. Taylor. diag Can Eng 45:326-8 S 18 '23
- Pulverized fuel for large boilers. J. C. Hobbs and L. W. Heller. Blast F & Steel Pl 11:403-7 Jl '23; Abstract. Power 58:551 O 2 '23
- Pulverized fuel for power plants. A. G. Christie. Gas Age 51:791-2 Je 23 '23; Same. Power 57:951 Je 12 '23
- Pulverized fuel in Ohio; extension to Lake Shore plant. diag Elec W 82:144 Jl 21 '23
- Pulverized fuel plant at Providence. diags plan Elec Ry J 61:725-7 Ap 28 '23
- Pulverized waste coal efficiently burned. E. Britt. diag Elec W 80:776 O 7 '22
- Regulations proposed for installation of pulverized-fuel systems. Elec W 81:697-8 Mr 24 '23
- Rochester plant installs pulverized fuel burning equipment. R. D. DeWolf. diags Power 56:845-7 N 28 '22
- Some pulverized-fuel installations in power plants. Power 57:837 My 29 '23
- Status of pulverized fuel. L. W. W. Morrow. diags Elec W 82:525-32 S 15 '23
- Steps in the use of powdered fuel. J. S. Atkinson. diags Power Pl Eng 27:1033-6 O 15 '23
- Test of boiler fired with powdered coal. Elec W 81:925 Ap 21 '23
- Tests of a powdered-coal plant. H. Kreisinger and others. diags U S Bur Mines Tech Pa 316:1-22 '23
- Volumetric dimensions of boiler furnaces. Engineer 134:217-18 S 1 '22

Rating

- Cast-iron versus steel boilers. S. R. Lewis. Heat & Ven 20:33-6 Ap '23
- Percentage of boiler rating. Power 55:531-2 Ap 4 '22
- See also Boilers, Heating—Rating

Repair

- Brick arch prevents girth-seam troubles. R. L. Bevis. diags Power 57:990 Je 19 '23
- Comments on autogenous boiler welding. C. W. Carter, Jr. Ry Mech Eng 96:656 N '22
- Electrical boiler scaler has flexible shaft. il Pop Mech 39:175 F '23
- First steps in emergencies; what should be done in case a baffle or arch falls. Power Pl Eng 26:531 My 15 '22
- Two boiler shop devices. C. E. Lester. diag Ry Mech Eng 96:637-8 N '22

Safety devices

See Boiler plants—Safety devices and measures

Settings

- Accurate plumbing and heating estimates—how made. H. A. Call. Sanitary & Heat Eng 93:3-5+ Jl 14 '22
- Boiler settings for economical steaming. Z. Kogan. diags Power Pl Eng 27:361-5 Ap 1 '23

- Departure in boiler settings. M. Liptak. il Power 56:380-1 S 5 '22
- Drum suspension for boilers. J. B. Crane. diags Power 58:284 Ag 21 '23
- Height of boilers above floor. F. W. Dean. Power 55:130 Ja 24 '22
- Large combustion chamber in rear of boiler, to which heated air is admitted, increases efficiency. A. F. Brosky. diags Coal Age 21:283-9 F 16 '22
- Patching boiler settings. il Power Pl Eng 25:1124 N 15 '21
- Patching boiler settings with plastic cement. C. F. Pye. diags Power Pl Eng 26:671 Jl 1 '22
- Savings that can be effected by tight boiler settings; proper baffles and reductions in furnace repairs. A. F. Brosky. il Coal Age 21:840-2 My 18 '22
- Setting for burning fuel oil. H. D. Fisher. diags Power Pl Eng 26:287 Mr 1 '22
- Steel-cased boiler settings. E. C. Reed. Eng & Ind Management 7:202 F 16 '22
- Temperatures and gas velocities in boiler settings; results of test on 1000-hp. Stirling boilers. A. W. Binns and C. E. Joos. diag Power Pl Eng 25:1138-9 D 1 '21

Standards

- Simplification of the boiler industry. Power 56:691-2 O 31 '22

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- A B C of heat balance. Power 58:472 S 18 '23
- Calculating the efficiency of boiler seams. R. J. Finch. diags Ry Mech Eng 96:193-6 Ap '22
- Calculation of heat balances of boiler plant. C. F. Wade. Elec R (Lond) 93:309-10 Ag 31 '23
- Control of boiler operation. E. A. Uehling. Mech Eng 44:438-43 Jl '22
- Determination of boiler efficiency. H. B. Jones. diag Power 58:88-91 Jl 17 '23
- Determination of boiler operating factors. D. C. Hess. Ry Mech Eng 97:239-41 Ap '23
- Determining the pressure-drop through a boiler. L. P. Alfred. diag Power 57:768 My 15 '23
- Graphic method for computing heat balance. F. A. Shorkey. charts Blast F & Steel Pl 11:348-54 Je '23
- Heat balance of a boiler. Power 58:626 O 16 '23
- Simplifying the heat balance. A. W. Binns. charts Power Pl Eng 26:795-800 Ag 15 '22; Discussion. 26:1162-5 D 1 '22
- Tests of a large type W Stirling boiler. P. W. Thompson. diags Mech Eng 45:25-31+ Ja '23; Same cond. Power 57:128-31 Ja 23 '23
- See also Steam—Tables, calculations, etc.

Testing

- Accuracy of boiler tests. A. Cotton. Mech Eng 44:427-30 Jl '22; Discussion. 44:430+, 673-4; 45:69 Jl, O '22, Ja '23
- Boiler plant testing; suggestions for an improved international code. D. Brownlie. 168p Dulton '22; Review. Elec R (Lond) 91:430-1 S 22 '22; Power 56:740-1 N 7 '22
- Coal saving by modern methods of steam generation. D. Brownlie. Power 56:146-7 Jl 25 '22; Discussion. F. W. Dean. 56:582 O 10 '22
- Comparative tests on coal and oil burning boilers. S. A. Smith, jr. Power 55:934 Je 13 '22; Discussion. 56:25, 27, 141-2, 297, 466, 698 Jl 4, 25, Ag 22, S 19, O 31 '22
- Effects of large sudden steam discharges from boilers; report of research sub-committee of the American society of mechanical engineers on sudden initial pop lift of safety valves. diags Power Pl Eng 26:1201-4 D 15 '22; Abstracts. Power 56:921-2 D 12 '22; Elec W 81:47-8 Ja 6 '23
- Fuel economy from old power plant equipment. A. R. Mumford. Ry Mech Eng 96:536 S '22
- How to test a boiler. Power 58:270, 543 Ag 14, O 2 '23
- Lakeside electric power station at Milwaukee. D. Brownlie. Engineer 135:490-1 My 4 '23

Boilers—Testing—Continued

Reminiscences of a veteran mechanical engineer, F. W. Dean. diag Power 58:306-7 Ag 21 '23

Small plant equipped for extensive tests to check weekly performance. J. W. Geiger and H. L. Solberg. il Power 58:53-5 Jl 10 '23
Stoker firing of sawmill refuse. Power 58:616 O 16 '23

Test code for stationary steam-generating units. Mech Eng 45:548-58+ S '23

Test of boiler fired with powdered coal. Elec W 81:925 Ap 21 '23

Testing each boiler continuously. D: Brownlie. Power 58:473 S 18 '23

Tests of a magazine feed boiler, with special method of supplying secondary air. J. Blizard, J. Neil and A. Pincus. il diags Am Soc Heat & V E J 28:833-42 D '22

War department turns to fuel oil. W. W. Bowman. il diags Power 58:327-9 Ag 28 '23

See also Boiler plates—Testing; Boilers, Heating—Testing; Boilers, Marine—Testing; Boilers, Water tube—Testing

Wood firing

Boiler backfires. C. L. Ware; and others. Power Pl Eng 26:627-8 Je 15 '22

Generating power from waste. H. S. Bastian. il diags Elec W 79:373-5 F 25 '22

Novel boiler installation for burning wood refuse. C. W. Smith. diags Power Pl Eng 25:1196-7 D 15 '21

Sawdust burned with aid of steam jets. diags Power 54:914-17 D 13 '21

Shavings and refuse as a boiler fuel. E. Winholt. il diags plan Power Pl Eng 26:509-11 My 15 '22

Boilers, Heating

Cracked sections in cast-iron steam heating boilers. Heat & Ven 19:63 D '22

Heating the average home economically. P. J. Dougherty. Am Soc Heat & V E J 28:21-4 Ja '22

New line of heating boilers developed by the Advance boiler corporation, New York. il Heat & Ven 19:62-3 S '22

Percoplate boiler. il Heat & Ven 19:59-60 Mr '22

Smokeless boiler situation in Cleveland and Cincinnati. Heat & Ven 19:49-50 S '22

Standard boiler for a schoolhouse heating plant. E. L. Stammer. diags Am Soc Heat & V E J 27:664-6 S '21

Up-draft versus down-draft smokeless boilers. Heat & Ven 19:29-30 F '22

Water returns to steam heating boilers. diag Am Soc Heat & V E J 28:338-42 Ap '22;

Same cond. Power Pl Eng 26:380-1 Ap 1 '22;

Same cond. Power 55:746-7 My 9 '22

Where to look for trouble on a heating boiler. L. M. Emmet. diag Dom Eng 102:608-9 Mr 31 '23

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By-product coke and other fuels for house-heating boilers. H: Kreisinger and others. U S Bur Mines Tech Pa 315:1-21, pl 1 '23;

Same. Gas Age 52:283-6+ S 8 '23

Firing and cleaning of heating boilers. E. Cunningham. diags Dom Eng 97:572-4 D 24 '21

Gas firing

American radiator co. brings out gas boiler. E. R. Downe. il Gas Age 48:588-9 N 5 '21

Analyzing the house heating load. N. T. Sellman. Gas Age 51:583-6 My 5 '23; Same. Am Gas J 118:409-14 My 12 '23

Baltimore theaters heated by gas. E. B. Milner. Gas Age 51:591 My 5 '23

Cost of heating with gas. Dom Eng 105:223-3 N 3 '23

Denver residence gas-heating experiment. T. M. Foulk and T. G. Storey. il diags Heat & Ven 20:37-43 O '23; Same. Gas Age 52:389-93+ O 6 '23; Same, without table. Am Gas J 119:388-92 O 17 '23

Gas-fired boilers for heating work. C: L. Hubbard. diags Dom Eng 103:324-6, 372-4 My 19-26 '23

Heating with gas fired boilers. E. Newsome. Gas Age 50:295-6 S 2 '22

Personal equation a great factor. H. O. Andrew. il Gas Age 51:589-90 My 5 '23

Plan to convert coal furnace to gas. J. F. Meader. il diag Gas Age 51:577-8 My 5 '23

Town-gas fired boilers; the Spencer-Bone-coat systems. il Gas J (Lond) sup2:164-6 S 26 '23

Typical installations in New York. H. D. Gillingham. il Gas Age 51:559-61 My 5 '23

World's largest gas heating plant. S: S. Fyfe. il Gas Age 49:765-8 Je 24 '22

Manufacture

Preliminary report on rules for the construction of boilers used exclusively for low-pressure steam heating, hot-water heating, and hot-water supply. diags Mech Eng 44:752-8 N '22

Oil firing

Domestic heating with oil and coal. J. Harrington. charts Am Soc Heat & V E J 29:275-81 Ap '23

New data on burning kerosene oil in house-heating boilers. J. Harrington. il charts Heat & Ven 19:41-4 S '22

Rating

How catalog ratings for boilers and radiators are figured. F. B. Howell. charts Dom Eng 101:326-7 N 25 '22; Same. Heat & Ven 19:66-7 D '22; Same. Sanitary & Heat Eng 98:318-20 D 1 '22

Testing

Discussion of code for testing low pressure heating boilers. Am Soc Heat & V E J 28:140 Mr '22

Heat transference and combustion tests in small domestic boiler. J: Blizard and others. il Am Soc Heat & V E J 29:317-43 My '23; Discussion. 29:435-6 Jl '23

Boilers, Locomotive. See Locomotive boilers

Boilers, Marine

Care and upkeep of marine watertube boilers. A. R. Mackay. Marine Eng 28:433-4 Jl '23

Les chaudières marines. M. Demoulin. diags Génie Civil 82:322-7 Ap 7 '23

Economic generation of steam from the naval aspect. R. Beeman. Engineering 114:346-7; Discussion. 338-9 S 15 '22

Economic steam production in marine practice. A. Spyer. diags Engineering 114:344-6; Discussion. 338-9 S 15 '22

Economic steam production with special reference to marine practice. F. Shaw. Engineering 114:349-50 S 15 '22; Discussion. 114:338-9, 363, 470 S 15-22, O 13 '22

Economic steam production with special reference to marine practice; statement by the Fuel research board on home-produced oil fuel. Engineering 114:348; Discussion. 338-9 S 15 '22

Emergency fleet corporation water-tube boilers for wood ships. F. W. Dean. diags Mech Eng 44:99-102+ F '22; Same cond. Power Pl Eng 26:259-62 Mr 1 '22; Abstract. Power 54:964-5 D 20 '21

Federal shipyard building nine 80-ton Scotch boilers. il diags Marine Eng 27:632-7 O '22

Hawthorn-Armstrong water-tube boiler for merchant ships; abstract. Mech Eng 44:267 Ap '22

Instructions for the operation, care, and repair of boilers. 132p U.S. Bur. of engineering, Washington '22

Largest marine boilers in the world. il Dom Eng 97:532 D 17 '21

Marine boiler water treatment. J. B. Patton. diags Marine Eng 27:652-4 O '22

Marine boilers. Marine Eng 27:268-9, 398-9 Ap, Je '22

Mechanical stokers on marine water-tube boilers. W. J. Muller. diags Engineer 136:279-80 S 14 '23; Same. Engineering 116:297-9 S 7 '23; Discussion. Engineer 136:274 S 14 '23; Engineering 116:323 S 14 '23

Naval bureau of engineering tells how to care for boilers. Power 56:861 N 28 '22

New development in marine boilers designed to increase economy of operation. diags Marine Eng 28:352-3 Je '23

Boilers, Marine—Oil firing—Continued

- Operation of water-tube boilers in passenger and cargo ships. R. Clark. diags Mech Eng 45:438 J1 '23
- Possibilities of further economy in marine boilers. J. Reid. il diags Engineering 113: 472-5; Discussion. 448-9 Ap 14 '22; Engineer 133:420 Ap 14 '22
- Practical design of marine single- and double-ended boilers including uptakes. J. Gray. 2d ed., rev. & enl. 124p Van Nostrand '21
- Superheat means fuel economy. Marine R 53: 133-6 Ap '23
- Symposium on economic steam production. Engineer 134:292-3 S 22 '22
- Tuning up the engine and boiler room. W. Bunker. il Marine Eng 28:281-5 My '23
- Eine umwälzung im schiffskesselbau. K. Meerbach. il diags Stahl & Eisen 41:1654-8 N 17 '21
- Water-tube boiler with underfeed stoker for shipboard. il diags plan Engineering 113: 534-6 My 12 '22

See also Marine engines

Firing

- Fuel economy in shipping board vessels. R. D. Gatewood. Marine Eng 28:22-3 Ja '23
- Mechanical stoking at sea. il diags Engineer 135:46 Ja 12 '23
- Set fuel standard for 502-foot U. S. liners. il Marine R 53:1-3 Ja '23

Gas firing

- Exhaust gas water-tube boiler. diags Engineer 135:455 Ap 27 '23

Oil firing

- Automatic oil shut-off for oil-fired boilers. il Marine Eng 27:330 My '22
- Conversion of the Berengaria from coal to oil fuel burning. Engineer 133:517 My 12 '22
- Economic generation of steam from the naval aspect. R. Beeman. Engineering 114:346-7; Discussion. 338-9 S 15 '22
- Efficiency of the Scotch marine boiler. C. J. Jefferson. il diags Mech Eng 45:220-2 Ap '23; Same. Marine Eng 28:615-18 O '23
- Foettinger transformers on a liner. il Engineer 134:84 J1 28 '22
- Front arches and retarders aid combustion in oil burning furnaces. il diags Marine Eng 27: 651 O '22
- Fuel question. R. E. Annin. Marine Eng 27: 159-61 Mr '22
- Hudson river day line steamer De Witt Clinton converted to oil burner. il Marine Eng 28:415 J1 '23
- Marine fuel problem of the Pacific coast. D. Dorward, jr. Mech Eng 44:657-9 O '22; Same. Marine R 53:226-8 Je '23
- Mauretania converted into an oil burner. Marine Eng 27:307 My '22
- Oil burning affords great opportunity for economy. J. S. Milne. Marine Eng 28:286 My '23
- Oil burning steamship Fezara. il diags Engineer 135:608, 611-14 Je 8 '23
- Oil fuel installation of the Majestic. diags Engineering 114:76-7 J1 21 '22
- Quick way to find fuel costs. A. H. Jansson. Marine R 53:422-3+ N '23
- Removing oil residue from ship tanks. il diags Marine R 53:269-71 J1 '23
- Todd oil burning equipment to be installed on passenger and freight vessels. il Marine Eng 27:706-8 N '22
- Trials of the Fezara. il Engineer 135:172-3 F 16 '23

Testing

- Boiler capacities obtainable per cubic foot of furnace volume. T. B. Stillman. diags Power 55:171-3 Ja 31 '22
- Efficiency of the Scotch marine boiler. C. J. Jefferson. il diags Mech Eng 45:220-2 Ap '23; Same. Marine Eng 28:615-18 O '23
- Testing marine boilers in France. A. M. Thachara. Marine Eng 28:234 Ap '23

Boilers, Mercury

- Perfectionnements aux chaudières à vapeur de mercure. diags Génie Civil 81:528 D 2 '22

Safety devices and measures

- Safety precautions with the mercury boiler. Power 58:397 S 4 '23

Boilers, Range

- New standards adopted for range boilers. H. A. Call. diags Sanitary & Heat Eng 100:271-3+ N 2 '23

Boilers, Waste heat

- Application and performance of waste-heat boilers. H. B. Smith. Mech Eng 44:513-15 Ag '22; Same cond. Chem & Met Eng 27: 267-8 Ag 9 '22
- British practice in waste heat utilization. C. H. S. Tupholme. il diags Power Pl Eng 26: 994-6 O 15 '22
- Recent developments in connection with gas-fired steam-boilers and the utilization of waste heat for steam-raising purposes. W. Gregson. Gas J (Lond) 162:351-5 My 9 '23
- Test of unique waste heat boiler. W. D. Stewart. il charts Gas Age 51:235-7 F 24 '23
- Utilizing steam from waste-heat boilers. il Foundry 50:719-20 S 1 '22; Same. Iron Tr R 71:995 O 12 '22
- Waste heat boilers in steel plants. J. C. Hayes. Blast F & Steel Pl 10:355-6 Je '22
- Waste heat from cement kilns operates entire mill. H. A. Schaffer. Chem & Met Eng 29:18-19 J1 2 '23

Boilers, Water tube

- Adams water-tube boiler. diags Power 55:342 F 28 '22
- Boiler problem. Engineering 114:681-2, 710 D 1-8 '22
- Care and upkeep of marine watertube boilers. A. R. Mackay. Marine Eng 28:433-4 J1 23 '23
- La chaudière Atmos, à tubes d'eau rotatifs, fonctionnant à la pression de 100 kilogr. par centimètre carré. diags Génie Civil 83:259 S 15 '23
- Les chaudières de la station centrale de Kensington, à Philadelphie. diags Génie Civil 79:522-3 D 10 '21
- Clayton and Shuttleworth sectional type and bent-tube type boilers. diags Engineer 133: 644 Je 9 '22
- Combined cylindrical and water-tube boiler. diags Mech Eng 45:559 O '23
- Constructional defects in water-tube boilers. R. Schirmer. diags Mech Eng 45:365-6 Je '23
- Design features of new 1200-lb. boilers. diags Power Pl Eng 27:637-S Je 15 '23
- Developments in power station design. diags Engineer 132:613-14; 133:41 D 9 '21, Ja 13 '22
- Emergency fleet corporation water-tube boilers for wood ships. F. W. Dean. diags Mech Eng 44:99-102+ F '22; Same cond. Power Pl Eng 26:259-62 Mr 1 '22; Abstract. Power 54:964-5 D 20 '21
- High boiler efficiency with low furnace temperatures. C. E. Stromeyer. diags Power 57:655 Ap 24 '23
- High superheat from Adams type boiler. diags Power Pl Eng 27:548-9 My 15 '23
- Improved water-tube boilers. il diags plan Engineer 134:166-8 Ag 18 '22
- Kestner vertical water-tube boiler. diags Mech Eng 45:495-6 Ag '23
- Mechanical stokers on marine water-tube boilers. W. J. Muller. diags Engineer 136: 279-80 S 14 '23; Same. Engineering 116:297-9 S 7 '23; Discussion. Engineer 136:274 S 14 '23; Engineering 116:323 S 14 '23
- New boiler designed for liquid fuel. il diags Pop Mech 39:897 Je '23
- Operation of water-tube boilers in passenger and cargo ships. R. Clark. diags Mech Eng 45:438 J1 '23
- Page cross-drum water-tube boiler. il Power 56:16 J1 4 '22
- Spearing water-tube boiler. il diags Elec R (Lond) 90:652-4 My 12 '22; Electrician 88: 562-3 My 12 '22
- Steam, its generation and use. 35th ed. 335p Babcock & Wilcox co., New York '22
- Stirling water-tube boiler. 105p Babcock & Wilcox co., New York '22

Boilers, Water tube—Continued

- Swedish boiler operates at pressure of 1,500 pounds. E. Lundgren. *il diags Power* 57:233-41 F 13 '23; Same cond. *Mech Eng* 45:253-4 Ap '23; Discussion. L. Cammen. *Power* 57:942-3 Ja 12 '23
- Water-tube boiler and crane construction. J. H. R. Kennal. *il diags Engineering* 115:815-17 Je 29 '23; Abstract. *Engineer* 135:695 Je 29 '23; Discussion. *Engineering* 115:809 Je 29 '23; *Engineer* 135:695-6 Je 29 '23
- Water-tube boiler fitted for burning brown coal. *diags Engineering* 113:257 Mr 3 '22
- Water-tube boiler with underfeed stoker for shipboard. *il diags plan Engineering* 113:584-6 My 12 '22
- Yarrow land type boiler. *il diags plan Engineer* 135:638-40 Je 15 '23; Abstract. *Mech Eng* 45:494-5 Ag '23

Cost

- Choosing the boilers for Detroit municipal plant. *Power* 58:345-6 Ag 28 '23; Same abr. *Elec W* 82:398 Ag 25 '23

Testing

- Tests of a large type W Stirling boiler. P. W. Thompson. *diags Mech Eng* 45:25-31+ Ja '23; Same cond. *Power* 57:128-31 Ja 23 '23
- Tests of a powdered-coal plant. H. Kreislinger and others. *diags U S Bur Mines Tech Pa* 316:1-22 '23

Boiling points

- Application of a differential thermometer in ebullioscopy. A. W. C. Menzies and S. L. Wright, jr. *diags Am Chem Soc J* 43:2314-23 N '21
- Boiling point of salt solutions under various pressures. E. M. Baker and V. H. Waite. *diag Am Inst Chem Eng Trans* v 13 pt 2: 223-32 '20-21; Same. *Chem & Met Eng* 25:1137-40 D 21 '21
- Boiling points of ammonia, sulfur dioxide, and nitrous oxide. F. W. Bergstrom. *diags J Phys Chem* 26:876-94 D '22
- Comparison of the normal boiling temperatures of undesiccated sulfur as measured by the dynamic and the static methods. A. W. C. Menzies. *Am Chem Soc J* 45:327-31 F '23
- Vapor pressure of the system calcium chloride-water. E. M. Baker and V. H. Waite. *bibliog Am Inst Chem Eng Trans* v 13 pt 2:233-42 '20-21; Same. *Chem & Met Eng* 25:1174-8 D 28 '21

See also Flash point

Boise City, Idaho**Parks**

- Electrically equipped auto park is municipal asset in Boise. *il J Elec* 50:135 F 15 '23

Bok advertising awards. See Harvard advertising awards**Bok peace prize. See Peace****Bolivia**

See Hydroelectric plants—Bolivia; Railroads—Bolivia

Bolivia cloth

- Finish for lower qualities of bolivia. *il Textile World* 63:463+ Ja 27 '23
- Layouts for bolivia cloth. *il Textile World* 62:1125-6 S 9 '22

Boll weevils

- Boll weevil fighters offered new weapons. *Oil Paint & Drug Rep* 103:79 F 26 '23
- Boll weevils destroyed by vacuum machine. *il Pop Mech* 39:700 My '23
- Calcium arsenate for boll weevil control, and the arsenic situation. H. W. Ambruster. *Chem & Met Eng* 26:1155-8 Je 21 '22
- Chemical warfare will control boll weevil. B. R. Coad. *il map Textile World* 61:651+ F 4 '22
- Chemist and boll-weevil control. L. Johnson. *Chem Age* 30:332 Jl '22
- Col. Harvie Jordan's report to New York cotton exchange on results of campaign against boll weevil. *Comm & Fin Chr* 117:854-6 Ag 25 '23
- Coöperative state fight against boll weevil. *il Pop Mech* 39:512 Ap '23

- Damage to this season's cotton crop through boll weevil ravages estimated at \$750,000,000 by President of New York cotton exchange. *Comm & Fin Chr* 117:747 Ag 18 '23
- Electricity to aid in war against boll weevil. *Pop Mech* 40:538 O '23
- Fighting boll weevil by means of airplanes. *il Aviation* 15:210-12 Ag 20 '23
- Florida method of boll weevil control—90% of normal crop assured. *Comm & Fin Chr* 115:2442-3 D 2 '22
- Getting along with the boll weevil. H. A. Mount. *il map Sci Am* 128:94-5 F '23
- Record boll weevil damage. *Textile World* 62:3672-3 D 30 '22
- Suction machine destroys cotton boll weevil. *il Pop Mech* 38:193-4 Ag '22
- Suspension of cotton planting for one year proposed by Senator Smith to exterminate boll weevil. *Comm & Fin Chr* 115:1160-1 S 9 '22
- Urges measures by southern states to prevent boll weevil spread. *Comm & Fin Chr* 115:2643-6 D 16 '22

Bolshevism

- Conferences with soviets mean yielding to destruction. W. E. Walling. *Comm & Fin Chr* 114:2304 My 27 '22

Bolting reels

- New bolting reel. *il Chem & Met Eng* 28:1123 Je 25 '23

Bolts and nuts

- Drift-bolt puller speeds renewal of Lucin trestle deck. *il diags Eng. N* 87:787 N 10 '21
- Electrive screw and nut setting tools. *il Am Mach* 57:275 Ag 17 '22; *Iron Age* 110:146 Jl 20 '22; *Automotive Ind* 47:78 Jl 13 '22
- Experimental use of liquid air and explosives for tightening body-bound bolts. H. L. Whittemore. *Am Mach* 56:524-6 Ap 6 '22
- Foundation bolts for steam engines. W. H. Wakeman. *diags Power* 54:975-6 D 20 '21
- Heat-treated bolts. H. L. Signor. *il Elec Ry J* 61:184 Mr 17 '23
- Heat treated bolts for railway service. *il Elec J* 19:349-50 Ag '22
- Machine shop accessory equipment. *il Iron Age* 109:1063 Ap 20 '22
- Making small shoulder studs in double lengths. K. H. Crumrine. *diags Am Mach* 57:933 D 14 '22
- Methods of machine tool design. A. L. DeLeeuw. *diags Am Mach* 57:563-4 O 12 '22; Discussion. A. Clegg. 58:546 Ap 12 '23
- Positive self-opening stud setter. *il Ry Mech Eng* 96:353 Je '22
- Standardization of locomotive repair parts. M. H. Williams. *Ry Mech Eng* 97:645-7 S '23
- Stud bolts. L. M. Curry. *diags Mach* 29:113 O '22
- Tapped holes for stud bolts. A. Ericson. *Mach* 28:865 Jl '22
- Unsymmetrical bolt spacing. H. M. Phillips. *diags Power* 56:23 Jl 4 '22

See also Staybolts

Manufacture

- Acme hot-pressed nut machine. *il Am Mach* 55:980-1 D 15 '21
- Burnishing bolts in quantity. D. C. Oviatt. *diag Mach* 28:731 My '22
- Cook bolt and capscrew shaving machine. *il Am Mach* 57:665 O 26 '22
- Drill press converted to automatic nut countersinking machine. C. Kotersall. *diags plan Am Mach* 56:676 My 4 '22
- Economical method of castelling nuts. F. M. Weston, jr. *diag Am Mach* 58:421 Mr 15 '23
- Heat treating cold headed bolts. V. E. Hillman. *il diag Iron Tr R* 70:538-41 F 23 '22; Abstract. *Am Mach* 56:471 Mr 30 '22; Same. *Engineer* 133:591 My 26 '22
- Machine-forged safety chain bolts. *il diag Ry Mech Eng* 97:54-5 Ja '23
- Milling a multi-threaded nut. R. D. Fox. *il Am Mach* 56:111-12 Ja 19 '22
- Nut castelling and hexing machine. *il diag Mach* 28:922-3 Jl '22; *Am Mach* 57:36 Jl 6 '22

Bolts and nuts—Manufacture—Continued

Semi-hot bolt and rivet header with automatic feed. *il* *diag* Ry Mech Eng 97:187-8 Mr '23
Strength of bolt threads as affected by inaccurate machining. G. M. Deming. *il* Mech Eng 45:583-5 O '23

Specifications

Recommended standard dimensions for ball studs. Soc Auto Eng J 10:487 Je '22; Same. Automotive Ind 46:1332 Je 15 '22

Standards

Bolt head and nut standards. Am Mach 57: 781 N 16 '22
National screw thread commission considers standards for bolts and wrenches. Iron Tr R 71:935 O 5 '22
Standardization of nuts and bolts. A. J. Schwartz. *diags* Mach 29:344 Ja '23

Testing

Determining the impact loads on track bolts. *il* Ry Age 73:277-8 Ag 12 '22

Bombay, India

Cost of living of the working classes in Bombay. Monthly Labor R 17:87-91 Jl '23

Railroads

To improve railway terminals at Bombay, India. map Eng N 89:485 S 21 '22

Water supply

Bombay water supply. map Engineer 135: 281-2, 304-5 Mr 16-23 '23

Bombs

Bombs and bomb plots; history and construction of the terrorist's favorite weapon. R. A. Giles. *il* Sci Am 128:226-7 Ap '23

Bombs, Aerial

Aerial bombardment maneuvers with warships. Aviation 15:190 Ag 13 '23

Aerial torpedo is called bloodhound of the sky. Pop Mech 49:588 O '23

Bomb dropping. Soc Auto Eng J 10:63-4 Ja '22

Bombing and bombing sights. E. J. Loring. *il* *diags* Sci Am 126:49-51 Ja '22

Bombing of the U.S.S. Ex-Iowa and the former German ships. F. J. Cleary. Mech Eng 44:131+ F '22

Bombs sink battleships Virginia and New Jersey. *il* *diag* plan Aviation 15:330-4 S 17 '23

Effect of bomb attack on warships. *il* Engineer 133:298, 299 Mr 17 '22

4000-pound demolition bomb; a means for detonating 2000 pounds of T.N.T. on a selected target. W. A. Borden. *il* Sci Am 125A:94-5 D '21

Has sea power passed? an authoritative exposé of the extravagant claims of the air enthusiasts. A. Gleaves. *il* Sci Am 129:313-14+ N '23

Monster demolition bomb weighing 4,000 pounds. *il* Pop Mech 38:919 D '22

Torpedo planes hit Atlantic fleet. *il* Aerial Age 15:540-1 N '22

Bon voyage gifts

Finding the friends of voyagers. J. B. Twain. Ptr Ink M 4:46+ My '22

Bond bread. See Bread—Advertising**Bonds**

Acme tables of bond values. 773p Financial pub. co., Boston '23

Chicago stock exchange record of prices for 1922. Comm & Fin Chr 116:349 Ja 27 '23

Corporation bonds in 1922. W. H. Gehe. Comm & Fin Chr 116:351 Ja 27 '23

Course of prices of railroad and miscellaneous bonds, 1921. Comm & Fin Chr 114:38-45 Ja 7 '22

Course of prices of railroad and miscellaneous stocks and bonds, at the New York stock exchange, 1922. Comm & Fin Chr 116:34-42 Ja 6 '23

Course of study for bond salesmen. R. L. Smitley. 64p Dixie business book shop, 140 Greenwich st., New York '23

Distinction between federal land bank bonds and joint stock land bank bonds. Comm & Fin Chr 116:773-5 F 24 '23

Handbook of listed foreign bonds. 55p McKinley & Morris. New York '21

New styles in bond holders. F. Flachy, jr. Nation's Business 10:24-5 Ag '22

New York stock exchange bond transactions 1921. Annalist 19:97-102 Ja 9 '22

New York stock exchange bond transactions 1922. Annalist 21:106-10 Ja 8 '23

Premium bond values tables. 49p Financial pub. co., Boston '22

Railway and industrial stocks and bonds. Comm & Fin Chr Railway and industrial section 114:1-239 My 27 '22 [Issued semi-annually, May and November]

Salesman's service manual. W. R. Gaus and W. E. Mittelstaedt. 432p B. H. Tyrrel, New York '22

Selecting suitable bonds for retailing by banks. P. A. Freeman. Comm & Fin Chr 115:724-6 Ag 12 '22

Stock exchange bond trading. See weekly numbers of the Annalist

Survey of the year in the financial district; stocks, bonds, exchange, money. Annalist 19:86-92 Ja 9 '22

Survey of the year in the financial district; stocks, bonds, exchange, money. Annalist 21:92-100 Ja 8 '23

Tables of short time bond values. 453p Financial pub. co., Boston '21

Ten-year profile of average prices on the New York stock exchange. Annalist 19:72-3 Ja 9 '22

Trend of bond prices—average of 40 listed issues. See weekly numbers of the Annalist
Universal bond values tables. 548p Financial pub. co., Boston '21

See also Municipal bonds; New York stock exchange; Railroads—Securities; Securities; Stock exchange; Stocks

Advertising

Telling weak points of advertised article aids sales. Ptr Ink 123:117-18 My 24 '23

Who is a bond salesman? Ptr Ink 117:61-2 D 22 '21

See also Bonds, Government—Advertising; Investments—Advertising

Bonds, County. See County bonds

Bonds, Government

Course of prices of U.S. government securities for the year 1921. Comm & Fin Chr 114: 46 Ja 7 '22

Course of prices of government securities for the year 1922, at the New York stock exchange. Comm & Fin Chr 116:42 Ja 6 '23

Dealings in foreign government securities at New York stock exchange in 1921. Comm & Fin Chr 114:52 Ja 7 '22

Dealings in foreign government securities at New York stock exchange in 1922. Comm & Fin Chr 116:49 Ja 6 '23

Foreign government bond issues in 1921. Comm & Fin Chr 113:2663-5 D 24 '21

Foreign government securities—1922. Annalist 21:97 Ja 8 '23

House passes bill for payment of liberty bond purchasers in failed banks. Comm & Fin Chr 113:2244 N 26 '21

Offering of \$100,000,000 bonds of the Dominion of Canada. Comm & Fin Chr 114:1842-3 Ap 29 '22

Treasury savings and business men. B. M. Grant. Am Ind 22:25-6+ F '22

United States and municipal bonds. Published in monthly Bank and quotation section of Commercial and financial chronicle

See also County bonds; Municipal bonds; Taxation, Exemption from

Advertising

Government seeks sale of securities by teaching the philosophy of thrift. Ptr Ink 123: 70+ My 17 '23

Bonds, Municipal. See Municipal bonds

Bonds, Rail. See Rail bonds

Bone black

Color and ash absorption by boneblack and decolorizing carbons. W. D. Horne. J Ind & Eng Chem 14:1134-6 D '22

Decolorizing action of bone-black. C. H. Hall, jr. J Ind & Eng Chem 14:18 Ja '22

Decolorizing action of bone black. P. M. Horton. Ind & Eng Chem 15:519-20 My '23

Manufacture of bone blacks. Can Chem & Met 6:181-2 Ag '22

Bonner, Robert, 1824-1899

Robert Bonner, printer, the pioneer big advertiser. H. L. Bullen. por Inland Ptr 70:705-6 F '23

Bonus system

Award system as a means of preventing accidents. G. B. Anderson. Elec Ry J 62:566-8 O 6 '23

Bonus for boiler room employees. R. June. Gas Age 48:814-15 D 17 '21

Bonus given in Racine for saving energy. Elec Ry J 61:927-8 Je 2 '23

Bonus schemes and boiler-house economy. C. F. Wade. Elec R (Lond) 92:469-70 Mr 23 '23

Bonus system for train service employees. Ry Age 73:639-40 O 7 '22

Bonus wage for making crates. P. L. Dildine. Ind Management 63:174 Mr '22

Burning refractories with special reference to the control of labor costs. L. C. Hewitt. Am Cer Soc J (Bul) 6:109-16 My '23; Discussion. (Bul) 6:305-7 S '23

Effect of rate setting on labor costs. W. O. Lichtner. Ind Management 64:169-72 S '22

Establishing a small engineering works. A. Whitehead. Ind Management (Lond) 8:314-16 N 30 '22

Federal taxes and employee's bonus. H. A. Finney. J Account 34:457-63 D '22

Financial incentives for employees and executives. D. Bloomfield. v 1, p 111-325 H. W. Wilson co. '23

Future of the bonus in industry. H. B. Hayden. Ind Management 63:281+ My '22

Giving employees a goal to work toward. W. Maxwell. System 40:702-3+ D '21

Group bonus plan that reduces costs. J. R. Rogers. il Factory 30:533-40 My '23

Group-bonus wage-incentive plan. E. K. Wennerlund. Soc Auto Eng J 11:402-6 N '22

Same cond. Automotive Ind 47:355-8 N 2 '22; Excerpts. Am Mach 57:851-2 N 30 '22; Discussion. Soc Auto Eng J 12:27-30 Ja '23

How to sell a bonus plan to workers—and have it stay sold. J. H. Delany. Factory 30:702-5 Je '23

Making the motor truck pay better. Factory 29:544+ N '22

Merit system promotes efficiency among bus operators. Bus Transportation 1:291 My '22

Merit system works well in Los Angeles. J. G. Jeffery. Elec Ry J 61:721-2 Ap 28 '23

New departmental bonus system. E. F. Roberts. Ind Management 65:43-5 Ja '23

Novel bonus plan of the United engineering & foundry co., Pittsburgh. Iron Age 112:145 Jl 19 '23

Production up 60%; costs down 60%. E. S. Allen. il Factory 29:525-6+ N '22

Progress chart and the bonus method. B. A. Franklin. Management & Adm 6:327-32 S '23

Saving losses by paying men. J. U. Morris. Power Pl Eng 26:1114-15 N 15 '22

Sharing gains with employees. W. L. Churchill. Management & Adm 6:203-6 Ag '23

Some details in the application of a bonus on operation and maintenance. A. A. Frank. Ind Eng 81:4-10+ Ja '23

Survey of delivery operations. H. B. Wess. Administration 5:685-94 Je '23

Thrift as a gauge of an employee's value. A. C. Fuller. Factory 31:301-2 S '23

Time and motion study vs. red tape wage systems. G. G. Thompson. Am Mach 56:844-5 Je 8 '22

See also Piece work; Time study

Book industries and trade

See also Bookbinding; Booksellers and bookselling; Paper industry and trade; Printing; Publishing; also Subscription book association

Advertising

Book publishers find co-operative advertising copy theme. Ptr Ink 119:81-2 Ap 20 '22

Book publishers try interesting experiment in co-operative advertising. Ptr Ink 117:8+ D 15 '21

Can books be merchandised; Alfred A. Knopf, advertising the Borzoi imprint. J. Henle. Ptr Ink 123:33-4+ My 3 '23

Co-operative advertising that is selling books for four publishers. Ptr Ink 124:115-16 S 27 '23

400-page book that sells books; George H. Doran company uses a new idea. Ptr Ink 121:84+ D 14 '22

Million-dollar campaign. E. E. Calkins. Ptr Ink 119:61-2+ Je 22 '22

Book plates. See Bookplates

Book reviewing

Book reviewer's job. Inland Ptr 71:869 S '23

Bookbinding

Books bound in human skin. N. J. Werner. Inland Ptr 69:512 Jl '22

Improved continuous book trimmer. il Pop Mech 38:508 O '22

Our viewpoint on management cut our costs 20%; J. F. Tapley company. E. W. Palmer. il plan Factory 30:269-73+ Mr '23

Problems in cutting leather corners—elimination of waste. E. R. Mason. diags Inland Ptr 69:395-6 Je '22

See also Marbling

Accounting

Accounting for a printing and bookbinding business. A. L. Beaujon. J Account 34:91-9 Ag '22

Bookkeeping

Bookkeeping exercises. 148p South-western pub. co., Cincinnati '21

Bookkeeping for the small plant. C. J. Morrison. Am Mach 59:19-21 Jl 5 '23

Critical analysis of typical bookkeeping systems. K. Jorgensen. Am Gas Assn Accounting sec v 4:97-121 '22

Mechanical control of consumers' bookkeeping. F. G. Barrie. il charts Am Gas J 117:289-300+ S 30 '22

Modern commercial bookkeeping. A. W. Dudley. 200p Accredited schools supply co., Des Moines, Ia. '21

New accounting. R. Forsodi. 127p Dodd '22

New modern illustrative bookkeeping; elementary and advanced courses. E. C. Mills and C. E. Leslie. 325p Am. book co., New York '23

New modern illustrative bookkeeping; elementary course—journal method. E. C. Mills and C. E. Leslie. 152p Am. book co., New York '23

Plan of customers' accounting in use by the Consolidated gas, electric light & power company of Baltimore; bookkeeping without books. W. H. Cassell. Am Gas Assn Accounting sec v 4:76-96; Discussion. 108-13 '22

Progressive problems in bookkeeping and accountancy. W. R. Hayward and I. Price. 149p Macmillan '22

Risque's bookkeeping and business management. F. W. Risque. 189p U.P.C. book co. '22

Simplified accounting for the small plant or contractor. Ind Management 64:89-94 Ag '22

20th century bookkeeping and accounting. J. W. Baker. 15th ed. 384p South-western pub. co., Cincinnati '22

Twenty twenty-minute lessons in bookkeeping. F. L. Beach. 124p Ronald press '21

See also Accounting; Auditing; Cost accounting; Inventories; Vouchers; also subdivision Accounting under names of industries

Bookkeeping machines

General accounting with bookkeeping machines. R. P. Peery. Elec Ry J 61:413-14 Mr 10 '23

Machine bookkeeping experience. W. H. Barton. il Gas Age 48:805-9 D 17 '21

Bookkeeping machines—Continued

Machine bookkeeping speeds accounts at the mine. J: C. McNeil. Coal Age 24:319-22 Ag 30 '23

See also Calculating machines

Booklets. Advertising. *See* Advertisements—Books and booklets

Bookplates

Genesis of book plates. J. B. Arnold. il Inland Ptr 71:665-7 Ag '23

Books

Concerning books. J. B. Arnold. il Inland Ptr 71:817-20 S '23

See also Bibliography; Cataloging; Classification—Books; Libraries; Printing; Publishing; Thumb indexing

Sizes

Portable printing. R. L. Bartholomew. Ptg Art 41:157-8 Ap '23

Books and reading

What should a railroad man read? Ry R 72: 662-4 Ap 11 '23

Booksellers and bookselling

Manufacturer finds novel way to get new dealers. Ptr Ink M 4:58+ F '22

Weeding out poor mail order risks. Ptr Ink M 7:104+ Ag '23

Booksellers' catalogs. *See* Catalogs, Booksellers'

Boosters, Gas. *See* Gas boosters

Boosters, Locomotive. *See* Locomotives—Boosters

Boots and shoes. *See* Shoes

Borates

See Borax; Colemanite; Priceite

Borax

Elimination of borates from American potash. W: H. Ross and W: Hazen. il Chem & Met Eng 27:167-70 Jl 26 '22

Is borax a deleterious constituent of fertilizer? Chem & Met Eng 27:757 O 11 '22

See also Colemanite

Bordeaux mixture

Chemical, physical, and biological properties of Bordeaux mixtures. O. Butler. bibliog Ind & Eng Chem 15:1039-41 O '23

Powdered Bordeaux mixture. R. H. Robinson. Ind & Eng Chem 15:941-2 S '23

Borden company

How Borden put the help back into its dealer helps. A. H. Deute. Ptr Ink 117:3-4+ D 8 '21

3d annual report—for the fiscal year ended December 31, 1921. Comm & Fin Chr 114: 1913-14 Ap 29 '22

11th annual report for the fiscal year ended December 31, 1922. Comm & Fin Chr 116: 1554-5 Ap 7 '23

Borders (printing)

Border with a mission. R. M. Rhodes. Ptr Ink M 4:87 Mr '22

Novelty through unusual use of border. Inland Ptr 68:353-5 D '21

Borers (animals)

All-devouring marine borer. il Sci Am 125: 388-9 Je '23

Close-up of some wood borers. il Eng N 89: 889 N 23 '22

Concrete-boring mollusks. il Eng & Contr (Ry) 59:1396-7 Je 20 '23

Destructive action of marine borers. H. von Schrenk. Can Eng 43:390-2 S 26 '22; Same abr. Eng & Contr (Bldgs) 58:47-50 O 25 '22

Marine borers. W. G. Atwood. il Am Soc C E Pro 48:1408-24 Ag '22

Marine borers and structures in San Francisco bay. Eng & Contr 57:165 F 15 '22

Marine borers attack piling along Atlantic coast. il map Ry Age 73:1083-5 D 9 '22

Mollusk borer attacks concrete pile protection. il Ry R 72:690-4 Ap 21 '23

Progress being made in study of marine borers. il Eng N 89:941 N 30 '22

Progress of marine borer studies in New York. Eng & Contr 58:310 S 27 '22; Same. Eng N 89:475-6 S 21 '22; Same cond. Can Eng 43:413 O 3 '22

Reinforced concrete piers and marine borers. N. W. Twelveteers. Can Eng 43:574-6 N 28 '22

Remarkable picture of marine wood borers. il Pop Mech 39:202 F '23

Report on the San Francisco Bay marine piling survey. Rev. ed. 104p American wood preservers' assn., San Francisco '21

Rock boring mollusks attack concrete pile jackets. C. A. Kofoid and R. C. Miller. il Eng N 90:499-500 Mr 15 '23; Discussion. 90: 635-6, 894 Ap 5, My 17 '23

Sulphuric acid tank leaks caused by wood borers. C. E. Cresse. il Chem & Met Eng 26:111 Ja 18 '22

Wood borers increase activity over large area; progress report of Marine piling survey. Ry Age 74:1159-60 My 12 '23

See also Crayfish; Teredos

Boric acid

Détermination de l'acide borique. W. Strecker and E. Kannappel. Chimie & Ind 9:691-2 Ap '23

Power and boric acid from natural steam in Tuscany. il Soc Chem Ind J (Chem & Ind) 42:1022-4 O 26 '23

Über die borsaure-ester der oxy-anthrachinone. O: Dimroth and T. Faust. Deutsche Chem Gesell Ber 54:3020-34 D '21; Abstract. Chem Soc J 122 pt 1:155-7 F '22

Boring. *See* Drilling and boring (earth and rocks)

Boring bars

Boring bar for air cylinders. J. H. Hahn. il diags Ry Mech Eng 96:323 Je '22

Boring bar for stellite tools. G. Phelps. diags Am Mach 59:223-4 Ag 9 '23

Boring Mallet hinge castings. J. H. Hahn. il diags Ry Mech Eng 97:301-2 My '23

Details of diamond boring tools. G. T. Linting. diags Am Mach 57:949-50 D 21 '22

Manufacturers' equipment co. expansion boring bar. il Am Mach 57:825 N 23 '22

New piloted boring bar developed. il Automotive Ind 49:483 S 6 '23

Portable bar for boring operations. Elec Ry J 62:381 S 8 '23

Boring machinery. *See* Drilling and boring machinery

Borneo

See also Petroleum—Borneo

Description and travel

Wild man of Borneo as he is today. F. Burnett. il Pop Mech 40:862-4 D '23

Bornyl chloride

Über die gleichgewichts-isomerie zwischen bornylchlorid, isobornylchlorid und camphenchlorhydrat. H. Meerwein and K. van Emster. Deutsche Chem Gesell Ber 55:2500-28 S '22; Abstract. Chem Soc J 122 pt 2: 751-4 N '22

Bornylene

Action of hypochlorous acid on bornylene. G: G. Henderson and J: A. Mair. Chem Soc J 123:1155-61 My '23

Zur darstellung des bornylens. H. Meerwein and J. Jousen. Deutsche Chem Gesell Ber 55:2529-33 S '22

Boron

Boron mixtures. E: D. Gleason. Metal Ind 20: 337-8 S '22

Characteristic X-rays from boron and carbon. A. L. Hughes. diags Philos Mag 6th ser 43:145-61 Ja '22

Facts about one phase of chemistry. A. Gradewitz. Brass W 17:314 N '21; Same. Sci Am 125A:10 N '21

Isotope ratio of New Zealand boron. A. D. Monro. Chem Soc J 121:986-8 Je '22

Das ternäre system eisen-bor-kohlenstoff; abstract. R. Vogel and G. Tammann. diags Stahl & Eisen 43:826-8 Je 21 '23

Boron compounds

Darstellung von organischen bor-verbindingen mit hilfe von borfluorid: boralkyle und alkyl-borsäuren. E. Krause and R. Nitsche. Deutsche Chem Gesell Ber 54:2784-91 N '21

Boron hydrides

Boron hydrides. M. L. Huggins. J Phys Chem 26:833-5 D '22

Boron hydrides; the simplest boron hydrides. A. Stock and E. Kuss. Chem Soc J 124 pt 2:408-10 Je '23

Boron oxides

Bortrioxyd-hydrate als bestandteil hoch-phosphorescenz-fähiger, organische verbindungen enthaltender systeme. E. Tiede and P. Wulff. Deutsche Chem Gesell Ber 55:588-97 F '22

Boron triphenyl

Darstellung von organischen bor-verbindungen mit hilfe von borfluorid; bortriphenyl und phenyl-borsäure. E. Krause and R. Nitsche. Deutsche Chem Gesell Ber 55:1261-5 My '22

Boston, Massachusetts

Boston asks students' aid in solving city problems. Eng N 89:944 N 30 '22

Boston Metropolitan planning commission created. Eng N 91:15 JI 5 '23

Report of the sub-committee on the form of memorial to soldiers, sailors and marines, to be erected by the city of Boston. il plans Am Arch 121:89-92 F 1 '22

Architecture

Municipal building for the city of Boston. il plans Am Arch 123:546n-p, 547-8 Je 20 '23

Harbor

Great ports of the nation—Boston. J. M. Curley. il map Am Ind 23:23-6 D '22

Port of Boston. 161p U.S. Engineer dept., Bd. of engineers for rivers and harbors, Washington '22

Museum of fine arts

Sargent decorations in the Boston Museum of fine arts. C. H. Blackall. il Am Arch 121:211-4 Mr 29 '22

Rapid transit

Boston must pay traction deficit. Elec Ry J 60:920 D 9 '22

Boston transit conditions analyzed. Elec Ry J 61:201-2 F 3 '23

Boston's serious transportation problem. Aera 11:1332-7 My '23

Co-ordinated train and motor bus service in Boston. E: Dana. diags Elec Ry J 62:559-60 O 6 '23

\$5,500,000 electrification project at Boston. Elec Ry J 61:1056 Je 23 '23

See also Boston Elevated railroad

Sewerage

Metropolitan sewerage works. R. W. Loud. bibliog il diags map plans Boston Soc C E J 10:325-74 O '23

Water supply

Boston high pressure fire system and general problem of special fire service. F. A. Mc Innes. N E Water Works Assn J 36:483-94 D '22

Proposed extension of the Metropolitan water district. X. H. Goodnough. diags N E Water Works Assn J 36:189-256; Discussion. 256-61 Je '22

Proposed reservoir for Boston's supply. Pub Works 52:287-8 Ap 22 '22

\$60,000,000 addition to Boston district water supply. map Eng N 88:360-3 Mr 2 '22

Boston and Maine railroad

Annual report of president J. H. Hustis. Ry R 70:615-18 Ap 29 '22

Boston & Maine has 1921 deficit of \$7,348,086. Ry Age 72:917-18 Ap 15 '22

Boston & Maine shows remarkable improvement. map Ry Age 74:469-71 F 24 '23

B. & M. valuation exceeds property account and capitalization. Ry Age 72:974-5 Ap 22 '22

Joint New England railroad committee report suggest plans to rehabilitate B. & M. and New Haven roads. Comm & Fin Chr 117:87-3, 170-5 JI 7-14 '23

90th annual report—year ended Dec. 31, 1922. Comm & Fin Chr 116:1525-6 Ap 7 '23

Boston architectural club

Boston architectural club. il plans Arch Forum 37:25-8 JI '22

Boston Elevated railway

Boston Elevated act affirmed. Aera 11:654-6 Ja '23

Boston Elevated pays back \$1,631,753. Elec Ry J 62:234 Ag 11 '23

Boston L wages advanced nine cents. Elec Ry J 62:713 O 20 '23

Budget control in Boston. Elec Ry J 60:970-1 D 23 '22

Final arguments in the Boston Elevated wage. Elec Ry J 62:343 S 1 '23

Four years under public control. E: Dana. Elec Ry J 60:232-4 Ag 12 '22; Same cond. Comm & Fin Chr 115:2789 D 23 '22

Labor costs in Boston and Philadelphia. E: Dana. Elec Ry J 61:480 Mr 17 '23

Local five-cent fares popular on Boston "L". Elec Ry J 62:390 S 8 '23

New repair shops at Boston. plans Elec Ry J 61:239-42 F 10 '23

New schedule accepted. Elec Ry J 59:837 My 20 '22

\$1,545,055 net for Boston Elevated. Elec Ry J 61:222-4 F 3 '23

\$1,117,621 profit in Boston. Elec Ry J 59:213-14 F 4 '22

\$1,385,211 profit for Boston L in the fourth year of public operation ended June 30, 1922. Elec Ry J 60:213 Ag 5 '22

1,850 old cars scrapped and burned at Boston. il Elec Ry J 59:689 Ap 22 '22

Report of trustees—year ending Dec. 31, 1922. Comm & Fin Chr 116:511 F 3 '23

Boston molasses company

When the marketing situation is betwixt and between; changing from a consumer to a dealer business. D. Kirkland. Ptr Ink 123:105-8 Ap 26 '23

Boston society of civil engineers

Why is the Boston society of civil engineers? D. C. Jackson. Boston Soc C E J 10:129-38 Ap '23

Boston stock exchange

Stock and bond record, daily, weekly and yearly. See weekly numbers of Commercial and financial chronicle

Bosworth, Welles

Relation of classic example to architectural design; with particular reference to the work of Welles Bosworth, architect. Am Arch 122:1-12+ JI 5 '22

Botanical chemistry

Changes in the composition of paprikas during the growing period. A. F. Sievers and J. D. McIntyre. Am Chem Soc J 43:2101-4 S '21

Chemistry in the cereal industries. C. H. Bailey. Ind & Eng Chem 15:900-1 S '23

De l'aide que peut apporter la chimie dans la sélection et l'amélioration des plantes. J. de Vilmorin. il Chimie & Ind 7:864-9 My '22

Effects of the method of desiccation on the carbohydrates of plant tissue. K. P. Link and W. E. Tottingham. Am Chem Soc J 45:439-47 F '23

Einige pflanzenchemische beobachtungen. E. O. von Lippmann. Deutsche Chem Gesell Ber 54:3111-14 D '21

Practical plant biochemistry. M. W. Onslow. 2d ed. 194p University press, Cambridge '23

Recent advances in plant chemistry. R. W. Thatcher. J Ind & Eng Chem 14:335 Ap '22

Role of manganese in plants. J. S. McHargue. il Am Chem Soc J 44:1592-8 JI '22

See also Cellulose

Botany

See also Botanical chemistry; Forests and forestry; Insectivorous plants; Paleobotany; Plants; Rubber plants; Trees

Physiology

Le rôle du parfum chez la plante. R. Cerig-helli. Chimie & Ind 8:521-9 S '22

See also Plants—Transpiration

Botany, Medical

Dr. Rusby reports new botanical drugs. Oil Paint & Drug Rep 101:21 My 29 '22
Pharmaceutical botany. H. W. Youngken. 4th ed, rev. & enl. 538p Blakiston '23

Bottled food

Volume variation of bottled foods. H. Runkel and J. C. Munch. il U S Agric Bul 1009:1-20 '21

Bottled goods

Curbing the fraudulent refilling of bottles. Ptr Ink 121:73-4+ D 21 '22

Bottles

Contamination of water samples with material dissolved from glass containers. W. D. Collins and H. E. Riffenburg. Ind & Eng Chem 15:48-9 Ja '23

Glass containers. A. W. Bitting. Am Cer Soc J 5:85-94 F '22; Discussion. (Bul) 5:343-6 D '22

Weathering of glass containers. K. L. Ford. il Am Cer Soc J 5:837-54 D '22

See also Carboys

Manufacture

Standardizing labor operations on special and variable products; machining metal molds for bottles. W. J. Donkel. il Management Eng 3:139-43 S '22

Weber's law, tolerance, and visual judgment of size in the bottle making industry. J. P. Baumberger and E. E. Perry. bibliog J Ind Hygiene 5:205-9 O '23

Bottles, Pressure

Pressure bottle for laboratory use. A. D. Hirschfelder and M. C. Hart. diag J Ind & Eng Chem 14:623 JI '22

Simple type of glass pressure bottle. R. R. Reed. diag Chem & Met Eng 26:1164 Je 21 '22

Bottling

Automatic equipment and chemical control. G. L. Montgomery. il Chem & Met Eng 27:150-4 JI 26 '22

Bottling and labeling machine for small scale operations. il Sci Am 126:33 Ja '22

Doubling the capacity of a mineral water bottling plant by conveyor system. il Ind Eng 80:505-6 O '22

Handling the finished products of industry. G. L. Montgomery. il diags Chem & Met Eng 27:199-203 Ag 2 '22

Time and motion study; an experiment in bottling sweets. E. Farmer. Eng & Ind Management 7:361-2 Ap 20 '22

See also Breweries

Boulders

Cable net used to clear boulders from harbor entrance. C. C. Worsfold. il diags Eng N 90:657-8 Ap 12 '23

Boundaries

See Oklahoma—Boundaries; Texas—Boundaries; United States—Boundaries

Bourbonite

Spectrophoto electrical sensitivity of bourbonite and pyrrargyrite. W. W. Coblenz and J. F. Eckford. U S Bur Stand Sci Pa 451:353-72 '22

Boutron Boudet soap solution

Boutron Boudet soap solution. A. M. Buswell. bibliog diag Am Water Works Assn J 9:892-6 N '22

Bow and arrow. See Archery**Bowker chemical company**

How to make salesmen enthusiastic about the product; Bowker chemical company's experimental farm. J. A. Murphy. Ptr Ink M 7:33-4 N '23

Bowyers, William, 1663-1737

The William Bowyers and other printers contemporary with them. H. L. Bullen. por Inland Ptr 68:811-12 Mr '22

Box board. See Paper board**Box cars. See Freight cars****Box making**

Ashes and sawdust the basis of a new box industry. C. M. Lewis. il Sci Am 126:396 Je '22

More output; lower costs; control; Veneer box shop. E. E. Ames. il Management & Adm 6:305-12 S '23
Wooden box and crate construction. 208p National assn. of box manufacturers, Chicago '21

Specifications

Tentative general specifications for 4-one boxes and similar type boxes. diags Am Soc T M Pro 21:741-5 '21

Box making machinery

Cardboard box-making machinery. il diags Engineering 114:517-20, 542-3, 578-9, 609-10, 640-1, 670-1, 698-9, 760-2 O 27-D 8, 22 '22

Les machines pour la fabrication des boîtes en carton. P. Boudreaux. il diags Génie Civil 82:317-22, 346-50 Ap 7-14 '23

Boxes, Hosiery. See Hosiery boxes**Boxes, Paper. See Paper boxes****Boxwood**

Old friend in new dress; present uses for Turkish boxwood, and the search for substitutes. S. J. Record. il Sci Am 128:318-19 My '23

Boy scouts

How the Boy scouts of America are protecting their insignia. Ptr Ink 121:113-14 O 26 '22

Boys

Does your research embrace the boy of today? J. H. Wilson. Ptr Ink 118:33-4+ Mr 16 '22

Bracing

Importance of bracing during construction. O. B. Maginnis. diags Bldg Age 44:38-9 Ja '22

See also Wind pressure

Bradford, England**Water supply**

Bradford, Eng., water supply. Can Eng 42:443 My 2 '22

Bradford, Pennsylvania

Early history of the oil industry in Bradford, Pa. D. A. Dennison. Nat Pet N 14:79+ F 15; 55+ F 22; 67+ Mr 1; 64 Mr 15 '22

Old timers of the Bradford field now are widely scattered. D. A. Dennison. Nat Pet N 14:33 Ja 4 '22

Present day Bradford, through the eyes of one who remembers. D. A. Dennison. Nat Pet N 13:27+ N 30 '21

Bradford-Durfee textile school

Creating expert textile makers; Bradford-Durfee textile school. H. W. Nichols. il Am Ind 22:35-8 Ja '22

Bradley, Frederick Worthen

Mining engineers of note. por Eng & Min J 112:980 D 17 '21

Bradley knitting company

How we increased our sales 5% last year. W. B. Tyrrell. il System 41:404-6+ Ap '22

Brainerd, Minnesota**Water supply**

New water supply system at Brainerd, Minn. G. M. Shepard. il Munic Eng 63:214-16 D '22

Braintree water supply company

Some court decisions incident to the purchase of the Braintree water supply co. H. A. Symonds. N E Water Works Assn J 36:426-33 S '22

Brake beams

Brake shoe and brake beam report of A.R.A. committee. diags Ry R 70:977-8 Je 24 '22

Brake rigging

Automatic slack adjuster for brake rods. il Pop Mech 37:891 Je '22

Maintenance of automatic slack adjusters. W. H. Sauvage. il Elec Ry J 61:486 Mr 17 '23

New type of slack adjuster. diags Elec Ry J 62:571 O 6 '23

Brake shoes

Brake shoe and brake beam report of A.R.A. committee. diags Ry R 70:977-8 Je 24 '22

Brake shoes—Continued

- Making the Mack brake shoe. F. H. Colvin. *il Am Mach* 56:362 Mr 9 '22
 Tests to determine wear of steel wheels. *Elec Ry J* 62:250-1 Ag 18 '23

Standards

- I've been at it ever since '91. F. W. Sargent. *il Aera* 10:584-6 F '22

Brakes

- Brake device applied to a running-balance machine. C. Kotersall. *diags Am Mach* 56:604-5 Ap 20 '22
 Car and locomotive specialties. *il Ry R* 70:sup36-8 Je 10 '22
 Cincinnati shaper co. all-steel power press brake. *il Am Mach* 57:427-8 S 14 '22; *Mach* 29:153 O '22; *Ry Mech Eng* 96:603 O '22
 Compact brake for motor testing. E. Y. Rice. *il Elec W* 80:1274-5 D 9 '22
 Electric brakes for steel mills; friction brake largely for holding. G. Fox. *il Blast F & Steel Pl* 10:278-82 My '22
 Emergency stops. H. C. De Camp. *Elec Ry J* 61:172-3 Ja 27 '23
 Emergency stops in street railway operation. E. R. Fitch. *Elec Ry J* 62:564-5 O 6 '23
 Increased brake power for passenger and freight vehicles. *il diags Engineer* 135:687-8 Je 29 '23
 Investigation of the properties of chilled iron car wheels. J. M. Snodgrass and F. H. Guldner. *il diags Ill U Eng Exp Sta Bul* 135:1-100 '23
 Kansas City railway tries ratched hand brake. *diags Elec Ry J* 61:255 F 10 '23
 Ratchet instead of wheel on railroad hand brakes. *il Pop Mech* 36:880 D '21
 Report of Mechanical division committee on brakes and brake equipment. *Ry Age* 74:1577-80 Je 23 '23; Same. *Ry Mech Eng* 97:467-70 Jl '23; Excerpt. *Ry R* 72:1144-5 Je 30 '23
 Stenciling brake lever dimensions on freight cars. *il diag Ry Mech Eng* 96:267 My '22
 Ureco high powered hand brake. *diags Ry Age* 74:1480 Je 16 '23
 Whiting type-C solenoid crane brake. *il Am Mach* 58:95 Ja 11 '23
See also Air brakes; Brake rigging; Brake shoes; Braking, Dynamic; Braking, Regenerative; Electric railroads—Braking

Testing

- Vacuum brake tests on English freight trains; results of Great Northern trials. *Ry Age* 72:823-5 Ap 1 '22; Same. *Ry Mech Eng* 96:210-12 Ap '22

Brakes, Automobile

- Advantages of transmission brakes outweigh disadvantages. P. M. Heldt. *Automotive Ind* 49:322-4 Ag 16 '23
 American front wheel brake design making rapid strides. H. Chase. *il diags Automotive Ind* 48:1364-74 Je 28 '23; Same abr. *Automotive Eng* 13:300-7 O '23
 Are cables superior to rods for brake couplings? M. W. Bourdon. *diags Automotive Ind* 46:1059-60 My 18 '22
 Automatic brake regulation to prevent wheel locking. *diags Automotive Ind* 45:964-5 N 17 '21
 Better brakes are needed. T. J. Little, jr. *Automotive Ind* 49:547 S 27 '23
 Brake design and construction. H. M. Crane. *Soc Auto Eng J* 13:395-8 N '23; Same abr. *Automotive Ind* 49:824-7 O 25 '23
 Brakes. *il diags Automobile Eng* 11:422-8 N 24 '21
 British front wheel brake designed to prevent locking. M. W. Bourdon. *diag Automotive Ind* 49:228-9 Ag 2 '23
 Buick fours and sixes equipped with front wheel band brakes. J. E. Schipper. *il diags Automotive Ind* 49:211-17 Ag 2 '23
 Change-speed and brake lever arrangements. *il Automobile Eng* 11:409 N 24 '21

- European and American automotive brake and clutch practice. H. G. Farwell. *il diags Soc Auto Eng J* 11:67-72; Discussion. 72-80 Jl '22
 Four-wheel brake is fundamental improvement, in opinion of engineers. *il Automotive Ind* 48:1425-6 Je 28 '23
 Four-wheel brakes extensively used in France, Italy and Belgium. W. F. Bradley. *il diags Automotive Ind* 48:658-65 Mr 22 '23
 Four-wheel brakes fill real need for better car control; abstracts. M. Loughead. *Automotive Ind* 48:1136-9. My 24 '23; *Soc Auto Eng J* 12:611-12 Je '23; Same revised. *diags Soc Auto Eng J* 13:313-16; Discussion. 316-21 O '23
 Four-wheel brakes involve cost, and types imperfectly developed might prejudice public against them. H. H. Hills. *Automotive Ind* 49:191 Jl 26 '23
 Free steering is essential in brake design. F. A. Truesdell. *diags Automotive Ind* 49:848-9 O 25 '23
 Frein auto-régulateur, système Hallot, pour automobiles et matériel de chemins de fer. *il diag Génie Civil* 80:368 Ap 22 '22
 Front-wheel brake design involves two major problems. P. M. Heldt. *Automotive Ind* 49:370-3 Ag 23 '23
 Front wheel brakes on new U.S. axle. *diag Automotive Ind* 48:275 F 8 '23; *Bus Transportation* 2:242 My '23
 Frontenac four-cylinder car has brakes on all wheels. J. E. Schipper. *il diag Automotive Ind* 45:5-6 Ja 5 '22
 How multibestos is developing interest in better brakes; campaign follows in wake of co-operative advertising. *Ptr Ink* 125:185-6 N 1 '23
 Hydraulic brakes successful on California system. *il diags Bus Transportation* 2:267-8 Je '23
 Increase of static load on front axle caused by four-wheel brakes not a serious factor. D. Fergusson. *Automotive Ind* 49:186 Jl 26 '23
 Loughead hydraulic brakes optional equipment on Chalmers. *il Automotive Ind* 49:847 O 25 '23
 Marmon adopts front-wheel brakes as optional equipment. *il diags Automotive Ind* 49:632-3 S 27 '23
 Mechanical braking on four wheels as a present automotive necessity. A. M. Yocom. *diags Soc Auto Eng J* 13:55-7 Jl '23; Discussion. 13:70-2, 216 Jl, S '23
 New four-wheel braking system. *diags Automotive Ind* 47:575 S 21 '22
 Pats and fittings report; brake-lining. *Soc Auto Eng J* 12:581 Je '23; Discussion. 13:82-3 Jl '23
 Passenger-car brakes. J. E. Schipper. *diags Soc Auto Eng J* 10:273-8 Ap '22; Same. *Automobile Eng* 12:251-5, 283-7, 307-12 Ag-O '22; Excerpts. *Automotive Ind* 46:175-81 Ja 26 '22; Discussion. *Soc Auto Eng J* 10:376-9, 507-8 My-Je '22; *Automotive Ind* 46:115-16 Ja 19 '22
 Phenol condensation products in motor brake linings. *Chem Age* 30:518 N '22
 Pressure is more evenly distributed over surface of band brakes. P. M. Heldt. *diag Automotive Ind* 49:424-6 Ag 30 '23
 Proper study of weight distribution essential to correct brake design. P. M. Heldt. *Automotive Ind* 49:258-60 Ag 9 '23; Discussion. 49:647, 802-3 S 27, O 18 '23
 Quality of brakes has marked effect on capacity of highways. W. S. James. *Automotive Ind* 49:412-14 Ag 30 '23
 Refinement in design of band brake. *diags Automotive Ind* 45:1261 D 29 '21
 Relining brake bands. *diags Pop Mech* 38:948 D '22
 Renault adopts front wheel brake for six cylinder models. *diags Automotive Ind* 48:1334-5 Je 21 '23
 Renault mechanical four-wheel braking-system. M. Guillelmon. *diags Soc Auto Eng J* 13:57-9 Jl '23; Discussion. 13:70-2, 216-21 Jl, S '23
 Warns against hasty adaptations of front wheel brakes. A. L. Clayden. *Automotive Ind* 48:755 Ap 5 '23

Brakes, Automobile—Continued

Will front wheel brake equipment help to sell cars? J. E. Schipper. *Automotive Ind* 48:754-5 Ap 5 '23

See also Air brakes, Automobile; Automobiles—Stopping

Repair

Getting dealer co-operation by solving a dealer problem; how the Multibestos company sells brake lining. R. W. Johnson. *Ptr Ink* 120:3-4+ Ag 3 '22

Standards

Brake-lining; recommended S. A. E. standard. *Soc Auto Eng J* 12:124 Ja '23
S. A. E. brake-drum standard submitted. *Soc Auto Eng J* 13:344 O '23

Testing

Developing a method for testing brake linings. S. von Ammon. *Soc Auto Eng J* 10:153-62 Mr '22; Excerpts. *Automotive Ind* 46:116-17 Ja 19 '22; Discussion. *Soc Auto Eng J* 10:387-8 My '22
Simple brake test needed. *Soc Auto Eng J* 13:342-3 O '23

Brakes, Hydraulic

Four-wheel brakes fill real need for better car control; abstracts. M. Loughhead. *Automotive Ind* 48:1136-9 My 24 '23; *Soc Auto Eng J* 12:611-12 Je '23; Same revised. *diags Soc Auto Eng J* 13:313-16; Discussion. 316-21 O '23

Hydraulic brakes successful on California system. *il diags Bus Transportation* 2:267-8 Je '23

Brakes, Vacuum

Continuous brakes in France. *Engineer* 134:336 S 29 '22; Same. *Ry Mech Eng* 96:637 N '22

Le frein à vide Clayton-Hardy. *diags Génie Civil* 79:587-9 D 31 '21

Railway brakes for heavy traffic. A. W. Rendell; H. Fowler and H. N. Gresley. *Engineering* 113:43 Ja 13 '22; Same. *Engineer* 133:96 Ja 27 '22; Discussion. A. M. Bell. 133:520 My 12 '22

Test and demonstration rack for vacuum brakes. *il Ry Mech Eng* 96:510 S '22

Vacuum brake tests on English freight trains; results of Great Northern trials. *Ry Age* 72:823-5 Ap 1 '22; Same. *Ry Mech Eng* 96:210-12 Ap '22

Vacuum brakes; trials in connection with long freight trains. H. Fowler and H. N. Gresley. *Eng & Ind Management* 7:170-1 F 9 '22

Braking, Dynamic

Dynamic braking characteristics of induction motors. T. F. Kirkpatrick. *diags Elec J* 20:131-4 Ap '23

Dynamic braking of electric mine haulage locomotives at Hazleton shaft colliery. P. Broadt. *diags Coal Age* 24:324 Ag 30 '23

Electric brake and axle with reverse gear are successful railcar units. D. A. Hampson. *il diags plan Automotive Ind* 48:606-9 Mr 15 '23

Electric brakes for steel mills; friction brake largely for holding. G. Fox. *il Blast F & Steel Pl* 10:278-82 My '22

Electric braking on mine locomotives. *diags Coal Age* 24:287-8 Ag 23 '23

Electric motors in the steel plant. G. Fox. *diags Blast F & Steel Pl* 10:171-3, 211-14 Mr-Apr '22

Induction motor operated mine hoist with dynamic braking. R. W. McNeill. *il diags Elec J* 20:97-100 Mr '23

Regenerative and dynamic braking with direct-current motors. B. A. Briggs. *diags Power* 55:924-5 Je 13 '22

Simple explanation of dynamic braking and dynamic lowering. O. E. Kenworthy. *diags Coal Age* 23:1011-12 Je 21 '23

Theory and operation of electric braking as applied to mine locomotives. E. J. Gealy. *diags Coal Age* 24:11-14 Jl 5 '23

Testing

Emergency stop tests; C. E. R. A. special committee reports. *Elec Ry J* 62:145-6 Jl 28 '23

Braking, Regenerative

Compound characteristic in regenerative braking with direct-current traction. M. G. Say and H. G. Frampton. *diags Inst E E J* 61:863-8 Ag '23

Regenerative and dynamic braking with direct-current motors. B. A. Briggs. *diags Power* 55:924-5 Je 13 '22

Regenerative braking and single-phase commutator motors. E. Nordefeldt. *diags Electrician* 88:312-14, 340-1 Mr 17-24 '22

Systems of single-phase regeneration for use with series type commutator motors. L. J. Hibbard. *diags Am Inst E E J* 42:223-33 Mr '23; Discussion. 42:970-1 S '23

Branch banking. See Banks and banking—Branch banking

Branch houses, Foreign

Branch factories in Canada. E. W. Gage. *il Ind Management* 64:305-8+ N '22

How American advertisers are selling in England. J. R. Sprague. *il Ptr Ink M* 6:19-20+ Mr '23

How American advertisers develop foreign markets by local agencies. E. Hungerford. *il Ptr Ink M* 5:21-2+ O '22

Accounting

Treatment of foreign exchange in branch-office accounting. C. S. Ashdown. *J Account* 34:262-79 O '22

Branch management

Branch house collections from the sales angle. H. K. Sheridan. *Ptr Ink* 118:73-4+ F 2 '22

Branch office and the advertising appropriation. M. Kemper. *Ptr Ink* 121:61-2+ N 2 '22
Bringing the branch office up to par. H. Burwen. *Ptr Ink* 123:113-14+ Ap 26 '23

Building prestige for the branch house. H. K. Sheridan. *Ptr Ink* 117:166+ N 17 '21

Keeping branch stocks down by localizing the catalogue. H. Burwen. *Ptr Ink* 123:129-30 Je 14 '23

Shell branch-house salesmen report to home office? *Ptr Ink* 118:10+ F 23 '22

Six better management plans. *System* 42:546-7+ N '22

Why don't our branches run more smoothly? *System* 41:703-4+ Je '22

Branch managers

Are your branch managers too busy to sell? *il System* 41:552-4+ My '22

Branch manager's place in an all-star cast. H. K. Sheridan. *Ptr Ink* 118:95-6+ Mr 23 '22

From the branch manager's standpoint. J. R. Sprague. *Ptr Ink* 118:17-18+ F 23 '22

Help from the branch manager for the advertising department. H. K. Sheridan. *Ptr Ink* 117:126+ D 8 '21

How much leeway should a manager be given? *System* 43:309-12+ Mr '23

Branding

Trade brands and practices. M. L. Lissberger. *Metal Ind* 20:316 Ag '22

See also Mishbranding

Brannon, Lennis K.

Master typographers of today. J. L. Frazier. *por Inland Ptr* 68:497-500 Ja '22

Brass

Automotive use of copper and brass increasing constantly. W. C. Hirsch. *Automotive Ind* 48:1282-3 Je 14 '23

Briquetting of brass turnings. F. L. Wolf. *Metal Ind* 21:188 My '23; Same. *Brass W* 19:268 Ag '23

Colloidal state in metals and alloys; white metal and brass. J. Alexander. *il diags Chem & Met Eng* 26:170-2 Ja 25 '22

Compressibility of brasses at temperatures up to 800 deg. C. F. Doerincel and J. Trockels. *Engineering* 112:770 D 2 '21

Copper-zinc-tin alloys. *Foundry* 51:534a Jl 1 '23

Dezincification of brass. R. B. Abrams. *Am Electrochem Soc Trans v* 42 (preprint 1): 1-12 S '22; Same. *Metal Ind* 20:467-8; 21: 66-7 D '22. F '23; Discussion. *Am Electrochem Soc Trans v* 42 (preprint 1):12a-d S '22

Brass—Continued

Drilling properties vary in brasses and bronzes. J. F. Hardecker. *Automotive Ind* 49:423 Ag 30 '23

Fließvorgänge im messingblock beim stang-
enpressen. K. Hübers. *il diags Stahl & Eisen* 42:741-3 My 11 '22

Hardness of brasses, with some experiments
on its measurement by means of a strain-
less indentation; abstracts with discussion.
Engineering 114:426 O 6 '22; *Engineer* 134:
345-6 O 6 '22

Heat-treatment of brass and brasses contain-
ing tin. L. Guillet. *il diag Chem & Met Eng*
25:1009-14 N 30 '21

Hot and cold working brasses. M. G. Kor-
sunsky. *diags Metal Ind* 21:318-21 Ag '23

Influence of phosphorus on brass. A. Por-
tevin. *Mech Eng* 45:48 Ja '23

Laboratory control of the manufacture of
water works, plumbing and gas brass
goods. W. E. Mueller. *il Am Water Works*
Assn J 10:686-94 Jl '23

Magnetic susceptibility and iron content of
cast red brass. L. H. Marshall and R. L.
Sanford. *il diags U S Bur Stand Tech Pa*
22:1-14 '22; *Abstract. Brass W* 19:126 Ap '23

Modern developments in the British brass
industry. E. A. Smith. *Am Electrochem*
Soc Trans v 40 (preprint 24):301-26 S '21;
Same. *Can Chem & Met* 5:345-8; 6:8-12 D
'21-Ja '22

Nature of brass. A. E. White. *il Eng Soc W*
Pa 38:7-25; *Discussion. 26-34 F* '22

Nonferrous metal industry. A. L. Scott. *Brass*
W 18:39-41, 93-6 F-Mr '22

Notes on brasses and bronzes. H. F. Whit-
taker. *Chem & Met Eng* 28:685 Ap 16 '23

Physical properties of cartridge brass. C.
Upthegrove and W. G. Harbert. *Min & Met*
185:30 My '22

Properties of alloys of copper and zinc. L.
Guillett. *Foundry* 50:834a O 15 '22

Protection of brass weights. J. J. Manley.
diag Philos Mag 6th ser 44:948-50 N '22

Reducing screw machine product costs by
substituting brass for steel. H. L. Burlin-
game. *diags Am Mach* 58:823-4 Je 7 '23

Results achieved by the corrosion committee
British institute of metals. E. E. Thum. *il*
Chem & Met Eng 26:301-6 F 15 '22; *Discus-
sion. A. S. Cushman. 26:773 Ap 26 '22*

Temper of brass. D. K. Crampton. *Brass W*
19:125 Ap '23

Use and abuse of plumbing brass. P. W. Blair.
Metal Ind 20:419 N '22

See also Alloys; Brass founding; Brass
foundries; Brazing; Tubes, Brass

Analysis

Chemical and metallographic examination of
iron, steel and brass. W. T. Hall and R. S.
Williams. 501p McGraw-Hill '21

Determination of small amounts of lead in
brass. F. W. Glaze. *J Ind & Eng Chem* 13:
553-4 Je '21; Same abr. *Brass W* 17:370-1
D '21

Coloring

Umber brown finishes upon brass. C. H.
Proctor. *Metal Ind* 20:350 S '22

Season-cracking

Further studies in season-cracking and its
prevention in condenser tubes. H. Moore
and S. Beckinsale. *il Engineering* 113:337-40
Mr 17 '22; *Abstract. Engineer* 133:325 Mr 24
'22; *Abstract. Power Pl Eng* 26:461-2 My
1 '22; *Discussion. Engineering* 113:317-18
Mr 17 '22; *Engineer* 133:325 Mr 24 '22

Specifications

Specifications for brass ingot metal. *Foundry*
51:748a, 792a S 15-O 1 '23

Brass, Cold working of

Cold rolling and annealing of some copper-zinc
alloys. P. Powell. *diags Brass W* 19:281-4,
335-8 S-O '23

Brass forgings

Brass forgings. C. C. Heiby. *Metal Ind* 20:
220-1 Je '22; Same. *Brass W* 17:199-201 Jl
'22

Brass forgings a new industrial product. *il*
Automotive Ind 46:524 Mr 2 '22

Making hot-pressed or forged brass. L. S.
Love. *il Iron Age* 109:1581-3 Je 8 '22; Same.
Brass W 18:306-7 O '22

Manufacture of brass forgings. C. T. Roder. *il*
Iron Age 109:857-8 Mr 30 '22

Brass founders' ague

Certain aspects of the problem of zinc
toxicity. P. Drinker. *J Ind Hygiene* 4:177-
94; *Bibliography. 194-7 Ag '22*

See also Metal workers—Diseases and
hygiene

Brass founding

Adds cerium to brass and iron. L. W. Spring.
il Foundry 50:542-4 Jl 1 '22

Advance in the brass foundry. W. J. Rear-
don. *Metal Ind* 21:4 Ja '23

Alamagoozalum alloy; troubles with alumi-
num and manganese brass and bronze. W.
H. Parry. *Metal Ind* 20:62-3 F '22

Brass foundry specialists; is their advice
worth paying for? W. H. Parry. *Metal Ind*
20:266 Jl '22

Brass vs. iron foundries. C. F. Hopkins.
diags Metal Ind 21:351-5 S '23

Brass with lead in it. A. W. Jordan. *Brass*
W 19:167 My '23

Bronze bushings. R. E. Search. *diags Metal*
Ind 21:356-7 S '23

Casting art bronze tablets; abstracts. J. G.
Kasjens. *Foundry* 51:408 My 15 '23; *Metal*
Ind 21:186-7 My '23

Casting brass and bronze. C. Vickers. *Foundry*
51:578-81, 627-30 Jl 15-Ag 1 '23

Casting brass bushings. E. A. Thanton. *il*
Am Mach 58:488 Mr 29 '23

Casting of brass ingots. R. Genders. *il diag*
Engineering 112:452 S 23 '21; Same. *Iron*
Age 108:962 O 13 '21; Same. *Metal Ind* 19:
431 N '21; *Discussion. Engineering* 112:449
S 23 '21; *Metal Ind* 19:447 D '21

Cracked composition castings. W. J. Reardon.
Metal Ind 20:345 S '22

Defective bronze castings. W. F. Buckley.
Metal Ind 21:359 S '23

Development and manufacture of high tensile
brass and bronze. O. Smalley. *Engineering*
114:187-9, 218-21 Ag 11-18 '22

Extruded brass. R. Genders. *il Metal Ind* 21:
278-9 Jl '23

Feeding heads not necessary. R. E. Paine.
il diags Foundry 51:559-61+ Jl 15 '23

Foundry-made defects in brass tubes. W. E.
Ballard. *Brass W* 19:252-3 Ag '23

Gas absorption and oxidation of non-ferrous
metals. B. Woyski and J. W. Boeck. *Metal*
Ind 20:267-8, 307-8 Jt-Ag '22; Same.
Foundry 50:571-3 Jl 15 '22; Same. *Brass W*
18:266-9 S '22; *Excerpt. Min & Met* 185:29-
30 My '22

How and why in brass founding. C. Vickers.
Foundry 47:349-50, 400-1, 521, 565-6, 745-6.
568-9; 49:857-8, 899-900, 945-6, 974; 50:31-2
Je 1-15, Ag 1-15, O 15, D 1 '19, N 1 '21-Ja 1
'22

Investigates brass problems. E. H. Dix. *il*
Foundry 50:509-13 Je 15 '22

Linear contraction of a series of brasses and
bronzes. R. J. Anderson and E. J. Fahl-
man. *Brass W* 19:341-3 O '23

Machine work reduced on a bronze plunger.
E. Navey. *diag Foundry* 50:251 Mr 15 '22

Making red brass castings. C. Vickers. *diags*
Foundry 50:711-14 S 1 '22

Manufacture of brass tubes. W. E. Ballard.
Iron Age 110:1515 D 7 '22

Metallurgist and the brass foundry. M. G.
Korsunsky. *Metal Ind* 20:186-7 My '22

Methods of gating and molding brass cast-
ings. C. Vickers. *Brass W* 18:101-2 Mr '22

Methods of molding bushings. C. Vickers.
diags Foundry 51:19-22 Ja 1 '23

Modern developments in the British brass
industry. E. A. Smith. *Am Electrochem*
Soc Trans v 40 (preprint 24):301-26 S '21;
Same. *Metal Ind* 19:439-40, 482-6; 20:21-2
N '21-Ja '22

Modern methods of making brass rod. O. A.
Kenyon. *il diag Brass W* 18:3-4 Ja '22

Mold hollow brass cylinders. C. Vickers.
diags Foundry 51:491-1 Je 15 '23

Brass founding—Continued

New forms of apparatus for determining linear shrinkage and for bottom-pouring of cast metals and alloys. F. Johnson and W. G. Jones. *Brass W* 18:294-5 O '22; Same *abr. Iron Age* 110:999 O 19 '22; Same. *Metal Ind* 20:385 O '22

Non-ferrous foundry practice. P. Longmuir. *Engineering* 114:488 O 20 '22

Notes on melting and pouring brass and bronze. F. L. Wolf and W. Romanoff. *Metal Ind* 21:238-40 Ja '23

Production of large bushings. C. Vickers. *diags Foundry* 51:363-6 My 1 '23

Pyrometer solves temperature problems. J. P. Goheen. *Foundry* 49:938-9 D 1 '21

Secondary nonferrous metals. W. M. Corse. *Metal Ind* 21:155-6 Ap '23; Same. *Brass W* 19:149-50 My '23

Select sand for brasswork. C. Vickers. *Foundry* 51:196-9 Mr 1 '23

Shrinkage vs. cold shorting. A. W. Cash; W. J. Reardon. *diag Metal Ind* 21:16-17 Ja '23

See also Electric furnaces, Brass melting; Furnaces, Brass melting

Brass foundries

Accuracy goal in brass shop. P. Dwyer. *il Foundry* 51:247-51 Ap 1 '23

Brass casting and machining plant. *il plan Iron Age* 110:1144-5 N 2 '22; Same. *Brass W* 18:328-9 N '22

Brass foundry management. C. Vickers. *Brass W* 18:241-2 Ag '22

Brass vs. iron foundries. C. F. Hopkins. *diags Metal Ind* 21:351-5 S '23

Modern brass shop offers contrasts to old type. P. Dwyer. *il diag plan Foundry* 50:871-5 N 1 '22

Valve firm operates four shops. *il Foundry* 50:415-18 My 15 '22

See also Brass founding

Equipment and supplies

Brass foundry equipment. W. H. Parry. *Metal Ind* 20:179-80 My '22

Economic considerations in selection of brass melting equipment. T. H. A. Eastick. *il Brass W* 18:6-7 Ja '22

Brass industry and trade

Commercial future of copper brass and bronze. H. George. *Metal Ind* 19:444-6 N '21

History

Century of brass making. *il Metal Ind* 20:295-301 Ag '22

United States

Signs of the times in the brass trade. L. J. Krom. *Metal Ind* 20:20-1 Ja '22

Brass pipes. See Pipes, Brass

Brass tubes. See Tubes, Brass

Brass work

Grading for quality; plumbers' cast brass goods. F. W. Parks. *Dom Eng* 105:125-7 O 20 '23

Making brass name plates. F. V. Faulhaber. *Brass W* 19:285-7 S '23

Brass works

Chase metal works; Waterbury plant has interesting advantages of mill construction. *il plans Metal Ind* 21:95-9 Mr '23

Management in the brass and copper industry. J. E. Morrison. *Management Eng* 2:1-6, 103-8, 173-8, 237-42, 297-302, 367-70 Ja-Je '22

Scovill manufacturing company; oldest brass company in America. *il Metal Ind* 21:309-17 Ag '23

Simplification does pay; United States brass manufacturing company. E. M. Rogert. *il Factory* 31:598-601 N '23

What better methods have accomplished in a brass manufacturing plant. *Brass W* 19:163-4 My '23

Brattice cloth

Erecting brattice in rooms. W. H. Luxton. *diag Coal Age* 21:52 Ja 12 '22

Few days' traffic may destroy brattice cloth; elsewhere it may last a year. G. S. Rice, J. W. Paul and E. H. Denny. *Coal Age* 23:481-2 Mr 22 '23

Brazil

American memorial for Brazil. *il Am Ind* 22:41-2 Ja '22

Electrical progress in Brazil and the Argentine. *Engineer* 132:627 D 9 '21

New Far West in South America. G. Sherman. *Inland Ptr* 70:817-18 Mr '23

States of Brazil. G. R. Coxe. *U S Bur For & Dom Com Trade Information Bul* 148:1-28 '23

See also Hydroelectric plants—Brazil; Irrigation—Brazil; Railroads—Brazil; Street railroads—Brazil; Telephone—Brazil

Centennial exposition

Brazil's exposition all ready. *Am Ind* 23:45+ Ag '22

Commerce

British interests in Brazil. *Elec R (Lond)* 93:631 O 26 '23

Import trade of Brazil. *Elec R (Lond)* 92:156-7 Ja 26 '23

Jewelry and silverware in Argentina, Uruguay and Brazil. S. W. Rosenthal. *il U S Bur For & Dom Com* 214:89-114 '22

Market for construction materials in Brazil. M. A. Cremer. *U S Bur For & Dom Com Trade Information Bul* 101:1-14 '23

Office supplies in Brazil. M. A. Cremer. *U S Bur For & Dom Com Trade Information Bul* 116:1-10 '23

Economic conditions

Brazilian conditions. W. V. Phillips. *Iron Age* 108:1667 D 29 '21

See also Finance—Brazil; Immigration and emigration—Brazil

Industries and resources

Brazil—the promising land. W. I. Bullard. *il Textile World* 63:2823+ Ap 28 '23

Brazil's potentiality in cotton growing. A. S. Pearse. *Textile World* 61:2837-8, 2961+ My 13-20 '22

Some problems which Brazilian manufacturers must solve. W. E. Emley. *Chem & Met Eng* 28:309-10 F 14 '23

See also Automobile industry and trade—Brazil; Coffee; Lumber trade—Brazil; Mines and mineral resources—Brazil; Motor truck industry and trade—Brazil; Paper industry and trade—Brazil; Petroleum—Brazil; Rubber industry and trade—Brazil; Steel industry and trade—Brazil; Steel works—Brazil

Brazing

Dip-brazing with 80.20 brass and the heat-treatment of brazed joints. E. V. Schaal. *il Chem & Met Eng* 26:1121-5 Je 14 '22

Dip brazing with high-melting point brass. *Automotive Ind* 46:1290-1 Je 8 '22

Modern method of dip brazing. C. A. Vandusen. *il Am Mach* 57:408-10 S 14 '22

Preliminary report on rules for the construction of unfired pressure vessels. *Mech Eng* 44:751 N '22; Same. *Refring Eng* 9:204-5 D '22

Welding and brazing practices that make repairs easy. G. Radebaugh. *il Coal Age* 24:99-101 Ji 19 '23

See also Solder and soldering

Bread

Automatic continuous baking oven. W. A. Darrach. *W Soc E J* 27:233-8 Ag '22

Baking of bread on apron conveyors. *Ind Management (Lond)* 8:233-4 O 19 '22

Bread diseases. *Sci Am* 129:225 O '23

Bread legislation from the standpoint of the baker. H. E. Barnard; W. F. Cluett; C. M. Fuller. *U S Bur Stand misc pub* 48[Weights and measures]:24-44 '22

Chemical engineer in bakery management. G. L. Montgomery and A. G. Wikoff. *il Chem & Met Eng* 29:12-15 Ji 2 '23

Chemist enters a new industry. H. E. Barnard. *Ind & Eng Chem* 15:449-50 My '23

Chemistry in the cereal industries. C. H. Bailey. *Ind & Eng Chem* 15:900-1 S '23

Cooling and wrapping of our daily bread. G. F. Zimmer. *il Ind Management (Lond)* 10:131-4 S 6 '23

Bread—Continued

- March of hydrogen-ion concentration in bread doughs. C. H. Bailey and R. C. Sherwood. *Ind & Eng Chem* 15:624-7 Je '23
- More than a million loaves for every one that grandmother used to make. *il Pop Mech* 40:589-92 O '23
- New vitamin bread. *Sci Am* 129:23 Jl '23
- Whole wheat bread without flour. *il Sci Am* 129:177 S '23

See also Flour; Leavening agents; Yeast

Advertising

- Fleischmann's concentrated drive to increase use of bread. *Ptr Ink* 122:17-18 Ja 18 '23
- Increasing the business on two brands with one; Cushman grade A bread. J. True. *Ptr Ink* 123:74+ Ap 5 '23
- Six separate brands are turned into one; Massachusetts baking company. *Ptr Ink* 123:28 Je 28 '23
- 300-turnovers-a-year wins dealers in Bond bread campaign. R. Cole. *Ptr Ink* 120:73-4+ O 12 '22

Standards

- Report of committee on weight standardization of bread, presented at the fourteenth annual conference on weights and measures of the United States; with discussion. U S Bur Stand misc pub 48:72-8, 83-7 '22
- Standards for breads recommended by U.S. department of agriculture. *Comm & Fin Chr* 115:712-13 Ag 12 '22

Breakfast food

See also Post's bran flakes

Breakwaters

- Breakwater construction, Toronto Island shore. J. M. Wilson. *il diags Can Eng* 44:387-90 Ap 10 '23; *Abstract. Eng & Contr (W W)* 59:1044-6 My 9 '23
- Breakwaters of three types; rubble mounds, concrete caissons and rock filled pile cribs for U.S. naval station at Great Lakes, Ill. *diags Eng N* 87:1069-71 D 29 '21
- Curved pile and rock breakwater built in deep water. *diags Eng N* 88:539 Mr 30 '22
- Experience with breakwater design on the Great Lakes. *il diags Eng N* 89:684-8 O 26 '22

Breath figures

- Breath figures. T. J. Baker. *Philos Mag* 6th ser 44:752-65 O '22

Breathing apparatus. See Respiratory apparatus**Breeding**

- Cooperative cattle breeding in North Dakota. A. P. Child. *il Pop Mech* 38:718-19 N '22
- Uncle Sam's agricultural proving grounds; Federal farms at Beltsville, Md. R. Howard. *il Sci Am* 129:10-11 Jl '23

Brewer, Joseph Henry

- Sketch. *por Elec W* 82:112 Jl 21 '23

Breweries

- Conveying at the brewer's exhibition. *il diag plan Ind Management (Lond)* 8:324-7, 385-6 N 30, D 28 '22

- Gas for beer boiling. W: Wilson. *Gas J (Lond)* 164:125-6 O 10 '23

See also Brewing industries—Advertising

Brewing

- Transformation dans l'outillage des brasseries. A. Fernbach. *Chimie & Ind* 9:651-3 Ap '23

Brewing industries**Advertising**

- Scotch brew, after larger markets, surrounds sampling campaign with advertising. C. B. Larrabee. *Ptr Ink* 123:57-8+ My 17 '23

Bribery, Commercial

- Secret commissions and corruption. T. Rich. *Elec R (Lond)* 92:168-9 F 2 '23

Brick, Concrete. See Concrete brick**Brick, Fire. See Fire brick****Brick and clay record**

- Brick and clay record: its history. F. L. Steinhoff. *Am Cer Soc J* 6:128-32 Ja '23

Brick construction

- Brick—its artistic value. G. C. Mars. *il Am Arch* 124:164-8 Ag 15 '23
- Brick—its color value. G. C. Mars. *il Am Arch* 123:447-50 My 23 '23
- Brick—its structural value. G. C. Mars. *diags Am Arch* 123:383-7 Ap 25 '23
- Characteristics of Georgian brickwork in England. N. Lloyd. *il Arch Forum* 38:213-20 My '23
- Early American brick making. C. A. Ziegler. *il Am Arch* 121:333-9 Ap 26 '22
- Garden brickwork. *il diag Bldg Age* 44:56-7 My '22
- Indiana realtors asked to endorse 8 inch wall. W: Carver. *Brick & Clay Rec* 59:732-5 N 15 '21
- Moving of brick buildings. *il diags plan Engineering* 112:842-4 D 23 '21
- Small brick building of Elizabethan character, the rest house at Mt. Auburn cemetery, Cambridge, Mass. *il diags plan Arch Forum* 36:105-8, pl 42 Mr '22
- Some notes on common brick work from Italy. L. E. Welsh. *il Arch Rec* 53:423-30, 545-50; 54:73-8 My-Jl '23
- Spoiling the beauty of brick work. G: W. Repp. *il Bldg Age* 44:49-51 S '22
- See also* Bricklaying; Chimneys, Brick; Pavements, Brick; Piers, Brick; Sewers, Brick; Walls, Brick

Estimates

- How to estimate brickwork. W: Carver. *il Bldg Age* 44:26-8 F '22
- Why brickwork estimates vary. C: F. Dingman. *Eng N* 88:315-16 F 23 '22

Failures

- Binghamton brick and tile school building fails. *diag Eng N* 91:528 S 27 '23

Fire resistance

- Fire tests of brick walls. *il diag Am Arch* 124:307-14, 355-62 S 26-O 10 '23; *Abstract. Brick & Clay Rec* 63:617-19 O 30 '23

Specifications

- Brick masonry specifications. *Am Arch* 123:341-3, 521-2; 124:38-40, sup18+ Ap 11, Je 6, Jl 4, Ag 29 '23
- Department of specifications. *Am Arch* 123:341-3, 521-2 Ap 11, Je 6 '23
- U.S. government specifications on all types of brick work. *Brick & Clay Rec* 62:869+ My 15 '23

Testing

- Brickwork from building stronger than laboratory samples. R. P. Miller. *il Eng N* 89:354-5 Ag 31 '22
- Strength of ordinary brickwork. R. P. Miller. *il diags Eng & Contr (Bldgs)* 59:1416-17 Je 27 '23

Brick handling

- Deposits brick in neat pile on job. *il Brick & Clay Rec* 60:538-40 Ap 4 '22
- Handling the finished products of industry. G. L. Montgomery. *diag Chem & Met Eng* 27:731-3 O 11 '22

Brick houses

- Brick home of colonial design. *il plans Bldg Age* 45:80-1 My '23
- Details of brick house construction. *diags Bldg Age* 45:64-5 Ap '23
- Home of beauty. 3d ed. 70p American face brick assn., Chicago '22
- Your next home; photographs and plans. 63p Common brick manufacturers' assn. of America, Cleveland '23

Brick industry and trade

- Foreign brick and the Hudson river. A. E. Beals. *Brick & Clay Rec* 63:548-9 O 16 '23
- Marketing face brick. J. M. Adams. *Brick & Clay Rec* 62:1132-3 Je 26 '23
- 1924 prospects for Hudson river. *il Brick & Clay Rec* 63:542-4 O 16 '23
- Not a brick house in ten years. *il Brick & Clay Rec* 62:678-80 Ap 17 '23
- Salesman in every town. W: C. Hirsch. *il Brick & Clay Rec* 63:264-7 Ag 21 '23
- Trend of simplification. F. M. Feiker. *Factory* 23:156-8 F '22

Brick industry and trade—Continued

What can the dealer do for you? Brick & Clay Rec 62:496-500 Mr 20 '23

See also Bricks—Prices; Clay industries; also American face brick association; Common brick manufacturers' association

Accounting

System of uniform cost finding for paying brick manufacturers. 44p National paving brick manufacturers assn., Committee on uniform cost finding, Cleveland, O. '21
What does a brick cost? J. A. Pugh, Brick & Clay Rec 63:107-8 Jl 24 '23

Advertising

Better than cutting prices. Brick & Clay Rec 63:318-19 S 4 '23
Brick must get more publicity. il Brick & Clay Rec 62:310-15 F 20 '23
Cashing in on national advertising. C. F. Mattes, Brick & Clay Rec 60:289-90 F 21 '22
English manufacturers proposal to keep brick in front. Brick & Clay Rec 60:773-4 My 16 '22
Getting on the human side of the professional man. R. M. Rhodes. Ptr Ink 118:33-4+ Mr 23 '22
How advertising can make an industry. C. C. Parlin, Brick & Clay Rec 61:947-53 D 26 '22
How may consumer of paving brick be reached? R. Bostick. Ptr Ink 121:53-4+ O 19 '22
Why advertising should be continued. H. M. Houston, Brick & Clay Rec 59:975-8 D 27 '21; Excerpts. Ptr Ink 117:122+ D 8 '21
Why John and Martha built of brick. il Brick & Clay Rec 60:202-7 F 7 '22

Statistics

Paving brick shipments increase 50%. chart Brick & Clay Rec 59:966-7 D 27 '21

Brick making. See Brickmaking

Brick pavements. See Pavements, Brick

Brick roads. See Roads, Brick

Brick sewers. See Sewers, Brick

Brick walls. See Walls, Brick

Brick works

Construction features of importance to clay plants. T. W. Garve, il diags Am Cer Soc J 6:961-71 S '23

Methods of maintaining production. M. R. Watson, Brick & Clay Rec 63:472-5 O 2 '23

Model remodeled plant. il Brick & Clay Rec 59:987+ D 27 '21

Revelation on the Hudson river; Jova brick works. il Brick & Clay Rec 63:259-63 Ag 21 '23

Bricklayers

Who will lay your brick and tile? Brick & Clay Rec 61:168-70 Ag 8 '22

Bricklaying

Strength of cal mortar in laying of brick work. diag Concrete 22:231-2 Je '23

See also Masonry

Cost

Estimating brickwork-labor cost. C. F. Dingman. Eng N 88:959-61 Je 8 '22

Study and teaching

Backs permanent bricklayers schools. il Brick & Clay Rec 62:1036-8 Je 12 '23

Minnesota's bricklaying school. A. V. Williams. Am Ind 23:26+ Ag '23

Brickmaking

Applying engineering to plant design. F. D. Chase, Brick & Clay Rec 60:363-6 Mr 7 '22

Brick—its manufacture. G. C. Mars, il Am Arch 123:113-18 Ad 11 '23

Brick-making in remote mining districts. H. C. Robson, diags Min & Sci P 124:187-91 F 11 '22

Building the dryer over the kiln. A. A. Zakharoff, il diags plan Brick & Clay Rec 62:415-17 Mr 6 '23

Burn face brick with producer gas. il Brick & Clay Rec 60:27-8 Ja 10 '22

Burn 25,500 gals. oil daily in kilns. il Brick & Clay Rec 61:793-4 N 28 '22

Burning shale brick. L. B. Rainey, il diags Brick & Clay Rec 60:693-5 My 2 '22

Correct methods lower burning cost. J. H. Kruson, charts Brick & Clay Rec 60:921-4 Je 13 '22

Early American brick making. C. A. Ziegler, il Am Arch 121:333-9 Ap 26 '22

Gloninger triumphs over obstacles. il diag Brick & Clay Rec 62:509-13 - Mr 20 '23

Home-made bricks in devastated France. Sci Am 126:29 Ja '22

How can green brick be made? Brick & Clay Rec 61:886 D 12 '22

How \$48 a week was saved on dryer operation. il Brick & Clay Rec 61:466-7 O 3 '22

How to make good brick. il diags plan Brick & Clay Rec 62:602-3; 63:334-5 Ap 3, S 4 '23

How we burn face brick with oil. H. T. Horwell, il Brick & Clay Rec 61:712-14 N 14 '22

If normal production were maintained. W. F. Godejohn, Brick & Clay Rec 60:846-7 My 30 '22

Increasing kiln volume without more kilns; Minter system. il diag Brick & Clay Rec 61:102-5 Jl 25 '22

Log (twenty-five years) of progress in the brick and tile industry. F. L. Steinhoff, il Am Cer Soc J 6:262-75 Ja '23

Manganese for improving quality. Brick & Clay Rec 61:32-3 Jl 11 '22

Manufacturing clay products 14,000 feet above sea level. E. O. King, Am Cer Soc J 5:739-42 O '22

Moulds for magnesite, chrome and silica brick. E. E. Ayars, il Am Cer Soc J 5:67-84 F '22

New method of manufacturing bricks. il Bldg Age 15:77 Mr '23

New system of handling for brick, tile and pottery works. diags Eng & Ind Management 6:451-5 O 20 '21

100,000,000 face brick annually; the Canton brick & fireproofing co. il Brick & Clay Rec 63:253-7 Ag 21 '23

Romance in industry. il Brick & Clay Rec 62:940-1+ My 29 '23

Scumming, efflorescence and whitewash. bibliog il Brick & Clay Rec 60:602-6 Ap 18 '22

Soluble salts in clay wares. C. W. Parmelee, Brick & Clay Rec 61:249-52, 316-18 Ag 22-S 5 '22; Same. Am Cer Soc J 5:529-53 Ag '22

Water smoking with induced draft. W. W. Ittner, diags Am Cer Soc J 5:720-9; Discussion. 730-1 O '22

Why burn soft brick? H. L. Longenecker, diags plan Brick & Clay Rec 61:177-9 Ag 8 '22

Why costs run low at Fiske & co. C. F. Tefft, il diags Brick & Clay Rec 62:681-4, 771-4, 858-62 Ap 17-May 15 '23

See also Brick works; Kilns

Costs

Items of cost frequently overlooked. F. T. Owens, Am Cer Soc J (Bul) 5:48-51 Je '22; Discussion. (Bul) 5:530-9 D '22

Brickmaking machinery

Making rough textured dry press brick. il Brick & Clay Rec 61:814-15 N 28 '22

See also Auger machines

Bricks

Increase in strength of sand lime brick; abstract. W. Drakebusch, Am Cer Soc J 5 (Cer A) 1:45 F '22

Sorting and grading face brick. H. F. White, Brick & Clay Rec 63:329 S 4 '23

What is a brick? D. K. Boyd, Brick & Clay Rec 60:700-1 My 2 '22

See also Adobe; Brick construction; Brick industry and trade; Bricklaying; Brickmaking; Clay; Clay industries; Concrete brick; Fire brick; Hollow tile; Masonry; Pavements, Brick; Roads, Brick; Silica brick; Tile

Color

Brick—its color value. G. C. Mars, il Am Arch 123:447-50 My 23 '23

Development of colors in face brick. O. A. Harker, jr, Brick & Clay Rec 63:178-80 Ag 7 '23

Selling the right color face brick. F. Price, il Brick & Clay Rec 62:1045-7 Je 12 '23

Bricks—Continued**Prices**

Current prices of common building brick six inch drain tile and hollow building tile.
Brick & Clay Rec 61:38, 565 Jl 11, O 17 '22

Specifications

Paying brick specifications. Pub Works 51:398 N 19 '21
Report of committee C-3 of A. S. T. M. on brick. Am Soc T M Pro 22 pt 1:248-9 '22

Standards

Reduce brick varieties to two standard sizes.
Eng N 91:121 Jl 19 '23

See also Pavements, Brick—Standards

Testing

Brick tests and clay opinions. il Concrete 23: 45-6 Ag '23
Comparative tests of clay, sand-lime and concrete brick masonry. A. H. Beyer and W. J. Krefeld. il Concrete 22:166-72+ My '23
Oil-fired furnace for the plant laboratory. D. A. Moulton. il diags Am Cer Soc J 5:713-20 O '22
Synthetic versus real brick. W. Carver. il Brick & Clay Rec 61:868-72 D 12 '22
Tests of bricks made from slag. Iron Age 110:25 Jl 6 '22
Tests show differences between clay and concrete brick. il Eng N 90:959-61 My 31 '23; Discussion. W. Carver. 90:1137 Je 28 '23
We must know more about brick. W. Carver. Brick & Clay Rec 60:370-4 Mr 7 '22
See also Fire brick—Testing

Bridge accidents

Bascule bridge overbalanced by careless handling. Eng N 87:978 D 15 '21
See also Bridge failures

Bridge and structural iron workers. See Iron workers, Bridge and structural**Bridge approaches****Guards**

Concrete guards for highway embankments. D. Patch. il Eng & Contr (R & S) 59:753-4 Ap 4 '23

Bridge design

Arched bridges of wide span. F. von Emperger. il diags Eng & Contr 57:519-27 My 31 '22
Artistic design of bridges. C. E. Fowler. Can Eng 42:611-12 Je 13 '22; Same. Eng & Contr 58:189-90 Ag 23 '22; Same. Good Roads 63: 93-4 S 13 '22
Bascule bridge at Mystic, Conn., of new type and its construction. T. E. Brown, jr. and W. G. Grove. il diags plan Eng N 91:374-7 S 6 '23
Boldly designed center for heavy concrete arch of Beechwood avenue bridge in Pittsburgh. il diags Eng N 89:655-7 O 19 '22
Bridging the Tanana river on the Alaska railroad. F. Mears. il diags plans Eng N 90:476-82 Mr 15 '23
Broughdale provincial highway bridge, London. A. B. Crealock. il diags Can Eng 43: 569-71 N 28 '22
Calcul des poutres à treillis double avec membrures parallèles et montants verticaux à tous les nœuds d'attache. L. Légens. diags Génie Civil 80:125-9 F 11 '22
Calcul et répartition des étiéris d'une pièce fléchie en béton armé. A. Taton. Génie Civil 81:220-1 S 2 '22
Cantilever highway bridge across the Ohio at Ironton. J. F. Jackson. il diags Eng N 90: 954-8 My 31 '23
Check method of staking-out skewed concrete highway bridge on curve. O. W. Gatchell. plan Eng N 88:480 Mr 23 '22
Chicago river bridges. E. H. Bennett. il diags plans Arch Rec 52:458-69 D '22
Concours pour la construction d'un nouveau pont de chemin de fer sur le Fleuve Jaune (Chine). Mesnager. diags Génie Civil 80: 292-5 Ap 1 '22

Concrete arch rib and floor combined at crown. il diags Eng N 89:235 Ag 10 '22
Continuous frame design used for concrete highway bridges. A. G. Hayden. il diags plans Eng N 90:73-5 Ja 11 '23
Continuous truss bridge over the Ohio river at Sciotoville, Ohio, of the Chesapeake and Ohio Northern railway. G. Lindenthal. il diags Am Soc C E Pro 48:409-52 Mr '22; Discussion. 48:1311-20 My '22
Delaware river bridge between Philadelphia and Camden. R. Modjeski. il diags plans W Soc E J 28:229-48 Je '23; Excerpt (Webb plate compression tests). Eng & Contr (Bldgs) 60:159 Jl 25 '23
Design of 400-ft. concrete arch of the Cap-pelen memorial bridge. il diags Eng N 90: 148-52 Ja 25 '23
Designing small stone bridges. G. D. Clarke. il diags Am Arch 121:249-52 Mr 29 '22
Designs and specifications for Iowa bridge construction. J. H. Ames. Eng & Contr 57: 170-1 F 22 '22
Double-track spans placed on single-track piers; Cincinnati Southern bridge over the Ohio. il diags Ry Age 72:1215-20 My 27 '22
Final report on specifications for design and construction of steel railway bridge super-structure. diags Am Soc C E Pro 49:53-111 Ja '23
Girder bridge design. T. C. Hood. Engineer 135:124-5 F 2 '23
High piers of railway viaduct braced by trusses of main span. diags plan Eng N 89: 432-3 S 14 '22
Hook joint for timber chord of scissors truss. D. C. Coyle. diags Eng N 88:309 F 23 '22
Hydraulic design of bridge waterways. I. E. Houk. Eng N 88:1071-5 Je 29 '22; Discussion. G. Ribeiro. 89:534 S 28 '22
Incumbent bridge at Renfrew. il diags plans Engineer 135:338-40, 312 Mr 30 '23
Independent floor-beams and slab in new concrete arch bridge. diags Eng N 88:29 Ja 5 '22
Indeterminate structures mechanically analyzed. G. E. Beggs. diags Eng & Contr 57: 497-501 My 24 '22
Large eyebar suspension bridge in South America. diags plan Eng N 91:592-3 O 11 '23
Large steel arch bridge ribs encased in gunite. C. B. McCullough. diags plan Eng N 88: 942-5 Je 8 '22
Long span reinforced concrete girder bridge at Cohasset Narrows. B. A. Rich. il diags Boston Soc C E J 9:237-47 N '22; Same. Eng & Contr (Bldgs) 59:211-16 Ja 24 '23
Long-span steel arch bridge over Niagara gorge for Michigan Central railroad. il diags plans Eng N 90:380-6 Mr 1 '23
L. & N. designs bridge to resist gulf hurricanes. diags Ry Age 74:997-8 Ap 21 '23; Same abr. Eng & Contr (Ry) 59:1113-14 My 16 '23
Michigan Central to build new bridge at Niagara. il diags Ry Age 74:176-80 Ja 13 '23
Model analysis of indeterminate structures. G. E. Beggs. diags Eng & Contr (Bldgs) 59:745-9 Mr 28 '23
New 640-ft. arch span bridge at Niagara Falls. H. Ibsen. diags Can Eng 44:139-42 Ja 16 '23
New steel roller single bascule bridge, Norwich. il diags Engineer 136:424, 428-30 O 19 '23
New type of concrete truss bridge. diags Engineer 133:436, 442 Ap 21 '22
Open-well piers and subdivided Warren trusses of Bismarck-Mandan bridge. C. A. P. Turner. il diags Eng N 88:180-3 F 2 '22
Pont en béton armé, à Castelnaudary (Aude). P. Thomann. il diags plans Génie Civil 81: 217-18 S 2 '22
Pont-rails en béton armé, avec piles-pendules, construit aux aciéries de la marine, à Saint-Chamond (Loire). E. Gardiol. il Génie Civil 81:405-8, pl 10 N 4 '22; Abstract. Eng N 89:1029 D 14 '22
Possibilities of the modern suspension bridge for moderate spans. O. H. Ammann. il Eng N 90:1072-8 Je 21 '23

Bridge design—Continued

Present day problems and tendencies in railway bridge design. C. Gribble. Engineering 114:307 S 8 '22; Same abr. Can Eng 44:123-4 Ja 9 '23; Same cond. Eng & Contr 58:50-2 N 29 '22; Abstract. Engineer 134:278 S 15 '22; Discussion. Engineering 114:336-7, 469-70 S 15, O 13 '22; Engineer 134:278 S 15 '22

Present tendencies of highway bridge design and construction. L. N. Edwards. il Can Eng 43:617-19 D 12 '22; Same. Eng & Contr (R & S) 59:20-4 Ja 3 '23

Railway bridges. Engineer 134:301, 336 S 22-29 '22

Rebuilding Niagara bridge of the Michigan Central railroad. il diags plans Ry R 71: 887-91 D 23 '22

Reinforced concrete bridge across the Thames at Reading. il plan Engineering 116:385-6, 400, pl 22 S 28 '23

Reinforced concrete bridge over the river Pambayaur at Chengannur. il diags plans Engineer 134:410-12 O 20 '22

Reinforced-concrete overbridge at Neepsend, Sheffield. il diags plans Engineering 115: 514-17, 526 Ap 27 '23

Le remplacement du grand pont suspendu de Fribourg (Suisse) par un viaduc en maçonnerie. diags Génie Civil 82:500 My 26 '23

La répartition des charges entre les poutres dans les ponts en béton armé. M. Thullie. Génie Civil 81:174-8 Ag 19 '22

Results of Canadian tests on angle brackets. A. Pedin. Eng & Contr 56:589 D 28 '21

Rigolets. bridge built to stand hurricanes: L. & N.R.R. il diags plan Eng N 91:626-30 O 18 '23

Sliding bearings of Annapolis-Granville bridge. diags Eng & Contr 57:617 Je 28 '22

Some thoughts on long-span bridge design. G. Lindenthal. Eng N 87:361-4 N 24 '21

South Park boulevard viaduct, Chicago. T. L. Condon. diags map plans W Soc E J 28: 261-78 J 23 '23

Standard bridge practice of the Michigan state highway department. C. A. Melick. il diags plan Concrete 23:2-10, 69-74 Jl-Ag '23; Same cond. Eng & Contr (Bldgs) 59:1183-90 My 23 '23; Same cond. Can Eng 45:369-73 O 2 '23

Stresses in bridges. J. S. Wilson and B. P. Haigh. Engineering 116:411-13, 446-8 S 28-O 5 '23; Abstract. Engineer 136:333 S 28 '23; Discussion. Engineering 116:388 S 28 '23

Tentative specifications for steel railway bridges, submitted as a progress report of the special committee of A.S.C.E. on specifications for bridge design and construction. Am Soc C E Pro 47:683-709 D '21; Discussion. 47:710-31; 48:871-957, 1457-74, 1717-28 D '21, Ap, Ag, O '22

Tests of knees for continuous frame concrete bridges. A. G. Hayden. diags Eng N 90:108-10 Ja 18 '23

Thrust of skew barrel arch measured on laboratory model. C. T. Morris. il diags Eng N 88:638-40 Ap 20 '22; Discussion. 89:625 O 12 '22

Toronto highway entrance bridges, at Hamilton. E. B. Allan. il map Can Eng 42:397-401 Ap 18 '22

Track elevation on long concrete viaduct at Aurora, Ill. il diags map plan Eng N 89: 1056-9 D 21 '22

True net sections of riveted tension members. C. R. Young. diags Am Arch 122:121-6 Ag 2 '22; Summary. Eng N 88:911 Je 1 '22; Discussion. Eng N 88:1051; 89:33, 366, 490, 759 Je 22, Jl 6, Ag 31, S 21, N 2 '22

Two-hinged timber arch used as temporary railroad bridge. J. H. Fogelstrom. il diags Eng N 88:737-8 My 4 '22

Two precast concrete bridges on Lackawanna R. R. M. Hirschthal. diags plans Eng N 91:384-8 S 6 '23

Unusual engineering forces as design problems; a discussion of the forces resulting from high winds, storm waves, ice packs or jams, earthquakes and geological changes. C. E. Fowler. diags Eng & Contr 57:607-11 Je 28 '22

Wilmington's memorial bridge. F. W. Skinner. il Pub Works 54:185-9 Je '23

See also Bridges—Abutments; Bridges—Load; Bridges, Arched; Bridges, Cantilever; Bridges, Suspension; Elevated railroads; Trestles; Trusses

Double decks

Concrete arch bridge with double decks at Watertown, N.Y. il diags Concrete 23:58 Ag '23; Same. Eng & Contr (Bldgs) 60:153-4 Jl 25 '23

Double deck highway bridge at East Angus, Que. E. Holgate. il diag Can Eng 43:381-2 S 26 '22

Solve complicated river crossing with double-deck bridge. E. H. Harder. il diags plan Eng N 91:542-5 O 4 '23

Bridge erection. See Bridges—Erection

Bridge failures

Bridge abutment crumbles, wrecking span. C. S. Stewart. il Eng N 89:238 Ag 10 '22

Coal mine subsidence damages concrete girder bridge. G. F. Burch. il diags. Eng N 90: 1046-7 Je 14 '23

Collapse of Palm Beach concrete arch bridge. il Eng N 88:148-50, 292-3, 802+ Ja 26, F 16, My 11 '22

Cowliwz bridge collapse fatal to many. il Pop Mech 39:342-3 Mr '23

Expansion and overturning causes damage to concrete bridge. H. H. Edwards. il diags Eng N 88:701-2 Ap 27 '22; Same. Concrete 21:29-30 Jl '22

Failure of concrete arch bridge due to pier washout. il Eng N 88:951 Je 8 '22

Failure of St Mary's bascule bridge. A. Kuhlmann. il diags Sci Am 126:197 Mr '22

False rock bottom causes bridge to sag like rope. il Pop Mech 40:93 Jl '23

Five killed in collapse of Scotia bridge span. il Eng N 91:487-8 S 20 '23

Large steel highway bridge destroyed by abutment washout. G. G. Wickline. il Eng N 88:1048 Je 22 '22

Railway bridge wreck charged to crushing of pier. Eng N 88:404 Mr 9 '22

Suspension bridge truss at Steubenville, Ohio, fails under heavy load. Eng N 90:976 My 31 '23

Suspension cable on bridge at Kelso, Washington, parts; from 12 to 15 lives are lost. Eng N 90:88 Ja 11 '23

Tacoma concrete arch rib fails due to laitance at joint. diag plan Eng N 90:355 F 22 '23; Discussion. J. C. Rathbun. 90:682 Ap 12 '23

Tall unbraced timber posts cause false-work failure. il diags Eng N 91:16 Jl 5 '23

Bridge inspection

Bridge inspection and maintenance on interurban railway. J. H. Hyatt. Eng & Contr 58:281-3 S 20 '22

Maintenance methods for highway bridges in Minnesota. E. J. Miller. Eng & Contr 57: 618-19 Je 28 '22

Bridge moving

High trolley-line viaduct moved in a day. il Pop Mech 39:542-3 Ap '23

High viaduct moved 75 feet laterally. E. Godfrey. il Eng N 89:1054-5 D 14 '22

Moving a 740-foot steel bridge. il diags Elec Ry J 60:1007-9 D 30 '22

Santa Fe Ry. moves six bridge spans 43 ft. endwise. il Eng N 91:152-3 Jl 26 '23

Bridge painting

Maintenance methods for highway bridges in Minnesota. E. J. Miller. Eng & Contr 57: 618-19 Je 28 '22

Paint to prevent rusting between plates. A. H. Sabin. Eng N 90:271 F 8 '23

Points on bridge maintenance. E. J. Miller. Eng N 90:799 My 3 '23

Bridge traffic

Year's count of traffic at toll bridge over the Connecticut analyzed. Eng N 88:492-3 Mr 23 '22

Bridgeport, Connecticut**Rapid transit**

Five-cent fare ordered. Elec Ry J 58:924 N 19 '21

Bridgeport, Connecticut—Rapid transit—*Cont.*
Operating income increases. Elec Ry J 60:923
D 9 '22

Sewerage

Study of sewage and trade wastes at Bridgeport, Connecticut. W. W. Skinner and J. W. Sale. map J Fr Inst 192:785-99 D '21

Bridges

Bridge builders and highway bridges. Eng N 88:1023; 89:533-4 Je 22, S 28 '22
Bridges antedating Christian era still in service in Palestine. il Eng N 91:177 Ag 2 '23
Bridges old and new. R. Modjeski. il diags J Fr Inst 194:291-327 S '22

Economy and efficiency in modern highway bridge building. H. W. Holmes. Eng N 88:286-7 F 16 '22

Highway bridge conditions in Massachusetts. W. F. Williams. Munic Eng 64:54-5 F '23

Highway bridge location and maintenance. C. B. McCullough. Eng & Contr (Bldgs) 59:206-9 Ja 24 '23

Importance of highway bridges to national transportation; what New York state is doing to solve the problem. D. Holbrook. il Good Roads 64:207-13+ Je 6 '23

Low-water bridge built in Kansas. C. O. Boynton. diags plan Eng N 91:608 O 11 '23

New Missouri river highway bridges. B. H. Piepmeyer. Eng & Contr (Bldgs) 59:200 Ja 24 '23; Same. Munic Eng 64:86-7 F '23

New road bridge opened over sixteen mile creek near Oakville, Ont. T. D. Mylrea. il diags Can Eng 42:203-5 F 7 '22

Problems in highway bridge economics. L. M. Gram. Munic Eng 64:111-15 Mr '23; Same. Eng & Contr (R & S) 60:238-13 Ag 1 '23; Excerpts. Can Eng 44:381-2 Ap 3 '23

Spiral bridge makes queer entry into town. il Pop Mech 40:218 Ag '23

State engineering in the highway bridge field. S. B. Slack; M. W. Torkelson. Eng N 91:344-6 Ag 30 '23

Sur les progrès techniques et d'exécution réalisés dans la reconstruction des ouvrages d'art du nord et de l'est par les ingénieurs civils français. G. Leinekugel Le Cocq. Soc Ing Civils Bul 74:639-58, pl 17 O '21

Toronto highway entrance bridges, at Hamilton. El. B. Allan. il map Can Eng 42:397-401 Ap 18 '22

What one state highway bridge department has to do. S. B. Slack. il Eng N 89:178-80 Ag 3 '22

See also Bridge design and other headings beginning Bridge; Culverts; Drawbridges; Elevated railroads; Ferry bridges; Girders; Highway administration; Highway engineering; Highway law; Hudson river bridge (proposed); Pontoon bridges; Trestles; Trusses; *also* subdivision Bridges under names of cities, e.g. New York (city)—Bridges; San Francisco—Bridges; for particular types of bridges see entries following the general subject and its subdivisions under Bridges, Arched; Bridges, Concrete; Bridges, Railroad, etc.

Abutments

Bronx river bridge abutment held by girder brackets. A. G. Hayden. il Eng N 91:112 Jl 19 '23

Modified U-type of abutment as used in Wyoming. J. F. Seiler. il diags Eng N 89:445-6 S 14 '22

Thrust of skew barrel arch measured on laboratory model. C. T. Morris. il diags Eng N 88:638-40 Ap 20 '22

Approaches

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Cost

Force-account bridge building in South Dakota. il diags Eng N 90:302-3 F 15 '23

Maine policy and cheaper highway bridges. L. N. Edwards. Eng N 90:720-1 Ap 19 '23

Missouri river bridge in North Dakota. W. H. Robinson. Good Roads 62:261-5 My 10 '22

Vertical lift bridges. E. E. Howard. il diags Engineering 112:199-202, 234-6, 264-8 Jl 29-Ag 12 '21; Excerpts. Eng & Contr 56:478-9 N 23 '21

See also Bridges, Concrete—Cost

Erection

Belle Isle bridge steelwork placed by floating. diags Eng N 89:149 Jl 27 '22

Bridge construction with floating steel centers. il diag Sci Am 128:33 Ja '23

Bridge thrown across river by unusual method. il Pop Mech 39:364 Mr '23

Building the Rondout Creek highway suspension bridge. W. E. Joyce and M. Bebarfald. il diags plan Eng N 89:424-8 S 14 '22

Erecting an arch bridge at Oregon City by means of the suspension bridge which it supplants. il Sci Am 128:399 Je '23

Erection of Hurricane Gulch arch bridge in Alaska. E. G. Amesbury. il diags Eng N 88:144-6 Ja 26 '22

Floating a bridge into place section by section. il Sci Am 128:237 Ap '23

Interesting example of bridge erection at Rock Island, Ill. il diags plans Ry R 73:293-8 S 1 '23

Method of erection of concrete arches for new Philadelphia and Reading Ry. bridge. il Ry R 71:138-40 Jl 29 '22

New highway bridge over Batiscan river. Que. E. Holgate. il diags Can Eng 42:487-9 My 16 '22

Old suspension bridge used in erecting new arch. C. B. McCullough. il diags Eng N 89:730-3 N 2 '22

Philadelphia & Reading builds 46-arch bridge. C. H. Hitchcock. il diag Ry Age 73:1035-8 D 2 '22

Pilot method of erecting steel girders for Canadian bridge. il Eng & Contr 57:91-2 Ja 25 '22

Reconstruction of the Baltimore and Ohio railroad bridge crossing the Allegheny river, at Pittsburgh, Pennsylvania. P. G. Lang, jr. il map Am Soc C E Pro 48:809-33, pl 10 Ap '22

Rock Island uses long girders in new bridge. il diags plan Ry Age 75:389-92 S 1 '23

Special trussed falsework for concrete arch. M. Butler. il diags Eng N 89:468-9 S 21 '22

Steel railway viaduct over Deep Creek. J. R. Grant. il Can Eng 45:421-2 O 23 '23

Steel traveler on barge lightens bridge work. il Pop Mech 38:403 S '22

Telescoping tower on scow shifts arch centers. il diag plan Eng N 89:300-1 Ag 24 '22

Temporary wood truss spans gap in steel bridge. L. R. Walker. Eng N 90:678 Ap 12 '23

Twin barges with one deck as a support of a derrick. il Pop Mech 38:831 D '22

Estimates

Estimating cost of highway bridges. W. S. Todd. Eng & Contr 58:232 S 6 '22; Same cond. Can Eng 43:587 N 28 '22

Expansion bearings

Sliding bearings of Annapolis-Granville bridge. diags Eng & Contr 57:617 Je 28 '22

Failures

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Finance

State aid for bridges on state highways. Eng N 91:297 Ag 23 '23

Fires

Bridge destroyed at Springfield. Elec Ry J 62:459 S 22 '23

Destructive bridge floor fire at Stevens Point, Wis. il Eng N 91:32 Jl 5 '23

Fire destroys old wooden bridge at Stockton, N.J. C. A. Mead. il diags Eng N 91:272 Ag 16 '23

North End bridge in Springfield destroyed by fire. Eng N 91:449 S 13 '23

Railway bridges damaged in two unusual fires. Eng N 91:33 Jl 5 '23

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American rubber pavement would save Harvard bridge. *il* India Rubber W 68:416-17 Ap '23

Fire prevention in timber floors of highway bridges. *diag* Eng N 89:796-7 N 9 '22; Same. *Can Eng* 43:624-5 D 12 '22; Same. *Eng & Contr* (R & S) 58:178-81 D 6 '22; Same. *Good Roads* 64:20-1 Ja 10 '23; Same *cond.* *Pub Works* 53:228-9 N '22

Method of constructing pre-cast concrete slab bridge floor. H. W. Woodill. *il* Eng & Contr (R & S) 59:756 Ap 4 '23; Abstracts. *Eng N* 90:823 My 10 '23; *Pub Works* 54:225-6 Jl '23

Points on bridge maintenance. E. J. Miller. *Eng N* 90:799 My 3 '23

Strengthening of the floor, &c., of the Forth bridge. W. A. Fraser. *Engineer* 134:633-4 D 15 '22; Same. *Engineering* 114:719 D 8 '22; Same. *Can Eng* 44:173-4 Ja 23 '23; Same. *Eng & Contr* 59:260-1 Ja 31 '23; Abstract. *Eng N* 90:160 Ja 25 '23

Surfacing driveway of Victoria bridge. I. H. Parker. *il* *Can Eng* 43:125-7 Jl 11 '22

Weight of bridge floors reduced by use of drums. *diag* Eng & Contr 57:169 F 22 '22

Foundations and piers

Air bell proves economical for completing excavation and concreting for bridge pier. *Eng & Contr* 58:276 S 20 '22; Same. *Am Soc C E Pro* 48:316-19 Ap '22

Anchorage construction plant, Delaware river bridge. *il* *diag* plans *Eng N* 91:460-3 S 20 '22

Annapolis river bridge, Annapolis Royal, N.S. E. M. Archibald. *il* *diag* plan *Can Eng* 43:171-3 Jl 25 '22

Caissons en béton armé, pour fondations à l'air comprimé. J. E. Ribera. *diag* plans *Génie Civil* 80:318-20 Ap 8 '22

Delaware river bridge piers. *il* *diag* *Pub Works* 53:211-17 N '22

Design and construction of six-span reinforced concrete highway bridge crossing Wabash river at Attica, Indiana. H. A. Hanapel. *il* *Munic Eng* 63:37-44 Ag '22; Same *cond.* *Good Roads* 63:29-32 Jl 26 '22

Difficult foundation problems for Piscataqua bridge at Portsmouth, N.H. J. W. Rollins, Jr. *Am Soc C E Pro* 48:1435-8 Ag '22; Same *abr.* *Eng & Contr* 58:300-1 S 27 '22

Double-track spans placed on single-track piers; Cincinnati Southern bridge over the Ohio. *il* *diag* *Ry Age* 72:1217 My 27 '22; Same. *Eng & Contr* 57:619 Je 28 '22

Example of concrete construction in winter weather. *il* *Ry R* 73:650 N 3 '23

Experience in treating bridge timber on the Santa Fe. A. F. Robinson. *Eng N* 88:611-12 Ap 13 '22

Experiences in pneumatic caisson sinking in Mexico. T. Hind. *il* *diag* plans *Eng N* 87:848-52 N 24 '21

Fitting timber crib to rough rock foundation. M. E. Chamberlin. *Eng & Contr* (Bldgs) 58:50 O 25 '22

High piers of railway viaduct braced by trusses of main span. *diag* plan *Eng N* 89:432-3 S 14 '22

Johnson street bascule bridge, Victoria, B.C. J. B. Holdcroft. *il* *Can Eng* 43:247-8 Ag 15 '22

Main piers of the bridge over the Delaware river, between Philadelphia and Camden. C. E. Chase. *il* *diag* J Fr Inst 196:593-625 N '23

Massive construction in anchorages and towers features Columbus bridge. R. C. Cheney. *il* *diag* *Eng N* 89:802-3 N 9 '22

Missouri river bridge in North Dakota. W. H. Robinson. *Good Roads* 62:261-5 My 10 '22

Nouveau procédé de fondations sous Peau, applicable aux grandes profondeurs. A. P. Boeuf. *diag* plans *Génie Civil* 81:15-16 Jl 1 '22

Old piers renewed under adverse conditions. *il* *diag* *Ry R* 73:259-64 Ag 25 '23

Open-well piers and subdivided Warren trusses of Bismarck-Mandan bridge. C. A. P. Turner. *il* *diag* *Eng N* 88:180-3 F 2 '22

Pier construction, Wells St. bridge. *il* *Pub Works* 53:174-6 O '22

Piers and abutments of the Springfield bridge. *il* *Pub Works* 52:417-19 Je 10 '22

Reinforcing for 65-ft. cylinder pier placed as unit. *il* *Eng N* 88:31 Ja 5 '22

Repair of defective bridge piers cracked by expansion. L. G. Smith. *diag* *Eng N* 90:1081 Je 21 '23

Rigolets bridge built to stand hurricanes; L. & N.R.R. *il* *diag* plan *Eng N* 91:626-30 O 18 '23

Rock borings for highway bridge piers made with well drilling machine. N. H. Meriwether. *il* *Eng & Contr* 58:221-2 S 6 '22

Shifting of bridge pier stopped after 35 years. M. F. Clements. *diag* map *Ry Age* 72:1333-6 Je 10 '22

South street, Philadelphia, bridge piers. *il* *Pub Works* 53:84-6 Jl 29 '22

Substructure, Johnson St. bridge, Victoria, B.C. F. W. Allwood. *il* *diag* *Can Eng* 42:577-9 Je 6 '22

Substructure of Edmundston-Madawaska bridge. G. M. Steeves. *il* *diag* *Can Eng* 42:545-9 My 30 '22

Testing bridge foundations. *Pub Works* 53:192-3 O '22

Timber above summer water level perfectly preserved. C. M. Kurtz. *il* *Eng N* 87:942-3 D 8 '21

Use pneumatic process for twelve bridge piers. *il* *diag* plan *Ry Age* 74:1255-8 My 26 '23

Wrapping concrete bridge abutments in an asphalt blanket. J. F. Seiler. *Munic Eng* 64:135-6 Ap '23

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Inspection

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Lighting

Great western gateway at Schenectady, N.Y., to have illumination system of great beauty and exceptional efficiency. *il* *Am Inst E E J* 42:346 Ap '23

Load

Actual stresses in British impact tests. P. L. Pratley. *Eng N* 87:1073-4 D 29 '21

Arched bridges of wide span. F. von Emperger. *il* *diag* *Eng & Contr* 57:519-24 My 31 '22

Basis of calculations for loading of Delaware river bridge. R. Modjeski. *Eng & Contr* 57:276 Mr 22 '22

Bridge impact tests and allowances. H. J. Fereday. *Eng & Contr* 57:316-17 Mr 29 '22

British tests on railway bridges in respect of impact effect. C. Gribble. *Eng & Contr* 56:513-15 N 30 '21

English impact measurements analyzed. F. E. Turneure. *Eng N* 88:104-6 Ja 19 '22

Equivalent loads on bridges. P. H. Farr. *Engineer* 135:411-12 Ap 20 '23

Indeterminate structures mechanically analyzed. G. E. Beggs. *diag* *Eng & Contr* 57:497-501 My 24 '22

Locomotive loadings for railway bridges. D. B. Steinman. *Am Soc C E Pro* 48:1043-73. pl 11-19 My '22; Same *cond.* *Can Eng* 43:315-20 S 5 '22; Abstract. *Eng & Contr* 58:175-8 Ag 23 '22; Abstract. *Engineering* 114:242 Ag 25 '22; Discussion. *Am Soc C E Pro* 48:1675-1704, 1789-1806, 1901-7; 49:131-6, 952-83 O '22-Ja, My '23; *Eng N* 89:447-9, 577-8 S 14, O 5 '22; *Can Eng* 44:203-6, 239-40 F 6-13 '23

Model analysis of indeterminate structures. G. E. Beggs. *diag* *Eng & Contr* (Bldgs) 59:745-9 Mr 28 '23

Proposed loading for highway bridges. H. D. Hussey. *diag* *Am Soc C E Pro* 49:1031-7 Ag '23; Same. *Eng & Contr* (Bldgs) 60:363-7 Ag 22 '23; Discussion. *Am Soc C E Pro* 49:1901-13 N '23

Bridges—Load—Continued

- Strength of railway bridges. A. C. Cookson and J. S. Nicholas. *diags Engineering* 114: 233-6 S 3 '22; Discussion. 114:336-7, 363-4, 407-8, 469-70 S 15-29, O 13 '22; *Engineer* 134:278 S 15 '22
- Strength of railway bridges. J. S. Wilson. *Engineering* 114:350; Discussion. 336-7 S 15 '22; Discussion. *Engineer* 134:278 S 15 '22
- Strength of railway bridges; editorial. *Eng & Contr* 58:3-4 N 29 '22
- Strengthening old bridges. L. E. Moore. *diags Boston Soc C E J* 9:223-33 N '22; Same. *Eng & Contr (Bldgs)* 59:225-9 Ja 24 '23; Discussion. B. W. Guppy. *Boston Soc C E J* 9:233-6 N '22; Same. *Eng & Contr (Bldgs)* 59:209-10 Ja 24 '23
- Suldbach railway bridge tests. *diags Eng & Contr* 59:233-9 Ja 31 '23
- Suldbach tests: a Swiss study of bridge action. *il diags Eng N* 87:982-5 D 15 '21
- When a bridge tells its troubles; a new and ingenious device for measuring the effect of traffic on bridges. E. B. Smith. *il diag Sci Am* 129:24 J1 '23

Maintenance and repair

- Arch added to bridge over the Niagara Gorge as traffic continues. *il Pop Mech* 40:745 N '23
- Carrying heavy loads over an old wooden bridge. E. C. Seibert. *il diags Eng N* 91: 441 S 13 '23
- Maintenance methods for highway bridges in Minnesota. E. J. Miller. *Eng & Contr* 57: 618-19 Je 28 '22
- Old piers renewed under adverse conditions. *il diags Ry R* 73:259-64 Ag 25 '23
- Repairing the rolling parts of two bascule bridges. J. B. Huntley. *il diags Eng N* 88: 414-17 Mr 9 '22
- Replacing roller bearings and bed plates under bridge spans. A. A. Blaesser. *il diags Eng N* 89:302-3 Ag 24 '22
- Shifting of bridge pier stopped after 35 years. M. F. Clements. *diags map Ry Age* 72:1333-6 Je 10 '22
- Strengthening of the floor, &c., of the Forth bridge. W. A. Fraser. *Engineer* 134:633-4 D 15 '22; Same. *Engineering* 114:719 D 3 '22; Same. *Can Eng* 44:173-4 Ja 23 '23; Same. *Eng & Contr* 59:260-1 Ja 31 '23; Abstract. *Eng N* 90:160 Ja 25 '23
- Strengthening old bridges. L. E. Moore. *diags Boston Soc C E J* 9:223-33 N '22; Same. *Eng & Contr (Bldgs)* 59:225-9 Ja 24 '23; Abstract. *Can Eng* 44:512 My 22 '23; Discussion. B. W. Guppy. *Boston Soc C E J* 9:233-6 N '22; Same. *Eng & Contr (Bldgs)* 59:209-10 Ja 24 '23
- Strengthening the Trisanna bridge. *il Engineer* 135:588 Je 1 '23; Same. *Eng & Contr (Bldgs)* 59:1418-19 Je 27 '23
- Strengthening truss bridge over tracks at Chicago. *il diags Eng N* 89:621-3 O 12 '22
- Tightening tension bars of a bridge by heating and upsetting. W. J. Titus. *il diag Eng N* 90:550-1 Mr 22 '23; Discussion. 90:801-2 My 3 '23
- Timber struts under compression take arch thrust during bridge repair. F. M. Hall. *il Eng N* 88:794-5 My 11 '22

See also Bridge painting; Bridges—Reconstruction; Bridges, Concrete—Maintenance and repair

Protection

- Bridge protected from shifting channel. B. & O. R. R. *il diags Eng N* 89:884-5 N 23 '22
- Weatherproofing Hudson river bridge. *Can Eng* 42:518 My 23 '22

See also Bridge painting; Bridges, Concrete—Protection; Bridges, Iron and steel—Protection

Rapid construction

- Electric railway bridge at Holyoke, Mass., built in eleven hours. *il diags Elec Ry J* 59: 712-13 Ap 29 '22; Same. *Eng & Contr* 57:593 Je 21 '22

- Speed in reconstruction of a highway bridge. D. B. Luten. *il Munic Eng* 62:95-7 Mr '22

Reconstruction

- Building a bridge within a bridge; a plan for strengthening the Brooklyn bridge and enlarging its carrying capacity. G. Lindenthal. *il Sci Am* 127:226-8 O '22
- Building concrete bridge around an old steel bridge. S. B. Slack. *il diags plan Eng N* 89: 870-2 N 23 '22
- Check bridge reinforcement with strain gauge. H. S. Loeffler. *il diags Ry Age* 74:1157-9 My 12 '23
- Electrical equipment speeds up bridge construction at Lynn. *il Elec R* 79:842 D 3 '21
- Handling traffic on Chicago "L" during bridge replacement. *il map Elec Ry J* 58:1113-15 D 24 '21
- Highway bridge reconstruction policy in Pennsylvania. *Munic Eng* 63:197 N '22
- Illinois Central to rebuild Ohio river bridge. *diags Ry Age* 71:1214-15 D 17 '21
- Ingenious methods employed on highway bridge reconstruction at Milport, Indiana. *Munic Eng* 63:58 Ag '22
- Lengthening bridge after caving of bank in flood. B. H. Faber. *il Eng N* 90:703 Ap 19 '23
- New bridge constructed on old structure at Troy. O. *diags Eng & Contr (Bldgs)* 59: 506-9 F 28 '23; Same. *Concrete* 23:145-7 O '23; Same cond. *Eng N* 90:654-6 Ap 12 '23
- Old steel arch utilized in new reinforced concrete structure. C. F. Bornefeld. *il diags Concrete* 23:102-6 S '23
- Railroad bridge widened and reinforced. G. H. Wilsey. *diag Eng N* 90:796 My 3 '23
- Rebuilding Tournelle bridge as flood protection measure in Seine river. *diags Eng N* 91:673 O 25 '23
- Reconstruction of Sixteenth street viaduct in Denver. E. Eaves. *il diags Eng N* 91:750-3 N 8 '23
- Reconstruction of the Baltimore and Ohio railroad bridge crossing the Allegheny river, at Pittsburgh, Pennsylvania. P. G. Lang, jr. *il map Am Soc C E Pro* 48:809-33, pl 10 Ap '22
- Steel and wrought-iron trusses efficiently combined in railway bridge reconstruction. *il diags plans Eng N* 89:973-8 D 7 '22
- Trolley deck of Manhattan bridge converted to roadway. *diags Eng N* 88:1087 Je 29 '22
- Wells street bridge. T. Pihlfeldt. *W Soc E J* 27:59-61; Discussion. 61-4 F '22

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Specifications

- British standard specification for girder bridges. 37p British eng. stand. assn., London '22

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Standards

- Standard bridge practice of the Michigan state highway department. C. A. Melick. *il diags plan Concrete* 23:2-10, 69-74 J1-Ag '23; Same cond. *Eng & Contr (B'dgs)* 59: 1183-90 My 23 '23; Same cond. *Can Eng* 45:369-73 O 2 '23

State aid

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Stresses

- Accurate recording gauge; Fereday-Palmer stress recorder employed in determining actual stresses in bridge members. *Can Eng* 45:414 O 16 '23
- Stresses in bridges. J. S. Wilson and B. P. Haigh. *Engineering* 116:411-13, 446-8 S 28-O 5 '23; Abstract. *Engineer* 136:333 S 28 '23; Discussion. *Engineering* 116:388 S 28 '23
- Wind pressures and stresses caused by the wind on bridges. D. H. Remfry. *Engineering* 115:152 F 2 '23

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Testing

- Actual stresses in British impact tests. P. L. Pratley. *Eng N* 87:1073-4 D 29 '21

Bridges—Testing—Continued

- English impact measurements analyzed. F. E. Turneure. Eng N 88:104-6 Ja 19 '22
- Progress report of the special committee on impact in highway bridges. il diags Am Soc C E Pro 49:457-87 Mr '23
- Suldbach railway bridge tests. diags Eng & Contr 59:283-9 Ja 31 '23
- Suldbach tests: a Swiss study of bridge action. il diags Eng N 87:982-5 D 15 '21
- When a bridge tells its troubles: a new and ingenious device for measuring the effect of traffic on bridges. E. B. Smith. il diag Sci Am 123:24 Jl '23

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Vibration

- Forced vibrations of bridges. S. P. Timoshenko. Philos Mag 6th ser 43:1018-19 My '22

Wrecking

- Bridge boosting—a new job for dynamite. H. S. Arbo. il Pop Mech 38:11-13 Jl '22
- Removal of old Broadway bridge, St Boniface. G. P. Morse. il Can Eng 44:541 My 29 '23

Bridges, Arched

- Arch problems in the Palm Beach failure. Eng N 88:292-3 F 16 '22
- Arched bridges of wide span. F. von Emperger. il diags Eng & Contr 57:519-24 My 31 '22
- Boldly designed center for heavy concrete arch of Beechwood avenue bridge in Pittsburgh. il diags Eng N 89:655-7 O 19 '22
- Bridge construction with floating steel centers. il diag Sci Am 128:38 Ja '23
- Building a rib-arch concrete bridge in Arkansas. C. A. Prokes. il diags Eng N 88:306-9 F 23 '22
- Concrete arch bridges with partially fixed ends. R. N. Stroyer. diags Eng & Contr 58:301 S 27 '22
- Constructing arch ribs of Springfield bridge. il Pub Works 53:8-10 Jl 1 '22
- Design and construction of six-span reinforced concrete highway bridge crossing Wabash river at Attica, Indiana. H. A. Hanapel. il Munic Eng 63:37-44 Ag '22; Same cond. Good Roads 63:29-32 Jl 26 '22
- Design of 400-ft. concrete arch of the Cap-pelen memorial bridge. il diags Eng N 90:148-52 Ja 25 '23
- Erection of Hurricane Gulch arch bridge in Alaska. E. G. Amesbury. il diags Eng N 88:144-6 Ja 26 '22
- Erection of Hurricane Gulch arch bridge on Alaska government railway. il Ry R 70:638-40 My 6 '22
- High level concrete bridge, Elora, Ont. A. W. Connor. il Can Eng 42:517-18 My 23 '22
- Hill-to-hill bridge in Bethlehem, Pa. F. W. Skinner. il diags plans Pub Works 54:233-6. 251-3. 299-301 Jl-S '23
- Hillhurst bridge, Calgary. J. F. Greene. il Can Eng 42:499 My 16 '22
- Large steel arch bridge ribs encased in gunite. C. B. McCullough. diags plan Eng N 88:942-5 Je 8 '22; Discussion. R. W. Lincoln. 89:161 Jl 27 '22
- Long-span steel arch bridge over Niagara gorge for Michigan Central railroad. il diags plans Eng N 90:380-6 Mr 1 '23
- Maryland street concrete arch bridge, Winnipeg. J. F. Greene. il diag Can Eng 42:339-42 Mr 28 '22; Same. Eng N 88:608-11 Ap 13 '22; Same. Eng & Contr 57:398-401 Ap 26 '22
- Michigan Central to build new bridge at Niagara. il diags Ry Age 74:176-80 Ja 13 '23; Ry R 71:887-91 D 25 '22
- Model analysis of indeterminate structures. C. E. Beggs. diags Eng & Contr (Bldgs) 59:745-9 Mr 28 '23
- New bridge at Muskham on the Great North road. il plan Engineer 135:313-14. 316 Mr 23 '23
- Old suspension bridge used in erecting new arch. C. B. McCullough. il diags Eng N 89:730-3 N 2 '22
- Philadelphia & Reading builds 46-arch bridge. C. H. Hitchcock. il diag Ry Age 73:1035-8 D 2 '22

- Pont-rails métallique sur l'Isorno (ligne de Locarno à Domodossola, en Lombardie). diags plan Génie Civil 80:160-1 F 18 '22
- Porto Rican concrete arch bridge has novel spandrels. diags Eng N 89:981 D 7 '22
- Procédé de construction, sans cintres, des grands arcs en béton armé. C. Dantin. diags plan Génie Civil 80:37-41 Ja 14 '22
- Reinforced concrete bridge at Brantford, Ont. F. P. Adams. il diag Can Eng 44:179-80 Ja 30 '23
- Some features of the Chemung river concrete bridge. il diags plan Eng N 88:188-92 F 2 '22
- Steel rib reinforcement used for concrete arch centers in bridge across Connecticut river at Springfield, Mass. il diags plans Eng N 88:514-19 Mr 30 '22
- Steel traveler on barge lightens bridge work. il Pop Mech 38:403 S '22
- Telescoping tower on scow shifts arch centers. il diag plan Eng N 89:300-1 Ag 24 '22
- Thrust of skew barrel arch measured on laboratory model. C. T. Morris. il diags Eng N 88:638-40 Ap 20 '22; Discussion. 88:968-9; 89:625 Je 8, O 12 '22
- Timber struts under compression take arch thrust during bridge repair. F. M. Hall. il Eng N 88:794-5 My 11 '22

Testing

- Measuring skew-arch strains and stresses. il Pop Mech 39:77 Ja '23
- Testing for better skew-arch bridges. il Good Roads 63:149 O 25 '22; Same. Eng & Contr (R & S) 58:87-8 N 1 '22; Same. Concrete 21:184-5 D '22

Bridges, Bamboo

- Bridge built of bamboo spans river in Japan. il Pop Mech 40:761 N '23

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- American bascule bridge for Tientsin, China. il Pop Mech 39:4 Ja '23
- Bascule bridge at Mystic, Conn., of new type and its construction. T. E. Brown, jr. and W. G. Grove. il diags plan Eng N 91:374-7 S 6 '23
- Bascule bridge controlled by moving counterweight. il Pop Mech 38:880 D '22
- Bascule bridge overbalanced by careless handling. Eng N 87:978 D 15 '21
- Bascule highway bridge, Port Dover, Ontario. E. H. Darling. il diags plan Can Eng 43:295-7 Ag 29 '22
- Chicago double-deck drawbridge with elevated railway. il diags plans Eng N 88:567-71 Ap 6 '22
- Clever engineering seen in opening new bridge. il Pop Mech 37:191 F '22
- Constructing Prairie du Sac highway bridge. il diags Pub Works 52:311-13 My 6 '22
- Electrically controlled bascule bridge. il Electrician 88:471-2 Ap 21 '22
- Failure of St Mary's bascule bridge. A. Kuhlmann. il diag Sci Am 126:197 Mr '22
- Footbridge with bascule draw. P. J. Searles. il Eng N 90:680 Ap 12 '23
- New development in bascule bridge design. il diag Eng & Contr 57:283 Mr 22 '22
- New highway bridge over Batiscan river, Que. E. Holgate. il diags Can Eng 42:487-9 My 16 '22
- New steel roller single bascule bridge, Norwich. il diags Engineer 136:424. 428-30 O 19 '23
- New type of bascule bridge. diag Can Eng 43:309 Ag 29 '22
- New type of trunnion bascule bridge; Wabash Ry. il diags Eng N 88:363-4 Mr 2 '22; Ry Age 72:414-15 F 18 '22
- Pier construction, Wells St. bridge. il Pub Works 53:174-6 O '22
- Pont basculant en arc à deux travées, à Caorle (Vénétie). diags plan Génie Civil 81:143 Ag 5 '22
- Ponts basculants sur l'Oise, à Chauny, et sur le canal de la Haute-Deule, près de Douai. il diags plan Génie Civil 83:189-91 S 29 '23
- Repairing the rolling parts of two bascule bridges. J. B. Huntley. il diags Eng N 88:414-17 Mr 9 '22
- Strauss bascule bridge, Burlington, Ont. J. A. McFarlane. il Can Eng 45:161-4 Jl 24 '23

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- Superstructure of Johnson street bridge, Victoria, F. H. Allwood. *il Can Eng* 43:611-13 D 12 '22
- Track and wiring on large bridge across the Housatonic river, *il diags plans Elec Ry J* 59:587-91 Ap 8 '22
- Two bridges in one—Chicago's Michigan avenue bridge, W: A. Mulcahy. *il Sci Am* 128:16 Ja '23
- Wells street bridge, T: Pihlfeldt, W Soc E J 27:59-61; Discussion. 61-4 F '22

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- Cantilever bridge of concrete, P. M. Henry, *il diags Eng N* 91:191 Ag 2 '23
- Cantilever bridge to span Hugli river in India. *il Pop Mech* 38:507 O '22
- Cantilever highway bridge across the Ohio at Ironton, J. F. Jackson. *il diags Eng N* 90:954-8 My 31 '23
- New cantilever bridge across St John river. *il diags Can Eng* 43:591-3 D 5 '22
- New cantilever bridge replaces famous old span. *il Ry Age* 72:1175-6 My 20 '22
- New 640-ft. arch span bridge at Niagara Falls, H. Ibsen. *diags Can Eng* 44:139-42 Ja 16 '23
- New 3,800 foot bridge at Sydney Harbor. *diag Eng & Contr* 57:295 Mr 29 '22
- Proposed cantilever bridge at Sydney, New South Wales. *diags plans Engineering* 112:880-3 D 30 '21
- Report on Calcutta bridge proposes 1,500-ft. cantilever structure. *Eng N* 89:72 Jl 13 '22
- Second railway cantilever bridge over reversing falls. *il Eng N* 88:527 Mr 30 '22
- Sydney Harbor bridge, P. J. Risdon. *il Sci Am* 127:180-1+ S '22
- Sydney Harbor cantilever bridge design. *Eng N* 88:78 Ja 12 '22

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- Arch problems in the Palm Beach failure. *Eng N* 88:292-3 F 16 '22
- Le béton armé et le ciment fondu: construction des ouvrages en béton armé à grande portée. H: Lossier. *il diags Génie Civil* 80:79-83, pl 3 Ja 28 '22
- Boldly designed center for heavy concrete arch of Beechwood avenue bridge in Pittsburgh. *il diags Eng N* 89:655-7 O 19 '22
- Bridge slabs waterproofed before erection. H. E. Glisson. *il diags Ry Age* 72:873-5 Ap 8 '22
- Bridge with a thousand spans between Tampa and St Petersburg, F. W. Wilson. *il Pop Mech* 39:502-4 Ap '23
- Building a five-span concrete bridge in cold weather. G. F. Scales. *il Eng N* 89:563 O 5 '22
- Building a rib-arch concrete bridge in Arkansas. C. A. Prokes. *il diags Eng N* 88:306-9 F 23 '22
- Building concrete bridge around an old steel bridge, S. B. Slack. *il diags plan Eng N* 89:870-2 N 23 '22
- Canada's greatest concrete bridge over the Otonabee River, Peterborough, F. Barber. *il diag Eng & Contr* 57:489-90 My 24 '22
- Cantilever bridge of concrete, P. M. Henry. *il diags Eng N* 91:191 Ag 2 '23
- Collapse of Palm Beach concrete arch bridge. *il Eng N* 88:148-50 Ja 26 '22
- Completion of a notable concrete viaduct. *il Sci Am* 128:99 F '23
- Concrete arch bridge with double decks at Watertown, N.Y. *il diags Concrete* 23:58 Ag '23; Same. *Eng & Contr (Bldgs)* 60:153-4 Jl 25 '23
- Concrete arch bridges with partially fixed ends, R. N. Stroyer. *diags Eng & Contr* 58:301 S 27 '22
- Concrete as a bridge building material. W. Marriott. *Can Eng* 44:248 F 20 '23; Same. *Good Roads* 64:169 My 2 '23
- Concrete bridge construction in winter. N. M. Stineman. *il Eng & Contr* 56:585-6 D 28 '21
- Concrete bridge dedicated to service men. *il Pop Mech* 38:525 O '22
- Concrete bridge has interesting ornamental features. J: F. McClarren. *il Concrete* 21:178-80 D '22
- Concrete bridges and culverts, W. J. Moore. *Can Eng* 42:291-2 Mr 7 '22

- Concrete continuous-truss bridge without diagonals. *diags Eng N* 89:926 N 30 '22
- Concrete memorial bridge at Wilmington, Del. has attractive appearance. *il Eng N* 91:96-7 Jl 19 '23
- Constructing arch ribs of Springfield bridge. *il Pub Works* 53:8-10 Jl 1 '22
- Construction of a pre-cast concrete slab bridge at Central street, Lowell, S. S. Kent. *il Boston Soc C E J* 9:213-22 N '22; Same. *Eng & Contr (Bldgs)* 58:65-71 N 22 '22
- Continuous frame design used for concrete highway bridges, A. G. Hayden. *il diags plans Eng N* 90:73-5 Ja 11 '22
- Cumming's bridge across Rideau river, Ottawa, G. R. Dale. *Can Eng* 43:205-6 Ag 1 '22
- Design and construction of six-span reinforced concrete highway bridge crossing Wabash river at Attica, Indiana, H. A. Hanapel. *il Munic Eng* 63:37-44 Ag '22; Same cond. *Good Roads* 63:29-32 Jl 26 '22
- Design of 400-ft. concrete arch of the Capellen memorial bridge. *il diags Eng N* 90:148-52 Ja 25 '23
- Distribute bridge concrete in unusual way. *il Pop Mech* 39:768 My '23
- Economical use of concrete in bridge construction. L. G. Holleran. *il diags plans Eng & Contr (Bldgs)* 59:923-7 Ap 25 '23
- Expansion and construction joints in concrete highway bridges, A. B. Cohen. *Eng & Contr* 57:614-15 Je 28 '22; Same. *Can Eng* 43:307 Ag 29 '22; Same. *Good Roads* 63:68+ Ag 23 '22
- Expansion and overturning causes damage to concrete bridge, H. H. Edwards. *il diags Eng N* 88:701-2 Ap 27 '22; Same. *Concrete* 21:29-30 Jl '22
- Expansion details for concrete bridge railing, O. W. Gatchell. *il diag Eng N* 91:520 S 27 '23
- Fountain county's bridge over the Wabash river at Attica, Indiana. *il Eng & Contr* 58:299 S 27 '22
- Georgetown bridge over the Potomac. *il Sci Am* 128:309 My '23
- High level concrete bridge, Elora, Ont. A. W. Connor. *il Can Eng* 42:517-18 My 23 '22
- Highway bridges over spillways of dams of Miami conservancy district. *il diags Eng & Contr* 57:393-4 Ap 26 '22
- Hill-to-hill bridge in Bethlehem, Pa. F. W. Skinner. *il diags plans Pub Works* 54:23-6, 251-3, 299-301 Jl-S '23
- Hillhurst bridge, Calgary, J: F. Greene. *il Can Eng* 42:499 My 16 '22
- Independent floor-beams and slab in new concrete arch bridge. *diags Eng N* 88:29 Ja 5 '22
- Long span reinforced concrete girder bridge at Cohasset Narrows, B. A. Rich. *il diags Boston Soc C E J* 9:237-47 N '22; Same. *Eng & Contr (Bldgs)* 59:211-16 Ja 24 '23
- Maryland street concrete arch bridge, Winnipeg, J. F. Greene. *il diag Can Eng* 42:339-42 Mr 28 '22; Same. *Eng N* 88:608-11 Ap 13 '22; Same. *Eng & Contr* 57:398-401 Ap 26 '22
- Method of erection of concrete arches for new Philadelphia and Reading Ry. bridge. *il Ry R* 71:138-40 Jl 29 '22
- Nashville concrete bridges show serious deterioration. *il diags Eng N* 87:934-8 D 8 '21
- New bridge at Muskham on the Great North road. *il plan Engineer* 135:313-14, 316 Mr 23 '23
- New bridge constructed on old structure at Troy, O. *diags Eng & Contr (Bldgs)* 59:506-9 F 23 '23; Same. *Concrete* 23:145-7 O '23; Same cond. *Eng N* 90:654-6 Ap 12 '23
- New concrete bridge in Southwest; Oklahoma-Arkansas bridge crossing the Arkansas river at Fort Smith, Ark. *il Good Roads* 63:21-2 Jl 19 '22
- New street viaduct at Dover, England. *il diags Engineering* 113:251-5, 264, 284-5, pl 15 Mr 3-10 '22; Excerpts. *Eng & Contr* 57:513-14 My 31 '22
- New type of concrete truss bridge. *diags Engineer* 133:436, 442 Ap 21 '22
- North Avenue viaduct, Milwaukee. *il diags Pub Works* 52:97-100, 277-80, 303 F 11, Ap 22-29 '22

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- North Hill viaduct, Akron, Ohio, completed. D. M. Taylor. il diags map plans Ry R 71: 700-4 N 18 '22
- Old steel arch utilized in new reinforced concrete structure. C. F. Bornefeld. il diags Concrete 23:102-6 S '23
- Ornamental memorial highway bridge over Wisconsin river at Sauk City, Wis. W. C. Buetow. il Munic Eng 65:107-9 S '23
- Pont en béton armé, à Castelnau (Aude). P. Thomann. il diags plans Génie Civil 81: 217-18 S 2 '22
- Pont-rails en béton armé, avec piles-pendules, construit aux aciéries de la marine, à Saint-Chamond (Loire). E. Gardiol. il Génie Civil 81:405-8, pl 10 N 4 '22; Abstract. Eng N 89: 1029 D 14 '22
- Pont-route de Randan (Puy-de-Dôme), à poutres droites sans triangulation. diags Génie Civil 81:447 N 11 '22
- Porto Rican concrete arch bridge has novel spandrels. diags Eng N 89:981 D 7 '22
- Procédé de construction, sans cintres, des grands arcs en béton armé. C. Dantin. diags plan Génie Civil 80:37-41 Ja 14 '22
- Rapid highway bridge work. H. D. Williar, jr. il Pub Works 51:446-7 D 10 '21
- Reinforced concrete bridge across the Thames at Reading. il plan Engineering 116:385-6, 400, pl 22 S 28 '23
- Reinforced concrete bridge at Brantford, Ont. F. P. Adams. il diag Can Eng 44:179-80 Ja 30 '23
- Reinforced concrete bridge over the river Pambayaur at Chengannur. il diags plans Engineer 134:410-12 O 20 '22
- Reinforced concrete bridge over the River Vesubie. W. L. Scott. Engineering 116:70-1, pl 5-7 JI 20 '23
- Reinforced-concrete overbridge at Neepsend, Sheffield. il diags plans Engineering 115:514-17, 526 Ap 27 '23
- Reinforced concrete overhead bridge Pittsburgh & Shawmut R. R. il Ry R 71:375-6 S 16 '22
- Reinforcement for bridge assembled on barges. il Pop Mech 38:710-11 N '22
- Remarkable concrete bridge at Villeneuve, Southern France. R. Fischer. il diags Concrete 21:63 Ag '22
- La répartition des charges entre les poutres dans les ponts en béton armé. M. Thullie. Génie Civil 81:174-8 Ag 19 '22
- Report of committee S-2, on reinforced-concrete highway bridges and culverts. il diags Am Concrete Inst Pro 18:230-42 '22
- Semi-removable centers for concrete bridge arches. H. G. Peterson. diags Eng N 89: 142-3 JI 27 '22
- Solve complicated river crossing with double-deck bridge. E. H. Harder. il diags plan Eng N 91:542-5 O 4 '23
- Some features of the Chemung river concrete bridge. il diags plan Eng N 88:188-92 F 2 '22
- Some recent British concrete bridges. F. Johnstone-Taylor. diags Concrete 23:26-7 JI '23
- Special concrete specified for Jamaica Bay viaduct. diags map Eng N 88:244-7 F 9 '22
- Special form work for Black street bridge, Hamilton, O. il diags Eng & Contr 58:173-5 Ag 23 '22
- Special trussed falsework for concrete arch. M. Butler. il diags Eng N 89:468-9 S 21 '22
- Speed in reconstruction of a highway bridge. D. B. Luten. il Munic Eng 62:95-7 Mr '22
- Springfield-West Springfield bridge. il diags plan Pub Works 52:365-8, 384-6 My 20-27 '22
- Standard concrete highway bridges and culverts. A. C. Irwin. diags Am Concrete Inst Pro 17:90-111 '21
- Steel rib reinforcement used for concrete arch centers in bridge across Connecticut river at Springfield, Mass. il diags plans Eng N 88:514-19 Mr 30 '22
- Strength specifications used for large concrete bridge. J. B. Huntley. il diags plan Eng N 91:586-90 O 11 '23

- Substructure of Edmundston-Madawaska bridge. G. M. Steeves. il diags Can Eng 42: 545-9 My 30 '22; Same abr. Eng & Contr (Bldgs) 58:123-7 D 27 '22
- 300-ft. span plain concrete bridge over the River Lot at Villeneuve, France. il Eng & Contr (Bldgs) 58:133 D 27 '22
- 307 ft. span concrete bridge on Danish state railways. il diags Eng & Contr 58:210 Ag 30 '22
- Three ways to build bridges in winter. il Concrete 23:142-3 O '23
- Track elevation at Aurora, Illinois. il map plan Ry R 73:191-8 Ag 11 '23
- Track elevation on long concrete viaduct at Aurora, Ill. il diags map plan Eng N 89: 1056-9 D 21 '22
- Traveling tower places bridge concrete. A. E. Whillock. il diag Concrete 22:228-30 Je '23
- Two precast concrete bridges on Lackawanna R.R. M. Hirschthal. diags plans Eng N 91: 384-8 S 6 '23
- Use of concrete and reinforced concrete on railways; reports at the International railway congress. Engineering 113:643-6 My 26 '22
- Vaudreuil-Ile Perrot highway bridge. F. B. Painchaud. il diags Can Eng 45:341-2 S 25 '23
- Washington bridge in Connecticut. il Good Roads 62:39-40 Ja 18 '22
- Waterproofing, joints and drainage in concrete bridge. diags Eng N 88:411-13 Mr 9 '22; Abstract. Concrete 20:100-1 Mr '22
- Wilmington's memorial bridge. F. W. Skinner. il Pub Works 54:185-9 Je '23
- Woodland place viaduct. J. Owen. il diags Pub Works 52:189-91 Mr 18 '22

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- Cost of small concrete bridges in Clark county, Kentucky. H. B. Forbes. Eng & Contr (R & S) 59:998 My 2 '23
- Estimating cost of highway bridges. W. S. Todd. Munic Eng 62:164-6 My '22

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- Nashville concrete bridges to be repaired. Eng N 90:1090 Je 21 '23
- Viaduct repaired with gunite. il Concrete 23: 93 S '23

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- Protecting concrete bridge girders from locomotive blasts. il diags plan Pub Works 52: 176 Mr 11 '22

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- Modern specification for concrete bridge construction. Can Eng 43:131-3 JI 11 '22

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- Curious concrete bridge tests. il Sci Am 128: 233 Ap '23
- Shrinkage and temperature changes in reinforced concrete. E. H. Harder. Eng N 90: 661-4 Ap 12 '23
- Testing for better skew-arch bridges. il Good Roads 63:149 O 25 '22; Same. Eng & Contr (R & S) 58:87-8 N 1 '22; Same. Concrete 21: 184-5 D '22
- Tests of knees for continuous frame concrete bridges. A. G. Hayden. diags Eng N 90: 108-10 Ja 18 '23

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- New Akron viaduct eliminates bad hills and saves railway \$14,500 annually. il Elec Ry J 60:809 N 18 '22
- North Hill viaduct, Akron, Ohio, completed. D. M. Taylor. il diags map plans Ry R 71: 700-4 N 18 '22

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- Belle Isle bridge steelwork placed by floating. diags Eng N 89:149 JI 27 '22

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- Bridge building in Alaska tests engineering skill. G. F. Paul. *il Pop Mech* 38:67-70 J1 '22
- Bridging the Tanana river on the Alaska railroad. F. Mears. *il diags plans Eng N* 90:476-82 Mr 15 '23
- Broughdale provincial highway bridge, London. A. B. Crealock. *il diags Can Eng* 43:569-71 N 28 '22
- Concreting long arch spans on short steel truss centers. *Pub Works* 52:381 My 27 '22
- Continuous truss bridge over the Ohio river at Sciotoville, Ohio, of the Chesapeake and Ohio Northern railway. G. Lindenthal. *il diags Am Soc C E Pro* 48:409-52 Mr '22; *Excerpt. Eng & Contr* 57:405-7 Ap 26 '22
- Double deck highway bridge at East Angus, Que. E. Holgate. *il diag Can Eng* 43:381-2 S 26 '22
- Gerrard street steel arch bridge, Toronto. J. S. Burgoyne and G. Alison. *il diags plans Can Eng* 44:425-8 Ap 24 '23
- Interesting example of bridge erection at Rock Island, Ill. *il diags plans Ry R* 73:293-8 S 1 '23
- Large steel arch bridge ribs encased in gunite. C. B. McCullough. *diags plan Eng N* 88:942-5 Je 8 '22; *Discussion. R. W. Lincoln.* 89:161 J1 27 '22
- Large steel highway bridge destroyed by abutment washout. G. G. Wickline. *il Eng N* 88:1048 Je 22 '22
- Last ferry eliminated on Yellowstone Trail. *il Pop Mech* 38:686-7 N '22
- Long-span concrete-steel bridge at Oregon City. *il Pop Mech* 38:97 J1 '22
- Modern steel structure at site of legendary Bridge of the gods across Columbia river. *Pop Mech* 37:828 Je '22
- Movable and long-span steel bridges. G. A. Hool and W. S. Kinne. 496p McGraw-Hill '23
- New steel highway bridge at Bracebridge, Ont. *il Can Eng* 44:200 F 6 '23
- New steel roller single bascule bridge, Norwich. *il diags Engineer* 136:424, 428-30 O 19 '23
- New structural steel bridge over the Don river, Toronto. *diags plan Can Eng* 43:663 D 26 '22
- Pure iron in early American bridge. D. M. Strickland. *Eng N* 87:819 N 17 '21
- Report of A.R.E.A. committee on iron and steel structures. *Ry Age* 74:619-21 Mr 14 '23
- Rock Island uses long girders in new bridge. *il diags plan Ry Age* 75:389-92 S 1 '23
- South Park boulevard viaduct, Chicago. T. L. Condon. *diags map plans W Soc E J* 28:261-78 J1 '23
- Steel and wrought-iron trusses efficiently combined in railway bridge reconstruction. *il diags plans Eng N* 89:973-8 D 7 '22
- Steel highway bridge over the Batiscan river. F. B. Painchaud. *il diags Can Eng* 43:529-30 N 14 '22
- Steel railway viaduct over Deep Creek. J. R. Grant. *il Can Eng* 45:421-2 O 23 '23
- Strengthening the Trisanna bridge. *il Engineer* 135:588 Je 1 '23; *Same. Eng & Contr (Bldgs)* 59:1418-19 Je 27 '23
- Sydney Harbor bridge. F. J. Risdon. *il Sci Am* 127:180-14 S 22
- Protection**
- Effect of locomotive blasts on concrete and gunite steel encasement. J. V. Schaefer. *il Can Eng* 43:641-2 D 19 '22
- Protecting steel bridges from locomotive blast; examination of gunite and reinforced-concrete casing on floor system. *il Eng N* 89:968-9 D 7 '22; *Discussion. F. E. Morrow.* 90:596 Mr 29 '23
- Specifications**
- Final report on specifications for design and construction of steel railway bridge superstructure. *diags Am Soc C E Pro* 49:53-111 Ja '23
- New C.E.S.A. specification for steel highway bridges. *Can Eng* 44:237-8 F 13 '23
- Revised steel railway bridge specification, Canadian engineering standards association. *Can Eng* 43:138-9 J1 11 '22
- Specification for steel bridges. *Can Eng* 45:235-6 Ag 14 '23
- Tentative specifications for steel highway bridge superstructure. *diags Am Soc C E Pro* 49:1379-1403; *Discussion. C. W. Hudson.* 1607 S '23
- Tentative specifications for steel railway bridges, submitted as a progress report of the special committee of A.S.C.E. on specifications for bridge design and construction. *Am Soc C E Pro* 47:683-709 D '21; *Discussion.* 47:710-31; 48:871-957, 1457-74, 1717-28 D '21, Ap, Ag, O '22
- Bridges, Lift**
- Continuous traffic lift bridges. *diag Can Eng* 45:107 J1 3 '23
- Continuous-traffic lift bridges proposed for Allegheny river at Pittsburgh. A. A. Henderson. *diags Eng Soc W Pa* 38:227-40; *Discussion.* 241-65 J1 '22
- Finish heaviest vertical-lift bridge span. *il Pop Mech* 39:271 F '23
- Inchinnan bridge at Renfrew. *il diags plans Engineer* 135:338-40, 342 Mr 30 '23
- New lift bridges on the Jersey Central railroad across Newark bay. *il Sci Am* 129:315 N '23
- Pont levant sur le canal du Midi, à Béziers (Hérault). *il diag Génie Civil* 81:108-10 J1 29 '22
- Vertical lift bridges. E. E. Howard. *il diags Engineering* 112:199-202, 234-6, 264-8 J1 29-Ag 12 '21; *Excerpts. Eng & Contr* 56:303-4, 478-9 S 28, N 23 '21; *Excerpt. Ry Age* 70:1393-4 Je 17 '21; *Abstract. Am Soc C E Pro* 47:541-5 My '21; *Discussion. H. G. Hunter.* *Eng & Contr* 56:483 N 23 '21
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- Bridges, Movable**
- Movable and long-span steel bridges. G. A. Hool and W. S. Kinne. 496p McGraw-Hill '23
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- America's debt to the Howe truss timber railway bridge. *il Sci Am* 126:321 My '22
- Baltimore & Ohio completes large bridge project. P. G. Lang, jr. *il diag map Ry Age* 71:1105-7 D 3 '21
- Bridge engineering has made progress since the eighties. *il Ry R* 72:415-19 Mr 10 '23
- Bridging the Tanana river on the Alaska railroad. F. Mears. *il diags plans Eng N* 90:476-82 Mr 15 '23
- Castleton bridge and freight cut-off started. *diag plan Ry Age* 72:1246-7 My 27 '22
- Castleton bridge contracts let. *diags plans Eng N* 88:998-9 Je 15 '22
- Castleton cut-off, New York Central railroad. *Ry R* 70:758-9; 73:41-52 My 27 '22, J1 14 '23
- Check bridge reinforcement with strain gage. H. S. Loeffler. *il diags Ry Age* 74:1157-9 My 12 '23
- Cincinnati bridge of the Southern Ry. E. W. Henri. *Ry R* 71:555-7 O 21 '22
- Concours pour la construction d'un nouveau pont de chemin de fer sur le Fleuve Jaune (Chine). Messager. *il map Génie Civil* 80:265-72, 292-5 Mr 25-Ap 1 '22
- Concrete structures for D. L. & W. R. R. new grade crossings. M. Hirschthal. *il diags plans Eng N* 90:536-8 Mr 22 '23
- Continuous truss bridge over the Ohio river at Sciotoville, Ohio, of the Chesapeake and Ohio Northern railway. G. Lindenthal. *il diags Am Soc C E Pro* 48:409-52 Mr '22; *Excerpt. Eng & Contr* 57:405-7 Ap 26 '22; *Discussion.* *Am Soc C E Pro* 48:1311-20 My '22
- Croosoting timber on the Santa Fe railway system. A. F. Robinson. *W Soc E J* 27:84-90 Mr '22; *Same. Ry R* 70:303-5 Mr 4 '22; *Excerpts. Ry Age* 72:369-70 F 11 '22; *Same. Eng & Contr* 57:176-7 F 22 '22; *Discussion. W Soc E J* 27:90-6 Mr '22

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Development of concrete in railway construction. M. Hirschthal. il diags Ry Age 73:705-9, 791-7 O 14, 28 '22

Double-track spans placed on single-track piers; Cincinnati Southern bridge over the Ohio. il diags Ry Age 72:1215-20 My 27 '22

Erection of Hurricane Gulch arch bridge on Alaska government railway. il Ry R 70:638-40 My 6 '22

Flood conditions encountered in Mexican rivers. il Ry R 70:215-16 F 18 '22

Guarding rail line over Great Salt lake. il Pop Mech 40:276 Ag '23

Harnessing a treacherous Mexican river. il Pop Mech 37:384-5 Mr '22

Illinois Central to rebuild Ohio river bridge. diags Ry Age 71:1214-15 D 17 '21

Impact stresses in railway bridges. Eng & Contr 56:490-1 N 30 '21

Interesting example of bridge erection at Rock Island, Ill. il diags plans Ry R 73:293-8 S 1 '23

Investigation of secondary stresses in the Kenova bridge. G. A. Maney and J. I. Parcel. (Studies in engineering, no. 4) 51p University of Minnesota, Minneapolis '22

Locomotive loadings for railway bridges. D. B. Steinman. Am Soc C E Pro 48:1043-73, pl 11-19 My '22; Same cond. Can Eng 43:315-20 S 5 '22; Abstract. Eng & Contr 58:175-8 Ag 23 '22; Abstract. Engineering 114:242 Ag 25 '22; Discussion. Am Soc C E Pro 48:1675-1704, 1789-1806, 1901-7; 49:131-6, 952-83 O '22-Ja, My '23; Eng N 89:447-9, 577-8 S 11, O 5 '22; Can Eng 11:203-6, 239-10 F 6-13 '23

Long-span steel arch bridge over Niagara gorge for Michigan Central railroad. il diags plans Eng N 90:380-6 Mr 1 '23

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Michigan Central to build new bridge at Niagara. il diags Ry Age 74:176-80 Ja 13 '23

New cantilever bridge across St John river. il diags Can Eng 43:591-3 D 5 '22

New cantilever bridge replaces famous old span. il Ry Age 72:1175-6 My 20 '22

New causeway of Southern Pacific links island and mainland. H. F. Jonas. il Ry R 72:142-3 Ja 20 '23

N.Y.C. plans new Niagara river crossing. map Ry Age 75:575-7 S 29 '23

New 640-ft. arch span bridge at Niagara Falls. H. Ibsen. diags Can Eng 44:139-42 Ja 16 '23

Old Bollman truss bridges on the Valley R. R. of Virginia. P. G. Lang, jr. il Eng N 90:672-3 Ap 12 '23

Philadelphia & Reading builds 46-arch bridge. C. H. Hitchcock. il diags Ry Age 73:1035-8 D 2 '22

Pont-rails métallique sur l'Isorno (ligne de Locarno à Domodossola, en Lombardie). diags plan Génie Civil 80:160-1 F 18 '22

Pont-route de Randan (Puy-de-Dôme), à poutres droites sans triangulation. diags Génie Civil 81:447 N 11 '22

Present day problems and tendencies in railway bridge design. C. Gribble. Engineering 114:307 S 8 '22; Same abr. Can Eng 44:123-4 Ja 9 '23; Same cond. Eng & Contr 58:50-2 N 29 '22; Abstract. Engineer 134:278 S 15 '22; Discussion. Engineering 114:336-7, 469-70 S 15, O 13 '22; Engineer 134:278 S 15 '22

Les progrès techniques réalisés dans la reconstruction des ouvrages d'art des Chemins de fer du Nord et de l'Est. il Génie Civil 79:516-20 D 10 '21

Railroad bridge widened and reinforced. G. H. Wilsey. diags Eng N 90:796 My 3 '23

Railway bridges. Engineer 134:301, 336 S 22-29 '22

Railway co-operates in flood control; new bridge over Los Angeles river. il Elec Ry J 61:730 Ap 28 '23

Rapid progress being made on Castleton cut-off. il diags maps Ry Age 74:1681-6 Je 30 '23

Rebuilding Niagara bridge of the Michigan Central railroad. il diags plans Ry R 71:887-91 D 23 '22

Reconstruction of the Baltimore and Ohio railroad bridge crossing the Allegheny river, at Pittsburgh, Pennsylvania. P. G. Lang, jr. il map Am Soc C E Pro 48:809-33, pl 10 Ap '22

Reinforced concrete overhead bridge Pittsburgh & Shawmut R. R. il Ry R 71:375-6 S 16 '22

Report of A.R.E.A. committee on iron and steel structures. Ry Age 74:619-21 Mr 14 '23

Rigolets bridge built to stand hurricanes: L. & N.R.R. il diags plan Eng N 91:626-30 O 18 '23

Rock Island uses long girders in new bridge. il diags plan Ry Age 75:389-92 S 1 '23

Steel railway viaduct over Deep Creek. J. R. Grant. il Can Eng 45:421-2 O 23 '23

Strength of railway bridges. A. C. Cookson and J. S. Nicholas. diags Engineering 114:293-6 S 8 '22; Discussion. 114:336-7, 363-4, 407-8, 469-70 S 15-29, O 13 '22; Engineer 134:278 S 15 '22

Strength of railway bridges. J. S. Wilson. Engineering 114:350; Discussion. 336-7 S 15 '22; Discussion. Engineer 134:278 S 15 '22

Strength of railway bridges; editorial. Eng & Contr 58:3-4 N 29 '22

Strength specifications used for large concrete bridge. J. B. Huntley. il diags plan Eng N 91:586-90 O 11 '23

Strengthening truss bridge over tracks at Chicago. il diags Eng N 89:621-3 O 12 '22

Swiss technical notes. Eng N 89:446-7 S 14 '22

Thirty years of bridge engineering on the Pennsylvania lines; an appreciation of J. C. Bland. Eng N 90:490-1 Mr 15 '23

307 ft. span concrete bridge on Danish state railways. il diags Eng & Contr 58:210 Ag 30 '22

Two-hinged timber arch used as temporary railroad bridge. J. H. Fogelstrom. il diags Eng N 88:737-8 My 4 '22

Two precast concrete bridges on Lackawanna R.R. M. Hirschthal. diags plans Eng N 91:384-8 S 6 '23

Use of concrete and reinforced concrete on railways; reports at the International railway congress. Engineering 113:643-6 My 26 '22

World's longest bridge; the twenty-mile trestle over Salt Lake. il map Sci Am 127:88-9 Ag '22

See also Railroads—Track elevation

Specifications

Final report on specifications for design and construction of steel railway bridge superstructure. diags Am Soc C E Pro 49:53-111 Ja '23

Revised steel railway bridge specification. Canadian engineering standards association. Can Eng 43:138-9 J1 11 '22

Standard specification for steel railway bridges. 78p Canadian eng. standards assn., Ottawa '22

Tentative specifications for steel railway bridges, submitted as a progress report of the special committee of A.S.C.E. on specifications for bridge design and construction. Am Soc C E Pro 47:683-709 D '21; Discussion. 47:710-31; 48:371-957, 1273-4, 1457-74, 1717-28 D '21, Ap-My, Ag, O '22

Testing

Stresses in bridges. J. S. Wilson and B. P. Haigh. Engineering 116:411-13, 446-8 S 28-O 5 '23; Abstract. Engineer 136:333 S 28 '23; Discussion. Engineering 116:388 S 28 '23

Sulzbach railway bridge tests. diags Eng & Contr 59:283-9 Ja 31 '23

Bridges, Stone

Designing small stone bridges. G. D. Clarke. il diags Am Arch 121:249-52 Mr 29 '22

Bridges, Suspension

Account of an examination of the Menai suspension bridge. H. T. Tudsbery and A. R. Gibbs. Engineer 136:78 J1 20 '23

American highway suspension bridge. diags plans Engineer 134:97 J1 28 '22

Bridges, Suspension—Continued

- Bridging the Detroit river. diags Sci Am 126:88-9 F '22
- Bridging the Hudson river at Bear Mountain. W. F. Smith. il diags plan Eng N 90:829-30 My 10 '23
- Building a bridge within a bridge; a plan for strengthening the Brooklyn bridge and enlarging its carrying capacity. G. Lindenthal. il Sci Am 127:226-8 O '22
- Building the Rondout Creek highway suspension bridge. W. E. Joyce and M. Bebarfald. il diags plan Eng N 89:424-8 S 14 '22
- Deflections of suspension bridges. Can Eng 44:341 Mr 20 '23
- Delaware river bridge. il Good Roads 62:295-8 My 31 '22
- Delaware river bridge between Philadelphia and Camden. R. Modjeski. il diags plans W Soc E J 28:229-48 Je '23
- Delaware river bridge between Philadelphia and Camden. R. Modjeski. il diags J Fr Inst 193:1-14 Ja '22
- Fifth East river bridge planned by New York city. diags map Eng N 90:36-7 Ja 4 '23
- Hudson river bridge at Bear Mountain. il Sci Am 128:324-5 My '23
- Inspection of Williamsburgh bridge cables shows wire well preserved. Eng N 87:939 D 8 '21
- Large eyebar suspension bridge in South America. diags plan Eng N 91:592-3 O 11 '23
- Life of wire bridge cables. Can Eng 42:157 Ja 17 '22
- Long span bridge suspended on reinforced concrete towers. T. J. Murphy. il Concrete 19:174-5 N '21
- Lugs welded on suspension bridge cable clamps with thermit steel. diags Eng N 89:897 N 23 '22
- Massive construction in anchorages and towers features Columbus bridge. R. C. Cheney. il diags Eng N 89:802-3 N 9 '22
- Plan to bridge Hudson river at Anthony's Nose. il map Eng N 88:326-7 F 23 '22
- Possibilities of the modern suspension bridge for moderate spans. O. H. Ammann. il Eng N 90:1072-8 Je 21 '23
- Practical treatise on suspension bridges. D: B. Steinman. 204p Wiley '22
- 705-ft. span Rondout Creek suspension bridge. C. Y. Wang. il Eng & Contr 57:487-8 My 24 '22
- Small suspension bridges built in New Zealand. il Pop Mech 38:589 O '22
- Some thoughts on long-span bridge design. G. Lindenthal. Eng N 87:861-4 N 24 '21
- Sur l'évolution apportée par la guerre dans la construction des ponts suspendus modernes. L. Le Cocq. Soc Ing Civils Bul 76:359-74, pl 42 Ja '23
- Suspension cable on bridge at Kelso, Washington, parts; from 12 to 15 lives are lost. Eng N 90:88 Ja 11 '23
- Temperature variation in eyebar chains found slight. diags Eng N 90:740 Ap 26 '23

Bridges, Temporary

- Electric railway bridge at Holyoke, Mass., built in eleven hours. il diags Elec Ry J 59:712-13 Ap 29 '22; Same. Eng & Contr 57:593 Je 21 '22
- Temporary bridge has rigid deck truss and cables for bottom chords. il diags Eng N 88:141-2 Ja 26 '22
- Two-hinged timber arch used as temporary railroad bridge. J. H. Fogelstrom. il diags Eng N 88:737-8 My 4 '22

Bridges, Wooden

- Creosoted timber for highway bridge construction approved. Munic Eng 62:24 Ja '22
- Essentials of wooden highway spans. il Pub Works 51:392-4 N 19 '21
- Old wooden highway bridges. il Pub Works 51:391-2 N 19 '21
- Use of timber in highway bridges. Eng & Contr (R & S) 60:48-51 Jl 4 '23

Brier Hill steel company

- New merger plans expansion. Iron Tr R 71:1753 D 28 '22

Brightness

- Application of the Pfund colorimeter to the determination of tinting strength of white pigments. J. H. Calbeck and C. P. Olander. Am Soc T M Pro 22 pt 2:515-21; Discussion. 522 '22
- Brightness of tungsten. W. E. Forsythe. Phys R 19:436-8 Ap '22
- Brightness units and their measurements. D. H. Tuck. diags Elec W 80:719-20 S 30 '22
- Color temperature and brightness of various illuminants. E: P. Hyde and W. E. Forsythe. Illum Eng Soc 16:419-27; Discussion. 427-30 no 8 '21
- Relation between field brightness and the speed of retinal impression. P. W. Cobb. J Fr Inst 195:855-7 Je '23
- Relation between the brightness and hiding-power of white paint-pigments. A. H. Pfund. diags J Fr Inst 196:69-78 Jl '23

*See also Glare***Brinell hardness test**

- Hardness testing on a commercial scale. E. F. Lake. diags Iron Age 109:913-16 Ap 6 '22; Discussion. H. A. Holz. 109:1085-6 Ap 20 '22
- Some measurements of the shape of Brinell ball indentation. F: E. Foss and R. C. Brumfield. diags Am Soc T M Pro 22 pt 2: 312-34; Discussion. 335-6 '22
- Variation of Brinell hardness number with testing load. H. O'Neill. bibliog Iron & Steel Inst J 107:343-70; Discussion. 371-6 no 1 '23

Briques

- Automatic direct reading laboratory scale for weighing briquettes. H. G. Schurecht. il diags Am Cer Soc J 6:491-5 Mr '23
- Mechanical unloading of briquettes. Ind Management (Lond) 8:232 O 19 '22

Briquetting

- Briquetting. A. L. Stillman. 466p Chemical pub. co. '23
- Briquetting flue dust and scrap. A. L. Stillman. il Iron Tr R 71:1269-72 N 9 '22
- Briquetting of brass turnings. F. L. Wolf. Metal Ind 21:188 My '23; Same. Brass W 19:268 Ag '23
- Cast-iron borings molded into briquettes. Pop Mech 40:83 Jl '23
- Dust and metal briquetting; De Gama process for recovery of metal turnings, blast furnace dust and ore fines. il Iron Age 112: 475 Ag 23 '23
- Flue dust briquetting by corrosion process. A. L. Stillman. il Iron Age 110:1571-2 D 14 '22
- Plant for production of cast iron briquets. J. E. McDonald. il Iron Age 111:1257-8 My 3 '23
- Plant for the briquetting of iron ores. diags plans Engineer 134:148-9 Ag 11 '22

Briquetting (fuel)

- Coal flotation and briquetting of float make rapid strides in many countries. Coal Age 22:485 S 28 '22
- Creating a new industry. Chem & Met Eng 28:540 Mr 21 '23
- Duplex coal-briquetting machine. il diags Engineering 112:689-91 N 18 '21
- Fuel briquets in 1922. W. F. McKenney. U S Geol S Min Res of U S 1922, pt 2:1-4 '23
- Fuel briquetting gains in 1922. Iron Tr R 72: 1534 My 24 '23
- Lignite carbonization—carbonized residue briquets. W. W. Odell. diag Chem & Met Eng 26:207-8 F 1 '22; Same abr. Gas Age 49:11-12 Ja 7 '22
- Manufacturing fuel by the pure coal briquette process. C. H. S. Tupholme. plan Chem & Met Eng 29:401-3 S 3 '23
- Mining brown coal in Germany, briquetting it and extracting its byproducts. H. Hermanns. il diags Coal Age 22:621-4 O 19 '22
- Ontario establishes another plant for briquetting anthracite fines with crude-oil residuum. J. B. McGraw. il diag Coal Age 21: 403-6 Mr 9 '22; Abstract. Mech Eng 44:319-20 My '22
- Plunger of low-temperature carbonizing retort expels product as a bar, a knife slicing off briquets. A. Thau. diag Coal Age 20:913-14 D 8 '21

Briquetting (fuel)—Continued

- Show merits of made fuel in outdoor fire-places. *il Pop Mech* 38:208 Ag '22
 Treasures from cinders. *Sci Am* 127:411 D '22
 Visit to H. M. fuel research station. *Gas J* (Lond) 164:184-5 O 17 '23
 Wood-waste briquettes as good as anthracite. L. W. Pedrose. *il Pop Mech* 39:666 My '23
See also Carbocoal

Bristles

- Lustering and bleaching of bristles. *Color Tr J* 11:179 O '22

British association for the advancement of science

- British association for the advancement of science: a retrospect 1831-1921. O. J. R. Howarth. 318p The Association, London '22
 90th annual meeting, Hull, Sept. 6-13. *Elec R* (Lond) 91:335-7, 365-6, 423-4, 460-3, 495-6 S 8-O 6 '22; *Engineering* 114:304-5, 336-9, 356-9, 388-91, 419-22, 471-4 S 8-O 13 '22; *Engineer* 134:277-8, 292-4, 331, 359 S 15-O 6 '22
 91st meeting, Liverpool, Sept. 13-19. *Engineer* 136:302-6, 333-5, 370-1 S 21-O 5 '23; *Engineering* 116:339-40, 359-62, 386-91, 422-5, 452-4, 487-90, 518-19 S 14-O 26 '23; *Elec R* (Lond) 93:383-6, 441-2, 477-9, 514-18, 551-3, 591-4 S 14-O 19 '23; *Power* 58:669-70 O 23 '23

British association of chemists

- British association of chemists. S. R. Price. *Chem Age* 30:261-2 Je '22

British Columbia

- See Copper mines and mining—British Columbia; Geology—British Columbia; Gold mines and mining—British Columbia; Mines and mineral resources—British Columbia; Mining industry and finance—British Columbia; Railroads—British Columbia; Silver mines and mining—British Columbia; Street railroads—British Columbia*

British commercial gas association

- Annual conference, Bristol, Oct. 16-18. *Engineer* 134:417 O 20 '22
 Southern district conference at Bournemouth. *Gas J* (Lond) 162:732-7 Je 20 '23
 12th annual conference at Birmingham, Oct. 1-3. *Gas J* (Lond) 161:113-17 O 10 '23; *Engineer* 136:371 O 5 '23

British electrical and allied manufacturers' association (inc.)

- Annual general meeting, March 16. *Electrician* 88:414-15 Ap 7 '22; *Elec R* (Lond) 90:499-501 Ap 7 '22
 Annual meeting, London, March 15. *Elec R* (Lond) 92:513-14 Mr 30 '23

British Empire forestry conference

- Conference at Ottawa. *Can Eng* 45:253-4 Ag 21 '23

British Empire steel corporation

- Report and statement, 16th April to 31st December, 1921. *Comm & Fin Chr* 114:2834-5 Je 24 '22

British Guiana

- See Diamond mines and mining—British Guiana*

British industries fair

- 8th British industries fair, Birmingham, Feb. 27-Mar. 10. *Elec R* (Lond) 90:281-2, 297-8, 351-2 F 24-Mr 10 '22; *Electrician* 88:262, 293-4 Mr 3-10 '22; *Engineer* 133:238-40, 261-4, 305-6, 322-3 Mr 3-24 '22; *Engineering* 113:260-2 Mr 3 '22; *Eng & Ind Management* 7:250-1 Mr 9 '22
 9th British industries fair, Birmingham—London, Feb. 19-March 2. *Engineer* 135:201, 222-4, 254-5 F 23-Mr 9 '23; *Engineering* 115:203-6, 230-3, 262-3, 296-8 F 16-Mr 9 '23; *Elec R* (Lond) 92:314-15, 353-4 F 23-Mr 2 '23

British non-ferrous metals research association

- Meeting in support of the objects of the association, Birmingham, Mar. 3. *Engineering* 113:304 Mr 10 '22

British scientific instrument research association

- British scientific instrument research association. J. W. Williamson. *Am Cer Soc J* 6:191-6 Ja '23

Britton, John Alexander, 1855-1923

- Sketch. *por Elec W* 82:38-9 Jl 7 '23
 Sketch. F. S. Myrtle. *por Am Gas J* 119:104 Ag 4 '23

Broaches

- Applying the broach to external surfaces. M. Wright. *il Am Mach* 56:416 Mr 16 '22
 Broaches of extraordinary size. *il Mach* 29:628 Ap '23
 Checking inverted spline broaches. *Am Mach* 57:812; 58:46-7 N 23 '22, Ja 4 '23
 Design of pull broaches. J. Labensky and P. Hutchinson. *il diags Mach* 28:615-17 Ap '22
 Hollander adjustable broaches. *il Am Mach* 56:535 Ap 6 '22; *Mach* 28:668 Ap '22
 Plan of maintenance of spline broaches. G. E. Hodges. *diags Am Mach* 56:862-3 Je 8 '22
 Sharpening square broaches. G. E. Hodges. *diags Mach* 29:632-3 Ap '23

Broaching

- Broaching armature bearings. O. A. Norene. *il Elec Ry J* 62:456 S 22 '23
 Broaching stators on forcing presses. *il diags Mach* 28:981-2 Ag '22
 Broaching vulcanized fiber. G. E. Hodges. *Mach* 30:24 S '23
 Good example of push broaching. *il Am Mach* 55:1046-7 D 29 '21

Broaching machines

- American broach & machine co. bench broach press on pedestal. *il Am Mach* 57:784 N 16 '22
 American broach & machine co. vertical broaching press. *il Iron Age* 111:1046 Ap 12 '23
 Lapointe hydraulic broaching machine. *il Iron Age* 111:1637 Je 7 '23; *Am Mach* 58:887 Je 14 '23; *Automotive Ind* 48:1288-9 Je 14 '23; *Mach* 29:902-3 Jl '23
 Lapointe improved no. 3 duplex broaching machine. *il Am Mach* 58:890 Je 14 '23
 Lucas vertical broaching press. *il Am Mach* 55:1055-6 D 29 '21; *Iron Age* 108:1534 D 15 '21; *Mach* 28:422 Ja '22
 Oilgear co. builds new hydraulic broaching press. *il Iron Tr R* 72:1097 Ap 12 '23; *Automotive Ind* 48:973 My 3 '23
 Oilgear high-speed broaching machine. *il Mach* 29:70-1 S '22; *Iron Age* 110:542 Ag 31 '22; *Iron Tr R* 71:657-8 S 7 '22; *Am Mach* 57:390 S 7 '22; *Automotive Ind* 48:330 F 15 '23

Broadcasting, Radio. See Radio broadcasting**Broadcloth**

- Finishing light broadcloth. *Am Dyestuff Rep* 12:597-8 Ag 13 '23
 Finishing women's broadcloths. *Textile World* 63:2091+ Mr 31 '23

Broadsides (advertisements)

- Broadside introductions that get the reader to look inside. M. Droke. *Ptr Ink M* 7:25+ N '23

Broken Hill district. See Geology—Australia**Broken package orders. See Jobbers****Brokers**

- Condition statements of brokerage houses. J. W. Roberts. *Annalist* 20:150 Ag 14 '22
 Is the merchandise broker a was-er or is-er? *Ptr Ink* 120:149+ Jl 27 '22
 Law of stockbrokers. D. Campbell. 2d ed. 250p Baker, Voorhis & co., New York '22
 This man says the merchandise broker is a has-been. *Ptr Ink* 120:77-8+ Ag 3 '22
 Wall Street's housecleaning—failures since the summer of 1921 to date, with approximate assets and liabilities. *Comm & Fin Chr* 117:26-7 Jl 7 '23

Accounting

- Auditing of brokerage firms. R. L. Smitley. *Administration* 3:737-40 Je '22
 Stockbrokers' accounts. G. McIntosh. *J Account* 34:81-90 Ag '22
 Stock-exchange questionnaire and related financial statements. H. M. Smith. *J Account* 35:95-114 F '23
 Wall Street accounting. F. S. Todman. [Enlargement and revision of 'Brokerage accounts', 1916] 352p Ronald press '21

Brokers—Accounting—Continued

Work of the cashier's cage. F. S. Todman. 77p Doubleday '23

Directories

Fitch listings of investment banks and brokers, United States and Canada. Fitch pub. co., New York, Chicago '21

Security dealers of North America. Maximum production co., New York '22

Bromates

Use of bromate in volumetric analysis; the determination of bromate in the presence of ferric iron. G. F. Smith. Am Chem Soc J 45:1666-75 JI '23

See also Rubidium bromate

Brometone. See Tribromomethyl propanol

Bromic acid

Use of bromate in volumetric analysis; the influence of mercuric mercury upon bromic acid reactions. G. F. Smith. Am Chem Soc J 45:1417-22 Je '23

Use of bromate in volumetric analysis; the stability of bromic acid in boiling solutions. G. F. Smith. Am Chem Soc J 45:1115-21 My '23

Bromides

Complex metallic ammines; conductivities of diethylenediaminecobaltic bromides. J. C. Duff. Chem Soc J 121:450-4 Mr '22

Determination of bromide in brines and mineral waters. C. C. Meloche and H. H. Willard. J Ind & Eng Chem 14:422-5 My '22

See also Cyanogen bromide; Methoxybenzyl bromides

Bromination

Bromination of acids in the α -position. C. F. Ward. Chem Soc J 121:1161-5 Je '22

Bromination of aliphatic acids. B. D. Shaw. Chem Soc J 123:2233-40 S '23

Bromination of compounds containing the carbonyl group; pyruvic acid; acetophenone. C. F. Ward. Chem Soc J 123:2207-13 S '23

Bromination of glyoxaline-4-carboxyanilide. H. King and W. O. Murch. Chem Soc J 123:621-9 Mr '23

Bromination of 2-amino-para-xylene and certain new azo dyes. A. S. Wheeler and E. W. Constable. Am Chem Soc J 45:1999-2001 Ag '23

Chlorination and bromination of the toluic acids and the preparation of the phthalaldehydic acids. W. Davies and W. H. Perkin, jr. Chem Soc J 121:2202-15 O '22

Course of the bromination of allyl-substituted imino-barbituric acids. O. Diels and others. Chem Soc J 124 pt 1:950-2 S '23

Formation of bromine derivatives of carbon compounds without the production of hydrogen bromide. B. M. Gupta and J. F. Thorpe. Chem Soc J 121:1896-1904 S '22

Mechanism of the bromination of phenol in aqueous solution. H. Baines. Chem Soc J 121:2810-13 D '22

Para-cymene studies; the bromination of 2-amino-para-cymene. A. S. Wheeler and I. W. Smiley. Am Chem Soc J 43:2611-18 D '21

Studies in the dihydronaphthalene series; the oxidation and bromination of 5:8-dihydro- α -naphthylamine. F. M. Rowe and J. S. H. Davies. Chem Soc J 121:1000-7 Je '22

Über das Verhalten einiger acylchloride des allylamin gegen halogene. M. Bergmann, F. Dreyer and F. Radd. Deutsche Chem Gesell Ber 54:2139-50 S '21; Abstract. Chem Soc J 120 pt 1:773-4 N '21

Bromine

Action of bromine on certain delta ketonic esters. E. P. Kohler. Am Chem Soc J 44:840-7 Ap '22

Action of bromine on hydrocarbons. B. K. Mereshkowsky. Chem Soc J 124 pt 1:527-8 Je '23

Action of bromine on methylcoumaric and methylcoumarinic acids. E. Billmann and H. Lund. Chem Soc J 124 pt 1:218-19 Mr '23

Action of bromine on *p*-hydroxy- and *p*-methoxy-sulphonic acids A. N. Meldrum and M. S. Shah. Chem Soc J 123:1982-6 Ag '23

Action of bromine water on indene. J. Read and E. Hurst. Chem Soc J 121:2550-4 N '22

Action of halogens on phenylhydrazones; the action of bromine. J. E. Humphries, E. Bloom and R. Evans. Chem Soc J 123:1766-72 JI '23

Le bromine tunisien. Bovis. Chimie & Ind 8:693-5 S '22

Catalytic decomposition of hydrogen peroxide in a bromine-bromide solution, and a study of the steady state. W. C. Bray and R. S. Livingston. Am Chem Soc J 45:1251-71 My '23

Determination of the bromine figure or chlorine factor of pulp, and the utilization of these quantities in bleaching. A. Tingle. J Ind & Eng Chem 14:40-2 Ja '22

Halogenation: the action of bromine and nitric acid on organic compounds; preparation of nitrosyl tribromide and the formation of tetrabromoquinone. R. L. Datta and N. R. Chatterjee. Am Chem Soc J 45:480-2 F '23

L'industrie du brome en Allemagne. M. Debussy. diags Chimie & Ind 9:245-58 F '23

Rate of reaction between ethylene and bromine. T. D. Stewart and K. R. Edlund. diags Am Chem Soc J 45:1014-24 Ap '23

Reaction between bromine and ammonium salts and its effect on the precipitation of manganese dioxide. S. G. Simpson. Am Chem Soc J 45:1883-91 Ag '23

Significance of the density of hydrogen bromide with reference to the atomic weight of bromine. G. P. Baxter. Am Chem Soc J 44:595-600 Mr '22

Study of the luminous discharge in bromine; a possible determination of the ionization potential of bromine. W. A. Noyes, jr. Am Chem Soc J 45:1192-5 My '23

Über den abbau des kakothelins durch brom (über strychnos-alkaloide). H. Leuchs, H. Mildbrand and W. R. Leuchs. Deutsche Chem Gesell Ber 55:2403-15 S '22; Abstract. Chem Soc J 122 pt 1:1052-4 N '22

Über die einwirkung von brom auf chinizarin und alizarin. O. Dimroth, E. Schultze and F. Heinze. Deutsche Chem Gesell Ber 54:3035-50 D '21

Über die einwirkung von brom auf nitrophenol-sulfon- und -sulfon-carbonsäuren. E. Sakellarios. Deutsche Chem Gesell Ber 55:2846-53 S '22; Abstract. Chem Soc J 122 pt 1:1144-5 D '22

See also Bromination; Halogens

Bromine compounds

Bromo-derivatives of 4-methylglyoxaline. F. L. Pyman and G. M. Timmis. Chem Soc J 123:494-503 Mr '23

Bromo-derivatives of 2-methylglyoxaline. L. Light and F. L. Pyman. Chem Soc J 121:2626-30 N '22

Studies in the anthracene series; behavior of some hydroxyanthraquinones treated with bromine. E. deB. Barnett and J. W. Cook. Chem Soc J 121:1376-91 JI '22

Über bromosalze des rutheniums. A. Gutbier and F. Krauss. Deutsche Chem Gesell Ber 54:2835-8 N '21

See also Bromides

Bromine numbers

Iodine and bromine values of petroleum products. E. M. Johansen. bibliog J Ind & Eng Chem 14:288-92 Ap '22

Bromo acetaldehydes

Studies on cellulose chemistry; parabromo-acetaldehyde and monobromo-acetaldehyde; their preparation, properties and utilization for the synthesis of bromo- and hydroxycyclic acetals related to polysaccharides. H. Hibbert and H. S. Hill. Am Chem Soc J 45:734-51 Mr '23

Bromoacetic acid

Bromination of aliphatic acids. B. D. Shaw. Chem Soc J 123:2233-40 S '23

Bromocamphor

New halogen derivatives of camphor; α -bromocamphor. T. M. Lowry, V. Steele and H. Burgess. diags Chem Soc J 121:633-41 Ap '22

Bromocyanogen. See Cyanogen bromide

Bromoglyoxaline

Bromo-derivatives of glyoxaline. I. E. Balaban and F. L. Pyman. *Chem Soc J* 121:947-58 Je '22

Bromination of glyoxaline-4-carboxyanilide. H. King and W. O. Murch. *Chem Soc J* 123:621-9 Mr '23

Bromohydrins

Conversion of allyl alcohol to glyceryl chloro- and bromo-hydrins. J. Read and L. Hurst. *Chem Soc J* 121:989-99 Je '22

Bromohydroxy-phenylpropionic acids

Optisch-aktive phenyl-brom-oxy-propion-säuren. E. Berner and C. N. Rüber. *Deutsche Chem Gesell Ber* 54:1945-60 S '21; Abstract. *Chem Soc J* 120 pt 1:788-91 N '21

Bromojuglone

Hydroxy-naphthoquinone studies; derivatives of 2-bromo-5-hydroxy-1,4-naphthoquinone (monobromo-juglone). A. S. Wheeler and B. Naiman. *Am Chem Soc J* 44:2331-4 O '22

Bromomalonic compounds

Labile nature of the halogen atom in organic compounds; the absorption spectra of bromomalonic derivatives and nitroparaffins, and their bearing on the question of an oxygenhalogen linking. H. Graham and A. K. Macbeth. *Chem Soc J* 121:1109-15 Je '22

Bromomethyl-phthalimide

Reaction of alcohols with bromomethyl-phthalimide and its use for the separation and identification of alcohols. H. H. Hopkins. *Am Chem Soc J* 45:541-4 F '23

Bromonitrocamphane

Investigation of bromonitrocamphane. P. M. Ginnings and W. A. Noyes. *Am Chem Soc J* 44:2567-73 N '22

Bromophenylmagnesium bromide

Luminescence of compounds formed by the action of magnesium on para-dibromobenzene and related compounds. W. V. Evans and R. T. Dufford. *il Am Chem Soc J* 45: 278-85 F '23

Bromophthalic anhydrides

Friedel and Crafts' reaction; bromophthalic anhydrides, benzene and aluminum chloride. H. N. Stephens. *Am Chem Soc J* 43: 1950-6 Ag '21

Bromopicrin

Preparation and reactions of bromopicrin. L. Hunter. *Chem Soc J* 123:543-9 Mr '23

Bromopropionic acid

Über die darstellung von β -chor- und β -brom-propionsäure aus trimethylenglykol. C. A. Rojahn. *Deutsche Chem Gesell Ber* 54:3115-18 D '21

Bromotoluenes

Study of side-chain oxidations with potassium permanganate. L. A. Elgelow. *Am Chem Soc J* 44:2010-19 S '22

Bromotrinitromethane

Zur kenntnis des brom-trinitro-methans. E. Schmidt, W. Bartholomé and A. Lübke. *Deutsche Chem Gesell Ber* 55:2099-2107 JI '22; Abstract. *Chem Soc J* 122 pt 1:826-7 S '22

Bromotype. See Direx**Bronchitis**

General and occupational prevalence of bronchitis and its relation to other respiratory diseases. E. L. Collis. *bibliog J Ind Hygiene* 5:264-76 N '23

Brons engine. See Hvid engine**Bronx river parkway**

Bronx river parkway drive. L. G. Holleran. *il Good Roads* 62:285-90 My 24 '22

Earth moving methods and costs, Bronx parkway. G. D. Clarke. *il Eng N* 91:186-8 Ag 2 '23

Economical use of concrete in bridge construction. L. G. Holleran. *il diags plans Eng & Contr (Bldgs)* 59:923-7 Ap 25 '23

Utilizing small stream valleys for traffic routes. J. Downer. *il Munic Eng* 62:97-9 Mr '22; Same. *Pub Works* 52:57-8 Ja 28 '22; Same. *Eng & Contr* 57:103-4 F 1 '22

Bronze

Bronze casting in the Orient. P. Dwyer. *il Foundry* 50:632-7 Ag 1 '22

Bronze founding. C. H. Desch. *Engineering* 114:625-6 N 17 '22

Bronze towers guard Fifth avenue, New York. E. C. Kreutzberg. *il Foundry* 51:127-30 F 15 '23

Cast heavy bronze propeller of the United States steamer Leviathan. *il Foundry* 51:879 N 1 '23

Commercial future of copper, brass and bronze. H. George. *Metal Ind* 19:444-6 N '21

Copper and copper alloys in the chemical and allied industries. W. Stark. *il Chem Age* 30: 555-8 D '22

Coronium bronze alloy. *Mech Eng* 45:436 JI '23

Development and manufacture of high tensile brass and bronze. O. Smalley. *Engineering* 114:187-9, 218-21 Ag 11-18 '22

Drilling properties vary in brasses and bronzes. J. F. Hardecker. *Automotive Ind* 43:123 Ag 30 '23

Large bronze rings made in cores. P. Dwyer. *il diag Foundry* 49:331-4 N 1 '21

Masterpiece of bronze welding; bell in the Berlin cathedral. P. Powell. *diags Brass W* 19:243-6 Ag '23

Notes on brasses and bronzes. H. F. Whitaker. *Chem & Met Eng* 28:685 Ap 16 '23

Production routine followed in the manufacture of bronze alloys. *Brass W* 18:95 Mr '22

See also Aluminum bronze; Durex; Gun metal; Manganese bronze

Analysis

Notes on the analysis of cast bronze. G. E. F. Lundell and J. A. Scherrer. *J Ind & Eng Chem* 14:426-9 My '22

Bronze powder

Printing of bronze colors; abstract. J. Besancon. *Color Tr J* 10:32-3 Ja '22

Bronze tablets

Casting art bronze tablets; abstracts. J. G. Kasjens. *Foundry* 51:408 My 15 '23; *Metal Ind* 21:186-7 My '23

Bronze wire. See Wire, Bronze**Bronzing**

Calcium sulphide as a bronzing agent. *Metal Ind* 21:67 F '23

Casket manufacture; statuary bronze finish on solid bronze caskets. C. H. Proctor. *Metal Ind* 20:260 JI '22

Painting and bronzing radiators. A. A. Kelly. *Bldg Age* 44:60 D '22

Sulphides as bronzing agents. *Metal Ind* 20: 228-9, 264 Je-JI '22

Brookhart, Smith Wildman

Hunter of Wall Street devils. J. B. Morrow. *Nation's Business* 11:21-2 Mr '23

Brooklyn, New York**Rapid transit**

Brooklyn city railroad's net income up \$490,497. *Elec Ry J* 62:388 S 8 '23

Brooklyn officials sign waivers and give testimony. *Elec Ry J* 58:1043-4, 1085 D 10-17 '21

Commission's tentative plan criticised. T. S. Williams. *Elec Ry J* 58:1080 D 17 '21

Eight killed in Brooklyn elevated accident. *il Elec Ry J* 61:1097-8 Je 30 '23

Engineers report on Brooklyn elevated accident. *Elec Ry J* 62:69-70 JI 14 '23

Final step taken in Brooklyn reorganization. *Elec Ry J* 62:425 S 15 '23

Fitting service to traffic in Brooklyn. A. L. Hodges. *Elec Ry J* 60:1001-6 D 30 '22

Receivership ends; Brooklyn-Manhattan transit corporation starts operation. *Elec Ry J* 61:1022 Je 16 '23

Reorganization plan of the B. R. T. Comm & Fin Chr 116:1646-8 Ap 14 '23

Reorganization terms announced. *Elec Ry J* 61:304-5 F 17 '23

Review of Brooklyn transit commission valuation. *Elec Ry J* 60:875-7 D 2 '22

Brooklyn Edison company

Phenomenal growth in Brooklyn. M. S. Sloan. *il diag Elec W* 81:1199-1202 My 26 '23

Brookwood workers' college

New kind of propaganda against the railroads; workers' education in socialist labor colleges being used to promote scheme for nationalization of roads. Ry R 72:586-91 Mr 31 '23

Broom workers

Broom industry—Chicago; agreement. Monthly Labor R 16:106-7 Ja '23

Brotherhood of maintenance of way employees and railway shop laborers

Railway union spends money with abandon. Ry Age 75:167-9 Jl 28 '23

Brotherhood of railroad trainmen

Building of Brotherhood of railroad trainmen, Cleveland. Arch Forum 39:41, pl 7-9 Jl '23

Brown, Adrian, 1852-1919

Sketch. Chem Soc J 121:2899-2907 D '22

Brown, Fay C., 1881-

Acting director of the U.S. Bureau of standards. por Chem Age 31:106 Mr '23

Brown, R. B.

President American gas association. R. O. Jasperson. por Gas Age 50:575-6 O 28 '22

Brown

New brown dyestuff. Color Tr J 11:102-3 S '22

New browns in vogue. H. H. Adler. Textile World 62:3006-7 N 25 '22

Production of new brown mordant dyes. Color Tr J 13:16 Jl '23

Brown coal. See Lignite**Brown prints**

Brown prints instead of blue. H. S. Kartsher. Factory 28:521-2 My '22

Bruce, David, jr., 1802-1892

David Bruce, jr., inventor of the first successful typecasting machine. H: L: Bulletin. Inland Ptr 69:61-4 Ap '22

Brucinesulfonic acid

Über die umwandlungen der chinone aus brucin-sulfonsäure. H. Leuchs and K. Fricker. Deutsche Chem Gesell Ber 55:1244-54 My '22; Abstract. Chem Soc J 122 pt 1: 677-8 Jl '22

Brucinolone

Über die oxydation des krypto-brucinolons und seine darstellung aus brucinolon-6; (über strychnos-alkaloide). H. Leuchs, E. Hellriegel and H. Heering. Deutsche Chem Gesell Ber 54:2177-90 O '21; Abstract. Chem Soc J 120 pt 1:883-4 D '21

See also Hydroxydihydrobrucinolone

Bruges

Beguinaage at Bruges; six photographs by F. R. Yerbury. Am Inst Arch J 11:240-5 Je '23

Brunner, Mond and company

Jubilee, London, June 29. Chem Age (Lond) 9:6-8 Jl 7 '23

Brushes

How to choose and preserve brushes. E. A. McCann. Marine R 53:272-3 Jl '23

See also Bristles; Fuller brush company, Hartford, Connecticut

Manufacture

Brushmaker. W: Kiddier. 142p Pitman '23

Making brushes for the Hoover sweeper. F. H. Colvin. il Am Mach 58:333-4 Mr 1 '23

Brushes (electric machinery)

Brush-holder with twenty-four adjusting points. il diags Elec Ry J 61:1095 Je 30 '23

Brushes for mine locomotives. Coal Age 24: 633-4 O 25 '23

Closed-front type brushholders for motors. il Elec Ry J 61:487 Mr 17 '23

Copper vs. phosphor bronze for brushholder contact tips. J: S. Dean. il Elec Ry J 61: 485 Mr 17 '23

Diagnosing brush troubles. E. H. Martindale il chart Ind Eng 80:475-8 O '22

Essentials of carbon brush selection. W. J. Overman. Elec Ry J 60:708-9 O 28 '22

Flat vs. rounded contact tips for brushholders. il Elec Ry J 61:336 F 24 '23

High melting point solder for carbon brushes. J. D. Alley. Elec J 19:456 N '22

How to find proper position of brushes on commutator. G: W: Hanlon. diag Ind Eng 81:554 N '23

Induction-motor slip-ring and brush troubles and how to remedy them. J: Fox. diags Power 54:797-8 N 22 '21

Life of railway motor carbon brushes. J: S. Dean. Elec J 19:308-9 Jl '22

Locating brushes on the neutral of interpole machines. B. A. Briggs. diags Power 58: 381-2 S 4 '23; Discussion. E. Ogur. 58:662-3 O 23 '23

Maintenance of commutators and brushes. R. Brown. Power 56:426 S 12 '22

Preventing chattering brushes. diags Power 55:313, 592 F 21, Ap 11 '22

Selecting the proper grade of carbon brush. Elec R 80:246 My '22

Short versus long contact tips for brushholders. J. S. Dean. il Elec Ry J 60:946 D 16 '22

Shunts for carbon brushes. J: S. Dean. il Elec Ry J 61:1010 Je 16 '23

Troubles arising from faulty brush operation that show up at the commutator or at the brushes. E. H. Martindale. il diags Ind Eng 80:579-82+ D '22

Brushes, Industrial

How limited sellers were swept out of the Osborn brush line. W. B. Edwards. Ptr Ink 125:25-8 O 25 '23

Advertising

Service campaign that finds new uses and eliminates waste. G: H. Wicker. Ptr Ink 118:89+ F 9 '22

Bryant, Waldo Calvin, 1863-

Portrait. Elec W 79:716 Ap 15 '22

Bucher process. See Nitrogen fixation**Buckets**

Forssythe dump bucket. diags Blast F & Steel Pl 11:561 O '23; Iron Age 112:1058 O 18 '23;

Iron Tr R 73:1042 O 11 '23

Gold-dredge bucket and other work. F. A. Stanley. il Am Mach 55:1035-6 D 29 '21

New patent ore grab, by Pohlig. diag Eng & Ind Management 6:707-8 D 15 '21

Orange peel bucket for foundry use. il Iron Age 110:83 Jl 13 '22

Recent advance in design of gold-dredge bucket lips. G: J. Young. il Eng & Min J 112:932-4 D 10 '21

See also Hoisting machinery

Buckling. See Strains and stresses**Buckshot. See Slag****Budapest, Hungary****Rapid transit**

Huge deficits in Budapest. D. A. Willson. Aera 11:168-70 S '22

Budget

Budget making. A. E. Buck. 234p Appleton '21

Budget of Western European countries. D. Miller. U S Bur For & Dom Com Trade Information Bul 67:1-26 '22

Unbalanced national budgets—foreign and the United States. Comm & Fin Chr 115:799-800 Ag 19 '22

See also Finance

France

French budgets for 1922 and 1923. Annalist 20:689+ D 25 '22

Great Britain

British budget undercurrents. A. Comstock. Annalist 22:231+ Ag 20 '23

New British budget. Comm & Fin Chr 114: 1956 My 6 '22

United States

Budget before the short session of Congress. Comm & Fin Chr 116:1109-10 Mr 17 '23

Budget system endorsed and criticised in review of government expenditures and appropriations. M. B. Madden and J. W. Byrns. Comm & Fin Chr 115:375-7 Jl 22 '22

Budget—United States—Continued

Director of budget Lord predicts net reduction of \$151,894,397 in government receipts during next fiscal year. *Comm & Fin Chr* 117:618-19 Ag 11 '23

Economies through budget system. W. G. Harding. *Comm & Fin Chr* 114:685-6 F 18 '22

Economy effected in government expenditures. H. M. Lord. *Comm & Fin Chr* 116:188-92 sec 2 Je 30 '23

First year of the budget of the United States. C. G. Dawes. 437p Harper '23

Governmental estimating. *Comm & Fin Chr* 115:2733 D 23 '22

How the federal budget for 1924 was prepared. *Comm & Fin Chr* 115:2622-3 D 16 '22

Nation's first budget; editorial. *Comm & Fin Chr* 113:2445-6 D 10 '21

President Harding's message to Congress on the budget; text. *Comm & Fin Chr* 115:2531-3 D 9 '22

President Harding's response to House resolution on budget saving. *Comm & Fin Chr* 114:2082 My 13 '22

President's budget message; editorial. *Comm & Fin Chr* 115:2516-17 D 9 '22

Putting pork in the budget. *Comm & Fin Chr* 116:556-7 F 10 '23

Reductions in government operations incident to budget plan. W. G. Harding. *Comm & Fin Chr* 116:472-3, 2840-2 F 3, Je 23 '23

Savings through budget system. C. G. Dawes. *Comm & Fin Chr* 114:686 F 18 '22

Second government business meeting under the budget system. *Comm & Fin Chr* 114:560-1 F 11 '22

Submission of first federal budget to Congress by President Harding—director-general Dawes's report. *Comm & Fin Chr* 113:2464-6 D 10 '21

Your national balance sheet. J. Burnam. *Nation's Business* 10:24-5 Ja '22

See also United States—Budget, Bureau of

Budget, Business

Budget as a means of industrial control. W. Rautenstrauch. *Chem & Met Eng* 27:415-16 Ag 30 '22

Budget control charts. C. H. Stephens. *Administration* 4:680-5 D '22

Budget control in Boston. *Elec Ry J* 60:970-1 D 23 '22

Budget—its preparation and administration. H. A. Snow. *Elec Ry J* 60:562-3 O 7 '22

Budget plan which controls costs. R. E. Hurley. *il Factory* 28:413-15 Ap '22

Budget plans that make sales. *System* 43:47 Ja '23

Budget system in modern management. D. W. Harris. *N E L A Bul* 9:282-6 My '22

Budget that meets the test of changing volume. *Factory* 28:635-7 Je '22

Budgetary control. *Am Gas J* 117:327-9 O 7 '22

Budgetary control. J. O. McKinsey. 474p Ronald press '22

Budgetary control for business. 27p [bibliog.] First Wis. nat. bank of Milwaukee

Budgetary control over costs. G. E. Frazer. *Paper Tr J* 76:53-6 Mr 15 '23

Budgeting controllable expense and cost factors. E. E. Vender. *Paper Tr J* 76:28 Ja 4 '23

Budgeting expenditures for personnel work. E. Morgan. *Factory* 28:176-7 F '22

Budgeting for business control. 52p Fabricated production department. Chamber of commerce of the United States, Washington '22

Budgeting for business control. *Am Mach* 59:483 S 27 '23

Budgeting for business control. T. J. Burke. *Paper Tr J* 76:60 Ja 25 '23

Budgeting in a bond house. L. C. West. *charts Administration* 5:177-80 F '23

Budgets—their construction and use. H. N. Sweet. *Paper Tr J* 76:61-2+ F 1 '23

Business forecasting in the Edison industries. H. F. Miller; F. R. Blair. *Administration* 4:553-8; 5:1-8 N '22, Ja '23

Business man's budget. *Nation's Business* 10:54+ N '22

Cash budget; preparation and use. G. E. McKana. *Am Gas J* 119:387-8 O 17 '23

Construction budget. H. C. Davidson. *Am Gas J* 119:384-6 O 17 '23

Controlling a business with a budget. G. E. Frazer. *System* 43:739-41+ Je '23; Same. *Paper Tr J* 75:57-60+ Ag 9 '23

Co-ordination of expense items in preparing departmental budget. J. A. Reilly. *Paper Tr J* 75:52+ N 23 '22

Expense budgets for department stores. J. P. Friedman. *Administration* 4:421-8 O '22

Expense control through budgeting. P. Mathewson. *Ind Management* 64:202-6, 301-4, 372-5; 65:35-8 O '22-Ja '22

Factory budget plan grown out of 10 years' experience. *Factory* 30:150-3 F '23

How executives make use of budgetary information. W. O. Cutter. *Paper Tr J* 76:57-8 Mr 22 '23

How to get managerial co-ordination of sales and production. E. W. Kincaid. *Ptr Ink* 125:165-6 N 1 '23

Matching each month's expenses with sales. *System* 42:567-8+ N '22

Materials and supplies budget; purpose, details of preparation and use. G. E. McKana. *Am Gas J* 119:423-4 O 18 '23

Monthly financial budget. J. H. Barber. *Management & Adm* 6:313-18, 453-7 S-O '23

Office-expense budgeting that saved 33%. W. S. Bucklin. *System* 44:43-5+ J1 '23

Operating budget—detailed description of budget suitable to small company. E. Porter. *Am Gas J* 119:420-3 O 18 '23

Organization and procedure for budgetary control. J. O. McKinsey. *Administration* 2:793-8 D '21

Relation of budgetary control to cost accounting. by J. O. McKinsey. *Review. Administration* 3:645-7 My '22

Successful experience with the production budget. P. Mathewson. *Factory* 30:429+ Ap '23

See also Finance; Purchasing

Bibliography

List of references on business budgets. E. L. Liebmann. *Special Lib* 13:90-1 Je '22

Budget, Household

Family budgets of American wage-earners. (National industrial conference board, Research rep. no. 41) 97p Century co. '21

See also Standards of living

Buenos Aires, Argentina

Builder's paradise; ground that cuts like cheese and needs no shoring or piling. L. Matters. *il Sci Am* 128:40 Ja '23

See also Motor bus lines—Buenos Aires

Harbor

Port improvements at Buenos Aires. *diags Engineering* 114:97-8, pl 9-11 J1 28 '22

Water supply

Water treatment works of Buenos Aires, Argentine Republic. *il Eng N* 89:602-3 O 12 '22

Buffalo, New York**Rapid transit**

Arrests and convictions in Buffalo—no results from fare conference. *Elec Ry J* 60:919 D 9 '22

Bootlegging jitney rides in Buffalo. *il Elec Ry J* 61:879-80 My 26 '23

Buffalo lines tied up by strike. *il Elec Ry J* 60:56, 95, 140, 175, 207, 272, 303-4, 336, 368, 405, 487, 527, 610, 644 J1 8-Ag 5, 19-O 14 '22

Buffalo property reports. *Elec Ry J* 59:611-12 Ap 8 '22

Court ousts jitneys. *Elec Ry J* 60:243 Ag 12 '22

Jitney elimination question. *Elec Ry J* 60:720 O 28 '22

Sanitary affairs

Garbage piggery and residue drying cheapest for Buffalo. H. P. Eddy. *Eng N* 91:479-82 S 20 '23

Buffalo, Rochester & Pittsburgh railway

B. R. & P. ton-mileage reduced 53.92 per cent in 1921. Ry Age 72:969 Ap 22 '22

37th annual report for year ending December 31, 1921. Comm & Fin Chr 114:1783-4 Ap 22 '22

38th annual report for the year ending December 31, 1922. Ry Age 74:930-1 Ap 7 '23; Same abr. Comm & Fin Chr 116:1550-1 Ap 7 '23

Buffers (railroad)

Collisions are prevented by automatic bumper. il Pop Mech 37:522 Ap '22

Buffing. See Grinding and polishing

Buffing wheels

See also Grinding and polishing

Manufacture

Manufacture of buffing wheels. B. H. Divine. il Mach 29:381-5 Jl '23

Bufotoxin. See Toads

Builders' elevators. See Elevators, Builders'

Building

Architects and builders' handbook. F. E. Kidder and others. 17th ed., enl. 1907p Wiley '21

Beauty vs. service in building construction. J. Adrianzen. il Bldg Age 44:23-5 Ja '22

Camouflage and carpentry; how the housing shortage has played into the open hand of the jerry-builder. A. G. Ingalls. diags Sci Am 129:80-1 Ag '23

Choice of type of construction. J. R. Nichols. il diag Arch Forum 39:99-104 S '23

Construction of the small house. H. V. Walsh. 269p Scribner '23

Danger of shoddy construction. L. Clark. Eng & Contr 58:182-3 Ag 23 '22; Same. Can Eng 43:482-3 O 24 '22

Eternal triangle in construction. R. C. Marshall, jr. Eng & Contr (Bldgs) 59:201-5 Ja 24 '23

Genealogy of a house; details of cost of materials and labor shown graphically. Bldg Age 44:34 O '22

Good practice in construction. P. G. Knobloch. 52p Pencil points press, New York '23

Houseowner's book. A. L. Churchill and L. Wickenden. 388p Funk & Wagnalls co., New York '22

How to eliminate waste in construction industry. D. K. Boyd. Eng & Contr 58:82-4 Jl '26 '22

How to sell good home construction to the prospective owner. Bldg Age 45:51-2 Ap '23

Importance of bracing during construction. O. B. Maginnis. diags Bldg Age 44:38-9 Ja '22

Mechanical equipment as a factor in building design. H. L. Clute. Eng N 89:23-4 Jl 6 '22; Same. Eng & Contr (Bldgs) 58:103-6 N 22 '22

Movable staging for overhead work. il Eng & Contr (Bldgs) 59:1457 Je 27 '23

Movies call for aid on the building industry. il Bldg Age 44:32-4 Jl '22

Saving money on construction costs by having some experts pass on plans; Straus building, Chicago. diags Bldg Age 45:55-7 O '23

Some home building hints that boost profits. Dr. R. Van Horn. diags Bldg Age 45:74-6 Mr '23

Space requirements for mechanical equipment. H. L. Clute. Heat & Ven 19:33-7+ D '22; 20:48-9 Ja '23

Structural members and connections. G. A. Hool and W. S. Kinne. 611p McGraw-Hill '23

Structural progress in a new phase. Eng N 90:52-3 Ja 11 '23

Why do some structures stand? a partial solution. R. Fleming. Can Eng 44:434-5 Ap 24 '23

See also Acoustics, Architectural; Arches; Architecture; Bathhouses; Brick construction; Bricklaying; Bridges; Building and loan associations; Building contracts and other headings beginning Building; Buildings; Carpentry; Cellars; Chimneys; Columns; Concrete, Reinforced; Concrete construction; Concrete houses; Construction equipment; Cornices; Cribs, Concrete; Doors;

Doorways; Earthquakes and building; Engineering; Exits; Factories; Fireproof construction; Floors; Foundation soils; Foundations; Framing (building); Girders; Grandstands; Grouting; Hangars; Heating; High buildings; Hot water supply; Hotels; House boats; Houses, Portable; Ironwork, Architectural; Joints; Loft buildings; Marine structures; Masonry; Motor trucks in construction work; Obelisks; Office buildings; Painting, Structural; Panel work; Partitions; Piers; Piles and pile driving; Pisé; Plaster and plastering; Plumbing; Public works; Pyramids; Quantity system of estimating; Railroads—Buildings and structures; Retaining walls; Roofs; Sanitary engineering; Scaffolding; Sheet metal work, Architectural; Shingles; Shipbuilding; Shoring and underpinning; Sidewalk sheds; Skylights; Stairways; Steel construction; Steel houses; Strains and stresses; Strength of materials; Tenement houses; Thatch; Theaters; Towers; Trellis work; Trusses; Ventilation; Wall footings; Walls; Warehouses; Weatherproofing; Wind pressure; Windows; Winter construction; also American construction council

Accounting

Accounting for utility construction projects. W. P. Little. Elec W 79:1211-15 Je 17 '22

Allocation of costs in dwelling construction. S. E. Thompson. Arch Forum 36:sup60-1 F '22; Same. Eng & Contr 56:584 D 28 '21

Bibliography

Building and contracting leaders choose basic books of industry. Heat & Ven 19:54-5 O '22

Classification

Filing system for architects' offices. (A.I.A. doc. no. 172) 12p Am. inst. of architects, The Octagon House, Washington '23

See also Building—Specifications—Classification

Cost

Analysis of construction costs. Sanitary & Heat Eng 97:45 Ja 27 '22

Building cost index of the Associated general contractors. diag Eng & Contr 57:273-4 Mr 22 '22

Building permits in principal cities, January to June, 1922. Monthly Labor R 15:825-61 O '22

Construction cost index number—derivation and values. Eng N 88:10-11 Ja 5 '22

Construction costs in France. Eng N 91:677 O 25 '23

Construction costs of jail for St Louis county. Minn. W. C. Brockway. Eng & Contr (Bldgs) 60:362 Ag 22 '23

Cost factors in residential and industrial building. G. H. Bruns. Annalist 19:223 F 13 '22

Cost figures of bungalow homes. I. P. Hicks. il diags plans Bldg Age 45:69-73 Mr '23

Cost of building. Heat & Ven 19:58-9 My '22

Cost of buildings. Am Arch 121:195 Mr 1 '22

Economic factors which underlie construction activity. Am Arch 123:sup12+; 124:87-9 Ap 25, Jl 18 '23

Estimating labor costs on building construction. G. M. Tamblin. Eng & Contr 58:88-91 Jl 26 '22

Fireproof throughout—the house of the future, in which floors are the important features. diags Concrete 22:57-60 F '23

Hospital construction and costs. E. H. Hoyt. Arch Forum 37:303-4 D '22

New systems of house construction. Eng & Contr 57:616-17 Je 28 '22

Prices of building materials and building costs in Germany. Monthly Labor R 16:1234-5 Je '23

Ratio of labor to materials cost in buildings. H. P. Gillette. Eng & Contr 57:266 Mr 22 '22

Reference data on building costs since 1913. Arch Forum 37:63-4 Jl '22

Building—Cost—Continued

- Relative cost of building construction for last 9 years. H. P. Gillette. Eng & Contr 57: 264-6 Mr 22 '22
- Report on building costs in England and Scotland. Monthly Labor R 13:1098-1100 N '21
- Single house or co-operative apartment? J. T. Beard, jr. plans Bldg Age 44:50-1 F '22
- Statistics on home building costs. Brick & Clay Rec 60:525-7 Ap 4 '22
- Tabulation of building costs. Am Arch 120: 378; 121:sup14; 122:sup18, sup16 N 9 '21, F 1, J1 5, Ag 16 '22
- Trend of electrical construction costs. W. W. Handy. Elec W 81:859-64 Ap 14 '23
- What back-plastered stucco houses cost. il plans Concrete 20:197-8 My '22

See also Bridges—Cost; Building materials—Prices; Concrete construction—Cost; Concrete houses—Cost; Railroads—Buildings and structures—Costs; Schoolhouses—Cost; Stucco—Cost

Estimates

- Comfortable home with attractive porches; with quantity survey. diags plans Bldg Age 44:28-32 N '22
- Complete quantity survey of unique house. Bldg Age 45:53-5 Je '23
- Conservative little home; six room house; with quantity survey. il plans Bldg Age 44:26-8 My '22
- Cost of a house. Bldg Age 44:39 Ap '22
- Dutch colonial seven room house; with quantity survey. il plans Bldg Age 44:33-6 S '22
- English type cottage of charm; with quantity survey. il plans Bldg Age 45:54-7 Ag '23
- Estimating building costs. C. F. Dingman. 240p McGraw-Hill '23
- Estimating building excavation costs. C. F. Dingman. Concrete 21:88-90 S '22
- Estimating labor costs on building construction. G. M. Tambllyn. Eng & Contr 58:83-91 J1 26 '22
- Estimating materials for masonry work and concrete construction. I. P. Hicks. Bldg Age 44:45-6 J1 '22
- Estimating the cost of buildings. A. W. Joslin. 3d ed. 212p U. P. C. book co. '23
- Estimating the cost of buildings by superficial areas. W. F. Silliman. Eng N 59:513 S 28 '22
- Five room home Dutch colonial in design; with quantity survey. il plans Bldg Age 44: 28-31 J1 '22
- Hicks' builders' guide. I. P. Hicks and J. C. Duncan. rev. and enl. 384p U. P. C. book co. '21
- How builders can win success by careful estimating. I. P. Hicks. Bldg Age 45:71-2 Ag '23
- How quantity surveys cut the cost of preparing estimates. J. W. Ginder. Bldg Age 44:62-4 D '22
- How to develop cost curves for building estimates. O. G. Wilbur. Eng N 90:294-5 F 15 '23; Discussion. F. W. Dalrymple. 90:553 Mr 22 '23
- How to save time in preparing estimates. W. G. Smith. Bldg Age 43:55 D '21
- How we find actual cost of building. L. Bowman. Bldg Age 44:51-3 Ag; 59-61 S '22
- Methods employed in appraisal and valuation of buildings. T. F. Laist. Ry R 70:673-8 My 13 '22
- New building estimators' handbook. W. Arthur. Rev. & enl. ed. 1002p U.P.C. book co. '22
- Practical six room home of beauty; with quantity survey. plans Bldg Age 41:35-8 O '22
- Preliminary estimate figures. C. F. Dingman. Concrete 20:163 Ap '22; Same. Eng & Contr 57:623-4 Je 28 '22
- Quantities and quantity taking. W. E. Davis. 5th ed., rev. 168p Pitman '22
- Quantity survey for cottage design for narrow lot; with plans. Bldg Age 45:56-9 My '23
- Quantity survey of bungalow. il plans Bldg Age 45:62-3 O '23

- Quantity survey of colonial house. diags Bldg Age 45:47-9 O '23
- Quantity survey of cottage. diags Bldg Age 45:45-7 S '23
- Quantity survey of English cottage design; with plans. Bldg Age 45:62-3 My '23
- Quantity survey of English home. diags plan Bldg Age 45:59-61 Ap '23
- Quantity survey of livable Dutch colonial house. diags plans Bldg Age 45:41-4 F '23
- Quantity survey of semi-bungalow. diags plans Bldg Age 45:53-5 Mr '23
- Quantity survey of the substantial house. Bldg Age 44:35-7 Ag '22
- Quantity survey of two family house. il Bldg Age 45:48-9 F '23
- Short cuts in estimating. I. P. Hicks. Bldg Age 44:38-9 F; 42-3 Mr '22
- Six room house. diags plans Bldg Age 44: 24-5 Ap '22
- Success in estimating. I. P. Hicks. Bldg Age 45:75 S; 69-71 O '23
- Well planned small house design; with quantity survey. il plans Bldg Age 44:30-1 D '22

See also Brick construction—Estimates; Concrete construction—Estimates; Masonry—Estimates; Painting, Industrial—Estimates; Plumbing—Estimates; Quantity system of estimating

Exhibitions

See Building trades—Exhibitions

Exits

See Exits

Finance

- Builders' clearing house. G. E. Rodman. Dom Eng 103:3-6 Ap 7 '23
- Business factors in architectural practice. C. S. Taylor. Arch Forum 38:51-4, 191-4, 227-30 F, Ap-May '23
- Figures that prove it paid us to build. F. L. Ham and C. Hoskins. Factory 31:162-5+ Ag '23
- Financing investment building projects. F. S. Marlow. Am Arch 123:563-4; 124:263-7 Je 20, S 12 '23
- Paying for home improvements by the installment plan. Bldg Age 45:60-1 J1 '23
- Relation of finance to construction. W. McClellan. Am Arch 123:22 Ja 3 '23
- See also* Apartment houses—Cooperative ownership; Building, Cooperative; Building and loan associations; Building loans; Federal farm land banks; Housing finance; Housing projects, Company

Heating aspects

- Construction features in their bearing on heat and fuel economy. S. H. Woodbridge. Heat & Ven 19:35-7 F '22
- House construction that reduces heating costs. J. D. Hoffman. diags Heat & Ven 20: 43-8 S '23; Same cond. Sheet Metal Worker 14: 684-6, 712-13 S 28-O 12 '23; Discussion. J. M. Robb. Heat & Ven 20:48-9 S '23
- House insulation and fuel consumption. H. J. Burt. Concrete 23:117-18 S '23
- How to prevent heat losses in small houses. J. D. Hoffman. diags Eng & Contr 57:611-12 Je 28 '22; Same. Bldg Age 44:41-2 Ag '22
- Insulation of dwellings. G. D. Brown. diags Arch Forum 39:63-6 Ag '23
- Solid foundation for heating installation. J. K. Raymond. diags Dom Eng 104:484-7, 532-4 S 8-15 '23

Rapid construction

- Building a house in five days. il Bldg Age 44: 38-9 My '22
- Cellar to dome in six months; old McVickers theatre, Chicago, razed and a new building erected in six months. il Dom Eng 101:170-2 N 4 '22
- Rapid building construction. il plan Bldg Age 44:32-3 Mr '22
- Record mill construction; fine yarn plant at Cherryville, N.C., completed in 121 working days. il Textile World 62:3308-9 D 9 '22

See also Bridges—Rapid construction.

Building—Continued

Records

Cutting costs with the progress chart. H. N. Snow. Eng & Contr 58:86-7 J1 26 '22

Repair and reconstruction

Addition to the American surety company's building, New York city. il Arch & Bldg 54:70+, pl 118-21 J1 '22

Aetna life insurance company building, Hartford, Conn. il plans Am Arch 122:159-63 Ag 16 '22

Alterations to old Board of trade building, Toronto. Can Eng 42:235 F 14 '22

Church steeple repair. L. S. Bonbrake. il diags Bldg Age 45:71-2 J1 '23

Extension to Eaton store building, Toronto. il diag Can Eng 44:621-2 Je 26 '23

Old cast-iron frame of Crystal Palace, London, strengthened by steel framing. diag Eng N 91:65 J1 12 '23

Putting new foundations under an occupied building. il diags plan Eng N 89:750-2 N 2 '22

Raising a roof. C. A. Doner. diags Bldg Age 44:44 Mr '22

Rebuilding American cities; two notable New York examples. il Am Arch 124:145-8 Ag 15 '23

Reconstruction and remodelling. Eng & Contr (Bldgs) 58:3-4 O 25 '22

Remodeling old building to meet modern office requirements. Eng & Contr 57:175 F 22 '22

Removal of three first-story columns in twenty-seven story building. E. F. Weiskopf. il diags Eng N 89:4-7 J1 6 '22

Repairing a wood crusher building. E. G. Baker. diags Concrete 21:sup59-60 O '22

Restoration and preservation of Westminster Hall roof. F. Baines. il diags Engineer 134:494-6 N 10 '22; Abstracts. Génie Civil 82:14-16 Ja 6 '23; Eng N 90:483 Mr 15 '23

Saving a cathedral by compressed air; restoring Lincoln cathedral. il Sci Am 129:328 N '23

Shoring, needling and bracing. O. B. Maginnis. il diags Bldg Age 44:27-9 O '22

See also Bridges—Reconstruction; Concrete buildings—Repair and reconstruction

Safety devices and measures

Accident prevention in construction industry. R. C. Marshall, jr. Eng & Contr (Bldgs) 58:23-6 O 25 '22

Appareil mobile a serrage automatique permettant de monter et de descendre le long de cordages lisses. P. Cans. il diags Génie Civil 83:154-5 Ag 18 '23

Building accidents and their prevention; report of A.S.C.E. committee on structural safety in building. Eng N 91:88-92 J1 19 '23

Practical accident prevention in structural work. B. W. Delaney. Eng & Contr (Bldgs) 60:875-6 O 24 '23

Putting safety into the building program. L. D. Woodtke. Safety Eng 45:203-8 Je '23; Excerpt. Nat Safety N 7:35-6 Je '23

Safe practices on construction work. il diags Eng & Contr (Bldgs) 60:849-58 O 24 '23

Safety code for contractors. Eng & Contr (Bldgs) 60:389 Ag 22 '23

Safety in building construction. W. E. Welch. il Safety Eng 46:159-63, 217-22 O-N '23

Safety in erecting the steel frameworks of modern high buildings. W. E. Welch. diags Safety Eng 44:158-61, 196-200 O, D '22

Safety in the construction industry. W. E. Welch. Safety Eng 46:201-3 O '23

Specifications

Architectural specifications of a century ago; being a copy of the documents and drawings for a church on John's Island, S.C. S. C. S. Lapham, jr. il Arch Rec 53:239-44 Mr '23

Conventional signs for architectural details; report of A.R.E.A. committee on records and accounts. Ry Age 74:729-31 Mr 16 '23

Department of specifications. Published in American architect and the architectural review

Excessive floor loads specified for school buildings. N. M. Stineman. Am Arch 123:334-5 Ap 11 '23; Same abr. Eng & Contr (Bldgs) 60:158 J1 25 '23

Recommended minimum requirements for small dwelling construction. diags 108p U.S. Dept. of commerce, Washington '23; Excerpt. Am Arch 123:247-9, 285-90 Mr 14-28 '23

Specifications from the contractor's viewpoint. W. F. Wischmeyer. Eng & Contr (Bldgs) 60:161-4 J1 25 '23; Same. Can Eng 45:346-7 S 25 '23

Who shall write the electrical specifications? A. L. Nudd. J Elec 51:89 Ag 1 '23

See also Architecture—Designs and plans—Preservation; Brick construction—Specifications; Building contracts; Concrete construction—Specifications; Steel construction—Specifications; also American specification institute

Classification

Letters in answer to bulletins no. 1 and 2 of the American specification institute. Am Arch 120:455-60 D 7 '21

Standards

Brick walls for residences. C. E. Worthington. Am Arch 121:161-2, 191-3 F 15-Mr 1 '22

Building better houses; factory-made houses. A. H. Scott. il Sci Am 126:110-11 F '22

Low-cost workmen's houses; possibilities of standardized construction. O. P. Hipple. il plans Management Eng 4:395-8 Je '23

Ready-cut houses. il Eng & Contr (Bldgs) 60:865-7 O 24 '23

Standardization in the building industry. J. M. Gries. Bldg Age 44:35-6 My '22

Too many sizes! J. Burnam. Nation's Business 10:54-5+ My '22

See also Buildings, Standard; Houses, Fabricated

Statistics

See Building trades—Statistics

Study and teaching

Building construction courses in engineering schools; details of the Thompson-Starrett foundation at Yale and Union. Eng N 91:394-5 S 6 '23

Tables, calculations, etc.

Building labor calculator. G. M. Tamblin. G. M. Tamblin, Denver, Col. '23

Use of handbooks, accompanied by discussions of definite problems in wood and steel floor framings. E. F. Rockwood. Arch Forum 38:195-8, 243-4 Ap-May '23

See also Building—Estimates; Concrete, Reinforced; Concrete construction—Design; Quantity system of estimating

Unit system

See Buildings, Standard

Japan

American engineers aid Japan. il Iron Tr R 73:715-17 S 13 '23

Constructing modern office buildings in Japan. il Eng N 89:476-8 S 21 '22

Japan looks to America for aid in reconstruction work. il Bldg Age 45:37-42 O '23

Japanese engineering structures and services. il Eng N 91:434-6 S 13 '23

Special stiffening of Tokio buildings. H. V. Spurr. diag Iron Age 112:685-6 S 13 '23; Same abr. Eng & Contr (Bldgs) 60:678-9 S 26 '23

United States

Architect as a factor in the construction business. T. S. Holden. Arch Rec 53:374-7 Ap '23

Building activity in 1922. Arch Forum 35:235-6 D '21

Building operations in representative cities. 1920. U S Bur Labor Statistics Bul 295:1-49 '22

Building permits in principal cities, January to June, 1922. Monthly Labor R 15:825-61 O '22

Building—United States—Continued

- Building permits in principal cities of the United States, January to June, 1923. Monthly Labor R 17:868-85 O '23
- Building permits in the principal cities of the United States in 1921. U S Bur Labor Statistics Bul 318:1-88 '23
- Construction news. See weekly numbers of Engineering news-record
- Destiny of the American city. J. F. Hessel. 352p Municipal problems pub. co., Champaign, Ill. '22
- What building means to business. E. S. Bradford. Ind Management 65:194-8 Ap '23

See also Building trades—United States

Building, Brick. See Brick construction**Building, Cooperative**

- Building-trades unions' construction and housing council of Boston. M. Conyngton. Monthly Labor R 14:1016-19 My '22

See also Apartment houses—Cooperative ownership

Building, Mediæval

- Westminster Hall roof and mediæval constructional expedients. W. Harvey. il diags Engineer 132:697-9 D 30 '21

Building, Mill construction

- Choice of type of construction. J. R. Nichols. il diag Arch Forum 39:99-102 S '23
- How we combined reinforced concrete and mill construction. K. D. Hamilton. Factory 31:608-10+ N '23

Building accidents

See Building failures

Building and loan associations

- Cyclopedia of building, loan and savings associations. H. S. Rosenthal. 5th ed., rev. and enl. 554p [bibliog. p. 528-44] Cincinnati building assn. news pub. co., Cincinnati '23

- Development of building and loan associations in the United States. Monthly Labor R 17:968 O '23

- Law of building and loan associations. J. H. Sundheim. 2d ed. 376p Smith-Edwards co., Philadelphia '22

- Lumber dealers help people save money to build homes. Ptr Ink 123:137-8+ My 24 '23

- Nearly two hundred Kansas City railway workers buying homes. il Aera 11:1590-4 Jl '23

- Railroad "Y" building and loan association. Ry Age 73:1184 D 23 '22

- Stimulating home construction despite high prices. H. S. Butler. Bldg Age 45:65-6 My '23

- \$260,000 invested in homes by United railways building association. il Aera 11:1598-1604 Jl '23

Advertising

- Selling Danville to its 40,000 citizens. G. A. Olsen. Brick & Clay Rec 63:403-5 S 18 '23

Building congresses

- Building congress idea. W. S. Parker. Arch Forum 36:235-6 Je '22

Building contracts

- Architect not responsible if materials specified in the contract are not suitable. C. H. Blake, Jr. Am Arch 124:43 Jl 4 '23

- Builders' responsibility concerning defective plans prepared by him. Bldg Age 44:56-7 O '22

- Building contracts. E. J. Evans. 304p Dutton '22

- Contract between architect and owner; form of agreement adopted by the Illinois society of architects. Eng & Contr (Bldgs) 60:190-2 Jl 25 '23

- Contract standardizing conference. Pub Works 51:508-9 D 31 '21

- Desirability of the architect's securing a written contract. C. H. Blake, Jr. Am Arch 121:21-2 Ja 4 '22

- Joint conference of engineers, architects and constructors launch plan to standardize construction contracts. Eng & Contr 56:597 D 28 '21

- Legal side of architecture. C. H. Blake, Jr. Am Arch 123:142— My 9 '23

- Principles of contractual relations. Pub Works 52:302 Ap 29 '22

- Progress report of the committee on standard form of contract. Am Water Works Assn J 9:931-42; 10:695-705 N '22, Jl '23

- Some points in the law of engineers' and architects' contracts. R. Fortune. Engineering 114:515 O 27 '22

- Some remarks on contract forms. E. T. Thurston. Eng & Contr 57:59-60 Ja 18 '22

- Standard construction contracts and arbitration. W. P. Christie. Eng & Contr (Bldgs) 59:1445-8 Je 27 '23

- Troublesome problem of extra work, how conducted and how paid for. Bldg Age 44:31-2 O '22

- Variances between plans and specification. Bldg Age 45:86, 88 Mr '23

- Where architect has authority, by agreement, to determine date of completion, his decision must be based on his own best judgment. Dom Eng 104:290-1 Ag 11 '23

- Why we buy and sell on promptness of delivery. L. J. Horowitz. System 41:139-41-4 F '22

See also Contractors; Contracts, Letting of; Excavation—Contracts; Heating contracts; Plumbing contracts

Building equipment

- Time saved for buyer of supplies by organized sales methods. A. H. Rhett. Eng N 91:574-5 O 4 '23

Advertising

- Advertising that makes sales in the building field. D. Gridley. Ptr Ink M 7:34-6+ S '23

Bibliography

- Reference list of business literature for the use of the architect, specification writer and architectural engineer. Published in semi-monthly numbers of the American architect

- Selected list of manufacturers' literature. Published monthly in the Service section of the Architectural forum and in the Building age

Building failures

- Buckling wall of theater causes ceiling collapse. E. Godfrey. diags plan Eng N 88:873 My 25 '22

- Building accidents and their prevention; report of A.S.C.E. committee on structural safety in building. Eng N 91:88-92 Jl 19 '23

- Building failures; observations on the collapse of the Knickerbocker theatre at Washington, D.C., and the Masonic temple at Salina, Kansas. T. L. Condron. il diags plans W Soc E J 27:97-126; Discussion. 127-8 Ap '22

- Collapse of Knickerbocker theatre roof. il Bldg Age 44:62-3 F '22

- Collapse of roof of theater under construction in Brooklyn results in seven deaths. il diags Eng N 87:954-5 D 8 '21; Discussion. 88:33 Ja 5 '22

- Columns and walls lifted by swelling clay under floor. F. E. Giesecke. il plan Eng N 88:192-3 F 2 '22

- Knickerbocker theatre collapse; report of the investigation committee. il diags Am Arch 121:361-70 Ap 26 '22; Same abr. Eng & Contr 57:395-8 Ap 26 '22

- Knickerbocker theatre disaster. Am Inst Arch J 10:129-30, 131 Ap '22

- Removal of bracing held at fault for Fuller tower collapse. C. T. Bishop. Eng N 90:712-13 Ap 19 '23

- Roof collapse of Washington theatre. Eng N 88:207-9, 221-2, 224-9, 328-30 F 2-9, 23 '22

- Structure of collapsed Hartford watertank tower. C. T. Bishop. il diags Eng N 90:674-5 Ap 12 '23

- Two committees charge Knickerbocker collapse to twisting failure of truss end. il diags Eng N 88:532-8 Mr 30 '22

- Why buildings fail to stand. diags plans Am Arch 121:273-6 Mr 29 '22

- Why some structures fail. R. Fleming. Can Eng 45:136-7 Jl 10 '23; Same. Eng & Contr (Bldgs) 60:196-7 Jl 25 '23

See also Bridge failures; Concrete construction—Failures

Building finance. See Building—Cost; Building, Cooperative; Building loans; Housing projects

Building fittings

American metalwork and fixed decorations. *il Arch Rec* 51:88-92 Ja '22

See also Ironwork, Architectural; Sheet metal work, Architectural; Woodwork

Building for moving pictures. See Moving pictures—Setting and scenery

Building guilds

Building guilds and the guild movement in England. *Monthly Labor R* 17:180-6 Jl '23

Building guilds in England. *Monthly Labor R* 16:149-52 Ja '23

Building guilds in Germany. *M. Wagner. Annalist* 22:104 Jl '23 '23

Guild movement in Great Britain. *G. D. H. Cole. Int Labour R* 6:185-99 Ag '22

Guilds—old and new. *S. F. Campbell. Am Inst Arch J* 10:45-6 F '22

Progress. of the English building guilds. *Monthly Labor R* 13:1309-15 D '21

Public utility building guilds in Germany. *Int Labour R* 7:241-51 F '23

Building laws and regulations

Building code necessary for protection of lives, health and property. *Sanitary & Heat Eng* 97:254-5 My '22

Building code of the city of New York as amended to May 1, 1922. 355p Bureau of buildings, New York '22

Building code situation in United States. *D. R. Holtman. Eng & Contr* 57:393 Ap 26 '22

Building code uniformity. *Am Arch* 121:492-4 Je 7 '22

Building codes. *R. Fleming. Eng & Contr* 57:88 Ja 25 '22

Building walls in Europe. *Am Arch* 121:79-80 Ja 18 '22

Cities prohibiting wooden shingle roofs. *Safety Eng* 46:118-20 S '23

Engineering construction work under foreign laws. *A. J. Wolfe. Eng N* 89:559 O 5 '22

First draft of proposed standard building code issued by Department of commerce. *Heat & Ven* 19:53 My '22

Floor load requirements in American building codes. *Am Arch* 121:78-9 Ja 18 '22

For uniformity in building codes. *Arch & Bldg* 55:13-14 F '23

Law of city planning and zoning. *F. B. Williams. 738p [bibliog. p. 608-30] Macmillan* '22

Legal pitfalls in undertaking building jobs. *A. L. H. Street. Bldg Age* 45:47 Ja '23

Load requirements in building codes. *R. G. Kimball. Arch Forum* 36:sup61-2 F '22;

Same. *Eng & Contr* 56:584 D 28 '21

National vs. state building codes. *S. J. Williams. Safety Eng* 45:126-9 Ap '23

New safety laws for construction work in California. *il Eng & Contr* 56:567 D 21 '21

1923 official Providence building laws and ordinances relating to building inspection.

etc. *A. W. Harris. comp. 320p A. W. Harris. Providence, R.I.* '22

Official Worcester building and plumbing ordinances relating to building inspection.

fire protection, plumbing inspection, supervision of wires, etc. *A. W. Harris. 243p A. W. Harris. Providence, R.I.* '22

Ordinance for construction of chimneys. *diags plans Am Soc Heat & V E J* 27:859-72 D '21; Same. *Sanitary & Heat Eng* 96:

396-9; 97:6-8 D 30 '21-Ja 13 '22; Same. *Sheet Metal Worker* 12:810-15+ D 23 '21

Ordinance for construction of chimneys suitable for use in cities and towns of any size

or as a state law. 2d ed., rev. 20p National bd. of fire underwriters, 76 William st, N.Y.

'21

Practical arrangement of building codes. *F. Burton. Eng N* 90:388 Mr 1 '23

Recent zone and excess condemnation laws in France. *F. B. Williams. Am Inst Arch J* 10:35-6 F '22

Recommended minimum requirements for small dwelling construction. *diags 108p U.S. Dept. of commerce, Washington* '23; Ex-

cerpt. *Am Arch* 123:247-9, 285-90, 429-32 Mr

14-28, My 9 '23; Excerpt (Floors). *Safety Eng* 45:147-51 My '23; Same. *Eng & Contr* (Bldgs) 59:1151 My 23 '23; Table. *Eng N* 91:255 Ag 16 '23

Standardization in building requirements. *Concrete* 21:111 O '22

Standardization of building codes. *R. C. Marshall, jr. Eng & Contr* 57:172-3 F 22 '22

Studies on building height limitations in large cities, with special reference to conditions

in Chicago. 299p Chicago real estate board library, Chicago '23; Review by *W. Artingstall. Munic Eng* 64:173-4 Ap '23

Surprising variations in timber stresses allowed by different building codes. *R. G. Kimball. Eng & Contr* 57:503-4 My 24 '22

To develop a code of minimum requirements for the heating and ventilation of buildings.

Heat & Ven 20:54 My '23

Urges license to raise building standards. *F. F. Carmiencke. Eng N* 88:540-1 Mr 30 '22

See also Building contracts; Building loans; City planning—Zone system; Heat-

ing—Laws and regulations; High buildings; Housing laws; Mechanics' liens; Plumbing

laws and regulations

Building loans

Architectural design and structural requirements of loaning institutions. *Arch Forum* 37:119-22 S '22

Business factors in architectural practice. *C. S. Taylor. Arch Forum* 38:51-4 F '23

Financing the small building. *C. O. Hennessy. Bldg Age* 43:43 D '21

Interesting home financing plan. *Bldg Age* 44:60 Jl '22

See also Building and loan associations

Building materials

Building material from corn cobs. *Chem Age* 30:515 N '22

Des murs et du bloc athermane avec vides chromatiques. *A. Knapen. diags Soc Ing Civils Bul* 74:570-94 O '21; Abstract. *Génie Civil* 80:187-8 F 25 '22

Effect of construction on heat losses from buildings. *S. H. Woodbridge. Heat & Ven* 19:38-40 Ap; 27-9 My '22

Effect of smoke on building materials. *S. I. Kehler. Eng & Contr* (Bldgs) 59:1459-60 Je 27 '23

Lumber from sugar-cane waste. *C. R. Ferrall. Sci Am* 126:398 Je '22

Market for construction materials in Brazil. *M. A. Cremer. U S Bur For & Dom Com Trade Information Bul* 101:1-14 '23

Materials of construction. *A. P. Mills. 2d ed. 489p Wiley* '22

Materials of construction. *H. E. Pulver. 318p McGraw-Hill* '22

Primitive building materials. *il Am Arch* 122: 201-2 Ag 30 '22

Progress toward the solution of certain unsolved problems of engineering. *W. H. Maw. Engineering* 114:599-600 N 10 '22; Ex-

cerpts. *Engineer* 134:500-1 N 10 '22

Report on structural materials along the St Lawrence river, between Prescott, Ont., and Lachine, Que. *J. Keele and L. H. Cole. 119p Canada Dept. of mines, Ottawa* '22

Sea furnishes material for queer dwelling. *il Pop Mech* 38:222-4 Ag '22

Sugar-mill waste yields durable building material. *T. E. Dabney. il Pop Mech* 36:806-8 D '21

Textbook of the materials of engineering. *H. F. Moore. 3d ed. 325p McGraw-Hill* '22

Use of lighter alloys for engineering structures. *O. W. Ellis. Can Eng* 43:553-6 N 21 '22; Same. *Eng & Contr* (Bldgs) 58:140-4 D 27 '22

See also Adobe; Asbestos; Asphalt blocks; Bricks; Building stone; Celotex; Cement; Cinders; Concrete; Concrete, Reinforced; Concrete blocks; Concrete brick; Concrete slabs; Concrete stone; Concrete tile; Fire

resisting materials; Glass; Gravel; Gunite; Gypsum; Hollow tile; Iron; Lime; Lime-

stone; Metal lath; Metal work, Architectural; Mortar; Pisé; Plaster and plastering; Ply-

wood; Roofing; Shingles; Slate; Steel, Struc-

Building materials—Continued

tural; Stone, Artificial; Stone turf; Straw blocks; Strength of materials; Stucco; Terra cotta; Thatch; Tile; Timber; Wall board; Wire glass; Wood

Advertising

Manufacturers' literature—do you file it in the waste basket? Arch Forum 35:233-4 D '21

See also Advertising—Architects, Appeal to

Bibliography

Reference list of business literature for the use of the architect, specification writer and architectural engineer. Published in semi-monthly numbers of the American architect

Selected list of manufacturers' literature. Published monthly in the Service section of the Architectural forum and in the Building age

Prices

Aberthaw construction company's index. C. E. Patch. Eng & Contr 57:263 Mr 22 '22

Average building cost index still almost double 1913. Elec W 78:1197-8 D 10 '21

Building material prices. Arch Forum 38:69 Ja '23; Eng & Contr (Bldgs) 59:186-7 Ja 24 '23

Construction material prices in 46 cities. Eng & Contr 57:507 My 24 '22

Cost indices of buildings and building materials. Eng & Contr (Bldgs) 59:712 Mr 28 '23

Monthly prices of construction materials. Published in Engineering news-record first number of each month and in monthly numbers of Architectural forum and Engineering and contracting (buildings)

Price inflation in construction industry will prove boomerang. F. D. Roosevelt. Eng N 89:468-9 S 7 '22

Revised index numbers of wholesale prices of building materials, 1913 to March, 1922. Monthly Labor R 14:935-7 My '22

Revision of the U. S. Department of labor index prices. Eng & Contr 57:606 Je 28 '22

Significance of the building material price rise of 20 per cent in 12 months. Eng & Contr (Bldgs) 58:2-3 O 25 '22

Spring prices of construction materials since 1913. Eng N 88:8-9 Ja 5 '22

Ten year résumé of construction cost. Eng N 90:42-3 Ja 4 '23

Trend of prices of building material and of building wage rates since 1913. Eng & Contr 57:621 Je 28 '22; Same (without chart). Comm & Fin Chr 115:146 J1 8 '22

Wholesale prices of building materials. Monthly Labor R 13:1230-1 D '21; Excerpt (table). Eng & Contr 57:377 Ap 19 '22

Testing

Heat loss through various types of building construction. L. A. Scipio. Am Soc Heat & V E J 27:637-43 S '21

Study in heat transmission with special reference to building materials. F. C. Houghten. il diags plan Am Soc Heat & V E J 28: 151-72 Mr '22

Testing materials. H. L. Sherman. Arch Forum 35:187-8 N '21

See also subdivision Testing under various materials, e.g. Bricks—Testing, Concrete—Testing, Plywood—Testing

Building stone

Appearance of completed stone work contingent upon its treatment at the building. W. W. Drayer. Eng & Contr (Bldgs) 60: 671-2 S 26 '23

Building stone production in 1922. Eng & Contr (Bldgs) 59:1458 Je 27 '23

Estimating the cost of stone setting; block, terra cotta, cut stone. C. F. Dingman. Concrete 21:189-92 D '22

Handling and setting of cut stone. Eng & Contr (Bldgs) 59:1154-5 My 23 '23

Using common stone. J. Upton. il diags Bldg Age 45:67-8 Mr '23

See also Cobble stones; Concrete stone; Granite; Limestone; Marble; Quarries and quarrying; Stone, Artificial; Stonecutting

Preservation

Preservation of stone buildings. Am Arch 124:77-9 J1 18 '23

Building trades

Apprentices and craftsmanship. D. K. Boyd. Bldg Age 45:43-4 J1 '23; Same. Eng & Contr (Bldgs) 60:172-1 J1 25 '23

Benefits of deferred construction. E. L. Wight. Annalist 19:561 My 22 '22

Better homes week. il plans Bldg Age 45:44-6 Je '23

Builders that succeed and why. F. H. Williams. Bldg Age 45:66-7 J1 '23

Building labor inefficiency bred by booms. L. C. Wason. Eng & Contr (Bldgs) 60:680-1 S 26 '23

Cause of our shortage of men. B. L. Fenner. Bldg Age 45:41-2 Ag '23

Code of ethics for the building trades. Dom Eng 98:20-2+ Ja 7 '22; Same. Heat & Ven 19:56-7 F '22; Same abr. Arch Forum 36: sup54 Ja '22; Same abr. Bldg Age 44:47 Ja '22

Comprehensive apprenticeship in the building trades. H. Brown. Am Ind 22:22-3 My '22

Construction—a balance wheel of business. T. S. Holden. Administration 5:695-9 Je '23

Constructive apprenticeship movement. Sheet Metal Worker 13:153+ Mr 31 '22

Craftsmen—machines—credit—speed. F. L. Ackerman. Am Inst Arch J 11:249-52 Je '23

Economic factors which underlie construction activity prepared for the American architect by the American chamber of economics, incorporated. Am Arch 123:211-13, 305-6+, 481-3; 124:300-2, 387-9, 456-8 F 28, Mr 28, My 28, S 26, O 24, N 21 '23

Effect of irregular employment on income in the building trades. Monthly Labor R 13: 610-12 O '21

How are the building trades training apprentices? F. L. Glynn. Eng N 90:62-3 Ja 11 '23

How long will the present building boom last? Arch Forum 38:sup85-6 F '23

How to determine a fair wage in the building trades. T. H. Coe. Eng & Contr 56:586-7 D 28 '21

How to eliminate waste in construction industry. D. K. Boyd. Can Eng 13:569-70 S 19 '22

How to increase production in the building trades. S. E. Thompson. Eng & Contr 57: 92 Ja 25 '22

Injunctions in the building trades. Monthly Labor R 14:812-18 Ap '22

Jurisdictional awards. Am Inst Arch J 11: 376-82 S '23

Lowering building costs by stimulating off-season buying. J. True. Plr Bk 124:33-6 Ag 16 '23

Planning for more business; cooperation by builders in "modern home" exhibit. il plans Bldg Age 45:35-9 Ja '23

Reducing the cost of building by year round construction. Bldg Age 44:37-8 N '22

Reducing unemployment of labor and capital in construction industry. A. P. Greensfelder. Eng & Contr 58:185-6 Ag 23 '22

Replacement of building trades workers. M. V. Ayres. Eng & Contr 58:203-5 S 27 '22

Report on seasonal labor in the building industry. Am Arch 120:469-10 N 23 '21

Seasonal employment in building construction. D. K. Boyd. Eng N 90:63-5 Ja 11 '23

Seasonal employment in construction industry. J. P. Anglin. Eng & Contr (Bldgs) 59:487-92 F 28 '23; Same abr. Can Eng 44:251-3 F 20 '23

Secretary's table; should architects attempt to deal with labor problems. Am Inst Arch J 10:47-50 F '22

Skilled mechanics in the building trades. B. L. Fenner. Am Inst Arch J 10:124-6 Ap '22

Trade schools and the building trades unions. F. L. Ackerman. Arch Forum 36:sup61-2 Mr '22

Training of our future workmen. H. Frayne. il Bldg Age 45:42-4 Ag '23

What building means to business. E. S. Bradford. Ind Management 65:194-8 Ap '23

Who restricts apprentices? Eng N 91:15, 114, 191 J1 12-19, Ag 2 '23

Building trades—Continued

Why present cost of building operations may not reach lower level. M. C. Tuttle. Eng & Contr 57:89-90 Ja 25 '22

Why young men do not enter the building trades. il Bldg Age 45:48-9 Ag '23

Work of the New York building congress; code of ethics, apprenticeship. Monthly Labor R 15:862-6 O '22

See also Bricklayers; Building gilds; Building loans; Contractors; Plumbing trade; also Associated general contractors of America—Service bureau; Council on industrial relations for the electrical construction industry in the United States and Canada; National board for jurisdictional awards

Accounting

Dealers' handy cost book. G: W. Hafner. 158p Building supply news, Chicago '22

Advertising

A. G. C. adopts standard form for advertising construction work. Eng N 91:31 JI 5 '23
Advertising the home and its financing as a unit. Ptr Ink 120:77-8 S 28 '22

Architectural committee tells how manufacturers can make their advertising better. H. W. Stokes. Ptr Ink 119:117-18+ My 18 '22
Attracting the crowd. il plans Bldg Age 44: 38-40 JI '22

Forgotten fireside. M. K. Powers. Ptr Ink 119: 132+ Ap 27 '22

Proceedings of the Joint conference on better advertising to architects, Indianapolis, Indiana, Nov. 10-11, 1921. Am Inst Arch J 10: sup 1-16 Ap '22

See also Lumber trade—Advertising

Exhibitions

Building trades exhibition at Olympia. Engineering 113:462-4, 496-8, 515-19 Ap 14-28 '22

Statistics

Accumulated deficiency in building construction. L. P. Ayres. Eng & Contr (Bldgs) 58: 32-40 O 25 '22

Architect and the business cycle. T: S. Holden. Arch Rec 54:383-7 O '23

Building trades and other trades; employment statistics. S. Chase. Am Inst Arch J 10:202-3 Je '22

Statistics of building volume and cost. Arch Forum 36:sup48 Ja '22

Statistics of construction cost and volume. Eng N 88:8-13 Ja 5 '22

Year's construction only 8 per cent under 1920. Elec W 79:105 Ja 14 '22

Argentina

Building activities in the Argentine and Uruguay. Engineer 135:294 Mr 16 '23

Wages in the building trades in Argentina in October, 1922. Monthly Labor R 16:1273 Je '23

Canada

Association of Canadian building and construction industries 4th annual conference. Can Eng 42:159-65 Ja 24 '22

August 1923 figures of Canadian building permits as compared with July 1923 and August 1922. Comm & Fin Chr 117:1723 O 20 '23

Construction activity in Canada. E. G. M. Cope. Can Eng 45:276-7 Ag 28 '23

General view of the construction situation. J. B. Carswell. Can Eng 44:279-82 F 27 '23

Leading problems now facing Canadian construction industries. J. C. Reilly. Can Eng 42:214-15 F 7 '22

Chicago

Chicago building unions divided. G: H. Manlove. Iron Tr R 70:619 Mr 2 '22

Chicago trade adopts new form of agreement. Heat & Ven 18:50 N '21

Citizens' war a public demand. F. W. Armstrong. Am Ind 22:20-2 Je '22

Labor situation and the Landis building trades agreements. H: K. Holsman. Am Inst Arch J 9:343-8 N '21

Wage award by Judge Landis in Chicago building trades, September 7, 1921. Monthly Labor R 13:824-8 O '21

Germany

Public utility building guilds in Germany. Int Labour R 7:241-51 F '23

Great Britain

English building trades arbitration award. Monthly Labor R 17:455-6 Ag '23

Position in the building industry. Elec R (Lond) 90:42-3 Ja 13 '22

See also Building gilds

Illinois

Illinois building investigation commission report. 109p Illinois state register, Springfield '23

New England

Present situation in the building trades in New England. M. C. Tuttle. Eng & Contr 58:84-5 JI 26 '22

New York (city)

Building monopoly in New York. W. Drew. Am Ind 24:31-2+ S '23

Handbook of the Building trades employers' association of the city of New York, 1921. 176p Building trades employers' assn., New York '21

Principles adopted by employers and labor unions in New York building trades. Comm & Fin Chr 115:2118 N 11 '22

Rates of wages in the building trades of New York city, 1903-1921. Monthly Labor R 14: 313-15 F '22

To help break the business log jam; Untermyer plan. R. Bostick. Ptr Ink 118:105-7 F 9 '22

Trade schools for relieving shortage of building mechanics. J. Baird. Eng & Contr (Bldgs) 60:168-9 JI 25 '23

Wage increase in New York building trades since 1916. Eng & Contr (Bldgs) 60:160 JI 25 '23

New York (state)

Lockwood committee resumes investigation of housing situation. Comm & Fin Chr 115: 2754-5 D 23 '22

San Francisco, California

Bonus contract of the Industrial association of San Francisco. Monthly Labor R 16:107-9 Ja '23

Building trades—San Francisco. Monthly Labor R 14:335-6 F '22

United States

Another angle on business prospects for 1922. G: H. Bruns. Annalist 19:149-50 Ja 23 '22

Building and construction industry in 1922. Monthly Labor R 16:144-9 Ja '23

Building in the United States. G: H. Bruns. Annalist 18:513 N 28 '21

Building prospect. W. I. King. Arch Rec 50: 504-6 D '21

Building prospect for 1923. T: S. Holden. Arch Rec 52:528-30 D '22

Building prospects for the coming year, 1922. Dom Eng 98:185-7 Ja 28 '22

Building situation. Arch Forum 38:67-8 Ja '23

Building situation from an economic viewpoint. Am Arch 123:120-2 Ja 31 '23

Building survey for 1922 and forecast for 1923. C. S. Taylor. Arch Forum 38:9-12 Ja '23

Building year, 1922-1923. A. E. Beals. Annalist 21:57 Ja 8 '23

Business outlook for 1923. W. I. King. Arch Rec 53:80-3 Ja '23

Construction in 1922—a banker's view. L. P. Ayres. Brick & Clay Rec 60:437-42 Mr 21 '22; Excerpt. Eng & Contr 57:267-8 Mr 22 '22

Construction is on the up-grade. J: Ihlder. Nation's Business 10:13-14 Ap '22

Construction starts all industry. N. F. Hoggson. Nation's Business 10:11-13 Ap '22

Deficiency in construction during the past eight years. H. P. Gillette and J. C. Black. Eng & Contr 57:261-3 Mr 22 '22

Building trades—United States—Continued

Development of satisfactory relationship between employer and employe in construction industry. E. T. Trigg. Eng & Contr 56:479-81 N '23 '21

Estimates 1922 construction at \$6,000,000,000. Elec W 81:128-9 Ja 13 '23

Factory building program large. W: M. Rooney. Iron Tr R 70:52-5 Ja 5 '22

Factory construction recovers. W: M. Rooney. Iron Tr R 72:72-6 Ja 4 '23

Forecast of building activity in 1923. Sanitary & Heat Eng 99:81 F 9 '23; Same. Sheet Metal Worker 14:85+ Mr 2 '23

Halting building operations because of intolerable costs. Comm & Fin Chr 116:2060 My 12 '23

Higher wages offset declines in prices of materials in building trades. Comm & Fin Chr 117:1061-2 S 8 '23

How can we best handle the building boom? il Bldg Age 45:47-50 Je '23

How can we stop duplication of orders? Eng N 90:735, 846, 973, 1013 Ap 26, My 10, 31-Je 7 '23

How great is the shortage of building trades workers? M. V. Ayres. Eng N 90:8-10 Ja 4 '23

How investors view the building situation. S. W. Stavers. Bldg Age 44:27 Ja '22

How to increase output of building trades workers. S. E. Thompson. Eng & Contr 57:274-6 Mr 22 '22

Labor problems of to-day. E. A. Johnson and J. Gauld. Boston Soc C E J 8:325-36; Discussion. 336-51 D '21

More building under open shop. N. Sargent. Am Ind 22:29-32+ F '22

New building gets under way. Nation's Business 10:34 D '22

1921's record of projected new buildings. Comm & Fin Chr 114:1831-5 Ap 29 '22

1922 building outlook. Am Arch 121:1-3 Ja 4 '22

1922 record of new building construction. Comm & Fin Chr 116:1346-9 Mr 31 '23

1922 should prove a good year for architects. Arch Forum 36:143-6 Ap '22

Outline of present construction situation for discussion by the American construction council, 16 May, 1923. R. C. Marshall, jr. Am Inst Arch J 11:247-9 Je '23

Present prosperity of our country assures continued activity in building. H. Hoover. Bldg Age 45:56-8 Je '23

President's conference on unemployment; report of the committee on construction industries. Am Inst Arch J 9:359-61 N '21

Program adopted by governors of American construction council to avert depression in building trades. Comm & Fin Chr 116:2195-6 My 19 '23

Prosperity or collapse in the building industry? charts Arch Forum 39:27-30 Jl '23

Restriction of building operations in accordance with stabilization program of American construction council. Comm & Fin Chr 116:2457-8 Je 2 '23

Resumption of building activity. Comm & Fin Chr 117:1181 S 15 '23

Schools to train mechanics for building trades to relieve shortage of help suggested. J. Baird. Comm & Fin Chr 117:20 Jl 7 '23

Secretary Hoover advocates curtailment of public building construction. Eng & Contr (Bldgs) 59:921-2 Ap 25 '23

Secretary of commerce Hoover recommends halt in public building—Federal reserve board's edict against branch buildings. Comm & Fin Chr 116:1473-4 Ap 7 '23

Seek to stabilize building trade. Comm & Fin Chr 117:604-5 Ag 11 '23

Skilled labor in the building industry. J. B. Landers. Eng & Contr (Bldgs) 59:1176-7 My 23 '23

Some conclusions of the construction situation. H. Hoover. Eng & Contr 57:378-9 Ap 19 '22

Suspension of building to stabilize the building industry. Monthly Labor R 17:174-7 Jl '23

Task ahead for building. F. D. Roosevelt. Nation's Business 11:35-7 Ja '23

Trend of prices of building material and of building wage rates since 1913. Eng & Contr 57:621 Je 28 '22; Same (without chart). Comm & Fin Chr 115:146 Jl 8 '22

Trend of wages, prices of materials, and cost of living in the building industry. Monthly Labor R 15:1277-9 D '22

Union influence in the building industry. Annalist 18:581+ D 19 '21

Union scale of wages and hours of labor in building trades, May 15, 1921, and rates of wages paid and hours worked, November 15, 1921. Monthly Labor R 14:97-107 Ja '22

Union scale of wages and hours of labor in the building trades, May 15, 1922, and rates prevailing November 15, 1922. Monthly Labor R 16:70-82 Ja '23

Vital question of building trades wages. G. H. Bruns. Annalist 18:605-6 D 26 '21

Wage scales in the building trades. Monthly Labor R 14:1161-5 Je '22

Wage scales in the building trades, March 31, 1923. Monthly Labor R 16:1263-7 Je '23

Wages and average employment in building trade. G. F. Meyne. Eng & Contr (Bldgs) 60:683-4 S 26 '23

What 1922 seems to promise builders. A. E. Beals. Annalist 19:49 Ja 9 '22

Workers in building trades: 1920 and 1910. Comm & Fin Chr 115:942 Ag 26 '22

See also American construction council; National board of jurisdictional awards

Uruguay

Building activities in the Argentine and Uruguay. Engineer 135:294 Mr 16 '23

Wisconsin

Employment records in Wisconsin building construction. Monthly Labor R 17:452-3 Ag '23

Building-trades unions' construction and housing council of Boston

Building-trades unions' construction and housing council of Boston. M. Conyngton. Monthly Labor R 14:1016-19 My '22

Building zones. See City planning—Zone system**Buildings**

See also Architecture; Bank buildings; Building; Building failures; Capitol buildings; Churches; College architecture; College buildings; Community centers; Concrete buildings; Courthouses; Department stores; Exits; Factories; Farm buildings; Foundries; High buildings; Historic houses; Hotels; Industrial buildings; Machine shops; Mercantile buildings; Mine buildings; Municipal buildings; Office buildings; Public buildings; Railroads—Buildings and structures; Schoolhouses; Standpipes; Store buildings; Theaters; Warehouses

Equipment

Les grands immeubles Américains commerciaux et d'habitation. J.-F. Audouin. diags plans Soc Ing Civils Bul 75:9-52, pl 19 Ja '22

Maintenance

Maintenance engineering in large industrial plants and public institutions. S. E. Bird. Eng N 89:1106-8 D 28 '22

See also Factories—Maintenance and repair

Management

See also Architecture—Designs and plans—Preservation

Restoration

See Building—Repair and reconstruction

Valuation

Methods employed in appraisal and valuation of buildings. T. F. Laist. Ry R 70:673-8 My 13 '22

Buildings, Industrial. See Industrial buildings

Buildings, Standard

New wall unit simplifies standardized buildings. *il Ry Age* 71:1275-6 D 24 '21

See also Houses, Fabricated

Built-in furniture. *See* Furniture, Built-in

Built-in pianos. *See* Pianos, Built-in

Bulbs**Advertising**

Selling flowers by the garden full; Stumpp & Walter co. build up their mailing list with names of purchasers. *J. True. Ptr Ink* 119: 33-4+ Ap 20 '22

Bulgaria

See also Labor and laboring classes—Bulgaria

Economic conditions

Our money-making possibilities in Bulgaria. *G. Herit. Annalist* 22:71 JI 16 '23

Bulging (sheet metal work)

Die for bulging brass knobs. *H. B. Clark. Mach* 30:54 S '23

Hydraulic bulging and bending. *diags plans Mach* 29:381-4 Ja '23

Bulkheads

Anchored bulkheads across slips on Chicago river. *diags plan Eng N* 89:104 JI 20 '22

By means of bulkheads and the grouting of crevices two haulageways are driven under the Allegheny. *il diags plans Coal Age* 20: 1008-11 D 22 '21

Bulkheads (naval architecture)

Notes on the curves and formulae for regulating the water-tight sub-division of passenger ships. *A. Denny. Engineering* 116: 314-17, 366 S 7, 21 '23; *Discussion. 116:308 S 7 '23; Engineer* 136:257 S 7 '23

Subdivision of large passenger steamers. *A. C. F. Henderson. diags Engineer* 136:261-3 S 7 '23; *Same. Engineering* 116:317-18 S 7 '23; *Discussion. Engineer* 136:257 S 7 '23; *Same. Engineering* 116:308 S 7 '23

Subdivision of passenger liners. *Marine Eng* 27:646-8+ O '22

Bulletin boards

Safety bulletins and bulletin boards. *Am Gas J* 116:29-32+ Ja 14 '22

Bulletins

Safety bulletins and bulletin boards. *Am Gas J* 116:29-32+ Ja 14 '22

Bullets. *See* Projectiles**Bullion.** *See* Precious metals**Bundling machines, Scrap metal**

Tempus rotary scrap-metal bundling machine no 3. *il Am Mach* 58:201-2 F 1 '23

Bungalows

Attractive bungalow homes. *il plans Bldg Age* 45:38-41, 15, 48, 51 JI '23

Attractive bungalow of seven rooms. *C: A. Byers. il plan Bldg Age* 44:36 N '22

Bungalow book. *C: E. White, jr. 221p Macmillan* '23

Bungalow design with two floor plans. *Bldg Age* 41:33 Ja '22

Bungalow with basement garage. *il plans Bldg Age* 44:33 Je '22

Bungalow with two different exteriors. *il plan Bldg Age* 45:73 Ag '23

Bungalows of stucco on porette slab base. *plan Concrete* 21:28 JI '22

Charming bungalow design. *C: A. Byers. il plan Bldg Age* 44:25 D '22

Cost figures of bungalow homes. *I. P. Hicks. il diags plans Bldg Age* 45:69-73 Mr '23

Double wall bungalows in Spokane. *W. R. Smith. il plans Concrete* 20:43 Ja '22

English design bungalow. *C: A. Byers. il plans Bldg Age* 44:46 O '22

Five-room bungalow erected at the third annual Own your home exposition, Chicago. *Ill. Arch & Bldg* 55:Dwelling house ser 8 Ap '23

Four charming bungalow homes of all wood construction. *il plans Bldg Age* 45:56-7 Ja '23

Four designs of attractive bungalow homes. *il plans Bldg Age* 45:52-3 My '23

Modern bungalow types. *il Bldg Age* 44:21-3 JI '22

New circular bungalow saves space and steps. *il plan Pop Mech* 39:354 Je '23

New Spanish bungalow, singles and doubles. 56p Bungalowcraft co., Los Angeles '23

New style bungalow in California. *C: A. Byers. il plan Concrete* 20:116 Mr '22

One-room house has rooms in walls. *F. B. Howe. il plan Pop Mech* 37:209-12 F '22

Quantity survey of bungalow. *il plans Bldg Age* 45:62-3 O '23

Riverside bungalow. *il plan Bldg Age* 44:26-7 Ap '22

Semi-bungalow along Spanish lines; with quantity survey. *diags plans Bldg Age* 45:52-5 Mr '23

Some California bungalow courts; clever ideas in grouping homes. *il Bldg Age* 43:22-3 D '21

Spanish architecture for bungalow. *plan Bldg Age* 45:52 O '23

Stone bungalow. *il plan Bldg Age* 44:27 JI '22

Stone bungalow design. *il plans Bldg Age* 45: 70 Ag '23

Stucco bungalow design. *il plans Bldg Age* 44:37 Je '22

Summer homes for sea side and country. *C: G. Peker. il diags plans Bldg Age* 44:30-3 My '23

United States government bungalow plans. *Concrete* 29:141 Mr '22

Well planned bungalow with rear patio. *W. S. Davis. il plans Bldg Age* 44:58 F '22

Bunkering stations. *See* Coaling stations; Oil bunkering stations

Bunsen burner

Some notes on the Bunsen burner. *J. G. Clark. Gas J (Lond)* 162:38-9 Ap 4 '23

Buoys**Manufacture**

Buoy ball presents problem. *L. V. Johnston. diags Foundry* 51:880-2 N 1 '23

Burbank, Luther

Burbank's plant creations to be preserved. *R. Jurade. il Pop Mech* 39:591-3 Ap '23

Burch, Henry Kenyon, 1873-

Engineers of note. *por Eng & Min J* 115:703 Ap 21 '23

Burchard, Anson Wood, 1865-

Portrait. *Elec W* 80:160 JI 22 '22

Bureau of advertising. *See* American newspaper publishers association—Bureau of advertising

Bureau of economic research

Bureau of economic research. *Ind Management* 63:54 Ja '22

Bureau of locomotive inspection. *See* Interstate commerce commission—Bureau of locomotive inspection

Bureau of municipal research, New York**Library**

Library for research in government. *S. Greer. Special Lib* 13:83-6 Je '22

Bureau of safety. *See* Interstate commerce commission—Bureau of safety

Burgess, George K., 1874-

Director, Bureau of standards. *por Chem & Met Eng* 28:757 Ap 30 '23; *Elec W* 81:991 Ap 28 '23; *Am Mach* 58:680 My 3 '23; *Power* 57:697 My 1 '23

Burgess, Ward M.

Men and methods. *J. W. Hanbery. il System* 42:153-4+ Ag '22

Burglar alarms

Burglar and the alarm. *E: H. Smith. il Sci Am* 128:294-5+ My '23

Light gives the alarm. *Sci Am* 126:436 Je '22

Minirisk burglar alarm system. *il Elec R (Lond)* 90:623 My 5 '22

Protection-signal device fires ten shots. *il Pop Mech* 37:818 Je '22

Trapping the burglar. *E: H. Smith. il Sci Am* 129:6-7+ JI '23

Burglary

Protecting our great banks. *E: H. Smith. il Sci Am* 129:223-3+ O '23

Burglary—Continued

Safes and safe-breakers; everlasting struggle between the safe builder and the bank robber. E: H. Smith. *il Sci Am* 127:222-3+, 300-1+ O-N '22
 Science in safe-breaking; how modern technology works for and against the yeggman. R. A. Giles. *il Sci Am* 125A:92-3 D '21

Buried hills

Reflected buried hills and their importance in petroleum geology. S. Powers. *diags map Econ Geol* 17:233-59 Je '22; Discussion. G. M. Ruby. 18:93-6 Ja '23

Burlap

Homemade device for placing burlap on fresh concrete. *il diag Eng N* 88:865 My 25 '22

Burma

Burma and the Bawdwin mines. R. G. Hall. *il Eng & Min J* 115:617-23, 660-6 Ap 7-14 '23

See also Mines and mineral resources—Burma; Silver mines and mining—Burma

Commerce

United States in Burmese markets. *Annalist* 22:70+ J1 16 '23

Burners, Gas. See Gas burners**Burners, Oil.** See Oil burners**Burnham, Daniel Hudson, 1846-1912**

Daniel Hudson Burnham—planner of cities. I. K. Pond. *por Am Arch* 120:417-20 D 7 '21

Burnishing. See Grinding and polishing**Burroughs adding machine company**

Service plan that builds good-will; Burroughs adding machine company. C. D. Stevens. *System* 43:165-7 F '23

Burrs

Study of burrs. E. R. Low. *Tech Assn 1st ser* 6:177-9; Discussion. 179-81 Je '23

Burton, William M.

Perkin medal is presented to William M. Burton. *Chem & Met Eng* 26:100-5 Ja 18 '22; *J Ind & Eng Chem* 14:159-63 F '22

Bus lighting. See Motor buses—Lighting**Busbars**

Application and rating of busbars and connection bars. *Power* 57:27 Ja 2 '23

Bus construction for heavy low-voltage alternating currents. T. H. Arnold. *il Elec W* 78:1029-30 N 19 '21

Current distribution in multi-conductor single-phase buses. C. F. Wagner. *il diags Elec W* 79:526-9 Mr 18 '22

Efficiency of overlapping joints in copper and aluminum busbar conductors. S. W. Melson and H. C. Booth. *Inst E E J* 60:889-99 Ag '22

Heavy alternating current busses for furnaces and synchronous converters. J. L. M. Yardley. *il diags Blast F & Steel Pl* 11:492-4, 624-32 S, D '23

Improved design of heavy-duty 6,600-volt double bars. W. R. McCann. *il diags Elec W* 79:1275-6 Je 24 '22

Isolated phase bus system in large electrical power centers. B. G. Jamieson. *Elec J* 20:203-6 Je '23

Joints in aluminum and copper busbars. *Elec R (Lond)* 92:637 Ap 20 '23

Magneto-mechanical loads on bus supports. L. N. Robinson. *diags Am Inst E E J* 62:1063-7 O '23

New type of 220,000-volt bus developed. *Elec W* 82:919 N 3 '23

Reducing substation cost and insulator hazard by steel buses. *il diags Elec W* 82:116, 131-2 J1 21 '23

Rigid bus structure made from pre-cast ducts. W. C. Blackwood. *il diags Elec W* 80:281-2 Ag 5 '22

Transformer and busbar standards adopted by Electric power club. *Elec Ry J* 60:917 D 9 '22; *Elec W* 81:48-9 Ja 6 '23

Unusual bus structure utilized for industrial substation. T. H. Arnold. *il Elec W* 79:287-8 F 11 '22

When the negative bus is positive. G. H. McKelway. *Elec Ry J* 60:82 J1 15 '22

Buschmann payment plan. See Installment plan

Buses, Electric. See Electric buses**Buses, Motor.** See Motor buses**Bushings**

Bronze bushings. R. E. Search. *diags Metal Ind* 21:356-7 S '23

Casting brass bushings. E. A. Thanton. *il Am Mach* 58:488 Mr 29 '23

Design and specifications for slip bushings. R. Beckman. *diags Am Mach* 57:152 J1 27 '22; Discussion. E. Heller. 57:581 O 12 '22

Design of broach guide bushings. G. E. Hodges. *diag Mach* 30:5 S '23

Floating bushes for locomotive connecting and coupling rods. *diags Engineering* 113:388-9 Mr 31 '22

Forged motion work bushings. *il Ry Mech Eng* 97:184 Mr '23

Hydraulic rod bushing press. J. H. Hahn. *diags Ry Mech Eng* 95:776 D '21

Large bushings for city of Seattle. *il Power Pl Eng* 27:852 Ag 15 '23

Machining bushings on a vertical drilling machine. J. J. Borkenhagen. *diags Mach* 29:807-8 Je '23

Methods of molding bushings. C: Vickers. *diags Foundry* 51:19-22 Ja 1 '23

Molding flanged bushings. C: Vickers. *diags Foundry* 51:97-100 F 1 '23

Motion work bushing press. *il diag Ry Mech Eng* 97:173 Mr '23

Oil bushing for 200,000 volts. F. Patzelt. *Elec W* 82:926 N 3 '23

Production of large bushings. C: Vickers. *diags Foundry* 51:363-6 My 1 '23

Punch presses now used extensively in manufacture of bushings. H. Chase. *il Automotive Ind* 48:1132-3 My 24 '23

Removing a bushing from a blind hole. *diag Am Mach* 56:677, 865; 57:735-6 N 9 '22

Rubber bushings; proposed S.A.E. standard. *diags Soc Auto Eng J* 12:570 Je '23

Self-lubricating bushings. *il Iron Age* 110:142 J1 20 '22

Standard jig bushings. *il diags Am Mach* 58:625-6 Ap 26 '23

Use of condenser bushings for measuring purposes. G. Keinath. *Elec W* 81:113-14 Ja 13 '23

Bushnell, John L.

Country house in the Italian manner. M. Price. *il plan Arch Rec* 51:387-96 My '22

Business

A B C's of business. H: S. McKee. 135p Macmillan '22

Applied business finance. E. E. Lincoln. 772p Shaw '23

Book of business etiquette. 293p Doubleday '22

Building business on weather forecasts. *Ptr Ink* 123:93-4+ My 10 '23

Building your own business. A. C. Burnham. 232p Ronald press '23

Business and the professions. R. M. Binder. 433p Prentice-Hall, New York '22

Business argumentation. G. R. Collins and H. D. Lindgren. 204p C. W. Russell, 258 Bway, New York '23

Business forms and customs for everyday use. L. H. Cadwallader. 248p John C. Winston co., Philadelphia '22

Business fundamentals. R. W. Babson. 258p B. C. Forbes pub. co., New York '23

Business ownership organization. A. H. Stockder. 612p Holt '22

Common sense in business. H. Whitehead. 315p Crowell '23

Does your business want to expand? B. C. Bean. *Dom Eng* 98:73-5 Ja 14 '22

Engineering economics. J: C. L. Fish. 2d ed. 311p McGraw-Hill '23

Facts displacing theory in business control. J: Oakwood. *Annalist* 19:177 Ja 30 '22

First million the hardest. A. B. Farquhar. 323p Doubleday '22

Forging ahead in business. 118p Alexander Hamilton institute, New York '22

How can business be kept on an even keel? L: E. Pierson. *Ptr Ink* 121:41-2+ O 19 '22

How to get back to work. J. H. Collins. *Ptr Ink* 118:3-4+ Ja 19 '22

I find that business can lead to kings and wars. C: R. Flint. *System* 40:696-9+ D '21

Looking forward by looking backward 20 years. E. H. Gary. *System* 43:31-3+ Ja '23

Business—Continued

- One sure way to keep business on the mend. System 40:692-3 D '21
- Part character plays in business. T. J. Kavanaugh. Dom Eng 100:110-11 J1 15 '22
- Personal power in business. C. W. Gerstenberg. 102p Prentice-Hall '22
- Principles and practice of business, with examination questions in the theory and practice of commerce, business organization and commercial correspondence. G. Mairret. 301p Macmillan '21
- Principles of business. C. W. Gerstenberg. 3d ed., rev. 821p Prentice-Hall, New York '22
- Problems in business finance. E. E. Lincoln. 525p [bibliog. 16p] A. W. Shaw co., Chicago '21
- Relation of economics and business. Chem & Met Eng 27:869-71 N 1 '22
- Sales help that advertisers are getting from Washington. M. Ryder. Il Ptr Ink M 6:17-18+ F '23
- Store management—complete. F. Farrington. 252p Byxbee pub. co., Chicago '22
- Trade, transport and finance. G. Mairret. 444p Macmillan '23
- What business men have learned since 1900. H. Morgenthau. System 41:21-3+ Ja '22
- What confronts American business? J. T. Holdsworth. Comm & Fin Chr 116:2954-5 Je 30 '23

See also Accounting; Advertising; Applications for position; Auditing; Billing; Bookkeeping; Budget, Business; Business conditions; Business education; Business failures; Business management; Catalogs; Chamber of commerce of the United States; Chambers of commerce; Collecting of accounts; Commerce; Commercial correspondence; Commercial law; Commercial policy; Competition; Corporations; Cost accounting; Credit; Delivery of goods; Department stores; Discount; Efficiency, Industrial; Employment management; Exclusive agencies; Executives; Export trade; Files and filing (documents); Finance; Good will (in business); Government regulation of industry; House organs; Ideas (in business); Industrial management; Installation plan; Inventories; Jobbers; Mail order business; Mailing lists; Manufactures; Market surveys; Marketing; Merchandizing; Money; Notions (merchandise); Occupations; Office appliances; Office management; Organization in industry; Profit; Promoters; Purchasing; Real estate business; Records; Retail trade; Sales letters; Salesmanship; Salesmen; Secretaries, Private; Service (in industry); Shipment of goods; Show windows; Slogans; Success; Trade marks; Trust companies; Turnover; Valuation; Warehouses; Wealth

Bibliography

- A.L.A. reading course on business. 11p Am. lib. assn., Chicago '22
- Bibliography of 2700 business books. 114p Dixie business book shop, 140 Greenwich st., New York '22
- Books on business and finance, 1922-1923. 104p Brentano's, New York
- New business reference books of 1922. Lib J 48:269-70 Mr 15 '23
- Two thousand men chose this business library; with complete list of books in Hotel McAlpin library. E. E. Calkins. Ptr Ink 122: 81-2+ Ja 25 '23

What business men read last month. See monthly numbers of System for 1922

See also Business libraries; Export trade—Bibliography

Various pamphlets on business subjects are published by the Chamber of commerce of the United States, Washington, D.C.

Dictionaries

- Crowell's dictionary of business and finance. 608p Crowell '23

Bibliography

- Business dictionaries and glossaries. Special Lib 14:1-8 Ja '23

Directories

- Simms' blue book and national negro business and professional directory. 305p J. N. Simms, 3532 S. State st., Chicago '23

Forms, blanks, etc.

- Printing gets things done. 65p Service and advertising dept., Hammernill paper co., Erie, Pa., New York '22
- Business associations. See Commercial associations
- Business associations. Federal. See Federal business associations
- Business charts
- Charting as an aid in stabilizing profits. P. A. Bivins. Ind Management 63:257-65, 355-61; 64:33-42, 97-103, 175-9, 213-15 My-O '22
- Charting the conditions of business. E. F. DuBrul. Mach 28:493 F '22
- Divergence charts and their uses. G. W. Greenwood. Management Eng 2:347-50; 3: 46-7 Je-J1 '22
- Facts may prevent depression. E. F. DuBrul. Iron Tr R 70:1791-4 Je 22 '22; Same. Foundry 50:613-15 Ag 1 '22
- Graphic desk book that simplifies management problems. R. von Huhn. Ptr Ink M 7:29-31+ O: 56+ N '23
- How Walworth tunes its production to sales. H. Burwen. Ptr Ink M 6:31-2+ J '23
- Industrial administration. D. T. Farnham. Administration 3:587-97 My '22
- Manual of charting. T. S. Adams and others. 106p Prentice-Hall '23
- Measuring growth and shrinkage by means of ratio charts. B. E. Holmes. Ind Management 64:165-8 S '22
- Plan that keeps us pulling together. G. A. Galliver. Il System 42:260-3+ S '22
- Planning a big business ahead. S. L. Andrew. Nation's Business 10:27-9 Ap '22
- Ratio chart applied to inventory control. B. E. Holmes. Ind Management 63:243-5 Ap '22
- Recording electrical sales by means of charts. D. D. McFarlane. J Elec 48:423 My 15 '22
- Savings we make by planning 20 years ahead. H. B. Thayer. Il System 44:46-9+ J1 '23
- Signals for business conditions. E. F. DuBrul. diags Management Eng 4:259-64 Ap '23
- Use of statistics. A. McDonald. Ind Management 64:183-4 S '22
- Uses and perils of business graphics. R. P. Falkner. Administration 3:52-6 Ja '22
- Visualizing the ups and downs. J. W. Wiley. Factory 30:420-1 Ap '23
- What graphs can tell you about your business. P. E. Thomas. System 41:52+ Ja '22
- See also Gantt charts
- Business conditions
- America reports to Europe. G. E. Roberts. Nation's Business 11:13-14 Ap '23
- Back to business, outlook for 1922. J. W. Hill. Iron Tr R 70:2-5 Ja 5 '22
- Bank clearings in 1922 and the course of trade and speculation. Comm & Fin Chr 116:337-43 Ja 27 '23
- Banker tells how advertising can bring profits in 1922. J. W. Staley. Ptr Ink 118:87-8+ Mr 2 '22
- Barometers of business. Published weekly in American machinist, Annalist, Commercial and financial chronicle, Concrete, Iron trade review, Management and administration, Management engineering, Nation's business
- Basic business conditions favorable. S. G. Koon. Iron Age 110:355-6+ O 5 '22
- Basic business conditions improving. S. G. Koon. Iron Age 111:35-6+ Ja 4 '23
- Basic business conditions less buoyant. S. G. Koon. Iron Age 111:971-2 Ap 5 '23
- Basic factors are held sound. J. C. Howells. Iron Tr R 72:1683-4 Je 7 '23
- Bright outlook for 1922, say nation's bankers. Annalist 19:29-30 Ja 9 '22
- Brighter prospects indicated for 1922. N. R. Whitney. Iron Age 109:9-13 Ja 5 '22
- Business in 1923—good or bad? L. P. Ayres. Brick & Clay Rec 62:410-14 Mr 6 '23

Business conditions—Continued

Business is better and will continue to improve. H: S. Dennison. Eng & Contr 57: 208-9 Mr 1 '22

Business is on the mend. P. C. Gunion. Management Eng 2:243-4 Ap '22

Business moves upon slightly lowered levels. L. W. Alwyn-Schmidt. Heat & Ven 20:73-4 O '23

Business needs no stop signal. J. H. Barnes. Nation's Business 11:27-8 Je '23

Business outlook. J: T. Holdsworth. Administration 4:129-33 Ag '22

Business outlook in the West for the coming year. R. Sibley. J Elec 48:91-5 F 1 '22

Business outlook in theory and fact. Textile World 63:707-8 F 3 '23

Business outlook is favorable. J: W. Hill. Iron Tr R 72:126+ Ja 4 '23

Business outlook still favorable. N. R. Whitney. Iron Age 109:1799-1802 Je 29 '22

Business prospect for 1924. F: W. Gehle. Comm & Fin Chr 117:1827 O 27 '23

Business revival in individual industries. R. G. Hurlin. Annalist 19:318-19 Mr 13 '22

Business seen by a business man. W. L. Todd. Am Ind 23:31-2+ Ag '22

Business stronger in all lines. Am Ind 22: 29-31 Je '22

Business stronger than a year ago, but not on firm basis. J. H. Tregoe. Comm & Fin Chr 115:2861-2 D 30 '22

Business trend from energy consumed. T. Dwight. diags Elec W 80:705-7 S 30 '22

Business trend; graphic charts. Published in weekly numbers of Iron trade review

Business trend of 1922 for 1923; charts. Iron Tr R 72:17-24 Ja 4 '23

Buying at home power is prosperity's index. R. Dickinson. Ptr Ink 123:3-4+ My 10 '23

Composite picture of business. America as seen through the eyes of 4310 men of affairs. 2d ed. 84p Harris, Winthrop & co., New York '20

Continued progress of business recovery. N. R. Whitney. Iron Age 109:1417-21+, 1517-18 My 25-Je 1 '22

Disarmament and my business. E. A. Filene. Il Nation's Business 9:11-12 D '21

Effect of the present economic situation on sales and advertising. B. F. Griffin. Ptr Ink 121:105+ O 5 '22

Federal reserve board's summary of business conditions in the United States. Comm & Fin Chr 117:1510 O 6 '23

Healthy move toward sound times. C. E. Knoepfel. Am Ind 23:9-10 S '22

How are we to know when business has really turned the corner? A. R. Marsh. Soc Auto Eng J 10:97-101+ F '22

Is industry forging ahead too rapidly for its own good and for the best interests of the nation? Annalist 21:313-14+ F 26 '23

Map of the Nation's business. F. Green. See monthly numbers of Nation's business

Market conditions. C. C. Parlin. Ptr Ink 119: 57-8+ Je 15; 80-1+ Je 22; 93-4+ Je 29; 120: 73-4+ Jl 6 '22

National conference of business paper editors review business conditions in ten basic industries. Iron Age 110:1001-2 O 19 '22; Eng & Min J 114:745 O 21 '22

New selling era. H. R. Wellman. Ptr Ink 119: 25-7+ My 25 '22

Optimist's birdseye view of business conditions and prospects. D. R. Crissinger. Comm & Fin Chr 117:1830-1 O 27 '23

Outlook for 1923. R. W. Babson. Comm & Fin Chr 115:2323 N 25 '22

Outlook for 1923. W: R. Mattson. Can Eng 44: 275-6 F 27 '23

Outlook for 1923. J: Moody. Comm & Fin Chr 115:2216-17 N 18 '22

Prevention of business depression. C. C. Arbutnot. Annalist 19:462+ Ap 24 '22

Prosperity ahead for the nation's business. R. Egan. Annalist 22:501-2+ O 15 '23

Reduced production cost a prime need. N. R. Whitney. Iron Age 109:796-9 Mr 23 '22

Report on business cycles anticipated. Iron Age 111:844-5 Mr 22 '23

Review of business in 1922 by Department of commerce. Comm & Fin Chr 115:2860-1 D 30 '22

Revival of American business. C. H. Crennan. 196p American academy of political and social science, Philadelphia '21

Shaping management to meet developing industrial conditions. H. S. Person. Chem & Met Eng 27:1165-9 D 13 '22

Survey of current business; monthly supplement to Commerce reports. U. S. Bureau of foreign and domestic commerce, Washington

Survey of 1922. J. B. Forgan. Comm & Fin Chr 116:14-15 Ja 6 '23

Taking advantage of the business situation. S. H. Bunnell. Iron Age 109:1193-5 My 4 '22

Trend of basic business conditions. Iron Age 110:69-70 Jl 13 '22

Trend of business. System 43:5+ Ja '23

We can hold the prosperity we have. H. Hoover. Nation's Business 11:11-13 Je 5 '23

What business papers can do to speed the revival of business; abstracts. J: H. McGraw. Eng N 87:740-1 N 3 '21; Elec Ry J 58:835-6 N 5 '21; Ptr Ink 117:57-8 N 3 '21; Power 54:742 N 8 '21; Am Mach 55:763-4 N 10 '21

What does good business really mean? System 42:436-8+ O '22

When is prosperity coming back? W. R. Hotchkiss. Ptr Ink 117:113-14+ D 8 '21

When times are normal. D: R. Craig. Ptr Ink 122:10+ F 8 '23

Where the nation's business stands today. F. Greene. chart maps Nation's Business 11:14-16 Jl '23

Which way is business headed? J: W. Hill. Iron Tr R 72:1867-9; 73:46-7+, 120-1, 188-9, 262-3 Je 28-Jl 26 '23

Why 1923 will continue a good business year. R. W. Levenhagen. Ptr Ink 123:48+ Je 21 '23

See also Business cycles; Business depression; Business failures; Europe—Economic conditions; Production; Unemployment; Unemployment—Relief measures; United States—Economic conditions

Forecasting

See Business forecasting

Business conferences

King system vs. the conference method in industry. Ptr Ink 122:89-90+ F 15 '23

Mr Jones is in conference. C: A. Bates. Ptr Ink 123:19-20 Je 21 '23

Should business pow-wows be limited? A. Bradbury. Ptr Ink 123:161-2+ Ap 5 '23

Why we begin the day in conference. W: H. Schneider. Il System 41:562-4 My '22

Business consolidation

Problems of merchandising when two companies combine. H: Burwen. Ptr Ink 124:89-90+ Ag 9 '23

See also Consolidated statements; Steel mergers

Business correspondence. See Commercial correspondence

Business cycles

Accountants and economics with reference to the business cycle. W. C. Mitchell. J Account 35:161-71 Mr '23; Same. Paper Tr J 76:57-60 Mr 8 '23

Architect and the business cycle. T: S. Holden. Arch Rec 54:383-7 O '23

Business cycle. Review. Administration 3:264-6 F '22

Business cycle as a factor in production efficiency. E. T. Trigg. Chem & Met Eng 27: 428-9 Ag 30 '22

Business cycle discussed by American statistical association. Iron Age 110:1627 D 21 '22

Business cycle versus human temperament. J. H. Tregoe. Sanitary & Heat Eng 97:11+ Ja 13 '22

Business cycles and unemployment. E. T. Bullock. Annalist 19:340+ Mr 20 '22

Business cycles and unemployment; report and recommendations of a committee of the President's conference on unemployment. 405p McGraw-Hill '23; Excerpts. Int Labour R 8:388-404 S '23

Business man and business cycle. C: J. Bullock. Textile World 62:2014a-b O 7 '22

Close-up view of business cycles. G. P. Billon and R: Tingley. Annalist 21:735+ My 28 '23

Business cycles—Continued

- Conquest of the business cycle. C. T. Murchison. Administration 3:723-8 Je '22
- Costs and profits; their relation to business cycles. H. B. Hastings. 168p Houghton '23
- Cycles of prosperity and depression in the United States, Great Britain and Germany; a study of monthly data 1902-1908. A. H. Hansen. (Studies in social sciences and history, no. 5) 112p Univ. of Wisconsin, Madison '21
- Evidence for the business cycle. W. R. Burgess. Administration 5:163-70 F '23
- How I use the business cycle. H. S. Dennison. Nation's Business 10:9-11 F '22
- How you can use the business cycle. W. C. Mitchell. System 40:633-5 D '21
- Managing production according to the business cycle. E. F. DuBrul. Management Eng 2:343-6 Je '22
- Outstanding features of Dennison management. H. Feldman. Ill charts Ind Management 64:67-73 Ag '22
- Personnel problems and the business cycle. P. H. Douglas. Administration 4:15-27 Jl '22
- Safeguarding industry by stabilizing employment. W. I. King. Am Mach 58:913-16 Je 21 '23; Same cond. Annalist 21:856+ Je 25 '23
- Shall we modify our view of the business cycle? C. Snyder. Administration 5:517-22 My '23
- Stabilization of business. L. D. Edie, ed. 400p Macmillan '23
- Taking the guess out of business. R. H. Tingley. Am Ind 24:9-11 S '23
- Taylor society discusses cycle. Iron Tr R 72:1762-4 Je 14 '23; Iron Age 111:1715-17 Je 14 '23
- Trade cycle. F. Lavington. 113p P. S. King & son, London '22
- What is ahead of American industry? F. Franz. Management Eng 2:179-81 Mr '22
- See also Business depression; Business forecasting; Industry—Fluctuations; Unemployment
- Business depression**
- Facts may prevent depression. E. F. DuBrul. Iron Tr R 70:1791-4 Je 22 '22; Same. Foundry 50:613-15 Ag 1 '22
- How industry can avoid summer depression. E. E. Hunt. Ptr Ink 119:8+ My 18 '22
- Soured customers seen as real brake on business. G. A. Nichols. Ptr Ink 120:49-50+ O 12 '22
- To reduce extent of business declines; ten recommendations of Hoover committee on business cycles and unemployment. Iron Age 111:973-4 Ap 5 '23; Am Mach 58:508 Ap 5 '23; Elec Ry J 61:587 Mr 31 '23; Mech Eng 45:321 My '23; Comm & Fin Chr 116:2343-5 My 26 '23
- Urge business cycle control. H. Hoover. Iron Tr R 72:1027-8 Ap 5 '23
- Was there a buyers' strike? W. T. Foster. Annalist 20:294 S 25 '22
- See also Business failures
- Business education**
- Business training and commercial education. G. L. Swiggett. U S Bur Educ Bul 43:1-17 '21
- Business training for students of chemistry. Chem Age 31:269-73 Je '23
- Courses of study in commercial education. 168p Penn. Dept. of public instruction, Harrisburg '23
- Education for business. L. S. Lyon. 618p University of Chicago press, Chicago '22
- High school commercial education. R. G. Walters. 261p Pitman '23
- Office practice and business procedure. F. E. McGill. 308p Gregg pub. co., New York '22
- Organization and teaching of commercial subjects in a part-time or continuation school. F. A. Wilkes, G. M. York and O. Furney. 58 l [Bibliography: 1. 57-58] C. F. Williams & son, Albany, N.Y. '22
- Place of English studies in commercial education. J. D. Spaeth. Administration 4:41-4 Jl '22

Report of the first commercial education dinner conference. G. L. Swiggett. (Commercial educ. leaflet 3.) 16p U.S. Bur. of educ., Washington '23

Statistics relating to business education in colleges and universities, 1921-22. G. L. Swiggett. (Commercial education leaflet no. 6) 8p U S Bur Educ '23

Why veterans go back to school. J. F. Johnson. Am Ind 23:15-17 Ap '23

See also Accounting—Study and teaching; Bookkeeping; Commercial law; Patent laws and legislation—Study and teaching; Salesmen, Training of; Secretaries, Private; Type-writing

Bibliography

Training for foreign service. G. L. Swiggett. U S Bur Educ Bul, 1921, no 27:1-154 '22

Business English. See English language—Business English

Business ethics

Code of ethics and standardization discussed at Associated knit underwear manufacturers convention. Textile World 63:3152+ My 12 '23

Code of ethics for the building trades. Dom Eng 98:20-2+ Ja 7 '22; Same abr. Arch Forum 36:sup54 Ja '22; Same abr. Bldg Age 44:47 Ja '22

Code of ethics or standards of correct practice of gas products association. Chem Age 31:373-5 Ag '23

Dangers of desperate selling. R. Dickinson. Ptr Ink M 4:19-20 D '21

Denver contractor-dealers have unique code of ethics. J Elec 47:395 N 15 '21

Electrical jobbers adopt a code of ethics. Elec W 80:1415-16 D 23 '22

Ethics in business. E. H. Gary. Iron Age 109:1734 Je 22 '22

Ethics of the professions and of business. (Annals v.101:no.190 My '22) 315p Am. Acad. of Pol. and Soc. Sci.

Fair practices code of the National association of ice-cream supply men. R. Everett. System 43:342-3+ Mr '23

How to make money by being honest. H. Tipper. Automotive Ind 47:332-3 Ag 17 '22

Knocking a competitor. J. Henle. Ptr Ink 123:121-1 Ap 19 '23

Maxims of life and business. J. Wanamaker. 129p Harper '23

Need of a publishers' code of ethics. H. M. Sweetland. Ptr Ink 124:97-8 S 20 '23

Need of a vital code of ethics in business. F. M. Poiker. Eng N 88:1084-5 Je 29 '22

On the merit of being in business for one's health. Chem & Met Eng 27:1153 D 13 '22

Safeguarding the future of private business. W. E. Creed. 35p Houghton '23

Simple code of business ethics. E. A. Filene. Elec W 80:99-100 Jl 8 '22

Standards of business. E. E. Rice. 30p Rice leaders of the world assn., New York '23

Taxicab owners adopt code of ethics. Ptr Ink 120:58+ Jl 27 '22

Work of the New York building congress; code of ethics, apprenticeship. Monthly Labor R 15:862-6 O '22

See also Advertising ethics; Bribery, Commercial; Competition, Unfair; Discount, Trade; Origin, False indications of

Business failures

Banker's three reasons for failures. J. True. Ptr Ink 120:61-2+ Ag 24 '22

Business insolvencies in 1922. Comm & Fin Chr 116:454-6 F 3 '23

Commercial failures, 1916-1921; chart. Annalist 19:67 Ja 9 '22

Commercial failures of the barometric significance. E. Hofsoos. Annalist 20:173-4 Ag 21 '22

Failure record of half a century, 1781-1921. Oil Paint & Drug Rep 101:33 Mr 28 '22

Ingersoll bankruptcy not an advertising failure. Ptr Ink 118:10+ Ja 5 '22

Insolvency record for 1921—mercantile and bank failures. Comm & Fin Chr 114:457-9 F 4 '22

Insurance against loss of income. R. Estcourt. Annalist 21:573-4 Ap 23 '23

Business failures—Continued

Maritime failures for June and the half year. *Comm & Fin Chr* 115:235-7 J1 15 '22
 19,652 failures last year; the lessons they teach. J. S. Lawrence. *il System* 43:26-8 Ja '23

Why too many firms fail. J. R. Godfrey. *Am Mach* 58:303-4 F 22 '23

See also Bank failures; Business depression

Business forecasting

Art of investment. M. W. Gaines. *Administration* 2:799-810 D '21

Business cycle as a protective study. C. M. Woolley. *Brass W* 17:338-9 N '21

Business forecasting. D. F. Jordan. 270p Prentice-Hall, New York '21

Business forecasting in the Edison industries. R. H. Allen and others. *Administration* 4:409-20, 553-8, 671-9; 5:1-8, 171-6, 262-6, 402-6 O '22-Apr '23

Business statistics as a basis for business planning. R. Vance. *Administration* 4:403-8 O '22

Development of business forecasting. F. Parker. *Administration* 4:269-75 S '22

How the Walworth company looks ahead. J. H. Barber. *Administration* 5:523-36, 659-68 My-Je '23; [cont. as] *Management & Adm* 6:29-32, 191-6, 313-18, 453-7, 581-4 J1-N '23 (to be cont)

Monthly forecast of the industrial markets. I. W. Alwyn-Schmidt. See monthly numbers of the *Color trade journal*

1923 in the current business cycle. R. Vance. *Administration* 5:9-12 Ja '23

Possibility of business forecasting—correlation. R. Vance. *Administration* 4:546-52 N '22

Roger W. Babson on the business outlook. *Ind Management* 65:319-20 My '23

Roger W. Babson's twelve periods in business cycle. *Comm & Fin Chr* 113:2241 N 26 '21

What's ahead in business. B. Strong. *Nation's Business* 10:38+ N '22

See also Budget, Business

Business friendships

Do business friendships pay? *il System* 41:408-10+ Ap '22

Business information

Adventure for facts. *il System* 42:406-8 O '22

See also Business charts; Business research; Business statistics; Market surveys

Business information services

Business information services. *Special Lib* 13:58-62 Ap '22

See also Business libraries; also American chamber of economics; Tel-U-Where company of America, Boston, Massachusetts

Business insurance. See Insurance, Business**Business law**

Avoidance of litigation. R. C. Raby. *Administration* 4:731-4 D '22

See also Commercial law

Business letters. See Commercial correspondence; Sales letters**Business libraries**

Administration of the business library. J. H. Friedel. *Administration* 4:285-91 S '22

Advertising exhibits in a public library. E. Cleland. *Inland Ptr* 70:702-4 F '23

Advertising library and its service. M. L. Alexander. *Special Lib* 13:31-4 F '22

Better business libraries. L. B. Krause. 98p Indexers' press, 5526 South Park Avenue, Chicago '22

Business is forsaking the school of hard knocks. *Ptr Ink* 117:109-10 N 10 '21

Business library classification with index. J. E. Elliott. 226p Indexers press, Chicago '23

Business library that goes out to its readers; Retail credit company of Atlanta. E. Haner. *Special Lib* 13:188-9 D '22

Circulating the trade magazines. D. A. Washburn. *Am Mach* 57:644 O 26 '22

Commercial libraries and the department of commerce. 23p *Special libraries assn.*, Washington, D.C. '22

Influence of the business depression on business libraries. J. H. Friedel. *Special Lib* 13:40-2 Mr '22

Library service for telephone system employees. K. Weisiger. *Special Lib* 13:42-3 Mr '22

Library service for the chain store. G. D. Aikenhead. *Special Lib* 11:25-6 Mr '23

Office circulation of new literature. R. Canavan. *Eng N* 88:288 F 16 '22

On buying and using print. J. C. Dana. 60p H. W. Wilson co. '21

Pamphlets and clippings in a business library. V. Fairfax. 62p *Journal of electricity & western industry*, San Francisco '21

Putting knowledge to work. W. A. Hamlin. *il Special Lib* 14:17-22 F '23

Two thousand men chose this business library; with complete list of books in Hotel McAlpin library. E. E. Calkins. *Ptr Ink* 122:81-2+ Ja 25 '23

See also Financial libraries; Insurance libraries; Libraries, Special; Library service; Periodicals; Technical libraries; also Detroit board of commerce—Library; Financial library, National (proposed); National automobile chamber of commerce—Library

Business literature

See also Business periodicals

Business management

Administrative responsibility for advertising failure. T. B. Hilton. *Administration* 4:534-8 N '22

Analysis and control of business. C. E. Carpenter. *Administration* 3:529-33 My '22

Analyzing the finished product. P. M. Atkins. *Administration* 5:700-8 Je '23

Axioms of industrial effectiveness. C. E. Knoepfel. *Administration* 4:173-80, 317-23 Ag-S '22

Block signal system that safeguards profits; method of United drug company. G. M. Gales. *Ptr Ink* 121:3-4+ N 23 '22

Building a business to last. M. S. Florsheim. *Ptr Ink* 118:3-4+ Ja 5 '22

Business administration. L. C. Marshall. 919p Univ. of Chicago press, Chicago '21

Business and financial side of management; abstracts. *Mech Eng* 45:620-1 O '23

Business cycle as a protective study. C. M. Woolley. *Brass W* 17:338-9 N '21

Business organization. W. H. Walker. 367p Alexander Hamilton inst., New York '23

By maintaining our policies we have maintained our volume. W. F. Read, jr. *System* 40:689-92 D '21

Can good management be reduced to simple rules? A. Heckscher. *il System* 43:160-3+ F '23

Capitalizing horse sense. R. E. Dockham. *Inland Ptr* 68:619-20 F '22

Carnegie's theory of business. *System* 42:141-4+ Ag '22

Centralized administration in business. R. Neustadt. *Administration* 5:567-75 My '23

Concentrated effort in business. M. T. Fleisher. *Administration* 3:145-52 F '22

Controlling the finances of a business. J. O. McKinsey and S. P. Meech. 638p Ronald press '23

Dennison's continuing preparation for changed business conditions. J. True. *Ptr Ink* 124:57-8+ Ag 30 '23

Figures that help our people sell more. R. Yarnell. *il System* 42:271-3 S '22

Finance and common sense. C. L. Eiermann. *Management & Adm* 6:487-90 O '23

Financial and operating ratios in management. J. H. Bliss. 396p Ronald press '23

Financial management, an outline of its principles and problems. J. O. McKinsey. 2v *Am. tech. soc.*, Chicago '22

Five better ways to manage. *System* 43:37-8+ Ja '23

Ford ideals. 452p Dearborn pub. co., Dearborn, Michigan '22

Four problems in management. *System* 43:54-5+ Ja '23

Functionalizing a business. P. M. Atkins. *Administration* 3:453-63 Ap '22

Fundamental policies of organization. B. A. Franklin. *il Ind Management* 63:371-4 Je '22

Business management—Continued

How I would double the volume of a business. T. A. Edison. *il System* 44:265-8+ S '23

How Interwoven weathered the storm. J. W. Mettler. *Ptr Ink* 117:3-4+ N 10 '21

How our profits come from narrow margins. F. C. Rand. *il System* 42:129-33+ Ag '22

How to handle and develop your own business. 150p Shaw '23

How to keep a business from growing old. B. H. Jefferson. *Ptr Ink* M 4:13-14+ Ja '22

How to think in business. M. T. McClure. 173p McGraw-Hill '23

How we increased our sales 5% last year. W. B. Tyrrell. *il System* 41:404-6+ Ap '22

How we made last year our best year. G. M. Verity. *il System* 42:19-23+ JI '22

How we paid 10% on 1921. Lord Leverhulme. *System* 42:37-8+ JI '22

If my business were small. H. Ford. *il map System* 43:735-9+ Je '23

Is there a sound way to make customers want to buy? W. R. Basset. *System* 42:23-6 JI '22

J. H. P. buys into the register business, then tries to get out. S. Crowther. *System* 43:169-72+ F '23

Keeping a business in harmony with conditions. H. Whitehead. *Ptr Ink* 122:165-6+ Mr 8 '23

King system vs. the conference method in industry. *Ptr Ink* 122:89-90+ F 15 '23

Knack of managing. H. Watson. *Rev. ed.* 230p Shaw '22

Making of an executive. A. H. Church. 457p Appleton '23

Management must be made to fit dominant buyers' market. H. S. Person. *Automotive Ind* 47:1059-62 N 30 '22; *Abstract. Iron Age* 110:1431-2 N 30 '22

Management plans that built my business. C. E. Welch. *il System* 41:170-2+ F '22

Management policies that keep our business growing. F. C. Lettis. *il System* 43:21-5+ Ja '23

Managing for future conditions. S. H. Bunnell. *Iron Age* 111:22-4 Ja 4 '23; *Same cond. Ind Management (Lond)* 9:45-7 Ja 25 '23

Managing production according to the business cycle. E. F. DuBrul. *Management Eng* 2:343-6 Je '22

Manufacturer who succeeded against difficulties in a restricted field. J. Henle. *Ptr Ink* 124:97-8+ Ag 16 '23

Manufacturers who have refused to grow old. C. B. Larrabee. *Ptr Ink* M 6:25-7 Mr '23

Measuring management by cost accounting. W. R. Basset. *Am Mach* 58:37-8 Ja 4 '23

Method for planning ahead. G. Swope. *System* 43:443-7+ Ap '23

My rule for making steady profits. H. Ford. *il System* 41:259-63 Mr '22

Necessity of better application of economic principles. E. F. Du Brul. *Am Mach* 55:800-1 N 17 '21

19,652 failures last year; the lessons they teach. J. S. Lawrence. *il System* 43:26-8 Ja '23

Organization and conduct of business. G. L. Swiggett. 18p U.S. Bur. of educ., Washington '23

Outstanding features of Dennison management. H. Feldman. *il charts Ind Management* 64:67-73, 145-50, 225-30 Ag-O '22; *Excerpt (How Dennison determines what part of line shall be pushed). Ptr Ink* 121:149-52 N 30; 154+ D 14 '22

Over the executive's desk. *il System* 40:712+ D '21

Principles and plans that develop management efficiency. F. W. Parsons. *Gas Age* 52:449-50+ O 13 '23

Province of the controller. J. B. Guernsey. *Management & Adm* 6:197-200, 223-6 Ag-S '23

Receiver tackles a gun-shy organization. R. W. Johnson. *Ptr Ink* 117:10+ D 29 '21

Scientific methods and business success. H. G. Kenagy. *Administration* 3:664-8 Je '22

Scientific methods versus hunch in the chief executive's office. R. C. Craig. *Ind Management* 64:43-5 JI '22

Seven space-saving plans that earned profits. W. H. Leffingwell. *il System* 42:409-11 O '22

Some fundamentals of management. A. T. Simonds. *Management & Adm* 6:297-9 S '23

Something extra that makes for steady volume. J. E. Wall. *System* 43:63-6+ Ja '23

Statistics an aid to management. P. Brasher. *Ind Management* 64:287-8 N '22

Talk business! T. B. Hilton. *Administration* 4:45-6 JI '22

These plans help us straighten out our business curve. M. W. Ellis. *il System* 41:47-9 Ja '22

Things we learned from making over a business; Dutchess manufacturing company. F. L. Sweetser. *il System* 44:577-80+ N '23

This plan is saving us \$10,000 a year. *System* 40:706-8+ D '21

Three ways to build steady profits. E. T. Bedford. *il System* 43:306-9+ Mr '23

Trade can't get along without us. A. H. Deute. *Ptr Ink* 122:3-4+ F 1 '23

We broadened our business by narrowing our market; Martin-Parry corporation. F. M. Small. *il System* 42:245-9+ S '22

We cut our expenses by adding a department. M. T. Fleisher. *il System* 41:281-2+ Mr '22

We found business good when we ignored the price level. E. R. Murphey. *il System* 42:417-19 O '22

We make more on each order. *il System* 41:699-701+ Je '22

What 55 years in business taught me about managing. S. Crowther. *System* 42:533-7+; 43:318-22+; 454-8+; 758-62+; 44:36-40+; 162-6+; 287-92+; 445-9+ N '22, Mr-AP, Je-O '23

What has kept our volume climbing; Studebaker corporation. A. R. Erskine. *il System* 42:395-8 O '22

What small customers can do for a business. C. H. Markham. *il System* 41:665-9 Je '22

Working methods for profitable management. C. E. Knoeppel. *Management Eng* 4:9-14 Ja '23; *Management & Adm* 6:213-18 Ag '23

See also Branch management; Budget, Business; Business statistics; Collecting of accounts; Complaints; Employment management; Executive ability; Executive boards; Executives; Factory management; Files and filing (documents); Industrial management; Insurance, Business; Inventories; Office management; Order departments; Orders; Organization in industry; Sales management; Sales promotion departments; Turnover

Business men

Builders of business. *System* 39:206-11+, 374-9, 529-32, 668-9+, 812-14+; 40:164-7, 281-4+, 416-18+, 552-6+, 699-701+; 41:36-9 F-Je, Ag '21-Ja '22

Business man and the government. I. T. Bush. *System* 41:740+ Je '22

Men and methods. *System* 41:151-4+, 283-7+, 411-13+, 548-51, 686-9; 42:44-7, 151-4+, 263-6+, 421-4+, 696-9 F-O, D '22

See also Capitalists and financiers; Executives; also names of business men, e.g. Curtis, Cyrus H. K.; Ford, Henry; Patterson, John Henry; Vail, Theodore N.

Business periodicals

Business and the business press. R. W. Johnson. *Ptr Ink* 117:17-20 O 13; 61-2+ O 20; 85-6+ N 3; 25-8 D 22 '21

What business papers can do to speed the revival of business; abstracts. J. H. McGraw. *Eng N* 87:740-1 N 3 '21; *Elec Ry J* 58:835-6 N 5 '21; *Ptr Ink* 117:57-8 N 3 '21; *Power* 54:742 N 8 '21; *Am Mach* 55:763-4 N 10 '21

See also Trade journals

Business research

Business research as applied to selling problems. E. S. Bradford. *Ptr Ink* 118:3-4+ Mr 16 '22

Business research—its necessity, methods and results. E. H. Tucker. *J Elec* 48:51-2 Ja 15 '22

Business research—Continued

- Commercial research as a basis for advertising and selling campaigns. R. Dickinson. *Ptr Ink* 123:3-4+ Je 7; 134+ Je 28 '23
- Dealing with business facts. A. W. Douglas. Administration 3:31-6 Ja '22
- Directory libraries and special service. W. Gavett. *Special Lib* 13:131-3 O '22
- How to obtain dependable business research. E. S. Bradford. *Ptr Ink* 119:25-7+ Ap 20 '22
- Nature of business research. L. K. Frank. *Special Lib* 12:226-30 D '21
- Putting science into business. L. H. Haney. Administration 3:74-80 Ja '22
- Research and analysis for executives. P. Mathewson. Administration 5:13-16 Ja '23
- Research methods in marketing. E. S. Bradford. Administration 5:139-46, 417-26 F, Ap '23
- Research work in an advertising agency. H. Bugbee. *Special Lib* 12:225-6 D '21
- Standards for determining value of commercial research work. E. E. Pratt. *Ptr Ink* 125:93-4+ N 1 '23
- What to expect from business research. E. S. Bradford. Administration 2:641-8 N '21

See also Business information services; Market surveys; Questionnaires

The following universities have business research bureaus [since 1918]: Harvard university, New York university, Brown university, Northwestern university, Carnegie institute of technology, and the state universities of Illinois, Nebraska, North Carolina, and Washington

Bibliography

- Source-book of research data. 70p Prentice-Hall '23

Business statistics

- Accurate statistics big help to business. C. M. Woolley. *Dom Eng* 97:306-7 N 12 '21
- Business statistics as a basis for business planning. R. Vance. Administration 4:403-8 O '22
- Getting together to work by facts. *System* 42:718-19+ D '22
- How to make a business grow. B. H. Jefferson. *Ptr Ink* 118:17-20 F 16 '22
- Statistical facts from the government that help increase profits. *Ptr Ink* 124:100+ Ag 30 '23
- Statistics an aid to management. P. Brasher. *Ind Management* 64:287-8 N '22
- We cut our expenses by adding a department. M. T. Fleisher. *il System* 41:281-2+ Mr '22
- What to do before making up the sales quota. A. Lazarus. *Ptr Ink M* 6:31-2+ Ap '23

See also Business charts

Bibliography

- Source-book of research data. 70p Prentice-Hall '23

Business streets**Advertising**

- Advertising washes away a street's sordid past. *Ptr Ink* 121:177-8' D 14 '22

Business trusts

- Common law companies established by deed of trust. T. H. Sanders. Administration 4:163-8 Ag '22
- Law of unincorporated associations and business trusts. S. R. Wrightington. 2d ed. 658p Little, Brown & co., Boston '23

Business women

- Do's and don'ts for business women. H. F. Thompson. 195p Woman's press, New York '22
- How a woman manufacturer advertises to industrial buyers. R. Perry. *Ptr Ink* 120:17-20 S 21 '22
- Wall Street's pioneer file clerks the advent of the trained woman. S. E. Wallace. *Filing* 6:7-8+, 35-6 S-O '22

Butadiene

- Formation of butadiene from ethylene. J. E. Zanetti, J. R. Suydam, jr. and M. Offner. *diag Am Chem Soc J* 44:2036-41 S '22

Butane

- Preparation of 1,4-dihalogen derivatives of butane. C. S. Marvel and A. L. Tanenbaum. *Am Chem Soc J* 44:2645-50 N '22
- Studies in the *n*-butyl series; the butane stereoisomeric β -di-*p*-tolylamino-*n*-butanes. G. T. Morgan and W. J. Hickinbottom. *Chem Soc J* 123:97-105 Ja '23
- Synthese von halogen-verbindungen der butanreihe. J. v. Braun and G. Lemke. *Deutsche Chem Gesell Ber* 55:3526-36 N '22; *Abstract. Chem Soc J* 124 pt 1:2-4 Ja '23

Butanol. See Butyl alcohol

Butenonitriles

- Butenonitriles. P. Bruylants. *Chem Soc J* 121 pt 1:762-4 Ag '23

Butler, Joseph Green, jr., 1840-

- Sketch. *por Blast F & Steel Pl* 10:59-62 Ja '22

Butt welding, Electric. See Electric welding

Butte, Montana

- Playground for the people in National Forest. *il Pop Mech* 38:586-8 O '22

Water supply

- Design and construction of welded steel and wood-stave pipe line for Butte water co. E. Carroll. *Eng N* 88:278-82 F 16 '22

Butte & Superior mining company

- Facts for the stockholder. *Eng & Min J* 115:295 F 10 '23

Butter

- Blue Valley butter uses mail-order plans to secure cream from farmers. *Ptr Ink* 124:25-6 Ag 16 '23
- Mechanical packaging of foodstuffs. *il Sci Am* 128:23 Ja '23

Advertising

- Reducing the butter and egg surplus by means of advertising. A. L. Gale. *Ptr Ink* 121:146+ N 9 '22

Analysis

- Rapid method for the determination of salt in oleomargarine and butter. F. F. Flanders. *Ind & Eng Chem* 15:181 F '23

Standards

- Fiat butter. *Chem Age* 30:328 Jl '22
- Proposed butter-fat standard. H. C. Lythgoe. *Chem Age* 30:463-4 O '22

Butter, Substitutes for

See also Coconut oil butter

Advertising

- Meeting subterfuge in the open with selling copy. A. E. Haase. *Ptr Ink* 122:103-4+ F 1 '23

Butter fat

- δ ,1-decylensäure, eine bisher unbekannte säure aus der butter. A. Grün and T. Wirth. *Deutsche Chem Gesell Ber* 55:2197-2205 Jl '22; *Abstract. Chem Soc J* 122 pt 1:806 S '22
- Fats in the evaporated milk industry. H. F. Zoller. *Ind & Eng Chem* 15:278-9 Mr '23

Butterflies

- Butterfly-breeding ranch run by Maine woman. S. E. Conner. *il Pop Mech* 36:903 D '21
- Rainbow's colors made on butterfly farms. *il Pop Mech* 40:392-3 S '23

Buttermilk

- Buttermilk in form of a soluble powder. patent. *Chem Age* 30:517-18 N '22

Button-sewing

- Two practical cases of task-setting. C. N. Underwood. *Management & Adm* 6:341-6 S '23

Buttons

- Census of manufactures, 1921. 11p U S Bur Census '23

Manufacture

- Blowtorches on turntable solder buttons. *il Pop Mech* 40:978 N '23

- Buttons from gypsum. *Chem Age* 30:559-60 D '22

- Buttons**—Manufacture.—*Continued*
Combination follow-die. *il diags* Mach 29:538-9 Mr '23
- Buttons, Cement**
Cement buttons. F. A. Brackmann. Concrete 21:107 O '22
- Butyl alcohol**
Acetone, butanol, and ethanol in gas from the butyric fermentation of corn. A. L. Davis. *Ind & Eng Chem* 15:631-2 Je '23
Butyl alcohol and acetone by fermentation; patent. *Chem Age* 30:515-16 N '22
Derivatives of trihalogen tertiarybutyl alcohols. T. B. Aldrich and J. E. Blanner. *Am Chem Soc J* 44:1759-62 Ag '22
Studies in the *n*-butyl series; aryl *n*-propyl ketones. G. T. Morgan and W. J. Hickinbottom. *Chem Soc J* 119:1879-93 N '21
Study of the separation of the gases formed in the *n*-butyl alcohol-acetone fermentation process. E. W. Blair, T. S. Wheeler and J. Reilly. *diag Soc Chem Ind J* 42:235-9; Discussion. 239-40 Je 1 '23
- Butyl aniline**
Preparation of optically-active hydrazines; the preparation of *dl*-*p*-secondary-butyl-phenyl-hydrazine; the resolution of *dl*-*p*-secondary-butyl-aniline. J. W. E. Glattfeld and E. Wertheim. *Am Chem Soc J* 43:2682-7 D '21
- Butyl malonic acid**
Derivatives of normal-butyl-malonic acid. A. W. Dox and L. Yodder. *Am Chem Soc J* 44:1578-81 Jl '22
- Butyl phenylhydrazine**
Preparation of optically-active hydrazines; the preparation of *dl*-*p*-secondary-butyl-phenyl-hydrazine; the resolution of *dl*-*p*-secondary-butyl-aniline. J. W. E. Glattfeld and E. Wertheim. *Am Chem Soc J* 43:2682-7 D '21
- Butylene**
Action of selenium monochloride upon propylene, butylene and amylenes. C. E. Boord and F. F. Cope. *Am Chem Soc J* 44:395-401 F '22
- Butylenetricarboxylic acid**
Experiments on the synthesis of the poly-acetic acids of methane; iso-butylenes-tricarboxylic acid and methanetetra-acetic acid. C. K. Ingold and L. C. Nickolls. *Chem Soc J* 121:1638-48 Ag '22
- Butyric acids**
Butyric acid as a by-product of yeast manufacture. *Chem Age* 30:117-18 Mr '22
C-saccharinic acids: the preparation and resolution of *dl*-1, 3-dihydroxy-butyric acid; some derivatives of the optically-active acids. J. W. E. Glattfeld and F. V. Sander. *Am Chem Soc J* 43:2675-82 D '21
- Buying.** See Purchasing
- Buying habits**
Changing an unwise buying habit with advertising's aid. *Ptr Ink* 123:217-18 Ap 26 '23
Day & Martin's failure to meet customers' changed buying habits. R. O. Burlison. *Ptr Ink* 122:99-100 Mr 29 '23
Government finds that movies have shifted preferences for meats. *Ptr Ink* 124:49-50 Ag 2 '23
Relation of consumers' buying habits to marketing methods. M. T. Copeland. *Ptr Ink* 123:148-9+ My 17 '23
Retailer's knowledge of his customers' buying habits. R. Dickinson. *Ptr Ink* 119:111-12+ Ap 6 '22
- Buzzards**
Buzzards and high-voltage transmission lines. N. C. McLoud. *il Pop Mech* 38:365 S '22
- C**
- C.O.D. delivery**
Buyer's prejudice against C.O.D. propositions. *Ptr Ink* 119:20 Je 15 '22
- When the customer refuses the C.O.D. delivery. S. C. Lambert. *Ptr Ink* 118:17-20 Ja 5 '22
- Cabbage**
Diseases and pests
Immunizing cabbage by natural selection. R. G. Skerrett. *il Sci Am* 129:97 Ag '23
- Cabinet work**
Modern cabinet work, furniture and fittings. P. A. Wells and J. Hooper. 386p Lippincott '22
- Cable joints**
See Electric cables—Joints
- Cable laying and supply ships**
Siemens cable ship Faraday. *il Engineer* 135:286; 136:98, 106-7 Mr 16, Jl 27 '23; Engineering 116:123-4 Jl 27 '23; Elec R (Lond) 93:177-9 Ag 3 '23
Supply ship for Commercial Pacific cable company. *diags plans Marine Eng* 28:92-5 F '23
- Cable railroads**
Pump-power railroad; how gravity, through water-filled tanks, draws passengers up a German mountain. A. Gooback. *il Sci Am* 126:241 Ap '22
See also Cableways
- Cables**
Inspection of Williamsburgh bridge cables shows wire well preserved. *Eng N* 87:939 D 8 '21
Installation of shaft cables. *Electrician* 88:101 Ja 27 '22
Life of wire bridge cables. *Eng & Contr* 57:169 F 22 '22
Method of replacing suspending cables of vertical lift bridge. H. G. Hunter. *Eng & Contr* 56:483 N 23 '21
Records of elevator cable operation show wide differences in life of cables. G. B. Garrison. *Power* 58:124-7 Jl 24 '23
Replacing cables on a one-to-one traction elevator machine. F. A. Annett. *diags Power* 56:575-6 O 10 '22
Replacing cables on a two to one traction elevator machine. F. A. Annett. *il diags Power* 56:372-5 S 5 '22
Sockets for wire cables. W. A. Scoble. *il Aeronautical J* 25:581-3 N '21
Study of the elastic properties of small-size wire cable. R. R. Moore. *il diags Mech Eng* 44:105-6+ F '22; Same. *Iron Age* 109:1829-30 Je 29 '22
See also Bridges, Suspension; Cableways; Electric cables; Rope; Telephone cables; Wire; Wire rope; Wire rope fastenings
- Testing**
Strength of used elevator cables. C. W. Willits. *il Power* 58:451-4 S 18 '23; Discussion. C. W. Naylor. 58:742 N 6 '23
- Cables, Electric.** See Electric cables
- Cables, Submarine**
Cable reel brake to lay submarine cable. E. F. Pearson. *il Elec W* 80:1337 D 16 '22
Duplex balancing of long submarine cables. E. S. Heurtley. *diags Electrician* 88:37-8 Ja 13 '22
Eight-mile cable under San Francisco Bay. J. A. Koontz. *il Elec W* 81:399-400 F 17 '23
Heavy-core and submarine cable pioneering. C. Bright. *Electrician* 89:71 Jl 21 '22
Japan now claims longest submarine power cable in the world. *diag Elec W* 81:746-7 Mr 31 '23
Key West-Havana submarine telephone cable system. W. H. Martin, G. A. Anderegg and B. W. Kendall. *il diags map Am Inst E E J* 41:184-202 Mr '22; Discussion. 41:596 Ag '22
Largest power cable in world laid in San Francisco Bay. *il Power Pl Eng* 27:231 F 15 '23
Lays power cable across San Francisco Bay. D. Partridge. *il Marine R* 53:136 Ap '23
Lightning arrester for submarine cables. J. Rymer-Jones. *il Elec R (Lond)* 90:438-9 Mr 31 '22

Cables, Submarine—Continued

- Long continuous-length submarine cable for the New York Edison co. F. A. Westbrook. *il N E L A Bul* 9:471-3 Ag '22
- Mountain of copper spans ocean in deep-sea cable. *Pop Mech* 40:670 N '23
- Sea return impedance of a submarine cable. J. R. Carson and J. J. Gilbert. *Electrician* 88:499-500 Ap 28 '22; *Discussion. A. Press.* 88:657 Je 2 '22
- Silvertown and the electrical industry. *il Electrician* 87:604-5 N 11 '21
- Submarine cable laid across river by steam winch. F. A. Westbrook. *il Elec W* 79:634-5 Ap 1 '22
- Telephonic transmission through submarine cables. A. Rosen. *Inst E E J* 60:73-80 D '21
- Transmission characteristics of the submarine cable. J. R. Carson and J. J. Gilbert. *diags J Fr Inst* 192:705-35 D '21
- World's longest submarine power transmission cable successfully laid. C. W. Geiger. *il Iron Age* 111:286 Ja 25 '23
- See also* Telegraph, Submarine

Testing

- Electrode apparatus for the location of submarine cables and faults. F. B. Young and W. Jevons. *diags Inst E E J* 61:822-8 J 1 '23
- Localising a fault of low or high resistance in a submarine cable when the conductor is not broken. J. Rymer-Jones. *il diags Elec R (Lond)* 90:150-2 F 3 '22

Cableways

- Aerial cableway carries tool shed across river. *il Pop Mech* 37:493 Ap '22
- Aerial tramways serve mixing plant at Gilboa dam. C. K. Traber. *il plan Eng N* 89:604-6 O 12 '22
- Automatic curve-guide for rope haulage plant. G. Ryba. *diags plan Ind Management (Lond)* 10:229-30 O 18 '23
- Cable-way among the clouds; how passengers are to be carried up Mont Blanc in a suspended cage. F. H. Burlingham. *il Sci Am* 127:304-5 N '22
- Dorada ropeway; the longest aerial ropeway in the world. G. F. Zimmer. *il map plans Eng & Ind Management* 8:133-6+, 165-7 S 7-21 '22
- Handling men by cableway. *il Pub Works* 53:245 N '22
- Heavy-duty cableway carriage has novel features. *il Eng N* 83:318 F 23 '22
- Longest tramway in the world built by the Premier gold mining company. F. H. Mason. *il Pop Mech* 38:217-19 Ag '22
- La manutention mécanique du coke à l'usine de Perrache, de la Compagnie du gaz de Lyon. C. Dantin. *il Génie Civil* 82:541-3, pl 4 Je 9 '23
- Recent developments in aerial wire ropeways. J. W. White. *Eng & Contr* 57:440 My 10 '22
- Ropeway handling coal from siding to power house. *il diags plan Eng & Ind Management* 8:20-2, 142-+ J 1 27, S 7 '22
- Ropeway in the service of France during the war. *il Eng & Ind Management* 6:643-4 D 1 '21
- Ropeway installation for conveying and laying hydraulic power mains. *diags plan Ind Management (Lond)* 10:223-5 O 18 '23
- Steam shovels and cableways. A. B. McDaniel. *diag Can Eng* 45:451-2 O 30 '23
- Taking coal by the air route to coaling station. C. K. Traber and W. C. Richards. *il diags Coal Age* 24:175-7 Ag 2 '23
- Les transporteurs aériens à cables. Cretin. *Génie Civil* 80:75-9, 103-5 Ja 28-F 4 '22
- Transporteurs aériens à cables; matériel roulant, appareils d'accouplement. F. Cretin. *il diags Génie Civil* 81:486-91, 510-12, 532-4 N 25-D 9 '22
- Value of the aerial ropeway in mining. *Ind Management (Lond)* 8:387-8 D 28 '22
- See also* Conveying machinery
- Caboose cars. *See* Cars, Caboose

Cacao

- Cocoa and cacao. *Sci Am* 126:123 F '21

Cacotheline

- Über den abbau des kakothelins durch brom (über strychnos-alkaloide). H. Leuchs, H. Mildbrand and W. R. Leuchs. *Deutsche Chem Gesell Ber* 55:2403-15 S '22; *Abstract. Chem Soc J* 122 pt 1:1052-4 N '22
- Über die umsetzungen des kakothelins. H. Leuchs, F. Osterburg and H. Kaehr. *Deutsche Chem Gesell Ber* 55:564-72 F '22
- Über die violette und die grüne farbreaktion des kakothelins. H. Leuchs. *Deutsche Chem Gesell Ber* 55:724-32 Mr '22

Cadalene

- Higher terpene compounds: the naphthalene hydrocarbons cadalene and eudalene, two aromatic fundamental compounds of the sesquiterpene series; abstract. L. Ruzicka, J. Meyer and M. Mingazzini. *Chem Soc J* 122 pt 1:560-2 Je '22

Cadastral resurveys

- Review of important developments in the science of cadastral resurveys as executed by the United States government, with ethical discussion thereof. H. R. Farnsworth. *il Am Soc C E Pro* 47:405-42 N '21; *Discussion.* 48:99-101, 367-72, 703-5, 1252-63 Ja-Mr, My '22

Cadbury brothers, Bournville

- Factory in a garden; the practical idealism of George Cadbury and the monument it created. P. B. Redmayne. *Ind Management* 65:233-7 Ap '23

Caddo central oil and refining corporation

- Report for the year ending December 31, 1922. *Comm & Fin Chr* 116:1313 Mr 24 '23

Cadmium

- Atomic heats of cadmium and tin at low temperatures. W. H. Rodebush. *Am Chem Soc J* 45:1413-16 Je '23
- Cadmium in 1921. Brass W 18:124 Ap '22
- Cadmium in 1922. C. E. Siebenthal and A. Stoll. *U S Geol S Min Res of U S* 1922, pt 1: 1-5 '23
- Effect of field direction on magneto-resistance. C. W. Heaps. *Phys R* 19:7-19 Ja '22
- Hall, Ettingshausen, Nernst and Leduc effects in cadmium, nickel and zinc. A. E. Caswell. *Phys R* 20:280-2 S '22
- Heat of solution of cadmium in hydrochloric acid. T. W. Richards and S. Tamaru. *Am Chem Soc J* 44:1060-6 My '22
- Heats of vaporization of mercury and cadmium. M. F. Fogler and W. H. Rodebush. *diags Am Chem Soc J* 45:2080-90 S '23
- Metallurgy of zinc and cadmium. H. O. Hoffman. 341p McGraw-Hill '22
- Udylite process; a controversy about the merits of cadmium and zinc as rust preventives. C. H. Proctor; C. H. Humphries. *Metal Ind* 20:469-71 D '22
- Cadmium cobaltinitrite**
- Study of the cobaltinitrites of bismuth and cadmium. S. C. Ogburn, jr. *Am Chem Soc J* 45:641-5 Mr '23
- Cadmium iodide**
- Crystal structure of cadmium iodide. R. M. Bozorth. *Am Chem Soc J* 44:2232-6 O '22
- Cadmium plating**
- Udylite process; a controversy about the merits of cadmium and zinc as rust preventives. C. H. Proctor; C. H. Humphries. *Metal Ind* 20:469-71 D '22
- Caetani, Gelasio**
- Engineer heads Italian embassy. *por Mech Eng* 45:74 Ja '23
- Engineers honor Caetani at banquet. *por Chem & Met Eng* 28:132-3 Ja 17 '23; *Mech Eng* 45:142-4 F '23

Cafeterias. See Lunchrooms and cafeterias**Caffein**

- Distribution of certain drugs between immiscible solvents. W. O. Emery and C. D. Wright. *Am Chem Soc J* 43:2323-35 N '21

Cairo, Illinois

- Flood conditions and land filling at Cairo, Ill. *Eng N* 90:614-16 Ap 5 '23

Caisson disease

Compressed-air illness and its engineering importance; with a report of cases at the East river tunnels. E. Levy. *U S Bur Mines Tech Pa* 285:1-46 '22; Excerpts. *Can Eng* 42:557 *My* 30 '22; *Eng & Contr* 58:73 *Jl* 19 '22; *Am Ind* 23:36 *O* '22; Abstract. *Eng N* 89:343 *Ag* 31 '22

Caissons

Caisson cofferdam foundation with special bracing. T. K. Thomson. *il diags plans Eng N* 88:914-18 *Je* 1 '22

Caisson with water-ballast tanks lays submerged floor. J. A. Bjerregaard. *il diags plan Eng N* 88:821 *My* 18 '22

Caissons en béton armé, pour fondations à l'air comprimé. J. E. Ribera. *diags plans Génie Civil* 80:318-20 *Ap* 8 '22

Concrete caisson to close canal against floating oil. R. F. Mundorff. *il Eng N* 91:171 *Ag* 2 '23

Concrete caisson used to sink shaft through wet sand. R. F. Mundorff. *il diags plans Eng & Min J* 116:535-8 *S* 29 '23

Concrete caissons sunk in place for wharf and seawall, San Francisco Bay. F. G. White. *il diags Eng N* 91:252-4 *Ag* 16 '23

Deep-sea salvaging caissons tested successfully on sunken Eagle boat. *il Pop Mech* 29: 832-3 *Je* '23

Experiences in pneumatic caisson sinking in Mexico. T. Hind. *il diags plans Eng N* 87: 848-52 *N* 24 '21

Floating caisson serves as fire stop. R. F. Mundorff. *il Pop Mech* 39:709-10 *My* '23

Largest caisson ever built; new Delaware river bridge. *il Sci Am* 127:89 *Ag* '22

Locating old bridge caisson by electrical resistance test. W. O. Jacobi. *Eng & Contr (Ry)* 59:177 *Ja* 17 '23

Novel dock construction at San Francisco. *il Ry R* 73:241-2 *Ag* 18 '23

Shaft-digging machine and caisson sinkers. *il Pop Mech* 37:98-9 *Ja* '22

Specifications for caisson foundations. *Am Arch* 121:72-4 *Ja* 18 '22

Substructure, Johnson St. bridge, Victoria, B.C. F. W. Allwood. *il diag Can Eng* 42:577-9 *Je* 6 '22

Testing foundations. J. D'Esposito. *W Soc E J* 27:[current news] 58 *Ap* '22; Same. *Am Arch* 121:447-8 *My* 24 '22

Use pneumatic process for twelve bridge piers. *il diags plan Ry Age* 74:1255-8 *My* 26 '23

See also Bridges—Foundations and piers; Foundations

Cake

Baker's business booster. F. L. Gienandt. 282p F. L. Gienandt, Boston '22

Biscuit and cake manufacture. W. Platt. *Chem Age* 30:203-6 *My* '22

Cakes for bakers. P. Richards. 2d ed. 333p Bakers' helper co., Chicago '22

See also Shortening (cookery)

Advertising

Ward baking company gives a demonstration in how to win gift market. J. A. Murphy. *Ptr Inr* 118:17-20 *Mr* 16 '22

Cal mortar. See Mortar**Calcination**

La calcination des carbonates de zinc menus; (terres calaminaires) par l'échappement des moteurs à explosion. L. Tissier. *diag Chimie & Ind* 8:1201-5 *D* '22

Caustic calcination of dolomite and its use in sorrel cements. G. A. Bole and J. B. Shaw. *Am Cer Soc J* 5:817-22 *N* '22

Technology of the carbon-electrode industry. C. L. Mantell. *diags Chem & Met Eng* 27: 203-10 *Ag* 2 '22

Calcite

Department of calcites toward radium radiations. W. P. Headden. *Am J Sci* 5th ser 6:247-61 *S* '23

Determination of the coefficient of reflexion of X-rays for calcite and rocksalt. B. Davis and H. M. Terrill. *Philos Mag* 6th ser 45: 463-70 *Mr* '23

Phosphorescence and luminescence in calcites. W. P. Headden. *Am J Sci* 5th ser 5:314-28 *Ap* '23

See also Cone-in-cone

Calcium

Equilibria in systems involving calcium, hydrogen and nitrogen. C. A. Kraus and C. B. Hurd. *diag Am Chem Soc J* 45:2559-74 *N* '23

Positive-ray analysis of potassium, calcium and zinc. A. J. Dempster. *diags Phys R* 20:631-8 *D* '22

Significance of calcium for higher green plants. R. H. True. *Sci Am* 127:19 *Jl* '22

Vapor pressure of metallic calcium. N. B. Pilling. *diag Phys R* 18:362-8 *N* '21

Calcium alloys

Using the alkaline metals in alloys. C. Vickers. *Foundry* 49:855-6 *N* 1 '21

Calcium aluminates

Cementing qualities of the calcium aluminates. P. H. Bates. *il U S Bur Stand Tech Pa* 197:1-27 '21; Abstract. *Sci Am* 126:325 *My* '22

Calcium arsenate

Arsenate shortage a serious reality. H. W. Ambruster. *Oil Paint & Drug Rep* 102:21+ *N* 27 '22

Arsenic report regarded as too optimistic. *Chem & Met Eng* 28:226 *Ja* 31 '23

Calcium arsenate. *Chem Age* 30:539 *D* '22

Calcium arsenate for boll weevil control, and the arsenic situation. H. W. Ambruster. *Chem & Met Eng* 26:1155-8 *Je* 21 '22

Calcium arsenate manufacture. H. W. Ambruster. *Chem & Met Eng* 27:159-60 *Jl* 26 '22

Calcium arsenate; patent. *Chem Age* 30:562 *D* '22

Calcium arsenate short 12,000 tons but potential supply is encouraging. *Oil Paint & Drug Rep* 103:69 *Ja* 22 '23

Deterioration tests on calcium arsenate. *Chem & Met Eng* 27:995 *N* 15 '22

Undeveloped market for calcium arsenate. B. R. Coad and T. P. Cassidy. *Chem & Met Eng* 29:73 *Jl* 9 '23

Calcium borate

See Priceite

Calcium carbide

Calcium carbide inquiry. A. Colefax. *Soc Chem Ind J (Chem & Ind)* 42:233-40 *Mr* 9 '23

Calcium carbide inquiry. W. J. Pope. *Soc Chem Ind J (Chem & Ind)* 42:5-7, 117-20, 169-72 *Ja* 5, *F* 9, 23 '23; Discussion. 42:75-7 *Ja* 26 '23

Calcium carbide: its manufacture and applications. *Elec R (Lond)* 92:126-8 *Ja* 26 '23

Calcium carbide production. *Chem & Met Eng* 28:647 *Ap* 9 '23

Damp carbide from acetylene lamp ignites coal dust warmed by sun. R. L. Grimes. *Coal Age* 24:577 *O* 11 '23

Danger of storing carbide with explosives. C. E. Munroe. *Min & Sci P* 123:899-900 *D* 24 '21; Same cond. *Safety Eng* 43:23-4 *Ja* '22; Abstract. *Eng & Min J* 112:972 *D* 17 '21

Intermolecular condensation of methyl ethyl ketone in the presence of calcium carbide. O. Becker and J. F. Thorpe. *Chem Soc J* 121:1303-6 *Jl* '22

Power alcohol from calcium carbide. R. Furness. *Chem Age (Lond)* 8:280-1, 304-5 *Mr* 17-24 '23

Calcium carbonate

Bicarbonate equilibrium. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:319-20, 321-6 *Jl* 27-*Ag* 3 '23

Heteromorphism of calcium carbonate; marble, synthetic and metamorphic. M. Copisarrow. *Chem Soc J* 123:785-96 *Ap* '23

Investigation by means of the hydrogen electrode of the chemical reactions involved in water purification. R. E. Greenfield and A. M. Buswell. *Am Chem Soc J* 44:1435-42 *Jl* '22

Calcium carbonate—Continued

Limits of hydrogen ion concentration as determined by electrometric titrations in water solutions of carbon dioxide, calcium sulphate, and calcium carbonate. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:311-19 *Jl* 27 '23

See also Aragonite; Calcite; Cone-in-cone; Dolomite; Limestone

Calcium chloride

Calcium chloride as a curing agent and accelerator. H. F. Clemmer and F. Burggraf. *Eng N* 91:143-5 *Jl* 26 '23

Calcium chloride for sand-clay roads. *Pub Works* 53:121-2 *Ag* '22

Calcium chloride in concrete highway construction. B. H. Piepmeier and H. F. Clemmer. *il Eng N* 88:409-11 *Mr* 9 '22; Same. *Eng & Cont* 57:323-4 *Ap* 5 '22

Calcium chloride versus mixed chloride brines. *Refrig Eng* 9:181-2 *D* '22

Consumption of calcium chloride in ice making and refrigerating. *Refrig W* 57:29-30 *Je* '22

Preparation of absolute alcohol with calcium chloride and lime. W. A. Noyes. *diags Am Chem Soc J* 45:357-62 *Mr* '23

Tentative specifications for calcium chloride for dust prevention. *Am Soc T M Pro* 21: 679-80 '21

Use of calcium chloride. P. Cottringer and H. S. Kendall. *Concrete* 22:150-5 *Ap* '23

Use of calcium chloride in Illinois highway work. B. H. Piepmeier. *Munic Eng* 62:94-5 *Mr* '22

Vapor pressure of the system calcium chloride—water. E. M. Baker and V. H. Waite. *bibliog Am Inst Chem Eng Trans v* 13 pt 2: 233-42 '20-'21; Same. *Chem & Met Eng* 25: 1174-8 *D* 28 '21

Calcium cyanamide

Determination of nitrate nitrogen in the presence of cyanamide and some of its derivatives. K. D. Jacob. *Ind & Eng Chem* 15: 1175-7 *N* '23

Determination of total nitrogen in cyanamide and nitrate mixtures—Davisson-Parsons method. K. D. Jacob and W. J. Geldard. *J Ind & Eng Chem* 14:1045-6 *N* '22

Études sur la cyanamide de calcium. N. Kameyama. *Chimie & Ind* 7:516-17 *Mr* '22

Preparation of dicyanodiamide from calcium cyanamide. H. C. Hetherington and J. M. Braham. *Ind & Eng Chem* 15:1060-3 *O* '23

Calcium fluoride. See Fluorspar

Calcium hydroxide

Total and available calcium hydroxide in hydrated lime. A. S. Behrman and F. R. Porter. *Ind & Eng Chem* 15:269 *Mr* '23

Calcium nitrate

Remarques sur le procédé de fabrication par l'arc électrique des oxydes d'azote. G. Courtois. *diags Soc Ing Civils Bul* 75:313-19, pl 24 *Ap* '22

Calcium oxides

System, calcium oxide—carbon dioxide. F. H. Smyth and L. H. Adams. *diags Am Chem Soc J* 45:1167-84 *My* '23

Calcium phosphates

Conversion of calcium phosphates into chloro-derivatives of phosphorus by means of sulphur chloride. P. P. Budnikoff and E. A. Shilov. *Soc Chem Ind J* 42:378 *S* 14 '23

Determination of strength or neutralizing power of acid calcium phosphates. W. E. Wadman. *J Ind & Eng Chem* 13:1146-8 *D* '21

Industrial uses of phosphoric acid and phosphates. J. T. Meckstroth. *Chem & Met Eng* 26:223-4 *F* 1 '22

Calcium silicide

Calcium silicide as a deoxidizer. *Chem & Met Eng* 27:311 *Ag* 16 '22

Calcium sulfate

Determination of calcium sulphate. A. Sander. *Paper* 32:5-6+ *Jl* 11 '23

Heteromorphism of calcium sulphate; alabaster and its synthesis. M. Copisarow. *Chem Soc J* 123:796-9 *Ap* '23

Limits of hydrogen ion concentration as determined by electrometric titrations in water

solutions of carbon dioxide, calcium sulphate, and calcium carbonate. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:311-19 *Jl* 27 '23

Solubility and surface energy of calcium sulfate. M. L. Dundon and E. Mack, jr. *Am Chem Soc J* 45:2479-85 *N* '23

See also Gypsum; Plaster of Paris

Calcium thiocyanate

New solvent for cellulose. H. E. Williams. *Paper* 29:9-14 *N* 2 '21

Calcium thiosulfate

Free energy of the thiosulfate ion. F. R. Bichowsky. *diags Am Chem Soc J* 45:2225-35 *O* '23

Calcium uranite. See Autunite

Calculating

See Calculating machines; Estimates; Graphic methods; Ready reckoners; also subdivision Tables, calculations, etc., under various subjects, e.g. Electric engineering—Tables, calculations, etc.; Heating—Tables, calculations, etc.; Steam—Tables, calculations, etc.

Calculating machines

Industrial cost accounting for executives. P. M. Atkins. *il Am Mach* 59:591-4 *O* 18 '23

Leinert rotex dimension calculator. *il Am Mach* 57:201 *Ag* 3 '22

Machine automatique à multiplier, système Séguin. A. Séguin. *il Génie Civil* 80:505 *Je* 3 '22

Monroe portable automatic model calculating machine. *il Ry Age* 74:348 *F* 3 '23; Same. *Ry Mech Eng* 97:188 *Mr* '23

Pencillike scale solves engineers' problems. *il Pop Mech* 40:441 *S* '23

Universal calculating machine for chemical calculations. C. A. Jacobson. *Chem Age* 30:51-2 *F* '22

See also Amsler's integrator; Bookkeeping machines; Gas meters—Calculating devices; Slide rule; Tabulating machines

Manufacture

Fixtures for assembling calculator wheels. F. H. Colvin. *il Am Mach* 57:292-3 *Ag* 24 '22

Machining an aluminum carriage cover. F. H. Colvin. *il diags Am Mach* 57:522-3 *O* 5 '22

Manufacturing calculating machine sideframes. F. H. Colvin. *il diags Am Mach* 57:256-8 *Ag* 17 '22

Calculus

Applied calculus; an introductory textbook. F. F. P. Bisacre. 446p Van Nostrand '21

Calculus. E. W. Davis and W. C. Brenke. Rev. ed. 345p Macmillan '22

Calculus and graphs. L. M. Passano. 167p Macmillan '21

Calculus for beginners. H. S. Jones. 299p Macmillan '21

Elementary calculus. F. S. Woods and F. H. Bailey. 318p Ginn '22

Elements of the differential and integral calculus with applications. W. S. Hall. 2d ed., rev. 250p Van Nostrand '22

Fundamental topics in the differential and integral calculus. G. Rutledge. 252p Ginn '23

Introduction to the calculus. W. F. Osgood. 449p Macmillan '22

See also Harmonic analysis

Calculus, Differential

Introduction to plane analytical geometry and differential calculus. C. N. Mills. 131p Blakiston '22

Calcutta, India**Bridges**

Report on Calcutta bridge proposes 1,500-ft. cantilever structure. *Eng N* 89:72 *Jl* 13 '22

Calendar

Is it practical to improve the calendar? *Eng & Contr (Ry)* 60:579-80 *S* 19 '23

Putting the calendar on a sensible basis. *Am Mach* 58:48-9 *Ja* 4 '23

To correct our calendar. *Nation's Business* 10: 56+ *Ap* '22

Calendars

Calendars as effective advertising. C. M. Littlejohn. *Inland Ptr* 71:227 *My* '23

Calendars—Continued

- Cheerful calendar advertisement. W. H. Mayes. Inland Ptr 71:368 Je '23
 Perpetual calendar. Sci Am 128:90 F '23
 When you use a famous painting on your calendar. C. B. Larrabee. il Ptr Ink M 6:31-3+ F '23

Calenders

- Silk finish calenders. R. Sansone. Textile World 62:1130 Ag 26 '22

Calfskin

- Points of minimum plumping of calf skin. J. A. Wilson and A. F. Gallun, jr. Ind & Eng Chem 15:71-2 Ja '23

Caliche. See Sodium nitrate**Calico printing**

- Application of vat colors in calico printing. F. Whittaker. Am Dyestuff Rep 12:13-17 Ja 1 '23

- Black, blue and red on a white or light colored ground. R. Sansone. Textile World 62:579 Jl 29 '22

- Cranston print works. I. Ginsberg. il diag Color Tr J 12:1-5 Ja '23

- Discharges on cotton cloth. R. Sansone. Textile World 63:3486+ My 26 '23

- Dyeing of direct blacks on cotton piece goods. R. Sansone. diags Am Dyestuff Rep 12:632-6 Ag 27 '23

- Historical review of the steaming process in calico printing. J. R. Hannay. Soc Dyers & Col J 39:169-75 Je '23; Same. Am Dyestuff Rep 12:549-56 Jl 30 '23

- Hydrosulfites in the printing industry. Color Tr J 9:247-9 D '21

- Mordant colors in calico printing. Am Dyestuff Rep 12:623-6 Ag 27 '23

- New basic dyestuffs of the acridine series. Color Tr J 12:250 Je '23

- New dyestuffs for calico printing. Color Tr J 13:16-17 Jl '23

- Production of ornamental effects on cotton fabrics. W. Warr. Color Tr J 12:259-60 Je '23

- Prussian blue in cotton printing. R. Sansone. Textile World 60:3723+ D 31 '21

- Surface printing by rollers in the cotton industry. A. Wilcock. Color Tr J 10:172-8 Ap '22

- Use of zinc dust in colored discharge printing. J. M. Matthews. Color Tr J 11:9 Jl '22

- Use of zinc dust in white discharge printing. J. M. Matthews. Color Tr J 10:252 Je '22

- Uses of sulphonylates in calico printing. W. R. McIntyre. Am Dyestuff Rep 12:110-11 Ja 29 '23

See also Chintz

California

See also Architecture, Domestic—California; Electric railroads—California; Electric utilities—California; Electricity supply—California; Hydroelectric plants—California; Irrigation—California; Motor bus lines—California; Roads—California; Street railroads—California

Industries and resources

- California's prosperity depends on future supplies of fuel. C. H. Delany. J Elec 48:272-4 Ap 1 '22

- How California has outdistanced Ontario in economic growth. R. Sibley. J Elec 48:310-12 Ap 15 '22

See also Automobile industry and trade—California; Cattle industry—California; Electric industries—California; Electric plants (central stations)—California; Gasoline industry—California; Gold mines and mining—California; Mines and mineral resources—California; Oil industries—California; Petroleum—California; Petroleum industry and trade—California; Silver mines and mining—California; Water power—California

Railroad commission

- California commission explains its functions. Elec W 80:1468 D 30 '22

California fruit growers exchange

- G. Harold Powell, of California fruit growers exchange, dies. Ptr Ink 118:19-20 F 23 '22

California institute of technology

- California institute of technology; its aims and purposes. A. A. Noyes. Eng Educ 12:365-6 Ap '22

California Oregon power company

- Annual report—for the year 1921. Comm & Fin Chr 114:1074-5 Mr 11 '22

- Annual report for the year 1922. Comm & Fin Chr 116:1071-3 Mr 10 '23

California river. See Don Pedro dam**California. University****College of mining**

- College of mining—University of California. G. J. Young. il Eng & Min J 113:4-8 Ja 7 '22; Discussion. 113:237, 395-6 F 11, Mr 11 '22

Calipers

- Caliper the tenth part of one thousandth of an inch. W. S. Rowell. il diag Am Mach 58:707 My 10 '23

- One-hand calipers. il Sci Am 127:189-90 S '22
 See also Micrometers

Calite

- Alloy that resists high temperatures. Coal Age 21:209 F 2 '22; Mach 28:619 Ap '22

- Calorizing and calite. G. H. Howe and G. R. Brophy. il Gen Elec R 25:267-72 My '22

- New alloy has high heat resistance. G. R. Brophy. il Iron Tr R 70:679-80 Mr 9 '22; Same. Am Mach 56:550 Ap 20 '22; Same. Foundry 50:265-6 Ap 1 '22; Excerpts. Automotive Ind 46:955 My 4 '22; Excerpt. Iron Age 109:647 Mr 9 '22

Calking

- Calking a leaky cylinder-head joint. A. J. Dixon. diag Power 56:641 O 24 '22

- Calking materials for shipbuilding purposes. H. H. Thayer. Marine Eng 27:55-7 Ja '22

- Clyde deck calking machine. il diags Engineering 114:110, 112 Jl 28 '22; Elec R (Lond) 90:802 Je 9 '22; Marine Eng 27:505 Ag '22
 See also Oakum

Callahan zinc-lead company

- Facts for the stockholder. Eng & Min J 115:1177 Je 30 '23

Callow, John Michael

- Metallurgical engineers of note. por Eng & Min J 115:1054 Je 16 '23

Calories. See Nutrition**Calorimeters and calorimetry**

- Boys' calorimeter for measuring and delivering gas at a known rate. Gas J (Lond) 162:104 Ap 11 '23

- Calorific value. W. B. Davidson. diags Gas J (Lond) 162:345-8 My 9 '23

- Calorimetry: a new automatic pressure and temperature corrector for gas volumes. C. H. Beasley. Gas J (Lond) 161:49; Discussion. 49 O 3 '23

- Continuous-flow calorimeter, and the determination of the heat of neutralization of a solution of hydrochloric acid by one of sodium hydroxide. F. G. Keyes, L. J. Gillespie and S. Mitsukuri. diag Am Chem Soc J 44:707-17 Ap '22

- Determination of the calorific value of liquid fuels. H. Moss and W. J. Stern. diags Engineering 114:729-31 D 15 '22

- Effect of bomb corrosion on the accuracy of calorimetric determinations. H. L. Olin and R. E. Wilkin. Chem & Met Eng 26:694-6 Ap 12 '22

- Gas calorimetry. T. A. Canning. Gas J (Lond) 161:694-6 Mr 11 '23

- Junkers calorimeter. diag Gas J (Lond) 162:726 Je 20 '23

- Maintenance of the adiabatic condition in calorimetry. F. Barry. diags Am Chem Soc J 44:899-937 My '22

- Measurement of steady and fluctuating temperatures. R. Royds. 162p Van Nostrand '21
 New graphic B.t.u. calculator. M. C. K. Jones. Gas Age 49:392-4 Ap 1 '22

- Operation of separating calorimeter. diag Power 57:227, 531 F 6, Ap 3 '23

- Recording and integrating gas calorimeter. il diags Engineering 115:559-61 My 4 '23; Engineer 135:470-1 My 4 '23

- Recording and integrating gas calorimeter. C. V. Boys. Engineering 113:809 Je 30 '22

Calorimeters and calorimetry—Continued

Recording gas calorimeters and their use. Gas J (Lond) 161:205-8; Discussion. 208-9 Ja 24 '23

Report on the Simmance total heat recording calorimeter. T: Gray and A. Blackie. (Fuel research board, Tech. pa. no. 2) 23p Great Britain Dept. of scientific and industrial research, London '21

Research sub-committee of the gas investigation committee of the Institution of gas engineers; the Fairweather recording calorimeter. Gas J (Lond) 161:462-5, 524-5, 692-3, 766; 162:30-1, 106-7, 163, 222-3, 598+, 677-9, 744-5; 163:102-3 F 21-28, Mr 14-21, Ap 4-25, Je 6-20, Jl 4 '23

Simmance calorimeter. Gas Age 48:664-5, 781-3 N 19, D 10 '21

Steam research at the U. S. Bureau of standards; thermal-capacity of water. N. S. Osborne. Mech Eng 45:168 Mr '23

Water equivalent of a calorimeter. diag Power Pl Eng 27:1105 N 1 '23

Works instruments and auto-control of calorific value. J. G. Stewart. diags Gas J (Lond) 162:36-8 Ap 4 '23

See also Cooling; Respiration calorimeter; Specific heat

Calorizing

Calorizing. A. V. Farr. Eng Soc W Pa 37: 331-40; Discussion. 340-3 Jl '21

Calorizing and calite. G. H. Howe and G. R. Brophy. il Gen Elec R 25:267-72 My '22

Use of calorized tubes in refining: advantages and economies. A. V. Farr. il Nat Pet N 14:83+ My 31 '22

Calumba

Zur Konstitution der alkaloiden der colombo-wurzel. E. Späth and K. Böhm. Deutsche Chem Gesell Ber 55:2985-95 O '22; Abstract. Chem Soc J 122 pt 1:1174-5 D '22

Calumet and Arizona mining company

Facts for the stockholder. Eng & Min J 116: 701 O 20 '23

Calumet and Hecla mining company

Facts for the stockholder. Eng & Min J 115: 1090 Je 16 '23

Calumet baking powder company

Helping the prospect to sell himself. K. K. Beil. il System 41:683 Je '22
How Calumet gained support of 2,600 wholesale grocers. G. A. Nichols. Ptr Ink 122:3-4 F 8 '23

Cambodia**Antiquities**

Glory of long-lost temple restored. A. N. Mirzaoff. il Pop Mech 40:188-92 Ag '23

Cambridge university press

History of the Cambridge university press 1521-1921. S. C. Roberts. 190p University press, Cambridge, Mass. '21

Camden, New Jersey**Railroads**

New passenger terminal. P. & R. Ry. at Camden, N. J. Ry R 71:934-5 D 30 '22

Water supply

New well water system of Camden, N.J. J. H. Long. il Eng & Contr (W W) 60:258-9 Ag 8 '23

Cameras

Camera turned sculptor. il Sci Am 125:A:135 D '21

Hand camera for snapshots or motion pictures. il Pop Mech 38:350 S '22

How American advertisers develop foreign markets by local agencies. E: Hungerford. il Ptr Ink M 5:21-2+ O '22

Lucas photomicrographic camera. il Am Dye-stuff Rep 12:771-2 O 22 '23

Making big photographs of little things. E. Bade. il Sci Am 128:97 F '23

Pocket filter for camera lens is adjustable. il Pop Mech 40:357 S '23

Precision high-speed oscillograph camera. E. A. Eckhardt. il diags J Fr Inst 194:49-67 Jl '22

Sculpture by camera. Mech Eng 45:58 Ja '23

Small foreign-made camera possesses ultra-speed. il Pop Mech 38:368 D '22

U.S. builds huge camera for life-size photo. il Pop Mech 40:275 Ag '23

See also Lenses, Photographic; Photography; Photostat

Camellaïrd-Fullagar engine

Diesel electric ship La Playa. il diags Engineer 136:456-8 O 26 '23; Elec R (Lond) 93: 621-3 O 26 '23; Marine Eng 28:706-8 N '23
Palmer-Camellaïrd-Fullagar marine oil engine. Engineering 116:265-6, pl 18 Ag 31 '23

Testing

Tests of a Camellaïrd-Fullagar marine Diesel engine. il diags Engineer 134:140-2 Ag 11 '22; Discussion. H. A. D. Acland. 134: 188 Ag 25 '22

Camp. See Camping; Camps**Camp sanitation**

Oil-camp sanitation. C. P. Bowie. bibliog il diags plans U S Bur Mines Tech Pa 261:1-32 '21

Campbell, Milton

Sketch. W: S. Dutton. por System 41:411-12 Ap '22

Campbell soup company, Camden, N.J.

Campbell's soups advertised for 23 years. Ptr Ink 121:114 D 14 '22

Is the cost of advertising a burden on consumer and producer? R. Cole. Ptr Ink M 6:17-18+ Mr '23

Sticking to one idea made Campbell's the national soup. J: T. Dorrance. Ptr Ink M 4:23-4+ Ja '22

What simplification has done for us. J. T. Dorrance. il System 41:27-9+ Ja '22

Camphene hydrochloride

Über die gleichgewichts-isomerie zwischen bornylchlorid, isobornylchlorid und camphenchlorhydrat. H. Meerwein and K. van Emster. Deutsche Chem Gesell Ber 55:2500-28 S '22; Abstract. Chem Soc J 122 pt 2:751-4 N '22

Campholanic acid

Vergleich der α -campholansäure mit Mahla-Tiemanns dihydro-campholensäure und mit isocampholsäure. P. Lipp. Deutsche Chem Gesell Ber 55:1883-92 Je '22; Abstract. Chem Soc J 122 pt 1:735-6 Ag '22

Campholic acid

Vergleich der α -campholansäure mit Mahla-Tiemanns dihydro-campholensäure und mit isocampholsäure. P. Lipp. Deutsche Chem Gesell Ber 55:1883-92 Je '22; Abstract. Chem Soc J 122 pt 1:735-6 Ag '22

Campholytic acid

Vergleich der α -campholansäure mit Mahla-Tiemanns dihydro-campholensäure und mit isocampholsäure. P. Lipp. Deutsche Chem Gesell Ber 55:1883-92 Je '22; Abstract. Chem Soc J 122 pt 1:735-6 Ag '22

Campholytic acid

Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; intra-annular tautomerism of α -campholytic acid. J. P. C: Chandrasena, C. K. Ingold and J. F. Thorpe. Chem Soc J 121:1542-51 Ag '22

Camphor

Determination of monobromated camphor. E. O. Eaton. J Ind & Eng Chem 14:24 Ja '22

Domestic synthetic camphor industry. il Chem Age 30:211-12 My '22

Molecular rearrangement of the camphor series; structure of isocampholactone. P. K. Porter and W. A. Noyes. Am Chem Soc J 45:2366-73 O '23

New halogen derivatives of camphor. H: Burgess and T: M. Lowry. Chem Soc J 123: 1867-78 Ag '23

New halogen derivatives of camphor; α -bromocamphor. T: M. Lowry, V: Steele and H: Burgess. diag Chem Soc J 121:633-41 Ap '22

Production of synthetic camphor. S. P. Schotz. Chem Age (Lond) 9:114-16 Ag 4 '23

Purification of high melting-point materials by fractional distillation. Chem & Met Eng 29: 807 O 29 '23

Camphor substitutes

Camphor substitutes in plastics manufacture. Chem Age 30:111 Mr '22

See also Glyceryl triacetate

Camphoreins

Studies in optically active dyes; camphoreins. B. K. Singh, R. Rai and R. Lal. Chem Soc J 121:1421-30 J1 '22

Camphoric acid

Preparation of soluble derivatives of camphoric acid. Chem Soc J 122 pt 1:254-5 Mr '22

Camphoric anhydride

Dyes derived from camphoric anhydride. A. C. Sircar and S. Dutt. Chem Soc J 121:1283-6 J1 '22

Camping

Handbook for campers in the national forests in California. il map U S Agric Circ 185:1-48 '21

See also Automobiles—Camping equipment

Camps

See Camp sanitation; Construction camps; Lumber camps; Mining camps; Oil camps

Camps, Lumber. See Lumber camps**Camps, Military**

Government begins suits to recover damages from construction companies under war contracts. Comm & Fin Chr 115:2536-7 D 9 '22
Speedy trial of war-fraud suits urged by A.G.C. Eng N 90:226 F 1 '23
Truth about cantonnement construction costs. D. H. Maury. Munic Eng 65:83-5 Ag '23
Water supply of cities; general and fundamental principles. D. H. Maury. il plans W Soc E J 28:120-5 Ap '23

Camps, Municipal

Los Angeles vacation camps. Pub Works 52:402-3 Je 3 '22

Camps, Tourists'

Automobile camps in Florida. Pub Works 52:305-6 Ap 29 '22
Automobile tourist camping grounds. C. S. Winsborough. Eng & Contr (R & S) 59:987-92 My 2 '23
Bungalowette camp for motor tourists. J; A. Ford. il Pop Mech 37:416-17 Mr '22
Camp site guide including all airplane landings in the U.S. 115p U.S. touring information bur., inc., Waterloo, Iowa '23
Camps of the Central circle; recognition given the automobile tourist by mid-western municipalities. A. G. Vestal. il Sci Am 129:152-3 S '23
Control of tourist camps in Florida. Pub Works 51:413-14 N 26 '21
Equipment for automobile-tourist camps. A. J. R. Curtis and J. Tate. diags Pop Mech 40:129-34, 294-7 J1-Ag '23
Motorists' caravansary is new industry. L. W. Pedrose. il map Pop Mech 38:522-3 O '22
Municipal auto-camp sites along Lincoln highway. Pop Mech 38:182 Ag '22
Tourist camp sanitation. A. H. Jewell. Eng & Contr (W W) 59:629-30 Mr 14 '23
Tourist camps. Munic Eng 62:196; 63:5-6 Je-J1 '22
Tourist camps. R. S. Wallis. (Bul. 56, Eng. ext. dept.) 83p Iowa state college of agriculture and mechanic arts, Ames '23

See also Automobiles—Camping equipment

Electric equipment

Electrically equipped auto park is municipal asset in Boise. il J Elec 50:135 F 15 '23
Modern electrical conveniences in a mountain camp. C. Mathews. il J Elec 49:447-9 D 15 '22

Cams

Cam cutting on a boring mill. A. Mumper. il diags Mach 28:552-3 Mr '22
Cams for Brown and Sharpe automatic screw machines. S. McEvoy. Am Mach 57:460 S 21 '22
Design of harmonic cams. C. O. Rhys. diags Mach 29:934-5 Ag '23
Experiments on cams and poppet valves. G. E. Scholes. il diags Automobile Eng 12:151-7 My '22
Finishing airplane engine cams. il Mach 30:39 40 S '23

Forming and assembling dies for roll cam. W. B. Greenleaf. il diags Mach 28:618-19 Ap '22
Increase in cam tip radius effects reduction in inertia forces. G. D. Angle. diags Automotive Ind 48:824-7 Ap 12 '23
Internal-combustion engine cams. B. B. Low. diags Engineering 115:641-4 My 25 '23
Laying out master cam templates. E. J. Rantsch. diags Mach 30:49-50 S '23
Making cams from a sample. J. T. Clark. diags Am Mach 56:454 Mr 23 '22
Methods of machine tool design. A. L. DeLeeuw. Am Mach 57:687-92, 963-7 N 2, D 21 '22
Milling cams for a textile machine. il Mach 29:555 Mr '23
Milling cams for printing presses. il Mach 30:212-13 N '23
Milling profile of small internal cams. C. S. Culver. diags Mach 29:56 S '22
Some examples of cam cutting. M. Wright. il Am Mach 57:306-7 Ag 24 '22
Standard cams for Brown & Sharpe automatic screw machines. D. A. Nevin. diags Am Mach 56:839-41 Je 8 '22
Table for use in milling cams for B. & S. automatic screw machines. E. C. Allen. Am Mach 58:371-2 Mr 8 '23
Universal cams for automatic screw machines. D. A. Nevin. diags Mach 28:833 Je '22

Camsell, Charles, 1876-

Mining geologists of note. J. C. Murray. por Eng & Min J 115:455 Mr 10 '23

Camshafts

Crankshaft and camshaft work. F. H. Colvin. il Am Mach 57:141-3 J1 27 '22
Fixture for inspecting camshafts. J. L. Strassburg. diags Am Mach 57:149 J1 27 '22
Machining of camshafts. F. H. Colvin. il diags Am Mach 57:95-7 J1 20 '22
Making camshafts in two motor shops. F. H. Colvin. il Am Mach 57:186-8 Ag 3 '22
Overhead camshaft passenger-car engines. P. M. Heldt. il diags Soc Auto Eng J 10:489-98 Je '22; Same. Automotive Ind 46:1109-14, 1158-61 My 25-Je 1 '22; Same. Automobile Eng 12:397-403 D '22; Discussion. Soc Auto Eng J 11:244-7 S '22

Can-closing machine

Building special machines for can-seaming. A. Mumper. il Mach 28:899-900 J1 '22

Canada

Prospects for electrical engineers in Canada. G. R. Archdeacon. Elec R (Lond) 92:564-5, 606-8 Ap 13-20 '23
See also Banks and banking—Canada; Debts, Public—Canada; Drainage—Canada; Electric plants (central stations)—Canada; Electric railroads—Canada; Engineering—Canada; Floods—Canada; Hydroelectric plants—Canada; Irrigation—Canada; Labor and laboring classes—Canada; Labor laws and legislation—Canada; Railroads—Canada; Roads—Canada; Wages—Canada

Advisory council for scientific and industrial research

Progress of research in Canada. Can Eng 43:218-21 Ag 1 '22

Agriculture, Department of

Work of Dominion government chemists. F. T. Shutt. Can Chem & Met 7:92-3 Ap '23

Commerce

Canada and the tariff. Chem & Met Eng 25:989-90 N 30 '21
Canada turning to Great Britain for trade. C. W. Gaynor. Annalist 19:270 F 27 '22
Imports into and exports from Canada of electrical and similar materials during the year ending March 31st, 1922. Elec R (Lond) 92:109-10 Ja 19 '23

See also Aeronautics, Commercial—Canada; Coal trade—Canada; Tariff—Canada

Economic conditions

Canada—the past year and the year to come. W. L. Edmonds. Annalist 19:33-+ Ja 9 '22

Canada—Economic conditions—(Continued)

- Canadian provinces face a critical year. W. L. Edmonds. *Annalist* 20:379-80 O 16 '22
- Industrial and commercial conditions in Canada. Engineering 115:113 Ja 26 '23
- Outlook in Canada better than last year. W. L. Edmonds. *Annalist* 21:45 Ja 8 '23
- Social and economic conditions in the Dominion of Canada. 367p American academy of political and social science, Philadelphia '23
- The week in Canada. See weekly numbers of *Annalist*

See also Finance—Canada; Immigration and emigration—Canada

Health, Department of

- Work of Dominion government chemists. F. C. Collier. *Can Chem & Met* 7:176 Jl '23

Industries and resources

- American capital in Canada. F. S. Chalmers. *Annalist* 22:295 Ag 13 '23
- Branch factories in Canada. E. W. Gage. *Il Ind Management* 61:305-8+ N '22
- Canadian industrial development. W. G. Gates. *Annalist* 20:174+ Ag 21 '22
- Fuel situation in Canada. *Can Eng* 43:659-60 D 26 '22

See also Automobile industry and trade—Canada; Building trades—Canada; Chemical industries—Canada; Coal mines and mining—Canada; Coal supply—Canada; Dye industry—Canada; Gold mines and mining—Canada; Iron industry and trade—Canada; Mineral industries—Canada; Mines and mineral resources—Canada; Paper industry and trade—Canada; Petroleum—Canada; Water power—Canada; also Canadian pulp and paper association

Mines, Department of

- What the Dominion Department of mines is doing this year. *Can Chem & Met* 7:203-4 Ag '23
- Work of Dominion government chemists. *Can Chem & Met* 7:58-9 Mr '23

National research institute (proposed)

- Canada plan to build National research institute. *Can Eng* 42:426-7 Ap 25 '22

Canada steamship lines

- Annual report 1922. *Comm & Fin Chr* 116:1312 Mr 24 '23

Canadian association of stationary engineers

- 34th annual convention, Toronto, June 25-28. *Power* 58:73 Jl 10 '23

Canadian building and construction industries,

Association of. See Association of Canadian building and construction industries

Canadian electric railway association

- 19th annual convention, Toronto, Ont., June 27-30. *Elec Ry J* 62:20-2 Jl 7 '23

Canadian electrical association

- 32d annual convention, Ottawa, June 15-17. *Elec W* 79:1239 Je 17 '22
- 33d annual convention, Montreal, June 21-23. *Elec W* 81:1539-40 Je 30 '23

Canadian engineering standards association

- 7th meeting, Ottawa, April 21. *Can Eng* 42:567-8 My 30 '22

Canadian gas association

- 15th annual convention, Hamilton, Ontario, Aug. 24-25. *Gas Age* 50:285-7 S 2 '22
- 16th annual convention, Ottawa, Aug. 23. *Gas Age* 52:245-6 S 1 '23

Canadian good roads association

- 9th annual convention, Victoria, June 12-15. *Can Eng* 42:643-8 Je 27 '22
- 10th annual convention, Hamilton, June 11-14. *Can Eng* 41:591-4+ Je 19 '23
- Provincial highway conference, Quebec. *Can Eng* 45:406 O 16 '23

Canadian institute of chemistry

- 4th annual meeting, Toronto. *Can Chem & Met* 7:150-4 Je '23

Organization, functions and future. H. J. Roast. *Chem Age* 30:7-8 Ja '22

Proposed alterations in by-laws, Canadian institute of chemistry. *Can Chem & Met* 7:125-7 My '23

Canadian institute of mining and metallurgy

- Annual convention, Vancouver, B.C., Nov. 15-17. *Eng & Min J* 114:952 N 25 '22
- Annual general meeting of the British Columbia division at Vancouver. R. Dunn. *Eng & Min J* 113:337-8 F 25 '22
- Annual meeting, Ottawa, March 1-3. *Can Chem & Met* 6:79-81 Ap '22
- By-laws of the Canadian institute. T. A. Rickard. *Eng & Min J* 116:727 O 27 '23
- Canadian institute convenes at Montreal, March 7-9. A. Gray. *Eng & Min J* 115:503-4 Mr 17 '23
- Canadian mining institute discusses national fuel supply of Dominion. W. A. Lawrence. *Coal Age* 23:526-8 Mr 29 '23
- 24th annual meeting, Ottawa, March 1-3. E. H. Robie. *Eng & Min J* 113:415-17 Mr 11 '22

Canadian national exhibition

- Canadian national exhibition, Toronto. *Can Eng* 43:346-8; 45:295-7 S 12 '22, S 4 '23

Canadian national railways

- Annual report, 1922. *Comm & Fin Chr* 116:2877-8 Je 23 '23
- Canadian National improves position in 1922. *Ry Age* 75:75-6 Jl 14 '23
- Sir Henry Thornton to head Canadian National. J. L. Payne. *Ry Age* 73:699-701 O 14 '22

Transcontinental comfort in new steel car trains. *Il map plans Ry R* 69:893-8 D 31 '21

Trans-continental route shortened one hundred miles by the Long Lake cut-off. *map Ry R* 73:310-11 S 1 '23

Canadian Pacific railway

- 41st annual report for the fiscal year ended December 31, 1921. *Comm & Fin Chr* 114:1424-8 Ap 1 '22; Excerpts. *Ry Age* 72:853-5 Ap 1 '22
- 42d annual report for fiscal year ended December 31, 1922. *Comm & Fin Chr* 116:1435-6 Mr 31 '23; Same. *Ry Age* 74:889-90 Mr 31 '23
- C.P.R. soon to own fleet totaling 438,604 tons. *Il Ry Age* 72:835-6 Ap 1 '22
- Canadian Pacific's program for 1923. *Ry Age* 74:490 F 24 '23
- Heavy grain traffic assists C.P.R. 1922 net. *map Ry Age* 74:863-5 Mr 31 '23
- History of the Canadian Pacific railway. H. A. Innis. 365p P. S. King & son, London; McClelland and Stewart, Toronto '23
- New sleeping and compartment cars for the C. P. R. *Il diags plan Ry R* 70:77-81 Ja 21 '22

Report of the proceedings at the 41st annual meeting of the shareholders. *Comm & Fin Chr* 114:2143-4 My 13 '22

Canadian paper trade association

- 5th annual meeting, Toronto, Ont., Oct. 25-26. *Paper Tr J* 75:28+ N 2 '22

Canadian pulp and paper association

- Annual meeting, Montreal. *Paper Tr J* 74:18-24+ F 2 '22
- Annual meeting, Montreal, Jan. 26. *Paper Tr J* 76:22+ F 1 '23

Canal boats

- Canal-boat children. E. M. Springer. *Il plan Monthly Labor R* 16:227-47 F '23
- Electrically-driven jet propeller for canal barges. *Il diags plan Engineering* 116:157-9 Ag 3 '23; *Elec R (Lond)* 93:345-7 S 7 '23; *Engineer* 136:252 S 7 '23

Canal gates. See Gates, Hydraulic

Canal lifts

- Ascenseur à bateaux, avec sas submersible, système Burkhardt. *diags Génie Civil* 80:410 My 6 '22
- Ascenseur pour bateaux, à sas mobile et à contrepoids. *diags Génie Civil* 79:446 N 19 '21

Canal rays

- Application of anode rays to the investigation of isotopes. G. P. Thomson. *diags Philos Mag* 6th ser 42:857-67, pl 26 N '21
- Positive rays in simple gases. J. J. McHenry. *Philos Mag* 6th ser 45:433-43 Mr '23

Canal rays—Continued

Rays of positive electricity and their application to chemical analyses. J. J. Thomson. 2d ed. 237p Longmans '21

Canal traffic

Canadian canal traffic shows increasing tonnage. Eng N 89:733 N 2 '22

Canals

Nechells power station of the Birmingham corporation; canal widening works. W. N. Twelvetrees. diags plan Engineering 115: 193-6, 208 F 16 '23

Paving a 34-degree slope with concrete. A. C. D. Blanchard. il Concrete 22:125-8 Ap '23
Timber lining in canal placed rapidly with aid of jack frames. il Eng N 88:123 Ja 19 '22

See also Irrigation canals; Locks (hydraulic engineering); Waterways; also names of canals, e.g. New York state barge canal; Panama canal; Queenston-Chippawa canal

Bank protection

Elimination of crawfish borers in a canal bank. F. M. Nash. Eng N 87:887-8 D 1 '21
Reinforced concrete boards for canal revetments. H. J. Harms. il diags Concrete 23: 30-2 Jl '23

Cleaning

See Irrigation canals—Cleaning

Electric equipment

L'équipement électrique des écluses du canal du Rhin à Herne (Westphalie). G. Mesnard. diags plan Génie Civil 79:413-15 N 12 '21

Canada

Canadian canal traffic shows increasing tonnage. Eng N 89:733 N 2 '22

See also Queenston-Chippawa canal

England

England may revive century-old canals. J. Horton. il map Marine R 52:375-7 S '22

France

La construction du souterrain du Rove sur le canal de Marseille au Rhône. il diags Génie Civil 83:217-24 S 8 '23

Marseilles-Rhone canal. diags plan Engineer 131:432-4, 442 O 27 '22

Germany

Notes on canal projects in Southwestern Germany. map plan Eng N 88:521-2; 89:754-6 Mr 30, N 2 '22

Les travaux du Mittelland kanal (Allemagne); la section de Hanovre à Peine. map Génie Civil 80:386 Ap 29 '22

Indo-China

Dragages de canaux exécutés en Cochinchine. Benabeng. il diags Génie Civil 81:590-3 D 23 '22

Netherlands

Meuse lock on the Meuse-Waal canal. L. R. Wentholt. il diags maps plans Engineer 134: 235-8, 261-4 S 8-15 '22

Poland

Projet de construction de canaux en Pologne. map Génie Civil 81:248 S 9 '22

Scotland

Proposed Mid-Scotland ship canal. maps Engineering 115:12 Ja 5 '23

Scottish canals and waterways, comprising state canals, railway-owned canals and present-day ship canal schemes, by Edwin A. Pratt. Review. Engineering 114:624-5 N 17 '22

United States

Canal joins Mississippi and Pontchartrain. T. E. Dancy. il Pop Mech 39:532-4 Ap '23
Inner harbor navigation canal. 52p Board of commissioners of the port of New Orleans '22

New Orleans navigation canal nears completion. map Mech Eng 44:271 Ap '22

See also Chicago drainage canal; Morris canal, New Jersey; New York state barge canal; Sacramento ship canal; Welland ship canal

Canals, Inter-oceanic. See Nicaraguan canal (proposed); Panama canal

Canaries**Advertising**

Business built on advertising and the love of birds. R. R. Foster. Ptr Ink M 4:72+ Ap '22

Cancellation of orders

See Returned goods

Cancer

Cancer from handling anthracene cake in the dye industry. Chem & Met Eng 26:497 Mr 15 '22

Carcinoma cutis in an anthracene factory; abstracts. W. J. O'Donovan. J Ind Hygiene 3:sup187-8 D '21; Monthly Labor R 14:178-9 Ja '22

Malignant disease with reference to traumas of industry. J. Bloodgood. U S Bur Labor Statistics Bul 333:151-6; Discussion. 156-7 '23

Paraffin cancer and its experimental production. A. Leitch. J Ind Hygiene 4:sup203-5 Ap '23

Production of cancer by irritants. Int Labour R 7:774-9 My '23

Candlefish. See Eulachan

Candles**Manufacture**

Xmas candles and how they are made with machines by the millions. il Pop Mech 40: 914-15 D '23

Candy

Our candy recipes. M. B. Van Arsdale, D. Monroe and M. I. Barber. 202p Macmillan '22

Candy factories

Candy factory for Bunte brothers, Franklin boulevard, Chicago; views and plans. Arch Forum 39:pls 45-6 S '23

Employees

Women in the candy industry in Chicago and St Louis. U S Women's Bur Bul 25:1-72 '23; Abstract. Monthly Labor R 16:781-3 Ap '23

Candy packing

Time and motion study. E. Farmer. il Eng & Ind Management 7:364-5 Ap 20 '22

Candy trade

Charms company adds charm pops to its line. Ptr Ink 119:61-2 Je 8 '22
Men and methods; H. W. Faulkner. P. W. Hanna. System 41:286-7+ Mr '22

Advertising

Advertising takes a product out of the free deal class; Romance chocolates. H. Burwen. Ptr Ink 123:57-8+ Je 28 '23

Candy manufacturer samples his product among brides. Ptr Ink 119:28 Je 8 '22
Creating a line of purpose packages. J. True. Ptr Ink 125:121-2+ O 4 '23

Keeping buyers interested by keeping them surprised. P. S. Wells. Ptr Ink M 5:39-40 N '22

What becomes of my product? D. Hubbard. Ptr Ink 123:57-8+ Ap 26 '23

See also Gum drops—Advertising

Candice

Oregon tertiary candice, with descriptions of new forms. M. R. Thorpe. diags Am J Sci 5th ser 3:162-75; Bibliography. 175-6 Mr '22

Canned food

Advertising Moses wanted by tomato canners. J. H. Collins. Ptr Ink 123:17-20 Ap 5 '23

Chicago hotel prepares to market its food products nationally. Ptr Ink 120:10+ Ag 31 '22

Future contracts in the canned goods trade. C. S. Duncan. Annalist 20:152 Ag 14 '22

Canned food—Continued

Report of the Federal trade commission on canned foods, 1918. 86p U.S. Fed. tr. comm., Washington '22

See also Bottled food; Codfish cakes—Advertising

Cannel coal

Is coal from peat or from drifted matter? Coal Age 22:628 O 19 '22

Canneries**Employees**

Employment in canneries. Monthly Labor R 16:1052-4 My '23

Cannes conference. See Allied powers. Supreme council

Canning and preserving

Laboratory manual of fruit and vegetable products. W. V. Cruess and A. W. Christie. 109p McGraw-Hill '22

Lye hominy: its discoloration and a new process for its manufacture. E. F. Kohman. J Ind & Eng Chem 14:415-18 My '22

Mechanical handling methods in use in an Australian canning factory. il Eng & Ind Management 6:508-12 N 3 '21

Oxygen and perforations in canned fruits. E. F. Kohman. Ind & Eng Chem 15:527-8 My '23

Packing perishable foods in inert gas. il Sci Am 126:255 Ap '22

Progress in the canning industry in the last ten years. W. D. Bigelow. J Ind & Eng Chem 14:793-4 S '22

Prospects of canning industry are brighter than last year. E. E. Chase. J Elec 48:101 F 1 '22

Some research problems of the canning industry. W. D. Bigelow. J Ind & Eng Chem 14:375-9 My '22

Stretching the harvest through the winter; America's canning industry. il Sci Am 129:180-1 S '23

Use of inert gas in preservation of canned food. T. M. Rector. il Chem Age 30:74-5 F '22

See also Canned food; Food preservatives; Jelly

Directories

Canning Age food packers' directories. Canning Age, New York '22

Cannizzaro's reaction

Benzil rearrangement; Cannizzaro's reaction. A. Lachman. Am Chem Soc J 45:2356-63 O '23

Cannon, James W., 1852-1921

Sketch. por Textile World 60:3601 D 24 '21

Canoes**Advertising**

Where the market can be expanded through broadening the advertising appeal. J. A. Murphy. Ptr Ink 123:81-2+ Ap 5 '23

Cans

See Tin cans

Cantharidin

Cantharidin; characterisation of—; new method of extraction; abstract. G. Marchiolo. Soc Chem Ind J 42:420a My 18 '23

Constitution of cantharidin; abstract. S. Coffey. Chem Soc J 124 pt 1:695-7 JI '23

Cantilever arms

Cantilever arms on aqueduct trestle allow unobstructed stream flow. R. A. Hill. diags plan Eng N 88:903-4 Je 1 '22

Cantilever bridges. See Bridges, Cantilever**Canton, China**

Modernizing a walled Chinese city. F. Dickie. il Pop Mech 37:509-14 Ap '22

Streets

China overthrowing antiquity. R. Alden. il Concrete 23:15 JI '23

Canvas

Canvas, bunting and felt for shipbuilding purposes. H. H. Thayer. plan Marine Eng 27:131-4 F '22

Effects of treating materials and outdoor exposure upon water resistance and tensile strength of cotton duck. T. D. Jarrell and H. P. Holman. Ind & Eng Chem 15:607-10 Je '23; Same. Am Dyestuff Rep 12:524-8+ JI 16 '23

Proposed branding law for duck. Textile World 60:3713+ D 31 '21

Waterproofing and mildewproofing of cotton duck. H. P. Holman, B. S. Levine and T. D. Jarrell. il U S Agric Farmers' Bul 1157:1-13 '20

Specifications

New duck specifications. Textile World 62:726+ Ag 5 '22

Proposed tentative specifications for tolerances for hose ducks and felt ducks. Textile World 64:133 JI 7 '23

Specification for numbered cotton duck for government and commercial use. U S Bur Stand Circ 136:1-4 '22

Standards

Square yard basis for duck. Textile World 61:3737 Je 17 '22

Canvassing

Advertising is revolutionizing house-to-house selling. J. A. Murphy. il Ptr Ink M 5:25-6+ S '22

Building a food products market through demonstrators. Ptr Ink 123:8+ Ap 5 '23

Canvassing and its place in selling household appliances. R. R. Sewell. Ptr Ink 120:25-8 Ag 10 '22

Enter—the specialty salesman. H. Botsford. Nation's Business 11:34-6 S '23

How dealers are making a success of house-to-house selling. M. L. Pierce. Ptr Ink 125:89-90+ O 4 '23

How Welsbach helps gas companies maintain sales. M. MacDonald. Ptr Ink 124:25-8 Ag 9 '23

Is fifty cents too much to pay for a new customer? Ptr Ink 117:12 D 15 '21

Overcoming prejudice against the house-to-house canvasser. Ptr Ink 126:130+ F 8 '23

Selling 60,000 pairs of hose a day direct to the wearer. G. A. Nichols. Ptr Ink 120:3-4+ Ag 24 '22

What is the future of house-to-house selling? Ptr Ink 124:33-4 Ag 2 '23

See also Peddlers and peddling

Caoutchouc. See Rubber**Cap De La Madeleine, Quebec****Water supply**

Cap De La Madeleine water and sewer systems. R. Morrisette. il diag plan Can Eng 42:403-6 Ap 18 '22

Capacitance

Synchronous operation of alternators through capacitance; synchronizing effect of two parallel transmission lines. T. Nishi. diags Gen Elec R 25:146-50 Mr '22

Cape Cod

Cape Cod farm and village houses. E. S. Read. il Arch Forum 39:7-10 JI '23

Cape Town, South Africa**Sewerage**

Main drainage of the southern suburbs of the city of Cape Town. D. E. Lloyd-Davies. Engineering 115:216 F 16 '23

Water supply

Water supply of the city of Cape Town. D. E. Lloyd-Davies. Engineering 115:376-7 Mr 23 '23

Capillarity

Adsorption and orientation of the molecules of dibasic organic acids and their ethereal salts in liquid-vapor interfaces. H. H. King and R. W. Wampler. Am Chem Soc J 44:1894-1902 S '22

Capillary relationships of oil and water. C. W. Washburne. Econ Geol 18:598-600 S '23

Capillary theory of adsorption. W. A. Patrick. Chem & Met Eng 29:9-10 JI 2 '23

Capillarity—Continued

- Cheminement capillaire**, diffusion et déplacement; applications au séchage des plaques photographiques et des précipités. L. Lumière. diags Génie Civil 50:454-5 My 20 '22
- Flow of liquids into capillary tubes. C. H. Bosanquet. Philos Mag 6th ser 45:525-31 Mr '23
- Investigation of the angle of contact between paraffin wax and water. R. Ablett. diags Philos Mag 6th ser 46:244-56 Ag '23
- Kapillarchemi. H. Freundlich. 2d ed., rev. 1181p Akademie verlagsgesellschaft m. b. h., Leipzig '22
- On the flow of liquids under capillary pressure. E. K. Rideal. diags Philos Mag 6th ser 44:1152-9 D '22
- Shape of the capillary curve formed between a flat glass plate and a uniform circular cylinder and the accurate determination of the surface tension of liquids. J. E. P. Wagstaff. diags Philos Mag 6th ser 45:88-94 Ja '23
- Study of capillary relationships of oil and water. C. W. Cook. diags Econ Geol 18:167-72 Mr '23
- Wetting of glasses by mercury. E. E. Schumacher. diags Am Chem Soc J 45:2255-61 O '23

See also Surface tension

Capital

- Capital's share in industry. J. E. Barker. Comm & Fin Chr 113:2677-9 D 24 '21
- Current new capital flotations of corporate, municipal and foreign government financing; summary. Comm & Fin Chr 113:2236-9 N 26 '21 [continued monthly]
- Invested capital accounting. J. W. Beers. 307p Accountants' pub. co., Washington, D.C. '22
- New capital flotations during December and the twelve months. Comm & Fin Chr 116:343-8 Ja 27 '23
- New capital flotations for December and the twelve months. Comm & Fin Chr 114:348-52 Ja 28 '22
- Plant accounts in invested capital. L. Perkins. J Account 33:331-8 My '22
- Varying interests of different forms of capital. R. Estcourt. Annalist 18:603-4 D 26 '21
- Who owns capital? A. C. Laut. Nation's Business 11:52-3 My '23

See also Banks and banking; Corporations—Finance; Economics; Industry; Interest; Investments; Labor and laboring classes; Profit; Trusts; Industrial; Wealth

Taxation

- Capital levy explained. H. Dalton. 96p Knopf '23
- Defeat of proposed capital levy in Switzerland. Comm & Fin Chr 115:2522-3 D 9 '22
- Hearing on protests against assessments under law taxing bank shares and moneyed capital in New York. Comm & Fin Chr 117:827-8 Ag 25 '23
- Taxation of capital gains. G. O. May. J Account 34:321-33 N '22
- Text of law taxing bank shares and moneyed capital in New York. Comm & Fin Chr 117:731-4 Ag 18 '23

Capitalism

- Capitalism versus communism. F. C. Chapell. Annalist 21:701 My 21 '23
- Engineers as capitalists. Engineer 135:317-18 Mr 23 '23
- Ethics of capitalism. J. G. Rosebush. 196p Association press, New York '23

Capitalists and financiers

- Financial giants of America. G. F. Redmond. 2v. v. 1, 388p; v. 2, 349p Stratford co., Boston '22

Capitol buildings

- Capitol park. Harrisburg, Pa. M. Price. il plan Arch Rec 53:287-306 Ap '23
- Nebraska state capitol. B. G. Goodhue. il Am Arch 121:375-81 My 10 '22
- Tennessee memorial competition; capitol annex. Am Arch 121:255-64 Mr 29 '22
- Work on new Nebraska state capitol begun. il Pop Mech 38:6-7 Jl '22

Capsaicin

- Constitution of capsaicin, the pungent principle of capsicum. E. K. Nelson and L. E. Dawson. Am Chem Soc J 45:2179-81 S '23

Capsularin

- Capsularin, a glucoside from jute leaf. H. Saha and K. N. Choudhury. Chem Soc J 121:1044-6 Je '22

Car. See Cars**Car axles**

- Cochran roller bearing axle. diags Ry R 73:180-1 Ag 4 '23
- Convenient method for removing axles. diags Elec Ry J 61:974 Je 9 '23
- Machining and mounting wheels and axles. C. Petran. il diags Ry Mech Eng 96:148-50 Mr '22
- Manufacturing car and locomotive axles. N. S. Frohman. il Am Mach 57:473-7 S 28 '22
- Roller-bearing axles on railroad cars. il Pop Mech 37:42 Ja '22
- Wheel, gear and axle practice. il Elec Ry J 62:245-50, 729-36, 849-54 Ag 18, O 27, N 17 '23

Repair

- Dolly for cars with broken axles. il Elec Ry J 62:262 Ag 18 '23

Car cleaning

- Car cleaning on the Illinois traction system. J. B. Hughey. Elec Ry J 60:699-700 O 28 '22
- Clean cars. L. S. Storrs and others. Aera 10:855-77 My '22
- Efficient method for washing cars. il Elec Ry J 60:705 O 28 '22
- Shop methods of cleaning detail parts of car equipment. J. S. Dean. Elec J 20:346 S '23

Car couplings

- Automatic and combined car and hose coupler. il Pop Mech 36:815 D '21
- Automatic couplings for railway wagons. Engineer 136:229 Ag 31 '23
- Automatic train coupler. il Engineer 133:421 Ap 14 '22
- Development of the Robinson connector. il diags Ry Age 71:1259-63 D 24 '21; Same. Ry Mech Eng 96:77-81 F '22
- High-capacity railway screw couplings. il diags Engineering 114:490-1 O 20 '22
- How the vertical type coupler was introduced. H. C. Buhoup. Ry R 70:sup34-5 Je 17 '22
- Improving the standard type D coupler. il Ry R 72:847-8 My 19 '23; Same. Ry Mech Eng 97:696-7 O '23
- India considers the American coupler. Foundry 51:857 N 1 '23
- Majex central buffer coupler. diags Engineering 116:391-2 S 28 '23
- Manufacture of type D couplers. F. H. Kayler. il Ry R 70:28-9 Ja 7 '22
- Mechanical couplers for the Indian broad gauge railways. il Engineer 135:240, 451, 614 Mr 2, Ap 27, Je 8 '23
- Mine car hitchings. Coal Age 21:292, 845-6 F 16, My 18 '22
- New G.W.R. coaches fitted with automatic and screw couplings. il diags plan Engineer 135:658-9 Je 22 '23
- Nickel-chrome steel railway couplings. diags Engineer 133:562 My 19 '22
- Progress report of the A.R.A. committee on the standard D coupler. Ry R 70:979 Je 24 '22
- Slipping railroad coaches to save time. il Sci Am 129:247 O '23
- Two types of automatic railway coupling. il diags plan Engineer 134:254-5 S 8 '22
- Universal car and hose coupler. il diags Ry Age 72:440-1 F 18 '22; Same. Ry Mech Eng 95:699-700 N '21

Testing

- Insuring that couplers couple. il Elec Ry J 60:707 O 28 '22

Car doors

- American car door operating device. il Ry Age 74:1479 Je 16 '23; Same. Ry Mech Eng 97:599 Ag '23
- Automatic box car door lock. diags Ry R 71:256-7 Ag 19 '22
- Door lock for side-entrance cars. il diags plans Elec Ry J 62:447-9 S 22 '23

Car doors—Continued

- Facilities for expediting passenger movement. il diags Elec Ry J 62:482-90 S 29 '23
 New car door device used on the Santa Fe. il Ry R 71:257 Ag 19 '22
 New type of anti-burglar car door fastener. diags Ry Age 72:1014 Ap 29 '22; Same. Ry Mech Eng 96:420-1 JI '22
 Operating results of automatic door safety cars. C. Gordon. il Elec Ry J 62:283-7 Ag 25 '23; Discussion. H. C. Eddy. 62:453 S 22 '23

See also Grain doors

Car doors, Steel

- Sheet steel door for freight cars. il Iron Age 111:417 F 8 '23

Car dumping. See Dumping appliances**Car ferries. See Train ferries****Car floors**

- Rubberstone car flooring stands tests. Ry Mech Eng 96:355-6 Je '22

Car heating

- Advances in car lighting, heating and ventilating. il diags Elec Ry J 62:502-10 S 29 '23
 Arrangement for automatically lowering the temperature in idle railroad cars. il diags Heat & Ven 19:43-5 N '22
 Double automatic control vapor system for passenger train cars. il Ry R 70:948-50 Je 17 '22
 Electric boiler for heating trains. Ry Age 74:196 Ja 13 '23
 15,000-volt electric heating wagon. il diags Engineer 135:208-9 F '23 '23
 Flexible metallic conduit to replace steam hose. il diags Ry R 71:193-4 Ag 5 '22; Ry Mech Eng 96:662-3 N '22
 Gold packless car heating specialties. diags Ry Age 74:1487 Je 16 '23
 Heating and ventilating Chicago street cars. C. Gordon. il diags. Elec Ry J 60:435-9, 505-9 S 23-30 '22
 Hot air and electric heating compared. Elec Ry J 61:1107 Je 30 '23
 Idea for off-the-car peak power load. J. A. Horton. Elec Ry J 62:438-9 S 22 '23
 Metal steam heat connection for passenger cars. il diags Ry Age 75:259 Ag 11 '23
 Progress of railway car heating. E. E. Gold. il diags Heat & Ven 20:57-60 JI '23
 Steam consumption for car heating. Heat & Ven 18:43-4 D '21
 Steam requirements of buildings and cars. T. W. Reynolds. Heat & Ven 20:56-7 S '23
 Steam waste in heating railroad coaches. T. W. Reynolds. diags Heat & Ven 19:36-9 My; 41-5 E '22

Car houses

- Dead mileage saving to pay for new car storage facilities. il diags plans Elec Ry J 58:852-5 N 12 '21
 Inclosed storage favored from standpoint of service reliability. il Elec Ry J 61:993-6 Je 16 '23
 Latest practices followed in new St Louis carhouse and storage yard. il plan Elec Ry J 61:643-4 Ap 14 '23
 New maintenance facilities for New York & Harlem traction lines. il diags map plans Elec Ry J 59:441-5 Mr 18 '22
 \$1,000,000 fire damage in Chicago. il Elec Ry J 59:209 F 4 '22
 Planning a carhouse and storage yard. H. S. Day. il diags Elec Ry J 62:293-4 Ag 25 '23
 Toronto's new car storage facilities. il diags plans Elec Ry J 61:791-3 My 12 '23
 Utilizing an unusual carhouse site in East Providence. diags plan Elec Ry J 62:216-17 Ag 11 '23

Car inspection

- Around the freight car yards and shops. Ry R 70:29-30 Ja 7 '22
 Car inspector. W. Beckerle. Ry R 73:650-1 N 3 '23
 Education and duties of car inspectors. H. H. Harvey. Ry Mech Eng 96:463-4 Ag '22; Excerpt. Ry R 70:691 My 13 '22
 Inspection and lubrication of freight cars. A. J. Mitchener. il Ry Mech Eng 97:281-2 My '23

- Inspection of freight cars. E. Erickson. Ry Mech Eng 97:355-6 Je '23
 Interchange and industrial inspection of freight train cars. W. J. Owen. Ry Mech Eng 97:283-4 My '23

Some good freight car inspection practices. D. P. Crillman. Ry Mech Eng 97:635-6 S '23

See also Chief interchange car inspectors' and car foremen's association of America

Car interchange. See Freight cars—Interchange**Car lighting**

- Advances in car lighting, heating and ventilating. il diags Elec Ry J 62:502-10 S 29 '23
 Direct driving axle generators for passenger cars; report of A. R. A. committee. il diags Ry R 70:972-4 Je 24 '22; Abstract. Engineering 114:227 Ag 25 '22
 L'éclairage des trains. H. Guérin. diag Génie Civil 81:13-15, 36-40, 59-63 JI 1-15 '22
 Electric signal and tail lights for cars. il diags Elec Ry J 62:333-4 S 1 '23
 Electrically operated marker and classification lamps. diag Elec Ry J 60:73 JI 15 '22
 Future development of car lighting. diag Elec Ry J 61:1076-7 Je 30 '23
 Light new R.I. cars by head-end or axle generator. Ry R 73:283-4 Ag 25 '23
 Proper illumination attracts passengers. J. A. Summers. Elec Ry J 59:45-6 Ja 7 '22
 Report of Railway electrical engineers' committee on illumination. Ry R 71:16 JI 1 '22
 Standardizing train lighting lamps; report of A.R.A. committee. Ry R 70:976-7 Je 24 '22
 Tilting mechanism for headlights prevents glare. il Elec Ry J 60:816 N 18 '22

Car painting

- Air brush is supplanting the hair brush. D. O'Brien. Elec Ry J 62:149-50 JI 28 '23
 Bright colors attract business. Elec Ry J 62:295 Ag 25 '23
 Classification of painting repairs. Ry Mech Eng 97:692-3 O '23
 Comparative cost of spray and brush painting on tank cars. il Ry Mech Eng 97:279 My '23
 Home-made portable compressor outfit for paint spraying. il Elec Ry J 61:124 Ja 20 '23
 Improved paint shop facilities in Rochester. il Elec Ry J 59:821-3 My 20 '22
 Incorporating merchandising features in the design. il diags Elec Ry J 62:523-8 S 29 '23
 Interesting car shop practices employed at Sayre. il Ry Mech Eng 96:270-1 My '22
 Movable platform for spray painting. il Elec Ry J 62:106 JI 21 '23
 \$125,000 paint shop for Detroit. diags plan Elec Ry J 61:923-4 Je 2 '23
 Paint spraying equipment made from discarded fire extinguisher. il diag Elec Ry J 59:268 F 18 '22
 Painting methods for electric railway rolling stock. Elec Ry J 61:323-5 F 24 '23
 Painting methods of Texas electric railway. W. W. Bunnell. Elec Ry J 60:815-16 N 18 '22
 Portable paint spraying apparatus. il Elec Ry J 60:234 Ag 12 '22
 Revamping preserves body paint for six years. il Elec Ry J 61:1001 Je 16 '23
 Ripolin railway enamel system. Ry Age 74:813-14 Mr 24 '23
 Spray painting of electric railway cars. L. L. Wolf. Elec Ry J 61:732-3 Ap 28 '23
 Time of painting a car cut in half. J. A. Lucas. il Elec Ry J 62:3-6 JI 7 '23
 Uniform painting program for the entire year. Ry R 73:575-6 O 20 '23; Ry Age 75:713-14 O 20 '23
 Uniform painting program for the entire year. T. R. Wyles. Ry R 73:577-9 O 20 '23
 See also American railway association—Equipment painting section

Car pushers

- Adjustable fulcrum feature of new car pusher. il Pop Mech 38:890 D '22

Car roofs

- New Sharon steel car roof is self-supporting. il diags plan Ry R 70:879-81 Je 10 '22
 Reclaiming sheets of outside metal car roofs. il plan Ry Age 72:275-6 Ja 28 '22; Same. Ry Mech Eng 96:25-6 Ja '22
 Self-supporting corrugated steel freight car roof. il diags Ry Age 72:1129-30 My 13 '22; Same. Ry Mech Eng 96:424 JI '22

Car seats

- Mush seats for safety cars. *il Elec Ry J* 61: 804 My 12 '23
 Rex coach seat. *il Ry Age* 74:1488-9 Je 16 '23; Same. *Ry Mech Eng* 97:603 Ag '23

Car shops. See Electric railroads—Shops; Railroads—Shops**Car springs**

- Reclaiming coil springs at McKees Rocks. *il Ry Mech Eng* 96:656-7 N '22
 Recording riding qualities of cars. F. Crocker. *il chart Ry R* 71:437-9 S 30 '22
 Springs, draft gears and other problems in car design. L. E. Endsley. *il Ry R* 70: 591-4 Ap 29 '22; Discussion. 70:650-1, 711; 71:52-3 My 6, 20, J1 8 '22

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- Articulated trains; a method of reducing the weight and improving the riding of railroad trains. *il diags Sci Am* 126:230-1 Ap '22
 Best metal for pedestal wearing faces. *il diag Ry Mech Eng* 96:582-3 O '22
 Boyden six-wheel co-ordinating truck. *il diags Ry Mech Eng* 97:285-7 My '23; Same. *Ry Age* 74:993-5 Ap 21 '23
 Differential drive radial truck in Germany. *diag plan Elec Ry J* 59:678 Ap 22 '22
 Economy of new car equipment. R. S. Pilcher. *Elec R (Lond)* 93:370-1; Discussion. 371-2 S 7 '23
 Frame squaring jig for passenger car trucks. *diags Ry R* 73:625 O 27 '23; Same. *Ry Mech Eng* 96:514 S '22
 Latest development in 6-wheel passenger trucks. *il diags plan Ry R* 70:831-3 Je 10 '22
 Lifting trucks by the wheels prevents hot bearings. *il Elec Ry J* 61:1009 Je 16 '23
 Mechanical and electrical equipment keeps pace. *il diags Elec Ry J* 62:516-19, 536 S 29 '23
 New type truck. *il Elec Ry J* 61:488 Mr 17 '23
 One-piece cast steel freight car underframe. *il diags plan Ry R* 73:447-9 S 29 '23
 One piece wrought steel truck side frame. *il diags Ry R* 70:918-20 Je 17 '22
 Practical kinks in truck and motor maintenance. H. Cordell. *Elec Ry J* 60:785-6 N 11 '22
 Spring assemblages for freight car trucks. G. S. Chiles. *diags plans Ry R* 70:844-50 Je 10 '22
 Stafford roller bearings for pedestal trucks. *il diags Ry Age* 71:872-3 Mr 31 '23; Same. *Ry Mech Eng* 97:185-6 Mr '23
 Transverse forces in truck side frames on curves; an analysis for determining the stresses set up by wheel slippage, coupler pull and elevation of rail. G. A. Anderson. *diags Ry Age* 74:1423-5 Je 16 '23
 Underframe and truck design for C. M. & St P. Ry. cars. *il diags plans Ry R* 72:356-65 Mr 3 '23

Repair

- Removing an elliptic spring from a truck. *il Elec Ry J* 62:117 S 15 '23
 Truck overhauling methods. *il Elec Ry J* 61: 833-40 My 19 '23

Testing

- Tests on different shaped arch bar side frames. L. E. Endsley. *il diags Ry Age* 75:377-8 S 1 '23; Same. *Ry R* 73:303-6 S 1 '23; Same. *Ry Mech Eng* 97:632-4 S '23

Car trusts. See Railroads—Equipment trusts**Car ventilation**

- Advances in car lighting, heating and ventilating. *il diags Elec Ry J* 62:502-10 S 29 '23
 Harrison ventilator sash. *il Ry Age* 74:1483-4 Je 16 '23; Same. *Ry Mech Eng* 97:662-3 S '23
 Heating and ventilating Chicago street cars. C. Gordon. *il diags Elec Ry J* 60:435-9, 505-9 S 23-30 '22
 Relation of car ventilation to passenger comfort. W. M. White. *Elec Ry J* 60:89-91 J1 15 '22
 Ventilating fans for railway passenger cars. E. W. Denman. *diag Elec J* 20:111-12 Mr '23

See also Refrigerator cars—Ventilation

Car wheels

- Averaging 150,000 miles per pair of wheels without turning. A. B. Creelman. *Elec Ry J* 59:371 Je 17 '22
 Call for better chilled cast iron wheels. P. H. Griffin. *Iron Age* 110:1419-20 N 30 '22
 Car wheel manufacture revolutionized. G. L. Lacher. *il diags plan Iron Age* 109:847-52, 939-43 Mr 30—Ap 6 '22
 Carbon main factor in car wheels. Y. A. Dyer. *Foundry* 49:947-8 D 1 '21
 Centrifugal car-wheels with manganese-steel rims. *il Sci Am* 128:39 Ja '23
 Device for determining wear of rails and car wheels. *diags Eng & Contr* 58:272 S 20 '22
 Experiences exchanged by members of C.E. R.A. engineering council. *Elec Ry J* 59: 603 Ap 8 '22
 How flanges are welded on Winona interurban. C. Sigler. *Elec Ry J* 59:196-7 F 4 '22
 Insuring proper wheel mounting. *il Elec Ry J* 60:225-6 Ag 12 '22
 Investigation of the properties of chilled iron car wheels. J. M. Snodgrass and F. H. Guldner. *il diags U Eng Exp Sta Bul* 129:1-103; 134:1-72 '22; 135:1-100 '23; Abstracts. *Ry Mech Eng* 96:578-9; 97:166-8 O '22, Mr '23; *Ry Age* 71:1017-51 Ap 28 '23; Summary (pt. 1). *Engineer* 133:606 Je 2 '22
 Machining and mounting wheels and axles. C. Petran. *il diag Ry Mech Eng* 96:148-50 Mr '22
 Manufacturing rolled steel wheels. G. A. Richardson. *il diag Elec Ry J* 59:599-62 Je 17 '22
 Measuring locomotive and car wheel loads. *il Ry Mech Eng* 95:722 N '21
 Measuring the load on locomotive wheels. *il Sci Am* 127:310 N '22
 Metal for cast iron car wheels. Y. A. Dyer. *Iron Age* 109:1504-6 Je 1 '22
 Methods and equipment for removing wheels. C. W. Squier. *il diags Elec Ry J* 61:447-52 Mr 17 '23
 Railway and tramway wheel design. *Mech Eng* 44:542-4 Ag '22
 Reduce labor on car wheels. *Foundry* 51:755 S 15 '23
 Relation of railway wheels and rails. *Eng N* 91:263 Ag 16 '23
 Report of the committee, mechanical division of A.R.A., on car wheels. *Elec Ry J* 59: 1003-4 Je 24 '22; Excerpt. *Ry R* 70:978-9 Je 24 '22
 Report of the special committee of A.E.R.E.A. on wheel and rail contours. *diags Elec Ry J* 62:647-8 O 13 '23
 Some failures of cast-iron wheels. H. J. Force. *Am Soc T M Pro* 21:891-6 '21; Same. *Iron Age* 107:1760-1 Je 30 '21; Same. *Foundry* 49:602-3 Ag 1 '21; Same. *Ry Mech Eng* 95:505-6 Ag '21; Same cond. *Ry Age* 70: 1439-40 Je 24 '21; Discussion. *Am Soc T M Pro* 21:897-911 '21
 Steel car wheels made in revolving mold. *il Pop Mech* 37:26 Ja '22
 Thermal stresses in car wheels. *Chem & Met Eng* 26:269 F 8 '22
 Three years experience in welding worn flanges. E. B. Gunn. *Elec Ry J* 59:196 F 4 '22
 Wheel, gear and axle practice. *il Elec Ry J* 62:245-50, 729-36, 849-51 Ag 18, O 27, N 17 '23; Discussion. R. D. Voshall. 62:863 N 17 '23

See also Car axles

Repair

- Repairing electric car wheels and bearings. C. H. French. *diag Am Mach* 58:671 My 3 '23
 Salvage of worn steel car wheels. W. J. Merten. *il Elec Ry J* 61:679-82 Ap 21 '23

Specifications

- British standard specification for cast steel wheel centres for electric tramway cars. (Rep. no. 150) 17p British eng. standards assn., London '22
 British standard specification for wrought iron wheel centres for electric tramway cars. (Rep. no. 149) 13p British eng. standards assn., London '22

Car wheels—Specifications—Continued

Discussion on specifications for wheels. *Am Soc T M Pro* 22 pt 1:137-9 '22

Report of the Mechanical division committee on wheels; with discussion. *diags Ry Age* 74:1627-38 *Je* 23 '23; Same. *Ry Mech Eng* 97:453-64 *Ja* 1 '23; Same cond. *Ry R* 72:1145-50 *Je* 30 '23

Tentative specifications for cast iron wheels. *Foundry* 50:642+ *Ag* 1 '22; Same abr. *Am Soc T M Pro* 21:481-5 '21

Testing

Tests to determine wear of steel wheels. *Elec Ry J* 62:250-1 *Ag* 18 '23

Thermal stresses in chilled iron car wheels. G. K. Burgess and R. W. Woodward. *diags U S Bur Stand Tech Pa* 209:193-226 '22; Same cond. *Ry Mech Eng* 96:460-3 *Ag* '22

Thermal stresses in steel car wheels. G. K. Burgess and G. W. Quick. *diags U S Bur Stand Tech Pa* 235:367-403 '23; Same cond. *Ry Mech Eng* 97:221-4 *Ap* '23; Same cond. *Ry Age* 74:951-3 *Ap* 14 '23; Abstract. *Eng & Contr (Ry)* 59:1134 *My* 16 '23

Car windows

Friction device and catch for windows. *il Elec Ry J* 59:113 *Ja* 21 '22

Caramel

Estimation of caramel in sugar products—criticism of the Ehrlich method. G. P. Meade. *Ind & Eng Chem* 15:275 *Mr* '23

Formation of formic acid by caramelization of cane sugar. S. G. Simpson. *Ind & Eng Chem* 15:1054-5 *O* '23

Carbamates

Urethanes from chlorine-substituted secondary and tertiary alcohols. L. Yoder. *Am Chem Soc J* 45:475-9 *F* '23

Carbamic esters

Halogenation: some derivatives of carbamic esters; chlorine as a simultaneous oxidizing and condensing agent. R. L. Datta and B. C. Chatterjee. *Am Chem Soc J* 44:1538-43 *Ja* '22

Carbamide. See Urea

Carbazole

Diazo-reaction in the carbazole series; carbazole-3-diazoimine and -3-diazonium salts. G. T. Morgan and H. N. Read. *Chem Soc J* 121:2709-17 *D* '22

Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; der carbazol-komplex. J. v. Braun and H. Ritter. *Deutsche Chem Gesell Ber* 55:3792-3803 *D* '23; Abstract. *Chem Soc J* 124 pt 1:141-3 *F* '23

Preparation of *N*-derivatives in the carbazole series. T. S. Stevens and S. H. Tucker. *Chem Soc J* 123:2140-7 *S* '23

Vapor pressures of carbazol, observed and calculated. C. E. Senseman and O. A. Nelson. *Ind & Eng Chem* 15:382-3 *Ap* '23

See also Tetrahydrocarbazole

Carbethoxy oximes

Isomerism of the oximes; carbethoxy-derivatives. O. L. Brady and G. P. McHugh. *Chem Soc J* 123:1190-8 *My* '23

Carbide lamps. See Acetylene lamps**Carbinols**

Boundary lubrication and chemical constitution, the optically active carbinols of the formula $C_6H_5CH(OH)C_nH_{2n+1}$. I. Doubleday. *Chem Soc J* 121:2875-9 *D* '22

Triphenylmethyl: tautomerism of ortho-hydroxy-triphenyl carbinol; ortho-hydroxy and alkyloxy-triphenylmethyl. M. Gomberg and D. Nishida. *Am Chem Soc J* 45:190-207 *Ja* '23

Über das tris-[phenyl-äthynyl]-carbinol und seine analogen. K. Hess and W. Weltzien. *Deutsche Chem Gesell Ber* 54:2511-21 *O* '21; Abstract. *Chem Soc J* 122 pt 1:35-6 *Ja* '22

Über diaryl-styryl-carbinole und ihre unwandlungsprodukte; über mehrfach aryl-substituierte vinyl-carbinole und ihre derivate. K. Ziegler and C. Ochs. *Deutsche Chem Gesell Ber* 55:2257-77 *S* '22; Abstract. *Chem Soc J* 122 pt 1:1047-9 *N* '22

Umlagerung tertiärer äthynyl-carbinole in ungesättigte ketone. K. H. Meyer and K. Schuster. *Deutsche Chem Gesell Ber* 55:819-23 *Ap* '22

Zur kenntnis der halochromie-erscheinungen bei carbinolen. S. Skraup and L. Freundlich. *Deutsche Chem Gesell Ber* 55:1073-80 *Ap* '22; Abstract. *Chem Soc J* 122 pt 1:539-40 *Je* '22

Carbococcol

Low-temperature carbonization of coal. H. A. Curtis and others. *diags Chem & Met Eng* 28:11-17, 60-2, 118-23, 171-3 *Ja* 3-24 '23

Carbocyanines

Comparison of three isomeric carbocyanines. W. T. K. Braunholtz. *Chem Soc J* 121:169-73 *Ja* '22

Some derivatives of methylenediquinaldine and their relationship to the carbocyanines. F. M. Hamer. *Chem Soc J* 123:246-59 *F* '23

Carbodiimides

Über die anlagerung von stickstoffwasserstoffsäure an carbodiimid-abkömmlinge. R. Stollé. *Deutsche Chem Gesell Ber* 55:1289-97 *My* '22

Carbohydrates

Allyl ethers of various carbohydrates. C. G. Tomecko and R. Adams. *Am Chem Soc J* 45:2698-2701 *N* '23

Benzyl ethers of carbohydrates. M. Gomberg and C. C. Buchler. *Am Chem Soc J* 43:1904-11 *Ag* '21

Effects of the method of desiccation on the carbohydrates of plant tissue. K. P. Link and W. E. Tottingham. *Am Chem Soc J* 45:439-47 *F* '23

Moisture absorptive power of different sugars and carbohydrates under varying conditions of atmospheric humidity. C. A. Browne. *J Ind & Eng Chem* 14:712-14 *Ag* '22

Progress toward the artificial synthesis of carbohydrates and proteins. R. W. Thatcher. *J Ind & Eng Chem* 14:1146-7 *D* '22

Some constitutional problems of carbohydrate chemistry. J. C. Irvine. *Chem Soc J* 123:898-921 *Ap* '23

Sorption of iodine by carbons prepared from carbohydrates. J. B. Firth. *Chem Soc J* 123:323-7 *F* '23

Studies on acetal; a new test for carbohydrates. O. Baudisch and H. J. Deuel. *Am Chem Soc J* 44:1585-7 *Ja* '22

Studies on cellulose chemistry: the action of dry hydrogen bromide on carbohydrates and polysaccharides. J. Hibbert and H. S. Hill. *Am Chem Soc J* 45:176-82 *Ja* '23

Über die reduktion von lignin und von kohlehydraten mit jodwasserstoffsäure und phosphor. R. Willstätter and L. Kalb. *Deutsche Chem Gesell Ber* 55:2637-52 *S* '22; Abstract. *Chem Soc J* 122 pt 1:989-90 *N* '22

Zur kenntnis pflanzlicher inkrusten; methode zur reindarstellung pflanzlicher skelettsubstanzen. E. Schmidt and E. Graumann. *diags Deutsche Chem Gesell Ber* 54:1860-73 *S* '21; Abstract. *Chem Soc J* 120 pt 1:912-13 *D* '21

See also Cellulose; Dextrose; Galactose; Glucosides; Polysaccharides; Sugars

Carbolic acid

Arsonation of phenol. W. G. Christiansen and A. J. Norton. *Am Chem Soc J* 45:2188-92 *S* '23

Compound formation in phenol: cresol mixtures. J. Kendall and J. J. Beaver. *Am Chem Soc J* 43:1853-67 *Ag* '21

Conductance of solutions of salts in phenol at 50°. C. A. Kraus and H. F. Kurtz. *Am Chem Soc J* 44:2463-8 *N* '22

Determination of phenols in coal-tar oils and crude carbolic acid. J. B. Hill. *Ind & Eng Chem* 15:799-800 *Ag* '23

Freezing-point diagram of the system phenol-water. F. H. Rhodes and A. L. Markley. *J Phys Chem* 25:527-34 *O* '21

Making synthetic phenol. *Chem Age* 31:442 *O* '23

Mechanism of the bromination of phenol in aqueous solution. H. Baines. *Chem Soc J* 121:2810-13 *D* '22

Carbolic acid—Continued

- Osmotic pressures of aqueous solutions of phenol at 30°. A. Grollman and J. C. W. Frazer. *Am Chem Soc J* 45:1705-10 J1 '23
- Separation of *m*- and *p*-cresols from coal-tar crude carbolic acid. A. F. Campbell. *J Ind & Eng Chem* 14:732-7 Ag '22
- Synthetic phenol and picric acid. 97p
Gt. Brit. Ministry of munitions, London '21

Carbomethoxy-benzoyl chlorides

- Friedel and Crafts' reaction; the carbomethoxy-benzoyl chlorides with aromatic hydrocarbons and aluminum chloride. M. E. Smith. *Am Chem Soc J* 43:1920-4 Ag '21

Carbon

- Adsorption of color from sugar solutions by chars. M. T. Sanders. *Ind & Eng Chem* 15:784-5 Ag '23
- Carbon main factor in car wheels. Y. A. Dyer. *Foundry* 49:947-8 D 1 '21
- Catalysis in the interaction of carbon with steam and with carbon dioxide. H. S. Taylor and H. A. Neville. *diag Am Chem Soc J* 43:2055-71 S '21
- La chaleur reçue du soleil par la terre et le cycle terrestre du carbone. C. Roszak. *Génie Civil* 81:446-7 N 11 '22
- Characteristic X-rays from boron and carbon. A. L. Hughes. *diags Philos Mag* 6th ser 43:145-61 Ja '22
- Facts about one phase of chemistry. A. Gradewitz. *Brass W* 17:314 N '21; Same. *Sci Am* 125A:10 N '21
- Highly reactive form of carbon. *Chem Age* 31:475-6 O '23
- Reversibility of the reaction between nitrogen, carbon and sodium carbonate. C. K. Ingold and D. Wilson. *Chem Soc J* 121:2278-86 O '22
- Ring-chain tautomerism; the effect of the gem-dipropyl grouping on the carbon tetrahedral angle. L. Bains and J. F. Thorpe. *Chem Soc J* 123:1206-14 My '23
- Some factors governing the complete sorption of iodine by carbon from chloroform solution. J. B. Firth and F. S. Watson. *Chem Soc J* 123:1219-22 My '23
- Sorption activity of carbon. J. B. Firth. *Soc Chem Ind J* 42:242-4 Je 1 '23
- Sorption of iodine by carbons prepared from carbohydrates. J. B. Firth. *Chem Soc J* 123:323-7 F '23
- Technology of the carbon-electrode industry. C. L. Mantell. *Chem & Met Eng* 27:161-5, 353-9 J1 26, Ag 23 '22
- Über die angelegliche sechswertigkeit des kohlenstoffs in den carbonium- und farbstoff-salzen. A. Hantzsch. *Deutsche Chem Gesell Ber* 54:2569-72 N '21
- Über die diffusion des kohlenstoffs in metalle und die misch-kristalle des eisens. G. Tammann. *il Stahl & Eisen* 42:654-9 Ap 27 '22
- Über die koordinationszahl des kohlenstoffs. A. Hantzsch. *Deutsche Chem Gesell Ber* 54:2627-33 N '21

See also Bone black; Carbon black; Charcoal; Coal; Coke; Diamonds

Analysis

- Zur mikro-elementaranalyse des kohlenstoffs und wasserstoffs. F. Wrede. *diags Deutsche Chem Gesell Ber* 55:557-63 F '22

Removal from steel

See Steel—Decarburisation

Carbon, Activated

- Abatement of industrial stenches by means of activated carbon. A. B. Ray and N. K. Chaney. *il diag Chem & Met Eng* 28:1114-16 Je 25 '23
- Activated carbon. M. Rouleux. *Chem & Met Eng* 29:763-4 O 22 '23
- Activated carbon and some of its uses. *Chem Age (Lond)* 9:362-3 O 6 '23
- Activated carbon—its evaluation, manufacture and uses. F. Bonnet, jr. *Chem Age* 31:327-31 J1 '23; Abstract. *Chem & Met Eng* 29:8-9 J1 2 '23
- American production of activated carbon. *il Chem Age* 30:414-16 S '22
- Behaviour of activated sugar carbon in contact with hydrogen peroxide solution. J. B. Firth and F. S. Watson. *Chem Soc J* 123:1750-5 J1 '23

- Industrial adsorption of gas and vapor with activated carbon. A. B. Ray. *bibliog Chem & Met Eng* 29:354-9 Ag 27 '23
- Light oil in coke-oven gas. A. L. Davis. *Ind & Eng Chem* 15:689 J1 '23
- Manufacture of activated carbon. A. B. Ray. *Chem & Met Eng* 28:977-82 Je 4 '23
- Properties of activated carbon. N. K. Chaney. *Chem & Met Eng* 29:9 J1 2 '23

Carbon bisulfide. See Carbon disulfide**Carbon black**

- Bureau of mines studies economic status of carbon black. *Chem & Met Eng* 27:559 S 13 '22
- Carbon black. *Engineering* 115:290-1 Mr 9 '23
- Carbon black, a natural gas product. *Sci Am* 128:47 Ja '23
- Carbon black from natural gas in 1921. *Chem Age* 30:164 Ap '22; Same, without table. *Am Gas J* 116:374 Ap 22 '22
- Carbon black—its manufacture, properties, and uses. R. O. Neal and G. St. J. Perrott. *il diags plan U S Bur Mines Bul* 192:1-80; Bibliography. 80-92 '22
- Carbon black producer. *Chem Age* 31:106 Mr '23
- Carbon black production. *Chem Age* 30:368 Ag '22
- Carbon-black production by electrical cracking. *Chem Age* 31:32 Ja '23
- Carbon black production from natural gas 8,000,000 pounds greater in 1922 than 1921. *Oil Paint & Drug Rep* 104:29 Ag 27 '23
- Carbon, black production gained in 1921 over 1919. *Oil Paint & Drug Rep* 102:18 O 23 '22
- Efficiency of carbon black plants. N. B. Bubb. *Chem & Met Eng* 27:4-5 J1 5 '22
- Louisiana launching campaign to save its natural gas. *Gas Age* 51:620 My 12 '23
- Louisiana leads in carbon black output. *Nat Pet N* 14:39 My 3 '22
- Louisiana Senate passes committee substitute for Browne bill. *Am Gas J* 117:39-40 J1 8 '22
- Louisiana would regulate natural gas use. *Am Gas J* 116:554-6 Je 17 '22
- Manufacture and use of black pigments. H. L. Blachford. *Can Chem & Met* 6:156-8, 180 J1-Ag '22
- Production and uses of lamp black and of carbon black. R. Furness. *Chem Age (Lond)* 8:532-4 My 19 '23
- Production of carbon black in 1921. E. C. Sievers. *Gas Age* 50:209-10 Ag 12 '22
- Review of industrial uses. *Can Chem & Met* 6:38 F '22
- Some characteristics of lampblack. S. Cabot. *il India Rubber W* 66:748 Ag '22
- Starting waste of gas in carbon plants is shown in report. *Am Gas J* 116:488-9 My 27 '22
- Varying production of carbon black calls for standardization. *Gas Age* 50:262 Ag 26 '22
- See also* Bone black

Bibliography

- Carbon black—its manufacture, properties, and uses. R. O. Neal and G. St. J. Perrott. *U S Bur Mines Bul* 192:80-92 '22
- Carbon brushes.** *See* Brushes (electric machinery)
- Carbon compounds**
- Calorific value of carbon compounds. D. Kononov. *Chem Soc J* 123:2184-2202 S '23
- Explanation of the property of induced polarity of atoms and an interpretation of the theory of partial valencies on an electronic basis. W. O. Kermack and R. Robinson. *Chem Soc J* 121:427-40 Mr '22
- Relation between the crystal structure and the constitution of carbon compounds; compounds of the type CX₄. I. E. Knaggs. *Chem Soc J* 123:71-9 Ja '23
- Theoretical derivation of the principle of induced alternate polarities. A. Lapworth. *Chem Soc J* 121:416-27 Mr '22

Carbon compounds—Continued

Über eine neue klasse von verbindungen mit dreiwertigem kohlenstoff. R. Scholl. Deutsche Chem Gesell Ber 54:2376-83 O '21; Abstract. Chem Soc J 120 pt 1:872-4 D '21

See also Carbohydrates; Chemistry, Organic; Hydrocarbons

Carbon dioxide

Adsorption of mixed gases by charcoal; carbon dioxide and nitrous oxide. L. B. Richardson and J. C. Woodhouse. diag Am Chem Soc J 45:2638-53 N '23

Aeration experiments for removal of carbonic acid. W. Donaldson. il diags Eng N 90:874-6 My 17 '23

Carbon-dioxide and methane outbursts in coal region of the Gard, France. F. C. Cornet. Coal Age 23:719 My 3 '23

Catalysis in the interaction of carbon with steam and with carbon dioxide. H. S. Taylor and H. A. Neville. diag Am Chem Soc J 43:2055-71 S '21

Coefficients of viscosity and of slip of air and of carbon dioxide by the rotating cylinder method. K. S. Van Dyke. Phys R 21:250-65 Mr '23

Coefficients of viscosity and slip of carbon dioxide by the oil drop method and the law of motion of an oil drop in carbon dioxide, oxygen, and helium, at low pressures. J. M. Eglin. diags Phys R 22:161-70 Ag '23

Determination of the ratio of the two specific heats of carbon dioxide; abstract. B. Tornau. J Fr Inst 196:374 S '23

Effect of CO₂ variation on boiler efficiency. W. P. Crews. Elec W 81:1218-19 My 26 '23

Effect of deaeration of natural waters on the carbonate equilibrium. D. H. Jackson and J. R. McDermet. Ind & Eng Chem 15:959-61 S '23

Ferrous strata develop CO₂ in tunnel shaft. T. C. Hatton. diag plan Eng N 89:706-7 O 26 '22

German and American synthetic-ammonia plants. R. S. Tour. diags Chem & Met Eng 26:359-62 F 22 '22

Glimpse of the liquid carbon dioxide industry. A. G. Wikoff. flowsheet il Chem & Met Eng 28:5-9 Ja 3 '23

Hot-wire inclinometer: its sensitivity in air and in carbon dioxide. J. S. G. Thomas. diags Philos Mag 6th ser 45:945-57 My '23

Limits of hydrogen ion concentration as determined by electrometric titrations in water solutions of carbon dioxide, calcium sulphate, and calcium carbonate. J. W. Shipley and I. R. McHaffie. Soc Chem Ind J 42:311-19 Jl 27 '23

Loss of carbon dioxide from dough as an index of flour strength. C. H. Bailey and M. Weigley. diag J Ind & Eng Chem 14:147-50 F '22

Meaning of CO₂. Power 58:512 S 25 '23

Motion of electrons in carbon dioxide. M. F. Skinner. Philos Mag 6th ser 44:994-9 N '22

New absorption bottle for carbon dioxide and moisture. W. E. Morgan. diag Ind & Eng Chem 15:266 Mr '23

Photocatalysis; the photosynthesis of naturally occurring nitrogen compounds from carbon dioxide and ammonia. E. C. C. Baly, I. M. Heilbron and H. J. Stern. il Chem Soc J 123:185-97 Ja '23

Pressure-total heat diagram for carbon dioxide. H. J. Macintire. A S R E J 8:211-15 N '21; Discussion. Refrig Eng 9:12-14 Jl '22

La production d'acide carbonique dans les terrains rapportés contenant des détritons organiques, et les dangers du forage de puits dans ces terrains. D. Florentin. Génie Civil 80:506 Je 3 '22

Production of rust by carbonic acid. G. Bruhn. Sci Am 127:257 O '22

Properties of carbon dioxide. C. H. Herter. Refrig W 58:13-16+ S; 13-14 O '23 (to be cont)

Rate of evolution of carbon dioxide from solution in presence of colloids. A. Findlay and O. R. Howell. Chem Soc J 121:1046-52 Je '22

Reduction of carbon dioxide by ultraviolet light. H. A. Spoehr. Am Chem Soc J 45:1184-7 My '23

Relation between CO₂ and stack losses. diags

Power Pl Eng 26:429-31 Ap 15 '22

Solubility of CO₂ and N₂O in certain solvents.

W. Kunerth. diag Phys R 19:512-24 My '22

Specific heats of ammonia, sulphur dioxide, and carbon dioxide. J. R. Partington and H. J. Cant. diags Philos Mag 6th ser 43:369-80 F '22

Stratification of gases within a boiler furnace. W. C. Strunk. il diags Power 57:166-8 Ja 30 '23

Synthesis of urea from ammonia and carbon dioxide. N. W. Krase and V. L. Gaddy. diag J Ind & Eng Chem 14:611-16 Jl '22

System, calcium oxide—carbon dioxide. F. H. Smyth and L. H. Adams. diags Am Chem Soc J 45:1167-84 My '23

Analysis

Appareil Baurr-Cramer pour le dosage de CO₂. G. Hecht. diag Chimie & Ind 8:834-5 O '22

Appareil portatif pour le dosage de l'acide carbonique dans les gaz de combustion. diags Génie Civil 83:384 O 20 '23

Appareil portatif pour le dosage de l'acide carbonique dans un mélange gazeux. Génie Civil 82:40-1 Ja 13 '23

Carbon dioxide content of beverages; a rapid method for determination. J. Cannizzaro. Ind & Eng Chem 15:1071-5 O '23

Determination of carbon dioxide in baking powder. C. S. Robinson and S. L. Bandemer. J Ind & Eng Chem 14:119 F '22

Determination of carbon dioxide in self-rising flour. B. R. Jacobs. diag J Ind & Eng Chem 14:419-20 My '22

Method for the determination of free and combined carbon dioxide. J. A. Shaw. diag J Ind & Eng Chem 13:1151-2 D '21

Industrial applications

Carbon-dioxide refrigerating machine. H. J. Macintire. diags Power 55:24-6 Ja 3 '22

Carbon dioxide succeeds in fighting Bitner mine fire when the flooding of the workings fails. C. L. Jones. il plan Coal Age 24:3-10, 132-4 Jl 5, 26 '23

Carbon dioxide versus ammonia as a refrigerant. H. J. Macintire. Power 57:288-90 F 20 '23; Same. Refrig Eng 9:318-20 Ap '23

Carbonic refrigerating cycle. H. J. Macintire. diags Power 55:175-7 Ja 31 '22

Condenser-water supply for CO₂ refrigerating machines. A. E. Kimberly. Power 56:48-9 Jl 11 '22

Extinguishing generator fires with CO₂. T. H. Soren. il diag Elec W 80:1050-51 N 18 '22

Extinguishing generator fires with CO₂. J. B. Wheeler. il diags Elec W 80:165-7 Jl 22 '22

Fighting mine fires with carbon dioxide. L. Hamilton. plan Coal Age 24:440 S 20 '23

Packing perishable foods in inert gas. il Sci Am 126:255 Ap '22

Removing boiler scale with CO₂. R. J. Cross and R. Irvin. diag Power 55:422-3 Mr 14 '22

Supplying CO₂ to greenhouses. W. D. Wilcox. Gas Age 48:703-4 N 26 '21

Use of carbon dioxide in air bags. H. R. Minor. il diags India Rubber W 67:353-4; 69:17-18 Mr, O '23

Uses of carbon dioxide. C. L. Jones. Can Chem & Met 7:172-4, 205-7 Jl-Ag '23; Excerpts. Chem & Met Eng 29:163-5 Jl 16 '23

Water softening at Columbus, Ohio. C. P. Hoover. diags Eng & Contr (W W) 59:1035-7 My 9 '23

Carbon dioxide compressors

Carbonic compressor. H. J. Macintire. diag Refrig W 57:16-18 Jl '22

Discharge temperatures of carbon-dioxide compressors. T. M. Gunn. Power 58:501-2 S 25 '23

High-speed carbon-dioxide compressor installation. A. R. Stevenson, jr. il Power 57:855 My 29 '23

Carbon dioxide recorders

Advisability of supplementing a CO₂ recorder with an occasional Orsat analysis. A. R. Mumford. Power 57:892 Je 5 '23

Carbon dioxide recorders—Continued

- Automatic carbon dioxide indicator for flue gas. R. B. MacMullin. *diag J Ind & Eng Chem* 14:628-9 J1 '22
- CO₂ record of combustion efficiency. C. C. Phelps. *charts diags Paper Tr J* 75:46-8 S 21 '22
- Control of CO₂ results in steam boiler economy. R. June. *il diags Gas Age* 52:511-15 O 27 '23
- Cutting fuel costs. G. F. Swetnam. *chart Power* 56:1026 D 26 '22
- Electrical CO₂ meter. *diags Chem & Met Eng* 29:284-5 Ag 13 '23; *Foundry* 51:641-2 Ag 1 '23; *Power* 58:417-18 S 11 '23; *Power Pl Eng* 27:850-1 Ag 15 '23
- Electrical CO₂ recorders. *il diags Electrician* 89:543 N 10 '22
- Electrically operated CO₂ recorder. W. G. Webster. *il diags Power* 55:691-2 My 2 '22; *Same abr. Can Eng* 43:351 S 12 '22
- Flue gas analyzers and CO₂ recorders. *il diags Power Pl Eng* 27:30-3 Ja 1 '23
- Gas conditioning devices for CO₂ recorders. *il Management & Adm* 6:638-9 N '23
- Mechanical force made use of to indicate CO₂. *il diags Power Pl Eng* 27:517 My 15 '23
- Modern methods of installing CO₂ recorders. C. C. Phelps. *Power* 57:109-10 Ja 16 '23
- New CO₂ recorder. *il Electrician* 89:15 J1 7 '22
- New flue-gas filtering system for CO₂ apparatus. *il Power* 55:220 F 7 '22
- Operation of the Orsat apparatus. P. G. Dahl. *Power* 58:686-7 O 30 '23
- Practical attachments for portable CO₂ recorder. C. A. Jenne. *diags Power* 55:702 My 2 '22
- Recording combustible gases. R. Moeller. *il Gas Age* 48:904-7 D 31 '21
- Registering carbon dioxide meters. K. Muenzer. *diags Am Gas J* 119:481-3+ O 27 '23
- Republic steam-flow meter and CO₂ recorder combined. *il Power* 55:308 F 21 '22
- Use of carbon dioxide recorders controlling combustion of powdered coal. D. M. Scott. *Brass W* 19:165-6 My '23
- Weighing CO₂. *Chem & Met Eng* 27:1070 N 29 '22; *Eng & Min J* 111:1099 D 16 '22; *Power Pl Eng* 27:200-1 F 1 '23
- What caused the freak CO₂ readings? *Power* 57:725, 991; 58:109 My 8, Je 19, J1 17 '23
- Carbon disulfide**
- Absorption of carbon disulfide vapor by aqueous solutions of sodium trinitrite. A. J. Currier and A. W. Browne. *Am Chem Soc J* 44:2849-54 D '22
- Equilibria in the systems carbon disulfide: methyl alcohol, and carbon disulfide:ethyl alcohol. E. C. McKelvy and D. H. Simpson. *Am Chem Soc J* 44:105-15 Ja '22
- Manufacture of carbon bisulfide. G. A. Richter. *diag Am Electrochem Soc Trans* v 42 (preprint 21):219-32 S '22; *Same. Chem & Met Eng* 27:838-41 O 25 '22; *Excerpts. (Chem Age* 30:443-4 O '22; *Discussion. Am Electrochem Soc Trans* v 42 (preprint 21):232a-b S '22
- Molecular structure of carbon oxysulphide and carbon bisulphide. A. O. Rankine. *Philos Mag* 6th ser 44:292-300 Ag '22
- Organic sulphur and cyanogen removal from gas. A. R. Powell. *Gas Age* 52:443-7 O 13 '23; *Same. Am Gas J* 119:411-6 O 19 '23
- Reaction between potassium trinitrite and iodine in the presence of carbon disulfide. A. W. Browne and A. B. Hoel. *Am Chem Soc J* 44:2106-16 O '22
- Reaction of carbon disulfide on paraphenylenediamine. C. E. Bolser and E. B. Harts-horn. *diag Am Chem Soc J* 45:2349-55 O '23
- Variation of the index of refraction of water, ethyl alcohol, and carbon bisulphide, with the temperature. E. E. Hall and A. R. Payne. *Phys R* 20:249-58 S '22
- Carbon monoxide**
- Absorption of carbon monoxide by cuprous ammonium carbonate and formate solutions. A. T. Larson and C. S. Teitworth. *diag Am Chem Soc J* 44:2878-85 D '22
- Adsorption and catalysis in carbon monoxide oxidation. A. F. Benton. *Am Chem Soc J* 45:900-7 Ap '23
- Adsorption of carbon monoxide and hydrogen by plantinized asbestos. F. H. Pollard. *diag J Phys Chem* 27:356-75 Ap '23
- Antidotes for carbon monoxide poisoning. *il Iron Age* 109:153 Ja 12 '22
- Appareil respiratoire destiné à la protection contre l'oxyde de carbone. A. Desgrez and others. *diags Chimie & Ind* 6:536-8 O '21
- Die bestimmung von kohlenoxyd und kleinen mengen brennbarer gasen. G. Wollers. *diag Stahl & Eisen* 42:1050-3; *Discussion. 1053-5 J1 6 '22*
- Carbon monoxide and common sense. N. H. Humphrys. *Gas J (Lond)* 162:731 Je 20 '23
- Carbon monoxide asphyxia. C. K. Drinker and others. *J Ind Hygiene* 4:463-73; 5:109-23 Mr, Ag '23; *Bibliography. 5:123-4 Ag '23*
- Carbon monoxide in the products of combustion from natural gas burners. I. V. Brumbaugh and G. W. Jones. *il chart diag U S Bur Stand Tech Pa* 212:431-50 '22; *Same. Gas Age* 49:427-9, 495-8 Ap 8, 22 '22
- Carbon monoxide poisoning. *Monthly Labor R* 15:1351-3 D '22
- Carbon-monoxide poisoning. A. Hamilton. *U S Bur Labor Statistics Bul* 291:1-47 '22
- Carbon monoxide poisoning by automobile exhaust gases. *Int Labour R* 7:118-20 Ja '23
- Carbon-monoxide poisoning first-aid treatment. *Pop Mech* 37:552 Ap '22
- Catalytic oxidation of carbon monoxide. T. H. Rogers and others. *Am Chem Soc J* 43:1973-82 S '21
- Catalytic oxidation of carbon monoxide at ordinary temperatures. D. R. Merrill and C. C. Scalione. *Am Chem Soc J* 43:1982-2002 S '21
- Catalytic oxidation of carbon monoxide: efficiency of the catalysts, manganese dioxide, cupric oxide and mixtures of these oxides. J. A. Almquist and W. C. Bray. *diag Am Chem Soc J* 45:2305-22 O '23
- Combustion of complex gaseous mixtures; mixtures of carbon monoxide and hydrogen with air. W. Payman and R. V. Wheeler. *il Chem Soc J* 123:1251-9 My '23
- Dangers of and treatment for carbon monoxide poisoning. *Blast F & Steel Pl* 11:411 J1 '23
- Determination of carbon monoxide in vitiated air. F. S. Sinnatt and L. Slater. *Gas J (Lond)* 163:113 Ag 1 '23
- Determining carbon monoxide poisoning. *Power Pl Eng* 27:823 Ag 15 '23
- Diagnosis of carbon monoxide poisoning. *Monthly Labor R* 17:464-5 Ag '23
- Disintegration of refractory brick by carbon monoxide. B. M. O'Harra and W. J. Darby. *il diag Am Cer Soc J* 6:904-14 Ag '23
- Edgewood arsenal's CO process. T. M. Knap-pen. *il Gas Age* 49:202 F 18 '22
- Effect of locomotive smoke on trainmen in railroad tunnels. *Monthly Labor R* 17:709-11 S '23
- Effective carbon monoxide gas masks. T. M. Knappen. *il Gas Age* 48:841-4 D 24 '21
- Final report of the commission on resuscitation from carbon monoxide asphyxia: the treatment of carbon monoxide asphyxia. *bibliog J Ind Hygiene* 5:125-9 Ag '23
- Formula of carbon monoxide. G. W. F. Hol-royd. *Soc Chem Ind J (Chem & Ind)* 42: 681-2 J1 6 '23
- Gaseous combustion at high pressures. W. A. Bone. *il diags Gas J (Lond)* 163: 363-5, 415-16, 475-7 J1 25-Ag 8 '23; *Abstracts. Chem Age (Lond)* 8:541 My 19 '23; *Engineering* 115:625-6 My 18 '23; *Discussion. Soc Chem Ind J (Chem & Ind)* 42: 519-21 My 25 '23
- German and American synthetic-ammonia plants. R. S. Tour. *diags Chem & Met Eng* 26:359-62 F 22 '22
- Hazards of railroad tunnels. S. P. Kinney. *diags Safety Eng* 46:61-70 Ag '23; *Abstract. Eng N* 91:255 Ag 16 '23
- Memorandum on carbon monoxide poisoning in factories; abstract. *J Ind Hygiene* 3:sup 229-30 F '22
- Motion of electrons in carbon monoxide. H. B. Wahlen. *Phys R* 21:517-24 My '23

Carbon monoxide—Continued

- Motion of electrons in carbon monoxide, nitrous oxide, and nitric oxide. M. F. Skinner and J. V. White. *Philos Mag* 6th ser 46:630-7 O '23
- New instrument devised by U.S. Bureau of mines scientists simplifies carbon monoxide determination. J. H. Schalek. *il Gas Age* 52:147-8 Ag 4 '23
- L'oxyde de carbone, les combustibles et l'hygiène. E. Kohn-Abreast. *il Chimie & Ind* 7:590-605 Mr '22
- Physiological effects of carbon monoxide. Eng & Min J 113:920 My 27 '22
- Physiological effects of exposure to low concentrations of carbon monoxide. R. R. Sayers, F. V. Meriwether and W. P. Yant. *J Fr Inst* 193:704-5 My '22
- Physiological principles governing ventilation when the air is contaminated with carbon monoxide. Y. Henderson and H. W. Haggard. *bibliog diags J Ind & Eng Chem* 14:229-36 Mr '22
- Preferential catalytic combustion of carbon monoxide in hydrogen. A. B. Lamb, C. C. Scalione and G. Edgar. *diag Am Chem Soc J* 44:738-57 Ap '22
- Present status of the problem of resuscitation in cases of electric shock and of carbon monoxide poisoning. C. K. Drinker. *J Ind Hygiene* 5:255-63 N '23
- La production de l'oxyde de carbone par les becs à incandescence. A. Kling and D. Florentin. *Chimie & Ind* 6:305-8 S '21; Discussion. 6:596-600 N '21
- Propagation of the explosion-wave; hydrogen and carbon monoxide mixtures. H. E. Dixon and N. S. Walls. *Chem Soc J* 123:1023-37 My '23
- Protecteur contre l'oxyde de carbone, système Carteret-Guillemard. *il diag Génie Civil* 83:156 Ag 18 '23
- Pyro tannic acid method for the quantitative determination of carbon monoxide in blood and air. R. R. Sayers, W. P. Yant and G. W. Jones. *il Safety Eng* 46:138-42 S '23
- Quick and simple way of testing for carbon monoxide in the blood or in the atmosphere. N. C. McLoud. *il Coal Age* 23:1007-9 Je 21 '23
- Reduction of copper oxide by carbon monoxide and the catalytic oxidation of carbon monoxide in presence of copper and of copper oxide. H. A. Jones and H. S. Taylor. *diag J Phys Chem* 27:623-51 O '23
- Relative influences of water vapour and hydrogen upon the explosion of carbon monoxide-air mixtures at high pressures. W. A. Bone, D. M. Newitt and D. T. A. Townsend. *Chem Soc J* 123:2008-21 Ag '23
- Removal of small amounts of carbon monoxide from gases by passage through heated granular soda lime. R. E. Wilson, C. A. Hasselacher and E. Masterson. *Ind & Eng Chem* 15:698-701 JI '23
- Report 1 of the commission on resuscitation from carbon monoxide asphyxia to the American gas association. *diags Am Gas Assn General Sessions* sec v 4:178-208; Bibliography. 208-9 '22
- Simultaneous combustion of hydrogen and carbon monoxide. R. T. Haslam. *bibliog Ind & Eng Chem* 15:679-81 JI '23
- Tannic acid method for the quantitative determination of carbon monoxide in the blood. R. R. Sayers and W. P. Yant. *Am Gas Assn General Sessions* sec v 4:209-18 '22
- Tests of an iodine pentoxide indicator for carbon monoxide. S. H. Katz and J. J. Bloomfield. *J Ind & Eng Chem* 14:304-6 Ap '22
- Tests of heaters operated with natural gas. C. W. Jones, W. P. Yant and L. E. Berger. *diag Gas Age* 52:223-6 Ag 25 '23
- Treatment of carbon monoxide poisoning. R. R. Sayers and H. R. O'Brien. 5p Reprint no. 728 from Public health reports, v. 37, no. 6 '22; Abstracts. *Power Pl Eng* 26:223 F 15 '22; *Eng & Contr* 57:224 Mr 8 '22
- Tully carbon monoxide process. *Gas J (Lond)* 162:591 Je 6 '23
- Use of carbon monoxide detector in mines. *il diag Coal Age* 22:97 JI 20 '22

Ventilation of garages. G. W. Jones and S. H. Katz. *Am Soc Heat & V E J* 29:423-6; Discussion. 426-8 JI '23

Carbon monoxide recorders

- Automatic volumetric analysis carbon monoxide recorder. G. B. Taylor and H. S. Taylor. *diags J Ind & Eng Chem* 14:1008-10 N '22
- Electric carbon-monoxide meter; abstract. M. Moeller. *Elec W* 82:35 JI 7 '23
- Electrical CO meter. *diags Power* 58:532 O 2 '23; *Iron Tr R* 73:963 O 4 '23; *Power Pl Eng* 27:1059-60 O 15 '23; *Chem & Met Eng* 29:719 O 15 '23

Carbon oxides

- Über die präparative darstellung des kohlen-suboxyds in grösserer massstab und die eigenschaften des reinen kohlensuboxyds. E. Ott and K. Schmidt. *diag Deutsche Chem Gesell Ber* 55:2126-30 JI '22
- See also Carbon dioxide; Carbon monoxide

Carbon oxysulfide

- Molecular structure of carbon oxysulphide and carbon bisulphide. A. O. Rankine. *Philos Mag* 6th ser 44:292-300 Ag '22
- Viscosity and molecular dimensions of gaseous carbon oxysulphide (COS). C. J. Smith. *Philos Mag* 6th ser 44:289-92 Ag '22

Carbon suboxide. See Carbon oxides**Carbon tetrachloride**

- Carbon tetrachloride in fire extinguishers. *Chem Age* 30:351-2 Ag '22
- Dyes of the aurin type. H. Baines and J. E. Driver. *Chem Soc J* 123:1214-18 My '23
- Poisoning by benzol carbon tetrachloride cement, with special reference to the early symptoms of benzol poisoning. E. B. Starr. *J Ind Hygiene* 4:203-11; Bibliography. 211 S '22
- Uses of carbon tetrachloride in dyeing and cleaning. *Color Tr J* 9:199-200 N '21

Carbonic acid. See Carbon dioxide**Carbonium compounds**

- Berichtigungen zu den ansichten der HHrn. H. E. Pierz und F. Kelmann über die natur der carboniumsalze. A. Hantzsch. *Deutsche Chem Gesell Ber* 55:2043-8 JI '22
- Die konstitution der carboniumsalze. A. Hantzsch. *Deutsche Chem Gesell Ber* 54:2573-2612 N '21; Abstract. *Chem Soc J* 122 pt 1:24-5 Ja '22
- Über die angebliche sechswertigkeit des kohlenstoffs in den carbonium-und farbstoff-salzen. A. Hantzsch. *Deutsche Chem Gesell Ber* 54:2569-72 N '21
- Zur konstitution der carbonium-farbstoffe und zur halochromie. H. Kauffmann. *Deutsche Chem Gesell Ber* 55:1967-8 JI '22
- Zur theorie der carbonium-verbindungen. *Deutsche Chem Gesell Ber* 55:507-11 F '22

Carbonization of coal. See Coal distillation**Carbonization of steel.** See Case hardening**Carbonization of wool.** See Wool carbonizing**Carbons**

- Resistivities of some granular resistor carbons. C. E. Williams and G. R. Shuck. *diag plan Am Electrochem Soc Trans* v 42 (preprint 13):109-21; Discussion. 121a-b S '22

Carbonyl chloride. See Phosgene**Carbonyl compounds**

- Action of nitric oxide on the metallic carbonyls. R. L. Mond and A. E. Wallis. *Chem Soc J* 121:32-5 Ja '22
- Bemerkung zu der abhandlung der HHrn J. Meisenheimer und J. Casper; über die konstitution der Grignardschen verbindungen. J. v. Braun. *Deutsche Chem Gesell Ber* 54:2687 N '21
- Researches on the metallic carbonyls. R. L. Mond and A. E. Wallis. *Chem Soc J* 121:29-32 Ja '22
- Carbonyl cyanide
Über versuche zur darstellung des carbon-ylecyanids und eine methode zur gewinnung ungesättigter amino-säuren. O. Diels, H. Gärtner and R. Kaack. *Deutsche Chem Gesell Ber* 55:3439-48 N '22

Carborundum

- Carborundum brick. M. F. Peters. diags Am Cer Soc J 5 pt 1:181-208 Ap '22
- Carborundum retorts. M. Barrett. diag Gas J (Lond) 163:118 J1 4 '23
- Cast carborundum on face of step plate. A. M. Roth. Foundry 51:267 Ap 1 '23
- Discoloration of whiteware fired in carborundum saggars. H. Spurrier. Am Cer Soc J 4:923-6 N '21
- Dr Edward G. Acheson and his work. F. A. J. FitzGerald. Chem Age 31:195-6 My '23
- History of the development of silicon carbide refractories. C. F. Geiger. Am Cer Soc J 6:301-6 Ja '23
- Sawing stones with man-made stones; how abrasives are employed in cutting and shaping marble and granite. J. F. Springer. il Sci Am 129:40-1 J1 '23

Carboxylic acids

- Constitutional studies in the monocarboxylic acids derived from sugars; tetramethyl galactonolactone and the structure of galactose. J. Pryde. Chem Soc J 123:1808-15 J1 '23
- Über die darstellung von β -oxy- α -aminosäuren aus olefin-carbonsäuren. W. Schraut and H. Geller. Deutsche Chem Gesell Ber 55:2783-96 S '22; Abstract. Chem Soc J 122 pt 1:1125-6 D '22

Carboxymethanetriacetic acid

- Experiments on the synthesis of the polyacetic acids of methane; the preparation of carboxymethanetriacetic acid. C. K. Ingold and W. J. Powell. Chem Soc J 119:1869-74 N '21

Carboys

- Closure for acid carboys. Chem & Met Eng 28:534-6 Mr 21 '23
- Problem of carboy closure. diag Chem & Met Eng 27:1267-8 D 27 '22
- Safer handling of acid. il Sci Am 126:331 My '22

Carbureters

- Adjusting carbureters by exhaust gas analysis. diag Automotive Ind 48:18-20 Ja 4 '23
- Air-shutter type carbureter. il Automotive Ind 46:1336 Je 15 '22
- Air-stabilizing attachment for auto carbureters. il Pop Mech 37:895 Je '22
- Analysis of air bleed in carbureter compensation. W. H. Weber. Automotive Ind 45:968-9 N 17 '21
- Bullard carbureter. diags Automotive Ind 48:237 F 1 '23
- Cadillac makes detail changes in carbureter design. diags Automotive Ind 48:724-5 Mr 29 '23
- Can we afford the Ford; comparative efficiencies of leading cars. G. G. Brown. J Ind & Eng Chem 14:972-3 O '22
- Carburetion as a prime factor in producing power. G. M. Brown. Aerial Age 14:227 N 14 '21
- Carburetor adjustment by gas analysis. A. C. Fieldner and G. W. Jones. il diags J Ind & Eng Chem 14:594-600 J1 '22
- Chemically controlled automobile. G. G. Brown. il diags J Ind & Eng Chem 14:6-12 Ja '22; Abstract. Mech Eng 44:193-5 Mr '22
- Commer paraffin carburettor. il diags Engineering 116:185-6 Ag 10 '23; Excerpt. Automotive Ind 49:436-7 Ag 30 '23
- Determining correct carbureter size. W. H. Weber. Automotive Ind 48:220-1 F 1 '23
- Discharge characteristics of fuel metering nozzles in carbureters. P. S. Tice. Automobile Eng 12:211-13 J1 '22
- Eagle carbureter has dash control for auxiliary air. diags Automotive Ind 48:1029 My 10 '23
- Experimental survey of gasoline and kerosene carburation. C. S. Kegerreis and G. A. Young. il Soc Auto Eng J 12:63-75 Ja '23; Discussion. 12:238-9 F '23
- Future of carbureter lies in detail development, not new inventions. H. Dechamps. diags Automotive Ind 48:878-83 Ap 19 '23
- Low fuel consumption claimed for new Jordan carbureter. diags Automotive Ind 48:1027 My 10 '23

- New multiple jet carbureter. diag Automotive Ind 46:1063 My 18 '22
- Raindrops and engineering; carburetion of internal combustion engines. G. B. Upton. Sibley J 37:32-6 F '23
- Rayfield marketing new carbureter with floating venturi. il Automotive Ind 48:568-9 Mr 8 '23
- Recent German carbureter designs stress use of cheaper fuels. B. R. Dierfeld. il diags Automotive Ind 49:177-80 J1 26 '23
- Relation of carburetion to fuel economy. J. N. Golten. Automotive Ind 46:666-9, 714-17 Mr 23-30 '22
- Stewart-Warner starts production on new carbureter. il Automotive Ind 49:828-9 O 25 '23
- Stromberg aviation carburetors. il Aviation 15:523 O 22 '23
- Thermostatic control features new Hess carbureter. diag Automotive Ind 48:1086 My 17 '23
- Three carburetors on engine of French manufacture. il Pop Mech 37:5 Ja '22
- Tillotson producing fixed venturi carbureter without air valves. il Automotive Ind 48:559 Mr 8 '23
- Le III^e concours de consommation des automobiles (Le Mans, 28 mai 1922). il diags plans Génie Civil 80:513-17 Je 10 '22

Manufacture

- Casting iron in long-life molds. R. Moldenke. il Iron Tr R 72:1299-1302 My 3 '23; Same. Iron Age 111:1251-4 My 3 '23; Same. Foundry 51:410-13 My 15 '23; Same. Génie Civil 82:576-7 Je 16 '23; Same. Chem & Met Eng 29:231-2 Ag 6 '23

Specifications

- Carbureter flanges; proposed extension of S. A. E. recommended practice. diags Soc Auto Eng J 12:573-4 Je '23
- Motorcycle carbureter flanges; proposed S. A. E. recommended practice. Soc Auto Eng J 10:478 Je '22

Testing

- Carbureter testing plant. P. S. Tice. il diags Automobile Eng 12:51-4 F '22
- Testing apparatus to improve carburetors. J. C. Allen. il Pop Mech 39:707 My '23

Carburation

- Experimental survey of gasoline and kerosene carburation. C. S. Kegerreis and G. A. Young. il Soc Auto Eng J 12:63-75 Ja '23; Discussion. 12:238-9, 460-4 F, My '23
- New system of carburation. G. Keith and W. A. Whatnough. diags Automobile Eng 13:55-9, 203-4 F, J1 '23; Excerpts. Mech Eng 45:251-2 Ap '23; Discussion. R. W. A. Brewer. Automobile Eng 13:141-2 My '23

Carburizers

- How to select, test and use carburizers. S. P. Rockwell. Automotive Ind 46:956-8 My 4 '22; Same. Am Mach 56:811-12 Je 1 '22

Card system in business

- Newest force in business building. 40p Library bureau, New York '22

Carding machines

- Cotton opening, mixing and carding machinery. H. Wilkinson. diags Engineer 134:550-1 N 24 '22
- Garnett machine. il Textile World 64:2125 O 13 '23

Manufacture

- Modern shop practice in the building of revolving flat cards. F. E. Banfield, jr. il Mech Eng 44:301-4, My '22; Same. Am Mach 56:761-6 My 25 '22
- Molding large card cylinders. H. R. Simonds. il diags Foundry 51:87-92 F 1 '23

Safety devices and measures

- Le déboufrage des cartes par le vide. Neu. il Génie Civil 83:155-6 Ag 18 '23

Cardiopneumo psychograph

- Science becomes policeman's first aid; Berkeley police department. J: A. Ford. il Pop Mech 38:869-72 D '22

Cards

Inventor and the gay gambler; ingenuity ranging from marked cards to crooked roulette wheels. E: H. Smith. *il Sci Am* 129:150-1+ S '23

Advertising

Advertising the business and social advantages of card playing. J. Henle. *Ptr Ink* 118: 61-2+ Ja '26 '22

Cards, Visiting. See Visiting cards

Cargo. See Ships—Cargo

Cargo handling. See Freight handling

Cargo shifting. See Ships—Stability

Cargo vessels. See Freight ships

Caribou

Migrating herds of wild caribou delay Alaskan river steamers and interfere with domesticated reindeer. S. F. Corbett. *il map Pop Mech* 39:346-8 Mr '23

Carlisle, England

See also Electric plants (central stations)—Carlisle, England

Carnegie, Andrew

Carnegie and labor. System 42:267-9+ S '22
Carnegie's ideas on what makes a business pay. A. B. Farquhar. *por System* 43:470-2 Ap '23

Carnegie's theory of business. *por System* 42: 141-4+ Ag '22

How Carnegie dealt with his men. System 41:679-82+; 42:41-3+ Je-Jl '22

Mr Business, meet the public! R. C. Mitchell. *Nation's Business* 10:22-4 N '22

What I learned about business from Carnegie; interviews with Charles M. Schwab and others. System 41:525-9 My '22

Carnitine

Zur kenntnis des carnitins. R. Engeland. *Deutsche Chem Gesell Ber* 54:2208-13 O '21

Carnivora, Fossil

Bridger (Eocene) carnivora. M. R. Thorpe. *bibliog Am J Sci* 5th ser 5:23-39 Ja '23

New species of uinta carnivora from White river, Utah. M. R. Thorpe. *il Am J Sci* 5th ser 5:218-24 Mr '23

Some tertiary carnivora in the Marsh collection, with descriptions of new forms. M. R. Thorpe. *il Am J Sci* 5th ser 3:423-53; *Bibliography*. 454-5 Je '22

Carnot, Marie François Sadi, 1837-1894

Engineer or president. J. H. Pound. *Power* 56:762-3 N 14 '22

Carnot, Nicholas Leonhard Sadi, 1796-1832

Engineer or president. J. H. Pound. *Power* 56:763 N 14 '22

Carnotite

Carnotite in southern Nevada. D. F. Hewett. *il Eng & Min J* 115:232-5 F 3 '23

Extraction and recovery of radium, vanadium, and uranium from carnotite. K. B. Thews and F. J. Heinle. *flow sheet Ind & Eng Chem* 15:1159-61 N '23

Identification of carnotite and radioactive minerals. *Eng & Min J* 113:1009 Je 10 '22

Occurrence of carnotite near Denver. J. H. Wilson. *Eng & Min J* 116:239-40 Ag 11 '23

Sorting, hauling, and sampling carnotite ore. H. S. Worcester. *flow sheet il Eng & Min J* 115:1068-71 Je 16 '23

See also Radium

Analysis

Glacial acetic acid method for determining uranium in carnotite. W. W. Scott. *J Ind & Eng Chem* 14:531-2 Je '22

Carolina, Clinchfield & Ohio railroad

C. C. & O. leased by L. & N. for a term of 99 years. *map Ry Age* 74:1268 My 26 '23

C. C. & O. net expands with non-union coal traffic. *Ry Age* 73:260 Ag 5 '22

Hearing on the joint application of the Louisville & Nashville and the Atlantic Coast Line for authority to lease the Carolina, Clinchfield and Ohio. *Ry Age* 75:582-4, 628 S 29-O 6 '23

Carpenter, C. C.

Presentation to Dr Carpenter of the medal of the Society of chemical industry. *Gas J (Lond)* 162:791-3 Je 27 '23

Carpenter, Henry, 1867-1922

Sketch. *por Foundry* 50:136 F 15 '22

Carpenters

Carpenters; labor agreement in Cleveland. *Monthly Labor R* 16:1040-3 My '23

Carpenters—Pittsburgh. *Monthly Labor R* 17: 857-8 O '23

Advertising

How Cleveland carpenter is using newspaper space to stimulate business. *Ptr Ink* 125:90+ O 11 '23

Carpentry

Home carpentry and cabinet-making. F. W. Lewis. 170p Routledge; Dutton '21

Profitable work for winter time. D. R. Van Horn. *il diags Bldg Age* 44:50-2 N '22

See also Building; Cars; Doors; Floors; Framing; Rafters; Roofs; Shingling; Stairways; Wall board; Woodwork; Woodworking machinery

Carpet factories

Carpet works of Messrs. James Templeton and co., Glasgow. *il Engineering* 115:768-9, 776 Je 22 '23

Carpet yarn. See Dyes and dyeing—Carpet yarn

Carpets

Carpet yarn dyeing. L. J. Matos. *Textile Col* 45:94-5 F '23; Same. *Am Dyestuff Rep* 12: 49-50 Ja 15 '23

Carpets and rugs. O. A. Kenyon. 168p Hoover co., Canton, O. '23

Hand-woven carpets, Oriental and European. A. F. Kendrick and C. E. C. Tattersall. 2v Benn bros., London '22

Method of renovating carpets, rugs and other fabrics; patent. *diags Color Tr J* 12:76-7 F '23

Rugs and carpets. *Am Inst Arch J* 10:XVII+ N '22

Tapestry yarn printing. L: J. Matos. *Am Dyestuff Rep* 12:735-8 O 8 '23

Weaving pictures for our floors. *il Pop Mech* 40:342-4 S '23

See also Linoleum; Rugs

Advertising

Four reasons why Bigelow-Hartford carpets are now advertised to the consumer. A. Bel-den. *Ptr Ink* 125:17-20 N 1 '23

Costs

Carpet manufacturing costs. *Textile World* 64:715 Ag 4 '23

Carrageen

Carrageen as a protective colloid. A. Gut-bier and J. Huber. *Chem Soc J* 122 pt 2:203 Mr '22

Colloidal electrolyte extracted from carrageen (*chondrus crispus*). F. C. Harwood. *Chem Soc J* 123:2254-8 S '23

Sources, preparation and properties of algal gelatins. I. A. Field. *Chem Age* 29:485-6 D '21

Carrier current telegraph. See Telegraph, Carrier current

Carrier current telephone. See Telephone, Carrier current

Carrier pigeons. See Pigeons

Carriers

English law of passengers. R. F. Dunnell. *Bus Transportation* 1:301 My '22

Limitation of common carrier's liability. H. C. Barnes. 366p Traffic law service corp., Chicago '21

A publication not a common carrier. *Ptr Ink* 119:105 Je 22 '22

Rail and water transportation provisions in ship subsidy bill. *Ry Age* 72:1733 Je 24 '22

See also Canals; Communication and traffic; Demurrage; Express service; Freight car service; Jitney buses; Motor bus lines; Postal service; Public utilities; Railroad law; Railroads; Shipping; Steamboat lines; Street railroads; Transportation

Carrotting. See Felt—Manufacture

Cars

Are railroad cars too heavy? Sci Am 126:165 Mr '22

Best representative examples of passenger train cars built in 1922. il Ry R 72:60-2 Ja 6 '23

Car department hand book. 384p Chicago, Milwaukee and St Paul Ry. co., Milwaukee '22

Carriage stock for the Palestine railway. il Engineer 133:505 My 5 '22

Interesting examples of passenger car development. il Ry Mech Eng 96:572-5 O '22

Many special types of cars introduced in 1921. A. F. Stuebing. il Ry Age 72:51-2 Ja 7 '22

New rolling stock for Chinese government railways. il Engineer 135:697 Je 29 '23

Passenger car development. il Ry R 70:sup33-4 Je 10; sup29 Je 17; sup27-8 Je 24 '22

Passenger coaches: reports at the International railway congress. Engineering 113: 609-10 My 19 '22; Engineer 133:405-6 Ap 14 '22

Portable camp on logging railroad construction. il Eng & Contr (Ry) 59:463-5 F 21 '23

Principles of cost finding and cost accounting for manufacturers and repairers of railway cars. 48p Railway car manufacturers' assn., New York '22

Railroad cars, their origin and development. E. F. Carry. il Ry Age 74:1581-6 Je 23 '23; Same. Ry R 72:1073-81 Je 23 '23; Same. Ry Mech Eng 97:145-50 Jl '23

Work cars. Ry R 69:734-5 N 26 '21

See also Air brakes; Automobiles; Brakes; Car axles; Car couplings; Car floors; Car heating; Car houses; Car inspection; Car lighting; Car painting; Car roofs; Car seats; Car springs; Car ventilation; Car wheels; Container cars; Coal cars; Dining cars; Draft gears; Dump cars; Dynamometer cars; Electric vehicles; Freight car service; Freight cars; Grain cars; Mine cars; Motor cars (railroad); Railroads—Rolling stock; Refrigerator cars; Sleeping cars; Street cars; Tank cars

Bearings

Advantages of the spherical type roller bearing. H. E. Brunner. il diags Ry Mech Eng 97:225-7 Ap '23; Same. Am Mach 58:276-8 F 15 '23; Same cond. Ry Age 74:517-19 Mr 5 '23

Asco torsion spring journal box lid. il Ry Age 74:1488 J 16 '23

Face milling journal-boxes. R. Brainard. il Am Mach 59:391 Ag 23 '23

Present lubrication methods faulty. J. J. Hennessy. il Ry Mech Eng 96:264 My '22

Roller bearings on railroad cars. diag Mech Eng 45:362 Je '23

Successful lubrication of journal boxes. W. J. O'Connor. Ry Mech Eng 97:106; Discussion. 107-8 F '23

See also Bearings

Design

Articulated units feature recent English car design. il diags Ry R 70:109-13 Ja 28 '22

Suggestions for passenger car design. G. S. Clouser. Ry Mech Eng 95:754 D '21

Dictionaries

Car builders' cyclopedia of American practice. 10th ed. 1192p Simmons-Boardman pub co., New York, Chicago '22

Disinfection

Disinfecting railway carriages. il diags Engineer 135:237 Mr 2 '23

Equipment

Car and locomotive specialties. il Ry R 70: sup36-8 Jé 10; sup30-1 Je 17; sup29-30 Je 24 '22

Standard car equipment for Indian railways. E. R. Viberg. Ry Mech Eng 97:161-5 Mr '23

Transcontinental comfort in new steel car trains. il map plans Ry R 69:893-8 D 31 '21

Interchange

Discussion of changes in interchange rules. Ry Mech Eng 96:702-7 D '22

See also Freight cars—Interchange

Manufacture

Building a railway coach in six days at the Derby works of the London, Midland and Scottish railway. il (supp) plan Engineer 136:385-8 O 12 '23; Engineering 116:467-9, pl 24 O 12 '23

Lumber for Italian passenger cars. Ry Mech Eng 97:220 Ap '23

Use of treated timber in car construction. Ry Mech Eng 96:209 Ap '22

Working sheet aluminum in car construction. A. Eyles. il diags Sheet Metal Worker 13: 575-8 S 29 '22

See also Cars, Steel—Manufacture

Repair

Support for passenger cars under-going repairs. N. McCleod. diags Ry Mech Eng 96:26 Ja '22

See also Freight cars—Repair; Railroads—Maintenance and repair; Railroads—Shops

Statistics

Census of manufactures, 1921; steam and electric railroad cars and railroad repair shops. 26p U S Bur Census '23

Passenger car orders equal four-year total. il Ry Age 74:136-9 Ja 6 '23

Passenger car purchases small during 1921. F. W. Kraeger. il Ry Age 72:131-2 Ja 7 '22

673 passenger cars delivered to domestic railroads in 1922. Ry R 72:59-61 Ja 6 '23

Steel construction

See Cars, Steel

Testing

Recording riding qualities of cars. F. Crocker. il chart Ry R 71:437-9 S 30 '22

Trucks

See Car trucks

Uncoupling

Booth uncoupling device. diags Ry R 71: 602-3 O 23 '22

Three new uncoupling devices. diags Ry Age 74:1481 Je 16 '23

Cars, Caboose

A. C. & Y. builds side bay cabooses. H. F. Grew. il Ry Age 75:237-9 Ag 11 '23; Discussion 75:328 Ag 25 '23

Cars, Crane

Crane car built for general utility work. il Elec Ry J 62:743-4 O 27 '23

Crane cars solve snow-removal problem. il diags Elec Ry J 59:825-7 My 20 '22

Cars, Electric railroad

A B C of the electric cars. J. S. Dean. diags Aera 10:1125-7; 11:199-200, 699-701; 12:103-7 Jl, S '22, Ja, Ag '23

Application of the light-weight double-truck car. H. C. Hickock. il Elec J 20:356-60 O '23

Car that makes you want to ride. il plan Elec Ry J 62:55-6 Jl 14 '23; Pop Mech 40:564 O '23

Comfort and convenience of the passengers is primary consideration. C. E. Thompson. Elec Ry J 61:516-17 Mr 24 '23

High-speed light-weight interurban cars. il plan Elec Ry J 60:517-18 S 30 '22

How car design has progressed on Chicago's rapid transit lines. H. A. Johnson. Elec Ry J 60:427-30 S 23 '22

Light interurban cars save \$47,000 annually. P. V. C. See. Elec Ry J 59:194-6 F 4 '22

Light weight interurban cars. C. T. Dehore. il diags Gen Elec R 25:352-61 Je '22

New cars for East Boston tunnel. diags Elec Ry J 61:85-6 Ja 13 '23

New cars for Frankford "L". il plan Elec Ry J 58:1063-4 D 17 '21

Pacific electric operates new cars. il plan Elec Ry J 61:561-2 Mr 31 '23

Steel versus wooden cars on elevated railways. Elec Ry J 59:128 Ja 21 '22

See also Cars, Subway; Freight cars, Electric railroad; Street cars

Cars, Electric railroad—Continued**Bearings**

Anti-friction bearings for electric cars. O. R. Wikander. *il diags Elec Ry J* 60:935-40 D 16 '22

See also Electric motors, Railway—Bearings

Lubrication

Lubrication data from Lexington. W. G. Stuck. *Elec Ry J* 60:633 O 14 '22

Reducing lubrication costs on rolling stock of Northern Texas traction co. H. M. Robinson. *il Elec Ry J* 61:119-22 Ja 20 '23

Cars, Freight. See Freight cars**Cars, Interchange of. See Cars—Interchange, Freight cars—Interchange****Cars, Oil supply**

Oil car for M-K-T supply train. *il Ry Age* 75:782 O 27 '23

Cars, Steel

De luxe passenger cars for Chinese railway. *il Ry Age* 74:913-14 Ap 7 '23; Same. *Ry Mech Eng* 97:217-18 Ap '23

Illinois Central steel suburban coaches. *il diags plan Ry Mech Eng* 95:755-9 D '21; Same cond. *Ry Age* 71:941-2 N 12 '21

Illinois Central suburban operation and equipment. *il diags Ry R* 69:669-77 N 19 '21

Light interurban cars save \$47,000 annually. P. V. C. See. *Elec Ry J* 59:194-6 F 4 '22

More steel cars. *Iron Age* 111:1844 Je 28 '23

Most efficient suburban car design. *il Ry R* 73:238 Ag 18 '23

New P. & R. all-steel suburban cars. *il diags Ry R* 71:338-9 S 9 '22; Same. *Ry Age* 73:466 S 9 '22

New passenger train equipment. *il Ry R* 73:208 Ag 11 '23

New steel passenger cars for the Philadelphia & Reading. *il Ry Age* 73:117-18 Jl 15 '22; Same. *Ry R* 71:91-2 Jl 15 '22

New York Central builds new dining cars. *Ry R* 73:544 O 13 '23

Nottingham railway rolling stock works of Cammell Laird and co., limited. *il plan Engineering* 113:263-70, 272 Mr 10 '22; *Engineering* 113:292-4, 296 Mr 10 '22

Pennsylvania combination passenger and baggage car. *il Ry Age* 75:353 Ag 25 '23; Same. *Ry Mech Eng* 97:631 S '23

Present day tendencies in car construction. E. R. Viberg. *Ry Mech Eng* 97:161-5 Mr '23; Same cond. *Ry R* 71:898-902 D 23 '22; Discussion. W. J. Meyer. *Ry Mech Eng* 97:264 My '23

Requirements imposed in designing North Shore passenger cars. H. A. Otis. *il Elec Ry J* 60:470-2 S 23 '22

Santa Fe acquires eight all steel dining cars. *il diags plan Ry Mech Eng* 96:511-14 S '22; Same. *Ry Age* 73:459-60 S 9 '22

Steel versus wooden cars on elevated railways. *Elec Ry J* 59:128 Ja 21 '22

Suburban car featured by low unit weight. *il plan Ry Age* 75:329-31 Ag 25 '23; Same. *Ry Mech Eng* 97:637-9 S '23

Transcontinental comfort in new steel car trains. *il map plans Ry R* 69:893-8 D 31 '21

See also Container cars; Freight cars, Steel

Manufacture

Car shop press work. L. C. Morrow. *il Am Mach* 59:571-4 O 18 '23

Cars, Subway

Door lock for side-entrance cars. *il diags plans Elec Ry J* 62:447-9 S 22 '23

Modern subway cars and their operation. S. Haar. *bibliog il Mech Eng* 45:647-60 N '23

Trial rolling-stock for the London tube railways. *il diags Engineering* 115:172-3 F 9 '23; *Engineer* 135:144, 148 F 9 '23; *Elec R* (Lond) 92:219-20 F 9 '23; *Elec Ry J* 61:751-5 My 5 '23

Carter's ink company

Why manufacturing location has not hindered Carter's ink. W. H. Greenleaf. *Ptr Ink* 125:185+ O 4 '23

Cartography

Map reading. G. H. C. Dale. 170p Macmillan '21

Cartridge cases

Testing artillery cartridge cases. J. B. Read and S. Tour. *il diags Min & Met* 184:33-5 Ap '22

Cartridges

Cartridge diameter and strength of high explosives. S. P. Howell and J. E. Crewshaw. *Eng & Contr (Ry)* 59:425-9 F 21 '23

Cartwright, Edmund, 1743-1823

Centenary of Edmund Cartwright. *Engineering* 116:517-18 O 26 '23

Case, J. I., threshing machine company

1921 annual report. *Comm & Fin Chr* 111:1198-9 Mr 18 '22

1922 annual report. *Comm & Fin Chr* 116:1195-6 Mr 17 '23

Case hardening

American society for steel treating; session on carburizing. *Chem & Met Eng* 27:727-8 O 11 '22; *Iron Age* 110:934-5 O 12 '22

American society for steel treating session on carburizing. *Iron Age* 112:1048-9 O 18 '23

Carbonex case-hardening compounds. *Engineering* 114:532 O 27 '22

Carbonization with wood charcoal. H. Schagrin. *il diags plan Ry Mech Eng* 96:102-3 F '22

Carbonizing automobile gears by means of the acetylene torch. M. Wright. *il Am Mach* 57:930-1 D 14 '22

Case hardening and other heat treatments as applied to gray cast iron. H. B. Knowlton. *Am Mach* 59:695-7 N 8 '23

Case-hardening of steel. H. Brearley. 2d ed. 207p Longmans '21

Casehardening plant. Timken roller bearing co. E. W. Ehn. *il diags Chem & Met Eng* 28:578-87 Mr 28 '23

La cémentation des roulements à rouleaux Timken. R. Chenal. *il diags Génie Civil* 83:34-6 Jl 14 '23

Distortion produced in casehardening. A. A. Blue. *Am Mach* 56:915-16 Je 22 '22

Effect of quality of steel on case-carburizing results; abstracts. H. W. McQuaid and E. W. Ehn. *Min & Met* 182:60-1 F '22; *Chem & Met Eng* 26:656 Ap 5 '22

How to select, test and use carburizers. S. P. Rockwell. *Automotive Ind* 46:956-8 My 4 '22; Same. *Am Mach* 56:811-12 Je 1 '22

Industrial progress; case-hardening compounds. *Ind Management (Lond)* 8:225 O 19 '22

Influence of dissolved oxides on carburizing and hardening qualities of steel. E. W. Ehn. *Iron & Steel Inst J* 105:157-96, pl 10-16 no 1 '22; Excerpt. *Engineer* 133:519 My 12 '22; Excerpt. *Iron Age* 109:1807-8 Je 29 '22

Discussion. *Iron & Steel Inst J* 105:197-200 no 1 '22; *Engineering* 113:595 My 12 '22

Methods for locally preventing case hardening; abstracts. J. Galibourg and M. Ballay. *Iron Age* 110:136-7 Jl 20 '22; *Chem & Met Eng* 27:79 Jl 12 '22

New method for case hardening. F. Hodson. *Chem & Met Eng* 28:308 F 14 '23; Same. *Iron Age* 111:410 F 8 '23; Same. *Iron Tr R* 72:660 Mr 1 '23

Nitrol casehardening compound. *Am Mach* 57:589 O 12 '22

Problems in localized case hardening; manufacture of master collet hoods for screw machines. R. A. Millholland. *Iron Age* 110:265-6 Ag 3 '22

Les progrès récents dans les opérations de cémentation et de trempe. L. Guillet. *il diags Génie Civil* 81:273-7, 292-6, 315-20, 337-40 S 23-O 14 '22

Protective action of copper in case carburizing. J. C. McCullough and H. A. H. Pray. *Chem & Met Eng* 27:1119-20 D 6 '22

Rate of penetration in case hardening. *Automotive Ind* 45:822 O 27 '21

Die rückfeinung (regenerierung) des kernes von eingesetztem flusseisen. W. Oertel. *il Stahl & Eisen* 43:494-502 Ap 42 '23

Selective case-carburizing. W. P. Wood and O. W. McMullan. *il Chem & Met Eng* 26:1077-80 Je 7 '22

Stückstoff in eisen, stahl und sonderstahl; ein neues oberflächenhärtungsverfahren. A. Fry. *il Stahl & Eisen* 43:1271-9 O 4 '23

Case hardening—Continued

Ueber die diffusion des kohlenstoffs in metalle und die misch-kristalle des eisens. G. Tammann. *il Stahl & Eisen* 42:654-9 Ap 27 '22

See also Steel, Hardening of

Casein

Casein; its preparation and technical utilisation. R. Scherer. 3d Eng ed., rev. & enl., by H. B. Stocks. 213p Van Nostrand '21

Casein production for 1922. *Oil Paint & Drug Rep* 104:29 Ag 6 '23

Casein-tariff report compares costs data. *Oil Paint & Drug Rep* 104:19 S 3 '23

Casein tariff witnesses differ as to accuracy of quotations to show values. *Oil Paint & Drug Rep* 104:19 Ag 20 '23

Duty on casein discussed at public hearing of tariff commission. *Chem & Met Eng* 29:331 Ag 20 '23

Plastics from casein. *Chem Age* 31:235 My '23

Production costs of casein lower in Argentina than in United States. *Chem & Met Eng* 29:417 S 3 '23

Study of the casein used in coating paper. C. Marion. *Tech Assn Pa. ser* 4:48-52 Je '21

Analysis

Estimation of fat in casein. G. T. Bray and F. Major. *Soc Chem Ind J* 42:106-9; Discussion. 110 Mr 16 '23

Casein glue. See Glue

Cash discount. See Discount, Trade

Cash registers

See also National cash register company

Manufacture

Manufacturing methods in making the National cash register. L. S. Love. *il Iron Age* 112:531-2, 677-81, 1105-9 Ag 30, S 13, O 25 '23

Casinghead gasoline. See Gasoline—Manufacture—Natural gas processes

Casinghead gasoline royalty. See Oil lands

Caskets. See Coffins

Cassimere

Varying the cassimere finish. O. Fisk. *Taxile World* 62:1553-4 S 16 '22; Same. *Am Dye-stuff Rep* 12:110-1 Je 1 '23

Cassina. See Holly

Cast iron

Alloy iron castings. E. F. Cone. *Sci Am* 127:119 Ag '22

American electrochemical society 41st general meeting, Baltimore. *Iron Age* 109:1203-5 My 4 '22

American malleable cast iron. H. A. Schwartz. 416p [bibliog. p. 385-402] Penton pub. co. '22

American malleable cast iron. H. A. Schwartz. *il Iron Tr R* 67:1536-40; 68:213-18, 353-7+, 485-8+, 628-31+, 770-5, 901-4, 1039-42, 1175-80, 1317-21, 1453-60, 1662-8, 1792-7; 69:98-101, 233-8, 354-9+, 496-9, 611-16+, 813-16; 70:335-41, 410-11 D 2 '20, Ja 20, F 3, 17, Mr 3, 17, 31, Ap 14, 28, My 12, 26, Je 16, 30, Jl 11, 28, Ag 11, 25, S 8, 29 '21, F 2-9 '22

Annealing of gray iron castings. J. F. Harper and R. S. MacPherran. *il Iron Age* 110:1007-9 O 19 '22

Apply metallography to gray iron. J. W. Bolton. *il Foundry* 50:52-5, 109-12 Ja 15-F 1 '22 Die beziehungen zwischen zugfestigkeit, harte und gebundenem kohlenstoff beim gusseisen. E. Schütz. *Stahl & Eisen* 43:720-2 My 31 '23

Carburize synthetic cast iron. C. E. Williams and C. E. Sims. *Foundry* 50:390-3+ My 15 '22

Case hardening and other heat treatments as applied to gray cast iron. H. B. Knowlton. *Am Mach* 59:695-7 N 8 '23

Cast iron. P. W. Priestley. *Automobile Eng* 13:51 F '23

Cast iron and its chemical composition. O. Smalley. *il diag Engineering* 114:277-81 S 1 '22

Cast iron as produced in the electric furnace and some of its problems. G. K. Elliott. *Iron Age* 109:1225-6 My 4 '22

Cast-iron radiators for refrigerating coils. H. J. Macintire. *il diag Power* 57:896-7 Je 5 '23 Close and open grain in same metal. *il Foundry* 50:279-80 Ap 1 '22; Discussion. 50:394-5 My 15 '22

Composition of pig iron and of cast iron. Y. A. Dyer. *Iron Age* 108:1267-70 N 17 '21

Controlling cast iron hardness. S. J. Felton. *Foundry* 51:321-2 Ap 15 '23; Same. *Iron Tr R* 72:1382-3 My 10 '23

Effect of annealing gray iron. J. F. Harper and R. S. MacPherran. *Foundry* 51:176-80 Mr 1 '23; Same cond. *Iron Age* 110:1007-9 O 19 '22

Effect of heat treatment on cast iron. J. Durand. *Automotive Ind* 47:1076 N 30 '22

Effect of sources of pig iron upon the enameling of cast iron. M. E. Manson. *il Am Cer Soc J* 5:806-10 N '22; Discussion. (Bul) 5:360-5 D '22

Electric cast iron. *Chem & Met Eng* 26:820-2 My 3 '22

Engine castings requirements rigid. H. J. Young. *il Foundry* 50:311-14 Ap 15 '22

La fonte. J. B. C. Rouelle. 192p A. Colin, Paris '21

Graphite form in gray iron. J. W. Bolton. *Foundry* 51:658-64, 699-703 Ag 15-S 1 '23

Graphitization in iron-carbon alloys; abstract. K. Honda and T. Murakami. *il Chem & Met Eng* 26:180-1 Ja 25 '22

Grinding malleable castings. *Mach* 30:132 O '23

Handling malleable castings. H. R. Simonds. *il Foundry* 50:733-6 S 15 '22

Huge casting is shipped hanging between two cars. *il Pop Mech* 38:409 S '22

Improves malleable anneal. E. Miller. *Foundry* 51:150-1 F 15 '23

Influence of graphite on iron. J. W. Bolton. *il Foundry* 50:436-43 Je 1 '22

Iron and steel classified for designers. W. J. Merten. *Blast F & Steel Pl* 10:231-4 Ap '22

Iron castings by the centrifugal process. F. E. Hurst. *il Iron Age* 110:529-31 Ag 31 '22

Makes black heart malleable. R. Gailly. *Foundry* 51:826-7 O 15 '23

Malleable cast iron. E. Touceda. *il Am Mach* 57:321-5 Ag 31 '22

Malleable castings; story of great improvement made in past ten years. *Iron Age* 110:137 Jl 20 '22

Malleable-iron drilling data. H. A. Schwartz and W. W. Flagle. *il Soc Auto Eng J* 11:81-7; Discussion. 87 Jl '22

Malleable iron metallurgy. M. M. Marcus. *Foundry* 50:994-5 D 15 '22

Malleable iron report. *diag Foundry* 50:597 Jl 15 '22

Manufacture of synthetic cast iron in the electric furnace. W. L. Morrison. *Chem & Met Eng* 26:312-16 F 15 '22

Microscopy of cast iron. J. W. Bolton. *Foundry* 50:884a, 910a, 960a, 990a; 51:26a, 62a, 116a, 146a, 200a N 1 '22-Mr 1 '23

Non-magnetic cast iron. *Iron Age* 111:220 Ja 18 '23; *Sci Am* 128:402 Je '23

Non-magnetic cast iron; a Dawson-Ferranti patent. *il Elec R (Lond)* 91:645 N 3 '22

Old cast-iron structures on British railways. *il Eng N* 91:565 O 4 '23

Papers on malleable and gray iron at American foundrymen's association meeting. *Iron Age* 111:1335-8 My 10 '23

Pearlitic cast iron. *Iron Age* 112:825 S 27 '23

Pearlitic cast iron. R. Moldenke. *Iron Age* 112:412 Ag 16 '23

Das perlitgusseisen, seine herstellung, festigkeitseigenschaften und anwendungsmöglichkeiten. O. Bauer. *il diag Stahl & Eisen* 43:553-7 Ap 26 '23

Permeability of malleable high. *il Foundry* 51:24-5 Ja 1 '23; Same. *Iron Tr R* 72:231-2 Ja 18 '23

Pertinent facts concerning malleable-iron castings. E. Touceda. *il Soc Auto Eng J* 10:53-61 Ja '22; Discussion. 10:375-6 My '22

Physics of cast iron. *Iron Age* 112:1252-3 N 8 '23

Cast iron—Continued

Physics of cast iron and its bearing on all cast-iron products and specifications for cast iron. W. R. Webster. *Am Soc T M Pro* 22 pt 2:217-23 '22

Problems of the foundry; differing view of metallurgists regarding the effect of oxygen in gray iron. J. Shaw. *Foundry* 49:759-61 O 1 '21; Discussion. 49:859-61 N 1 '21

Reactions in malleablizing. A. Phillips and E. S. Davenport. *il Foundry* 50:185-94 Mr 1 '22; Excerpts. *Min & Met* 181:31-2 Ja '22

Report of committee A-3 of A.S.T.M. on cast iron. *Am Soc T M Pro* 22 pt 1:134-6; Discussion. 137-50 '22

Routine analytical methods. J. W. Bolton and W. T. Sheffield. *diags Foundry* 49:856a, 900a, 942a, 984a; 50:28a, 76a, 106a, 158a, 206a, 232a N 1 '21-Mr 15 '22

Scheme for the study of the physics of cast iron. R. Moldenke. *Am Soc T M Pro* 22 pt 2:224-6 '22

Some engineering aspects of cast iron. R. Moldenke. *N E Water Works Assn J* 37: 1-8; Discussion. 8-11 Mr '23

Study of carburization in the manufacture of synthetic cast iron. C. E. Williams and C. E. Sims. *Am Electrochem Soc Trans v* 41 (preprint 13):157-76 Ap '22

Synthetic cast iron; abstract. *Mech Eng* 44: 262-3 Ap '22

Synthetic cast iron, made in California. L. J. Barton. *Chem & Met Eng* 26:270-1 F 8 '22

Technical papers of A. F. A. on malleable cast iron. *Iron Age* 109:1708-9 Je 15 '22

Technical session of A. F. A. on gray iron and general matters. *Iron Age* 109:1665-6 Je 15 '22

Temper-carbon. L. Northcott. *Iron & Steel Inst J* 107:491-6 no 1 '23

Terre Haute water company uses malleable street vault covers to stand shocks of heavy truck wheels. D. R. Gwinn. *diag plan Munic Eng* 62:66-8 F '22

Le traitement thermique de quelques fontes de moulage. J. Durand. *Génie Civil* 80:302-3 Ap 1 '22

Ueber das weichglühen von grauguss. E. Piwowarsky. *il Stahl & Eisen* 42:1481-3 S 28 '22; Abstract. *Iron Age* 110:1499-1500 D 7 '22

Ueber die herstellung von synthetischem roheisen bei den eisen- und stahlwerken Oehler & Cie., A. G., Aarau (Schweiz). *Stahl & Eisen* 42:854 Je 1 '22

Ueber die veredelung des gusseisens durch nickelzusatz. E. Piwowarsky and K. Ebbefeld. *Stahl & Eisen* 43:967-8 Ji 26 '23

Ueber versuche zur bestimmung der kritischen temperatur beim glühen von grauguss. E. Schütz. *il Stahl & Eisen* 42:1484-8 S 28 '22

Umgekehrter hartguss und verwandte erscheinungen. W. Heike. *il diag Stahl & Eisen* 42:325-32 Mr 2 '22; Abstract (Black fractures and graphitized cementite). *Chem & Met Eng* 26:848-9 My 3 '22; Discussion. *Stahl & Eisen* 42:1906-8 D 28 '22

Usco; new alloy for firebars. *Power* 57:788 My '22 '23

Using cast-iron bars in automatics. F. H. Colvin. *il Am Mach* 58:97-9 Ja 18 '23

Variation with the temperature of the thermal conductivity of cast iron. E. E. Hall. *Phys R* 19:237-40 Mr '22

Versuche zur klärung der abhängigkeit der schwindung und lunkerung beim gusseisen von der gattierung. O. Bauer and K. Sipp. *il diags Stahl & Eisen* 43:1239-46 S 27 '23

Wet process enamels for cast iron; with discussion. R. R. Danielson and H. P. Reinecker. *Am Cer Soc J* 5:647-69 O '22; Discussion. (Bul) 5:305-10 N '22

See also Car wheels; Chilled iron; Corrosion and anti-corrosives; Foundry practice; Iron; Iron founding; Iron metallurgy; Pig iron; Semi-steel; Spiegeleisen

Cutting

Cutting cast iron with the oxyacetylene torch. A. S. Kinsey. *Stevens Ind* 38:287-96 O '21

Cutting iron with oxyacetylene. A. S. Kinsey. *Iron Tr R* 72:948-50 Mr 29 '23; Same. *Foundry* 51:328-30 Ap 15 '23

Principles of oxyacetylene fusion welding—cutting cast iron. A. S. Kinsey. *il Ry Mech Eng* 96:716-18 D '22

Failure

Failure of cast and high silicon iron in fuming sulfuric acid. T. F. Banigan. *J Ind & Eng Chem* 14:323 Ap '22

Superheated steam causes failure of cast iron. *Sci Am* 127:155 S '22

Softening

Whittling iron and what it is. *il Sci Am* 127: 25 Ji '22

Specifications

British specifications for malleable. *diag Foundry* 50:995-6 D 15 '22; Same. *Iron Tr R* 71:1701-2 D 21 '22

Chemical requirements in cast-iron specification. *Am Mach* 59:44 Ji 12 '23

Discusses British iron specifications. J. Shaw. *Foundry* 51:747-8 S 15 '23

Is it desirable to include chemical requirements in specifications for cast iron? discussion at American society for testing materials convention. *Iron Age* 112:12-13 Ji 5 '23; *Iron Tr R* 73:50-1 Ji 5 '23

Tentative specifications for gray iron castings adopted by the test bar committee of British foundrymen. *diags Iron Age* 112:760-1 S 20 '23; *Foundry* 51:679-80 Ag 15 '23

Tentative specifications for high test iron. *diags Foundry* 50:594 Ji 15 '22

Testing

Effect of nickel-chromium on cast iron; abstracts. R. Moldenke. *Min & Met* 189:54-5 S '22; *Automotive Ind* 48:1125 My 24 '23

Eulogizes British foundry iron. F. J. Cook. *il diags Foundry* 50:491-6 Je 15 '22; Same cond. *Iron Age* 109:1659-62 Je 15 '22; Discussion. *Foundry* 50:547-50 Ji 1 '22; *Iron Age* 109:1785-7 Je 22 '22

New methods of testing cast-iron. E. V. Ronceray. *Engineering* 114:6 Ji 7 '22

Reports American view on bar; international test bar considered from American standpoint and a résumé given of development of the standard gray-iron test bar in United States. R. Moldenke. *Foundry* 51:781-4 O 1 '23; Excerpt. *Iron Age* 112:874-5 S 27 '23

Tensile tests of cast iron at various temperatures. J. F. Harper and R. S. MacPherran. *il diags Iron Age* 110:793-4 S 28 '22

Testing cast iron discussed at international foundrymen's congress. *Foundry* 51:817-19 O '23

Ueber den einfluss des probestabquerschnittes auf die zug- und biegefestigkeit von gusseisen. P. Oberhoffer and W. Poensgen. *il diags Stahl & Eisen* 42:1189-92 Ag 3 '22

Welding

On welding cast iron without preheating. J. L. Kryza and H. E. Bradford. *diags Mach* 30:199-200 N '23

Arc-welding of cast iron. A. R. Allard. *il diag Mach* 28:461-4 F '22

Arc welding of cast iron. W. H. Namack. *il diags Gen Elec R* 26:221-7, 304-19 Ap-May '23

Cast iron welding. *il Gen Elec R* 26:178-83 Mr '23

Dependability of cast iron welding. G. O. Carter. *il Iron Age* 109:928-30 Ap 6 '22

Principles of oxyacetylene fusion welding; welding cast iron. A. S. Kinsey. *Ry Mech Eng* 96:416-18, 472-4, 533-5, 595-7, 651-3 Ji-N '22

Problems in the welding of cast iron discussed at American welding society meeting. *Iron Age* 110:929-30 O 12 '22

Versuche über elektrische lichtbogenschweißung von flusseisen und grauguss. H. Neese. *il diags Stahl & Eisen* 42:1001-13, 1192-8 Je 29, Ag 3 '22

Castelamarin

Castelamarin—a bitter principle from Castela Nicholsoni. L. P. Bosman. *Chem Soc J* 123: 207-10 F '23

Castelin

Castelin, a new glucoside from castela nicholsoni. L. P. Bosman. *Chem Soc J* 121:969-72 E '22

Casters

Hyatt-fitted plate castors. *il diags Eng & Ind Management* 8:61-2 Ag 10 '22

Castigliano's theorem

Castigliano's theorem of least work, and the principle of St Venant. R. V. Southwell. *Philos Mag* 6th ser 45:193-212 Ja '23

Casting

Possibilities of terra cotta casting. R. F. Geller. *il Am Cer Soc J* 4:883-95 N '21

Casting (metals). See Foundry practice

Casting, Centrifugal

Cast iron pipe centrifugally. E. C. Kreutzberg. *il Foundry* 51:727-31 S 15 '23; Same. *Iron Tr R* 73:871-5 S 27 '23

Casting pipe without a core. *Gas Age* 50:327 S 9 '22

Casting steel ingots centrifugally. L. Cammen. *diags Iron Age* 110:1494-6 D 7 '22

Centrifugal casting. L. Cammen. *diags Chem & Met Eng* 26:354-8 F 22 '22

Centrifugal casting. N. Lilienberg. *diags Blast F & Steel Pl* 10:375-9 J 1 '22

Centrifugal casting well adapted to certain automotive work. L. T. Knocke. *Automotive Ind* 48:668-9 Mr 22 '23

Centrifugal castings; abstracts. F. E. Hurst. *Engineer* 134:72-3 J 1 '22; *Iron Age* 110:529-31 Ag 31 '22

Centrifugally cast iron pipe. P. Gillespie. *Eng N* 88:1080-1 Je 29 '22

Chromium alloy steel cast centrifugally. L. Cammen. *il Iron Age* 110:655 S 14 '22

Concrete pipe cast by new centrifugal process. *Pop Mech* 39:738 My '23

Concrete poles made by centrifugal process. F. A. Brackmann. *il Power Pl Eng* 27:531-2 My 15 '23; Same cond. *Eng N* 91:136-7 J 1 '26 '23

English make centrifugal castings. H. C. Estep. *il Foundry* 50:217-22 Mr 15 '22; Same. *Iron Tr R* 70:887-92 Mr 30 '22

Heat treatment of centrifugally cast iron pipe. *il Iron Age* 111:1256-7 My 3 '23

Making lock-joint centrifugal pipe. *il Concrete* 21:162-3 N '22

Massenerzeugung höchstwertiger kolbenringe. C. Irresberger. *il diags Stahl & Eisen* 42:841-5 Je 1 '22

Producing centrifugal castings. L. Cammen. *diags Iron Tr R* 70:1188-93 Ap 27 '22; Same. *Foundry* 50:460-5 Je 1 '22; Same. *Mech Eng* 44:500-4 Ag '22; Same. *Engineering* 114:158-60 Ag 4 '22; Abstract. *Metal Ind* 20:457-8 D '22

Reinforced-concrete pipe made by centrifugal process. *il diags Eng N* 89:829-30 N 16 '22

Special products made centrifugally. G. F. Tegan. *il diags plans Iron Age* 111:337-8 F 1 '23

Stanton spun iron pipe. *il diags plan Engineer* 136:104-6 J 1 '23

Steel pipe by the centrifugal process. L. Cammen. *Iron Age* 109:405-6 F 9 '22

Casting machines

Massenerzeugung höchstwertiger kolbenringe. C. Irresberger. *il diags Stahl & Eisen* 42:841-5 Je 1 '22

Castles

Castles in Spain. G. G. King. *il Am Inst Arch J* 10:377-82 D '22

Chateau d'Alincourt près Magny-en-Vexin. G. Rickard. *il plans Am Arch* 124:329-35 O 10 '23

Castleton, New York**Bridges**

Castleton bridge contracts let. *diags plans Eng N* 88:998-9 Je 15 '22

Castor beans

Application industrielle de la lipodiatase des graines de ricin. G. Kita. *Chimie & Ind* 9:863-5 My '23

Castor bean lipase, its preparation and some of its properties. D. E. Haley and J. F. Lyman. *Am Chem Soc J* 43:2664-70 D '21

Castor machine oil

Castor machine oil; composition, value as lubricant and manufacture. H. L. Kaufman. *Nat Pet N* 14:45+ N 22 '22

Castor oil

Castor oil on belts. W. F. Schaphorst. *Textile World* 60:3609+ D 24 '21

Castoria

Advertising builds a successful business without the help of salesmen; simplicity the secret of Castoria's success. R. Cole. *Ptr Ink* 121:125-6+ O 19 '22

Castoria business purchased by Household products, inc. *Ptr Ink* 122:28 F 15 '23

Cataloging

Cataloging and recataloging the Engineering societies library. H. W. Craver. *Min & Met* 184:41-2 Ap '22

Cataloging rules. D. Fellows. 2d ed., rev. & enl. 303p H. W. Wilson co. '22

See also Files and filing (documents); Indexing; Subject headings

Catalogs

Better knowledge of the factory by the dealer speeds up sales. P. F. O'Shea. *Ptr Ink* 122:125-6+ Ja 25 '23

Catalogue that breaks all the rules; Better tires company disregards precedent. G. A. Nichols. *Ptr Ink M* 6:95-6 Mr '23

Catalogue that gives selling arguments to dealers. *Ptr Ink* 122:107-8 F 8 '23

Cataloguing the power of personality. J. True. *il Ptr Ink M* 4:24-5+ My '22

Christening the catalogue. F. K. Marsh. *Ptr Ink M* 4:35-6 My '22

Do inserts in jobbers' catalogues pay? R. W. Johnson. *Ptr Ink M* 5:67-8+ S '22

Engineer finds catalogs of value. A. D. Palmer. *Power* 54:899 D 6 '21

Facility, economy and convenience—and the loose-leaf portfolio. B. Berfield. *il Ptr Ink M* 6:40+ Mr '23

Fewer catalogs; more sales. E. Rigby. *System* 41:677-8 Je '22

Getting dealers to use your best sales arguments. C. B. Larrabee. *Ptr Ink M* 7:23-4+ S '23

Handshake in the catalogue. *Ptr Ink M* 6:56 My '23

Hobby business of an underwear manufacturer; peonies. *il Ptr Ink M* 5:57-8+ O '22

How fish stories built up a bait business. *Ptr Ink M* 4:70+ Ja '22

How to compile catalogs. A. Dowel. *Am Mach* 56:562-3 Ap 13 '22; Same. *Ptr Ink* 120:126+ J 6 '22

Human-interest catalogue and why it sells; Johnson incubators. G. A. Nichols. *Ptr Ink M* 7:63-4+ O '23

Humanized catalogue illustrations. A. Bradbury. *il Ptr Ink M* 6:27 Ja '23

Junior catalogue rounds up juvenile buyers. M. Hastings, jr. *Ptr Ink M* 4:27+ Ap '22

Just how miniature catalogue increases sales. M. Hastings, jr. *Ptr Ink M* 6:136+ Je '23

Keeping branch stocks down by localizing the catalogue. H. Burwen. *Ptr Ink* 123:129-30 Je 11 '23

Letter that brought 59 per cent replies. *Ptr Ink* 120:101-2 S 14 '22

Making the catalogue a reference book. R. W. Johnson. *Ptr Ink M* 6:42, 44 F '23

Mayer brothers equip their salesmen with seven-league boots. R. K. Sewell. *Ptr Ink M* 4:82+ Ap '22

More orders from each catalog sent out. K. H. Bronson. *System* 44:303 S '23

Plea for lower costs of advertising. *il Ptg Art* 42:27-34 S '23

Putting personality into the mail-order catalogue. G. A. Nichols. *Ptr Ink M* 7:37-8+ N '23

Putting sales power into the catalogue. M. Gross. *il Ptg Art* 39:335-40 Je '22

Putting the handshake into the catalogue. M. Hastings, jr. *il Ptr Ink M* 4:15-16 Ja '22

Catalogs—Continued

- Question on catalogue sizes. *Ptr Ink* 121:20 D 21 '22
- Should the manufacturer charge for his catalogue? *Ptr Ink* 124:69-70+ J1 5 '23
- Some things that can be done with a catalogue. J. F. Cameron. *Ptr Ink M* 4:54+ D '21
- Sure-fire method of getting the retailer's fill-in order. G. A. Nichols. *Ptr Ink M* 4:42+ Ja '22
- Trade catalogues in Carnegie library, Pittsburgh. E. H. McClelland. *Special Lib* 13: 23-5 F '22
- When the general catalogue is too general; individual catalogue for each jobber used by Hood rubber co. H. Burwen. *Ptr Ink* 122:117-18+ Ja 25 '23
- When the retailer fights for net-price catalogue. G. A. Nichols. *Ptr Ink* 119:81-2+ Je 1 '22
- When the salesman fight the catalogue. C. M. Harrison. *Ptr Ink M* 5:37-8 D '22
- Your big selling idea—the and the intimate catalogue. K. B. White. *il Ptr Ink M* 4:26 My '22

See also Counter books

Catalogs, Booksellers'

- Catalog of books for 1921-22. 223p Marshall Field & co., Chicago '21

Catalogs, Special sale

- Plan that stirred up sales in off seasons. H. C. Clarke. *Ptr Ink M* 7:74+ J1 '23

Catalysis

- Action of alumina, titania and thoria upon ethyl and isopropyl acetates. H. Adkins and A. C. Krause. *diag Am Chem Soc J* 44: 385-92 F '22
- Adsorption and catalysis in carbon monoxide oxidation. A. F. Benton. *Am Chem Soc J* 45:900-7 Ap '23
- Adsorption and catalysis in fuller's earth. E. K. Rideal and W. Thomas. *Chem Soc J* 121:2119-23 O '22
- Adsorption of gases by oxide catalysts. A. F. Benton. *Am Chem Soc J* 45:887-99 Ap '23
- Anthraquinone a useful adjunct in dyeing and printing. *il Color Tr J* 10:28-30 Ja '22
- Behaviour of certain metals as catalysts; abstract. C. Sandonini. *Chem Soc J* 122 pt 2: 557-8 Ag '22
- Catalysis and catalytic agents in chemical processes. H. S. Taylor. *il J Fr Inst* 194: 1-27 J1 '22; Excerpts. *Chem Age* 30:309-14 J1 '22; *Brass W* 18:277 S '22
- Catalysis in organic chemistry. P. Sabatier. 406p Van Nostrand '22
- Catalysis in the gas industry. E. K. Rideal. *Gas Age* 49:9 Ja 7 '22
- Catalysis in the interaction of carbon with steam and with carbon dioxide. H. S. Taylor and H. A. Neville. *diag Am Chem Soc J* 43:2055-71 S '21
- Catalysis of hydrogen peroxide by finely divided platinum; the influence of inhibitors. E. B. Maxted. *Chem Soc J* 121:1760-5 S '22
- Catalysis of the formation and hydrolysis of acetamide by acetic acid. W. A. Noyes and W. F. Goebel. *Am Chem Soc J* 44:2286-95 O '22
- Catalysis of the mutarotation of dextrose by metals. W. E. Garner and D. N. Jackman. *Chem Soc J* 119:1936-48 D '21
- Catalysis with special reference to newer theories of chemical action. 675p University press, Aberdeen '22
- Catalyst poisoning. E. B. Maxted. *Chem Age (Lond)* 8:233 Mr 3 '23
- Catalysts in bleaching and dyeing. A. J. Hall. *Am Dyestuff Rep* 12:33-5 Ja 1 '23
- Catalytic action. K. G. Falk. 172p Chemical catalog co. '22
- Catalytic action of colloids in corrosion. J. K. Wood. *Chem & Met Eng* 29:188-92 J1 30 '23
- Catalytic activity of copper. O. W. Brown and C. O. Henke. *J Phys Chem* 26:715-27 N '22
- Catalytic activity of tin. O. W. Brown and C. O. Henke. *J Phys Chem* 27:739-60 N '23
- Catalytic combination of ethylene and hydrogen in the presence of metallic copper. R. N. Pease. *diag Am Chem Soc J* 45:1196-1210, 2235-42 My, O '23
- Catalytic decomposition of certain oxides. J. Kendall and F. J. Fuchs. *Am Chem Soc J* 44:1447-8 J1 '22
- Catalytic decomposition of certain oxides. G. B. Taylor and G. A. Hulett. *Am Chem Soc J* 44:1443-5 J1 '22
- Catalytic decomposition of formic acid in acetic anhydride. E. R. Schierz. *Am Chem Soc J* 45:455-68 F '23
- Catalytic decomposition of formic acid on surfaces of platinum and silver. H. C. Tingey and C. N. Hinshelwood. *diag Chem Soc J* 121:1668-76 Ag '22
- Catalytic decomposition of hydrogen peroxide by ferric salts. V. L. Bohnson and A. C. Robertson. *Am Chem Soc J* 45:2493-2503 N '23
- Catalytic decomposition of hydrogen peroxide in a bromine-bromide solution. W. C. Bray and R. S. Livingston. *Am Chem Soc J* 45:1251-71, 2048-58 My, S '23
- Catalytic decomposition of hydrogen peroxide solution by carbons prepared from carbohydrates. J. B. Firth and F. S. Watson. *Soc Chem Ind J* 42:371-2 S 14 '23
- Catalytic formation of water vapor from hydrogen and oxygen in the presence of copper and copper oxide. R. N. Pease and H. S. Taylor. *Am Chem Soc J* 44:1637-47 Ag '22
- Catalytic gas from heavy oil. J. F. Shadgen. *Gas Age* 50:897-8 D 30 '22
- Catalytic hydrogenation and the potential of the hydrogen electrode. J. B. Conant and H. B. Cutler. *Am Chem Soc J* 44:2651-4 N '22
- Catalytic hydrogenation of dextro glucose; preliminary notice. W. E. Cake. *Am Chem Soc J* 44:859-61 Ap '22
- Catalytic hydrogenation of oils. E. J. Lush. *Soc Chem Ind J* 42:219-24; Discussion. 224-5 My 25 '23
- Catalytic hydrogenation with nickel. R. Thomas. *Soc Chem Ind J* 42:21-6 Ja 19 '23
- Catalytic influence of foreign oxides on the decomposition of silver oxide, mercuric oxide and barium peroxide. J. Kendall and F. J. Fuchs. *diag Am Chem Soc J* 43:2017-31 S '21
- Catalytic oxidation of anthracene to anthraquinone. C. E. Sensesen and O. A. Nelson. *diag Ind & Eng Chem* 15:521-4 My '23
- Catalytic oxidation of carbon monoxide. T. H. Rogers and others. *Am Chem Soc J* 43: 1973-82 S '21
- Catalytic oxidation of carbon monoxide at ordinary temperatures. D. R. Merrill and C. C. Scalione. *Am Chem Soc J* 43:1982-2002 S '21
- Catalytic oxidation of carbon monoxide; efficiency of the catalysts, manganese dioxide, cupric oxide and mixtures of these oxides. J. A. Almquist and W. C. Bray. *diag Am Chem Soc J* 45:2305-22 O '23
- Catalytic preparation of aniline. O. W. Brown and C. O. Henke. *J Phys Chem* 26:161-90, 272-87 F-Mr '22
- Catalytic preparation of azobenzene and aniline. C. O. Henke and O. W. Brown. *J Phys Chem* 26:324-48, 631-8 Ap, O '22
- Catalytic preparation of ortho-toluidine. C. O. Henke and O. W. Brown. *J Phys Chem* 27: 52-64 Ja '23
- Catalytic reduction of nitro compounds; gamma-nitro ketones. E. P. Kohler and N. L. Drake. *Am Chem Soc J* 45:2114-50 S '23
- Catalytic synthesis of the acetals and their halogenation. J. S. Reichert, J. H. Bailey and J. A. Nieuwand. *Am Chem Soc J* 45: 1552-7 Je '23
- Chemical go-between. *Sci Am* 128:82 F '23
- Chemical reactions on surfaces. I. Langmuir. *Gen Elec R* 25:445-54 J1 '22
- Contact catalysis. W. D. Bancroft. *Eng Soc W Pa* 37:375-89; Discussion. 390-7 N '21
- Contact catalysis. E. K. Rideal. *Soc Chem Ind J (Chem & Ind)* 12:614 Je 22 '23

Catalysis—Continued

- Contribution à l'étude des actions catalytiques des rayons ultra violets. L. Bourgoïn. *Can Chem & Met* 7:95-6 Ap '23
- Contributions to the study of ammonia catalysts. A. T. Larson and others. *Diags Chem & Met Eng* 26:493-7, 555-60, 588-93, 647-54, 683-5 Mr 15-Ap 12 '22
- Control devices employed in testing ammonia catalysts. A. T. Larson and S. Karrer. *flow sheet diags J Ind & Eng Chem* 14:1012-14 N '22
- Decomposition of potassium perchlorate and its catalysis by ferric oxide. C. E. Otto and H. S. Fry. *diag Am Chem Soc J* 45:1134-43 My '23
- Dislocation theory of catalysis; abstract. J. Böeseken. *Chem Soc J* 122 pt 2:755 N '22
- Effect of a magnetic field on catalysis by ions in the presence of a paramagnetic salt. W. E. Garner and D. N. Jackman. *Chem Soc J* 121:1298-9 J '22
- Effect of adding various chemicals to wood previous to distillation. L. F. Hawley. *J Ind & Eng Chem* 14:43-4 Ja '22
- Effect of salts upon the acid hydrolysis of wood. E. C. Sherrard and W. H. Gauger. *Ind & Eng Chem* 15:63-4 Ja '23
- Eine eigenartige katalytische reaktion als nachweis und bestimmungsverfahren für kleinste kupfermengen (zugleich vorlesungsversuch). F. L. Hahn and G. Leimbach. *Deutsche Chem Gesell Ber* 55:3070-4 O '22; Abstract. *Chem Soc J* 122 pt 2:870-1 D '22
- Eisen als licht-chemischer katalysator; über die zersetzung von ferrocyankalium im tageslicht. O. Baudisch and L. W. Bass. *Deutsche Chem Gesell Ber* 55:2698-2706 S '22
- Energy of activation in heterogeneous gas reactions with relation to the thermal decomposition of formic acid vapour. C. N. Hinshelwood and B. Topley. *diag Chem Soc J* 123:1014-25 My '23
- First report of the committee on contact catalysis. W. D. Bancroft. *J Ind & Eng Chem* 14:326-31, 444-7, 545-8, 642-6 Ap-Jl '22; Same. (Reprint & Circ. Ser. 30) 43p '22 50c National Research Council, 1701 Massachusetts av, Washington, D.C.
- Full report of the general discussion on catalysis with special reference to newer theories of chemical action. 129p Faraday society, 10, Essex st., London, W.C. 2 '22
- How to choose and use catalysts. H. W. Underwood, jr. *Chem & Met Eng* 29:709-10 O 15 '23
- Influence of temperature, pressure and supporting material for the catalyst on the adsorption of gases by nickel. A. W. Gauger and H. S. Taylor. *Am Chem Soc J* 45:920-8 Ap '23
- Ion activities in homogeneous catalysis; the formation of parachloro-acetanilide from acetylchloro-amino-benzene. H. S. Harned and H. Seltz. *Am Chem Soc J* 44:1475-84 Jl '22
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen: chinolinbasen. J. v. Braun, A. Petzold and J. Seemann. *Deutsche Chem Gesell Ber* 55:3779-92 D '22; Abstract. *Chem Soc J* 121 pt 1:136-8 F '23
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; der carbazol-komplex. J. v. Braun and H. Ritter. *Deutsche Chem Gesell Ber* 55:3792-3803 D '22; Abstract. *Chem Soc J* 124 pt 1:141-3 F '23
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; hexahydro-diphenylenoxyd aus o-diphenol. J. v. Braun. *Deutsche Chem Gesell Ber* 55:3761-70 D '22; Abstract. *Chem Soc J* 124 pt 1:103-5 F '23
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; inden und acenaphthen. J. v. Braun and G. Kirschbaum. *Deutsche Chem Gesell Ber* 55:1680-6 Je '22
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; phenetidin. J. v. Braun and E. Hahn. *Deutsche Chem Gesell Ber* 55:3770-9 D '22; Abstract. *Chem Soc J* 124 pt 1:102-3 F '23
- Die katalytische hydrogenisation organischer verbindungen mit unedlen metallen bei zimmertemperatur: die aktivität der bei verschiedenen temperaturen hergestellten nickel-katalysatoren; der einfluss des sauerstoffes auf den nickel-katalysator. C. Kellber. *Deutsche Chem Gesell Ber* 54:1701-5 S '21
- Making petroleum from colza oil. *Sci Am* 126:93 F '22
- Manganese in the catalytic oxidation of ammonia. C. S. Piggot. *diag Am Chem Soc J* 43:2034-45 S '21
- Mechanism of catalysis. H. W. Underwood, jr. *Chem & Met Eng* 29:584-7 S 24 '23
- Mechanism of the reaction of hydrogen with sulphur and its catalysis by oxygen. R. G. W. Norrish and E. K. Rideal. *Chem Soc J* 123:1689-1705 Jl '23
- Organic catalysis. E. E. Reid. *bibliog J Ind & Eng Chem* 14:838-9 S '22
- Oxidation of ammonia—the work of the Sheffield experiment station. H. A. Curtis. *Chem & Met Eng* 27:699-703 O 4 '22
- Oxidation of nickel sulphide. J. S. Dunn and E. K. Rideal. *Chem Soc J* 123:1242-51 My '23
- Oxidation of nitric oxide and its catalysis. C. L. Burdick. *diags Am Chem Soc J* 44:244-51 F '22
- Oxide equilibria in catalysis. J. M. Weiss, C. R. Downs and R. M. Burns. *Ind & Eng Chem* 15:965-7 S '23
- Phthalic anhydride; the preparation of phthalic anhydride by the catalysis of the vapor phase reaction between naphthalene and atmospheric air. C. Conover and H. D. Gibbs. *diag J Ind & Eng Chem* 14:120-5 F '22
- Platinum oxide as a catalyst in the reduction of organic compounds; preparation and properties of the oxide of platinum obtained by the fusion of chloroplatinic acid with sodium nitrate. R. Adams and R. L. Shriner. *Am Chem Soc J* 45:2171-9 S '23
- Platinum oxide as a catalyst in the reduction of organic compounds; reduction of aldehydes. W. H. Carothers and R. Adams. *Am Chem Soc J* 45:1071-86 Ap '23
- Potentialities of catalytic research in the chemical industry. H. S. Taylor. *Ind & Eng Chem* 15:902-4 S '23
- Preferential oxidation in presence of catalysts. E. Furness. *Soc Chem Ind J (Chem & Ind)* 42:196-9 Mr 2 '23
- Problem of negative catalysis. H. S. Taylor. *J Phys Chem* 27:322-41 Ap '23
- Promoter action in homogeneous catalysis; copper salts as promoters in the iron salt catalysis of hydrogen peroxide. V. L. Bolnson and A. C. Robertson. *Am Chem Soc J* 45:2512-22 N '23
- Promoter action in the decomposition of potassium chlorate. H. A. Neville. *Am Chem Soc J* 45:2330-3 O '23
- Promotion of catalytic reactions. S. Medsforth. *Chem Soc J* 123:1462-69 Je '23
- Reduction of copper oxide by carbon monoxide and the catalytic oxidation of carbon monoxide in presence of copper and of copper oxide. H. A. Jones and H. S. Taylor. *diag J Phys Chem* 27:623-51 O '23
- Regeneration of catalysts in oil hardening. *Chem Age* 30:220 My '22
- Researches on sulphuryl chloride; influence of catalysts: a convenient method of chlorinating benzene. O. Silberrad. *Chem Soc J* 119:2029-36 D '21
- Role of mercury salts in the catalytic transformation of acetylene into acetaldehyde and a new commercial process for the manufacture of paraldehyde. R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 43:2071-81 S '21
- Rôle of protective colloids in catalysis. T. Iredale. *Chem Soc J* 121:1536-42 Ag '22
- Selective activation of alumina for decarboxylation or for dehydration. H. Adkins. *Am Chem Soc J* 44:2175-86 O '22

Catalysis—Continued

- Studies in catalysis; absorption spectra of triethylsulphonium bromide in various solvents, in the short infra-red region. H: A. Taylor and W: C. M. Lewis. *Chem Soc J* 121:665-75 Ap '22
- Studies in catalysis; the inversion of sucrose by hydrogen ion. T: Moran and W: C. M. Lewis. *Chem Soc J* 121:1613-24 Ag '22
- Studies on catalysis; dehydration and addition reactions of ethyl alcohol: formation of acetal and mercaptans. F. A. Gilfillan. *Am Chem Soc J* 44:1323-33 Je '22
- Studies on catalysis; the reduction of uracil to hydro-uracil. E. B. Brown and T. B. Johnson. *Am Chem Soc J* 45:2702-8 N '23
- Study of catalysis in the preparation of acetal. H. Adkins and B. H. Nissen. *Am Chem Soc J* 44:2749-55 D '22
- Temperature coefficients of reactions in tropical sunlight. N. Dhar. *Chem Soc J* 123:1856-61 Ag '23
- Testing chemical action under great pressure. *Il Pop Mech* 37:346 Mr '22
- Über den mechanism der katalytischen hydrierung. A. Skita. *Deutsche Chem Gesell Ber* 55:139-43 Ja '22
- Über den mechanism der oxydationsvorgänge. H: Wieland. *Deutsche Chem Gesell Ber* 54:2353-76 O '21; Abstract. *Chem Soc J* 120 pt 1:889-91 D '21
- Über die beeinflussung der platin-katalyse des hydroperoxyds durch röntgenstrahlen. R. Schwarz and W. Friedrich. *Deutsche Chem Gesell Ber* 55:1040-51 Ap '22; Discussion. 55:2492-4 S '22
- Über die beeinflussung der wirksamkeit von katalysatoren; oxydative katalytische dehydrierung von alkoholen. K. W. Rosenmund and F. Zetzsche. *Deutsche Chem Gesell Ber* 54:2033-7 S '21
- Über die beeinflussung der wirksamkeit von katalysatoren; zur kenntnis der katalytischen reduktion von estern und aldehyden. K. W. Rosenmund, F. Zetzsche and F. Heise. *Deutsche Chem Gesell Ber* 54:2038-42 S '21
- Über die wirkungsweise des platins bei der sauerstoff-wasserstoff-katalyse und über die verwendung von titanschwefelsäure zur kontrolle des reaktionsverlaufes. K. A. Hofmann. *Deutsche Chem Gesell Ber* 55:1265-74 My '22
- Über katalysator-beinflussung und spezifisch wirkende katalysatoren; discussion. K. W. Rosenmund, F. Zetzsche and E. Abel. *Deutsche Chem Gesell Ber* 54:2885-8; 55:322-3 N '21, F '22
- Use of the oxides of platinum for the catalytic reduction of organic compounds. V. Voorhees and R. Adams. *Am Chem Soc J* 44:1397-1405 Je '22
- Zur katalytischen wasserstoff-anlagerung: einfluss des sauerstoffs auf den katalysator. W. Normann. *Deutsche Chem Gesell Ber* 55:2193-7 Jl '22
- Zur kenntnis der sauerstoff-wasserstoff-katalyse durch platinmetalle und über die potenziale der kontakte bei gegenwart wässriger elektrolyte. K. A. Hofmann. *diags Deutsche Chem Gesell Ber* 55:573-88 F '22

See also Colloids

Catalytic apparatus

Casale catalytic apparatus for ammonia synthesis. *diag Chem Age* 30:166-7 Ap '22

Cataphoresis. See Electrophoresis; Osmosis

Catechol

- Bemerkungen zu Hrn. M. Nierensteins arbeiten über das catechin. K. Freudenberg. *Deutsche Chem Gesell Ber* 55:1938-42 Je '22; Erwiderung. M. Nierenstein. 55:3831-3 D '22
- Constitution of catechin. M. Nierenstein. *Chem Soc J* 121:604-13 Ap '22
- Raumisomere catechine; mitteilung über gerbstoffe und ähnliche verbindungen. K. Freudenberg, O. Böhme and L. Purrmann. *diag Deutsche Chem Gesell Ber* 55:1734-47 Je '22; Abstract. *Chem Soc J* 122 pt 1:756-7 Ag '22
- Über die optische aktivität des catechins. K. Feist and A. Futtermenger. *Deutsche Chem Gesell Ber* 55:942-4 Ap '22

Catechutannins

Catechutannins; paullinia tannin. M. Nierenstein. *Chem Soc J* 121:23-8 Ja '22

Caterers and catering

Ideas for refreshment rooms. 376p Hotel monthly press, Chicago '23

Caterpillar tractors. See Tractors

Caterpillar vehicles. See Motor vehicles—Caterpillar type

Caterpillars

Plague of caterpillars stops railway trains. *Pop Mech* 40:236 Ag '23

Cates, Louis Shattuck, 1881-

Mining engineers of note. *por Eng & Min J* 115:22 Ja 6 '23

Cathedrals

Ad quadratum, by F. M. Lund. Review, by C: H. Moore. *Arch Rec* 54:229-32 S '23

Modern cathedral for an industrial city. A. Granger. *il plans Am Arch* 121:5-10 Ja 4 '22

Student work, Beaux-Arts institute of design. *Am Arch* 123:328-9 Ap 11 '23

See also Church architecture; also Lincoln cathedral, England; St John the Divine, Cathedral of, New York

France

Detail, Tréguier cathedral; measured and drawn by Robert M. Blackall. *Am Arch* 123:191 F 28 '23

Great Britain

Cathedral church of England. W: B. Tuthill. 153p Macmillan '23

Stained glass in the Warrior's Aisle of the nave of Salisbury cathedral. *Arch Rec* 51:356-9 Ap '22

Italy

See also St Peter's cathedral, Rome

Cathode rays

- Cathodo-luminescence and its relation to states of molecular aggregation. J. Ewles. *diags Philos Mag* 6th ser 45:957-68 My '23
- Loss of velocity of cathode rays in matter. H. M. Terrill. *diag Phys R* 22:101-3 Ag '23
- Penetration of cathode rays in molybdenum. D. L. Webster and A. E. Hennings. *diags Phys R* 21:301-11 Mr '23

Cathodes

- Cathode disintegration. *diag Philos Mag* 6th ser 45:98-112 Ja '23; Discussion. F. W. Aston. 46:211-13 Jl '23
- Removal of thorium from the surface of a thoriated tungsten filament by positive ion bombardment. K. H. Kingdon and I. Langmuir. *diag Phys R* 22:148-60 Ag '23
- Theory of the abnormal cathode fall. *Philos Mag* 6th ser 45:1149-55 Je '23

Catskill aqueduct

- Additional work on Catskill aqueduct. *Pub Works* 51:467-9 D 17 '21
- After Ashokan—what? S. G. Roberts. *il diag Sci Am* 127:102-3 Ag '22
- Building additional siphons of Catskill aqueduct. T. Merriman. *il diags Eng N* 90:566-9 My 17 '23
- Doubling New York's water supply; two additional lines of 11-foot pipe increase aqueduct capacity to 500,000,000 gallons per day. *il Sci Am* 128:92 F '23
- Engineering geology of the Catskill water supply. C. P. Berkey and J. F. Sanborn. *il diags maps Am Soc C E Pro* 48:1529-95, pl 21-3 S '22; Discussion. 48:1889-1900; 49:123-30, 568-74 D '22, Ja. Mr '23
- Schoolie development of the Catskill water system of the city of New York. J. W. Smith. *il diags maps Am Water Works Assn J* 10:797-828 S '23
- Steel pipe concrete jacketed and concrete lined. *il Min & Met* 188:29-30 Ag '22
- Synura and other organisms in Catskill water supply. W: W. Brush. *il map plan Eng N* 88:266-71 F 16 '22

World's longest continuous tunnel holed through. *il diag Eng N* 90:443-4 Mr 8 '23

See also Gilboa dam

Cattle, Identification of

Taking bossie's nose print. C: F. Collison. *il Sci Am* 127:317 N '22

Cattle guards

Cattle guard made of old boiler tubes. *diags plan Eng & Contr* 58:166 Ag 16 '22
Concrete cattle guard can't burn or bend. *il Pop Mech* 40:173 Ag '23
Keeping stock off the track. *diags plan Elec Ry J* 59:970-1 Je 17 '22

Cattle industry**California**

Better conditions ahead for the California cattle industry. R. M. Hagen. *J Elec* 48: 106 F 1 '22

Causeways

Building a road with a dredge; sand, pumped from the Mississippi river, carries the highway across a Wisconsin lake. L. J. Jellison. *il Sci Am* 126:394 Je '22
Building Rockaway boulevard. *il Pub Works* 53:169-71 O '22
Causeway succeeds Lynn floating bridge. *diags Eng N* 88:789 My 11 '22
New causeway of Southern Pacific links island and mainland. H: F. Jonas. *il Ry R* 72: 142-3 Ja 20 '23
Pulling concrete piles at the Galveston causeway. *il Eng N* 89:756-7 N 2 '22
Rebuilding of Galveston causeway nearly complete. *il diags map Ry Age* 72:1113-16 My 13 '22
Six-mile causeway to cross Tampa Bay. *map Eng N* 90:106 Ja 18 '23

Caustic curves. See Curves, Caustic

Caustic soda. See Sodium hydroxide

Caves

Edouard Alfred Hartel faces death to explore wonders beneath surface of earth. J. Boyer. *il Pop Mech* 40:346-9 S '23
Floodlights 'bring out beauty of Utah cavern. *il J Elec* 51:172-3 S 1 '23

See also Stalactites

Caxton, William

First book printed in the English language—how Caxton came to be a printer. J. B. Arnold. *Inland Ptr* 71:59-60 Ap '23
Where did Caxton learn to print? H: L. Bullen. *Inland Ptr* 71:679 Ag '23

Cayley, Sir George, 1773-1857

Some notes on Sir George Cayley as a pioneer of aeronautics. J. E. Hodgson. *Roy Aeronautical Soc J* 27:371-80 Ag '23

Cedar oil

L'essence de cèdre de l'Atlas. Massy. *bibliog Chimie & Ind* 8:464-5 Ag '22

Ceilings

Growing popularity of steel ceilings. *il Sheet Metal Worker* 14:678-9 S 23 '23
High wages favoring metal ceilings. *il Sheet Metal Worker* 14:286-7 My 11 '23
Suspended ceiling carried by welded steel work. *il Eng & Contr (Bldgs)* 59:749 Mr 28 '23

Specifications

Suspended metal lath ceiling specifications suggested. *Eng N* 89:569 O 5 '22; Same. *Eng & Contr* 58:301 S 27 '22

Celanese. See Silk, Artificial

Celestial mechanics. See Mechanics, Celestial

Cellars

Concrete storage cellar for a state institution; South Dakota state hospital at Yankton. *il diags plan Concrete* 23:16-18 Ji '23

Electricity in the house; the cellar. M. O. Whitton. *plan Am Arch* 121:490-2 Je 7 '22

Cellophane

Cellophane: its properties and methods of testing. W. Gruenwald. *Paper Tr J* 75:53 N 30 '22

Cells

Permeability. W. Stiles. *Sci Am* 127:96 Ag '22
Surface reactions in living cells; abstract. O. Warburg. *Chem Soc J* 122 pt 1:787-8 Ag '22

See also Osmosis; Protoplasm; Protozoa

Cells, Electric. See Electric batteries

Cells, Electrolytic. See Electrolytic cells

Celluloid

Celluloid, its raw material, manufacture, properties and uses. F. Böckmann. 2d ed., rev. & enl. 188p Van Nostrand '21
Dyeing of celluloid. J. F. Springer. *Textile Col* 45:101-2, 291-3 372-4, 450-2, 528-9 F, My-Ag '23

Increased flexibility of celluloid without castor oil; patent. *Chem Age* 30:517 N '22

L'inflammabilité du celluloid. G. Demaret. *Chimie & Ind* 8:559-65 S '22

Manufacture of cellulose nitrate for pyroxylin plastics. J. R. DuPont. *il diags Chem & Met Eng* 26:11-16, 65-70 Ja 4-11 '22

Celluloid rubber

Celluloid rubber. *Sci Am* 126:201 Mr '22

Cellulose

Action of bacteria on cellulosic material. *Soc Chem Ind J (Chem & Ind)* 42:491-3 My 18 '23

Action of chloral on cellulose. J. H. Ross and J. M. Payne. *Am Chem Soc J* 45:2363-6 O '23

Action of concentrated hydrochloric acid on different celluloses. E. C. Sherrard and A. W. Froehke. *Am Chem Soc J* 45:1729-34 Ji '23

Additional proof by German chemist that cellulose in various plant products is the same chemical compound. E. Heuser and E. Boedeker. *Paper Tr J* 74:47-8 F 2 '22

Alkali-soluble modification of cellulose; abstract. E. Knoevenagel and H. Busch. *Chem Soc J* 122 pt 1:636-7 Ji '22

Alleged adsorption of alumina from aluminium sulfate solutions by cellulose. A. Tingle. *J Ind & Eng Chem* 14:198-9 Mr '22; Same. *Paper* 29:9-10 Mr 1 '22

Applications du chlore à la fabrication de la cellulose. A. de Perdiguer. *il Chimie & Ind* 10:429-36 S '23

Behaviour of the principal celluloses towards iodine and dyestuffs. J. Huebner and J. N. Sinha. *Soc Chem Ind J* 42:255-60 Je 15 '23

Bemerkungen zu der arbeit K. Hess: über einen neuen abbau der cellulose; umwandlung der cellulose in ein biase-anhydrid. P. Karrer. *Deutsche Chem Gesell Ber* 55:153-5 Ja '22

Bleaching of ligno-cellulose. C. G. Schwalbe and H. Wenzyl. *Paper* 31:9-13+ F 14 '23

Cellulose chemistry at A.C.S. meeting. *Paper* 30:120-1 Ap 19 '22

Cellulose chemistry at the Pittsburgh A.C.S. meeting; abstracts of papers. *Oil Paint & Drug Rep* 102:xxiii sec 2 S 11 '22; Same. *Paper* 30:7-9 Ag 23 '22; Same. *Paper Tr J* 75:43-4 S 21 '22

Cellulose dextrins; abstract. M. Samec and J. Matula. *Paper* 29:19 N 23 '21

Cellulose value of pulpwood. H. E. Wahlberg. *Paper* 31:13 D 6 '22

Chlorine cellulose. A. Cerrud. *Paper* 30:13+ Je 21 '22

Chlorine proposed for pulping. *Paper* 29:27-9 N 9 '21

Comparison of wood cellulose and cotton cellulose. S. A. Mahood and D. E. Cable. *J Ind & Eng Chem* 14:727-31 Ag '22

Constitution of cellulose and cellobiose. A. C. von Euler. *Chem Soc J* 120 pt 1:769-71 N '21

Constitution of polysaccharides; the molecular structure of cotton cellulose. J. C. Irvine and E. L. Hirst. *Chem Soc J* 123:518-32 Mr '23

Constitution of polysaccharides; the relationship of 1-glucosan to d-glucose and to cellulose. J. C. Irvine and J. W. H. Oldham. *Chem Soc J* 119:1744-59 N '21

Constitution of polysaccharides; the yield of glucose from cotton cellulose. J. C. Irvine and E. L. Hirst. *Chem Soc J* 121:1585-91 Ag '22

Contributions to chemistry of wood cellulose. L: E. Wise and W. C. Russell. *J Ind & Eng Chem* 14:285-7; 15:711-13, 815-18 Ap '22, Ji-Ag '23

Cellulose—Continued

- Determination of the cellulose content of wood by the action of chlorine in carbon tetrachloride. E. Heuser and H. Casseus. Paper Tr J 75:47-8 Ag 31 '22
- Determination of the viscosity of cellulose. diags Chem Age (Lond) 9:222-4 S 1 '23
- Determining the degree of disintegration of cellulose. H. Roschier. Paper Tr J 76:49-50 Mr 8 '23
- Developments of the cellulose industry. C. F. Cross. Engineering 115:182 F 9 '23
- Développement des emplois du chlore liquide en Allemagne. H. Muraour. Chimie & Ind 9:806-8 Ap '23
- Discussion on the action of bacteria on cellulosic materials. Soc Chem Ind J 42:279-87 Je 29 '23
- Durability of sole leather filled with sulphite cellulose extract. R. C. Bowker. U S Bur Stand Tech Pa 215:495-500 '22
- Effect of hypochlorous acid solutions and of bleaching liquors on cellulose. E. Knecht and J. P. Egan. Soc Dyers & Col J 39:67-72; Discussion. 72-3 Mr '23
- Evaporating cellulose liquors; new method evolved by Swedish scientist. K. L. Thunholm. diag Paper 31:149-50+ Ap 18 '23; Abstract. Paper Tr J 76:48 My 31 '23
- La fabrication de la cellulose à l'aide du chlore. U. Pomilio. il diag plan Chimie & Ind 6:267-75 S '21; Abstract (Pure cellulose with the aid of chlorine). Sci Am 126:305 My '22
- La fabrication de la cellulose par le procédé au chlore gazeux. U. Pomilio. il Chimie & Ind 8:41-5 Jl '22
- Factors influencing the properties of wood cellulose as isolated by the chlorination method. M. W. Bray and T. M. Andrews. Paper Tr J 76:47-9 F 22 '23
- Fermenting reeds for cellulose. Paper 30:37 Ap 19 '22
- Few high spots in the chemistry of cellulose. G. J. Esselen, jr. Ind & Eng Chem 15:306-8 Mr '23
- Fundamental research in cellulose industries must keep pace with commercial development. W. O. Mitscherling. Chem & Met Eng 27:460 Ag 30 '22
- Gelatinization of lignocellulose. A. W. Schorger. Ind & Eng Chem 15:812-14 Ag '23
- Improved method for the determination of alpha-, beta-, and gamma-cellulose. M. W. Bray and T. M. Andrews. Ind & Eng Chem 15:377-8 Ap '23
- L'industrie de la cellulose en France. A. R. de Vains. il Chimie & Ind 8:767-81 O '22
- Interpretation of papermaking literature; requirements of a monograph on the chemistry of cellulose. L. E. Wise. Paper 29:26-8 D 14 '21
- Mannose from white spruce cellulose. E. C. Sherrard and G. W. Blanco. Am Chem Soc J 45:1008-13 Ap '23
- New hydrated cellulose process. Paper 30:14 Ap 12 '22
- New solvent for cellulose. H. E. Williams. Paper 29:9-14 N 2 '21
- Nouveau procédé de fabrication de la cellulose et de blanchiment des pâtes de succédanés par le chlore. de Perdiguer. il Chimie & Ind 7:238-43 F '22
- Partial hydrolysis of white spruce cellulose. E. C. Sherrard and G. W. Blanco. Ind & Eng Chem 15:1166-7 N '23
- Polysaccharides; the constitution of diamylose and of the anhydrosugar (cellosan) which is the building unit of cellulose. P. Karrer and A. P. Smirnov. Paper Tr J 75:54-7 O 12 '22
- Preparation of standard cotton cellulose and the proposed methods of analysis. Ind & Eng Chem 15:748-51 Jl '23
- Problems of cellulose chemistry. E. Heuser. Paper 29:7-10 F 8 '22
- Process of dissolving cellulose; patent issued to Isidor Kitsee. Paper 29:12-13 N 23 '21
- Purification of cotton linters for the manufacture of gun cotton and various pyroxylin products. W. Stark. Chem & Met Eng 26:167-9 Ja 25 '22
- Reactions of cellulose with sodium chloride and other neutral salt solutions; preliminary survey. H. Masters. Chem Soc J 121:2026-34 O '22
- Reactivity of the oxidised cellulose towards diazotised aromatic amines. A. E. Everest and A. J. Hall. Soc Dyers & Col J 39:47-9 F '23
- Recent work in cellulose technology. Paper 30:7-11 My 17; 7-10 My 31; 14-15 Je 14; 11 Je 21; 16-17 Jl 19; 10 Jl 26; 17 Ag 2 '22
- Reducing power of cellulose. M. N. Komaroff. Paper Tr J 77:47-8 Jl 19 '23
- Report of the committee on cellulose. Paper Tr J 76:219 Ap 12 '23; Same. Tech Assn Pa ser 6:59 Je '23
- Report of the viscosity committee of the cellulose division. J Ind & Eng Chem 14:1164-5 D '22
- Researches on cellulose v 4, 1910-1921. C. F. Cross and C. Dorée. 253p Longmans '22
- Solubility of cellulose. R. O. Herzog and F. Beck. Color Tr J 9:210 N '21
- Some of the products obtained in the hydrolysis of white spruce wood with dilute sulfuric acid under steam pressure. E. C. Sherrard and G. W. Blanco. diag Ind & Eng Chem 15:611-16 Je '23
- Studies on cellulose chemistry; parabromo-acetaldehyde and monobromo-acetaldehyde; their preparation, properties and utilization for the synthesis of bromo- and hydroxycyclic acetals related to polysaccharides. H. Hibbert and H. S. Hill. Am Chem Soc J 45:734-51 Mr '23
- Studies on cellulose chemistry; properties of gamma-delta-dihydroxy-carbonyl derivatives and their bearing on the polymerization of polysaccharides. H. Hibbert and J. A. Timm. Am Chem Soc J 45:2433-9 O '23
- Studies on cellulose chemistry; the action of dry hydrogen bromide on carbohydrates and polysaccharides. H. Hibbert and H. S. Hill. Am Chem Soc J 45:176-82 Ja '23
- Studies on the swelling of cotton cellulose—cotton hairs in solutions of sodium hydroxide. G. E. Collins and A. M. Williams. diag Textile Inst J 14:T287-95 S '23; Same. Color Tr J 13:182-5 N '23
- Swelling of cotton cellulose. G. E. Collins. Textile Inst J 14:T264-72; Bibliography. T273-6 Ag '23; Same. Am Dyestuff Rep 12:669-77 S 10 '23; Same cond. Soc Dyers & Col J 39:303-7 O '23
- Über einen neuen abbau der cellulose; umwandlung der cellulose in ein biose-anhydrid; über cellulose. K. Hess. Deutsche Chem Gesell Ber 54:2867-85 N '21; Abstract. Chem Soc J 122 pt 1:12-13 Ja '22
- Viscosity of cellulose in cuprammonium hydroxide solution; the determination of the viscosity. R. A. Joyner. diag Chem Soc J 121:1511-25 Ag '22
- Viscosity of cellulose; the lowering of the viscosity of cellulose by various reagents. R. A. Joyner. Chem Soc J 121:2395-2409 N '22
- Yellowing and tendering of cotton. W. R. Atkinson. Textile Col 45:572-5 S '23
- Zur kenntnis der alkalischen kupferoxyd-lösungen und der kupferoxyd-amin-cellulose-lösungen. W. Traube. Deutsche Chem Gesell Ber 54:3220-32; 55:1399-1912 D '21. Je '22; Abstract. Chem Soc J 122 pt 1:115-16, 718-19 F, Ag '22
- Zur kenntnis der cellulose-kupfer-verbindungen (teilweise mitbearbeitet von Frl. E. Jagla); mitteilung über cellulose. K. Hess and E. Messmer. Deutsche Chem Gesell Ber 55:2432-43 S '22; Abstract. Chem Soc J 122 pt 1:988-9 N '22
- Zur kenntnis pflanzlicher inkrusten; methode zur reindarstellung pflanzlicher skelettsubstanzen. E. Schmidt and E. Graumann. diags Deutsche Chem Gesell Ber 54:1860-73 S '21

See also Ethylcellulose; Nitrocellulose

Cellulose acetate

- Acetylcellulose from woodpulp; abstract. E. Hagglund, N. Lofman and E. Farber. Paper 30:28 Je 7 '22
- Cellulose acetate manufacture. Chem Age 31:464 O '23
- Cellulose acetate solution. Chem & Met Eng 26:799 Ap 26 '22
- Cellulose plastics and their raw materials. Chem & Met Eng 29:678-9 O 8 '23
- Dyeing fabrics containing cellulose acetate silk. Color Tr J 11:211-12 N '22
- Viscosity of some cellulose acetate solutions. E. W. J. Mardles. Chem Soc J 123:1951-7 Ag '23

Cellulose esters

- Correlation of solvent power and the viscosity of cellulose ester solutions. E. W. J. Mardles. Soc Chem Ind J 42:207-11 My 11 '23
- Solvents for cellulose esters. H. F. Willkie. Chem & Met Eng 25:1186-8 D 28 '21
- Study of the solvents of some cellulose esters. E. W. J. Mardles. Soc Chem Ind J 42:127-36 Mr 29 '23

Cellulose ethers

- Cellulose-ether plastics. Chem & Met Eng 29:679 O 8 '23
- Cellulose ethers. Chem & Met Eng 28:511 Mr 14 '23

Cellulose hexapalmitate

- Cellulose hexapalmitate; abstract. P. Karrer, J. Peyer and Z. Zega. Soc Dyers & Col J 39:84-5 Mr '23

Cellulose nitrate. See Nitrocellulose**Cellulose silk.** See Silk, Artificial**Cellulose wadding**

- Cellulose wadding. Paper 32:10 S 5 '23

Celotex

- Celotex used for roof panels. diag Automotive Ind 49:273 Ag 9 '23
- Insulating lumber from sugar mill bagasse. A. G. Wikoff. il Chem & Met Eng 29:360-2 Ag 27 '23
- What sugar refiners discarded, advertising turned into profit. G. A. Nichols. il Ptr Ink 122:113-14 Mr 22 '23

Celium. See Hafnium**Cement**

- Alca cement. H. S. Spackman. bibliog Concrete 22:sup35-6 Mr '23
- Alumina cement in France. E. C. Eckel. il Eng N 91:347-9 Ag 30 '23
- Alumina cement; its development, use and manufacture. H. S. Spackman. Eng N 88:831-4 My 18 '22
- Bauxite, a constituent of alccement. R. B. Ladoo. il Concrete 23:sup6-7 Jl '23
- Le béton armé et le ciment fondu; construction des ouvrages en béton armé à grande portée. H. Lossier. il diags Génie Civil 80:79-83, pl 3 Ja 28 '22
- Canada cement company building, Montreal; an architectural achievement in the use of cement products. il Arch Forum 38:17-18, pl 11-14 Ja '23
- Caustic magnesia cement. U S Bur Stand Circ 135:1-14 '22
- Cement and concrete for shipbuilding purposes. H. H. Thayer. il Marine Eng 27:331-3+, 391-3, 456-8 My-Jl '22
- Cement for water pipe joints. W. Wheeler. N E Water Works Assn J 37:62-74 Mr '23
- Cement in 1921. B. W. Bagley. U S Geol S Min Res of U S 1921, pt 2:215-28 '23
- Cement supply. American expeditionary forces. E. C. Eckel. il Concrete 19:sup71-4, sup95-9; 20:sup11-14, sup30-4 N '21-F '22
- Cementing qualities of the calcium aluminates. P. H. Bates. il U S Bur Stand Tech Pa 197:1-27 '21; Abstract. Sci Am 126:325 My '22
- Cements, limes, and plasters. E. C. Eckel. 2d ed., rev. 655p Wiley '22
- Ciment fondu or alccement. E. L. Heidenreich. Concrete 22:25-8 Ja '23
- Les ciments à haute teneur en alumine à durcissement rapide et à grande résistance: ciment fondu, ciment électrique. Génie Civil 82:5-8 Ja 6 '23

Color cement handicraft. P. J. Lemos and R. A. Lemos. 201p Davis press, Worcester, Mass. '22

- Correction factor of standard cement samples. Eng & Contr (Bldgs) 58:95 N 22 '22
- Developments in the cement industry. R. Furness. Soc Chem Ind J (Chem & Ind) 42:728-31 Jl 27 '23
- Disintegration of cement in sea water. W. G. Atwood and A. A. Johnson. Eng & Contr (Bldgs) 59:1425-36 Je 27 '23; Same. Am Soc C E Pro 49:1038-58; Bibliography. 1058-64 Ag '23; Abstract. Ry R 73:239-40 Ag 18 '23; Conclusions. Ry Age 74:1462 Je 16 '23; Discussion. Am Soc C E Pro 49:1647-61, 1762-6, 1914-23 S-N '23
- Effect of sugar on cement mortar. J. Dautrebände. Concrete 22:161 Ap '23
- Extinguishing lumber fire with cement. D. Throughton. Concrete 20:244 Je '22
- High alumina cements. Engineering 114:180-1 Ag 11 '22
- High alumina special cements are slow setting and quick hardening. Concrete 21:181-3 D '22
- Investigation of sulphide cement. H. F. Clemmer. Eng & Contr 58:16 Jl 5 '22
- Lime and cement; committee report. Am Inst Arch J 10:xxv+ Je '22
- Magnesium oxy-chloride cements. M. Y. Seaton. Chem Age 31:17-22 Ja '23; Abstract. Chem & Met Eng 27:1207-8 D 20 '22
- Mixing cement with road soils. Concrete 21:111 O '22
- New developments in oxychloride stucco and flooring. J. B. Shaw and G. A. Bole. Am Cer Soc J 5:311-21 Je '22; Discussion. (Bul) 5:155-60 Ag '22
- Oil tank repaired with super-cement. Concrete 20:80 F '22
- Plastic waterproof Portland cement made at Monolith. Concrete 19:sup109 D '21
- Properties of ciment fondu; abstracts. H. J. Davey. Chem Age (Lond) 8:539 My 19 '23; Engineering 115:624 My 18 '23; Discussion. A. S. Grunspan. 115:741 Je 15 '23
- Some data on pipe jointing compounds. G. H. Finneran. N E Water Works Assn J 37:84-7 Mr '23
- Testing of plastic calcined magnesite for use in oxychloride cements. M. Y. Seaton. il Am Soc T M Pro 21:1039-49 '21; Same. Chem & Met Eng 25:233-6 Ag 10 '21
- Treating cement surfaces with paint and stain. A. A. Kelly. Bldg Age 45:82 Ap '23
- Use of cement and concrete in the underground workings of the North Butte mining company. R. Linton. il diags plans Eng Soc W Pa 38:76-96; Discussion. 97-107 Ap '22
- L'utilisation des gazogènes à fusion des cendres, soufflés au vent chaud et l'emploi de leurs laitiers comme ciments. Génie Civil 81:398-9 O 28 '22
- Viscosity of slurry in the cement industry. Engineering 115:19 Ja 5 '23
- What properties and methods of making concrete require further investigation? cement. B. H. Bates. Concrete 23:11-14+ Jl '23; Abstract. Eng N 91:52-4 Jl 12 '23

See also Cement gun and other headings beginning Cement; Cements, Adhesive; Concrete; Grouting; Gunite; Mortar; Stucco; Trass

Analysis

- Analysis of Portland cement; abstract. F. Ferrari. Am Cer Soc J 4:1009-11 D '21

Inspection

- Inspection of Portland cement. J. R. Dwyer and R. N. Young. Concrete 21:56-8, 95-7 Ag-S '22

Manufacture

- L'amélioration des chaux et ciments par la vase marine et les emplois industriels de ce produit. A. Pawlowski. Génie Civil 81:595-6 D 23 '22

- Application of the fundamental knowledge of Portland cement to its manufacture and use. P. H. Bates. il J Fr Inst 193:289-309 Mr '22

Cement—Manufacture—Continued

- Caustic calcination of dolomite and its use in sorrel cements. G. A. Bole and J. E. Shaw. *Am Cer Soc J* 5:817-22 N '22
- Cement manufacture and application; discussion. Engineer 134:331 S 29 '22
- Cement supply. American expeditionary forces. E. C. Eckel. *il Concrete* 19:sup95-9; 20:sup11-14 D '21-Ja '22
- Chemistry and the Portland cement industry. J. C. Witt. *Chem Age* 31:171-3 Ap '23
- Les ciments à haute résistance. J. Hendrickx. *il Chimie & Ind* 8:296-304 Ag '22
- Comparison of power consumption. H. A. Reichenbach. *Concrete* 19:sup59-60 O '21; Discussion. C. O. Sandstrum. 19:sup100-1 D '21
- Concrete in the making; ingenious production methods evolved in the Portland cement industry. G. S. Eaton. *il Sci Am* 129:104-5+ Ag '23
- Electric cement. H. J. Harms, jr. *Concrete* 20:sup13-15 Je '22
- Electrical precipitation of cement mill dust. G. A. Witte. *il Gen Elec R* 25:125-8 F '22
- Fabrication de la poussière blanche; chaux, ciment, plâtre. P. C. J. Dumesnil. 468p *Revue des matériaux de construction et de travaux publics*, Paris '22
- La fabrication du ciment fondu. E. Candlot. *Chimie & Ind* 7:456-7 Mr '22
- Looking back to the days of the mud floor. C. W. Erdell. *diags Concrete* 20:sup8-11, sup26-30 Ja-F '22
- Manufacture of Portland cement from marl. R. E. Kirk. *Univ of Minn Eng Exp Sta Bul* 2:1-52 '23
- Possibilities of fusion process for cement production. S. L. Meyers. *Concrete* 20:sup105-7 Je '22
- Potash recovery in cement manufacture. *Chem Age* 31:237 My '23
- Power absorbed in making a barrel of Portland cement. S. H. Harrison. *Am Inst E E J* 42:251-7 Mr '23
- Quality control in cement manufacture. R. K. Meade. *Concrete* 21:sup25-8 Ag '22; Same. *Can Eng* 43:279-81 Ag '22; Same. *Chem & Met Eng* 27:250-3 Ag '22
- Quality control in the manufacture of cement. G. E. Warren. *il Management Eng* 4:266-7 Ap '23
- Rationale of the burning of Portland cement clinker. C. E. Burgoon. *Concrete* 20:sup56 Mr '22
- Recent improvements in manufacture of artificial cements. M. Bied. *Concrete* 21:sup95-6 D '22
- Segregation as it applies to tanks as segregating or mixing devices. C. Catlett. *Concrete* 20:sup95-100 My '22
- Study of chemical reactions in the burning of lime and Portland cement. G. A. Rankin. *diags Concrete* 21:sup72-7 N '22
- Twenty years' progress in cement manufacture and use. *Concrete* 22:29-32 Ja '23
- Die umschmelzung saurer hochofenschlacken in basische schlacken und zement. R. Grün. *il diag Stahl & Eisen* 42:1158-67 Ji '22; Discussion. 42:1874-6 D '21 '22
- Work of the chemist in Portland cement manufacture. J. C. Witt. *Chem Age* 30:526 D '22

See also Cement kilns; Cement plants

Patents

- Laboratory tests cannot outweigh the test of practical use; Newberry patent, for waterproofing Portland cement. W. Gustin. *Chem & Met Eng* 25:926 N 16 '21

Prices

- Cement prices not unduly high. L. R. Burch. *Eng N* 89:404-7 S 7 '22; Same. *Can Eng* 43:516-18 N 7 '22
- Criticism of approximate index numbers for cement as set by National unemployment conference. *Comm & Fin Chr* 113:2467-8 D 10 '21
- Price curves of crude oil and of cement. E. C. Eckel. *Annalist* 19:247-8 F 20 '22

Trial of Eastern cement manufacturers: ends in jury disagreement. E. C. Eckel. *il Concrete* 20:259-63 Je '22

See also Cement manufacturers protective association

Sampling

- Inspection of Portland cement; sampling. J. R. Dwyer and R. N. Young. *Concrete* 21:57-8 Ag '22

Setting

- Accelerating the setting of cement mixtures. *Elec Ry J* 53:869-70 N 12 '21
- Cement that sets in fifteen hours. *Elec Ry J* 62:408 S 15 '23
- New slow setting cement. I. D. Foos. *Concrete* 19:sup110 D '21
- Résultats d'expériences sur les ciments à durcissement rapide. H. Lossier. *Génie Civil* 83:204-7 S 1 '23
- Setting of Portland cement. *Am Cer Soc J* 6 (Cer A 2):146-7 Ji '23
- Setting of Portland cement. W. L. Gadd. *Concrete* 23:sup41-2 S '23
- What makes cement quick-setting? C. R. Hill. *il Concrete* 19:sup101 D '21

Specifications

- British standard specification for Portland cement. *Concrete* 21:sup64-5 O '22
- New cement specification. Canadian engineering standards association. *Can Eng* 42:428-9 Ap 25 '22
- Present specifications for Portland cement used by Jugo-Slav government. K. S. Patton. *Concrete* 21:sup30 Ag '22
- Principal requirements of the Portland cement specifications of various countries. *Concrete* 19:sup82-3 N '21

Standards

- Cement standards. F. W. Kelley. *Concrete* 22:225-7 Je '23; Same. *Eng & Contr (R & S)* 60:515-18 S 5 '23; Abstract. *Nation's Business* 11:50 Je 5 '23
- Why one standard for Portland cement? P. H. Bates. *Eng N* 88:1046 Je 22 '22

Testing

- Accelerated tests of Portland cement. S. Kuno. *Am Cer Soc J* 5 (Cer A 1):295-6 N '22
- Compression test machine for cements. L. Navias. *Am Cer Soc J* 5 (Cer A 1):191 Ji '22
- Essais de pièces en béton de ciment fondu armé. G. Lehot. *Génie Civil* 83:126-30, 151-4, 176-81 Ag 11-25 '23
- New apparatus determines sizes of cement particles. *il Pop Mech* 39:731 My '23
- Recent photo-elastic researches on engineering problems. E. G. Coker. *diags Engineering* 113:756-7 Je 16 '22
- Testing materials. H. L. Sherman. *Arch Forum* 35:187-8 N '21
- Tests of corrosion-proof cement. *Ry Mech Eng* 97:782 N '23
- 3:4:8 mix gives 6,000 lbs. strength in 48 hours. H. J. Harms, jr. *diags Concrete* 21:183-4 D '22

See also Mortar—Testing

Cement, Dental

- Physical properties of dental cements. P. Poetschke. *il diags Ind & Eng Chem* 15:339-42 Ap '23

Cement bags

- Effect of hot cement on paper bags. W. Herzberg. *Paper* 32:11+ S 26 '23
- Freight on empty return bags. *Concrete* 23:sup45 S '23
- Handling and salvaging of cement bags. R. B. Genest. *Elec Ry J* 61:483-4 Mr 17 '23
- Why not a smaller cement sack? *Eng N* 90:722 Ap 19 '23

Cement blocks**Manufacture**

- Progressive block maker has new machine. *il diag plan Concrete* 21:164 N '22

Cement buttons. See Buttons, Cement

Cement gun

Cement gun in water works practice. L. R. Talbot. *Am Water Works Assn J* 9:446-8 My '22; Same *abr. Eng & Contr* 58:144 Ag 9 '22

Cost of building flow partition walls in Imhoff tanks by cement gun method. G. B. Gascoigne. *il diags plan Munic Eng* 63:233-8 D '22

Design and construction of novel concrete conduit. W. A. Kunigk. *il diags Eng & Contr* 57:347-51 Ap 12 '22

New kind of cement gun house. *Concrete* 20:2 Ja '22

Piles are cement-covered with gun. C. Gaines. *il Pop Mech* 39:209-10 F '23

Repairing a small brick sewer by cement gun method. R. A. Mac Gregor. *Munic Eng* 64:sup23-4 F '23

Repairing viaduct and canal in France with cement gun. *il Eng & Contr* 57:315 Mr 29 '22

Restoring a fire damaged concrete building in Berlin. *il diags Eng N* 89:159-60 JI 27 '22

See also Gunité

Cement handling

Cement handled in bulk on the Hetch Hetchy dam. N. A. Eckart. *il Eng N* 88:352-3 Mr 2 '22

Withdrawing fine material from bins. *diag Concrete* 21:sup39-40 S '22

See also Cement bags; Cement storage

Cement industry and trade

Added volume that made a profit possible. J. R. Morron. *Concrete* 23:sup29-31 Ag '23; Same. *System* 44:145-9+ Ag '23

Casting demand in cement industry. G. S. Eaton. *il Foundry* 51:591-2 JI 15 '23; Same. *Iron Tr R* 73:740-1 S 13 '23

Cement labels I have met. C. W. Erdell. *il Concrete* 22:sup15-20, sup37-41, sup63-7, sup79-81, sup105-9; '23:sup12-14, sup32-5, sup46-50 F-S '23

Dealers' profits on cement to large users. O. T. Reece. *Eng N* 91:567 O 4 '23; Discussion. 91:692, 730 O 25-N 1 '23

Importance of the cement industry as a consumer of coal. J. S. Eaton. *Coal Age* 23:372 Mr 1 '23

Selling that gets us more than our share. B. F. Affleck. *System* 43:153-7+ F '23; Same. *Concrete* 22:sup28-31 F '23

Some things I have learned about selling. B. F. Affleck. *Ptr Ink* 120:94+ O 12 '22

Value of the brand in Portland cement industry. *Concrete* 20:sup20 Ja '22

Want better cement contract. *Concrete* 23:41 JI '23

Who gets cement contract when bids are uniform? *Eng N* 88:509 Mr 23 '22

See also Cement—Prices; Cement manufacturers protective association; International cement corporation; Portland cement association

Advertising

Boosts sale of cement for swimming pools to sell more bathing suits. C. M. Harrison. *Ptr Ink M* 7:78+ N '23

Statistics

Cement in 1920: a review. R. W. Lesley. *Concrete* 20:sup35-9 F '22

Cement in 1921—a review. R. W. Lesley. *Concrete* 21:sup86-9 D '22

Asia

Cement great factor in Asia's progress. P. C. Van Zandt. *Concrete* 22:sup45 Mr '23

Belgium

Belgian cement industry. *Concrete* 22:sup104 Je '23

Brazil

German cement supreme in Brazil. *Concrete* 21:sup63 O '22

Canada

Consumption of cement in Canada on increase. F. P. Jones. *Concrete* 22:sup85-6 My '23

China

Boom of Chinese cement industry. M. H. Chou. *il Concrete* 22:sup73-6 My '23

Cement industry in China. J. M. Clements. *Concrete* 21:sup44-7 S '22

Cement will solve many Asiatic problems. P. C. Van Zandt. *Concrete* 23:sup10-11 JI '23

Cuba

Market for American cement in Cuba. *Concrete* 23:5 JI '23

Finland

Cement produced in Finland. *Concrete* 21:sup11 JI '22

Germany

Position of the German cement industry. C. A. Heise. *Concrete* 19:sup102-3 D '21

Hawaiian Islands

Cement made in Hawaiian Islands. C. A. Wilson. *il Concrete* 20:sup108 Je '22

India

American cement in India. A. M. Murray. *Concrete* 21:sup47 S '22; Discussion. 21:sup79 N '22

Cement will solve many Asiatic problems. P. C. Van Zandt. *Concrete* 23:sup11 JI '23

Indian cements. D. K. Mehta. *Concrete* 22:sup45-6 Mr '23

Japan

Cement will solve many Asiatic problems. P. C. Van Zandt. *Concrete* 23:sup9-10 JI '23

Kansas

Kansas cement companies pay large fine. *Eng N* 89:492+ S 21 '22

United States

Answer of the cement manufacturers to the charge of price fixing. *Eng & Contr* 56:530-5 D 7 '21

August production and shipments of Portland cement output the largest of the year. *Comm & Fin Chr* 117:1182 S 15 '23

Cement industry is optimistic for 1923. J. R. Morron. *Annalist* 21:58-9 Ja 8 '23

Dilemma of an industry. C. L. Harrison. *Concrete* 21:187-8 D '22

Most competitive business in America. A. J. R. Curtis. *chart Concrete* 21:102-3 O '22

Portland cement. *Eng N* 88:15-16 Ja 5 '22

Portland cement in 1921. *Concrete* 20:sup116 Je '22

Portland cement output in December 1921. *Concrete* 20:sup42 F '22; *Eng N* 88:466 Mr 16 '22; *Good Roads* 61:262-3 D 7 '21

Solving the problems of the Portland cement industry; what the Portland cement association is doing. F. W. Kelley. *Eng N* 88:996-8 Je 15 '22

Trial of Eastern cement manufacturers. E. C. Eckel. *Concrete* 20:187-90+, 259-63 My-Je '22

See also Cement manufacturers protective association

Cement kilns

Automatic shaft cement kiln. H: Pooley. *diag Engineer* 135:391-2 Ap 13 '23

Cement kiln insulation. P. C. Durbin. *il diags Concrete* 22:sup2-4 Ja '23

Excess air in cement kilns. C. O. Sandstrom. *Concrete* 20:sup112 Je '22

Fours verticaux automatiques pour la cuisson des ciments. E. Candiot. *il Chimie & Ind* 8:1206-10 D '22

Heat distribution in burning cement clinker. E. H. Whitlock and C. E. Burgoon. *Concrete* 20:sup87-94 My '22

Heat efficiency increase in cement burning. H. Larmour and W. C. Stevenson. *diags Concrete* 19:sup93-4 D '21

Kiln efficiency discussed. C. O. Sandstrom. *Concrete* 20:sup48-9 Mr '22

New type of Portland cement kiln. *diag Engineer* 133:306 Mr 17 '22

Obtaining byproducts from the cement kiln. *Chem & Met Eng* 29:680 O 8 '23

Cement kilns—Continued

- Recovery of radiated heat from a rotary kiln or drier. R. E. B. Hall. *diag Chem & Met Eng* 26:846 My 3 '22; Same. *Concrete* 21:sup 56-7 O '22
- Refractory linings for cement kilns. il Brick & Clay Rec 59:813-14 N 29 '21
- Rotary cement kilns cleaned with shotgun. il Pop Mech 38:737 N '22
- Utilisation de la chaleur perdue des fours rotatifs. J. Bied. *Chimie & Ind* 8:528-30 S '22
- Utilization of waste heat from rotary cement kilns. J. Brobston. *Mech Eng* 44:517-18 Ag '22; Same abr. *Chem & Met Eng* 27:270-1 Ag 9 '22; Same abr. *Concrete* 21:sup 57-8 O '22
- Waste heat from cement kilns operates entire mill. H. A. Schaffer. *Chem & Met Eng* 29:18-19 Jl 2 '23
- Waste heat utilized to produce electric power in cement kilns. C. H. Reeder. il *Elec R* 79:976-70 D 31 '21

See also Cement plants

Cement lined pipe

- Cement-lined cast-iron pipe at Charleston. S. C. J. E. Gibson. il *Eng N* 89:378, 387-90 S 7 '22

Cement machinery

- Alloy steels for cement mills. G. S. Eaton. *Iron Age* 111:1105 Ap 19 '23
- Iron and steel, and their application in the cement industry. W. R. Shimer. *Concrete* 21:sup 31-4 Ag '22; Same cond. *Iron Age* 110:347-8 Ag 10 '22

Cement manufacturers protective association

- Judge John C. Knox dissolves the Cement manufacturers protective association. *Eng N* 91:726-7 N 1 '23
- Jury in cement trial disagrees after 34 hours. *Eng N* 88:925-6 Je 1 '22
- Trial of Eastern cement manufacturers. E. C. Eckel. *Concrete* 20:187-90+, 259-63; 21:8-9 My-Jl '22

Cement pipe joints. See Pipe joints**Cement pipes. See Pipes, Cement****Cement plants**

- British Columbia plant contains unique features. H: Anderson. il *Concrete* 23:sup 1-3 Jl '23
- Cement plant, crushing plant and wharf of Petoskey Portland cement co. E. M. Johnston. il *Concrete* 20:sup 1-8 Ja '22
- Cement plant in Arctic region. P. Bech. il *plan Concrete* 22:sup 9-9 Je '23
- First cement mill in the Straits Settlements. C. A. Wilson. il *Concrete* 20:sup 23-6 F '22
- From a Rumanian cement mill. P. F. Bagge. il *diag map plan Concrete* 21:sup 19-25 Ag '22
- Grinding mill operating successfully in Brazil. C. W. Comstock and R. A. Marshall. il *map [layout p 94] Concrete* 22:sup 91-5 Je '23
- New Pyramid plant starts operations. *diag plan Concrete* 23:sup 59-62 O '23
- La nouvelle fabrique de ciment de Barcelone. il *diag plan Génie Civil* 80:520-2 Je 10 '22
- Plant of the Mozambique Portland cement co., ltd., at Lourenco Marques. *Am Cer Soc J* 5 (Cer A 1):260-1 O '22
- Portland cement factory at Makwar, Sudan. H: R. Tutton. il *plan Engineer* 136:447-9 O 26 '23
- Security cement plant enlarged and improved. L. A. Cover, jr. il *Concrete* 23:sup 21-5 Ag '23
- Segni cement factory near Rome, Italy. W: B. Newberry. il *plan Concrete* 23:sup 62-4 O '23
- Superior company completes new clinker storage. W. R. Bendy. il *diag plan Concrete* 22:sup 55-9 Ag '23
- Visite à la Société des chaux et ciments de Lafarge et du Teil. il *Chimie & Ind* 8:264-8 Ag '22

See also Cement—Manufacture; Cement kilns; Cement storage

Accidents

- Fatal accidents during the first half of 1923. *Concrete* 23:sup 69 O '23

Accounting

- Accounting for a Portland cement mill. H. S. Meinhardt. *J Account* 34:190-7 S '22

Electric equipment

- Attention that is required when motors must operate 24 hours a day the year around in a cement mill. il *Elec R* 80:169-71+ Ap '22
- Electric motor drive in the cement industry. G. Fox. il *Power Pl Eng* 26:951-3 O 1 '22
- Magnetic clutches in the cement industry. W. H. Costello. il *diag Am Inst E E J* 41:361-3 My '22; Same cond. *Concrete* 21:sup 3-5 Jl '22
- Use of slip-ring induction motors and synchronous motors in cement mills. H. W. Rogers. *Am Inst E E J* 41:360 My '22; Same. *Concrete* 21:sup 8 Jl '22

See also Cement machinery

Employees

- Cement mill employees increase in number. *Concrete* 21:sup 93 D '22

Equipment

- Cement industry consumes much steel. G. S. Eaton. *Iron Tr R* 72:1385+ My 10 '23
- Use of pulverized coal. H. A. Schaffer. *Power* 57:718-19 My 8 '23; Same. *Chem & Met Eng* 28:1024-5 Je 11 '23

Layout

- Ford to manufacture cement at River Rouge, Michigan. *Concrete* 22:sup 9 Ja '23

Power

- Diesel engines in a Portland cement plant. C. M. Carman. il *plan Power Pl Eng* 27:417-20 Ap 15 '23
- Electrically-driven cement works. il *Elec R* (Lond) 90:148-50 F 3 '22
- Purchased power gaining in cement industry. *Elec W* 81:1285-6 Je 2 '23

Safety devices and measures

- What plant no. 1 has done. W. G. H. Cam. il *Nat Safety N* 8:13-15 S '23

Cement research

- Das forschungsinstitut der hüttenzementindustrie in Düsseldorf. il *Stahl & Eisen* 43:273-7 F 22 '23
- Need of research in the Portland cement industry. P. H. Bates. *Chem & Met Eng* 27:462-3 Ag 30 '22; Same. *Concrete* 21:sup 55 O '22
- Progress in cement research. *Can Eng* 44:411 Ap 17 '23; Same. *Good Roads* 64:175 My 2 '23

Cement storage

- Cement protected from weather by tent placed with derrick. il *Eng N* 91:73 Jl 12 '23
- Missouri company erects new silo storage plant. il *Concrete* 22:sup 1-2 Ja '23
- Silo storage at new Sandusky plant. A. J. Lindquist. il *Concrete* 23:sup 39-40 S '23
- Storage and transportation of Portland cement. W. M. Myers. *bibliog Concrete* 21:sup 61-2 O '22; Same, without bibliog. *Eng & Contr* (Bldgs) 58:53-5 O 25 '22; Same. *Engineering* 114:691 D 1 '22; Same. *Can Eng* 44:110-11 Ja 2 '23; Excerpts. *Am Cer Soc J* (Bul) 5:264-6 O '22

Cost

- Cost of winter cement storage for road construction. W. S. Anderson. *Eng N* 90:267-8 F 8 '23

Cementation. See Cementing**Cementation (metallurgy). See Case hardening****Cementing**

- Applying the cementation process to a stamp-battery foundation. B. Schlesinger. *Eng & Min J* 113:491 Mr 25 '22
- Cementing of oil wells. F. B. Tough. *Am Pet Inst Bul* 3:42-5 D 30 '22; Same abr. *Nat Pet N* 15:75+ Ja 3 '23
- Methods of cementing and mixtures in Rocky Mountain fields. F. B. Tough. *diag Nat Pet N* 14:65-7 S 27 '22
- Preparing two stamp battery foundations. B. MacDonald. *Eng & Min J* 113:823 My 13 '22

Cementite

Brinell hardness of cementite; abstract. *Chem & Met Eng* 26:562 Mr 22 '22
Some properties of steels containing globular cementite. C. H. Desch and A. T. Roberts. *Iron & Steel Inst* J 107:249-59, pl 10-13a; Discussion. 260-6 no 1 '23; Discussion. *Engineering* 115:613-11 My 18 '23; *Engineer* 135:547 My 25 '23

Cements, Adhesive

Making leather belts endless. L. W. Arny. *Textile World* 64:2001 O 6 '23; Same. *Eng & Min J* 116:572 S 29 '23; Same. *Ind Eng* 81:459-60 S '23; Same. *Power Pl Eng* 27:980-1 O 1 '23; Same cond. *Mach* 30:95 O '23
Poisoning by benzol carbon tetrachloride cement, with special reference to the early symptoms of benzol poisoning. E. B. Starr. *J Ind Hygiene* 4:203-11; Bibliography. 211 S '22

See also Adhesives

Cemeteries

Cemetery plot as a memorial. C. F. Pilat. *il plan Arch Rec* 52:445-8 N '22
Removal of cemeteries from reservoir sites. F. E. Winsor. *Eng & Contr (W W)* 58:108 N 8 '22
Six Milwaukee cemeteries join in co-operative campaign. *Ptr Ink* 121:157-8 N 9 '22

See also Rest houses

Cemetery buildings

Office building for St John's cemetery, Worcester, Mass. *Am Arch* 124:60m Jl 18 '23

Census

See also United States—Population

Center of mass

Calculation of centroids. J. G. Gray. *diags Philos Mag* 6th ser 44:247-52 Jl '22

Centering

Centering devices. W. F. Honer. *il Mach* 28:651 Ap '22
Johnson center-locating punch. *il Am Mach* 56:571-2 Ap 13 '22; *Mach* 28:678 Ap '22
Locating centers for shoes and wedges. T. E. Paradise. *diags Ry Mech Eng* 97:769-71 N '23

Centering machines

Goodman mfg. co. facing and centering machine for preparing railroad axles, gear and other shafts for turning operations. *il Iron Age* 110:1486 D 7 '22
New design of centering machine. *il diags Mach* 29:112-13 O '22
Pratt & Whitney duplex hand and automatic centering machines. *il Am Mach* 57:709-10 N 2 '22; *Iron Age* 110:1143, 1280 N 2, 16 '22; *Iron Tr R* 71:1286 N 9 '22; *Mach* 29:229-31 N '22

Central Aguirre sugar company

Annual report to the stockholders for 1921. *Comm & Fin Chr* 113:2194 N 19 '21
Annual report to the stockholders for 1922. *Comm & Fin Chr* 115:2699 D 16 '22

Central America

Central America cleaning house. C. T. Crowell. *il Nation's Business* 11:45-7 Je '23
See also Architecture, Domestic—Central America; Petroleum—Central America

Central American affairs, Conference on. See Conference on Central American affairs

Central electric railway association

Annual convention, Indianapolis, Jan. 26-27. *Elec Ry J* 59:190-2 F 4 '22
Annual meeting, Louisville, Kentucky, Jan. 18-19. *Elec Ry J* 61:163-6 Ja 27 '23
Convention of the southern divisions of the engineering council, Louisville, Ky. and Cleveland, April 26. *Elec Ry J* 59:794-6 My 13 '22
Summer convention, Cedar Point, July 18-20. *Elec Ry J* 62:136-8 Jl 28 '23
Summer convention on board the S.S. South American. *Elec Ry J* 60:45-7 Jl 8 '22

Central institute of work, Russia. See Russia—Central institute of work

Central of Georgia railway

Central of Georgia. map *Ry Age* 71:1239-40 D 24 '21

Central of Georgia moves record traffic. map *Ry Age* 74:957-9 Ap 14 '23

Central of Georgia perishable traffic big factor. *Ry Age* 73:75-6 Jl 8 '22

Engine terminal for economical operation. G. W. Tutan. *il diag plan Ry Age* 72:463-7 F 25 '22

Fuel and locomotive performance on the Central of Georgia. *Ry Age* 72:479-80 F 25 '22; Same. *Ry Mech Eng* 96:196 Ap '22

New roundhouse and shops for Central of Georgia. W. H. Fetner. *il diag plan Ry Mech Eng* 96:5-8 Ja '22

26th annual report—for the year ended December 31, 1920. *Comm & Fin Chr* 113:2830-1 D 31 '21; Same. *Ry Age* 71:1289-90 D 24 '21

27th annual report for the year ended December 31, 1921. *Comm & Fin Chr* 115:86-8 Jl 1 '22; Same. *Ry Age* 73:88-9 Jl 8 '22

28th annual report—for the year ended December 31, 1922. *Comm & Fin Chr* 116:1668-70 Ap 14 '23; *Ry Age* 74:976-7 Ap 14 '23

Central Pacific railway

Commission reviews its proposals as to Central Pacific. *Ry R* 72:154-5 Ja 20 '23

Conditional plan for Southern Pacific control of Central Pacific. *Ry Age* 74:234 Ja 20 '23

Controversy over Central Pacific settled. *Ry Age* 74:279-80 Ja 27 '23

Government drops S.P.-C.P. litigation. *Ry Age* 75:299-300 Ag 18 '23

Hearing on disposition of Central Pacific. *Ry Age* 73:891-2 N 11 '22

Inter-state commerce commission approves control of Central Pacific Ry. by Southern Pacific co.—Union Pacific assured good through service—settlement agreeable to all parties. *Comm & Fin Chr* 116:685-7 F 17 '23; Same cond. *Ry Age* 74:427-30 F 17 '23
Excerpt. *Ry R* 72:295-6 F 17 '23

Separation of Southern Pacific and Central Pacific ordered. *Ry Age* 72:1296 Je 3 '22

Southern Pacific asks authority to keep Central Pacific. *Ry Age* 73:758-9, 987-90, 1059-60, 1087-9, 1151-6 O 21, N 25-D 16 '22

Southern Pacific protests against separation of C. P. *Ry Age* 72:1495-6 Je 17 '22

Union Pacific opposes Southern Pacific application to keep Central Pacific. *Ry Age* 73:797-8 O 28 '22

Central railroad of New Jersey

Hearing before Inter-state commerce commissioner Hall on linking of Central RR. of New Jersey with New York Central. *Comm & Fin Chr* 116:2951-3 Je 30 '23
N. Y. C. proposal to acquire P. & R. and C. of N.J. map *Ry Age* 75:173-4 Jl 28 '23

Central states life insurance company, St Louis, Missouri

Central states life insurance co. building. *Am Arch* 124:60c-g Jl 8 '23

Centrifugal casting. See Casting, Centrifugal**Centrifugal fans. See Fans, Mechanical****Centrifugal machines**

Applying centrifugal separation in the oil industries. *diags Chem & Met Eng* 29:328-30 Ag 20 '23

Centrifugal force and varnish clarification. *Chem Age (Lond)* 8:261 Mr 10 '23

Centrifugal force in ore dressing and metallurgy. *Eng & Min J* 115:1006 Je 9 '23

Centrifuges for dewatering sludge. T. C. Hatton. *Pub Works* 51:461-4 D 17 '21; Same abr. *Eng N* 88:312-13 F 23 '22

La décantation centrifuge. R. Berline. *il diags Chimie & Ind* 6:737-45 D '21

Efficacy of a centrifuge for removing surface liquids from cotton hairs. H. F. Coward and L. Spencer. *Textile Inst J* 14:T28-32 Ja '23; Abstract. *Color Tr J* 12:167 Ap '23

Is there a centrifugal solution for your production problem? L. H. Clark. *il Chem & Met Eng* 29:459-64 S 10 '23

Possibilities of centrifugal force in ore dressing. O. C. Ralston. *Eng & Min J* 116:673 O 20 '23

Purification des liquides par l'action simultanée de la force centrifuge et du champ électrique. A. Marx and J. Rozières. *diags Chimie & Ind* 10:218-20 Ag '23

Centrifugal machines—Continued

- Purification of liquids by centrifugation. A. F. Meston. *il Chem Age* 31:370-2 Ag '23
- Tentative method of test for water and sediment in petroleum products, by means of centrifuge. *diags Am Soc T M Pro* 21:670-3 '21; Same. *Nat Pet N* 13:71-2 D 21 '21
- Timer for centrifugals. *il Chem & Met Eng* 29:632 O 1 '23
- Unloading the centrifugal. B. C. Lechler. *il Chem & Met Eng* 29:760 O 22 '23
- Use and development of centrifuge for petroleum refinery emulsions. E. E. Ayres, jr. *Nat Pet N* 15:32c-e O 10 '23; Same cond. *Oil Paint & Drug Rep* 104:20-1 O 22 '23
- Use of continuous centrifuging in the soda pulp mill. J. R. Kessler and G. N. Collins. *il diag Paper Tr J* 74:44-5 Je 1 '22; Same. *Tech Assn Pa ser* 5:67-8; Discussion. 132-4 Je '22

See also Casting, Centrifugal; Filters and filtration (technical chemistry); Oil reclamation

Advertising

- Finding the prospect in a widely scattered field. R. Cole. *Ptr Ink* 117:17-20 N 10 '21

Centrifugal pumps. See Pumps, Centrifugal**Centrifugal separation**

- Centrifugal removal of wax from petroleum lubricating oils. L. D. Jones. *Nat Pet N* 15:32a-b O 10 '23
- Institute of petroleum technologists discusses various separation methods. *Oil Paint & Drug Rep* 104:20-1 O 22 '23

Centroids. See Center of mass**Ceramic industries**

See also Brick industry and trade; Cement industry and trade; Clay industries; Enamel and enameling; Fire brick; Glass trade; Kilns; Pottery industry; Refractory materials; Terra cotta

France

- Ceramic industries of France since the end of the 19th century. A. A. Granger. *Am Cer Soc J* 6:205-12 Ja '23

Germany

- Progress of technical ceramic science in Germany since the death of Herman Seger (1893). K. H. Endell and R. Rieke. *Am Cer Soc J* 6:196-204 Ja '23

Japan

- Development of ceramic technology and science in Japan. S. Kondo. *Am Cer Soc J* 6:212-18 Ja '23

United States

- American ceramic industries. F. H. Riddle. *Am Cer Soc J* 6:67-86 Ja '23
- Service in Washington; what the Chamber of commerce of the United States of America is doing for the ceramic industry. *Am Cer Soc J* 6:160-6 Ja '23

Ceramic materials

- New raw material for ceramic uses. P. E. Cox and D. A. Moulton. *Am Cer Soc J* 6:937-9 Ag '23
- Properties of some clay-like materials of the bentonite type. H. G. Schurecht and H. W. Douda. *il Am Cer Soc J* 6:940-8 Ag '23

Ceramic research

- Application of research to plant problems in the ceramic industry. P. C. Kingsbury. *Ind & Eng Chem* 15:898-9 S '23
- Bureau of mines plans ceramic studies. *Chem & Met Eng* 28:321 F 14 '23
- Ceramic research colloquium. *J Ind & Eng Chem* 14:164-5 F '22
- Organization of a decorative ceramic research department. F. H. Rhead. *Am Cer Soc J* 5:758-87 N '22
- Research—its value to a manufacturing executive. B. E. Salisbury. *Am Cer Soc J (Bul)* 6:52-5 Ap '23
- Research laboratories; our federal, state, semi-public institutes and industrial laboratories. *Am Cer Soc J* 6:144-75 Ja '23

- Researches by associations of users and producers of ceramic products. *Am Cer Soc J* 6:219-26 Ja '23

Science and industry in America. W. Rosenhain. *Engineer* 136:384-5 O 12 '23

Ceramic societies

- Foreign ceramic societies. *Am Cer Soc J* 6:176-96 Ja '23

Ceramic society

- 11th meeting, Birmingham, Oct. 3-4. *Engineering* 114:455-7 O 13 '22

Ceramic society, American. See American ceramic society**Ceramics**

- Continuous system of grinding ceramic materials. H. Hardinge. *il diags Am Cer Soc J* 6:548-62 Mr '23
- Firing of ceramics in electric furnaces. E. L. Smalley. *Am Electrochem Soc Trans* v 42 (preprint 3):19-22; Discussion. 22a-b S '22
- Physical chemistry and ceramics. E. W. Washburn. *il diags J Fr Inst* 193:749-73 Je '22
- Value of screen analysis in ceramics. F. P. Nickerson. *il Am Cer Soc J* 6:563-78 Mr '23
- See also Brickmaking; Clay; Clay products; Enamel and enameling; Fire brick; Glass manufacture; Glazes; Kilns; Porcelain; Pottery; Refractory materials; Terra cotta; also American ceramic society

Bibliography

- Bulletins issued by the Department of ceramic engineering, University of Illinois, Urbana, Ill. *Am Cer Soc J (Bul)* 6:96-8 Ap '23
- Ceramic abstracts. See monthly numbers of American ceramic society journal
- List of publications on ceramic investigations. 6p Rep. of Investigations U S Bur Mines 2437 '23 (typewr); Same abt. *Am Cer Soc J (Bul)* 6:93-5 Ap '23
- Reference list of ceramic books. *Am Cer Soc J* 6:322-48 Ja '23
- Transactions of the American ceramic society; collective index. E. J. Crane and E. Hockett, eds. 70p American ceramic soc., 211 Church St., Easton, Pa. '20

Definition

- American ceramic industries. F. H. Riddle. *Am Cer Soc J* 6:67-86 Ja '23

Periodicals

- Our ceramic journals. *Am Cer Soc J* 6:118-43 Ja '23
- Periodic ceramic literature published in Germany. *Am Cer Soc J* 6:204 Ja '23

Standards

- Report for the year 1922, Committee on standards. A.C.S. *Am Cer Soc J* 5 pt 2:31-93 Ap '22

Study and teaching

- Our universities. *il Am Cer Soc J* 6:87-118 Ja '23

Ceramics building. See Rutgers college—Ceramics building**Cereal chemistry.** See Botanical chemistry**Cerium**

- Adds cerium to brass and iron. L. W. Spring. *il Foundry* 50:542-4 Jl 1 '22
- Cerium in aluminum alloys. H. W. Gillett and V. H. Schnee. *Ind & Eng Chem* 15:709-11 Jl '23
- Influence of cerium on aluminum and other light metal alloys. R. E. Search. *Metal Ind* 20:142-4 Ap '22

- Uses of cerium. *Eng & Min J* 114:464 S 9 '22

Cerium chloride

- Use of cerium compounds for dyeing and weighting silk goods. *Color Tr J* 10:34 Ja '22

Certo (food product)

- Marketing a wholly different food product through grocers. R. Cole. *Ptr Ink* 119:17-20 Ap 20 '22

Cesium auric chlorides

Some complex chlorides containing gold. H. L. Wells. *Am J Sci* 5th ser 3:315-26, 414-16 My '22

Cevadine

Cevadine. A. K. Macbeth and R. Robinson. *Chem Soc J* 121:1571-7 Ag '22

Ceylon

American's impressions of the Orient. A. F. Bemis. *il Textile World* 62:1283 S 2 '22
 See also Electric industries—Ceylon; Labor and laboring classes—Ceylon

Chain couplings. See Couplings**Chain doors.** See Furnace doors**Chain gear**

Advantages of the chain drive. *Sci Am* 128: 121 F '23
 Chain drives. A. Bayliss. *il diag Eng & Ind Management* 7:282-6 Mr 23 '22
 Chain drives in Woodruff mills. *il Textile World* 63:3695 Je 2 '23
 Efficiency of chain drives. G. M. Bartlett. *il diags Mach* 29:169-73 N '22
 How chain drives have reduced production losses. F. E. Gooding. *il Ind Eng* 81:432-7+ S '23
 Limitations of silent chain drives. F. G. Anderson. *Power Pl Eng* 25:1160-1 D 1 '21; Same cond. *Power* 54:741 N 8 '21
 Marked increase in use of chains for front end drives. J. E. Schipper. *il diags Automotive Ind* 47:8-10 Jl 6 '22
 Mechanical transmission of power. F. E. Cardullo and F. D. Jones. *il Mach* 29:85-9 O '22
 Operating conditions affecting chain service. F. E. Gooding. *il Ind Eng* 81:379-82 Ag '23
 Power chart for silent chain. W. W. Gaylord. *Am Mach* 57:73-4 Jl 13 '22
 Types and kinds of chain drives. F. E. Gooding. *il diags Ind Eng* 81:335-9+ Jl '23

Standards

Roller chains and roller-chain sprockets; proposed revision of S.A.E. standards. *Soc Auto Eng J* 12:219 F '23
 Roller chains and sprockets; report of the joint committee. *Mech Eng* 45:500-3+ Ag '23

Chain stores

Chain stores. W. S. Hayward and others. 111p [Bibliog. p.393-9] McGraw-Hill '22
 Chain stores, mail order houses and retailers. C. F. Hughes. *Annalist* 19:200 F 6 '22
 How chain organizations pick locations. R. M. Rhodes. *Ptr Ink M* 4:58 My '22
 How national advertisers and chain stores can get together. J. M. Fly. *Ptr Ink* 125: 3-4+ O 11 '23
 How we sell twice as much on half the stock. G. M. Gales. *il System* 43:583-7+ My '23
 Library service for the chain store. G. D. Aikenhead. *Special Lib* 14:25-6 Mr '23
 Meeting chain store competition. F. Farrington. 151p Byxbee pub. co., Chicago '22
 Mixing mail-order with chain store selling. G. A. Nichols. *Ptr Ink* 122:101-2+ Ja 25 '23
 Relation of the chain store to manufacturer and retailer. E. A. Kincaid. *J Elec* 49:206-8 S 15 '22
 Significance of chain stores to all types of distributors. P. H. Nystrom. *Ptr Ink* 119: 129-30+ Je 1 '22; Same cond. *Elec W* 80: 44 Jl 1 '22
 Variety stores as outlets for advertised goods. *Ptr Ink* 123:41-2; Bibliography. 42, 44 My 10 '23
 What kept our business growing through 1921. S. S. Kresge. *il System* 41:393-7+ Ap '22
 When selling to the chain store may be bad business. *Ptr Ink* 121:81-2 D 14 '22
 Why selling, rather than buying, is the retailer's problem. *Ptr Ink* 122:19-20 Mr 29 '23

See also Five and ten-cent stores

Advertising

Grocery chains as newspaper advertisers. R. R. Updegraff. *Ptr Ink* 120:57-8+ Jl 6 '22

Mail-order grocery chain stores advertised to farmer. G. A. Nichols. *Ptr Ink* 123:25-7+ Ap 19 '23
 Piggly-Wiggly develops a chain store copy angle. *Ptr Ink* 117:149-50 D 15 '21

Bibliography

Getting information on business topics. *Ptr Ink* 117:100-+ D 15 '21
 115 articles on chain stores. *Ptr Ink* 121:28 N 9 '22

Chains

Magnetic testing of chain. A. V. de Forest. *Iron Age* 109:644-5 Mr 9 '22
 Preventing chain failures. S. J. Williams. *Nat Safety N* 7:19-21 Mr '23; *Excerpt. Eng & Contr (Ry)* 59:657 Mr 21 '23; *Excerpt. Ry R* 72:620 Ap 7 '23
 Ropes, chains and blocks for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:790-2; 28:43-6 D '22-Ja '23
 Safe loads for ropes and chains. G. W. Childs. *Foundry* 50:332a Ap 15 '22
 Safe loads for two-part chain slings. *Am Mach* 57:494 S 28 '22
 Small chains as trouble savers. P. S. Franklin. *diags Power* 55:393-4 Mr 7 '22
 Temperature variation in eyebars chains found slight. *diags Eng N* 90:740 Ap 26 '23
 Two-piece chain that does not buckle or come apart in service. *il Coal Age* 24:558 O 11 '23
 See also Chain gear; Crane chains; Tire chains

Manufacture

Manufacture and properties of weldless chains. *il diags Engineering* 115:802-3, 806 Je 29 '23
 Producing detachable cast chain. H. R. Simmonds. *il Iron Tr R* 72:446-9 F 8 '23; Same abr. *Foundry* 51:185-7 Mr 1 '23

Specifications

Tentative specifications for iron and steel chain. *Am Soc T M Pro* 21:463-73 '21

Standards

Standardization of malleable iron chain. *Am Mach* 56:739 My 18 '22

Chains, Tire. See Tire chains**Chairs**

Georgian armchair from the Museum of fine arts, Boston, Massachusetts. English walnut, 1725; drawings. *Arch Forum* 36:125 Mr '22
 How correct seating affects manufacturing profits. I. Salomon. *il charts diags Ind Management* 63:326-36 Je '22
 Louis XV armchair; drawings. *Arch Forum* 36:251 Je '22

See also Wheel-chairs

Chalcedony

Occurrence of sandstone dikes and chalcedony veins in the White River Oligocene. T. B. Lawler. *il Am J Sci* 5th ser 5:160-72 F '23
 Products of the calcination of flint and chalcedony. E. W. Washburn and L. Navias. *il diags Am Cer Soc J* 5:565-85 S '22; Discussion. (Bul) 5:298-301 N '22
 Some interesting chalcedony pseudomorphs from Big Badlands, South Dakota. A. P. Honess. *il Am J Sci* 5th ser 5:173-4 F '23

Chalcocite

Primary chalcocite: Bristol copper mine, Connecticut. A. M. Bateman. *il Econ Geol* 18: 122-66 Mr '23

Chalcopyrite

Concentration of Rossland, B.C., ores. D. Lay. flow sheets *il diags Eng & Min J* 114: 1118-24 D 23 '22

Chalk

See Whiting—Manufacture

Chalmersite

Chalmersite at Fierro, New Mexico, with a note on its occurrence at Parry Sound, Ontario. G. M. Schwartz. *Econ Geol* 18:270-7, pl 10 Ap '23

Chamaerops humilis. See Palm, Dwarf**Chamber of commerce, International.** See International chamber of commerce

Chamber of commerce of America, Aeronautical.
See Aeronautical chamber of commerce of America

Chamber of commerce of the state of New York, New York city
Alterations to building. Arch & Bldg 54:47-8, pl 76-8 My '22

Chamber of commerce of the United States
10th annual meeting, Washington, May 15-18.
Oil Paint & Drug Rep 101:21+ My '22 '22;
Nation's Business 10:9-54 Je 5 '22
11th annual meeting, New York, May 8-11.
Am Mach 58:750b-d My 17 '23; Elec Ry J 61:809-12 My 12 '23; Eng N 90:886-7 My 17 '23; Oil Paint & Drug Rep 103:20+ My 14 '23; Ry Age 74:1153-5 My 12 '23
Business call on Mr Coolidge. Nation's Business 11:46+ O '23
Keeping business out of court. J. H. Barnes. Nation's Business 10:11-12 JI '22
Milestone of business progress; 11th annual meeting of the United States Chamber of commerce. K. L. Simpson. Nation's Business 11:9-10 Je 5 '23
New chamber organization. E. H. Goodwin. Nation's Business 11:10 Je 5 '23
Lamp literature of the National chamber. Special Lib 14:16 Mr '23
Report for Chamber of commerce, U.S.A. Oil Paint & Drug Rep 101:33-6 O 30 '23
Resolutions of the eleventh annual meeting of the Chamber of commerce of the United States. Nation's Business 11:42+ Je 5 '23
Service in Washington: what the Chamber of commerce of the United States of America is doing for the ceramic industry. Am Cer Soc J 6:160-6 Ja '23
Story of the national chamber. J. H. Defrees. il Nation's Business 10:30-2 Je 5 '22
U.S. Chamber of commerce begins transportation survey. Ry R 72:221-2 F 3 '23

Chambers of commerce

Ancient commerce body: Marseilles, earliest city to establish a chamber of commerce. W. Frost. Nation's Business 10:52-3 My '22
Les chambres de commerce français à l'étranger. de Tarbé. Chimie & Ind 7:615-18 Mr '22
Civic co-operation at Stevens Point, Wisconsin. M. Chase. Munic Eng 65:92 Ag '23
Foreign chambers of commerce in the different countries of the world. 16p International chamber of commerce, 33, Rue Jean Goujon, Paris
From Greenland's icy mountains; chamber of commerce movement. Nation's Business 10:59+ My '22
List of Chambers of commerce in the United States in all cities of 10,000 population and over. 32p Chamber of commerce of the State of New York, 65 Liberty St., New York '22
Promotion of better industrial relations by a Chamber of commerce. A. C. Brown. Administration 3:169-73 F '22
Relation of chambers of commerce to city administrations. E. M. McWhirter. Munic Eng 65:171-4 O '23
What a small city club did in Lincoln, Neb. R. E. Crawford. Nation's Business 10:58-9 My '22
What your association can do for you. il System 44:31-5 JI '23

See also International chamber of commerce

Secretaries

Commercial secretaries study their jobs. Nation's Business 10:54-5+ O '22

Chamfering machines

Murchev nipple reaming and chamfering machine il Mach 28:421-2 Ja '22

Chance. See Probabilities

Chandler, Charles Frederick, 1836-
Dean of American chemists. M. C. Whitaker. por J Ind & Eng Chem 14:977 O '22

Channels

See also Canals; Water flow; Waterways

Chapels

Chapel at Colgate university, Hamilton, N.Y. Arch Forum 38:69, pl 26-s F '23

Philadelphia divinity school. C. FitzGibbon. il plans Arch Rec 54:107-20 Ag '23

See also St John the Divine, Cathedral of, New York

Charcoal

Adsorption by activated sugar charcoal. F. E. Bartell and E. J. Miller. Am Chem Soc J 44:1866-80; 45:1106-15 S '22, My '23

Carbonization with wood charcoal. H. Schagrín. diag plan Ry Mech Eng 96:102-3 F '22

Charcoal and its related products. Coal Age 21:654 Ap 20 '22; Brass W 17:218 JI '22

Experiments with a growth-impregnated charcoal catalyst. A. Pickles. Chem Age (Lond) 8:166 F 17 '23

Gas producer for truck uses charcoal as fuel. il Pop Mech 37:576-7 Ap '22

Gasoline recovery from natural gas by the use of charcoal. C. L. Voress, V. C. Canter and R. W. Skoog. Nat Pet N 15:97-8+ My 2 '23

High pressure due to adsorption, and the density and volume relations of charcoal. W. D. Harkins and D. T. Ewing. Am Chem Soc J 43:1787-1802 Ag '21

Methoxyl in wood charcoal. L. F. Hawley. Ind & Eng Chem 15:697 JI '23

Potash from kelp; the decolorization action of adsorptive charcoals. H. G. Tanner. J Ind & Eng Chem 14:441-3 My '22

Sorption of carbonyl chloride by beechwood charcoal. H. M. Bunbury. diag Chem Soc J 121:1525-8 Ag '22

Sorption of saturated vapours by charcoal. J. Driver and J. B. Firth. Chem Soc J 121:2409-14 N '22

See also Bone black

Charcoal iron. See Iron metallurgy

Charge account (retail trade)

Charge convenience urged on us. F. G. Macomber. Nation's Business 11:46 N '23

Charging machines

Description of charging and discharging machines of the Bartlett Hayward company. H. L. Underhill. il Am Gas Assn Technical sec v 4:141-3 '22

Electric charger cuts in half cost of charging malleable furnaces. Ind Eng 80:359 JI '22

Charities

See also Community trusts; Santa Claus association

Advertising

Charity advertises for future remembrance. Ptr Ink 123:113-14 Ap 19 '23

Charleston, South Carolina

Architecture

Development of Charleston architecture. A. Simons. il diags Arch Forum 39:153-60 O '23

Vanderhorst Row, Charleston, South Carolina; a prototype of the modern apartment house. S. Lapham, jr. il plans Arch Forum 39:59-61 Ag '23

Water supply

Water supply service at Charleston, South Carolina. J. E. Gibson. Munic Eng 65:27-33 JI '22

Charlton, A. G., 1858-

Mining engineers of note. por Eng & Min J 113:1098 Je 24 '22

Charlton, Demetrius Edward Alexis, 1885-
Sketch. por Eng & Min J 114:268 Ag 12 '22

Charred records, Deciphering of

Action of charred paper on the photographic plate and a method of deciphering charred records. R. Davis. il U S Bur Stand Sci Pa 454:445-9 '22; Abstract. Brass W 19:236 JI '23

Chart reading

Planimeter used for averaging charts from recording instruments. chart Power 58:189, 129, 508 JI 31, S 11, 25 '23

Charts (calculating)

- Aliment charts. G: L. Hedges. *Am Inst E* E J 41:202 Mr '22
- B.t.u. chart. C: J. Lohman, jr. *Chem & Met Eng* 27:1031 N 22 '22
- Chart for addition and subtraction of fractions. P. A. Daschke. *Am Mach* 57:423 S 14 '22
- Chart for calculating fit allowances. A. D. Sanger. *Am Mach* 57:230-1 Ag 10 '22
- Chart for determining the pressure exerted by boring tools. J. B. Conway. *Am Mach* 56:476-8 Mr 30 '22
- Chart for determining the strength of wooden beams. W. F. Schaphorst. *Power Pl Eng* 26: 803-4 Ag 15 '22; Same abr. *Textile World* 62:575 Jl 29 '22
- Chart for obtaining the true mean temperature difference in oil coolers, etc. H. L. Doolittle. *Power* 55:428 Mr 14 '22
- Chart for saving by feed heating. *chart Power* 57:138 Ja 23 '23
- Charts for determining stack dimensions. R. A. Foresman. *Power* 56:804-6 N 21 '22
- Coal consumption per kilowatt-hour. *Power Pl Eng* 27:338-9 Mr 15 '23
- Designing filtration plants graphically. P. B. Streander. *Eng N* 90:882-3 My 17 '23
- Determining pounds of coal and B.t.u. per kilowatt-hour. E. L. MacDonald. *Power* 55: 974 Je 20 '22
- Easily made charts assist in line calculations. I. J. Campbell. *Elec W* 80:382 Ag 19 '22
- Estimating modern gear production. G. E. Spies. *Am Mach* 56:799-804 Je 1 '22
- Graphic method for computing heat balance. F. A. Shorkey. charts *Blast F & Steel Pl* 11:348-54 Je '23
- Graphical solution of cost and production problems. L. Weindling. *Ind Management* 64:151-2 S '22
- Handy chart for computing number of lengths in a pipe line. W. F. Schaphorst. *Gas Age* 52:12 Jl 7 '23; Same. *Sanitary & Heat Eng* 100:291 N 2 '23
- How many gallons in any cylindrical tank? *Sanitary & Heat Eng* 100:250 O 19 '23
- I-beam chart. W. F. Schaphorst. *Textile World* 62:1129-30 Ag 26 '22; Same. *Iron Age* 169:1586 Je 8 '22
- New calculating chart. E. L. Rice. *J Ind & Eng Chem* 14:1032-6 N '22
- Orifice, to discharge given quantity of compressed air. *Power* 55:706, 987 My 2, Je 20 '22
- Pipe flow chart. W. F. Schaphorst. *Gas Age* 49:371 Mr 25 '22; Same. *Textile World* 61: 2329+ Ap 22 '22; Same. *Coal Age* 21:999-1000 Je 15 '22
- Practical construction of alignment charts. R. T. Livingston. *Power Pl Eng* 27:824-6, 873-5, 933-5 Ag 15-S 15 '23
- Present method of obtaining cost per lb. of rubber belt. *Ind Management* 65:142-3 Mr '23
- Rapid millimeter-inch conversion chart. L. E. Picolet. *Am Mach* 57:430 S 14 '22
- Roll or coil length; chart for quickly finding the number of feet. W. F. Schaphorst. *Textile World* 64:372+ Jl 21 '23
- Wrought pipe data; chart. *Sanitary & Heat Eng* 96:395 D 30 '21
- Charts, Business.** See Business charts
- Charts, Meteorological.** See Meteorological charts
- Charts, Organization.** See Organization in industry
- Charts, Progress.** See Progress records
- Charts, Routine**
- Routine chart construction. G. C. Harrison. *Ind Management* Eng 4:389-94 Je '23
- Use of routine charts in improving and systematizing office procedure. G. C. Harrison. *Ind Management* Eng 4:223-8 Ap '23
- Chateaux.** See Castles
- Chauffeurs.** See Automobile driving
- Check-off system**
- Anthracite miners and operators resume wage parley. *Coal Age* 21:293-5 Ag 23 '23

- Anthracite wage conference breaks up when operators balk at granting check off. *Coal Age* 24:187-8 Ag 2 '23
- Check-off evils need correction. *Coal Age* 24: 449-50 S 20 '23
- Clouding the coal labor situation. C. Scholz. *Min & Met* 185:19-20 My '22
- Court of appeals temporarily lifts Anderson injunction against check-off; strike threat delayed. *map Coal Age* 20:775-7 N 10 '21
- Enjoining the check-off system of the United mine workers. *Monthly Labor R* 14:368-71 F '22
- Union ultimatum: the check-off or no anthracite. *Coal Age* 24:259 Ag 16 '23
- What is the check-off? H. A. Haring. *Annalist* 19:249-50 F 20 '22

Checks

- Chamber of commerce of U.S. committed to par check remittances. *Comm & Fin Chr* 115:1995-6 N 4 '22
- Cheques: their origin and development, and how they are handled by an English bank. C: F. Hannaford. 185p *Pitman* '23
- Decision of U.S. circuit court of appeals at New Orleans in par clearance case. *Comm & Fin Chr* 115:2851-2 D 30 '22
- Denationalizing our currency. E: A. Bradford. *Annalist* 19:363-4 Mr 27 '22
- Federal reserve bank of Cleveland restrained in par collection controversy. *Comm & Fin Chr* 115:2214-16 N 18 '22
- Federal reserve board amends regulations affecting par check collections. *Comm & Fin Chr* 117:27 Jl 7 '23
- Federal reserve board on Georgia court's finding in par check collection controversy. *Comm & Fin Chr* 114:2534-5 Je 10 '22
- Federal reserve board refers question of par check collection regulations to Advisory council. *Comm & Fin Chr* 117:507 Ag 4 '23
- Inventor vs. forger. E: H. Smith. *Il Sci Am* 127:374-5; 128:8-9+ D '22-Ja '23
- La législation sur le chèque. M. Lambert. *Chimie & Ind* 9:1026-8 My '23
- Making easy the forger's path. H: F. Woods. *Nation's Business* 11:68+ My '23
- Par clearance question; the Federal reserve board's plan for free collection of checks. M. Parsons. *Annalist* 22:388+ S 24 '23
- Par remittance for checks. *Nation's Business* 11:58+ S '23
- Proposed amendment to federal reserve law regarding par collections; text. *Comm & Fin Chr* 114:352 Ja 28 '22
- Things you should guard against in issuing and depositing checks. T: J. Kavanaugh. *Dom Eng* 100:412-13 S 2 '22
- \$35,000,000 yearly to check raisers. B. Smith. *Am Ind* 22:27-8+ My '22
- United States district court of appeals at New Orleans upholds collection of checks at par. *Comm & Fin Chr* 115:2213 N 18 '22
- United States Supreme court's rulings on par collection charges—validity of North Carolina law upheld. *Comm & Fin Chr* 116:2718-20 Je 16 '23

Cheese

- Cheese was popular tidbit among early peoples. *Pop Mech* 40:930 D '23

Advertising

- Antithesis of reason-why copy sells cheese. R. W. Johnson. *Ptr Ink* 119:61-2 Je 1 '22
- How Phenix cheese company sells a business instead of just the product. *Ptr Ink* 124: 33-4+ Jl 19 '23

Marketing

- Cheese is standardized and promptly takes on added value. W. A. Freehoff. *Ptr Ink* 118: 19-20 Mr 23 '22

- Chelate co-ordination.** See Co-ordination (chemistry)

Chelone

- Chelone glabra L.; a morphological study. T. Holm. *Il Am J Sci* 5th ser 6:265-70 S '23

Chelsea pottery

- Chelsea porcelain. W: King. 134p Scribner '22

Chemical affinity

Researches on residual affinity and co-ordination. G. T. Morgan and others. *Chem Soc J* 121:922-40, 1723-9, 1956-71, 2432-73, 2857-74, 2882-94; 123:444-52, 1096-1108 My, S, N-D '22. Mr, My '23

See also Chemical reaction—Velocity; Valence

Chemical analysis. *See* Chemistry, Analytic**Chemical apparatus**

Apparatus for dispensing concentrated sulfuric acid and sodium hydroxide solutions. R. C. Abbott. *diag Ind & Eng Chem* 15:493 My '23

Apparatus for electrically heating liquid and solid chemicals. *il diags Engineering* 112:852-3 D 23 '21

Apparatus of transparent bakelite for measuring hydrofluoric acid. L. J. Curtman. *J Ind & Eng Chem* 14:610 JI '22

Appareil de perforation pour épuisement des liquides par les liquides. F. Lormand and C. Lormand. *diags Chimie & Ind* 8:273-4 Ag '22

Business of buying laboratory equipment. J. H. Wilson. *Can Chem & Met* 7:39-40 F '23

De quelques nouveautés dans l'industrie des grès chimiques. M. Kaltenbach. *il diags Chimie & Ind* 9:227-32 F '23

Étude comparative des verres de laboratoire préparés en France, en Angleterre, en Allemagne et en Autriche. P. Nicolardot. *Chimie & Ind* 9:233-44 F '23

L'exposition de la chimie. *il Chimie & Ind* 6:675-89 N '21

Hard rubber and its application in the chemical industries. A. C. Butfield. *Ind & Eng Chem* 15:474-5 My '23

Laboratory apparatus and equipment. R. P. Cargille. *Chem Age* 31:459-61 O '23

Laboratory dispensing device for heavy and corrosive liquids. A. P. Harrison. *diag Ind & Eng Chem* 15:497 My '23

Manufacture of English chemical porcelain. G. N. White. *il Chem Age* (Lond) 9:334-6 S 29 '23

New absorption bottle for carbon dioxide and moisture. W. E. Morgan. *diag Ind & Eng Chem* 15:266 Mr '23

Protection from excess pressures in chemical apparatus. J. B. Shaw. *Chem Age* 29:465-6 N '21

Purchase of laboratory apparatus from the manufacturer's point of view. R. P. Cargille. *Chem Age* 31:377-81 Ag '23

Pyrex glass as a material for chemical plant construction. A. E. Marshall. *il diags Chem & Met Eng* 28:216-19 Ja 31 '23; Same. *Ind & Eng Chem* 15:141-4 F '23

Quelques dispositifs nouveaux pour l'analyse en série. J. Durand and J. Vernay. *il diags Chimie & Ind* 10:207-11 Ag '23

Simple, foolproof carbon combustion apparatus. W. Kuebler. *diag Chem & Met Eng* 27:30 JI 5 '22

Unique development of modern chemical stoneware. P. C. Kingsbury. *il diags Chem & Met Eng* 27:1226-31 D 20 '22; Excerpts. *Chem Age* 30:551-4 D '22

Use of hard rubber in chemical industry. *il Chem Age* 31:137-9 Mr '23

See also Acid-resisting materials; Agitators; Blowpipes; Chemical plants—Equipment; Dialyzers; Distillation apparatus; Electric furnaces. Laboratory; Evaporators; Filter presses; Filters and filtration (technical chemistry); Gas cocks; Gauze dish; Metallurgical apparatus; Premier mill; Sampling horns; Sodium press; Stirrers; Turbidimeter; Vacuum pans; Viscosimeters; Volumetric apparatus

Prices

Trend of prices for laboratory apparatus. S. L. Redman. *Chem & Met Eng* 26:1227 Je 28 '22

Standards

Report on standardization of sizes and shapes of apparatus. W. D. Collins. *J Ind & Eng Chem* 14:654-9, 738-42 JI-Ag '22

Standardization of enameled apparatus for chemical purposes. E. P. Poste. *il Chem Age* 30:435-8 O '22; Same. *Oil Paint & Drug Rep* 102:xvi-xvii sec 2 S 18 '22; Same. *Chem & Met Eng* 27:1016-19 N 22 '22

Chemical education

Chemist's education. M. G. Korsunsky. *Ind & Eng Chem* 15:186-90 F '23

Investment in chemical education in the United States, 1920-1921. C. J. West and C. Hull. *J Ind & Eng Chem* 14:237 Mr '22; Same. (Reprint & Circ. Ser. 28) 3p n.d. 15c National research council, 1701 Massachusetts av, Washington, D.C.

Pittsburgh as a center of chemical education. E. H. McClelland. *J Ind & Eng Chem* 14:776-9 S '22

Training of the industrial chemist. G. W. Walker. *J Ind & Eng Chem* 14:737 Ag '22

See also Chemical engineering—Study and teaching; Chemical laboratories; Chemistry—Study and teaching; *also* North Dakota agricultural college—School of chemistry; Pennsylvania state college

Chemical elements

Disintegration of elements by α particles. E. Rutherford and J. Chadwick. *diags Philos Mag* 6th ser 44:417-32 S '22

Evolution of the elements. E. Rutherford. *diags Engineering* 113:494-6 Ap 21 '22

New periodic classification of the elements. G. Oddo. *Brass W* 17:370 D '21

Relations of the elements. E. Rutherford. *Engineering* 113:592-3 My 12 '22

Report of the international committee on chemical elements. *Am Chem Soc J* 45:867-74 Ap '23

Transmuting the elements. R. D. Rusk. *il diag Pop Mech* 38:917-18 D '22

Unemployment among the elements. E. E. Free. *Nation's Business* 11:26-8 S '23

See also Atomic weights; Valence; *also* names of chemical elements, e.g. Arsenic, Carbon, Hafnium, Helium, Nitrogen, Oxygen, Sulfur

Chemical engineering

Aim and function of the chemical engineer. W. H. Coleman. *Chem Age* (Lond) 9:197-8 Ag 25 '23

Chemical engineer. H. Arnstein. *Prof Eng* 8:9-10+ O '23

Chemical engineer in bakery management. G. L. Montgomery and A. G. Wikoff. *il Chem & Met Eng* 29:12-15 JI 2 '23

Chemical engineering in the production of coated fabrics. S. D. Kirkpatrick. *il diags plan Chem & Met Eng* 28:1017-23 Ja 11 '23

Chemical resistance of engineering materials. M. L. Hamlin and F. M. Turner. 267p [bibliog] Chemical catalog co. '23

General principles of chemical engineering design. H. Griffiths. 63p Benn bros., London '22

Handbook of chemical engineering. D. M. Liddell. 1008p McGraw-Hill '22

Plant equipment and raw materials. *Chem & Met Eng* 29:429-524 S 10 '23

Principles of chemical engineering. W. H. Walker. W. K. Lewis and W. H. McAdams. 637p McGraw-Hill '23; Symposium review. *Chem & Met Eng* 28:946-50 My 28 '23

Recovery of volatile solvents. C. S. Robinson. 188p [Abstract of literature on solvent recovery; p. 163-80] Chemical catalog co., New York '22

Text book of chemical engineering. E. Hart. 2d ed. 241p Chemical pub. co. '22

Weighing and measuring of chemical substances. H. L. Malan and A. I. Robinson. 63p Benn bros., London '22

Wood as a chemical engineering material. C. S. Robinson. *il J Ind & Eng Chem* 14:607-10 JI '22; Abstract. *Eng & Ind Management* 8:98-9 Ag 24 '22

See also Chemistry, Technical; Metallurgy; Sewage disposal; Waste products; Water purification

Apparatus and supplies

An analysis. 2d ed. 81p Chemical catalog co. '23

Chemical engineering—Apparatus and supplies

—Continued

Materials for equipment construction. *il Chem & Met Eng* 28:676-92 Ap 16 '23

Materials of chemical-equipment construction symposium. *Ind & Eng Chem* 15:467-75, 555-70, 665-76 My-Jl '23

See also Agitators; Chemical plants—Equipment; Premier mill

Study and teaching

American institute of chemical engineers holds conference on chemical engineering education. *Chem & Met Eng* 26:994-5 My 24 '22

Study of chemical engineering by the unit-operation method. W. K. Lewis and R. T. Haslam. *J Ind & Eng Chem* 14:647-50 Jl '22

See also Pennsylvania state college; Texas. Agricultural and mechanical college

Chemical engineering laboratory. See Michigan. University—Chemical engineering laboratory

Chemical engineers

Chemical engineer. G: W. Shearer. *Engineering* 113:487 Ap 21 '22

Education of the chemical engineer. *Chem Age* (Lond) 8:645-6 Je 16 '23

Engineer in the chemical factory. *Engineer* 135:84-5 Ja 26 '23

Chemical engineers, American institute of. See American institute of chemical engineers

Chemical equilibrium

Application of thermodynamics to heterogeneous equilibria. G: W. Morey. *diags J Fr Inst* 194:425-84 O '22

Bicarbonate equilibrium. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:319-20, 321-6 Jl 27-Ag 3 '23

Effect of an electrolyte on solutions of pure soap; phase-rule equilibria in the system sodium laurate—sodium chloride—water. J. J: McBain and A. J: Burnett. *diags Chem Soc J* 121:1320-33 Jl '22

Electrode potential of bismuth determined by equilibrium measurements. E. H. Swift. *Am Chem Soc J* 45:371-7 F '23

Equilibria between the acido- and aquo-iridium pentammines. A. B. Lamb and L. T. Fairhall. *diag Am Chem Soc J* 45:378-95 F '23

Equilibria in aqueous solutions of the alkali metal bisulphites. E: C: C. Baly and R. A. Bailey. *Chem Soc J* 121:1813-21 S '22

Equilibria in the systems iron:carbon:oxygen and iron:hydrogen:oxygen, and the free energies of the oxides of iron. E. D. Eastman. *Am Chem Soc J* 44:975-98 My '22

Equilibrium in liquid mixtures of ammonia and xylene. C: A. Kraus and E: H. Zeitfuchs. *diags Am Chem Soc J* 44:1249-60 Je '22

Equilibrium in mixtures of binary electrolytes. C: A. Kraus. *Am Chem Soc J* 43:2507-14 D '21

Equilibrium in systems composed of water and alcohols: methyl alcohol, pinacene, glycerol, and erythritol. N. A. Pushin and A. A. Glagoleva. *Chem Soc J* 121:2813-22 D '22

Equilibrium in the reaction between sulfur dioxide and water. F: R. Bichowsky. *diag Am Chem Soc J* 44:116-32 Ja '22

Equilibrium in the system ammonia: mercuric cyanide. S. R. Brinkley. *diag Am Chem Soc J* 44:1210-16 Je '22

Equilibrium in the system lithium chloride: quinoline. J. H. Walton and C. R. Wise. *Am Chem Soc J* 44:103-4 Ja '22

Equilibrium in the system *m*-dinitro-benzene-urethane. N. A. Pushin and A. Fioletova. *Chem Soc J* 121:2822-30 D '22

Equilibrium in the systems carbon disulfide: methyl alcohol, and carbon disulfide: ethyl alcohol. E. C. McKelvy and D. H. Simpson. *Am Chem Soc J* 44:105-15 Ja '22

Equilibrium in the systems, nickel chloride cobalt chloride, cupric chloride—hydrochloric acid—water. H. W. Foote. *Am Chem Soc J* 45:663-7 Mr '23

Equilibrium of the reaction between metallic silver, cupric chloride in aqueous solution and solid cuprous and silver chlorides. G. Edgar and L. S. Cannon. *Am Chem Soc J* 44:2842-9 D '22

Heterogeneous equilibria. W: B. Lee and A. C: Egerton. *Chem Soc J* 123:706-16 Mr '23

Heterogeneous equilibria: the ternary system sodium sulphate—sodium carbonate—water. A. E. Dawkins. *diags Chem Soc J* 121:776-81 My '22

Influence of substitution in the components on equilibria in binary solutions; abstract. R. Kremann, F. Hemmelmayr and H: Riemer. *Chem Soc J* 122 pt 1:1010-13 N '22

Lösungsgleichgewichte der desmotropisomeren diacetbenzsteinsäure-ester und ihre colorimetrische bestimmung. L. Knorr and H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55: 232-48 Ja '22

Method of calculating fluidity, surface tension and reaction (equilibrium) pressure. H: J. M. Creighton. *J Fr Inst* 193:647-55 My '22

Pressure of oxygen in equilibrium with silver oxide. F: G. Keyes and H. Hara. *diags Am Chem Soc J* 44:479-85 Mr '22

Quaternary system ammonium chloride—sodium sulphate—ammonium sulphate—sodium chloride—water. A. C. D: Rivett. *Chem Soc J* 121:379-93 Mr '22

Sur les équilibres de double décomposition entre sels solubles et sur quelquesunes de leurs applications. E. Rengade. *Chimie & Ind* 7:835-50, 1090-8 My-Je '22

System, $\text{Fe}_2\text{O}_3\text{--SO}_3\text{--H}_2\text{O}$. E. Posnjak and H. E. Merwin. *Am Chem Soc J* 44:1965-94 S '22

System, silver perchlorate—water—benzene. A. E. Hill. *diags Am Chem Soc J* 44:1163-93 Je '22

Theory of acid-alkali solution equilibrium as applied to salts of moderately strong but sparingly soluble acids. E. B. R. Prideaux. *Chem Soc J* 123:1624-34 Je '23

über keto-enol-gleichgewichte und die Claisensche regel. W. Dieckmann. *Deutsche Chem Gesell Ber* 55:2470-91 S '22; Abstract. *Chem Soc J* 122 pt 1:1020-2 N '22

Chemical equipment association

Chemical equipment association. *Chem Age* 30:427-8 O '22

Chemical equipment manufacturers organize trade association. *Chem & Met Eng* 26:946-8 My 17 '22; Same abr. *Chem Age* 30:213-14 My '22

Comment on the Chemical equipment association. *Chem & Met Eng* 28:559 Mr 21 '23

First annual meeting, New York, Sept. 20. *Chem Age* 31:392, 445 S-O '23

New idea in trade associations. *Am Dyestuff Rep* 12:373-4 My 7 '23

Organization. *J Ind & Eng Chem* 14:564 Je '22

Chemical exposition. See Chemical industries—Exhibitions

Chemical foundation

Attorney-general starts proceedings against Chemical foundation, inc., for return of patents. *Textile World* 62:1535-6 S 16 '22

Charges German intrigue in patent controversy. F. P. Garvan. *Textile World* 62:307-8+ Jl 15 '22

Chemical foundation and the dyestuff industry. *Color Tr J* 11:60-1 Ag '22

Chemical foundation, inc. *Chem Age* 30:321-2 Jl '22

Chemical foundation, inc. F. P. Garvan. *Chem Age* 30:97-100 Mr '22

Chemical foundation, inc. refuses to return chemical patents. *Textile World* 62:442-3 Jl 22 '22

Chemical foundation patent royalties. *Chem Age* 30:360 Ag '22

Chemical foundation plans fight to finish against return of patent rights. *Chem & Met Eng* 27:84 Jl 12 '22

Chemical foundation suit alleges conspiracy in acquiring patents. *Oil Paint & Drug Rep* 102:19+ sec 1 S 11 '22

Chemical foundation suit is begun before Judge Morris at Wilmington. *Oil Paint & Drug Rep* 103:19+ Je 11; 19+ Je 18; 104:19+ Jl 2; 20 Jl 9; 20 Jl 16; 19+ Jl 23; 19 Jl 30 '23

Chemical foundation—Continued

- Chemical foundation to be sued by government for German patents. Oil Paint & Drug Rep 102:19+ J1 10 '22
- Chemistry by court order. Sci Am 129:251 O '23
- Dye patent case decision awaited with interest. Textile World 64:815-16 Ag 11 '23
- Foundations side of patent case. Textile World 64:72+, 227+, 359 J1 7-21 '23
- German recovery of chemical control feared in Chemical foundation suit. Oil Paint & Drug Rep 102:19+ J1 17 '22
- Government suit against Chemical foundation. Chem & Met Eng 27:516; 28:1045; 29:30-1, 76, 122, 164, 204 S 6 '22, Je 11, J1 2-30 '23
- Grand jury investigates Chemical foundation. Chem & Met Eng 27:131-2 J1 19 '22
- Inventors, inventions and patent practice. C. L. Jenks. Chem Age 31:367-9 Ag '23
- President Harding calls for return of patents transferred to Chemical foundation, inc. Comm & Fin Chr 115:137-9 J1 8 '22
- Right of courts to review war-time acts may affect decision in dye patent suit. Am Dyestuff Rep 12:457-9 Je 18 '23
- Stockholders of the Chemical foundation, inc. Chem Age 30:379-80 S '22
- United States of America vs. the Chemical foundation. Ind & Eng Chem 15:664 J1 '23

Chemical industries

- Business side of chemical manufacturing. C. Wadsworth. Chem & Met Eng 26:967-71, 1064-S My 24, Je 7 '22
- Chemistry—the key to international relations. H. E. Howe. Soc Chem Ind J (Chem & Ind) 42:510-13, 530-4 My 25-Je 1 '23
- Committee on uniform sales contract for chemicals submits report. Chem & Met Eng 29:32 J1 2 '23
- French and German chemical interests may pool resources. P. Wooton. Chem & Met Eng 29:638 O 1 '23
- German professor's review of changed conditions. A. Binz. Chem Age (Lond) 8:366-7 Ap 7 '23
- Human element in the chemical industry. R. L. Roberts. Soc Chem Ind J (Chem & Ind) 42:103-5 F 2 '23
- Increased production efficiency in the industries; symposium. Chem & Met Eng 27:457-68 Ag 30 '22
- Industrial chemicals: market review. Oil Paint & Drug Rep 103:29+ Mr 29 '23
- Length of work periods on continuous-process work in the chemical industries. H. B. Drury. Ind & Eng Chem 15:84-5 Ja '23
- Markets for chemicals in the Netherlands East Indies and British Malaya. J. A. Fowler. U S Bur For & Dom Com Trade Information Bul 31:1-18 '22
- More efficient distribution for the products of the chemical and allied industries; symposium. Chem & Met Eng 27:469-74 Ag 30 '22
- National promise of simplified practice in chemical industries. W. A. Durgin. Oil Paint & Drug Rep 102:xv-xvi sec 2 S 18 '22
- Relation of the iron and steel industries to the chemical industries. J. M. Camp. Blast F & Steel Pl 9:701-6 D '21; Same. Chem & Met Eng 26:6-10 Ja 4 '22; Same cond. Iron Tr R 69:1343-5+ N 24 '21; Excerpts. Iron Age 108:1329-31 N 24 '21

Wage comparisons in the chemical and allied industries. Chem & Met Eng 26:569-71 Mr 22 '22

See also Acid industries; Alcohol; Ceramics; Chemical engineering; Chemical research; Chemicals; Chemicals—Prices; Chemicals—Uses; Chemistry, Technical; Clay industries; Coal-tar products; Drug trade; Drugs—Manufacture; Drugs—Prices; Dye industry; Electrochemical industries; Electrochemistry; Fertilizers; Gas industry; Metallurgy; Oil industries; Paint industry and trade; Paper; Paper industry and trade;

Porcelain; Potash; Potash industry and trade; Pottery; Pottery industry; Rubber; Sodium nitrate; Sugar industry and trade; Tanning

Accounting

- Uniform cost accounting in chemical industry. Chem Age 30:445 O '22

See also Chemical plants—Accounting

Advertising

- Business side of chemical manufacturing. C. Wadsworth. Chem & Met Eng 26:920-2 My 17 '22

Classification

- Classification of chemists. Chem Age 31:231-2 My '23

Exhibitions

- British industries fair of 1923. Chem Age (Lond) 8:116-17, 194-204, 227-30 F 3, 24-Mr 3 '23
- Chemical exposition. Chem Age 30:433-6, 531-2 N-D '22
- Chemical exposition of 1922. I. Ginsberg. il Color Tr J 11:139-43 O '22
- Chemical industries exposition; constitution and by-laws. Chem Age 30:455-6 O '22
- Comment on the chemical show. Chem Age 31:55-6 F '23
- Le congrès et l'exposition de chimie industrielle (7-16 octobre 1921). Génie Civil 79:349-51, 371-5 O 22-29 '21
- Eighth National chemical exposition held at Grand Central Palace. il Chem & Met Eng 27:629-36 S 27 '22; Textile World 62:1529-30+ S 16 '22; Oil Paint & Drug Rep 102:v+ sec 2 S 18 '22
- L'exposition de la chimie. il Chimie & Ind 6:675-98 N '21
- 9th National exposition of chemical industries. Sept. 17-22. Oil Paint & Drug Rep 104:iii+ sec 2 S 17 '23; Textile World 64:1505-6+, 1663+ S 15-22 '23; Chem & Met Eng 29:581-3 S 24 '23; Chem Age 31:439-41 O '23; Color Tr J 13:97-100 S '23
- Program of the 8th National exposition of chemical industries and classified list of exhibitors. Chem & Met Eng 27:339-93 Ag 30 '22; Oil Paint & Drug Rep 102:iii+ sec 2 S 11 '22

Laws and regulations

- Decision on chemical control act not reviewable. W. Gustin. Chem & Met Eng 27:1134 D 6 '22

Standardization

- Standardization will increase the production efficiency of the chemical industries. Chem & Met Eng 27:447-8 Ag 30 '22

Statistics

- Fourteenth census of the United States: manufactures, 1919; chemicals and allied products. U S Bur Census p603-789 '23
- Oil, paint and drug reporter analysis of market trends. Oil Paint & Drug Rep 103:40-3 Ap 16 '23 [continued monthly]

Austria

- Austrian chemical industries. Chem & Met Eng 26:918-19 My 17 '22

Canada

- Canada's chemical trade. S. J. Cook. Can Chem & Met 7:135-9 My '23
- Canada's progress in industrial chemistry. S. J. Cook. Oil Paint & Drug Rep 101:35+ Mr 28 '22
- Chemicals and allied products, 1919 and 1920. Can Chem & Met 6:273 D '22
- Chemicals and allied products in Canada, 1921. Chem Age (Lond) 9:88-90 J1 28 '23
- Directory of chemical industries in Canada, January 1, 1921. 109p Canada. Bureau of statistics, Ottawa '21

Chile

- Chemical industry in Chile. Chem & Met Eng 27:341 Ag 23 '22

Chemical industries—Continued**China**

Applied chemistry in China. C. A. Laird. *il Chem Age* 29:498-9 D '21
 Chemical industry in China. W. H. Adolph. *J Ind & Eng Chem* 13:1099-1102 D '21
 China's market for chemicals and dyes; abstract. *Soc Dyers & Col J* 39:126 Ap '23

Europe

Chemically speaking, how's Europe? W. Davis. *J Ind & Eng Chem* 14:73-4 Ja '22

France

L'avilissement du mark; sa répercussion sur la situation de l'industrie française des produits de synthèse. C. Matignon. *Chimie & Ind* 8:681-3 S '22

Le deuxième congrès de la chimie industrielle. *il Chimie & Ind* 8:217-68 Ag '22
 European conditions as I saw them. J. S. Negru. *Chem & Met Eng* 27:1068-70 N 29 '22
 Lesson from history—lest we forget. C. E. Munroe. *J Ind & Eng Chem* 14:75-6 Ja '22
See also Dye industry—France

Germany

L'état actuel de la grande industrie chimique allemande. M. Kaltenbach. *diags Chimie & Ind* 7:419-24 Mr '22
 General review of German chemical trade conditions. *Chem Age (Lond)* 9:170-1 Ag 18 '23

German chemical industry seriously affected by shortage of materials. *Oil Paint & Drug Rep* 103:19 Ap 23 '23

German organic chemical industry is considerably hampered by occupation. *Oil Paint & Drug Rep* 103:19 My 28 '23

La situation actuelle de l'industrie des matières azotées en Allemagne. C. Matignon. *map Chimie & Ind* 8:176-84 Jl '22

See also Chemical industries—Ruhr valley; Dye industry—Germany

Great Britain

Annual review of British alkali works. *Chem Age (Lond)* 9:32-5 Jl 14 '23; *Engineer* 136:95-6 Jl 27 '23; *Engineering* 116:20 Jl 6 '23
 Progress of the British chemical industry since 1914. H. Levinstein. *Soc Chem Ind J (Chem & Ind)* 42:259-62, 294-7 Mr 16-23 '23
 Review of British chemical progress since 1914. *Chem Age (Lond)* 8:259-60 Mr 10 '23

See also Dye industry—Great Britain; also Brunner, Mond and company

Japan

Developing a chemical industry in Japan. *Oil Paint & Drug Rep* 101:89+ Mr 28 '22
 Japan's balance of trade unfavorable. *Oil Paint & Drug Rep* 104:75 O 15 '23

See also Dye industry—Japan

New Jersey

Chemical industry on the Newark Meadows. P. DeWolf. *il Chem Age* 30:390-3 S '22

Palestine

Growing chemical industry of Palestine. P. E. Spielmann. *il Chem Age (Lond)* 8:114-16 F 3 '23

Poland

Polish chemical industries. *Chem & Met Eng* 27:1157-8 D 13 '22

Ruhr valley

Chemical aspects of Ruhr occupation. *Oil Paint & Drug Rep* 103:19 F 5; 19-20 F 19 '23
 Chemical plants in the occupied territory; directory. *Chem & Met Eng* 28:341-2 F 21 '23

Germany declines to give Ruhr opinion. *Oil Paint & Drug Rep* 103:19+ F 26; 19+ Mr 5 '23

Ruhr deadlock continues despite repeal of the Franco-Belgian tax. *Oil Paint & Drug Rep* 103:19+ Ap 16 '23

Ruhr occupation forces will sell chemicals held up for Americans. *Oil Paint & Drug Rep* 103:19 Jc 1 '23

Ruhr shipping relief is promised by French. *maps Oil Paint & Drug Rep* 103:19-20 Mr 19 '23

Ruhr shipping rules alleged to discriminate. *Oil Paint & Drug Rep* 103:19+ Mr 12 '23

Russia

Chemical industry of Russia. V. Leitis. *Chem & Met Eng* 26:342 F 22 '22
 Condition of the chemical industry in Russia. B. Monsaroff. *Can Chem & Met* 7:87-9 Ap '23; *Same. Chem Age (Lond)* 8:484-5 My 5 '23
 Russian chemical industries. *Chem & Met Eng* 27:963 N 15 '22

Spain

Spanish trade in chemicals. *Chem & Met Eng* 27:1171 D 13 '22

United States

Les applications des recherches de chimie à l'industrie, en Amérique. C. L. Parsons. *Chimie & Ind* 8:449-57 Ag '22

Associations face year of opportunity. *Oil Paint & Drug Rep* 103:19-20 Ja 22 '23
 Basis and scope of women's interest in the American chemical industry. L. Hafford. *Oil Paint & Drug Rep* 102:ix sec 2 S 18 '22

Chemical age and the potentialities of the South in the industrial applications of chemistry. J. E. Ransdell. *Chem Age* 30:425-7 O '22

Chemical and allied products exported in six months of 1923 gain 21 per cent. *Oil Paint & Drug Rep* 104:20 Ag 13 '23

Commercial developments in the organic chemical industry, 1922. E. H. Killheffer. *Ind & Eng Chem* 15:21-2 Ja '23

Domestic exports from the United States for fifty years 1871-1921. *Oil Paint & Drug Rep* 101:110-13 Mr 28 '22

Drug and chemical markets guide-book. 492p. Drug and chemical markets, 3 Park Pl., New York '22

Early chemical industry in America—a few comparisons of past and present conditions. C. A. Browne. *il J Ind & Eng Chem* 14:1066-71 N '22

50-year record of imports into the United States, 1871-1921. *Oil Paint & Drug Rep* 101:93+ Mr 28 '22

Future of the American chemical industry. H. E. Howe. *Annalist* 19:51 Ja 9 '22

Heavy chemicals in commerce in 1922. D. H. Killheffer. *Ind & Eng Chem* 15:20-1 Ja '23

Historical sketches of firms in the reporter trades that can boast of an existence of fifty years and longer. *Oil Paint & Drug Rep* 101:114-22 Mr 28 '22

Imports and exports. See weekly numbers of *Oil paint and drug reporter*

Impressions of a recent tour. J. A. Reavell. *Chem Age (Lond)* 9:195-6 Ag 25 '23

Medicinal chemicals in 1922. J. F. Queeny. *Ind & Eng Chem* 15:23-4 Ja '23

Our foreign trade in 1921. *Chem & Met Eng* 26:281-2 F 8 '22

Political history, economics and future of our organic chemical industry. H. G. McKerrrow. *Chem Age* 30:373-6 S '22

Safeguarding American dyes and chemicals. J. D. Mothershed. *Annalist* 19:511-12 My 8 '22

U. S. production of chemicals by decades. *Oil Paint & Drug Rep* 101:43 Mr 28 '22

See also Chemical foundation; Dye industry—United States; Oil industries—United States; Sugar industry and trade—United States; Tariff—United States—Chemical schedule

Chemical laboratories

Chemical education at Johns Hopkins. plans *Chem Age* 30:410-14 S '22

Chemical laboratory at Brown University. Providence, R.I. *Arch & Bldg* 55:8-9, pl 14-15 Ja '23

Cost accounting in chemical laboratories. F. W. Feuerbacher. *Chem Age* 30:497 N '22

Enameled products research laboratory. E. P. Poste. *il plan Chem & Met Eng* 25:974-7 N 23 '21

Chemical laboratories—Continued

- Management of the laboratory. L. G. Copes. Chem Age 31:23 Ja '23
 New chemical engineering laboratory at the University of Michigan. A. H. White. plans Ind & Eng Chem 15:643-4 Je '23
 New chemical laboratory at Brown university. plans Chem Age 30:122-3 Mr '22
 New Sterling chemistry laboratory of Yale university. B. B. Boltwood. il plans Ind & Eng Chem 15:315-19 Mr '23
 Sterling chemical laboratory of Yale university. il plans Chem & Met Eng 28:387-90 F 28 '23

See also Fixed nitrogen research laboratory; also United States—Chemistry, Bureau of—Color laboratory

Accidents

- Liability for laboratory accidents. H. F. Davison. J Ind & Eng Chem 14:78-9 Ja '22

Equipment

- Laboratory table-top materials. C. R. Hoover. Ind & Eng Chem 15:569-70 Je '23

Chemical manufacturers' association of the United States, Synthetic organic. See Synthetic organic chemical manufacturers' association of the United States

Chemical patents

- Appraisal of chemical invention. D. B. Keyes. Ind & Eng Chem 15:972-3 S '23
 Charges German intrigue in patent controversy. F. P. Garvan. Textile World 62:307-8+ JI 15 '22
 Chemical foundation patent royalties. Chem Age 30:360 Ag '22
 Chemical foundation suit alleges conspiracy in acquiring patents. Oil Paint & Drug Rep 102:19+ sec 1 S 11 '22
 Chemical foundation to be sued by government for German patents. Oil Paint & Drug Rep 102:19+ JI 10 '22
 Chemical patent searches. C. Marx. Chem Age 31:393-4 S '23
 Chemistry by court order. Sci Am 129:251 O '23
 Current chemical patents and patent problems. L. Van Doren. Chem Age 30:189-90, 235-8, 333, 365-6, 467-8, 513-18, 559-62; 31: 43-6 Ap-May, JI-Ag, O '22-Ja '23
 German recovery of chemical control feared in Chemical foundation suit. Oil Paint & Drug Rep 102:19+ JI 17 '22
 Patents for chemical products. E. F. Ehrhardt. Chem Age (Lond) 8:33 Ja 13 '23
 President Harding calls for return of patents transferred to Chemical foundation, inc. Comm & Fin Chr 115:137-9 JI 8 '22
 Some patent history and its lesson to American chemistry. F. P. Garvan. Chem Age 30:121-9 Mr '22
 Sur la question des brevets en matière de produits chimiques. E. Fourneau. Chimie & Ind 8:1125-33 N '22
 Up-to-date information on processes and devices patented in the oil, paint, drug, chemical and allied industries here and abroad. Oil Paint & Drug Rep 102:33 sec 1 S 11 '22
 See also Bakelite; Chemical foundation; Dye patents; Petroleum refining—Patents; Rubber—Patents

Chemical plants

- Chimneys subjected to acid gases. T. S. Clark. diags Ind & Eng Chem 15:227-30 Mr '23
 Design and operation in a modern fertilizer plant. C. Wadsworth. 3d. il Chem & Met Eng 29:179-83 JI 30 '23
 Design of chemical plants. A. E. Marshall. Chem & Met Eng 27:439-41 Ag 30 '22
 Le deuxième congrès de la chimie industrielle; visites d'usines. il Chimie & Ind 8: 259-64 Ag '22
 Excursion de la Société des ingénieurs civils en Dauphiné, en Provence et à Marseille; partie chimie. L. Barthelemy. Soc Ing Civils Bul 74:507-14 O '21
 Fire hazards in chemical plants. Chem Age 30:181-2 Ap '22

- How heat losses may be reduced. J. Primrose. Textile World 61:2081+ Ap 8 '22; Same abr. Chem Age 29:449-50 N '21
 Inventors, inventions and patent practice. C. L. Jenks. See monthly numbers of Chemical age
 Large-scale production of acid phosphate at the Davison chemical company's plant. C. Wadsworth. il plan Chem & Met Eng 29: 265-70 Ag 13 '23
 Materials of chemical plant construction—non-metals. H. Griffiths. 64p Benn bros., London '22
 Modern chemical plant. F. D. Chase. Chem & Met Eng 27:432-4 Ag 30 '22
 Provan chemical works of the Glasgow corporation. diags plans Engineering 115:761-4, 792-4, pl 46, 47-9 Je 22-23 '23
 Research: its position in the making of an industry. J. E. Teeple. J Ind & Eng Chem 14:904-5 O '22
 Transport facilities in chemical works; United alkali co.'s works. H. Blyth. il diags map Chem Age (Lond) 9:192-4 Ag 25 '23
 U.S. government explosives plant, Nitro, West Virginia. M. F. Chase. diags J Ind & Eng Chem 14:260-8 Ap '22
 See also Ammonia—Manufacture; Bleacheries; Dye factories; Metallurgical plants; Nitrate plants; Tar distillation plants

Accounting

- Business side of chemical manufacturing. C. Wadsworth. Chem & Met Eng 27:101-4, 293-6 JI 19, Ag 16 '22
 L'établissement des prix de revient dans l'industrie chimique. P. Le Breton. Chimie & Ind 8:458-63 Ag '22
 Methods of costing in chemical works. F. M. Potter. Chem Age (Lond) 8:588-9, 612-15 Je 2-9 '23
 Some phases of chemical cost accounting. C. B. E. Rosén. Chem Age 29:501-4; 30:29-31 D '21-Ja '22

Electric equipment

- Application of electric service to the chemical industry. W. B. Todd. Chem & Met Eng 27:552-4 S 13 '22
 Electrical motors for industrial service. J. L. M. Yardley. il Ind & Eng Chem 15:921-5 S '23
 Electrification of chemical and allied industries. C. B. Gibson. il Chem & Met Eng 27:453-6 Ag 30 '22
 Motors for chemical plants. J. L. M. Yardley. il Elec W 82:605-7 S 22 '23

Equipment

- Appliances for moving liquids in chemical plants. A. K. Fischer. il diags Chem Age 30:501-4, 547-50 N-D '22
 Conveying in the chemical industry. G. F. Zimmer. diags Eng & Ind Management 7: 374-8, 404-6 Ap 20-May 4 '22
 Copper and copper alloys in the chemical and allied industries. W. Stark. il diags Chem Age 30:509-12, 555-8 N-D '22
 Dressing crude chalk by modern methods; Benjamin Moore co. A. B. Parsons. il diags Eng & Min J 116:115-20 S '23
 Handling of corrosive gases in chemical plants. C. S. Robinson. Ind & Eng Chem 15:225-7 Mr '23
 Handling plant for highly dangerous materials at Ellesmere port. diags plan Eng & Ind Management 8:63-4 Ag 10 '22
 Increased production efficiency means good material handling. J. G. Hatman. Chem & Met Eng 27:396-9 Ag 30 '22
 Materials for equipment construction. il Chem & Met Eng 28:676-92 Ap 16 '23
 Materials of chemical-equipment construction symposium. Ind & Eng Chem 15:467-75, 555-70, 665-76 My-JI '23
 Plant equipment and raw materials. Chem & Met Eng 29:429-524 S 10 '23
 Pumping of liquids in chemical plants. C. S. Robinson. il Ind & Eng Chem 15:33-8 Ja '23
 Recent developments in chemical plant. A. B. Scorer. Chem Age (Lond) 8:34 Ja 13 '23
 See also Acid-resisting materials; Beverages—Manufacture

Chemical plants—Continued

Management

- Business side of chemical manufacturing. C. Wadsworth. Chem & Met Eng 26:679-82, 920-2, 967-71, 1064-8; 27:101-4, 293-6 Ap 12, My 17-24, Je 7, Jl 19, Ag 16 '22
- Organization for chemical production. M. C. Whitaker. Chem Age 31:11-15 Ja '23; Same. Chem & Met Eng 28:104-9 Ja 17 '23; Same abr. Ind & Eng Chem 15:200-3 F '23
- Steam for power and process in the chemical and allied industries. H. B. Reynolds. Chem & Met Eng 27:407-9 Ag 30 '22

Safety devices and measures

- About that can of lye. il Nat Safety N 8: 27-9 S '23
- Fighting the chemical plant fire. M. L. Fellmer. il Nat Safety N 8:31-2 Ag '23
- Improving production by eliminating industrial hazards in chemical engineering industries. Chem & Met Eng 29:713-14 O 15 '23
- Protection from excess pressures in chemical apparatus. J. S. Shaw. Chem Age 29:465-6 N '21
- Report of A.C.S. committee on occupational diseases and hazards in the chemical trades. Ind & Eng Chem 15:535-7 My '23
- Safe handling of materials in chemical plants. W. G. Whitman. Chem Age 30:377-9 S '22
- Safety and efficiency in the chemical industry. L. A. DeBlois. Nat Safety N 8:31-2 Jl '23; Same. Ind & Eng Chem 15:858-60 Ag '23

Chemical reaction

- Beiträge zum mechanismus der kupplungsreaktion; über 1.8-naphthsultam und sein N-methyl-derivat als azokomponenten. W. König und K. Köhler. Deutsche Chem Gesell Ber 55:2139-49 Jl '22
- Chemical reactions on surfaces. I. Langmuir. Gen Elec R 25:445-54 Jl '22
- Kinetics of the reaction between ferrous phosphate and sulphur dioxide in phosphoric acid solution. S. R. Carter and J. A. V. Butler. diag Chem Soc J 123:2370-80 S '23
- Magnetic valency and the radiation hypothesis. F. T. Peirce. diags Philos Mag 6th ser 45:317-23 F '23
- Mechanism of chemical reactions; reduction of amides and oxidation of amines. K. Kindler and others. Chem Soc J 124 pt 1: 568-72 Je '23
- Mechanism underlying the reaction between aldehydes or ketones and tautomeric substances of the keto-enol type. E. P. Kohler and B. B. Corson. Am Chem Soc J 45:1975-86 Ag '23
- Radiation and chemical reaction. H. S. Harned. J Fr Inst 196:181-201; Bibliography. 201-2 Ag '23
- Radikale als zwischenstufen bei chemischen reaktionen. S. Goldschmidt and B. Wurzschnitt. Deutsche Chem Gesell Ber 55:3216-20 O '22
- Reactions in fused salt media. J. F. G. Hicks and W. A. Craig. J Phys Chem 25:545-60; 26:563-76 O '21, Je '22
- Reactions obtained by ultra-violet light. Sci Am 127:27 Jl '22
- Reversibility of the reaction between nitrogen, carbon and sodium carbonate. C. K. Ingold and D. Wilson. Chem Soc J 121:2278-86 O '22
- Studies in chemical reactivity; the mechanism of the formation of valerolactone. W. H. Garrett and W. C. M. Lewis. Am Chem Soc J 45:1091-1102 My '23
- Study of the factors influencing compound formation and solubility in fused salt mixtures. J. Kendall, E. D. Crittenden and H. K. Miller. Am Chem Soc J 45:963-96 Ap '23
- Temperature coefficients of reactions in tropical sunlight. N. Dhar. Chem Soc J 123: 1856-61 Ag '23
- Über das auftreten freier radikale bei chemischen reaktionen; zur kenntnis der radikale der basischen triphenyl-methan-farbstoffe.

H. Wieland, E. Popper and H. Seefried. Deutsche Chem Gesell Ber 55:1816-34 Je '22; Abstract. Chem Soc J 122 pt 1:772-4 Ag '22

See also Catalysis; Chemical reagents; Decomposition; Friedel-Crafts' reaction; Hofmann's reaction; Landolt's reaction; Oxidation

Velocity

- Catalytic combination of ethylene and hydrogen in the presence of metallic copper; measurements of reaction velocity. R. N. Pease. diags Am Chem Soc J 45:1196-1210, 2235-42 My, O '23
- Induction periods in reactions between thio-sulfate and arsenite or arsenate; a useful clock reaction. G. S. Forbes, H. W. Estill and O. J. Walker. Am Chem Soc J 44:97-102 Ja '22
- Influence of neutral salts on the temperature coefficient of reaction velocity. F. O. Rice and W. Lemkin. Am Chem Soc J 45:1896-1900 Ag '23
- Influence of solvents on the velocity of formation of quaternary ammonium salts. J. A. Hawkins. Chem Soc J 121:1170-6 Je '22
- Ion activities in homogeneous catalysis; the formation of parachloro-acetanilide from acetylchloro-amino-benzene. H. S. Harned and H. Seltz. Am Chem Soc J 44:1475-84 Jl '22
- Measurement of reaction velocity and the temperature coefficient of reaction velocity. F. O. Rice and M. Kilpatrick, Jr. Am Chem Soc J 45:1401-12 Je '23
- Rate of reaction between ethylene and bromine. T. D. Stewart and K. R. Edlund. diags Am Chem Soc J 45:1014-24 Ap '23
- Speed of reaction in concentrated solutions and the mechanism of the inversion of sucrose. G. Scatchard. Am Chem Soc J 43: 2387-2406; 45:1580-92 N '21, Jl '23
- Speed of sulphonation of phenols; the effect of temperature and the methyl group. A. F. Campbell. Chem Soc J 121:847-57 My '22
- Study of the velocity of hydrolysis of ethyl acetate. H. S. Harned and R. Pfanstiel. Am Chem Soc J 44:2193-2205 O '22
- Temperature coefficient of photochemical reaction rate. R. C. Tolman. Am Chem Soc J 45:2285-96 O '23
- Thermal decomposition of nitrogen pentoxide in solution. R. H. Lueck. diag Am Chem Soc J 44:757-69 Ap '22
- Velocity constant of a unimolecular reaction. J. Rice. Philos Mag 6th ser 46:312-20 Ag '23
- Velocity of a unimolecular chemical reaction. W. C. M. Lewis. Philos Mag 6th ser 46: 327-9 Ag '23
- Velocity of reaction in mixed solvents; the influence of temperature on the velocity of saponification of esters. H. McCombie, H. A. Scarborough and R. H. Settle. Chem Soc J 121:2308-18 O '22
- Velocity of reaction in mixed solvents; the influence of the base on the velocity of saponification of esters. A. E. Cashmore, H. McCombie and H. A. Scarborough. Chem Soc J 123:197-207 Ja '23
- Velocity of reaction in mixed solvents; the velocity of formation of quaternary ammonium salts; the study of an intramolecular change. J. Dexter, H. McCombie and H. A. Scarborough. Chem Soc J 123:1229-41 My '23
- Velocity of reaction in mixed solvents; the velocity of saponification of the ethyl esters of some monosubstituted benzoic acids. A. E. Cashmore, H. McCombie and H. A. Scarborough. Chem Soc J 121:243-53 F '22
- Chemical reaction, Heat of
- Continuous-flow calorimeter, and the determination of the heat of neutralization of a solution of hydrochloric acid by one of sodium hydroxide. F. G. Keyes, L. J. Gillespie and S. Mitsukuri. diag Am Chem Soc J 44:707-17 Ap '22
- Free energy and heat of formation of zinc iodide. T. J. Webb. J Phys Chem 27:448-54 My '23

Chemical reaction, Heat of—Continued

Heats of neutralization of potassium, sodium and lithium hydroxides with hydrochloric, hydrobromic, hydriodic and nitric acids, at various dilutions. T. W. Richards and A. W. Rowe. *Am Chem Soc J* 44:684-707 Ap '22

Chemical reagents

Réactifs organiques en analyse minérale. A. Kling and A. Lassieur. *Chimie & Ind* 6:719-54 D '21

See also Dinitrosorresorcinol; Grignard reagent; Sodium tungstate

Standards

Development and use of standards for reagent chemicals. W. D. Collins. *Ind & Eng Chem* 15:529-30 My '23

Testing

Caractères de pureté des produits chimiques; réactifs analytiques: types (congrès 1922). *Chimie & Ind* 9:15-25 Ja '23

Chemical reduction. See Reduction, Chemical**Chemical research**

Agricultural appropriation bill contains many items for research. *Oil Paint & Drug Rep* 101:33 Mr 13 '22

Les applications des recherches de chimie à l'industrie, en Amérique. C. L. Parsons. *Chimie & Ind* 8:449-57 Ag '22

Chemical research and textile industry. F. A. Hayes. *Textile World* 61:2323+ Ap 22 '22

Chemistry and industry. E. F. Armstrong. *Chem Age (Lond)* 8:666-8 Je 23 '23

Chemists' committee of Advisory research council reports activities and opportunities for research. *Can Chem & Met* 7:179-80 Jl '23

Earning power of research as exemplified in the baking industry. I. K. Russell. *Ind & Eng Chem* 15:645-7 Je '23

Foundation for chemical development. W. A. Noyes. *J Ind & Eng Chem* 14:779-80 S '22

Informational service for a chemical manufacturing concern. D. B. Keyes. *Chem & Met Eng* 27:54-8 Jl 12 '22

Method in research. D. B. Keyes. *Ind & Eng Chem* 15:82-3 Ja '23

Organization for chemical production. M. C. Whitaker. *Chem Age* 31:11-15 Ja '23

Pittsburgh as a chemical research center. W. A. Hamor. *il diag J Ind & Eng Chem* 14:764-71 S '22

Progress of a research fellowship experiment. W. E. Tisdale. *Ind & Eng Chem* 15:641-2 Je '23

Relation of research to production efficiency. C. G. Derick. *Chem & Met Eng* 27:425-7 Ag 30 '22

Research: its position in the making of an industry. J. E. Teeple. *J Ind & Eng Chem* 14:904-5 O '22

Science in public affairs; a study in utilitarianism; with discussion. H. H. Hodgson. *Soc Dyers & Col J* 39:143-8 My '23

What chemical research is doing for new products. A. Belden. *Ptr Ink M* 7:21-2+ O '23

See also Ceramic research; Chemical laboratories; Gas research; Metallurgical research; Petroleum research; Textile research; also National research council; United States—Chemistry, Bureau of

Chemical slide rule. See Slide rule, Chemical**Chemical societies**

Entrance requirements of institutes of chemistry. *Chem Age* 31:200 My '23

Growth of professional organization among chemists. *Chem Age* 31:83-6 F '23

Observations in American chemistry. *Chem Age* 31:293-5 Jl '23

See also American chemical society; American institute of chemical engineers; American institute of chemists; Association of professional chemists of Quebec; British association of chemists; Canadian institute of chemistry; Institute of chemistry of Great Britain; Société de chimie industrielle; Society of chemical industry

Chemical society, London

Some early years at the Chemical society. W. A. Tilden. *Soc Chem Ind J (Chem & Ind)* 42:138-40 F 16 '23

Chemical warfare

Chemical warfare. A. A. Fries and C. J. West. 445p McGraw-Hill '21; Review. *Engineering* 113:498-9 Ap 21 '22

Chemical warfare service—its activities and achievements. *il diag Mech Eng* 45:643-6+ N '23

Chemists in khaki. *Chem Age* 31:205-7 My '23

Early references pertaining to chemical warfare. C. A. Browne. *J Ind & Eng Chem* 14:646 Jl '22

Relation of the chemical industry to national defense. J. M. Wainwright. *il Oil Paint & Drug Rep* 102:viii sec 2 S 18 '22

See also Gases in warfare

Chemical warfare service. See United States—Chemical warfare service**Chemicals**

American research chemicals. C. J. West. (Reprint & Circ. Ser. 35) chart 37p '22 50c

National research council, 1701 Massachusetts av, Washington, D.C.

Effect of chemical solutions on various woods used in tanks. S. J. Hauser and C. Bahman. *Chem & Met Eng* 28:159-63 Ja 24 '23; Same. *Brass W* 19:47-51 F '23

Fine and research chemicals. C. J. West. (Reprint & Circ. Ser. 44) p. 1-45 50c National research council, 1701 Massachusetts av, Washington, D.C.

Rare organic chemicals. H. T. Clarke. *J Ind & Eng Chem* 14:836-7 S '22

See also Chemical industries; Chemical reagents; Chemistry, Medical and pharmaceutical; Drugs; Insecticides; Tariff—United States—Chemical schedule

Prices

Canadian prices quoted by manufacturers or wholesalers. See monthly numbers of Canadian chemistry and metallurgy

Chemical market. See weekly numbers of Oil paint and drug reporter

Current market prices in England. See weekly numbers of the Chemical age (London)

Current wholesale prices in New York market. Published in weekly numbers of Chemical and metallurgical engineering

General chemicals. See weekly numbers of Chemical and metallurgical engineering

High and low price studies of oils, drugs, chemicals, 1871-1921. *Oil Paint & Drug Rep* 101:47+ Mr 28 '22

Industrial chemicals; record of prices. *Oil Paint & Drug Rep* 103:31+ Mr 29 '23

Market reports. See Monthly numbers of Journal of industrial & engineering chemistry

Production, consumption and prices. *Chem & Met Eng* 27:475-80 Ag 30 '22

Quotations on dutiable and free entry articles compared as of Sept. 18, 1922, and Sept. 17, 1923, together with the rate of duty. *Oil Paint & Drug Rep* 104:20 O 1 '23

Weighted index of chemical prices. See weekly numbers of Chemical and metallurgical engineering

Transportation

See also Carboys

Uses

Where you can sell; up-to-date guide to industries using raw and manufactured products in the chemical and allied groups. *Oil Paint & Drug Rep* 102:21 Jl 10; 21 Jl 17; 21 Jl 24; 21 Jl 31; 21 Ag 7; 21 Ag 14; 21 Ag 21; 21 Ag 28; 21 sec 1 S 11; 21 sec 1 S 18; 21 S 25; 21 O 2; 21 O 9; 21 O 16; 21 O 23; 21 O 30; 21 N 6; 21 N 13; 21 N 20; 21 N 27; 21 D 4; 21 D 11; 21 D 18; 21 D 25 '22; 103:21 Ja 1; 21 Ja 8; 21 Ja 15; 21 Ja 22; 21 Ja 29; 21 F 5; 21 F 12; 21 F 19; 21 F 26; 21 Mr 5; 21 Mr 12; 21 Mr 19; 21 Mr 26; 21 Ap 2; 21 Ap 9; 21 Ap 16; 21 Ap 23; 21 Ap 30; 21 My 7; 21 My 14; 21 My 21; 21 My 28; 21 Je 4; 21 Je 11;

Chemicals—Uses—Continued

21 Je 18; 21 Je 25; 104:21 JI 2; 21 JI 9; 21 JI 16; 21 JI 23; 21 JI 30; 21 Ag 6; 21 Ag 13; 21 Ag 20; 21 Ag 27; 21 S 2; 21 S 10; 21 sec 1 S 17; 21 sec 1 S 24; 21 O 1; 21 O 8; 21 O 15; 21 O 22; 21 O 29; 21 N 5 '23

Chemistry

A-B-C of chemistry. Power 57:1036; 58:70 Je 26, JI 10 '23

Applied chemistry. F. N. Peters. 461p C. V. Mosby co., St. Louis '22

Chemistry. H. Gruener. 384p Harper '22

Chemistry and Connecticut. A. D. Little. Chem Age 31:145-6 Ap '23

Chemistry and its uses. W: McPherson and W: E. Henderson. 447p Ginn '22

Chemistry and physics in accounting. F. W. Thornton. J Account 35:241-6 Ap '23

Chemistry and preventive dentistry. C. C. Vogt. Sci Am 127:250 O '22

Chemistry in everyday life. F: B. Emery and others. 667p Lyons and Carnahan, New York, Chicago '23

Chemistry of to-day. P. G. Bull. 311p Lip-pincott '23

Cours abrégé de chimie. R. Lespieau. 398p Hachette, Paris '22

Cours expérimental de chimie. H. Grand-montagne. Rev. ed. 448p Larousse, Paris '22

English conditions in the practice of chemis-try. E. F. Armstrong; A. C. Chapman. Chem Age 31:317-18 JI '23

Field for chemists. W. D. Bancroft. J Ind & Eng Chem 14:156-8 F '22

First book in chemistry. R. H. Bradbury. 687p Appleton '22

First book of chemistry for students in junior technical schools. A. Coulthard. 156p Pit-man '22

Human side of chemistry. E. E. Slosson. J Ind & Eng Chem 14:887-93 O '22

Manual of chemistry; a guide to lectures and laboratory work for beginners in chemistry. W: Simon. 667p Lea & Febiger, Philadelphia '23

Practical chemistry. L. C. Newell. 543p Heath '22

Present and future of chemistry. C: A. Kraus. Chem Age 31:289-91 JI '23

Present trend of chemists and their work. F. J. Hambly. Can Chem & Met 6:33-5 F '22

Science for the sheet metal worker. T: Newton. Sheet Metal Worker 14:251-2+, 330-2, 493-4, 646-7+, 719-20, 785+ Ap 27, My 25, JI 20, S 14, O 12, N 9 '23 (to be cont)

Smith's intermediate chemistry. A. Smith. Rev. & rewritten by J. Kendall and E. E. Slosson. 566p Century co. '22

Wonders of chemistry. A. F. Collins. 294p Crowell '22

See also Acids; Air; Alkalies; Assaying; Atomic weights; Atoms; Bases (chemistry); Biological chemistry; Botanical chemistry; Catalysis; Chemical elements; Chemical reaction; Chemicals; Chemists; Colloids; Color; Combustion; Condensation, Chemical; Crystallization; Crystallography; Dissocia-tion; Electrochemistry; Electrolysis; Elec-trolytes; Evaporation; Explosives; Fermen-tation; Fusion; Gases; Geochemistry; Halo-gens; Hydrolysis; Indicators and test papers; Ions; Liquid air; Metallurgy; Metals; Min-eralogy; Molecules; Oxidation; Periodic law; Photochemistry; Photographic chemistry; Phototropy; Physiological chemistry; Poisons; Industrial; Radioactive substances; Reduc-tion, Chemical; Salt; Salts; Salts, Triple; Solution (chemistry); Solvents; Spectrum; Stereochemistry; Thermochemistry; Volat-ility; *also* headings beginning Chemical, and names of chemical elements and substances

Analysis

See Chemistry, Analytic

Apparatus

See Chemical apparatus

Bibliography

Chemical literature and its use; notes of a course of lectures. M. E. Sparks. 2d ed., rev. and enl. 80p M. E. Sparks, Urbana, Ill. '21

Chemistry. 15p Compiled for the New Jersey chemical society by the Newark public li-brary, Newark '21

Manuscript bibliographies in chemistry and chemical technology. C. J. West and C. Hull. J Ind & Eng Chem 14:1075-8, 1143-51 N-D '22; Same. (Reprint & Circ. Ser. 36) 17p '22 25c National research council

Searching chemical literature. A. R. Cade. Chem & Met Eng 29:799 O 23 '23

Dictionaries

Dictionnaire anglais-français-allemand de mots et locutions intéressant la physique et la chimie. R. Cornubert. 297p Dunod, Paris '22

History

Chemistry in France. in the XVIIIth and XVIIIth centuries. C. A. Silberrad. Soc Chem Ind J (Chem & Ind) 42:924-9 S 23 '23

Chemistry in mediæval Islam. E. J. Holm-yard. Soc Chem Ind J (Chem & Ind) 42: 387-90 Ap 20 '23

Concise history of chemistry. T. P. Hilditch. 2d ed., rev. 276p Methuen & co., London '22

Critical examination of Berthelot's work upon Arabic chemistry. E. J. Holmyard. Soc Chem Ind J (Chem & Ind) 42:958-63, 976-80 O 5-12 '23

History of chemistry. F. P. Venable. 168p Heath '22

History of chemistry in America, with special reference to Yale. E. F. Smith. Ind & Eng Chem 15:464-6 My '23

Outline of the history of chemistry symbol-ically represented in a Rookwood fountain. H. S. Fry. il J Ind & Eng Chem 14:868-72 S '22

Laboratory manuals

Course in general chemistry. W: C. Bray and W. M. Latimer. 148p Macmillan '23

Experiments in practical chemistry to accom-pany Newell's practical chemistry. L. C. Newell. 168p Heath '23

Laboratory guide for chemistry. M. C. Col-lister and O. J. Walrath. 145p Iroquois pub. co., Syracuse, N.Y. '22

Laboratory outline of Smith's college chem-istry. J: Kendall. 219p Century co. '23

Nomenclature

Standardization of chemical symbols and terms. Chem Age 31:131-2 Mr '23

Notation

Symbols and formulæ. J. Walker. Chem Soc J 123:939-46 Ap '23

Periodicals

Chemical journals in Japan. A. Shimomura. Soc Chem Ind J (Chem & Ind) 42:617-18 Je 22 '23

Study and teaching

Best college course for the chemist. R. E. Rose. Ind & Eng Chem 15:304-5 Mr '23

Correlation or high school and college chem-istry; preliminary report of the A. C. S. committee. Ind & Eng Chem 15:1189-91 N '23

Relation of the high school library to the teaching of chemistry. E. R. Glenn and A. T. Eaton. Library J 48:415-18 My 1 '23

Study questions and problems in inorganic chemistry. A. Silverman. 2d ed., rev. 84p Van Nostrand '22

See also Chemical education; Chemical engineering—Study and teaching; Diagram-matic slides; *also* Pennsylvania state college

Tables, calculations, etc.

Elementary chemical calculations. M. Meyer. 131p Oxford book co., New York '23

Handbook of chemistry and physics. C. D. Hodgman & N. A. Lange, comps. 9th ed. 803p Chemical rubber pub. co., Cleveland '22

Will compile scientific tables. Iron Tr R 72: 1520-1 Je 21 '23

See also Slide rule, Chemical

Technology

See Chemistry, Technical

Chemistry, Agricultural. See Agricultural chemistry

Chemistry, Analytic

- Analytical microscopy. T. E. Wallis. 149p [bibliog p 139-43] Longmans '23
- Analytische chemie, by T. Döring. Review by G. Edgar. *Am Chem Soc J* 43:2127-8 S '21
- Beiträge zur Preglschen mikro-analyse. F. Holtz. *Deutsche Chem Gesell Ber* 55:1496-7 My '22
- Cultural values of analytical chemistry. W. S. Frost. *Chem Age* 31:146 O '23
- Determination of inorganic impurities in organic compounds soluble with difficulty in water, such as sulphuric acid in picric acid. T. S. Patterson and K. L. Moudgill. *Soc Chem Ind J* 42:211-12 My '23
- Examination of low-temperature coal tars. J. J. Morgan and R. P. Soule. bibliog *Ind & Eng Chem* 15:587-91, 693-7 Je-Jl '23
- Explosives; their materials, constitution, and analysis. C. A. Taylor and W. H. Rinkenbach. *U S Bur Mines Bul* 219:1-188 '23
- Importance of impurities. J. Alexander. *Ind & Eng Chem* 15:190-1 F '23
- La méthode scientifique et son application à la chimie analytique. H. Le Chatelier. *Chimie & Ind* 6:423-9 O '21
- The potboilers. A. Craig. *Chem Age* 31:323-4, 365-6 Jl-Ag '23
- Public health chemical analysis. R. C. Frederick and A. Forster. 305p Van Nostrand '20
- Quelques dispositifs nouveaux pour l'analyse en série. J. Durand and J. Vernay. *il diags Chimie & Ind* 10:207-11 Ag '23
- Revue de chimie analytique. A. Kling and A. Lassieur. *il diags Chimie & Ind* 6:746-64; 7:34-48; 10:30-48, 221-44 D '21-Ja '22, Jl-Ag '23
- Standard methods of chemical analysis. W. W. Scott and others. 3d ed., rev. & enl. 2v Van Nostrand '22
- Standard samples—general information. *U S Bur Stand Circ* 25:1-14; Supplement. 1-6 '22-'23
- Über die genauigkeit der Dumaschen bestimmungsmethode des stickstoff-gehaltes sehr stickstoff-reicher verbindungen. E. Mohr. *diags Deutsche Chem Gesell Ber* 54:2758-67 N '21
- See also Acidimetry; Air—Analysis; Ammonium citrate—Analysis; Chemical reagents; Coal—Analysis; Colorimetric analysis; Dye analysis; Electrochemical analysis; Explosives—Analysis; Flue gas—Analysis; Food—Analysis; Gas analysis; Indicators and test papers; Iodometry; Iron—Analysis; Mercury—Analysis; Metallurgical analysis; Oil analysis; Petroleum—Analysis; Rocks—Analysis; Sampling; Soap—Analysis; Soil analysis; Spectrum analysis; Steel—Analysis; Sugar—Analysis; Turbidimeter; Varnish analysis; Volumetric analysis; Water Analysis

Qualitative

- Course of instruction in the qualitative chemical analysis of inorganic substances. A. A. Noyes. 9th ed. 190p Macmillan '22
- Introduction to qualitative chemical analysis. T. W. Fresenius. 954p J. & A. Churchill, London '21
- Introduction to the analytical chemistry of the rarer elements. L. J. Curtman. 64p L. J. Curtman, College of the City of New York, New York '22
- Laboratory manual of qualitative chemical analysis for students of pharmacy. T. J. Bradley. 3d ed. 173p Lea & Febiger, Philadelphia and New York '23
- Outline of qualitative analysis of inorganic substances. H. G. Byers. 216p Van Nostrand '22
- Preliminary experiments in qualitative analysis with special procedures for systematic detection of acids. L. J. Curtman. 2d ed. 63p Elsworth press, New York '22
- Qualitative organic analysis. O. Kamm. 260p Wiley '22
- Qualitative scheme for detection of cyanamide and related compounds. G. H. Buchanan. *Ind & Eng Chem* 15:637-40 Je '23

Systematic qualitative chemical analysis. G. W. Sears. 119p Wiley '22

Text-book of qualitative analysis of inorganic substances. S. A. Kay. 80p Gurney & Jackson, London '21

Quantitative

- Advanced course in quantitative analysis. H. Fay. 2d ed., rev. 115p Wiley '22
- Analysis of beta-naphthylamine. H. R. Lee and D. O. Jones. *J Ind & Eng Chem* 14:961-3 O '22
- Calculations of quantitative chemical analysis. L. F. Hamilton and S. G. Simpson. 196p McGraw-Hill '22
- Determination of bromide in brines and mineral waters. C. C. Meloche and H. H. Willard. *J Ind & Eng Chem* 11:422-5 My '22
- Determination of dissolved oxygen in the presence of iron salts. A. M. Buswell and W. U. Gallaher. bibliog *Ind & Eng Chem* 15:1186-8 N '23
- Determination of various monohydric phenols by the phenol reagent of Folin and Denis. C. Henningsen. *Ind & Eng Chem* 15:406-7 Ap '23
- Introductory course of quantitative chemical analysis. H. P. Talbot. 6th ed. 203p Macmillan '21
- Method for the quantitative separation of beryllium and uranium. P. H. M.-P. Brinton and R. B. Ellestad. *Am Chem Soc J* 45:395-8 F '23
- La micro-analyse quantitative. M. Nicloux and G. Welter. *Chimie & Ind* 8:269-72 Ag '22
- New method for the gravimetric determination of germanium. J. H. Müller. *Am Chem Soc J* 44:2493-8 N '22
- Quantitative agricultural analysis. E. G. Mahin and R. H. Carr. 329p McGraw-Hill '23
- Quantitative analysis by centrifuge. O. Arrhenius. *Am Chem Soc J* 44:132-4 Ja '22
- Quantitative determination of carbon and hydrogen in organic compounds with arsenic and with mercury. M. Falkov and G. W. Raiziss. *Am Chem Soc J* 45:998-1003 Ap '23
- Quantitative determination of tryptophan. G. E. Hohn and G. R. Greenbank. *Am Chem Soc J* 45:1788-92 Jl '23
- Quantitative estimation of radium by the emanation method. C. E. Baumgarten and H. H. Barker. *diags Ind & Eng Chem* 15:597-9 Je '23
- Quantitative method for the determination of total sulfur in biological material. M. Stockholm and E. C. Koch. *Am Chem Soc J* 45:1953-9 Ag '23
- Die quantitative organische mikroanalyse. F. Pregl. 217p J. Springer, Berlin '23
- Separation and determination of cobalt; gravimetric determination of cobalt. H. H. Willard and D. Hall. *Am Chem Soc J* 44:2226-31 O '22
- Studies on the quantitative determination of praseodymium. P. H. M.-P. Brinton and H. A. Pagel. *Am Chem Soc J* 45:1460-5 Je '23

See also Solutions, Standard

Standards

- Notes sur les étalons chimiques et sur leur rôle dans l'unification des systèmes d'analyse. R. Adan. *Chimie & Ind* 8:26-37 Jl '22
- Chemistry, Biological.** See Biological chemistry
- Chemistry, Botanical.** See Botanical chemistry
- Chemistry, Industrial.** See Chemical industries; Chemistry, Technical
- Chemistry, Inorganic**
- Anorganische chemie. F. Ephraim. 727p T. Steinkopff, Dresden und Leipzig '22
- Comprehensive treatise on inorganic and theoretical chemistry. J. W. Mellor. 2v Longmans '22
- Cours de chimie (métaux et cations). M. Bôll and G. Allard. 352p Dunod, Paris '22
- Einführung in die anorganische experimental-chemie. O. Diels. 446p W. de Gruyter & co., Berlin und Leipzig '22
- Inorganic chemical synonyms and other useful chemical data. E. R. Darling. 2d ed., rev. & enl. 119p Van Nostrand '22

Chemistry, Inorganic—Continued

Inorganic chemistry. H. G. Denham. 684p Longmans '22

Inorganic chemistry. E. J. Holmyard. 560p Edward Arnold & co., London, Longmans '22

Inorganic chemistry. T. M. Lowry. 943p Macmillan '22

Laboratory exercises in inorganic chemistry. J. F. Norris and K. L. Mark. 548p McGraw-Hill '22

Problems in inorganic chemistry. L. M. Dennis. 50p L. M. Dennis, Ithaca, N.Y. '23

Text-book of inorganic chemistry. A. F. Holleman. 6th English ed., rev. 527p Wiley '21

See also Earths, Rare; Metals; *also* groups and classes of inorganic compounds, e.g. Acids, Alkalies, Chlorides

Laboratory manuals

Laboratory directions in inorganic chemistry. A. Silverman. 2d ed., rev. 55 numb. 1. Van Nostrand '23

Synthetic inorganic chemistry. A. A. Blanchard and J. W. Phelan. 3d ed., enl. 326p Wiley '22

Chemistry, Legal

Documents and their scientific examination. C. A. Mitchell. 215p C. Griffin & co., London '22

Forensic chemistry. A. Lucas. 268p Longmans '21

See also Writing—Identification

Chemistry, Medical and pharmaceutical

Chemistry in medicine. A. E. Olpp. Oil Paint & Drug Rep 102:xii sec 2 S 18 '22

Future independence and progress of American medicine in the age of chemistry. 96p Chemical foundation, New York

Influence of modern chemistry and pharmacology. A. D. Hirschfelder. Ind & Eng Chem 15:455-9; Bibliography. 459-60, 524 My '23

Pharmaceutical chemistry. F. R. Eldred. J Ind & Eng Chem 14:814-16 S '22

Recent contributions of chemistry to medicine. E. H. Volwiler. bibliog Ind & Eng Chem 15:906-10 S '23

See also Chemotherapy; Digestion; Disinfection and disinfectants; Drugs

Chemistry, Organic

L'avenir de la chimie organique. W. Pope. Chimie & Ind 6:419-22 O '21

Course of practical organic chemistry. T. S. Price and D. F. Twiss. 3d ed. 239p Longmans '22

Electrochemistry of organic compounds. A. Lowry. Ind & Eng Chem 15:15-16 Ja '23

Equivalent conductance of trimethylstannyl chloride in ethyl alcohol. C. A. Kraus and C. C. Callis. Am Chem Soc J 45:2624-32 N '23

Fundamental principles of organic chemistry. C. L. F. Moureu. 6th French ed. 399p G. Bell & sons, London '21

Fundamentals of organic and biological chemistry. T. G. Phillips. 260p Appleton '23

Future methods of organic chemical manufacture. E. K. Strachan. Chem Age 30:363 Ag '22

Introduction to the study of the compounds of carbon. I. Remsen. Rev. & enl. ed. 567p Heath '22

Massanalytische bestimmung des kohlenstoffes und wasserstoffes in organischen Verbindungen. J. Lindner. diags Deutsche Chem Gesell Ber 55:2025-31 Ji '22

Organic syntheses. J. B. Conant and others. 100p Wiley '22

Organische molekülverbindungen. P. Pfeiffer. 328p F. Enke, Stuttgart, Germany '22

Principles of organic chemistry. J. F. Norris. 2d ed. 631p McGraw-Hill '22

Studies concerning the direct preparation of organoberyllium halides. H. Gilman. Am Chem Soc J 45:2693-5 N '23

Studies in organic compounds containing sulphur; the effect on general absorption due to the valency and mode of linkage of the sulphur atom. D. T. Gibson, H. Graham and J. Reid. Chem Soc J 123:874-81 Ap '23

Synthetic organic chemistry our national salvation. G. D. McDonald. Chem Age 29:473-5 N '21

Textbook of organic chemistry. A. Bernthsen. Rev. ed. 908p Van Nostrand '22

Theories of organic chemistry. F. A. K. Henrich. 603p Wiley '22

See also Acids, Fatty; Acids, Organic; Alcohols; Aldehydes; Alkaloids; Amines; Arsenic compounds; Carbohydrates; Carbon; Carbon compounds; Cellulose; Condensation, Chemical; Diazo compounds; Essential oils; Esters; Ethers; Gas; Glucosides; Hydrocarbons; Invertase; Ketones; Proteins; Stereochemistry; Sugars; *also* Synthetic organic chemical manufacturers' association of the United States

Examinations, questions, etc.

Study questions in elementary organic chemistry. A. Lowy and T. B. Downey. 91p Van Nostrand '21

Laboratory manuals

Advanced laboratory manual of organic chemistry. M. Heidelberger. 103p Chemical catalog co. '23

Laboratory manual containing directions for a course of experiments in organic chemistry. W. R. Orndorff. 168p Heath '22

Chemistry, Photographic. *See* Photographic chemistry

Chemistry, Physical and theoretical

Advanced course of instruction in chemical principles. A. A. Noyes and M. S. Sherrill. 310p Macmillan '22

Chemistry of the inorganic complex compounds. R. Schwarz. 82p Wiley '23

Chemistry tangle unravelled. F. W. Gray. 148p Longmans '23

Comprehensive treatise on inorganic and theoretical chemistry. J. W. Mellor. 2v Longmans '22

Course of laboratory experiments on physico-chemical principles. M. S. Sherrill. 125p Macmillan '23

Electron in chemistry. J. J. Thomson. diags J Fr Inst 195:593-620, 737-85; 196:1-29, 145-80 My-Ag '23; Same. Gen Elec R 26:528-41, 632-44, 708-18, 766-79, 841-58 Ag-D '23

Foundations of chemical theory. R. M. Caven. 266p Van Nostrand '20

Inorganic type formulas and their relationships. H. O. Smith. 5p Van Nostrand '22

Introduction to physical chemistry. J. Walker. 9th ed. 438p Macmillan '22

Laboratory manual of physical chemistry. A. W. Davison and H. S. van Klooster. 182p Wiley '22

Metallurgical applications of physical chemistry. C. H. Desch. il Chem Soc J 123:280-94 F '23

Outlines of theoretical chemistry. F. H. Getman. 3d ed., rev. 624p Wiley '22

Physical chemistry and ceramics. E. W. Washburn. il diags J Fr Inst 193:749-73 Je '22

Physical chemistry in industry. R. S. Tour. Ind & Eng Chem 15:5-6 Ja '23

Practical physical chemistry. A. Findlay. 4th ed., rev. & enl. 298p Longmans '23

Rôle of the physical in the development of chemical theory. J. Walker. Chem Soc J 121:735-45 My '22

Second year college chemistry. W. H. Chapin. 311p Wiley '22

Some physico-chemical themes. A. W. Stewart. 419p Longmans '22

Theoretical chemistry from the standpoint of Avogadro's rule & thermodynamics. W. Nernst. Rev. ed. 922p Macmillan '23

Vitaminues from the standpoint of physical chemistry. V. K. LaMer. J Ind & Eng Chem 13:1108-10 D '21

See also Absorption; Addition compounds; Adsorption; Agitators; Allotropy; Atomic theory; Atomic weights; Atoms; Boiling points; Catalysis; Chemical affinity; Chemical equilibrium; Chemical reaction; Compressibility; Coordination (chemistry); Critical point; Crystallization; Crystallography; Dissociation; Electrochemistry; Electroly-

Chemistry, Physical and theoretical—*Continued*
 sis; Electrolytes; Electrons; Emulsions;
 Evaporation; Flocculation; Fluorescence;
 Free energy; Freezing points; Fusion; Hy-
 groscopy; Interfacial tension; Ionization;
 Ions; Isomerism; Latent heat; Liquid air;
 Melting points; Molecular rearrangements;
 Molecular weights; Molecules; Optical rota-
 tion; Periodic law; Photochemistry; Precipita-
 tion (chemistry); Rectification; Refraction;
 Molecular; Solubility; Solution (chemistry);
 Stereochemistry; Surface energy; Surface
 tension; Thermal analysis; Thermochemistry;
 Thermodynamics; Valence; Vapor density;
 Volatility

Chemistry, Technical

Analysis of fuel, gas, water and lubricants.
 S: W. Parr. 3d ed. 250p McGraw-Hill '22
 Application of ion concentration measure-
 ments to the control of industrial processes.
 E. A. Keeler. diags J Ind & Eng Chem 14:
 395-8 My '22

Automatic process control symposium. flow
 sheet il diags J Ind & Eng Chem 14:1005-18
 N '22

Ilycone chemical technology. J. R. Parting-
 ton. il Soc Chem Ind J (Chem & Ind) 42:
 636-41 Je 29 '23

Chemistry and industry. E. F. Armstrong.
 Soc Chem Ind J (Chem & Ind) 42:603-12 Je
 22 '23

Chemistry, applied to home and community.
 P. G. Beery. 534p Lippincott '23

Chemistry behind the dollar. A. D. Little.
 Chem Age 31:259-60 Je '23

Chemistry develops metallurgy. W: A.
 Forbes. Iron Tr R 72:1672-6 Je 7 '23; Same
 cond. Iron Age 111:1554-6 My 31 '23; Discus-
 sion. E. Dewey. Chem & Met Eng 28:1030
 Je 11 '23

Chemistry for engineers and manufacturers.
 B. Blount and A. G. Bloxam. 4th ed. Lip-
 pincott '21

Chemistry in the electrical industry. A. A.
 Drummond. Soc Chem Ind J (Chem & Ind)
 42:769-70 Ag 10 '23

Chimie industrielle. P. Baud. 704p Masson
 et c^{ie}, Paris '22

Functions and duties of the chemist and the
 bearing of chemistry on the gas industry.
 G. H. Gemmell. Gas J (Lond) 162:220-1 Ap
 25 '23

Hidden profits in the product itself. A. D.
 Little. il System 44:185-8+ Ag '23

Industrial organic chemistry. S: P. Sadtler
 and L. J. Matos. 5th ed., rev. & enl. 691p
 Lippincott '23

Industrial outlook for colloid chemistry. H.
 N. Holmes. Ind & Eng Chem 15:856-8 Ag '23

Die maschinellen hilfsmittel der chemischen
 technik. A. Parnicke. 4th ed. 487p P. Parey,
 Berlin '22

Technical chemists' pocket-book. R. Ensoll.
 196p Spon '21

What chemical technology has done in the
 shoe-manufacturing industry. S. P. Lovell.
 il Chem & Met Eng 28:715-17 Ap 23 '23

See also Acetylene; Acid-resisting ma-
 terials; Alcohol; Alkalies; Alloys; Ammonia;
 Blast furnace gas; Bleaching; Boiler scale;
 Canning and preserving; Celluloid; Cellu-
 lose; Cement; Chemical engineering; Chemi-
 cal industries; Chemicals; Clay; Clay indus-
 tries; Clay products; Coal distillation; Coal
 tar; Coal-tar products; Coke-oven gas; Cor-
 rosion and anti-corrosives; Cyanide process;
 Dehydration; Distillation; Dyes and dyeing;
 Electrochemistry; Emulsification; Emul-
 sions; Explosives; Extraction processes;
 Fertilizers; Filters and filtration (technical
 chemistry); Flour; Food preservatives; Fuel;
 Gas; Gas manufacture and works; Glass
 manufacture; Glue; Gums and resins;
 Hydrometallurgy; Ink; Leather; Metallur-
 gical analysis; Metallurgy; Oils and fats; Ore
 treatment; Paint; Paper; Paper making;
 Paper making materials; Perfumery; Pe-
 troleum; Porcelain; Potash; Pottery; Re-
 fractory materials; Rubber; Sampling; Soap;
 Starch; Sugar; Sulfuric acid; Tanning; Tar;

Textile chemistry; Textile industry; Vul-
 canization; Waste products; Wood preserva-
 tion; also Société de chimie industrielle

Bibliography

Abstracts. See weekly numbers of the Jour-
 nal of the society of chemical industry
 Manuscript bibliographies in chemistry and
 chemical technology. C. J. West and C. Hull.
 J Ind & Eng Chem 14:1075-8, 1148-51 N-D
 '22; Same. (Reprint & Circ. Ser. 36) 17p '22
 25c National research council

Dictionaries

Dictionary of applied chemistry. T: E.
 Thorpe. Rev. & enl. v 1-4 Longmans '21-'22

Terminology

Chemical terms used on fertilizer materials,
 feeding stuffs, fats and oils explained. W: J.
 Gascoyne, jr. 32p Gascoyne & co., inc., Balti-
 more '22

Chemistry, Textile. See Textile chemistry

Chemistry buildings. See West Virginia. Uni-
 versity—Chemistry building

Chemists

American chemists—a statistical study. G. L.
 Wendt. Chem & Met Eng 26:112 Ja 18 '22
 Business training for students of chemistry.
 Chem Age 31:269-73 Je '23

Chemist and industry. H. H. Gray. Soc Chem
 Ind J (Chem & Ind) 42:956-8 O 5 '23; Dis-
 cussion. 42:1024-6, 1038-40 O 26 '23

Chemist in industry; excerpts. R. Wiles. J Ind
 & Eng Chem 14:160-2 F '22; Chem & Met
 Eng 26:101-2 Ja 18 '22

Chemist in relation to his contracts. E. J.
 MacGillivray. Chem Age 31:296-9 JI '23

Chemists and the gas industry. H. O.
 Andrew. Gas Age 52:16 JI 7 '23

Chemists in public life. Chem & Met Eng
 27:17-20 JI 5 '22

Classification of chemists. Chem Age 31:231-2
 My '23

Code of ethics for chemists. Chem Age 31:
 135-6, 255-6, 347-8 Mr, Je, Ag '23

Cogitations on the chemist. S. Jordan. Chem
 Age 30:18 Ja '22; Discussion. L. R. Seidell.
 30:89-90 F '22

Cogitations on the chemist. H. S. Neiman.
 Chem Age 31:249-50 Je '23; Same. Textile
 Col 45:362-3 Je '23

Do you use a chemist in your business? J. H.
 Collins. Chem Age 31:101-3 Mr '23

Economic status of the chemist. C. F. Bur-
 gess. Chem Age 31:435-8 O '23

Engineer and the chemist. Engineering 115:
 271-2 Mr 2 '23

Engineering education and American indus-
 try and the economic status of the chemist.
 Chem Age 31:468-70 O '23

Famous chemists, the men and their work. W:
 A. Tilden. 296p Dutton '21

International relations in chemistry; a plea
 for the resumption of international comity
 in chemistry. W. A. Dyes. Chem Age 30:466-
 7 O '22

Joy of being a chemist. D. M. Strickland.
 Blast F & Steel Pl 10:505-7 O '22

Market for chemical ideas. C. F. Burgess.
 Ind & Eng Chem 15:997-1000 O '23

Pioneer Yale chemists. Ind & Eng Chem 15:
 204-6 F '23

Plant manager and the chemist. G: L.
 O'Brien. J Ind & Eng Chem 14:650-1 JI '22

Practice of consulting chemistry as a profes-
 sion in New York. L. R. Seidell. Chem Age
 30:385-6 S '22

Problem of unemployment among chemists.
 Chem Age (Lond) 9:231-2 S 1 '23

Renewal of international relations in chemis-
 try. C: Marie. Chem Age 31:70-1 F '23

Some conditions of the chemist's work.
 G: L. O'Brien. Chem Age 30:341-2 Ag '22

Some economic aspects of the practice of
 chemistry. O: E. E. Schiml. Chem Age 30:
 139-40 Mr '22; Discussion. 30:177-9 Ap '22

Work of Dominion government chemists. Can
 Chem & Met 7:58-9, 92-3, 176 Mr-Apr, JI '23

Chemists—Continued

Yale university doctors of philosophy in chemistry and physiological chemistry, 1866-1922. 19p Graduate school, Yale univ., New Haven '23

See also Chemical education; Chemistry—Study and teaching; Women as chemists; *also* names of chemists, e.g. Chandler, Charles Frederick; Hart, Edward; Wiley, Harvey W.

Law

Act to incorporate the Association of professional chemists of Quebec. Can Chem & Met 7:122-5 My '23

Licenses

Licensing chemists. Chem Age 31:454-5 O '23

Salaries

Women in chemistry. Chem Age 30:268-70 Je '22

Chemotherapy

L'organisation des recherches de chimiothérapie. E. Fourneau. Chimie & Ind 9:1221-9 Je '23

Chenopodium

Chenopodium ambrosioides L. T. Holm. il Am J Sci 5th ser 6:157-66; Bibliography. 166-7 Ag '23

Chenopodium oil

Chenopodium oil. T: A. Henry and H. Paget. Chem Soc J 119:1714-24 N '21

Cheramy, inc.

Building a perfume business on a single odor. J. True. Ptr Ink 119:33-4+ Ap 27 '22

Cherrying attachment. See Profiling**Chert**

Method of surfacing roads with chert. E. A. Eubank. Eng & Contr 57:431 My 3 '22

Chesapeake and Ohio railway

44th annual report for the fiscal year ended December 31, 1921. Comm & Fin Chg 114:2610-12 Je 10 '22; Same abr. Ry Age 72:1758-9 Je 24 '22

45th annual report for the year ended December 31, 1922. Comm & Fin Chr 116:2276-9 My 19 '23; Same. Ry Age 74:1245-6 My 19 '23

Chesapeake and Ohio had eventful year in 1922. Ry Age 74:387-9 F 10 '23

C. & O. improves line and grades at St Albans, W. Va. il map Ry Age 71:973-5 N 19 '21

Chesapeake & Ohio not hurt by coal strike. Ry Age 72:1735-6 Je 24 '22

Control of purchases and stores on the C. & O. Ry. il diag Ry R 72:795-813 My 12 '23 Van Swearingen acquire C. & O. stock interest. map Ry Age 74:1193-1. 296 Ja 13. 27 '23; Ry R 72:111-12 Ja 13 '23

Chesney, Cummings Coligny, 1863-

Edison medal for 1921 awarded to C. C. Chesney Elec R 73:955-6 D 24 '21

1921 Edison medalist. por Power 55:361 F 28 '22

Sketch. por Elec W 78:1258 D 24 '21

Chestnut

Der gerbstoff der edelkastanie. K. Freudenberg and H. Walpuski. Deutsche Chem Gesell Ber 54:1695-1700 S '21; Abstract. Chem Soc J 120 pt 1:799-800 N '21

L'industrie des extraits de châtaignier son passé, son évolution récente, son avenir. E. Depasse. il Chimie & Ind 7:244-52, 458-64 F-Mr '22

Chewing gum

Use of synthetic resin in chewing gum. Chem Age 30:56 F '22

Tankee gum wins Europe's favor. N. B. Kastl. Am Ind 23:32+ S '22

See also Wrigley company

Chicago, Illinois

Chicago zoning ordinance. diag Am Arch 124:73-6 Jl 18 '23; Abstract. Eng N 90:958 My 31 '23

Chicago's program of civic improvement. C. Gaines. il plans Pop Mech 38:19-21 Jl '22

Features of the proposed new constitution. il W Soc E J 27:[current news] 193-4 O '22
Water borne transportation inland and marine. J: Millis. map W Soc E J 27:287-93 O '22
See also Building trades—Chicago; Electric plants (central stations)—Chicago

Architecture

Autobiography of an idea. L: H. Sullivan. Am Inst Arch J 11:335-42 S '23

Elks memorial. E. Swartwout. il diag plans Am Arch 124:275-83 S 26 '23

Restoration of the Fine Arts building at Chicago. G: W. Maher. Am Inst Arch J 11:254-5 Je '23

Restoring the Fine arts building—Chicago. il Am Inst Arch J 10:111-13 Ap '22

See also Chicago Tribune building; Wrigley building, Chicago

Bridges

Chicago river bridges. E: H. Bennett. il diag plans Arch Rec 52:458-69 D '22

Clever engineering seen in opening new bridge. il Pop Mech 37:191 F '22

Pier construction, Wells St. bridge. il Pub Works 53:174-6 O '22

South Park boulevard viaduct. T. L. Condon. diag map plans W Soc E J 28:261-78 Jl '23

Strengthening truss bridge over tracks at Chicago. il diag Eng N 89:621-3 O 12 '22

Two bridges in one—Chicago's Michigan avenue bridge. W: A. Mulcahy. il Sci Am 128:16 Ja '23

Harbor

Calumet harbor advocated for Chicago. map Eng N 91:15 Jl 5 '23

Chicago needs waterway terminal plan. W Soc E J 28:[current news]88-90 My '23

Chicago's need for a comprehensive water terminal plan. R. W. Putnam. W Soc E J 28:413-15 S '23

Future of Chicago's water transportation. E. T. Harris. W Soc E J 28:402-3 S '23

Illiana harbor. W. V. Judson. il map plan W Soc E J 27:201-11; Discussion. 211-12 Jl '22

Modern rail and water terminals, with particular reference to the situation at Chicago. diag map plans Am Soc C E Pro 49:1552-84 S '23

Organization of the Interstate harbor commission. Ry R 71:9-10 Jl 1 '22

Report on harbor development, Chicago district. map Ry R 72:1567-70 My 5 '23

Libraries

Great Chicago fire of 1871 started the public library. il Pop Mech 36:830 D '21

Railroads

Another plan for a terminal at Chicago. il diag Ry Age 74:1065-7 Ap 28 '23

Another study of Chicago railway terminals il plans Ry R 72:192-6 Ja 27 '23

Chicago gets a new passenger terminal plan. il plans Ry Age 74:263-7 Ja 27 '23

Chicago terminal improvements, Chicago, Rock Island and Pacific and New York Central railways. R. H. Ford. Am Soc C E Pro 49:1539-41 S '23

Chicago terminal improvements, Dearborn station group. F: E. Morrow. Am Soc C E Pro 49:1535-8 S '23; Same. Ry R 73:307-9 S 1 '23

Chicago terminal improvements, Illinois Central railroad. D. J. Brumley. Am Soc C E Pro 49:1526-34 S '23; Same. Ry R 73:299-303 S 1 '23; Excerpt. Eng & Contr (Ry) 60:622-5 S 19 '23; Excerpt. Elec Ry J 62:822 N 10 '23

Chicago union station development. J. D'Esposito. Am Soc C E Pro 49:1545-51 S '23; Same. Eng & Contr (Ry) 60:305-10 Ag 15 '23

Chicago union station, its design and construction. J. D'Esposito. il W Soc E J 28:357-72 S '23

Freight facilities in the proposed terminal. Chicago. plans Ry R 72:209-13 F 3 '23

Chicago, Illinois—Railroads—Continued

I. C. adapts electrification to terminal traffic. map Ry Age 73:743-5 O 21 '22
 Illinois Central adopts electrification system. Ry Age 73:665 O 7 '22; Elec Ry J 60:630-1 O 14 '22
 Illinois Central announces plans for Chicago terminals. il diag Eng N 89:841-3 N 16 '22
 Modern freight terminal of the Pennsylvania railroad system in Chicago. W: L. R. Haines. il diag plans Am Soc C E Pro 49: 1585-1606, pl 5-6 S '23
 New Chicago passenger station of the Illinois Central R.R. Eng & Contr 57:284 Mr 22 '22
 New Chicago union station center of attractive group. Eng N 87:894-5 D 1 '21
 New plan for unified terminals at Chicago. plan Ry Age 72:1179-81 My 20 '22
 New York Central acquires Chicago terminal facilities. Ry R 70:766 My 27 '22
 New York Central authorized to acquire Chicago Junction. Ry Age 72:1244-6 My 27 '22
 Proposed State st. terminal station at Chicago. plan Eng N 90:354 F 22 '23
 Railway terminal station plans for Chicago. Eng N 90:153 Mr 8 '23
 Report to National association of owners of railroad securities. Eng & Contr 58:163-6 Ag 16 '22; Ry Age 72:1179-81 My 20 '22; Eng N 89:59-60 JI 13 '22
 Revised station plans embody new features. il Ry Age 72:323-6 F 4 '22
 Track and platform features for the new Chicago union station. diag plans Eng & Contr 57:382-4 Ap 19 '22
 Work under way on union station headhouse. plans Ry Age 73:599-602 S 30 '22

Rapid transit

Another subway plan for Chicago. map Elec Ry J 59:573-4 Ap 1 '22
 Argument completed in Chicago case. Elec Ry J 58:1050 D 10 '21
 Carrying a billion passengers a year in Chicago. il maps Elec Ry J 60:419-24 S 23 '22
 Chicago loop rerouting proposed. maps Elec Ry J 58:938-9 N 26 '21
 Chicago "L's" would consolidate. Elec Ry J 59:805 My 13 '22
 Chicago rides again. il Elec Ry J 60:241-2 Ag 12 '22
 Chicago surface lines has biggest year. Elec Ry J 59:692 Ap 22 '22
 Chicago votes to strike. Elec Ry J 60:94 JI 15 '22
 Chicago's transit problems. R. E. Heilman. Aera 11:1165-78 Ap '23
 Chicago's unified transit plan revived; abstracts. R. F. Kelker, jr. Elec Ry J 62:51-4 JI 14 '23; Eng N 91:104-5 JI 19 '23
 Development of unified power supply and distribution systems in Chicago. R. H. Rice. diag Elec Ry J 60:455-61 S 23 '22; Excerpt. Elec W 80:779-80 O 7 '22
 Expert advocates exclusive use of auto in Chicago's congested loop district. Bus Transportation 2:352-3 JI '23
 Five-cent fare order restrained in Chicago. Elec Ry J 58:1009 D 3 '21
 Handling traffic on Chicago "L" during bridge replacement. il map Elec Ry J 58:1113-15 D 24 '21
 Place of the bus in city transportation. J. A. Ritchie. il Bus Transportation 2:383-7 Ag '23
 Possibilities of developing Chicago's transportation facilities. H. L. Brown. Elec Ry J 59:568-9 Ap 1 '22
 Providing bus service for commuters and shoppers in Chicago. il diag Bus Transportation 1:106-9 F '22
 Report on traction fund. Elec Ry J 61:1023 Je 16 '23
 Service obligations of railroads. R. Heilman. Aera 11:552-63 D '22
 Surface and elevated lines tied up in Chicago. Elec Ry J 60:209 Ag 5 '22
 \$13,827,583 residue receipts. Elec Ry J 61: 618-19 Ap 7 '23
 Thompson policy reversed; Chicago is \$8,189,128 richer. Elec Ry J 62:751 O 27 '23

\$372,833,000 construction proposed for Chicago. maps Elec Ry J 62:167-72 Ag 4 '23
 See also Motor bus lines—Chicago; also Chicago Elevated railways

Sanitary affairs

Refuse disposal in Chicago. Pub Works 51: 412 N 26 '21
 See also Chicago drainage canal

Sewerage

Chicago sewer system. G: C. D. Lenth. diag maps plan W Soc E J 28:101-10 Ap '23
 Sanitary district of Chicago. L. Pearse. il map W Soc E J 28:179-94 My '23
 Sewage disposal and the Chicago problem. H. P. Eddy. il diag maps W Soc E J 28: 165-78 My '23
 Sewage-treatment progress in Chicago sanitary district. L. Pearse. il map Eng N 89: 1008-13 D 14 '22
 See also Chicago drainage canal

Streets

Asphaltic concrete base used in repairing portion of Washington boulevard, Chicago. J: B. Hittell. il Munic Eng 63:190-2 N '22
 Chicago's traffic problem and observations on measures of relief in use or applicable generally in large cities. R. F. Kelker, jr. il Elec Ry J 60:481-4 S 23 '22
 Great street may cap Chicago river. A. Arrow, jr. il diag Pop Mech 39:657-9 My '23
 Points observed in examining a million square yards of city pavements. P. E. Green. Munic Eng 65:65-6 Ag '23

Water supply

Chicago water works. M. B. Reynolds. map W Soc E J 28:131-7 Ap '23
 What metering would do for the Chicago water works. L. R. Howson. il diag W Soc E J 28:142-55 Ap '23; Same cond. Eng & Contr (W W) 59:609-15 Mr 14 '23

United States mail terminal

Erection of steel building and 150-ft. truss. il diag Eng N 87:1058-60 D 29 '21
 New railway mail terminal in Chicago. il diag Ry R 70:326-30 Mr 11 '22
 Railway mail terminal at Chicago will handle large tonnage. il diag plans Ry Age 72: 513-15 Mr 4 '22
 Structural design of U. S. mail terminal at Chicago. il diag plans Eng N 87:1010-13 D 22 '21

Chicago & Alton railroad

Chicago & Alton R. R. co. in hands of receivers. Ry R 71:312-13 S 2 '22

Chicago & Eastern Illinois railway

Chicago & Eastern Illinois ends receivership. Ry Age 72:181-2 Ja 14 '22
 1st annual report, 1922. Ry Age 75:207-9, 228 Ag 4 '23

Chicago and Northwestern railway

North Western celebrates seventy-fifth anniversary. il Ry Age 75:781 O 27 '23
 North Western 1922 traffic still below normal. map Ry Age 75:29-31 JI 7 '23
 Revenue tons decreased 34.92 per cent in 1921. Ry Age 72:1243 My 27 '22
 62d annual report—year ending December 31, 1921. Comm & Fin Chr 114:2026-9 My 6 '22; Same abr. Ry Age 72:1256-8 My 27 '22
 63d annual report for the year ending December 31, 1922. Comm & Fin Chr 116:2141-4 My 12 '23; Same abr. Ry Age 75:49-51 JI 7 '23

Chicago, Burlington & Quincy railroad

Burlington has large net after extra dividends. Ry Age 72:1494-5 Je 17 '22
 Rate reductions and strikes cut C.B. & Q. net. map Ry Age 74:1165-7 My 12 '23
 68th annual report for the year ended December 31, 1921. Comm & Fin Chr 114:2480-4 Je 3 '22; Excerpts. Ry Age 72:1509-10 Je 17 '22
 69th annual report for the year ended December 31, 1922. Comm & Fin Chr 116:2021-6 My 5 '23; Same cond. Ry Age 74:1186-7 My 12 '23

- Chicago daily news sanitarium, Lincoln park, Chicago**
Daily news sanitarium, Lincoln park, Chicago. Arch Forum 35:pl 44 Ap '23
- Chicago Daily Tribune**
Illinois Supreme court decides against city of Chicago in latter's libel suit against Chicago Daily Tribune. Comm & Fin Chr 116:2213-16 My 19 '23
- Chicago drainage canal**
Chicago drainage canal. Can Eng 45:278, 317-20 Ag 28, S 11 '23
Conference on water diversion; delegation from sanitary district of Chicago visits Toronto. Can Eng 45:357-8 S 25 '23
Enormous loss results from Chicago diversion. A. Beck. Can Eng 45:255-6 Ag 21 '23; Discussion. R. I. Randolph. 45:315 S 11 '23
Statements by Chicago officials refuted. A. Beck. Can Eng 45:453-5 O 30 '23
- Chicago Elevated railways**
How stores are accounted for on the Chicago elevated railroads. E. H. Kretschmer. chart Elec Ry J 60:510-14 S 30 '22
Reorganization plan. Comm & Fin Chr 117:323-4 J1 21 '23
- Chicago Great Western railroad**
Great Western suffered from adverse conditions in 1921. Ry Age 72:1027 Ap 29 '22
13th annual report—year ended Dec. 31, 1922. Comm & Fin Chr 116:2510-11 Je 2 '23
- Chicago, Milwaukee & St Paul railway**
Chicago, Milwaukee & St Paul railway company. 100p Wood, Struthers & co., New York '22
De-centralized reclamation on the C. M. & St P. railway. il Ry R 71:131-7 J1 29 '22
Deficit after charges \$11,070,609 in 1921. Ry Age 72:1127-8 My 13 '22
Digest of a shop foreman's convention; annual staff meetings of the C.M. & St P. Ry. mechanical organization. il diags Ry R 73:601-9 O 27 '23
57th annual report for 1921. Ry Age 72:1148-9 My 13 '22
58th annual report. map Ry Age 74:1379-81, 1396 Je 9 '23
- Chicago, North Shore & Milwaukee railroad**
Coffin prize awarded to Chicago, North Shore & Milwaukee R.R. il Elec Ry J 62:591-3, 671-81 O 13-20 '23; Same. Aera 12:555-85 N '23
Earnings increase in 1921. Elec Ry J 59:880 My 27 '22
\$1.00 revenue for \$1.47 investment: how the Chicago, North Shore & Milwaukee railroad has been built up. C. E. Thompson. il map Elec Ry J 60:463-9 S 23 '22
- Chicago, Peoria and St Louis railroad**
C. P. & St L. on verge of abandonment. map Ry Age 74:769-70 Mr 17 '23
- Chicago railroad club**
Plans and prospects of the Chicago railroad club. Ry R 72:774-6 My 5 '23
- Chicago river**
Closing the Chicago river. Eng N 90:609, 721-2, 1058 Ap 5, 19, Je 21 '23
- Chicago, Rock Island & Pacific railway**
Beginning of the Rock Island system, now 70 years old. il diags map Ry R 71:479-86, 514-22 O 7-14 '22
Celebration of the Rock Island's seventieth anniversary. il Ry R 71:522-5 O 14 '22; Ry Age 73:737-8 O 21 '22
42d annual report—fiscal year ended December 31, 1921. Comm & Fin Chr 114:1668-71 Ap 15 '22
Monuments to early engineers of the Rock Island Ry. il Eng N 90:121-3 Ja 18 '23
Plain facts for Rock Island stockholders. Ry Age 72:367-8 F 11 '22
President Gorman of the Rock Island reviews its service. Ry R 71:569-70 O 21 '22
Rock Island shop employees form new association. Ry R 71:798 D 2 '22
Rock Island's June report best in ten years. Ry Age 73:257-8 Ag 5 '22
- Chicago, St Paul, Minneapolis and Omaha railway**
Deficit for 1921. Ry Age 72:1244 My 27 '22
40th annual report—year ended December 31, 1921. Comm & Fin Chr 114:2030-1 My 6 '22
41st annual report, year ended December 31, 1922. Comm & Fin Chr 116:2145-7 My 12 '23; Same cond. Ry Age 75:52 J1 7 '23
- Chicago stock exchange**
Chicago stock exchange. W. de G. C. Rice. 50p Chicago stock exchange '23
Chicago stock exchange record of prices for 1921. Comm & Fin Chr 114:353-4 Ja 28 '22
Chicago stock exchange record of prices for 1922. Comm & Fin Chr 116:349-50 Ja 27 '23
- Chicago tribune**
City of Chicago loses libel suit for \$10,000,000 against the Chicago daily tribune—text of decision of Judge Fisher. Comm & Fin Chr 113:2259-62 N 26 '21
- Chicago Tribune building**
Chicago Tribune building competition; views. Am Arch 122:545-7, sup16 D 20 '22
Chicago Tribune competition. H. H. Kent. Arch Rec 53:378-9 Ap '23
Chicago Tribune competition. L. H. Sullivan. il Arch Rec 53:151-7 F '23
Chicago Tribune's architectural competition. il Eng & Contr (Bldgs) 59:723-9 Mr 28 '23
Designs awarded honorable mention—Chicago Tribune building competition. il Am Arch 123:23-5 Ja 3 '23
High buildings and beauty. I. K. Pond. il Arch Forum 38:41-4, 179-82 F, Ap '23
International competition for a new administration building for the Chicago Tribune. 103p Chicago Tribune '23
Winning design; Chicago Tribune competition. Arch Forum 38:front Ja '23
- Chicle**
Chicle cultivation in Mexico and the Far East. il India Rubber W 68:623 J1 '23
Sidelights from geologists' notebooks; some sidelights on the gathering of chicle. il Nat Pet N 15:99+ Je 20 '23
- Chief interchange car inspectors' and car foremen's association of America**
21st annual convention, Chicago, Nov. 9-10. Ry Mech Eng 96:702-8 D '22
- Child labor**
Canal-boat children. E. M. Springer. il plan Monthly Labor R 16:227-47 F '23
Census returns on gainfully employed children, 1920. Monthly Labor R 15:817-18 O '22
Child labor and the work of mothers in the beet fields of Colorado and Michigan. (Bur. pub. no. 115) 122p U.S. Children's bur., Washington '23
Child labor in Milwaukee, 1921-22. Monthly Labor R 15:1084-6 N '22
Child labor in oyster and shrimp canning. Monthly Labor R 15:118-19 J1 '22
Child labor in the United States. 31p U.S. Children's bur., Washington '23
Child labor in Wisconsin. Monthly Labor R 17:849-51 O '23
Child labor in Wisconsin, 1921-22. Monthly Labor R 16:1328-9 Je '23
Child labor on Maryland truck farms. A. Channing. 52p U.S. Children's bur., Washington '23
Children's work accidents. 42p New York (state) Bureau of research and codes, Albany '23; Summary. Monthly Labor R 16:818-20 Ap '23
Control of the employment of children in agriculture in Europe. Int Labour R 4:402-39 N '21
Employment in canneries. Monthly Labor R 16:1052-4 My '23
Farm work and city school attendance; summary of a study of Philadelphia children leaving the city because of farm work. Monthly Labor R 15:1320-2 D '22
Federal child labor law. N. F. Allen. U S Bur Labor Statistics Bul 266:141-4; Discussion. 144-6 '21

Child labor—Continued

- Federal child-labor law declared unconstitutional. Monthly Labor R 14:1255-7 Je '22
- Federal suppression of child labor held unconstitutional by the Supreme court. Comm & Fin Chr 114:2175-6 My 20 '22
- Industrial home work of children. 80p U S Children's Bur. Pub. no. 100 '22
- Industrial home work of children in Rhode Island. Monthly Labor R 15:626-8 S '22
- Meaning of child labor. R. G. Fuller. 161p A. C. McClurg & co., Chicago '22
- Occupations of junior workers in Detroit. A. C. Crockett and J. M. Clow. 76p Univ. of Michigan, Ann Arbor '23
- Over one million children in gainful occupations in United States in 1920. Comm & Fin Chr 115:824 Ag 19 '22
- Physique of children and fitness for work. Int Labour R 6:619-27 O '22
- Problems of juvenile employment. W. B. Owen. Textile Inst J 14:P136-8 Je '23
- Proceedings of the seventh annual convention of the Association of governmental labor officials of the United States and Canada. U S Bur Labor Statistics Bul 266:26-43 '21
- Trend of child labor in the United States, 1920 to 1923. Monthly Labor R 17:671-5 S '23
- U.S. Supreme court decision holding the child labor law unconstitutional. Comm & Fin Chr 114:2544 Je 10 '22
- Welfare of children in bituminous coal mining communities in West Virginia. N. P. McGill. (pub. 117) 77p U. S. Children's bur., Washington '23
- Women and children in industry in Maryland. Monthly Labor R 16:1326-8 Je '23
- Work and welfare of children in an anthracite mining district. Monthly Labor R 15:1082-4 N '22
- Work of children and mothers in beet fields of Colorado and Michigan. Monthly Labor R 16:1047-51 My '23
- Working children of Boston. H. L. S. Woodbury. (Bur. pub. no. 89) 374p U.S. Children's bureau, Washington '22
- Youngsters in the textile mills. B. Turner. Textile Inst J 14:P99-102 My '23

See also Permanent conference for the abolition of child labor

The Nation child labor committee, New York, publishes pamphlets on child labor

Children

See Child labor; also Chicago daily news sanitarium, Lincoln park, Chicago; Heckscher foundation for children

Children's homes. See Orphanages

Chile

Chile—today and tomorrow. L. E. Elliott. 345p Macmillan '22

See also Chemical industries—Chile; Coal miners—Chile; Copper mines and mining—Chile; Electric railroads—Chile; Electric utilities—Chile; Geology—Chile; Hydroelectric plants—Chile; Mines and mineral resources—Chile; Money—Chile; Railroads—Chile; Railroads—Electrification—Chile; Silver mines and mining—Chile; Sodium nitrate

Commerce

Chile—imports of machine lathes. Am Mach 57:1003 D 28 '22

Commerce of Chile. 47p Pan American union, Washington, D.C. '22

Economic conditions in Chile. Engineering 114:3 Jl 7 '22

Economic conditions

Chilean conditions irregular. Am Ind 23:41 Mr '23

Economic and labor situation in Chile in 1921 and 1922. Monthly Labor R 15:1213-14 D '22

See also Housing—Chile

Chile copper company

Chile copper co. Eng & Min J 115:41 Ja 6 '23

Chilean nitrate. See Sodium nitrate

Chilean nitrate producers' association

Chilean nitrate trade. Chem Age 31:303-4 Jl '23

Nitrate report denies existence of a trust. Oil Paint & Drug Rep 104:19 S 10 '23

Our nitrogen problem. H. A. Curtis. Chem Age 31:388-91 S '23

Report on the nitrate of soda industry of Chile. C. J. Brand. Chem & Met Eng 29:162 Jl 23 '23

Chilled iron

Call for better chilled cast iron wheels. P. H. Griffin. Iron Age 110:1419-20 N 30 '22

Car wheel manufacture revolutionized. G. L. Lacher. Il diags plan Iron Age 109:847-52, 939-43 Mr 30-Ap 6 '22

Chilled roll making for sheet mills. W. H. Melaney. Il Blast F & Steel Pl 11:86-7 Ja '23

Electric welding a chilled iron roll. C. J. Holslag. Foundry 50:756 S 15 '22; Same. Iron Tr R 71:998 O 12 '22

Investigation of the properties of chilled iron car wheels. J. M. Snodgrass and F. H. Guldner. Il diags Ill U Eng Exp Sta Bul 129:1-103; 134:1-72 '22; 135:1-100 '23; Abstracts. Ry Mech Eng 96:578-9; 97:166-8 O '22, Mr '23; Ry Age 74:1047-51 Ap 28 '23; Summary (pt. 1). Engineer 133:606 Je 2 '22

Large grinding machine for chilled iron rolls. Engineer 133:306, 307 Mr 17 '22

Reduce labor on car wheels. Foundry 51:755 S 15 '23

Thermal stresses in chilled iron car wheels. G. K. Burgess and R. W. Woodward. Il diags U S Bur Stand Tech Pa 209:193-226 '22; Same cond. Ry Mech Eng 96:460-3 Ag '22

Ueber die wissenschaftlichen grundlagen zur herstellung von hartgusswalzen. E. Schütz. Il diags Stahl & Eisen 42:1610-17, 1773-81, 1900-6 O 26, N 30, D 28 '22

Chimneys

Cause of creosote in chimney flues. Sheet Metal Worker 13:106-7 Mr 17 '22

Charts for determining stack dimensions. R. A. Foresman. Power 56:804-6 N 21 '22

Chimney construction. L. M. Emmet. diags Dom Eng 99:140-3 Ap 22 '22

Chimney foundations. W. W. Christie. Power 58:459-60 S 18 '23

Chimneys and fireplaces; how to build them. A. M. Daniels. diags plan U S Agric Farmers' Bul 1230:1-28 '21

Chimneys for the heating apparatus. A. G. King. diags Dom Eng 98:307-9 F 18 '22

Construction of stacks and flues. Il Power Pl Eng 27:822-3 Ag 15 '23

Correct building of chimneys and flues. F. H. Wentworth. Il diags Bldg Age 44:54-5 Ag '22

Determination of chimney sizes. A. Cotton. diags Mech Eng 45:531-6 S '23; Same. Eng & Contr (Bldgs) 60:645-52 S 26 '23; Abstract. Power 57:935-6; 58:46 Je 12, Jl 10 '23; Abstract. Power Pl Eng 27:722-6 Jl 15 '23; Discussion. Mech Eng 45:536-7+ S '23

Four ornamental chimneys. Il Bldg Age 45:78 Mr '23

Helping small chimneys to do overwork. Il diags plan Sheet Metal Worker 13:615-16+ O 13 '22

House construction that reduces heating costs. J. D. Hoffman. diags Heat & Ven 20:47-8 S '23; Same. Sheet Metal Worker 14:712-13 O 12 '23

New stack type. A. W. H. Gripe. Il diags Am Gas J 116:343-6 Ap 15 '22

Ordinance for construction of chimneys. diags plans Am Soc Heat & V E J 27:859-72 D '21; Same. Sanitary & Heat Eng 96:396-9; 97:6-8 D 30 '21-Ja 13 '22; Same. Sheet Metal Worker 12:810-15+ D 23 '21

Ordinance for construction of chimneys suitable for use in cities and towns of any size or as a state law. 2d ed., rev. 20p National bd. of fire underwriters, 76 William st, N.Y. '21

Safe chimney construction. Heat & Ven 19:54-5 S '22

Stability and design of a kiln stack. T. W. Garve. diags plans Am Cer Soc J 5:455-67 Jl '22

Stack height to supply draft power. H. Miso-stow. Power 56:638-40 O 24 '22

Venturi stack. Il Chem & Met Eng 29:112-13 Jl 16 '23

Chimneys—Continued

Wind pressure in chimney design. W. W. Christie. Power 57:438-9 Mr 20 '23

See also Draft; Fireplaces; Flues; Heating; Smoke prevention

Cost

Relative cost of steel, concrete and brick stacks. Power 56:146 JI 25 '22; Same abr. Eng N 89:155 JI 27 '22

Specifications

Standard specifications for chimney construction. diags plan Heat & Ven 19:40-4 Ja '22

Chimneys, Brick

Chimney moved to new site eight feet distant. il Pop Mech 38:720 N '22

Chimneys subjected to acid gases. T. S. Clark. diags Ind & Eng Chem 15:227-30 Mr '23

Felling a factory chimney. Am Arch 121:38-9 Ja 4 '22

New stack at the Midvale smelter. D. W. Jessup. il Eng & Min J 113:45-7 Ja 14 '22

Smokestack built spirally to reduce wind stresses. il Pop Mech 38:561 O '22

Smokestack settled out of plumb. diags Coal Age 21:53-4 Ja 12 '22

Tallest stack in the world. il Eng & Min J 114:903, 1077 N 18, D 16 '22

Chimneys, Concrete

Concrete chimney built in winter. il Pub Works 54:87 Mr '23

Concrete chimney of precast segments. il Concrete 23:159-60 O '23

Concrete chimneys erected with great rapidity. il diag Pop Mech 37:37 Ja '22

Monster smokestack stands 257 feet in height. il Pop Mech 39:392 Mr '23

Novel method of removing a concrete stack. L. L. Coates. il Locomotive 34:206-8 JI '23

Reinforced concrete chimneys with precast unit forms. L. Perrin. il diags Concrete 21:63-4 Ag '22

Small units in house building. A. J. R. Curtis. il diags Concrete 20:181-3 Ap '22

Specifications

Report of committee S-1, on reinforced-concrete chimneys. Am Concrete Inst Pro 18:221-4; Discussion. 225-9, 315-17 '22

Chimneys, Iron and steel

Factors that affect the life of iron stacks. Power 58:338, 582 Ag 28, O 9 '23

Painting steel stacks. Power Pl Eng 27:988 O 1 '23

Recovery of heat from flue gases in residences. diags Heat & Ven 19:43-5 Ag '22

Repairing corroded stack without shutdown. il Iron Tr R 70:1868 Je 29 '22

Rusted steel chimney repaired by welding. Eng N 89:58 JI 13 '22

Significance of draft with some notes on the construction of steel smokestacks. il diag Locomotive 34:41-7 Ap '22

Smokestack in two sections erected with a crane. il Pop Mech 37:182 F '22

Steel smokestacks wrecked by 46-mile wind. il Pop Mech 37:102 Ja '22

Unusual means of wrecking worn-out steel stack. il Pop Mech 37:719 My '22

What is the best method of erecting a steel stack? Power 57:69 Ja 9 '23

China

American engineers to play part in modernizing China. F. G. Bolles. il Elec R 79:917-18 D 17 '21

American's impressions of the Orient. A. F. Bemis. il Textile World 62:1283-4 S 2 '22

China year book, 1923. 1229p Dutton '23

Flood problem in China. H. T. Wright. il (supp) diag map Engineer 133:600-2 Je 2 '22

Nation of prudent spenders. L. W. Meekins. il Nation's Business 10:30-1 Ag '22

Real China and the present situation. Comm & Fin Chr 115:693-4 Ag 12 '22

See also Art, Chinese; Banks and banking—China; Engineering—China; Finance—China; Floods—China; Railroads—China; Roads—China; Street railroads—China

Antiquities

Great wall of China; a geologist's examination of the oldest artificial structure in the world. F. C. Clapp. il diags map Sci Am 126:404-5 Je '22

Commerce

British engineering and the Chinese market. Engineer 135:424-5 Ap 20 '23

China—imports of machine tools. Am Mach 58:152 Ja 25 '23

China trade act, 1922. U S Bur For & Dom Com Trade Information Bul 74:1-24 '22

Same abr. Comm & Fin Chr 115:1587-9 O 7 '22

Import trade of China. Elec R (Lond) 93:493-4 O 3 '23

Our Chinese customers. H. G. Murray. il Sci Am 127:322-3+ N '22

Selling machinery and engineering material in China. Eng & Ind Management 6:717-18 D 22 '21

Trade outlook in China; with import trade statistics. Elec R (Lond) 92:73-4 Ja 12 '23

Trade with China. Ind Management (Lond) 8:223-4 O 19 '22

See also Tariff—China

Commercial policy

Open door doctrine in relation to China. M. J. Bau. 245p Macmillan '23

Consortium

Chinese consortium should negotiate for construction of railways. T. W. Lamont and C. Addis. Comm & Fin Chr 114:1354-6 Ap 1 '22

Consortium. 76p Carnegie endowment for international peace, Washington '21

Report on policy of Chinese consortium. Comm & Fin Chr 117:21-2 JI 7 '23

Statement in explanation of aims of Chinese consortium issued by the American group of the International consortium. Comm & Fin Chr 113:2453-4 D 10 '21

Economic conditions

Changes in economic life of China. Iron Age 109:1007-8 Ap 13 '22

China's industrial future. Elec R (Lond) 89:725 N 25 '21

Chinese enterprise growing. Am Ind 22:44+ My '22

Economic history of China. M. P. Lee. (Studies in history, economics and public law, v. XCIX, no. 1) 461p Columbia univ. press, New York '21

Readings in economics for China. C. F. Remer. 685p [bibliog. p. 677-80] Commercial press, Shanghai '22

Textile and political conditions in China. F. W. Howe. Textile World 62:435-6 JI 22 '22

See also Immigration and emigration—China; Labor and laboring classes—China; Prices—China

Foreign relations

Action of arms conference looking to withdrawal of foreign postal agencies and foreign courts from China. Comm & Fin Chr 113:2364-6 sec 1 D 3 '21

Adoption by armament conference of four principles for protection of China. Comm & Fin Chr 113:2361-3 sec 1 D 3 '21

Assent of Arms conference to Root declarations and other recommendations respecting sovereignty of China. Comm & Fin Chr 113:2564-71 D 17 '21

Resolution defining open door policy for China. Comm & Fin Chr 114:252-9 Ja 21 '22

Treaty adopted at armament conference embodying Root principles and open door policy for China. Comm & Fin Chr 114:575-6 F 11 '22

Industries and resources

Amalgam fuel possibilities in the Orient. J. V. McCartney. il map Blast F & Steel Pl 11:434-8 Ag '23

Blast furnace building in China. G. G. Green. Iron Age 108:1483-4 D 8 '21

Cast-iron pots made in China. W. E. Jewell. il diags Foundry 50:444-7 Je 1 '22

China—Industries and resources.—*Continued*

- Changes in economic life of China. Iron Age 109:1007-8 Ap 13 '22
- China makes industrial progress. Iron Tr R 73:729 S 13 '23
- Labor and industrial conditions in China. J. Arnold and W. H. Gale. U S Bur For & Dom Com Trade Information Bul 75:1-17 '22
- Native sugar industry of Szechuen province, western China. H. K. Richardson. il diag map Chem & Met Eng 27:105-8 Jl 19 '22
- Plan for industrial development of Szechwan province, China. U S Bur For & Dom Com Trade Information Bul 62:1-10 '22
- Producing iron and steel in China. L. W. Hoyt. Iron Tr R 72:227-30, 303-5 Ja 18-25 '23
- Things seen. Nation's Business 10:34-6 Jl '22

See also Automobile industry and trade—China; Cement industry and trade—China; Chemical industries—China; Clay industries—China; Coal mines and mining—China; Cotton manufacture—China; Electric industries—China; Iron industry and trade—China; Iron works—China; Lead mines and mining—China; Machine tool industry—China; Machinery industry—China; Mercury mines and mining—China; Mines and mineral resources—China; Mining industry and finance—China; Oil industries—China; Paper industry and trade—China; Petroleum—China; Salt mines and mining—China; Steel industry and trade—China; Steel works—China; Textile industry—China; Zinc mines and mining—China

Public works

- Concours pour la construction d'un nouveau pont de chemin de fer sur le Fleuve Jaune (China). Mesnager. il map Génie Civil 80: 265-72, 292-5 Mr 25-Apr 1 '22

China (porcelain). See Porcelain; Pottery

China clay. See Kaolin

China painting

- Painting in underglaze colors on the biscuit. F. H. Rhead. Am Cer Soc J 5:376-83 Je '22; Discussion. 5:383, (Bul) 5:113-15 Je-Jl '22

China wood oil. See Tung oil

Chinchilla

- Finishing chinchilla coating. Textile World 60:3391 D 10 '21
- Manufacture of woolen chinchilla fabrics. Textile World 61:1435+ Mr 4 '22

Chinese

- Chinese migrations, with special reference to labor conditions. Ta Chen. maps U S Bur Labor Statistics Bul 340:1-211; Bibliography. 212-37 '23

Chinese architecture. See Architecture, Chinese

Chinese art. See Art, Chinese

Chinese wood oil. See Tung oil

Chino copper company

- Facts for the stockholder. Eng & Min J 115: 518 Mr 17 '23

Chinoiserie. See House decoration

Chintz

- Technique of an Indian chintz. C. G. E. Bunt. Textile World 63:3489+ My 26 '23

Chiropactic

- Doctors and near-doctors. Sci Am 127:121 Ag '22
- Possibilities of subluxations. R. G. Hulburt. Sci Am 129:124 Ag '23

Advertising

- Chiropactors take their case to the bar of public opinion. Ptr Ink 120:61+ Ag 10 '22

Chisels

- Heat treating tool steel for cold chisels. P. A. E. Armstrong. il Nat Safety N 7:27-8 F '23

Chittenden, Russell H.

- Pioneer Yale chemist. por Ind & Eng Chem 15:206 F '23

Chloral

- Action of chloral on cellulose. J. H. Ross and J. M. Payne. Am Chem Soc J 45:2363-6 O '23

Chloramine

- Sulphilmines, a new class of organic compounds containing quadrivalent sulphur. F. G. Mann and W. J. Pope. Chem Soc J 121:1052-5 Je '22

Chloramine—T

- Manufacture and uses of chloramine—T. M. Briscoe. Chem Age (Lond) 9:168-9 Ag 18 '23
- Mianin, a chloramine disinfectant. Soc Chem Ind J (Chem & Ind) 42:154 F 16 '23

Chlorates

- Chlorates and hypochlorites; patent. diag Chem & Met Eng 27:994 N 15 '22

Chlorohydrin. See Chlorohydrin

Chloride of lime. See Bleaching powder

Chlorides

- Alleged variable composition of triple chlorides containing silver and gold. H. L. Wells. Am J Sci 5th ser 4:476-82 D '22
- Dibenzylidenacetone [diacetyl ketone] and triphenylmethane; ionogenically linked halogen atoms. F. Straus and A. Dützmann. Chem Soc J 122 pt 1:148-51 F '22
- Heterogeneous equilibria. W. F. Lee and A. C. Egerton. Chem Soc J 123:706-16 Mr '23
- Potentials at the junctions of monovalent chloride solutions. D. A. MacInnes and Yu Liang Yeh. diag Am Chem Soc J 43:2563-73 D '21
- Quantitative absorption of light by simple inorganic substances; the chlorides of arsenic, antimony and bismuth. A. K. Macbeth and N. I. Maxwell. Chem Soc J 123: 370-5 F '23
- Reduction of some rarer metal chlorides by sodium. M. A. Hunter and A. Jones. Am Electrochem Soc Trans v 44 (preprint 4): 35-41 S '23

Solubilities of certain metallic chlorides in selenium oxychloride. C. R. Wise. Am Chem Soc J 45:1233-7 My '23

Some complex chlorides containing gold. H. Wells. Am J Sci 5th ser 3:257-9, 315-26, 414-16 Ap-Je '22

Über die darstellung von aldehyden aus säurechloriden; dialdehyde. F. Zetzsche and C. Flütisch. Deutsche Chem Gesell Ber 54: 2888-93 N '21

Über die verhinderung der schwefelwasserstoff-fällung durch neutrale chloride. L. Dede and P. Bonin. Deutsche Chem Gesell Ber 55:2327-31 S '22

See also Ammonium chloride; Cesium auric chlorides; Chromium chlorides; Lead chloride; Salt; Tetrachlorides

Chloridizing processes

- Chloride volatilization. Chem & Met Eng 27: 316 N 8 '22

Chloride volatilization process of ore treatment. T. Varley and others. U S Bur Mines Bul 211:1-92, pl 1-7 '23

Chloridizing volatilization—some experiments and their practical application. H. R. Layng. charts diag Eng & Min J 112:764-70 N 12 '21; Discussion. T. Varley. 113:276-8 F 18 '22

Heat requirements in chloridizing volatilization. R. Gahl. Eng & Min J 113:957-8 Je 3 '22

Possibilities of dry chlorination of oxidized zinc materials. C. G. Maier. Eng & Min J 115:51-4 Ja 13 '23

Possibilities of electrical precipitation in the chloride volatilization process. T. Varley and H. W. Clark. il diag Gen Elec R 25: 766-73 D '22

Thermal requirements of chloridizing volatilization. H. R. Layng. Min & Sci P 124:264-6 F 25 '22; Discussion. O. C. Ralston. Eng & Min J 113:614-15 Ap 15 '22

Volatilization experiments on low-grade and complex ores. Eng & Min J 113:162 Ja 28 '22

Patents

- Partial list of patents relating to the chloride volatilization process. U S Bur Mines Bul 211:93-5 '23

Chlorination

- Chlorinating gaseous hydrocarbons. Chem Age 30:422-3 S '22
- Chlorination and bromination of the toluic acids and the preparation of the phthalaldehydic acids. W. Davies and W. H. Perkin, jr. Chem Soc J 121:2202-15 O '22
- Chlorination and the formation of chloroamines by means of nitrogen trichloride. G. H. Coleman and W. A. Noyes. Am Chem Soc J 43:2211-17 O '21
- Chlorination of benzoyl chloride. E. Hope and G. C. Riley. Chem Soc J 121:2510-27 N '22
- Chlorination of natural gas. G. W. Jones, V. C. Allison and M. H. Meighan. U S Bur Mines Tech Pa 255:1-42 '21
- Drying oils from petroleum and other products, produced by chlorination and dechlorination. H. A. Gardner and E. Biehlouss. J Ind & Eng Chem 14:619-21 JI '22
- Electrolytic and chemical chlorination of benzene. A. Lowy and H. S. Frank. diag Am Electrochem Soc Trans v 43 (preprint 24): 301-11 My '23
- Hydroxynaphthoquinone studies; the chlorination of juglone. A. S. Wheeler, F. R. Dawson and J. L. McEwen. Am Chem Soc J 45:1970-5 Ag '23
- Para-cymene studies; the chlorination of 2-amino-para-cymene. A. S. Wheeler and I. V. Giles. Am Chem Soc J 44:2605-12 N '22
- Researches on sulphuryl chloride; a new chlorinating agent: preparation of polychloro-derivatives of benzene. O. Silberrad. Chem Soc J 121:1015-22 Je '22
- Researches on sulphuryl chloride; influence of catalysts: a convenient method of chlorinating benzene. O. Silberrad. Chem Soc J 119:2029-36 D '21
- Substitution and addition of chlorine to the rubber molecule. J. McGavack. diag Ind & Eng Chem 15:961-2 S '23
- Über die chlorierung des methans. A. Schleede and C. Luckow. diags Deutsche Chem Gesell Ber 55:3710-26 D '22; Abstract. Chem Soc J 124 pt 1:83-4 F '23
- See also Water purification—Chlorination
- Chlorine**
- Activation of chlorine. G. L. Wendt, R. S. Landauer and W. W. Ewing. Am Chem Soc J 44:2377-82 N '22
- Active chlorine. Y. Venkataramaiah. diags J Phys Chem 27:74-80 Ja '23
- Applications of chloro to la fabrication de la cellulose. A. de Perdiguer. il Chimie & Ind 10:429-36 S '23
- Attempt to separate the isotopes of chlorine. H. Hartley and others. Philos Mag 6th ser 43:430-5 Mr '22
- Chlorine gas for killing garbage and other offensive odors. W. J. Springborn. Eng N 88:646 Ap 20 '22
- Chlorine in paper making. I. Ginsberg. Chem Age 30:487-8 N '22; Same. Paper 31:10-11 D 13 '22
- Chlorine industry in the United States. P. S. Brallier. Chem & Met Eng 28:846-9 My 14 '23
- Chlorine proposed for pulping. Paper 29:27-9 N 9 '21
- Comparisons of the bleaching action of hypochlorous acid and chlorine. R. L. Taylor. Color Tr J 11:30-3 JI '22
- Cumulative effect of the chlorine atom and the methyl and sulphonyl chloride groups on substitution in the benzene nucleus. W. Davies. Chem Soc J 121:785-91 My '22
- Determination of free chlorine and hypochlorous acid in concentrated salt solutions. M. C. Taylor and C. A. Gammal. J Ind & Eng Chem 14:632-5 JI '22
- Die dissoziation des chlores. H. v. Wartenberg and F. A. Henglein. Deutsche Chem Gesell Ber 55:1003-6 Ap '22
- Distribution of electrons around the nucleus in the sodium and chlorine atoms. W. L. Bragg, R. W. James and C. H. Bosanquet. Philos Mag 6th ser 44:433-49 S '22
- Electrolytic chlorine and its future. J. G. A. Rhodin. Engineer 135:598-9 Je 8 '23
- Elimination of industrial organic odors. Y. Henderson and H. W. Haggard. il J Ind & Eng Chem 14:548-51 Je '22
- La fabrication de la cellulose à l'aide du chlore. U. Pomilio. il diag plan Chimie & Ind 6:267-75 S '21; Abstract (Pure cellulose with the aid of chlorine). Sci Am 126: 305 My '22
- La fabrication de la cellulose par le procédé au chlore gazeux. U. Pomilio. il Chimie & Ind 8:41-5 JI '22
- Further tests on chlorine as a preventive of influenza. H. Hale. Ind & Eng Chem 15: 746 JI '23
- Gassing bad odors. H. A. Mount. il Pop Mech 37:219 F '22
- Halogenation: some derivatives of carbamic esters; chlorine as a simultaneous oxidizing and condensing agent. R. L. Datta and E. C. Chatterjee. Am Chem Soc J 44:1538-43 JI '22
- Making chlorine at the point of consumption. C. W. Marsh. N E Water Works Assn J 36:1-8; Discussion. 8-13 Mr '22
- Maturing flour. F. L. Dunlap. Chem & Met Eng 27:174-7, 934-7 JI 26, N 8 '22
- Notes on handling chlorine gas. A. D. Risteen. Color Tr J 13:152 O '23
- Nouveau procédé de fabrication de la cellulose et de blanchiment des nâtes de succédanés par le chlore. de Ferdiguer. il Chimie & Ind 7:238-43 F '22
- Peace-time jobs for poison gas. H. A. Mount. il Sci Am 126:326-7 My '22
- Relative determination of the atomic weight of chlorine in Bamle apatite. M. Dorenfeldt. Am Chem Soc J 45:1577-9 JI '23
- Separation of the élément chlorine into isotopes (isotopic elements). W. D. Harkins and A. Hayes. diag Am Chem Soc J 43: 1803-25 Ag '21
- Solubility relations of certain gases. N. W. Taylor and J. H. Hildebrand. Am Chem Soc J 45:682-94 Mr '23
- See also Halogens; Water purification—Chlorination
- Chlorine, Liquid**
- Developments in the use of bleaching agents for textiles and paper pulp. W. M. Inman. Can Chem & Met 7:63 Mr '23
- Développement des emplois du chlore liquide en Allemagne. H. Muraour. Chimie & Ind 9:806-8 Ap '23
- Handling liquid chlorine. D. K. Bartlett. il Color Tr J 9:207-9 N '21; Same. Textile World 60:3103+ N 26 '21
- Manufacture of liquid chlorine. il Can Eng 43:576 N 28 '22
- Preparation of bleaching liquors from liquid chlorine. J. H. MacMahon. Oil Paint & Drug Rep 104:xiii+ sec 2 S 24 '23
- Process of bleaching paper and fabrics employing liquidated chlorine. Color Tr J 12: 38-9 Ja '23
- Producing bleach liquor with liquid chlorine in the pulp or paper mill. S. W. Jacobs and H. P. Wells. il diags Paper Tr J 74:41-7 Ap 20 '22; Same. Tech Assn Pa ser 5:86-91; Discussion. 153 Je '22
- Use of liquid chlorine in bleaching. Tech Assn Pa ser 4:103-5 Je '21
- Chlorine compounds**
- Molecular refractions of chloro-, dichloro-, and chlorobromo-acetates. P. L. Vanderstichele. Chem Soc J 123:1225-9 My '23
- Chlorine dioxide**
- Zur kenntnis der natürlichen eiweissstoffe; verhalten von chlordi oxyd gegenüber organischen verbindungen. E. Schmidt and K. Braunsdorf. Deutsche Chem Gesell Ber 55: 1529-34 Je '22
- Zur kenntnis pflanzlicher inkrusten. E. Schmidt, E. Graumann and F. Duysen. diags Deutsche Chem Gesell Ber 54:1860-73, 3241-4 S. D '21; Abstract. Chem Soc J 120 pt 1: 912-13 D '21
- Chlorine monoxide**
- Photochemical decomposition of chlorine monoxide. E. J. Bowen. Chem Soc J 123:2328-30 S '23
- Chlorine tetra-oxide**
- Reaction between silver perchlorate and iodine; chlorine tetra-oxide. M. Gomborg. diag Am Chem Soc J 45:398-421 F '23

Chloro-allyl chloride

Synthesis of beta-chloro-allyl chloride. A. J. Hill and E. J. Fischer. *Am Chem Soc J* 44: 2582-95 N '22

Chloroaceneaphthene

Nitration of 3-chloroaceneaphthene. G. Farnell. *Chem Soc J* 123:60-1 Ja '23

Chloroacetanilides

Ion activities in homogeneous catalysis; the formation of parachloro-acetanilide from acetylchloro-amino-benzene. H. S. Harned and H. Seltz. *Am Chem Soc J* 44:1475-84 JI '22

Chloroacetic acid

Preparation of phenylglycine- α -carboxylic acid; from anthranilic acid and chloroacetic acid. H. L. Haller. *J Ind & Eng Chem* 14: 1040-4 N '22

Chloroacetylamine-compounds

Pyridinium salts derived from some chloroacetylamine-compounds. E. de B. Barnett and J. W. Cook. *Chem Soc J* 121:792-7 My '22

Chloroamines

Chlorination and the formation of chloroamines by means of nitrogen trichloride. G. H. Coleman and W. A. Noyes. *Am Chem Soc J* 43:2211-17 O '21

Über aromatische chlor-amine. S. Goldschmidt and L. Strohenger. *Deutsche Chem Gesell Ber* 55:2450-70 S '22; Abstract. *Chem Soc J* 122 pt 1:1004-6 N '22

Chloroanilines

Preparation and separation of ortho- and para-chloroanilines. H. C. Bashium and P. O. Powers. *Ind & Eng Chem* 15:407-8 Ap '23

Chlorobenzene

Catalytic ammonolysis of beta-naphthol and chlorobenzene in the vapor state. A. M. Howard and A. Lowy. *diags Ind & Eng Chem* 15:397-401 Ap '23

Chlorobromo acetamides

Isomorphism of the amides and substituted amides of dichloro- and chlorobromo-acetic acids. P. V. McKie. *Chem Soc J* 123:2213-17 S '23

Chlorobromoacetates

Dichloroacetates and chlorobromoacetates from α -dichlorovinyl ethyl ether. H. Crompton and P. M. Triffitt. *Chem Soc J* 119:1874-5 N '21

Molecular refractions of chloro-, dichloro-, and chlorobromo-acetates. P. L. Vanderstichele. *Chem Soc J* 123:1225-9 My '23

Chlorodimethyldihydroresorcinol

Action of the chlorides of phosphorus on chlorodimethyldihydroresorcinol. L. E. Hinkel and W. D. Williams. *Chem Soc J* 121:2498-2502 N '22

Chlorodinitrotoluenes

Ortho-chlorodinitrotoluenes; 2-chloro-3,4-dinitrotoluene. G. T. Morgan and T. Glover. *Chem Soc J* 119:1700-6 N '21

Chloroethyl compounds

Introduction of the chloroethyl group into phenols, alcohols, and amino-compounds. G. R. Clemon and W. H. Perkin, jr. *Chem Soc J* 121:642-9 Ap '22

Chloroflavonols

Studies in the coumaranone series; the preparation of 4- and 6-chlorocoumaran-2-ones and their conversion into 2- and 4-chloroflavonols respectively, and some derivatives of α - and p -chlorophenoxyacetic acids. T. H. Minton and H. Stephen. *Chem Soc J* 121: 1598-1603 Ag '22

Chloroform

Chloroform from army surplus seized because of decomposition. *Oil Paint & Drug Rep* 102:21+ JI 3 '22

Chloroform in tin containers. *Oil Paint & Drug Rep* 102:18 JI 24 '22

Some factors governing the complete sorption of iodine by carbon from chloroform solution. J. B. Firth and F. S. Watson. *Chem Soc J* 123:1219-22 My '23

Chlorohydrin

Über das chlorhydrin und oxyd des methyl-encyclobutans und über die umwandlung des

ersteren in cyclopentanon. N. J. Demjanow and M. Dojarenko. *Deutsche Chem Gesell Ber* 55:2730-7 S '22

Chlorohydrins

Arsenated n -arylamino alcohols. C. S. Hamilton. *Am Chem Soc J* 45:2751-4 N '23

Chlorohydrins of organic liquids. *Chem & Met Eng* 28:778 Ap 30 '23

Conversion of allyl alcohol to glyceryl chloro- and bromo-hydrins. J. Read and E. Hurst. *Chem Soc J* 121:989-99 Je '22

Chloroiodoacetic acid

Chloroiodoacetic acid. H. Crompton and K. M. Carter. *Chem Soc J* 123:576-7 Mr '23

Chloromercuri-nitrobenzoyl chloride

Organic mercury compounds prepared from ortho-chloromercuri-para-nitrobenzoyl chloride. F. C. Whitmore and E. B. Middleton. *Am Chem Soc J* 44:1546-51 JI '22

Chloromethane. See Methyl chloride**Chloronaphthalene**

Über einige chlor-naphthalin-derivate. P. Friedländer, S. Karamessinis and O. Schenk. *Deutsche Chem Gesell Ber* 55:45-52 Ja '22; Abstract. *Chem Soc J* 122 pt 1:244-5 Mr '22

Chlorophenols

Phenol-chlorine water pollution. E. F. Kohman. *Ind & Eng Chem* 15:518 My '23

Solubility of the chlorophenols. N. V. Sidgwick and S. L. Turner. *Chem Soc J* 121: 2256-63 O '22

Chlorophenoxyacetic acids

Studies in the coumaranone series; the preparation of 4- and 6-chlorocoumaran-2-ones and their conversion into 2- and 4-chloroflavonols respectively, and some derivatives of α - and p -chlorophenoxyacetic acids. T. H. Minton and H. Stephen. *Chem Soc J* 121: 1598-1603 Ag '22

Chlorophora tinctoria. See Fustic**Chlorophosphines**

Addition reactions of the phosphorous halides; the addition of alkoxy and aroxy chlorophosphines to carbonyl compounds. J. B. Conant, V. H. Wallingford and S. S. Gandheker. *Am Chem Soc J* 45:762-8 Mr '23

Chloropicrin

Absorption of war gases by rubber and rubberized fabric. T. M. Rector. *diag Ind & Eng Chem* 15:1132-4 N '23

Chloropicrin as a reagent for the diagnosis of mercaptans and potential mercaptans. P. C. Rây and R. Das. *Chem Soc J* 121:323-8 Mr '22

Chloroplatinic acid

Preparation of chloroplatinic acid by means of hydrogen peroxide. P. Rudnick. *Am Chem Soc J* 43:2575-7 D '21

Chloropropionic acid

Über die darstellung von β -chlor- und β -brom-propionsäure aus trimethylenglykol. C. A. Rojahn. *Deutsche Chem Gesell Ber* 54:3115-18 D '21

Chloropropionitrile

Condensation of certain nitriles and various poly-hydroxyphenols to form phenolic acids. W. D. Langley and R. Adams. *Am Chem Soc J* 44:2320-30 O '22

Chloropropyl carbamates

Tetrahydro-1,3,2-oxazones and substituted gamma-amino propanols. J. S. Pierce and R. Adams. *Am Chem Soc J* 45:790-5 Mr '23

Chloropropyl urethans

Gamma-chloropropyl urethans and a synthesis of the 1, 3-oxazine ring. A. W. Dox and L. Yoder. *Am Chem Soc J* 45:723-7 Mr '23

Chloropropylamine

Kinetische konstitutionsbestimmungen bei ox- und amino-chlor-propanen. L. Smith and B. Platon. *Deutsche Chem Gesell Ber* 55:3143-55 O '22; Abstract. *Chem Soc J* 122 pt 1:1121-3 D '22

Chloropyrazoles

Beitrag zur kenntnis der 1-alkyl-3-chlor-pyrazole und der 1-alkyl-3-pyrazolone. C. A. Rojahn. *Deutsche Chem Gesell Ber* 55: 2959-71 O '22; Abstract. *Chem Soc J* 122 pt 1:1183-5 D '22

Chlorosulphonyl. See Sulphonyl chlorides

Chloro-tetra-acetyl mannose

Crystalline chloro-tetra-acetyl mannose. D. H. Brauns. *Am Chem Soc J* 44:401-6 F '22

Chlorovinyl chloroarsines

Beta-chlorovinyl chloroarsines. W. L. Lewis and G. A. Perkins. *diags Ind & Eng Chem* 15:290-5 Mr '23

Chlorovinylarsines

The β -chlorovinylarsines. F. G. Mann and W. J. Pope. *Chem Soc J* 121:1754-9 S '22

Cholic acid

See Bile acids

Choline

Proteinogenous amino-alcohols and cholines; abstract. P. Karrer and others. *Chem Soc J* 122 pt 1:813-15 S '22

Chondodendrine

Alkaloids of the pareira root: *iso*-chondodendrine; abstract. F. Faltis and F. Neumann. *Chem Soc J* 122 pt 1:569-71 Je '22

Chondrus crispus. See Carrageen

Chop marks

How to design a chop mark. H. D. Parker. *Ptr Ink* 120:74+ JI 27 '22

Christian art and symbolism

New statue of Christ in the Terme Museum at Rome. S. Casson. *il (front) Am Inst Arch J* 11:282-4 JI '23

Von Ogden Vogt's Art and religion; a review by Allen B. Pond. *Am Arch* 121:85-8 F 1 '22

Christian science churches

Eleventh church of Christ, scientist, Chicago. Ill. R. H. Moulton. *il plan Arch Rec* 51:426-33 My '22

Christian trade unions, International confederation of. See International confederation of Christian trade unions

Christian process. See Petroleum refining

Christmas business

Analyzing the Christmas buying. R. E. Neustadt. *J Elec* 51:290-1 O 15 '23

Christmas gifts

Innovations in Christmas packages that overcome an old problem. M. Hastings, jr. *Ptr Ink M* 5:84+ D '22

Advertising

How manufacturers are getting their goods into Santa Claus' pack. J. A. Murphy. *Ptr Ink* 121:17-19+ N 2 '22

Merchandising the Christmas copy. *Ptr Ink M* 5:55 D '22

Odd advertising copy that brought Christmas business. M. Hastings, jr. *Ptr Ink* 121:33-4+ D 28 '22

Christmas printing

Holiday greetings. J. L. Frazier. *Inland Ptr* 68:641-4; 70:232a-6 F, N '22

Thank you. J. L. Frazier. *Inland Ptr* 70:689-92 F '23

Chromanone

Beta-phenoxypionic acid and some of its derivatives; chromanone. S. G. Powell. *Am Chem Soc J* 45:2708-11 N '23

Chromates

Potassium dichromate as a standard in iodimetry and the determination of chromates by the iodide method. W. C. Vosburgh. *Am Chem Soc J* 44:2120-30 O '22

See also Dichromates; Lead chromate;

Potassium chlorochromates; Thorium chromate

Chrome steel. See Chromium steel

Chrome tanning. See Tanning

Chrome yellow. See Lead chromate

Chromel. See Nickel-chromium alloys

Chromic acid

Regeneration of chromic acid used in organic oxidation. *diag Chem Age* 30:141 Mr '22

Chromite

Chrome refractories. J. S. McDowell and H. S. Robertson. *Am Cer Soc J* 5:865-82; Bibliography. 882-7 D '22

Chromite in 1922. E. Sampson. *Eng & Min J* 115:102 Ja 20 '23

Chromite in 1922. E. Sampson. *U S Geol S Min Res of U S* 1922, pt 1:107-12 '23

Chromite mining in 1921. S. H. Dolbear. *Eng & Min J* 113:90 Ja 21 '22

Chromite of Kenai Peninsula, Alaska. A. C. Gill. *U S Geol S Bul* 742:1-52, pl 1-4 '22

Does the trade want better refractories? R. E. Griffith. *Brick & Clay Rec* 61:180-1 Ag 8 '22

Marketing of chromite. E. Sampson. *Eng & Min J* 115:356-8 F 24 '23; Excerpt. *Chem & Met Eng* 28:507 Mr 14 '23

Chromium

See also Stellite

Analysis

Determination of chromium and vanadium in cast irons. J. W. Bolton and W. T. Sheffield. *Foundry* 50:404a My 15 '22

Estimation of chromium in nickel-chrome alloys. *Chem Age (Lond)* 9:364 O 6 '23

Bibliography

Chrome refractories. J. S. McDowell and H. S. Robertson. *Am Cer Soc J* 5:882-7 D '22

Chromium alloys

Chromium-iron alloy resists oxidation, corrosion, abrasion and heat. *Coal Age* 23:174 Ja 25 '23

Commercial alloys of chromium and iron. C. E. MacQuigg. *Iron Age* 112:1040-1+ O 18 '23

Duraloy, a new heat-resisting metal. *Automotive Ind* 47:1165 D 14 '22

Duraloy; chrome-iron alloy. *Am Mach* 57:822 N 23 '22

See also Chromium steel; Diamond alloy;

Ferrochromium; Nickel-chromium alloys

Chromium chlorides

Electrolytic reduction of chromic chloride to the divalent salt. M. C. Taylor, W. A. Gersdorff and E. J. Tovrea. *Am Chem Soc J* 44:612-14 Mr '22

Chromium compounds

Chromium compounds; patent. *Chem & Met Eng* 28:319-20 F 14 '23

Chrom-organische Verbindungen: die abnorme salzbildung des pentaphenyl-chromhydroxyds; tetraphenyl-chromsalze (abstossung einer phenylgruppe). F. Hein. *Deutsche Chem Gesell Ber* 54:2708-27 N '21; Abstract. *Chem Soc J* 122 pt 1:76-7 Ja '22

Chromorganische Verbindungen; pentaphenyl-chromhydroxyd. F. Hein. *Deutsche Chem Gesell Ber* 54:1905-38 S '21; Abstract. *Chem Soc J* 120 pt 1:826-7 N '21

Chrom-organische Verbindungen: über das triphenyl-chromhydroxyd und seine salze. F. Hein. *Deutsche Chem Gesell Ber* 54:2727-44 N '21; Abstract. *Chem Soc J* 122 pt 1:77-9 Ja '22

Mordants. W. D. Bancroft. *J Phys Chem* 26:736-72 N '22

Use of chromium compounds for mordanting and dyeing. A. J. Hall. *Am Dyestuff Rep* 12:189-92 F 26 '23

Chromium iron. See Ferrochromium

Chromium-molybdenum steel

Chromium-molybdenum-steel applications from the consumer's viewpoint. C. N. Dawe. *Soc Auto Eng J* 10:47-50+ Ja '22; Same cond. *Iron Age* 109:725-8 Mr 16 '22; Abstract. *Chem & Met Eng* 26:369-70 F 22 '22; Abstract. *Automotive Ind* 46:1274 Je 8 '22

Chromium-nickel steel

Chrome-nickel steel in special work; abstracts. F. G. Hibbard. *il diags Elec Ry J* 61:461-7 Mr 17 '23; *Iron Age* 111:753-7 Mr 15 '23; Discussion. *Elec Ry J* 61:608 Ap 7 '23

Structure of chromium-nickel steel. H. B. Pulsifer and O. V. Greene. *il Chem & Met Eng* 28:354-6 F 21 '23

Chromium oxides

Colloid chemistry of basic chrome solutions. F. L. Seymour-Jones. *Ind & Eng Chem* 15:75-8 Ja '23

Hydrous oxides. H. B. Weiser. *J Phys Chem* 26:401-34 My '22

Chromium oxides—Continued

- System chromium trioxide—nitric acid—water. S. A. Mumford and L. F. Gilbert. *Chem Soc J* 123:471-5 Mr '23
- System chromium trioxide—sulphur trioxide—water. L. F. Gilbert, H. Buckley and I. Masson. *Chem Soc J* 121:1934-8 S '22

Chromium plating

- Chromium plating. E. Liebreich. *Metal Ind* 21:109-11 Mr '23
- Chromium plating steel using chromium anodes. K. W. Schwartz. *Am Electrochem Soc Trans* v 44 (preprint 20:13-25 S '23

Chromium steel

- Acid electric steel castings. L. J. Barton. *Iron Age* 112:1300 N 8 '23
- Alloy castings from electric furnaces. L. J. Barton. *Iron Age* 110:784-6 S 28 '22
- Carbon affects chromium steels. C. R. Austin. *chart diag Iron Tr R* 73:29-32 JI 5 '23
- Chromium alloy steel cast centrifugally. L. Cammen. *il Iron Age* 110:655 S 14 '22
- Chromium steels and alloys. *Chem & Met Eng* 27:483 S 6 '22
- Chromium steels and irons. L. Aitchison. *Automobile Eng* 11:453-8 D '21; Same. *Engineering* 112:771-2, 805-7 D 2-9 '21
- Constitution of chromium steels. T. F. Russell. *diags Iron & Steel Inst J* 104:247-95, pl 23 no 2 '21
- Corrosion of chrome steels. *Sci Am* 127:95 Ag '22
- Corrosion of various steels. *Iron Tr R* 70:1475 My 25 '22; Same. *Blast F & Steel Pl* 10:346 Je '22
- Influence of nickel and chromium upon the solubility of steel in relation to corrosion. W. H. Hatfield. *il diag Engineering* 116:415-16; Discussion. 403-4 S 28 '23
- Die kennzeichnenden kurven eines nickel-stahles und eines chromstahles. H. Jungbluth. *il Stahl & Eisen* 42:1392-6 S 7 '22
- Magnetic change A_2 in silicon and chromium steels. H. Scott. *Chem & Met Eng* 28:212-15 Ja 31 '23
- Making stainless steel cutlery; abstracts. R. G. Hall. *Iron Tr R* 70:896-7 Mr 30 '22; *Iron Age* 109:855-6 Mr 30 '22; *Chem & Met Eng* 26:437 Mr 8 '22
- Manufacture of chromium ball-bearing steel in the Heroult furnace. F. T. Sisco. *il Chem & Met Eng* 26:71-6 Ja 11 '22
- Manufacture of chromium steel. P. Girod. *Chem & Met Eng* 28:844 My 14 '23
- Mechanical properties of a series of chromium steels. C. R. Austin. *Iron & Steel Inst J* 107:419-33 no 1 '23; Same. *Iron Tr R* 73:29-32 JI 5 '23; Discussion. *Iron & Steel Inst J* 107:434-8 no 1 '23
- Ein neues aetzmittel für chrom- und wolframstähle. K. Daeves. *il Stahl & Eisen* 41:1262-4 S 8 '21; Abstract. *Iron Age* 109:790 Mr 23 '22
- Resistance to corrosion of various types of chromium steels. H. S. Rawdon and A. I. Krynsky. *Chem & Met Eng* 27:171-3 JI 26 '22

- Die spontane passivität der chromstähle. G. Tammann. *Stahl & Eisen* 42:577-8 Ap 13 '22
- Stainless steel and its properties. *Engineer* 132:504-5 N 11 '21

- Stainless steel at high temperatures. H. J. French. *il Iron Age* 110:404-5 Ag 17 '22
- Stainless steel for turbines. *il Electrician* 87:540-1 O 28 '21; *Elec R (Lond)* 89:560-2 O 28 '21; *Engineer* 132:447-50 O 28 '21; *Engineering* 112:592-4 O 28 '21; *Eng & Ind Management* 6:466-7 O 27 '21; *Eng & Contr* 56:502 N 30 '21; *Automobile Eng* 11:380 N '21; *Power* 54:990-1 D 20 '21

- Stainless steel in the chemical industry. *Chem Age (Lond)* 8:590-1 Je 2 '23

- Thermal expansion of nickel, monel metal, stellite, stainless steel, and aluminum. W. H. Souder and P. Hidnert. *U S Bur Stand Sci Pa* 426:497-519 '22

- Ueber den einfluss der erstarrungsgeschwindigkeit auf die doppel-karbidstähle. P. Oberhoffer. *il Stahl & Eisen* 42:1240-2 Ag 10 '22; Abstract. *Mech Eng* 44:740 N '22

- Untersuchungen an chromkohlenstoffstählen für permanente magnete. E. Gumlich. *Stahl & Eisen* 42:41-6, 97-103 Ja 12-19 '22; Abstract (Chromium magnet steels). *Automotive Ind* 46:1277 Je 8 '22
- Warmversuche mit sonderstählen. H. Edert. *Stahl & Eisen* 42:961-8 Je 22 '22

See also Chromium-molybdenum steel; Chromium-nickel steel; Chromium vanadium steel; Steel, stainless

Chromium sulfate

- Basic chromic sulphate. F. S. Williamson. *J Phys Chem* 27:381-8 Ap '23

Chromium thiocyanates

- Chromithiocyanates. N. Bjerrum. *Chem Soc J* 122 pt 1:18-19 Ja '22

Chromium triphenylhydroxide

- Chrom-organische verbindungen: über das triphenyl-chromhydroxyd und seine salze. F. Hein. *Deutsche Chem Gesell Ber* 54:2727-44 N '21; Abstract. *Chem Soc J* 122 pt 1:77-9 Ja '22

Chromium vanadium steel

- Analysis of chrome-vanadium steel. G. E. F. Lundell, J. I. Hoffman and H. A. Bright. *Ind & Eng Chem* 15:1064-9 O '23
- Thermal curves for chromium-vanadium steels. J. S. Vanick and W. W. Sveshnikoff. *Chem & Met Eng* 27:1079 N 29 '22

Chromizing

- Chromizing. F. C. Kelley. *il Am Electrochem Soc Trans* v 43 (preprint 19):233-50 My '23; Same cond. *Brass W* 19:291-2 S '23; Abstract. *Mech Eng* 45:359-60 Je '23

Chromoisomerism. See Isomerism**Chromosol**

- Dyeing of fast shades on wool by the chromosol method. G. Tagliani. *Color Tr J* 11:158-9 O '22

Chromyl chloride

- Chemistry of chromyl chloride. E. R. Darling. *Chem & Met Eng* 26:59 Ja 11 '22
- Oxidation of sabinene with chromyl chloride. G. G. Henderson, J. M. Robertson and D. C. Brown. *Chem Soc J* 121:2717-21 D '22

Chronograph

- Recording chronograph for the inverse rate method of thermal analysis. H. J. French. *il diags U S Bur Stand Tech Pa* 230:245-55 '23
- Simple chronograph for launching observations. J. P. Comstock. *il diags Marine Eng* 27:394-5 Je '22

Chronoscope

- Electric chronoscope. G. E. Moore. *il Elec R (Lond)* 93:166-7 Ag 3 '23

Chrysaniine

- Effect of light on fibres dyed with a mixture of chrysaniine and fuchsine. W. W. Paddon. *J Phys Chem* 26:288-91 Mr '22; Same. *Am Dyestuff Rep* 12:442-3 Je 4 '23

Chucking machines

- Baird six spindle chucking machine. *il Iron Age* 110:998 O 19 '22; *Am Mach* 57:739 N 9 '22; *Mach* 29:238-9 N '22
- Bullard places new vertical chucking machine on market. *il Automotive Ind* 49:24 JI 5 '23
- Chucking over-size pistons. *il Mach* 29:484-5 F '23
- Improved automatic chucking machine. F. E. Bardrof. *il diag Am Mach* 59:425-8 S 20 '23
- Improved automatic chucking machine; abstract. *Mech Eng* 44:323 My '22
- Machine chucks six pieces of work at one time. *il Pop Mech* 39:214 F '23
- New multi-spindle chucking machine for automatic production. P. M. Heldt. *il diags Automotive Ind* 47:1074-6 N 30 '22

Chucks

- Air chuck for irregular casting. E. H. Tingley. *diags Mach* 29:53 S '22
- Chuck for crown bolts on Jones & Lamson lathe. *il diags Ry R* 73:624 O 27 '23
- Chuck for holding round work while boring. V. Hugo. *diags Mach* 29:888 JI '23
- Chuck for winding coils in small speed lathe. *diags Ind Eng* 80:599 D '22
- Convenient ball chuck. F. C. Hudson. *il diag Am Mach* 59:707 N 8 '23

Chucks—Continued

- Double collet chuck. M. Wright. il diag Am Mach 57:194 Ag 3 '22
- Driving chuck for automatic lathe. E. M. Bidwell. diags Mach 28:701 My '22
- Equalizing pin chucks. I. F. Yeoman. il diags Mach 30:53-4 S '23
- Expanding chuck for large bushings. C. J. Priebe. il diags Am Mach 58:270 F 15 '23
- Expanding chuck for second-operation work on bushings. C. J. Priebe. il diag Am Mach 58:232 F 8 '23
- Foster-Barker wrenchless chuck. il Mach 29: 662 Ap '23
- Hartford combined collet and step chuck. il Am Mach 56:978 Je 29 '22
- Holding work by vacuum. C. O. Herb. il diags Mach 30:12-15 S '23
- Horton differential chuck. il Am Mach 56:831 Je 1 '22; Iron Age 109:1522 Je 1 '22; Mach 28:338-9 Je '22
- Piston chuck. H. A. Peters. diags Mach 28: 402 Ja '22
- Plain and back geared tapping chucks. il Iron Age 110:23 J1 6 '22
- Second operation chuck for brass turners. T. W. Airey. diags Am Mach 56:938 Je 22 '22
- Sectional wheel chuck for face grinding. il Pop Mech 38:262 Ag '22
- Special chuck for holding a thin awkward casting. E. H. Tingley. diags Am Mach 57: 26 J1 6 '22
- Special screw-machine chuck. E. H. Tingley. diags Am Mach 57:115 J1 20 '22
- Spinning chucks. D. C. Oviatt. il diags Mach 29:388-90 Ja '23
- Unusual grinding chuck designs. il diags Mach 30:118 O '23
- Vertical turret lathe elliptic chuck. F. E. Bardrof. diags Am Mach 59:602-3 O 18 '23

Advertising

- Duplex advertising campaign in business papers; manufacturer of chucks advertises drills. R. L. Burdick. Ptr Ink 121:25-7+ N 16 '22

Chucks, Magnetic

- Adapter for magnetic chuck. G. B. Olsen. diags Am Mach 58:235 F 8 '23
- Diamond horizontal and vertical magnetic chucks. il Iron Age 109:1667 Je 15 '22

Church advertising

- Church advertising—a problem still unanswered. Ptr Ink 122:141-2 Ja 25 '23
- Do advertising men go to church as advertising men? R. Daniels. Ptr Ink 124:121-2 S 13 '23
- How our church went into direct advertising. R. Leavenworth. Ptr Ink M 6:80+ Je '23
- Originality and punch needed in church advertising. Ptr Ink 121:64+ N 9 '22
- Presenting the combined church life of a community. Ptr Ink 118:121-2 Mr 9 '22
- What kind of church advertising draws the non-attendants? H. Holt. Ptr Ink 117:93-4+ D 22 '21
- What letters did for a small community church. Ptr Ink 119:169+ My 11 '22

Church architecture

- Ad quadratum; a study of the geometrical bases of classic & medieval religious architecture. F. M. Lund. 385p B. T. Batsford. London '21
- Central Presbyterian church and church house, Montclair, N.J. Arch & Bldg 54:113-14, pl 212-15 D '22
- Chapel of the Mediator, Philadelphia, Pa.; views. Am Arch 122:360J-I O 25 '22
- Church designed by Jefferson. F. Kimball. il Arch Rec 53:184-6 F '23
- Church of St Brigid, Brooklyn, New York. Arch & Bldg 55:5-6, pl 2-5 Ja '23
- Church of the Presentation of the Blessed Virgin Mary, Jamaica, Long Island, N.Y. and parish church of St Thomas Apostle, Woodhaven, Long Island, N.Y. Arch & Bldg 55:101, pl 199-204 O '23
- Church of the Sacred Heart, Washington, D.C. il plan Am Arch 123:499-501, pl 498a-j Je 6 '23
- Church on first floor of new skyscraper. il plan Pop Mech 39:189 F '23

- Complete guide to church building. P. E. Burroughs. 218p Doran '23
- Early architecture of Pennsylvania; churches. A. L. Kocher. il diags Arch Rec 51:507-20 Je '22
- L'église en béton armé du Raincy. C. Dantuin. il diags plan Génie Civil 83:1-4, pl 1 J1 7 '23
- Eleventh church of Christ scientist, Chicago, Ill. R. H. Moulton. il plan Arch Rec 51:426-33 My '22
- First church of Christ, scientist, Meriden, Connecticut; views. Arch Forum 37:195, pl 71-2 O '22
- First Methodist Episcopal church of Asbury Park, N.J. il plans Arch Rec 50:472-80 D '21
- National shrine of the Immaculate Conception, Washington, D.C. S. Baxter. il diags plans Arch Rec 52:2-15 J1 '22
- New England churches of architectural and historical interest. C. L. Smith. il Am Arch 123:261-6 Mr 28 '23
- Planning houses of worship. il Bldg Age 45: 48-9 Ja '23
- Relation of pipe organs to architecture. C. W. Cameron. il diags Am Arch 122:168-74 Ag 30 '22
- Report of the joint commission on church architecture; with discussion. Am Inst Arch J 10:330-4 O '22
- St John's Episcopal church, Washington, Conn. Arch Forum 37:pl 10-12 J1 '22
- Selection from the works of Maginnis and Walsh, architects. S. Baxter. il Arch Rec 53:92-115 F '23
- Three sketches for a proposed church, from the office of John Russell Pope, architects. Am Arch 124:107-9 Ag 1 '23
- Why church fires may be beneficial. C. Colens. il Am Arch 122:57-8 J1 19 '22

See also Baldachins; Cathedrals; Chapels; Parish houses; Mosques; Synagogues; Temples; Mormon; *also* names of churches, e.g. Glastonbury abbey; John's Island, South Carolina—St John's church; St John the Divine, Cathedral of, New York; St Peter's cathedral, Rome; Tewkesbury abbey

Designs and plans

- Attractive design for church. il plans Bldg Age 44:22 D '22
- Attractive stone church of Gothic design. il plans Bldg Age 44:37 Ja '22
- Brick church design of novel plan. il plans Bldg Age 44:33 O '22
- Central Presbyterian church, Montclair, N.J. Arch Forum 38:30, pl 1-6 Ja '23
- Chapel at Westbury, L.I., N.Y.; views and plans. Am Arch 122:230h-k, 232 S 13 '22
- Church of attractive design; the Methodist Episcopal church at Teaneck, N.J. il plans Bldg Age 45:51 Je '23
- Church plans and designs, copyrighted. M. H. Vail. 48p M. H. Vail, Dixon, Ill. '22
- First Baptist church competition, Nashville, Tenn. P. E. Burroughs. il diags Am Arch 122:460-4 N 22 '22
- First Congregational church, Toledo, Ohio; views and plans. Am Arch 122:102k-m Ag 2 '22
- For better small church architecture. il plan Bldg Age 43:51 D '21
- Grace Methodist Episcopal church, Dayton, Ohio. plan Arch Forum 36:75, pl 27-30 F '22
- Park Avenue Baptist church, New York. il Arch & Bldg 54:59-60, pl 83-6 Je '22
- Shreveport church has many unusual features. A. Richardson. il plans Pop Mech 37:866-7 Je '22
- Small village church. il plans Bldg Age 44:30 S '22
- Stone church design. il plans Bldg Age 44: 30-1 Ap '22
- Tabernacle Presbyterian church, Indianapolis, Indiana. I. T. Frary. il plans Arch Rec 54:169-76 Ag '23
- Unique Moorish design for church. il plan Bldg Age 44:44-5 F '22
- Well planned small church. il plans Bldg Age 45:50-1 My '23

Church decoration and ornament

See Church furniture; Mosaics

Church furniture

English church fittings, furniture and accessories. J. C. Cox. 320p Putnam '23

Church lighting

Develop demand for better church illumination. J Elec 50:462 Je 1 '23
First gas-lighted church. il Illum Engr 14: 221-2 N '21

Illumination of churches. H. W. Rambusch. il Am Arch 121:75-7 Ja 18 '22

Illumination of stained-glass church windows. D. S. Myers. il diag Elec R 79:881-3 D 10 '21

Lighting in varied hues at St Mark's-in-the-Bouwerie. N E L A Bul 8:667-8 N '21; Elec R 79:919-20 D 17 '21

Lighting of churches a field for greater co-operation between architect and engineer. A. L. Powell. il Elec W 79:180-3 Ja 28 '22

Bibliography

Lighting data, Edison lamp works; Bulletin L. D. 136. Am Inst Arch J 11:129 Mr '23

Churches

See also Church architecture; Community church; also names of cities, subdivision Churches, e.g. London—Churches, New York (city)—Churches

Heating and ventilation

Fan furnace system replaces a gravity. il plans Sheet Metal Worker 12:831-3+ Ja 6 '22

Chutes

Modern bunker shoot of continental design. N. G. Kapp. il Ind Management (Lond) 9:211-13 Ad 5 '23

Patterns for heavy sheet metal work by computation. W. Neubecker. diags Sheet Metal Worker 14:752-3 O 26 '23

Chutes, Laundry

Pfautler glass lined laundry chute. il diag Arch & Bldg 55:42-3 Ap '23

Ciamician, Giacomo, 1857-1922

Sketch. W. McPherson. por Am Chem Soc J 44:sup101-6 N '22

Cicero, Illinois**Rapid transit**

Cicero has peculiar problem. il Elec Ry J 62: 111 Ji 21 '23

Cider

Cider preservatives. R. D. Scott and E. G. Will. J Ind & Eng Chem 13:1141-3 D '21

Cigar lighters

Cigar lighters and cigar clippers. Safety Eng 43:17-18 Ja '22

Cigarettes

Dissect the consumer before the copy is written! J. B. Watson. Ptr Ink 119:93-4 Je 1 '22

Manufacture

Use of humidifying in sterilization of tobacco. S. M. Taylor. Factory 31:268+ Ag '23

Cigars

Builders of business; C. J. and L. H. Eisenlohr. W. A. McGarry. System 40:701+ D '21

Cuban cigar industry reviving. B. MacLennan. il Am Ind 23:33-4+ Ap '23

Scrapping one hundred and fifty sectional brands and building six national brands instead. J. A. Murphy. Ptr Ink 119:3-4+ Ap 13 '22

Advertising

Advertising the return of the five-cent cigar. Ptr Ink 120:17-18 Ag 17 '22

How to awaken a sleeping industry. F. Hirschhorn. Ptr Ink 124:25-8 Ji 19 '23

Mystery man cements sales by predicting fight outcomes. J. M. Mosely. Ptr Ink 120:141-2 S 21 '22

When low price is a handicap; newspaper copy of Baltimore cigar makers. J. True. il Ptr Ink 123:141-2+ My 17 '23

Manufacture

When gears and levers replace the cigar maker's adept fingers. il diags Sci Am 127:312+ N '22

Cinammic acid

Betaine der zimtsäure-reihe; mitteilung über betaine. P. Pfeiffer and G. Haefelin. Deutsche Chem Gesell Ber 55:1769-88 Je '22; Abstract. Chem Soc J 122 pt 1:738-9 Ag '22

Cinchona

Cinchona and quinine in Great Britain in 1922. Oil Paint & Drug Rep 103:69 Mr 29 '23

Les écorces de quinquina des Indes néerlandaises et leur emploi. A. Groothoff. il Chimie & Ind 7:792-806 Ap '22

Cinchona alkaloids

Acceleration of vulcanization by cinchona alkaloids. India Rubber W 67:297-8 F '23
Nomenklatur und über isomerie-erscheinungen. P. Rabe. Deutsche Chem Gesell Ber 55:522-32 F '22

Resolution of tropic acid and the stereochemical configuration of the cinchona alkaloids. H. King and A. D. Palmer. Chem Soc J 121:2577-86 N '22

Syntheses in the cinchona series. W. A. Jacobs and M. Heideberger. Am Chem Soc J 44:1073-1107 My '22

Über die einwirkung von wasserstoffsäureoxyd auf china-alkaloide. E. Speyer and A. G. Becker. Deutsche Chem Gesell Ber 55: 1321-9 My '22

Zur kenntnis der china-alkaloide; über die synthese vinylfreier chinatoxine und chinaketone. P. Rabe, K. Kindler and O. Wagner. Deutsche Chem Gesell Ber 55:532-41 F '22

Cinchonine

Syntheses in the cinchona series; the hydrogeneration of dihydrocinchonine, cinchonine and dihydroquinine. W. A. Jacobs and M. Heideberger. Am Chem Soc J 44:1079-90 My '22

Cinchonic acid

Über einige derivate arylierter cinchoninsäuren. K. W. Rosenmund. Deutsche Chem Gesell Ber 54:2893-6 N '21

Zur synthese von 4-substituierten chinolinen und von chinolin-4-carbonsäuren. E. Thielepape. Deutsche Chem Gesell Ber 55:127-35 Ja '22

Cincinnati, Ohio**Bridges**

Cincinnati bridge of the Southern Ry. E. W. Henrici. Ry R 71:555-7 O 21 '22

Rapid transit

Cincinnati double-deck terminal for electric lines. il diags plans Eng N 89:218-23 Ag 10 '22

Cincinnati traction company not in default on improvements. Elec Ry J 62:151-2 N 28 '23

Combine subway, surface, and L-systems. G. F. Paul. il Pop Mech 38:750-2 N '22

Economics of I. & C. re-equipment. map Elec Ry J 61:913-17 Je 2 '23

\$4,000,000 in improvement demanded. Elec Ry J 61:736-7 Ap 28 '23

Interurban asks franchise. Elec Ry J 62:228 Ag 11 '23

Interurban to be sold. Elec Ry J 59:576 Ap 1 '22

Reorganization plan under way. Elec Ry J 60:58 Ji 8 '22

\$700,000 project suggested. Elec Ry J 58:1002 D 3 '21

Strike called. Elec Ry J 60:859 N 25 '22

Transit work may stop. Elec Ry J 60:861 N 25 '22

Schools

East high school, Cincinnati, Ohio. il diags plans Am Arch 121:340-5. 346a-j Ap 26 '22

East Side high school, Cincinnati. il plans Arch Rec 51:329-37 Ap '22

Streets

Street and sewer work in Cincinnati. Pub Works 53:117-18 Ag '22

Cincophen

Cyclische analoge des atophans. J. v. Braun und P. Wolff. *Deutsche Chem Gesell Ber* 55: 3675-88 D '22; Abstract. *Chem Soc J* 124 pt 1:143-4 F '23

Cinder concrete block. See Concrete blocks**Cinder pits.** See Ash pits**Cinders**

Catching the cinders. *il Sci Am* 127:33 JI '22
Compact cinder handling plant. *il Ry Age* 75: 640 O 6 '23

Conduit in cinders. *Am Inst Arch J* 9:367: 10:25-6 N '21, Ja '22; Same abr. *Eng & Contr* 57:94-5 Ja 25 '22

New cinder plant installed on the Central Vermont Ry. *il Ry R* 70:401-2 Mr 18 '22
Treasures from cinders. *Sci Am* 127:411 D '22

Cinematograph. See Moving picture photography**Cinnamaldehyde**

Über kondensationen von *p*-nitrobenzyl-chlorid mit zimtaldehyd und mit furfural. E. Kleuck-er. *Deutsche Chem Gesell Ber* 55:1634-54 Je '22; Abstract. *Chem Soc J* 122 pt 1:734-5 Ag '22

Cinnamaldehydesemicarbazone

Studies in phototropy; the reversed phototropy of cinnamaldehydesemicarbazone and its methoxy-derivatives. I. M. Heilbron, H. E. Hudson and D. M. Huish. *Chem Soc J* 123:2273-9 S '23

Cinnamaldoximes

Isomerism of the oximes; cinnam- and nitro-cinnam-aldoximes. O. L. Brady and C. D. Thomas. *Chem Soc J* 121:2098-2110 O '22

Cinnamic acid

Constitution of the secondary product in the sulfonation of cinnamic acid. F. J. Moore and R. Thomas. *Am Chem Soc J* 44:367-9 F '22

Lichtreaktionen der *trans*- und *cis*-zimtsäuren. H. Stobbe and F. K. Steinberger. *Deutsche Chem Gesell Ber* 55:2225-45 S '22; Abstract. *Chem Soc J* 122 pt 1:1018-20 N '22
Studies of halogenohydrins and related derivatives in the cinnamic acid series. J. Read and A. C. P. Andrews. *Chem Soc J* 119:1774-86 N '21

Über die einwirkung des liches auf die zimtsäuren und über die konstitution der truxillsäuren. A. W. K. de Jong. *Deutsche Chem Gesell Ber* 55:463-74 F '22; Abstract. *Chem Soc J* 122 pt 1:339-40 Ap '22

Cinnamic acid chlorohydrin

Triazo-group; cinnamic acid chlorohydrin and its conversion into α -triazio- β -hydroxy- β -phenylpropionic acid. M. O. Forster and W. B. Saville. *Chem Soc J* 121:2595-2601 N '22

Cipher and telegraph codes

Beama technical cable code. Review. *Elec R (Lond)* 91:177-9 Ag 4 '22

Cipher book for the use of merchants, stock operators, stock brokers, miners, mining men, railroad men, real estate dealers, and business men generally. F. Shay. Rev. ed. 253p Rand McNally & co., Chicago, New York '22

Doing away with dots and dashes. S. R. Winters. *il Sci Am* 129:183+ S '23

Electrical machines can make eleven million codes. H. H. Dunn. *il Pop Mech* 38:849-50 D '22

Farquhar's 100,000 five letter cipher code words consecutively numbered from 00000 to 100000. 100p Allied code co. of the U.S., New York '21

Improved telegraph code aids radiotelephoning. *il Pop Mech* 40:91 JI '23

Messages recorded in code explained by typewriter. *il Pop Mech* 40:701 N '23

Ciphers

See Cryptography

Circuit breakers. See Electric circuit breakers**Circulating systems.** See Cooling water**Circus****Advertising**

Eliminating business waste through advertising. G. A. Nichols. *Ptr Ink M* 5:33-4 O '22

Cities and towns

America's most important street. H. Botsford. *il Nation's Business* 11:27-8 My '23

France

Some alluring cities of old France. G. Benoit-Levy. *il plan Arch Forum* 39:1-6 JI '23

United States

Assets of the ideal city. C. M. Fassett. 177p Crowell '22

Cities service company

Annual report to stockholders—for year ended December 31, 1921. *Comm & Fin Chr* 114: 1785-7 Ap 22 '22

Citizens gas company of Indianapolis

Finds Indianapolis rate confiscatory. *Am Gas J* 118:27-30 Ja 13 '23
J. W. Dunbar made executive head. *Am Gas J* 116:179-80 F 25 '22

Citizenship

Committee of American bar association on radicals clamoring for change in government. *Comm & Fin Chr* 117:1421-3 S 29 '23

Citraconyl hydrazides

Isomeric citraconyl hydrazides. F. D. Chatterway and D. W. Parkes. *Chem Soc J* 121:283-8 F '22

Citric acid

Citric acid; story of an important chemical industry. C. P. Wilson. *il Chem & Met Eng* 29:787-92 O 29 '23

Effect of dialysis on direct crystallization of citric acid from lemon juice. H. D. Poore. *Ind & Eng Chem* 15:775-8 Ag '23

Relative action of acids on enamel. E. P. Poste. *Am Cer Soc J* 6:689-97 Je '23

Citric acid manufacture**By-products**

Destructive distillation of lemon residue. H. D. Poore. *Chem Age* 30:433-4 O '22

Citrus fruit

Relation of alcohol precipitate to jellying power of citrus pectin extracts. R. Johnston and M. C. Denton. *Ind & Eng Chem* 15: 778-80 Ag '23

City and country

Survey of rural and urban dwellings in the United States. *Elec W* 79:688 Ap 8 '22

City and guilds of London institute

Technical education and the city livery companies. C. C. Hawkins. *Soc Dyers & Col J* 39:259-61 Ag '23

City halls. See Municipal buildings**City managers**

The first city manager. L. Brownlow. *Eng & Contr (R & S)* 60:513-14 S 5 '23

See also Municipal government—City manager plan

City managers' association

8th annual meeting, Chicago, Nov. 14-16. *Eng N* 87:871 N 24 '21

City planning

Advantages of a topographical map in city planning. J. C. Grinnalds. *Good Roads* 61: 243-5+ N 30 '21; Same. *Munic Eng* 61:221-5 D '21

Airplane photograph an aid to city planning. *Munic Eng* 64:231-3 Je '23

Architects and city planning. T. Adams. *Am Inst Arch J* 10:201-2, 245-6, 328-30; 11:217-19 Je, Ag, O '22, My '23

Architects and landscape architects as town planners. T. Adams. *Am Inst Arch J* 10: 101-3 Ap '22

Architect's relation to town planning. G. W. Maher. *Am Arch* 123:11-12 Ja 3 '23

Arterial roads and town planning. H. Maybury. *Can Eng* 43:sup54 D 12 '23

Aviation and modern city planning. *Aviation* 15:72 JI 16 '23

Bath. B. Atkinson. *il Am Inst Arch J* 11:95-109 Mr '23

Better city planning needed to solve serious traffic problems. A. Macauley. *Automotive Ind* 49:262-5 Ag 9 '23

Certain aspects of the National housing problem: planning and zoning. M. Knowles. *Am Soc C E Pro* 48:489-94 Mr '22

City planning—Continued

- City plan for one's home town. G: Burnap. plans Arch Rec 51:371-4 Ap '22
- City plan of Joliet. E: H. Bennett and W: E. Parsons. 45p Joliet City plan comm., Joliet, Ill. '21
- City planning. J. L. Crane, jr. W Soc E J 28:60-8 F '23
- City planning and zoning. Munic Eng 65: 89-90 Ag '23
- City planning and zoning: with particular regard to old communities. G: H. Herrold. Can Eng 15:128-30 Jl 10 '23; Same abstr. Eng N 90:789-90 My 3 '23
- City planning: discussion. Am Soc C E Pro 49:753-70 Ap '23
- City planning for engineers. P. Green. Eng & Contr 55:564 D 21 '21
- City planning for engineers. W: T. Lyle. Eng Educ 13:330-2 F '23; Same. Eng & Contr (R & S) 59:974 My 2 '23
- City planning in relation to the housing problem. C: M. Reppert. Am Soc C E Pro 48: 219-22 F '22
- Cleveland thoro fare plan. 15p City plan commission, Cleveland '21
- Cleveland thoro fare plan. R. H. Whitten and F. R. Walker. Eng & Contr 57:178-80 F 22 '22
- Community planning and housing. C. S. Stein. Am Inst Arch J 10:82-5, 126-8 Mr-Apr '22
- Community planning recommendations of the American institute of architects. Eng & Contr 56:599 D 28 '21
- Congestion: its effect on civic life. N. Cauchon. Can Eng 44:342 Mr 20 '23
- Considerations in the laying out of the town of Kapuskasing. A. V. Hall. Can Eng 43: 260-2 Ag 15 '22
- Development of townsites in New Ontario. H. T. Routley. Can Eng 42:270-2 F 28 '22
- Development plan for Welland, Ont. T: Adams. Can Eng 43:159-61 Jl 18 '22
- Dublin of the future. E. Swartwout. il map Am Arch 123:475-9 My 23 '23
- Engineer and city planning. G. H. Norton. Am Soc C E Pro 49:561-5 Mr '23; Same. Eng & Contr (R & S) 59:1021-4 My 2 '23
- European town squares. G: Benoit-Levy. il plans Arch Forum 39:43-50, 179-84 Ag, O '23
- For those who are fond of fine old writing. H. W. Levy. Munic Eng 65:14-17 Jl '23
- Great city planning project on Pacific coast near Los Angeles. C: H. Cheney. Eng N 88:1041 Je 22 '22
- Housing situation in Germany. H. Hecker. il diags plans Am Inst Arch J 11:159-71 Ap '23
- Investigation of the principles of housing estate development, by F. L. Thompson. Review, by H: Wright. diags Am Inst Arch J 11:405-7 O '23
- Land question as related to city planning and housing. G: H. Gray. diags plan Am Inst Arch J 9:330-7 O '21; Excerpts. Eng & Contr 56:590-3 D 28 '21
- Law of city planning and zoning. F. B. Williams. 738p [biblog. p. 607-30] Macmillan '22
- Law of the city plan. F. B. Williams. (Tech. pam. ser. no. 8) 39p National municipal league, New York '22
- Legal obstacles to city planning. C. S. Stein. Am Inst Arch J 10:334-5 O '22
- Major street plan for Pittsburgh. C. L. Woodbridge. maps Eng Soc W Pa 37:514-31; Discussion. 532-43 Ja '22
- Milwaukee city planning. plan Pub Works 52: 192-3 Mr 18 '22
- Modern city planning. T: Adams. Can Eng 43:414-15 O 3 '22
- Montreal situation with reference to town planning. J. Ewing. Can Eng 42:323-6 Mr 21 '22
- Municipal accomplishment in city planning and published city plan reports in the United States. T. Kimball, ed. 79p National conference on city planning, Boston '20
- Municipal engineer's place in town planning. J. Ewing. Eng & Contr (R & S) 58:55-8 O 4 '22
- Opportunities in city planning for the highway engineer. E. F. Ayres. Eng & Contr (R & S) 59:571-4 Mr 7 '23
- Papers and discussions on city planning presented at national conference, Springfield, Mass. Eng N 88:1002-4 Je 15 '22
- Plan for city beautiful with parks at every block. plan Pop Mech 37:601 Ap '22
- Plan of New York and its environs. 25p Russell Sage foundation, New York '22
- Plan of the national capital. 38p U.S. Commission of fine arts, Washington '23
- Planning of the modern city. N. P: Lewis and H. M. Lewis. 2d ed., rev. 457p Wiley '23
- Property improvement and landscaping. C: W. Leavitt. il Am Soc C E Pro 48:476-83 Mr '22
- Proposed federal district for Ottawa. Can Eng 42:681-2 Jl 4 '22
- Proposed town planning legislation. Can Eng 43:434-8 O 10 '22
- Reasons for town planning. A. E. K. Bunnell. Can Eng 45:324-6 S 18 '23
- Recent park planning in German cities. H. Koch. il plans Arch Rec 51:447-54 My '22
- Relation of city planning and zoning to the selection of type of pavement. J. C. Grinnalds. Can Eng 42:408-9 Ap 18 '22
- Re-planning Richmond, California. G. W. Haylor. Munic Eng 61:184+ N '21
- Report of committee on town planning. H. L. Seymour. Can Eng 42:312 Mr 14 '22
- School distribution and areas in the city plan. G: Burnap. il plans Arch Rec 52:371-85 N '22
- Significance of the fine arts. 483p Marshall Jones co., Boston '23
- Site planning in practice. F. L. Thompson. 258p Oxford '23
- Some fundamentals of city planning illustrated in the plans for Watertown square and city hall. J: Nolen. Eng & Contr 57:338-9 Ap 5 '22
- Street development in relation to railroad terminals. J. L. Crane, jr. diags plan Am Soc C E Pro 49:1519-25 S '23; Same. Ry R 73: 91-4 Jl 21 '23; Same. Eng & Contr (Ry) 60:311-11 Ag 15 '23; Same cond. Ry Age 75:152-3 Jl 28 '23
- Street nomenclature in city planning. G: Burnap. plan Arch Rec 51:535-7 Je '22
- Suburban planning. C: F. Mebus. Munic Eng 62:128-9 Ap '22
- Suburban problem of greater Winnipeg. W. E. Hobbs. Can Eng 42:612-13 Je 13 '22
- Suggestions on subdivision planning. S. G. Swigart. Munic Eng 62:210-12+ Je '22
- Ten reasons for town planning. W. A. Begg. Can Eng 45:166 Jl 24 '23
- Town and regional planning in relation to sanitation. R. O. Wynne-Roberts. Can Eng 43:371-4 S 19 '22
- Town development and reconstruction. H. H. Humphries. Can Eng 43:577 N 28 '22
- Town planning. H. W: Meech. Can Eng 43: 542-4 N 14 '22
- Town planning education for engineers. J. L. Crane, jr. Eng Educ 13:68-71 O '22
- Town planning in England. T: Adams. Am Inst Arch J 10:394-5 D '22
- Town planning in Essex border district. Can Eng 43:241-2 Ag 8 '22
- Town planning in Great Britain. Eng & Contr 58:295-6 S 27 '22
- Town planning legislation as proposed for Ontario. Can Eng 43:513-15 N 7 '22
- Town planning progress in Canada. Can Eng 44:547 My 29 '23
- Waterfront improvements in the central business district of Pittsburgh. E. K. Morse. Eng Soc W Pa 38:267-76; Discussion. 277-308 O '22
- What happened to London? C. S. Stein. Am Inst Arch J 10:298-9 S '22
- What shall be done to secure better city planning? G: H. Nye. il Boston Soc C E J 9:101-12; Discussion. 113-35 Je '22
- Why is town planning? N. Cauchon. Can Eng 43:493 O 31 '22

City planning—Continued

Wind direction plays big part in laying out cities. Eng & Contr (Ry) 60:796 O 17 '23

See also Art, Municipal; Building laws and regulations; Community centers; Garden cities; Housing; Model towns; Municipal centers; Nation planning; Parks; Streets

Bibliography

Manual of information on city planning and zoning. T. Kimball. 188p Harvard univ. press, Cambridge '23

Regional planning theory; with a list of plan reports, 1921-1922, by T. Kimball. A. C. Comey. p. 81-96, 122-39 Landscape Architecture (Brookline, Mass.) Ja '23

Models

Bridge plaza plans, Jersey City, N.J., successfully presented by aid of model. il diags Eng N 91:306-7 Ag 23 '23

Zone system

Battle of Chicago Heights. il Am Inst Arch J 11:212 My '23

Chicago zoning ordinance. diags Am Arch 124:73-6 JI 18 '23; Abstract. Eng N 90:958 My 31 '23

City zoning and the gas industry. J. E. Bul-lard. Gas Age 51:805-6 Je 23 '23

City zoning is sound business. J: Ihlder. Nation's Business 10:19-20 N '22

City zoning limits congestion. Elec Ry J 62:6 JI 7 '23

Fundamentals of city zoning. F. Burton. Mech Eng 45:667 N '23

Health value of city zoning. C: B. Ball. Pub Works 52:446 Je 17 '22

Influence of zoning on New York's skyline. H. W. Corbett. il Am Arch 123:1-4 Ja 3 '23

Legislation and financing. E: M. Bassett. Am Soc C E Pro 48:237-40 F '22

National housing problem: planning and zoning. J. C. Wagner. Am Soc C E Pro 48:208-12 F '22

Origins of zoning. N. Hammarstrand. Am Inst Arch J 11:64-5 F '23

Proposed building zone ordinance, city of Detroit. (Rep. no. 32) 32p City plan commission, Detroit '22

Provisions of zoning ordinance proposed for Detroit. Eng & Contr 57:186 F 22 '22

Recent zone and excess condemnation laws in France. F. B. Williams. Am Inst Arch J 10:35-6 F '22

Relation of zoning to city development. B. A. Haldeman. Eng & Contr (Bldgs) 58:60-3 N 22 '22

Relation of zoning to the housing problem. B. A. Haldeman. Am Soc C E Pro 48:213-18 F '22

Removing the blight from blighted neighborhoods. H. S. Swan. Arch Forum 38:65-6 F '23

St Paul adopts zoning ordinance. G: H. Her-rolf. Munic Eng 63:sup29-30 Ag '22; Same. Eng N 89:192 Ag 3 '22; Same cond. Am Arch 122:257-8 S 13 '22; Same. Can Eng 43:304 Ag 29 '22

Some fundamental purposes and limitations in zoning. R. Whitten. Eng & Contr (Bldgs) 60:642-4 S 26 '23

Transportation as it relates to the National housing problem. E. P. Goodrich. Am Soc C E Pro 48:495-7 Mr '22

Zoning. C: F. Fisher. Prof Eng 8:9-11 Ag '23

Zoning as an element in city planning. L. Purdy and others. (American civic assn., ser. II, no. 15, Je. 30, 1920) 48p American civic assn., Washington '20

Zoning bylaw or regulations proposed for municipalities or town planning districts. H. L. Seymour. Can Eng 43:450-3 O 17 '22

Zoning for Iowa cities and towns. R. S. Wallis. Rev. ed. 19p Iowa state college of agric. and mechanic arts, Ames '23

Zoning—its progress and application. M. Knowles. Am Soc C E Pro 49:713-28 Ap '23; Same cond. Eng & Contr (Bldgs) 59:1437-44 Je 27 '23; Same cond. Can Eng 45:308-10 S 11 '23

Zoning ordinance adopted at Akron, Ohio. Eng N 89:517 S 28 '22

Zoning primer. 7p U.S. Dept. of commerce. Advisory committee on zoning, Washington '22

Zoning progress in the United States. M. T. Voorhees. Eng N 89:519 S 28 '22

Zoning—the opposition speaks. W: P. Gest. Am Inst Arch J 11:324-5 Ag '23

Bibliography

Bibliography on zoning. R. B. Rankin. Special Lib 13:67-8 My '22

Zoning. 12p U.S. Dept. of commerce, Wash-ington '22 (typew)

City surveying. *See* Surveying

Civic centers. *See* Municipal centers

Civil engineering

Civil engineering geology. C. S. Fox. 144p C. Lockwood & son, London '23

See also Aqueducts; Arches; Blasting; Breakwaters; Bridges; Building; Canals; Cofferdams; Curves; Dams; Docks; Drainage; Dredging; Drilling and boring (earth and rocks); Dry docks; Earthwork; Excavation; Filling; Flood control; Foundations; Highway engineering; Hydraulic engineering; Hydraulic excavation; Irrigation; Land-slides; Lighthouses; Marine engineering; Masonry; Mining engineering; Municipal engineering; Piers; Piles and pile driving; Public works; Railroad engineering; Railroads—Construction; Reclamation of land; Rivers—Regulation; Roads; Sanitary engineering; Steel construction; Strains and stresses; Streets; Strength of materials; Subways; Surveying; Tunnels and tunneling; Water supply engineering; Wharves

Bibliography

Current civil engineering literature. *See* monthly numbers of Proceedings of the American society of civil engineers

Study and teaching

See Engineering—Study and teaching

Civil engineers

Babson's idea of engineers as railway executives. Eng & Contr 58:53 JI 19 '22

Civil engineering positions in federal government service. Eng & Contr (R & S) 59:528-9 Mr 7 '23

Presidential address before the Institution of civil engineers. W: B. Worthington. Engineering 112:646-7 N 4 '21; Excerpts. Eng & Contr 56:496-7 N 30 '21

Truth about civil engineering. F. C. Wight. Eng N 91:476-7 S 20 '23

Young man and civil engineering. G: F. Swain. 203p Macmillan '22; Review, by J. A. L. Waddell. Eng & Contr 58:54-9 JI 19 '22

Directories

1922 year book of the American society of civil engineers. 381p Am. soc. of civil eng., 33 W. 39th st., New York '23

Civil service**United States**

Federal service. L: Mayers. 607p Appleton '22

See also Government employees—Salaries

Civil service pensions

Retirement of civil-service employees. Monthly Labor R 15:1128-30 N '22

Civil service reform

Principles of public personnel administration. A. W. Procter. 243p [Bibliographic note: p. 235-40] Appleton '21

Civilization

Revolt against civilization. L. Stoddard. 274p Scribner '22

See also Progress

Claims

See Gas companies—Claims; Railroads—Claims

Claisen's rule

Über keto-enol-gleichgewichte und die Claisen-sche regel. W. Dieckmann. Deutsche Chem Gesell Ber 55:2470-91 S '22; Abstract. Chem Soc J 122 pt 1:1020-2 N '22

Clamps

- Application of welding in building up cable clamps for suspension bridge. *il* diags Eng & Contr (Bldgs) 58:109-10 N 22 '22
- Boring mill clamps *il* Ry Mech Eng 97:771 N '23
- Clamps and thimbles easily attached to guy wire. *E. O. Keaton. il Elec W 8:222 N 3 '23*
- Crampons Bulldog pour l'assemblage des charpentes en bois. *il* diags Génie Civil 81: 397-8 O 28 '22
- Developing a column clamp for the right line radial drilling machine. *W. T. Sears. il* diags Am Mach 58:725-7 My 17 '23
- Floating clamp. *G. Phelps. diags Am Mach 56:31 Ja 5 '22*
- Illustrated tables of clamp collars and clamp studs. *G. E. Hall. diags Am Mach 58:343 Mr 1 '23*
- Metal clamp for concrete column forms saves cost and time. *il* Eng N 9:50-1 J 12 '23
- Power column clamp applied to radial drill. *il* Ry Mech Eng 96:539 S '22

Clarification

- Clarifying fruit juices. *W. V. Cruess. il* Chem & Met Eng 29:351-3 Ag 27 '23

Clarifiers

- La décantation centrifuge. *R. Berline. il* diags Chimie & Ind 6:737-45 D '21

Clark, Allan Jay

- Sketch. *por* Eng & Min J 111:1022 D 9 '22

Clark, William Jared, 1851-

- Portrait. *Elec W 79:666 Ap 8 '22*

Clark thread company, Newark, New Jersey

- Clark thread company's additions. *il* Textile World 61:915+ F 4 '22
- Clark thread plant at Bloomfield. *il* Textile World 63:2611+ Ap 21 '23

Classification

- Economic control through account classification. *J. K. Mason. Administration 4:445-55 O '22*
- Preparation of office codes. *F. E. Rein. Administration 4:155-62 Ag '22*
- See also Files and filing (documents); Municipal engineers—Classification; Paper—Classification

Books

- Business library classification with index. *J. E. Elliott, 226p Indexers press, Chicago '23*
- Classification Class T: technology. 2d ed. 321p U.S. Library of congress. Classification division. Washington '22

Classification, Decimal

- La classification décimale. *C. Matignon. Chimie & Ind 7:374-80 F '22*
- Classification for works on pure and applied science in the Science library, the Science museum. 2d ed. 243p Great Britain Board of education. London '21

- Decimal classification and relativity index for libraries and personal use. *M. Dewey. 11th ed., rev. & ed. 288p Forest press, Lake Placid Club, N.Y. '22*

- Decimal classification of management engineering literature. *Management Eng 2:55-6 Ja '22*

- Decimal classification of radio subjects—an extension of the Dewey system. *U S Bur Stand Circ 128:1-23 '23*

- Highway research projects in the United States. *W. K. Hatt. Nat Research Council Bul v 1, pt 2:1-103 O '22*

- How to keep magazine articles and find them. *H. W. Craver. Management & Adm 6:79-83 J 1 '23*

- Indexing system for advertising data. *Ptr Ink 119:125-6+ My 18 '22*

- Introduction to library classification. *W. C. B. Sayers. 2d ed., rev. 256p H. W. Wilson co. '22*

- La revision des tables. *E. Vincent. Chimie & Ind 7:331-2 F '22*

Classifiers

- Principles and practice for separation of solids from one another. *C. E. Locke. il* Chem & Met Eng 29:146-8 S 10 '23

- Wood gravity classifier. *diags Eng & Min J 114:351-2 Ag 19 '22*

Clay process. See Nitrogen fixation**Clay**

- Account of an investigation of some Georgia clays and bauxites. *R. B. Gilmore and A. H. Fessler. il* map Am Cer Soc J 5:193-202 S '22; Same. *Brick & Clay Rec 61:637-9 O 31 '22*
- Alumina from clay. *C. E. Williams and C. E. Simms. Eng & Min J 111:1152 D 30 '22*
- Building foundations in clay. *C. E. Fowler. diags Eng & Contr (Bldgs) 60:870-4 O 24 '23*
- Carbonized clay as a refractory material. *W. Smith. Iron Age 111:822-4 Mr 22 '23*
- Chemistry of colloidal china clay. *A. B. Searle. Chem Age (Lond) 8:sup8-10 Mr 17; sup 8:10 Ap 21; sup8-9 My 19; sup8-9 Je 16; 9:sup8-10 J 1; sup8-9 Ag 18 '23*
- Classification of silicates. *F. C. Short. Chem Age (Lond) 8:sup24 Ja 20 '23*
- Clay. *diags plans Am Cer Soc J 5 pt 2:82-93 Ap '22*
- Clay as an amphotelyte. *O. Arrhenius. Am Chem Soc J 44:521-4 Mr '22*
- Colloidal and non-colloidal clay. *Eng & Min J 114:399-400 S 2 '22*
- Colloidal state of clay. *Am Soc C E Pro 48: 535-56; Bibliography. 556-7 Mr '22*
- Convenient instrument for making shrinkage measurements. *W. C. Broga and C. J. Hudson. il* Am Cer Soc J 5:34-6 Ja '22
- Diaspore clay of Arkansas and Missouri. *D. C. Wysox. diags Am Cer Soc J 6:501-7; Discussion. 507-9 Mr '23*
- Effect of hydrogen ion concentration upon clay suspensions. *F. P. Hall. Am Cer Soc J 6:989-99 S '23*
- Electrolytes' effect on plastic clay. *J. D. Brumbaugh. Brick & Clay Rec 62:221-5+ F 6 '23*
- Emergency houses of clay and straw. *il* Sci Am 126:335 My '22
- Flint clay situation in Ohio. *W. Stout. il* maps Am Cer Soc J 6:1153-9 N '23
- Foundation tests for Nebraska state capitol. *il* diags Eng N 89:606-9 O 12 '22
- Georgia clays for paper fillers. *W. M. Weigel. Paper Tr J 77:51-4 Ag 9 '23*
- High-grade clays of the eastern United States. *H. Ries and others. il* diags maps U S Geol S Bul 708:1-305, pl 1-30 '22
- Investigation of Georgia clays by Bureau of mines. *Chem Age 30:179 Ap '22*
- Kaolins and pottery clays in the United States. *Brick & Clay Rec 60:39-42 Ja 10 '22*
- Measurement of the plasticity of clay slips. *R. E. Wilson and F. P. Hall. diags Am Cer Soc J 5:916-27 D '22; Same. J Ind & Eng Chem 14:1120-5 D '22*
- Mechanical movement of water through certain clays and its control. *H. G. Schurecht. diags Am Cer Soc J 5:928-36 D '22*
- Methods of measuring the plasticity of clays. *F. P. Hall. U S Bur Stand Tech Pa 234:345-66 '23*
- Nature of the acidity of the colloidal clay of acid soils. *R. Bradfield. Am Chem Soc J 45:2669-78 N '23*
- North Devon ball clay works. *il* Chem Age (Lond) 9:sup8 S 15 '23
- Pile foundations and clay. *H. C. H. Shenton. Can Eng 43:442-3 O 10 '22; Same. Eng & Contr 58:45-7 N 29 '22*
- Plasticity of clays. *F. P. Hall. Am Cer Soc J 5:346-54 Je '22*
- Preparation of clays and minerals for ceramic purposes. *G. D. Dickey. Oil Paint & Drug Rep 102:xiv sec 2 S 18 '22*
- Relation of hydrogen-ion concentration to the flocculation of a colloidal clay. *R. Bradfield. Am Chem Soc J 45:1243-50 My '23*
- Relation of the structure of clay grains to the plasticity of clays. *H. G. Schurecht. Am Cer Soc J (Bul) 5:153-5 Ag '22*
- Rigid standard practice vs. common sense. *G. C. Warren. il* Munic Eng 64:141-2 Ap '23
- Sedimentation as a means of classifying extremely fine clay particles. *H. G. Schurecht. diags Am Cer Soc J 4:812-21 O '21*
- Some colloidal properties of pleistocene clays and their bearing on the chemical theory of the formation of the gumboil. *J. N. Pearce and L. B. Miller. J Phys Chem 26: 1-24 Ja '22*

Clay—Continued

- Stratification of clay suspensions and its use in the determination of the size of clay particles. E. Ungerer. *Am Cer Soc J* 5(6) (Cer A 1):226-7 S '22
- Study of some bond clay mixtures. D. H. Fuller. *diag Am Cer Soc J* 4:902-15 N '21
- Tests on Miguet process for obtaining alumina from clay. *Chem & Met Eng* 27:848 O 25 '22; Same. *Brick & Clay Rec* 61:720 N 14 '22
- Theory of plasticity and possible commercial application. R. C. Purdy. *Am Cer Soc J* (Bul) 5:147-53 Ag '22
- Use of electrolytes in the purification and preparation of clays. H. G. Schurecht. *il U S Bur Mines Tech Pa* 281:1-47 '22
- See also Bentonite; Bricks; Fire clay; Fuller's earth; Kaolin; Porcelain; Pottery

Analysis

- Microscopic examination of the mineral constituents of some American clays; with discussion. H. G. Schurecht. *il Am Cer Soc J* 5:3-24 Ja '22
- See also Soil analysis

Testing

- American and English ball clays. H. H. Sortwell. *diags U S Bur Stand Tech Pa* 227:153-82 '23; Abstract. *J Fr Inst* 195:576-8 Ap '23
- Ball clay in Canada. *Chem Age (Lond)* 9:sup10 Ag 18 '23
- Progress report of tests on undisturbed clays. J. H. Griffith. *il diags plan Am Soc C E Pro* 48:557-79 Mr '22
- Results of tests on white clays. *Brick & Clay Rec* 59:741 N 15 '21
- Tests on some sagger clays and bodies. R. Twells, jr. *Am Cer Soc J* 6:949-57 S '23
- Washing tests of Georgia clays. R. T. Stull and G. A. Bole. *flow sheets diags Am Cer Soc J* 6:730-47 Je '23

Clay, China. See Kaolin**Clay drying**

- Oil fuel for clay drying. *il Chem Age (Lond)* 8:sup10-11 Je 16 '23

Clay handling

- Conveyors handle clay at British port. *Eng N* 91:719 N 1 '23
- Handling clay with belt conveyors. *plan Brick & Clay Rec* 62:1136-7 Je 26 '23
- Mechanical methods from clay bank to machine; discussion. *Am Cer Soc J* (Bul) 6:25-9 Mr '23

Clay industries

- Capital for the clay industry. J. K. Moore. *Brick & Clay Rec* 63:556-8 O 16 '23
- Clay products cyclopedia. 252p Industrial publications, 407 South Dearborn st., Chicago, Ill. '22
- The dealer—he is panned and praised. *Brick & Clay Rec* 62:780-1 My 1 '23
- 101 ideas for improving the clay plant. 123p *Brick & clay record*, 407 S. Dearborn st., Chicago '23
- Should the dealer sell clay products? C. B. Platt. *Brick & Clay Rec* 61:959+ D 26 '22
- See also Brick industry and trade; Bricks; Ceramic industries; Fire brick; Glazes; Hollow tile; Porcelain; Pottery

Statistics

- Clay products again hitting stride. *Brick & Clay Rec* 63:398-401 S 18 '23

Canada

- Clay industry in Saskatchewan. E. L. Chicanot. *il Eng & Min J* 116:107-8 Jl 21 '23

China

- Clays of China for export. *Brick & Clay Rec* 61:562-3 O 17 '22

Kentucky

- Clay deposits of Kentucky. H. Ries. 241p *Kentucky Geol. survey*, Frankfort '22

United States

- Clay-working industries, clay, and silica brick in 1919 and 1920. J. Middleton. *U S Geol S Min Res of U S* 1920, pt 2:323-59 '22

- Mining of clay in 1921 shows decrease. *Iron Tr R* 71:1133 O 26 '22
- 1921 clay products output drops. *Brick & Clay Rec* 62:689-90 Ap 17 '23
- Production of clay in 1921. *Eng & Min J* 114:144 Jl 22 '22
- 62% more clay mined in 1922. *Brick & Clay Rec* 63:621-5 O 30 '23

Clay mines and mining

- Tramways for china clay pits. *diags plan Chem Age (Lond)* 8:sup10-11 My 19 '23

Clay modeling

- Clay as a medium through which educational ideals may be effectively presented. J. C. Boudreau. *Am Cer Soc J* 6:763-9 Je '23

Clay products

- Burning clay wares. E. Lovejoy. 332p T. A. Randall & co., Indianapolis '20
- Ceramic manufacturing needs more intelligent technical control. R. C. Purdy. *Chem & Met Eng* 27:460-1 Ag 30 '22
- Investigation of dust press practice as influencing finished sizes and cracking. H. Spurrier. *Am Cer Soc J* 5:798-805 N '22
- Lamination, discussion of cause and cure. J. J. F. Brand. *il Am Cer Soc J* 5:355-69 Je '22; Discussion. 5:369-75; (Bul) 5:109-11 Je-Jl '22
- Scumming, efflorescence and whitewash. *bibliog il Brick & Clay Rec* 60:602-6 Ap 18 '22
- Soluble salts and clay wares. C. W. Parmelee. *Am Cer Soc J* 5:538-53 Ag '22; Same. *Brick & Clay Rec* 61:249-52, 317-18 Ag 22-S 5 '22
- See also Ceramics; Flower pots; Porcelain; Pottery; Stucco lath; Terra cotta; Tile; Translucency

Dictionaries

- Clay products cyclopedia. 252p Industrial publications, 407 South Dearborn st., Chicago, Ill. '22

Testing

- Porosity. E. W. Washburn and others. *Am Cer Soc J* 4:916-22, 961-89; 5:48-56, 112-29; 5:27-37 N '21-F, Ag '22

Clay-worker (periodical)

- The Clay-worker a potential factor in the upbuilding of the ceramic industries. J. E. Randall. *Am Cer Soc J* 6:120-8 Ja '23

Claymont, Delaware**Architecture**

- Overlook colony; a housing development at Claymont, Delaware. *il plans Arch Forum* 36:197-200, pl 73-4 My '22

Clayton act

- What is the law as to trade discounts? *Ptr Ink* 118:17-18 Mr 30 '22

Clean coal. See Coal supply—Clean coal**Cleaning**

- Chain averts explosions in dry-cleaning plants. *il Pop Mech* 39:772 My '23
- Chemist in the dyeing and cleaning industry. R. O'Brien. *Chem Age* 30:101-2 Mr '22
- Colloids in the mechanism of cleansing. F. H. Guernsey. *diags Am Dyestuff Rep* 12:766-8 O 22 '23
- Dry-cleaning and dyeing industry. L. E. Jackson. *il Sci Am* 127:396+ D '22
- Dry cleaning system; patent. *Color Tr J* 10:85-6 F '22
- Humidity prevents static in dry cleaning. *Nat Safety N* 7:39 F '23
- Industrial office building maintenance. W. Clark. *il Management & Adm* 6:347-52 S '23
- Method of renovating carpets, rugs and other fabrics; patent. *diags Color Tr J* 12:76-7 F '23
- National cleaner and dyer book of technical notes. Rev ed. 232p Dowst bros. co., Chicago '22
- New compound for removing rust from fabrics. *Color Tr J* 13:32 Jl '23
- New method of cleansing textile materials. *Color Tr J* 10:40-1 Ja '22
- Silicate of soda: its function in the cleansing process; expansion of its use as a detergent. J. G. Vail. *Chem Age* 30:19-20 Ja '22
- Uses of carbon tetrachloride in dyeing and cleaning. *Color Tr J* 9:199-200 N '21

Cleaning—Continued

Wash-day in the factory. *il* Factory 29:132-5+ Ag '22

See also Automobiles—Cleaning; Bleaching; Boiler cleaning; Car cleaning; Coal cleaning; Dyes and dyeing; Factories—Cleaning; Gas pipes—Cleaning; Lamps—Cleaning; Laundry; Leather—Cleaning; Metal cleaning; Sewer cleaning; Spinning machinery—Cleaning; Street cleaning; Vacuum cleaning; Water pipes—Cleaning; Window cleaning

Cleaning industry

Overcoming trade evils with truck service; pressing clothes at customer's door. *Ptr* Ink 124:73-4+ Ag '23 '23

Cleaning of cities

See Street cleaning

Cleaning preparations

Cleaning and polishing preparations, 1921. Brass W 19:44-5 F '23

Some practical factors in the selection and use of detergents. J. F. Tonn. *Am Dye-stuff Rep* 12:762-4 O 22 '23

United States government specification for scouring compounds (a) and (b) for floors and soap scouring compound (c). U S Bur Stand Circ 131:1-5 '22

What once-in-never-out advertising did for Kitchen Klenzer. G. A. Nichols. *Ptr* Ink 119:3-4+ Ap 27 '22

Clearing houses

Bank clearings in 1922 and the course of trade and speculation. *Comm & Fin* Chr 116:337-43 Ja 27 '23

Bankers' clearing house, what it is and what it does. P. W. Matthews. 168p Pitman '21

Clearing house in its relation to our financial and economic structure. M. A. Traylor. *Comm & Fin* Chr 117:106-10 sec 2 O 13 '23

Clearings and speculation in 1921. *Comm & Fin* Chr 114:1347-51 Ap 1 '22

Clearings since January 1, 1921. *Comm & Fin* Chr 114:1+ Ja 7 '22

Clearings since Jan. 1, 1922. *Comm & Fin* Chr 116:31-3 Ja 6 '23

Course of bank clearings. See weekly numbers of Commercial and financial chronicle

Mystery of clearings; are they a true index of trade? W. J. Silberling. *Annalist* 22:389-90+ S 24 '23

New York clearing house yearly figures. *Comm & Fin* Chr 115:1582 O 7 '22

Symposium on clearing house examiner system at the American bankers' association convention. *Comm & Fin* Chr 115:140-3 sec 2 O 21 '22

Yearly figures of New York clearing house. *Comm & Fin* Chr 117:1516-17 O 6 '23

See also Banks and banking; Trust companies

Clearing of land

Burning out stumps effectively. *il* Pop Mech 39:981 Je '23

Circular-saw stump-cutter. *il* Sci Am 127:340 N '22

Huge machine makes play of stump pulling. *il* Pop Mech 40:758 N '23

Power-driven stump cutter does its work rapidly. *il* Pop Mech 37:203 F '22

Stump cutter that is different. *il* Sci Am 128:31 Ja '23

Stumps quickly cleared with power borer. *il* Pop Mech 36:822 D '21

See also Lumbering

Clemenceau, Georges

Georges Clemenceau's visit to United States; addresses. *Comm & Fin* Chr 115:2326-33 N 25 '22

Clement, Frank Hudson, 1853-1922

Sketch. *Min & Met* 186:43-4 Je '22

Clerks

See Salesmen, Retail

Cleveland, Ohio

Cleveland prepares third reception for foundrymen. *il* Foundry 51:298-307 Ap 15 '23

Cleveland the convention city of the American foundrymen's association. R. M. Polhamus. *il* Metal Ind 21:137-42 Ap '23

Nation's iron and steel industry centers in Cleveland. *il* map Iron Tr R 72:sup59-68 Ap 26 '23

Architecture

Hanna building and the Hanna building annex, Cleveland, Ohio. I. T. Frary. *il* Arch Rec 51:16-32 Ja '22

Public schools

Economies in Cleveland school plans. G. M. Hopkinson. *il* plans Arch Forum 37:81-4, pl 36-8 Ag '22

Railroads

Cleveland passenger terminal project approved. maps Ry Age 71:1193-4 D 17 '21

Cleveland public square passenger terminal authorized. diags plans maps Eng N 87:1020-5 D 22 '21

Proposed Cleveland union passenger station. Ry R 72:731-2 Ap 28 '23

Rapid transit

Arbitration in Cleveland. Elec Ry J 61:735 Ap 28 '23

Automatic substation experience in Cleveland. L. D. Bale. *il* diags map Elec Ry J 61:359-64, 405-8, 477-80 Mr 3-17 '23

Surplus in Cleveland. Elec Ry J 59:690 Ap 22 '22

Sewerage

Cleveland's westerly and easterly sewerage works in use. G. B. Gascoigne. *il* Eng N 89:528-9 S 28 '22

Streets

Cleveland thoroughfare plan. R. H. Whitten and F. R. Walker. Eng & Contr 57:178-80 F 22 '22

Theaters

Allen theatre, I. T. Frary. *il* plans Arch Rec 50:358-69 N '21

Water supply

Building the Baldwin reservoir, Cleveland water-works. *il* diags plans Eng N 89:916-20 N 30 '22

Causes of obnoxious tastes and odors sometimes occurring in the Cleveland water supply. J. W. Ellms and W. C. Lawrence. diag map Am Water Works Assn J 9:463-73 My '22

Cleveland water system. G. E. Flower. Am Water Works Assn J 9:418-25 My '22

Construction progress in the Cleveland division of water. A. V. Ruggles. diag map Am Water Works Assn J 9:226-40 Mr '22

Operation and tuning up of the Cleveland filters. J. W. Ellms. *il* Eng N 88:776-9 My 11 '22

Sanitary survey of Lake Erie, opposite Cleveland, Ohio, 1920. J. W. Ellms. maps Am Water Works Assn J 9:186-207 Mr '22

Cleveland, Cincinnati, Chicago & St Louis railway

Coal loadings elimination fails to hurt Big Four; traffic received from connections increases sufficiently to balance effect of strike. Ry Age 73:69-70 Jl 8 '22

Tentative valuation of Big Four. Ry Age 73:650 O 7 '22

33d report for the year ended Dec. 31, 1921. Ry Age 73:90-1 Jl 8 '22; *Annalist* 20:34 Jl 10 '22; *Comm & Fin* Chr 115:192-3 Jl 8 '22

31th annual report, 1922. Ry Age 75:165-6, 184-5 Jl 28 '23; *Comm & Fin* Chr 117:452-3 Jl 28 '23

Cleveland industrial association

Association of employers and employees. Iron Age 109:407-8 F 9 '22

Cliff dwellings

Peeping through the curtain of the ages. R. P. Crawford. *il* Pop Mech 37:537-41 Ap '22

Climate

Are our winters getting warmer? W. F. Schaphorst. Brick & Clay Rec 61:737+ N 14 '22

Climate—Continued

- Climate changes; their nature and causes. E. Huntington and S. S. Visher. 329p Yale Univ. press, New Haven '22
 Statistics of climate. Sci Am 127:21+ JI '22
 Temperatures in the United States. R. Ward. Sci Am 127:412 D '22

See also Paleoclimatology

Clinker storage. See Cement plants

Clinkers

- Cleaning the grate of a magazine feed boiler. diags Dom Eng 99:322-3 My 20 '22
 Elimination of side-wall clinkers on under-feed stokers. H. R. Carr. diag Power 54: 815-16 N 22 '21
 Moist fuels present ash handling difficulties. Z. Kogan. diags Power Pl Eng 27:162-4 F 1 '23

Clipper ships

- Colonial clippers. A. B. Lubbock. 2d ed. 433p J. Brown & son, Glasgow '21

Clipping machines

- Sells haircuts for cows after farmer shows way. Ptr Ink 124:54+ JI 19 '23

Clippings

- Direct alphabetical filing of clippings. C: Stolberg. Filing 6:29-30 O '22
 How to keep magazine articles and find them. H. W. Craver. Management & Adm 6:79-83 JI '23

Clocks

- Automatic winding clock. Sci Am 137:412 D '22
 Clock dial tells the time everywhere at any time. il Pop Mech 38:176 Ag '22
 Clock that runs without winding. il Sci Am 127:39 JI '22
 Clocks and watches. G: L. Overton. 127p Pitman '22
 Clocks and watches; history, principles and devices of time keeping. C. I. Hall. il diags Gen Elec R 25:167-70 Mr '22
 Regular as a clock; alternators as timekeepers. A. Walton. Textile World 62:579+ JI 29 '22
 World's-time clock for radio purposes. il Pop Mech 39:875 Je '23

See also Time clocks; Watches

Advertising

- Placing a line above competition; the Ansonia clock company. J. True. Ptr Ink 122:61-2+ Mr 29 '23
 Retail distribution scant, but wholesaler advertises with profit. Ptr Ink 120:10+ JI 20 '22

Manufacture

- Device for setting the wires in lantern pinions. A. Ferber. il Am Mach 55:812-13 N 17 '21

Patents

- Keyless clock patents. Engineering 113:820 Je 30 '22

Clocks, Electric

- Electric clocks and chimes. 159p P. Marshall & co., London '21

Cloisters

- Cloisters, Abbey of Sassovivo, Foligno, Italy, measured and drawn by R. M. Blackall. Am Arch 120:432-4 D 7 '21

Cloth cutting machines

- Scientific fabric cutting. il diags India Rubber W 67:83-5, 148-9 N-D '22
 Six-cutter shear for ordinary wool and worsted goods or float thread fabrics. il Textile World 64:511 JI 28 '23

Clothes lines

- Giving the clothes line a name. J. Henle. Ptr Ink 121:133-4+ D 7 '22

Clothing

- Principles of clothing selection. H. G. Buttrick. 185p Macmillan '23
 See also Garment cutting; Gloves; Hosiery; Paper textiles; Textile fabrics; Underwear

Cost

- Clothing budget of a high-school girl. Monthly Labor R 16:988 My '23

Quantity and cost of clothing purchased by average workingman's family in one year. Monthly Labor R 15:529-45 S '22

Prices

Retail prices of clothing in Great Britain, 1914 to 1923. Monthly Labor R 16:990-1 My '23

Clothing trade

- Amounts sold per full-time salesmen in retail clothing stores. H. Secrist and L. Altman. 14p Northwestern Univ., School of commerce, Chicago '22
 Clothing manufacturers' association to terminate agreement with union in New York May 31. Comm & Fin Chr 114:1728 Ap 22 '22
 Cutting overhead brought us capacity business in making trousers. F. L. Sweetser. il Factory 29:231-4+ S '22
 Experience with trade union agreements—clothing industries. (National industrial conference board, Research rep. no. 38) 134p Century co. '21

Finds a neglected market and makes a special drive to win it. Ptr Ink 122:69-70 Ja 18 '23

Injunction against the Cloak, suit and skirt manufacturers' protective association. Comm & Fin Chr 113:2468-9 D 10 '21

Manufacturer's work preliminary to the advertising; Fruhauf brothers, New York. W: P. Tuttle. Ptr Ink 123:65-6+ My 10 '23

Meeting the labor problem in the clothing industry. H. S. Gilbertson. Administration 5: 181-9 F '23

Men's clothing industry. Monthly Labor R 17: 126-31 JI '23

Now we keep our production abreast of our promises. S. W. Borgenicht. System 43:195-6 F '23

Sales canvass that blocks the prospects' interruptions; makers of Peggy Paige dresses put over new idea by first selling their own salesmen. F: A. Fox. Ptr Ink M 6:33-4+ Mr '23

Selling expenses and their control; a study in the retail distribution of clothing, by Northwestern university School of commerce. 416p Prentice-Hall '22

Why sell scales in a wearing-apparel specialty shop? Ptr Ink 120:82+ Ag 24 '22

See also Dress goods; Fashion; Garment workers; also Amalgamated clothing workers of America; Associated dress industries of America; Joint board of sanitary control in the New York ladies garment industries

Advertising

Advertising ideas that get a rise out of me. Ptr Ink 118:95-6+ F 2 '22

Advertising the inside of a coat to sell the suit. Ptr Ink 119:93-4 Je 8 '22

Buying mail orders at 50c apiece. R. K. Wadsworth. Ptr Ink 119:90-1 My 18 '22

Can the American manufacturer force styles? Ptr Ink 120:10+ O 12 '22

Fashion, advertising and the press agent. L. Allen. Ptr Ink 121:25-7+ O 26 '22

Fashion versus advertising. E. E. Calkins. Ptr Ink 121:3-4+ O 5 '22

Is old man reason why dead? J. Wallen. Ptr Ink 117:69-70 N 17 '21

Mystery in style creation; must the news of the press agent precede advertising? Ptr Ink 121:20+ O 26 '22

Naturalism in fashion drawings an important development of today. Ptr Ink 122:77-8+ Ja 18 '23

Selecting the selling appeal. R: B. Franken. Ptr Ink M 7:26-8+ S '23

Selling retailers by mail in competition with personal salesmanship. J. Henle. Ptr Ink 122:97-8+ Ja 11 '23

Suit manufacturer helps dealers sell hats and shirts. H. E. Martin. Ptr Ink 118:57-8+ Mr 30 '22

Clothing trade—Advertising—Continued

Why is men's style a joke? G. R. Hart. *Pt*
Ink 121:33-4+ N 30 '22

See also Advertisements—Fashion appeal;
 Belts—Advertising; Collars—Advertising;
 Overalls—Advertising

Costs

Costs in the retail distribution of clothing.
 Monthly Labor R 15:1274-6 D '22

Clothing workers of America. See Amalgamated clothing workers of America**Cloud bursts.** See Rain and rainfall**Clouds**

Fogs and clouds. W. J. Humphreys. bibliog
il J Fr Inst 193:217-30, 327-84 F-Mr '22

Club printing

Why Barty was kept busy; possibilities in
 various men's clubs. F. V. Faulhaber. *Ptg*
Art 41:141-3 Ap '23

Clubhouses

A. J. Norton, who makes a business of operat-
 ing 25 clubs in as many cities. L. D. Brown.
System 41:549-51 My '22
 Boston architectural club. *il plans Arch*
Forum 37:25-8 J1 '22
 Building Lake Placid club at 50° below zero.
il diag plan Concrete 23:59-60 Ag '23

Costs on machine stuccoed riding club. *il plan*
Concrete 19:247 D '21

Country club, Maplewood, New Jersey. *Am*
Arch 120:461-2 D '21

Detroit golf club, Detroit, Michigan. *Am Arch*
 120:3923-p, 399-400 N 23 '21

Detroit golf club, Detroit; views and plans.
Arch Forum 38:69, pl 17-20 F '23

Faculty club, Columbia university, New York
 city. *Arch & Bldg* 55:83, pl 170-2 Ag '23

Johnny Parsons club, Cornell university,
 Ithaca. *Arch Forum* 39:41, pl 14-16 J1 '23

Longwood cricket club, Chestnut Hill, Mass.
il Arch Forum 37:235, pl 83-6 N '22

Model club house. *il plans Bldg Age* 44:27
 Mr '22

Newark athletic club. *Arch & Bldg* 55:37, pl
 81-1 Ap '23

Norwood golf club, Long Branch, N.J. *il plans*
Arch Rec 50:442-52 D '21

Princeton club, New York city; views. *Arch*
Rec 54:137-43 Ag '23

Racquet and tennis club, New York (1917).
Am Arch 121:426-1, 439 My 24 '22

Racquet club, Washington, D.C. *Arch & Bldg*
 54:27-8, pl 38-40 Mr '22

Toledo club, Toledo, Ohio; views and plans.
Am Arch 122:56-1-m J1 19 '22

University club building, Los Angeles. *Arch*
Forum 39:193, pl 57-61 O '23

Westchester-Biltmore country club, Rye, N.Y.
il Arch & Bldg 54:67-8, pl 101-7 J1 '22

See also Fraternity houses

Heating and ventilation

Heating and ventilating system for a club
 house. C. L. Hubbard. *il diags Dom Eng*
 100:452-4 S 9 '22

Lighting

Wiring systems for lighting of hotels and
 clubs. C. P. Trueax. *plans Elec R* 79:731-4
 N 12 '21

Clubhouses, Employees'

Unique club house for gas workers. *il Gas*
Age 50:299-301 S 2 '22

Clutches

Centrifugal clutches and small motors. *il*
Electrician 88:633 My 26 '22

Comparison of cone and multiple-disk clutch-
 es. A. F. Bennett. *diags Am Mach* 57:487
 S 28 '22

Designing and cutting sawtooth clutches. A.
 C. Smith. *diags Am Mach* 59:381 S 6 '23

Dickson pneumatic clutch. *il Am Mach* 56:904
 Je 15 '22

Diesel-engine clutch used in the German sub-
 marine U-117. W. H. Nicholson. *diags Mech*
Eng 45:113-15 F '23

Fitting a clutch in close quarters. E. Pagett.
diag Power 58:580 O 9 '23

Flexible clutch for marine Diesel engines. *il*
diag Sci Am 129:185 S '23

Friction clutch data. G. W. Drake. *Am Mach*
 58:729-32 My 17 '23

Keeping countershaft clutches in condition. G.
 Walter. *Am Mach* 59:58 J1 12 '23

Mechanical power transmission elements. *il*
Eng & Ind Management 7:298+ Mr 23 '22

Methods of machine tool design. A. L.
 De Leeuw. *Am Mach* 57:331-3, 370-2, 402-5,
 440-3 Ag 31-S 21 '22

Pomini friction clutch. *diags Engineering* 113:
 70-1, pl 3 Ja 20 '22

Safety clutch for driving pulley. E. E. Lakso.
diags Mach 29:221-2 N '22

Single and double clutches which give power-
 ful drive. *il diags Textile World* 61:3539
 Je 10 '22

Toothed-clutch designs. C. M. Linley. *diags*
Mach 29:213 N '22

Twin-disk clutches. *il Mach* 29:831 Je '23

Wood's universal giant heavy-duty friction
 clutch. *il Am Mach* 57:504 S 28 '22

See also Automobiles—Clutches

Clutches, Magnetic

Magnetic clutch connects main flour mill
 drive to motor. F. R. Lufkin. *il Elec R* 80:
 37 Ja '22

Magnetic clutches in the cement industry. W.
 H. Costello. *il diags Am Inst E E J* 41:361-3
 My '22; Same cond. *Concrete* 21:sup3-5 J1 '22

CO₂ recorders. See Carbon dioxide recorders

Coagulation

Coagulation of colloidal solutions of arsenious
 sulphide by electrolytes. E. F. Burton and
 E. D. MacInnes. *J Phys Chem* 25:517-25
 O '21

Coagulation of manganese dioxide sol by
 different electrolytes. P. B. Ganguly and
 N. R. Dhar. *J Phys Chem* 26:701-14 N '22

Experimental test of Smoluchowski's theory
 of the kinetics of the process of coagulation.
 J. N. Mukherjee and B. C. Papaconstantin-
 tinou. *Philos Mag* 6th ser 44:305-20 Ag '22

Influence of the size of colloid particles upon
 the adsorption of electrolytes. H. D. Mur-
 ray. *Philos Mag* 6th ser 44:401-15 Ag '22

On the coagulation of colloids. A. Westgren
 and J. Reisttötter. bibliog *J Phys Chem* 26:
 537-48 Je '22

Coagulation, Heat of

Heat of coagulation of ferric oxide hydrosol
 with electrolytes. F. L. Browne and J. H.
 Mathews. *Am Chem Soc J* 43:2336-52 N '21

Heat of coagulation of ferric oxide hydrosol
 with sodium sulfate. F. L. Browne. *Am*
Chem Soc J 45:311-21 F '23

Coal

Anthracite and the anthracite industry. A. L.
 Summers. 126p Pitman '22

Blowouts in Belgian coal seams and the way
 in which these and like phenomena may be
 explained. F. C. Cornet. *diag Coal Age* 23:
 367-72 Mr 1 '23

Burning bituminous coal on stokers. *Mech*
Eng 44:373 Je '22

Buts et résultats des recherches sur le char-
 bon; abstract. F. Fischer. *diags Chimie &*
Ind 7:681-3 Ap '22

Calcul du pouvoir calorifique industriel d'un
 combustible marchand, en fonction de ses
 teneurs en eau et en matières minérales. J.
 Fohlen. *diags Chimie & Ind* 8:275-7 Ag '22;

Discussion. 8:1175-9 D '22

Calorific value. W. B. Davidson. *diags Gas J*
 (Lond) 162:345-8 My 9 '23

Canadian, Utah and Idaho fuels give most
 heat of those entering Spokane market.
Coal Age 21:832 My 18 '22

Characteristics of different types of Canadian
 household fuels. R. E. Gilmore, J. H.
 Nicolls and H. Kohl. *Can Chem & Met* 7:
 30-4 F '23

Coal and combustion. L. M. Emmet. *diags*
Dom Eng 100:94-7+, 232-5 J1 15, Ag 5 '22

Coal and what we get from it. R. Meldola.
 210p Society for promoting Christian knowl-
 edge, London; Macmillan '21

Coal beds as indicators of oil and gas. R. E.
 Collum. *map Gas Age* 51:254 F 24 '23

Coal for steam plants with necessary hand-
 ling equipment. R. June. *Gas Age* 52:279-
 82 S 8 '23

Coal—Continued

- Coal, from working face to power plant. A. C. Callen. *il Power Pl Eng* 26:844-6 S 1 '22
- Coal: its properties, analysis, classification, geology, extraction, uses and distribution. E. S. Moore. 462p Wiley '22
- Coking quality of a coal defined. *Gas Age* 49: 163-4 F 11 '22
- Coming of coal. R. W. Bruère. 123p Assn. press, 347 Madison av., New York '22
- Comparative fuel costs of coal and oil. E. T. McCarthy. *diag Power* 57:446-7 Mr 20 '23
- La détermination du degré d'oxydation des charbons. G. Charpy and G. Decorps. *Génie Civil* 79:468-9 N 26 '21
- Dopplerite: studies in the composition of coal. F. V. Tidswell and R. V. Wheeler. *Chem Soc J* 121:2345-62 N '22
- Effect of fuel situation on gas industry. *Am Gas J* 118:34-6 Ja 13 '23
- Effective B.T.U. and cost determine value of coal. A. C. Ciment. *Power* 58:448-50 S 18 '23
- L'étude de la constitution de la houille et la solution de la crise des combustibles. D. Florentin. *Génie Civil* 81:408-12, 437-40 N 4-11 '22
- Fires in steamship bunker and cargo coal. H. H. Stock. *diags U S Bur Mines Tech Pa* 326:1-51 '23; *Abstract. Coal Age* 23:786 My 17 '23
- La formation, la constitution et l'utilisation chimique de la houille. E. Grandmougin. *Génie Civil* 82:444-6, 466-8 My 12-19 '23
- Formation of coal seams. *Coal Age* 21:699-700 Ap 27 '22
- Fuel and its efficient application in boiler practice. C. F. Wade. *diags Ind Management (Lond)* 9:7-9 Ja 11 '23
- Fuel facts for gas consumers. *charts Gas Age* 51:43-5 Ja 13 '23
- Fuel of the future—what shall it be? I. Ginsberg. *Am Gas J* 118:557-61; 119:193-6, 204-5 Je 30, S 8 '23
- Fuel oil characteristics and advantages as compared with coal. A. P. Bjerregaard. *Nat Pet N* 15:32a-b O 17 '23
- Fuel research board. *Engineering* 115:485-7 Ap 20 '23
- Fuels available for domestic use. R. Kudlich. *Heat & Ven* 20:61-2 O '23
- Ignition temperature of coal. R. W. Arms. *il diags Ill U Eng Exp Sta Bul* 128:1-69 '22
- Important position of coal in super-power plan. E. J. Gealy. *Coal Age* 24:245-6 Ag 16 '23
- Improved method of burning coal. C. E. Hayes. *Blast F & Steel Pl* 10:239-40 Ap '22
- Inorganic constituents of coal; the melting-point of coal ash. F. S. Sinnatt, A. B. Owles and N. Simpkin. *il diags Soc Chem Ind J* 42:266-71; *Discussion*. 271-2 Je 22 '23
- Is coal a mineralized peat bog or has it been formed from woody deposits of great river deltas? H. W. Hixon. *Coal Age* 21:8-9 Ja 5 '22
- Low temperature carbonization. S. W. Parr. *il diags Gas Age* 50:531-4 O 21 '22
- Magnetic separation of coal from slag. F. A. Brackmann. *il diag Iron Age* 111:828-9 Mr 22 '23; *Same cond. Power* 57:322-3 F 27 '23
- Mineral industry of the British Empire and foreign countries. 3v *Gt. Brit. Imperial mineral resources bur.*, London '21-'22
- Modern management methods in the power plant. B. Robinson. *Ind Management* 65: 166-9 Mr '23
- Modern utilization of anthracite coal with some notes on the construction and operation of stokers. J. Van Brunt. *diags Dom Eng* 98:164-6, 211-12 Ja 28-F 4 '22
- Names and sizes of various kinds of coal. *Heat & Ven* 19:68 N '22
- New ways of burning coal. F. H. Mason. *Dom Eng* 100:282 Ag 12 '22
- Progress in coal utilization. R. P. Buckmaster. *Am Gas J* 116:79-82 Ja 28 '22
- Qu'est-ce que la houille? A. Kling. *Chimie & Ind* 9:389-99 F '23
- Recent fuel investigations to determine feasibility of utilizing lower grade fuels for steaming purposes. *Power Pl Eng* 26:162-1 F 1 '22
- Relative heating value of coal, oil and natural gas, and relative economies obtainable with each. *charts Power Pl Eng* 26:824-5 Ag 15 '22
- Romance of coal. C. R. Gibson. 310p *Lippincott* '23
- Rules issued by Province of Alberta for burning soft coal. *diags Heat & Ven* 19:52-3 N '22
- Some new derivatives of bituminous coal. A. R. Pearson. *Soc Chem Ind J* 42:68-72 F 23 '23
- Stoker coal should be sized. T. A. Marsh. *Power Pl Eng* 27:161-2 F 1 '23
- Substitute for steam coal. J. E. Middleton. *Can Eng* 42:sup50 Ja 10 '22
- Substitutes for anthracite. O. P. Hood. *Sheet Metal Worker* 14:645-+ S 14 '23
- Ueber die verbrennlichkeit der kohle. A. Korevaar. *diags Stahl & Eisen* 43:431-5 Mr 29 '23
- Utilization of bituminous coals. W. E. Davies. *Gas Age* 49:597-600 My 13 '22
- Value of coal. F. O. Ellenwood. *Sibley J* 36: 122-4+ Je '22
- What about coal? F. W. Parsons. *il Gas Age* 49:1-4+ Ja 7 '22
- What management should know of coal. R. June. *Blast F & Steel Pl* 11:495-9+ S '23
- Which, oil or coal? W. F. Schaphorst. *diags Sanitary & Heat Eng* 100:215-6 O 19 '23
- Wide variation in coal. V. G. Leach. *Power* 57:368 Mr 6 '23
- See also* Briquetting (fuel); Cannel coal; Carbocool; Clinkers; Coal ash and other headings beginning Coal; Coaling; Coalite; Coke; Culum; Fuel economy; Gas; Lignite; Locomotives—Fuel; Railroads—Fuel

Analysis

- Analyses of Kentucky coals. *U S Bur Mines Tech Pa* 308:1-92 '22
- Assay of coal for carbonization purposes. T. Gray and J. G. King. (*Gt. Brit. Fuel research board Tech pa. no. 1*) 13p *Great Britain Dept. of sci. & ind. research, London* '21
- Available hydrogen in coal and a direct method for its estimation. J. D. Davis. *diag Ind & Eng Chem* 15:594-7 Je '23
- Common coal sense. V. G. Leach. *Power* 56: 535 O 3 '22
- Compare coal analyses of 25 laboratories. A. C. Fieldner, H. M. Cooper and F. D. Osgood. *Coal Age* 23:451-3 Mr 15 '23
- Determination of volatile matter in coal. H. P. Wilkinson, jr. *Chem & Met Eng* 25:925 N 16 '21
- Examining coal in incident light. A. Gradenwitz. *il Coal Age* 22:957-8 D 14 '22
- Practical application of proximate analysis in the selection of coals. C. F. Wade. *Elec R (Lond)* 92:912-13 Je 8 '23
- Sampling and analyzing coal. J. R. Darnell. *Power* 56:887-8 D 5 '22
- Selection of most suitable coal for a given plant is engineering problem involving diverse factors. O. P. Hood. *Coal Age* 21: 443-4, 484-6 Mr 16-23 '22
- Short method for the ultimate analysis of coal. S. W. Parr. *il diags J Ind & Eng Chem* 14:681 Ag '22
- Testing apparatus for determining percentage of moisture and ash. E. A. Curtis. *diags Power* 56:948 D 12 '22
- Ultimate composition of British coals. T. J. Drakeley. *Chem Soc J* 121:221-36 Ja '22
- See also* Coke—Analysis

Bibliography

- Literature of the coal industry, for 1922. E. H. McClelland. 16p *Carnegie library, Pittsburgh* '23
- What to read on coal. *Library Journal* 47: 458-9 My 15 '22
- Classification of coal. S. W. Parr. *J Ind & Eng Chem* 14:919-23 O '22
- New coal classification proposed. *chart Coal Age* 21:781 My 11 '22; *Abstract. Power* 55: 709 My 2 '22

Coal—Continued

Cost

Comparison of coal costs by charts. A. W. Deininger. Power Pl Eng 26:304-7 Mr 15 '22
Distribution of costs per ton in supplying coal to Twin Cities. Coal Age 21:458 Mr 16 '22

Plan to reduce the cost of coal. W. S. Blauvelt. Gas Age 50:143-5 Jl 29 '22

See also Coal mines and mining—Costs

Moisture content

Absorption of moisture by coal (and other fuels). B. Moore and F. S. Sinnatt. Chem Soc J 123:275-9 F '23

Specific gravity and moisture content of coal. T. J. Drakeley and W. O. Jones. Soc Chem Ind J 42:163-6 Ap 20 '23

What happens to moisture when it enters the furnace? Power 58:468-9, 700-1, 743 S 18, O 30, N 6 '23

See also Coal—Analysis; Coal wetting

Prices

Anthracyte costs and prices during 1921 compared with those of 1913. Coal Age 20:813-14 N 17 '21

Anthracyte output hits lowest level since 1902. W. A. White. Coal Age 23:97-9 Ja 18 '23

Coal price orgy nearing its end. H. A. Haring. Annalist 20:695+ D 25 '22

Coal prices. Engineering 115:80 Ja 19 '23

Course of coal prices in 1922 markedly irregular. Coal Age 23:85-6 Ja 18 '23

Epoch in industrial progress seen in co-operation in Hoover plan to keep coal prices at fair level. P. Wooton. Coal Age 21:975-7 Je 8 '22

High price of anthracite attributed to inflated wages demanded by mine workers. Coal Age 22:889-90 N 30 '22

Hoover calls general conference of operators, May 31, to avert runaway coal market. P. Wooton. Coal Age 21:891-3 My 25 '22

Markets and production in 1921 and forecasts. Coal Age 21:113-44 Ja 19 '22

Markets and production in 1922 and forecasts. Coal Age 23:127-56 Ja 18 '23

Price of bituminous coal in 1921 lowest since 1916. Coal Age 21:81-2 Ja 19 '22

Production and the market; weekly review. See weekly numbers of Coal age

Protect yourself from high-priced coal. H. A. Haring. Annalist 20:201-2 Ag 28 '22

Retail coal men unconditionally agree to co-operate in Hoover price plan. P. Wooton. Coal Age 21:1057 Je 22 '22

Retail prices of coal in the United States. See monthly numbers of Monthly labor review
Senatorial coal inquiry, started by retailers, to be held up while Hoover plan is tested. P. Wooton. Coal Age 21:1015-16 Je 15 '22

Smokeless operators will sell domestic sizes at \$6; Spens to probe anthracite prices over \$9.25. Coal Age 22:643 O 19 '22

This winter's domestic coal. H. A. Haring. Annalist 20:125-6 Ag 7 '22

Wage increases in non-union fields cause price advance of \$1. Coal Age 22:296 Ag 24 '22

What will coal cost? H. A. Haring. Annalist 20:101+ Jl 31 '22

Radium content

Radium content. F. W. Smith. Chem Soc J 121:237-8 Ja '22

River coal

Burning river coal in Harrisburg's schools. L. Roth. il Power 57:605-6 Ap 17 '23

River coal for heating school buildings. E. T. Selig. il Heat & Ven 20:13-4 Ap '23

Specifications

Rational basis for coal purchase specifications. E. B. Ricketts. diags Am Soc T M Pro 22 pt 2:557-66; Discussion. 572-9 '22

Submits tentative standardization of anthracite names and sizes. Coal Age 23:788 My 17 '23

What constitutes a good coal specification? R. G. Paddock. Power 57:929-30 Je 12 '23

Wide range of combinations of coal essentials hinders fixing of universal specification standards. G. B. Gould. Coal Age 21:283-4 F 16 '22

See also Coal purchasing

Sulfur content

Distribution of the forms of sulphur in the coal bed. H. F. Yancey and T. Fraser. il diag maps Ill U Eng Exp Sta Bul 125:1-94 My '21; Abstract. J Ind & Eng Chem 13:35-7 Ja '21

How sulphur in fuel affects flue-gas composition and computations. C. H. Berry. Power 58:95-6, 113-15 Jl 17 '23; Discussion. F. F. Uehling. 58:507-8 S 25 '23

Taxation

Not all coal is coal for taxing. Nation's Business 11:20 Ja '23

Pennsylvania about to collect tax on hard coal and \$200,000 in penalties. Coal Age 22:925 D 7 '22

Pennsylvania coal tax decision. Comm & Fin Chr 115:2422-3, 2444-5 D 2 '22

Validity of anthracite coal tax upheld by Pennsylvania Supreme court. Comm & Fin Chr 115:29 Jl 1 '22

Testing

See Coal testing

Thawing

Coal steaming. A. W. Binns. diags plan Power Pl Eng 26:595-8 Je 15 '22

Thawing sheds for coal cars. Sci Am 127:134 Ag '22

Transportation

Assigned-car practice assailed. C. E. Maurer. Coal Age 23:867-8 My 24 '23

Assigned-car rule at the bar. H. Wheeler. Nation's Business 11:40+ O '23

Assigned-car rule in coal transportation is withdrawn. Ry R 72:1181 Je 30 '23

Assigned coal car case. Iron Age 112:274 Ag 2 '23

Belt conveyor supported by suspension bridge used to bring coal across river in Logan field. A. D. Carr. il Coal Age 22:121-2 Jl 27 '22

Coal commission reports on transportation. Ry Age 75:513-18 S 22 '23

Coal loading shows rapid increase. Ry Age 73:441-2 S 2 '22

Coal supply and car supply. H. A. Haring. Annalist 20:566 N 27 '22

Coal, wheat and politics; an appraisal of President Coolidge's latest program. B. Baker. Annalist 22:531-2 O 22 '23

Commerce commission begins hearing on complaint of dock operators for adjustment of Illinois rates. Coal Age 23:767-8 My 10 '23

Commerce commission decides against joint mines, limiting car supply to 100 per cent. Coal Age 22:1005 D 21 '22

Commerce commission hears arguments for cut in rates on coal from Kansas field to Missouri river. Coal Age 23:871-2 My 24 '23
Commission prohibits assigned car practice. Ry Age 75:33-7 Jl 7 '23

Cut in coal freights, Morrow thinks, would increase rail traffic and reduce operating expense. P. Wooton. Coal Age 21:145-6 Ja 19 '22

Developments in the fuel situation. Heat & Ven 19:66 O '22

Handling the anthracite movement on the Reading. E. L. Boner. Ry R 72:928-9 Je 2 '23

Hearing on coal car distribution rules. Ry Age 73:148 Jl 22 '22

How freight rates on bituminous coal play their part in the nation's fuel distribution. W. P. Ellis. maps Coal Age 21:101-5 Ja 19 '22

How the New York Central is catching up with the coal shortage. il Ry R 71:652-3 N 11 '22

Important step toward stabilization of coal industry seen in abolition of assigned-car practice. Coal Age 24:27-8 Jl 5 '23

Coal—Transportation—Continued

Inter-state commerce commission forbids use of extra cars to bituminous coal mines intended for railroad fuel supplies. *Comm & Fin Chr* 117:41-2, 402 J1 7, 28 '23
I.C.C. likely to modify ruling on private cars; railroads make poor case. *P. Wooton. Coal Age* 21:679 N 1 '23

New program for coal movement to lake region. *Ry R* 71:354-5 S 9 '22
New rules proposed for distribution of empty coal cars. *Ry R* 71:697-700 N 18 '22
New York Central handles coal at record rate. *il Ry Age* 73:840-2 N 4 '22

Northwest is saved from suffering when Uncle Sam strikes Great Lakes shipping into action. *Coal Age* 23:106-7 Ja 18 '23
Old-time Ohio river coal traffic is revived. *A. W. Williams. il map Coal Age* 24:137-41 J1 26 '23

Plan for stabilizing coal movement. *C. M. Fox. il Ry Age* 71:1005-6 Ag 21 '23
President Coolidge proposes that freight rates be cut on grain and coal. *Comm & Fin Chr* 117:1741 O 20 '23

Rail-and-water versus all-rail to New England. *G. G. Wolkins. Coal Age* 21:109-10 Ja 19 '22

Railroad committee opposes car pooling plan; suggested ways of improving coal transportation discussed in report to U.S. coal commission. *Ry Age* 74:293-5 Ja 27 '23

Railroad executives plan to expedite coal. *Ry Age* 73:715 O 14 '22

Railroads and the coal industry. *M. W. Potter. Ry Age* 75:23-7 J1 7 '23

Railroads urged to concentrate efforts on coal traffic. *Ry Age* 73:652-4 O 7 '22

Railroads urged to distribute coal cars according to commercial instead of capacity ratings. *Coal Age* 24:451-5 S 20 '23

Reduction in coal freights now seems less likely; Morrow and Cushing suggest cuts. *P. Wooton. Coal Age* 21:177-8 Ja 26 '22

Revision of western coal rates recommended in tentative report of I.C.C. inquiry. *Coal Age* 22:1049-50 D 28 '22

Should more than one railroad serve a coal mine? *E. McAuliffe. Ry R* 69:684-5 N 19 '21

Some post-war problems of transport. *J. A. F. Aspinall. diags Engineering* 113:603-5 My 12 '22

Text of I.C.C. ruling refusing decreased rates on lake ore after Jan. 1. *Coal Age* 20:1023 D 22 '21

Transportation and the problems of the coal industry; preliminary report. *Ry R* 72:266-9 F 10 '23; *Ry Age* 74:225-8 Ja 20 '23

Transportation factors in the soft coal business. *Ry Age* 75:436 S 8 '23

Transportation of lake coal. *H. M. Griggs. Coal Age* 23:975-6 Je 14 '23

Washington opposes embargo on anthracite to Canada as solution of Northeastern coal shortage. *Coal Age* 23:345-6 F 22 '23

See also Coal barges; Coal cars; Coal handling

Cost

Coal of Soochan and its importance in Pacific trade. *I. Tolmachoff. il Coal Age* 24:509-14 O 4 '23

Africa

Le charbon en Afrique australe et centrale. *Génie Civil* 83:40-1 J1 14 '23

Alabama

Preliminary statistics of production of coal in 1921. *Coal Age* 22:504 S 28 '22

Alberta

Gas producer trials with Alberta coals. *J. Bli-zard and E. S. Malloch. 40p Canada Dept. of mines, Ottawa* '21

Australia

See Coal trade—Australia

Canada

See Coal mines and mining—Canada; Coal supply—Canada; Coal trade—Canada

China

Amalgam fuel possibilities in the Orient. *J. V. McCartney. il map Blast F & Steel Pl* 11:434-8 Ag '23

See also Coal mines and mining—China

Colorado

Twenty mile park district of the Yampa coal field, Routt county, Colorado. *M. R. Campbell. il maps U S Geol S Bul* 748:1-82, pl 1-13 '23

See also Coal mines and mining—Colorado

France

Le bassin anthracifère des Alpes françaises. *Génie Civil* 81:571-2 D 16 '22

See also Coal mines and mining—France; Coal trade—France

Great Britain

Ultimate composition of British coals. *T. J. Drakeley. Chem Soc J* 121:221-36 Ja '22

See also Coal miners—Great Britain; Coal mines and mining—Great Britain; Coal trade—Great Britain

Illinois

Illinois and Indiana coal. *A. Bement. Power* 55:573 Ap 11 '22

Illinois coal as a source of smokeless fuel. *S. W. Parr. il diags maps Power Pl Eng* 26:600-5 Je 15 '22

Preliminary statistics of production of coal in Illinois in 1921. *Coal Age* 22:596 O 12 '22

See also Coal miners—Illinois; Coal mines and mining—Illinois

India

Amalgam fuel possibilities in the Orient. *J. V. McCartney. il map Blast F & Steel Pl* 11:434-8 Ag '23

Indiana

Illinois and Indiana coal. *A. Bement. Power* 55:573 Ap 11 '22

Preliminary statistics of production of coal in Indiana in 1921. *Coal Age* 22:640 O 19 '22

Iowa

Iowa coal. *H. E. Pride. (Eng. Ext. Dept. Bul. 48) 32p Iowa state col. agric. & mech. arts, Ames* '20

Kentucky

Analyses of Kentucky coals. *U S Bur Mines Tech Pa* 308:1-92 '22

Coal industry in Kentucky. *W. R. Jillson. 87p State journal co., Frankfort, Ky.* '22

Geology and coal of Webster county. *L. C. Glenn. (ser. 6, Geol. reports v. 55) 249p Kentucky geol. survey, Frankfort* '22

Heat values of wood and coal. *Brick & Clay Rec* 60:629 Ap 18 '22

Peculiar excellence of Kentucky coals. *H. N. Eavenson. Coal Age* 20:801-2 N 17 '21

See also Coal mines and mining—Kentucky

Bibliography

Bibliography of the coals of Kentucky. *W. R. Jillson. (ser. 5, bul. 4) p.140-56 Kentucky Dept. of geol. and forestry, Frankfort* '20

Ohio

Economic geology of the Summerfield and Woodsfield quadrangles, Ohio. *D. D. Condit. U S Geol S Bul* 720:1-156, pl 1-12 '23

Gasification of Ohio coals. *D. J. Demorest. il diags Chem & Met Eng* 27:1172-5, 1221-4 D 13-20 '22

See also Coal mines and mining—Ohio

Pennsylvania

Analyses of southern Somerset county coal. *Coal Age* 20:757 N 10 '21

See also Coal mines and mining—Pennsylvania

Coal—Continued

United States

Les charbons et les bassins houillers des Etats-Unis. Génie Civil 82:425-6 My 5 '23

See also Coal miners—United States; Coal mines and mining—United States; Coal supply—United States; Coal trade—United States

Bibliography

List of references on the coal situation in the United States, 1921-1922. 16 mim. p. U. S. Library of Congress '22

Coal, Clean. See Coal supply—Clean coal

Coal, Pulverized

Apply powdered coal to air furnace. P. Dwyer. *Il Foundry* 49:955-62 D 15 '21

Builds small unit to use powdered fuel. *Il Foundry* 49:868-9 N 1 '21

Burning anthracite mine waste in pulverized form. *Elec Ry J* 60:809-10 N 13 '22

Burning of pulverized fuel in paper mill power plants. L. L. Hebbard. *Il diags Tech Assn Pa ser* 4:13-20; Discussion. 20-1 Je '21

Burning powdered coal in warm-air furnaces. T. W. Atterbury. *diags Sheet Metal Worker* 14:43-5+ F 16 '23

Le chauffage au charbon pulvérisé des chaudières et des fours en général. P. Frion. *Il diags Chimie & Ind* 8:736-57, 974-88 O-N '22

Coal carbonization as applied to power plant practice. V. Z. Caracristi. *diags Power* 57:831-6 My 29 '23; Same. *Am Gas J* 119:65-9, 76-8 JI 28 '23; Abstract. *Gas J (Lond)* 64:534 Ag 15 '23

Le combustible pulvérisé. C: Baron. *Soc Ing Civils Bul* 74:403-11 JI '21

Combustion of powdered coal. H: Kreisinger and J: Blizard. *diag Ind & Eng Chem* 15:249-51 Mr '23; Same cond. *Power* 58:436 S 11 '23

Dust prevention in pulverized-fuel systems; National fire protection association committee recommends regulations. *Power* 57:383-5 Mr 6 '23

L'entraînement des combustibles pulvérisés par un courant d'air. Génie Civil 81:45-6 JI 8 '22

Experience with powdered coal in Arizona. J. E. Johnson. *diag Elec W* 8:1121-3 D 3 '21

Explosion hazards in industrial plants due to the use of pulverized coal. L. D. Tracy. *Il diags Eng Soc W Pa* 37:259-82; Discussion. 283-95 Je '21

Explosive tendencies of pulverized coal. H. Seymour. *Chem Age (Lond)* 9:82-4 JI 28 '23

Fire hazards in plants using pulverized coal. L. D. Tracy. *Blast F & Steel Pl* 10:395-9 JI '22; Same abr. *Coal Age* 22:164-8 Ag 3 '22; Abstract. *Power* 55:1030-1 Je 27 '22

Firing assay muffles with pulverized coal. E. H. Hamilton. *Il Min & Met* 180:24 D '21

First large plant using pulverized coal exclusively; Lakeside generating station of Milwaukee electric railway and light co. folding chart *Il diags Elec W* 79:720-4 Ap 15 '22

Furnace maintenance with pulverized fuel. M. W. Arrowood. *Il diags Iron Age* 110:1633-6 D 21 '22

Higher steam pressures or pulverized coal? F: A. Scheffer. *diag Am Inst E E J* 41:346-50 My '22; Same abr. *Power* 56:628-9 O 17 '22; Abstract. *Elec R (Lond)* 91:331 S 8 '22

Industrial use of powdered coal. *Sci Am* 129:175 S '23

Lakeside electric power station at Milwaukee. *Il diags plan Engineer* 135:383-6 Ap 13 '23

Lakeside power station at Milwaukee; mechanical, electrical and construction features of world's largest pulverized fuel burning power plant. *Il diags plans Power Pl Eng* 26:397-406 Ap 15 '22

Largest station using pulverized coal, Lakeside station at Milwaukee. *Il diags folding chart Power* 55:604-10 Ap 18 '22; Excerpts. *Coal Age* 21:878-9 My 25 '22

Meaning and microscopic measurement of average particle size. G. St J. Perrott and S. P. Kinney. *Il diags Am Cer Soc J* 6:417-39 F '23

Milwaukee's powdered coal station. folding chart *Il diags plans Elec Ry J* 59:633-40 Ap 15 '22

Operates warning signal if feed stops. E. J. Edwards. *plan Foundry* 50:703 S 1 '22; Same. *Iron Tr R* 71:1134 O 26 '22

Powdered coal for malleable. T. W. Atterbury. *Il diags plan Foundry* 50:815-19, 880-4 O 15-N 1 '22

Powdered coal in the lead blast furnace. E. H. Hamilton. *Min & Met* 190:25-7 O '22

Powdered coal meets load variations in blast-furnace gas plant. *diags Power* 58:718-21 N 6 '23

Powdered fuel in connection with the firing of metallurgical furnaces. J. S. Atkinson. *Eng & Ind Management* 6:693-5 D 15 '21

Powdered fuel to be used in large plant in St. Louis. *Power* 56:148-9 JI 25 '22; *Elec W* 80:242 JI 29 '22

Power problems of vital interest to executives. J. T. Beard. *Ind Management* 65:369-71 Je '23

Power progress during 1922. F. J. Crolus. *diags Blast F & Steel Pl* 11:104-9 Ja '23

Preparation, transportation, and combustion of powdered coal. J: Blizard. 131p Canada Dept. of mines, Ottawa '21

Preparation, transportation and combustion of powdered coal. J: Blizard. *Il diags U S Bur Mines Bul* 217:1-127 '23; Abstract. *Power Pl Eng* 27:520 My 15 '23; Discussion. C. F. Herington. *Elec W* 81:1525-6 Je 30 '23

Producer gas from powdered coal. R. T. Haslam and L. Harris. *diag plan Ind & Eng Chem* 15:355-7 Ap '23

Pulverized coal. F. W. Dean. *Textile World* 64:2668-9 N 3 '23

Pulverised coal as fuel in the United States. *Engineer* 132:655-6, 671-2 D 16-23 '21

Pulverized coal as power-plant fuel past trial stage. E. B. Powell. *Elec W* 79:273-4 F 11 '22; Discussion. H. Harding. 79:433 Mr 4 '22

Pulverized coal at the Bunker Hill & Sullivan smelter. H: M. Payne. *Il diags plan Eng & Min J* 114:149-51 JI 22 '22

Pulverized coal discussed by A.S.M.E. *Power* 55:38-9 Ja 3 '22

Pulverized coal for locomotives in Japan. *Il Ry Age* 75:161-2 JI 28 '23

Pulverized coal in the iron and steel industry. F. P. Coffin. *Il diags Chem & Met Eng* 25:971-3 N 23 '21

Pulverized coal in the steel plant. W. H. Searight. *Blast F & Steel Pl* 10:441-2 Ag '22

Pulverized coal installation for plate-heating furnace. *Il diags Engineering* 116:424, 425-6 O 5 '23

Pulverized fuel for Cahokia station of Union electric light and power co. *Munic Eng* 63:105-7 S '22

Pulverized fuel plant with high efficiency. *Elec W* 80:27 JI 1 '22

La station centrale thermo-électrique de la Milwaukee electric railway and light company, chauffée au charbon pulvérisé. *Il plans Génie Civil* 81:333-6, pl 9 O 14 '22

Steps in the use of powdered fuel. J. S. Atkinson. *diags Power Pl Eng* 27:1033-6 O 15 '23

Tests of a powdered-coal plant. H: Kreisinger and others. *diags U S Bur Mines Tech Pa* 316:1-22 '23

Use and abuse of powdered fuel for stationary boilers. J: E. Muhlfeld. *Blast F & Steel Pl* 10:353-5 Je '22

Use of carbon dioxide recorders controlling combustion of powdered coal. D. M. Scott. *Brass W* 19:165-6 My '23

Use of pulverized coal. H. A. Schaffer. *Power* 57:718-19 My 8 '23; Same. *Chem & Met Eng* 28:1024-5 Je 11 '23

Use of pulverized coal in open-hearth furnaces. R. H. Lowndes. *Mech Eng* 45:651-2 N '23

Use of pulverised fuel; abstracts. J. T. Dunn. *Chem Age (Lond)* 8:397-8 Ap 14 '23; *Elec R (Lond)* 92:793-4 My 18 '23; *Blast F & Steel Pl* 11:442-3 Ag '23

Coal, Pulverized—Continued

Use powdered coal for malleable. E. E. Griest. *il* diags Iron Tr R 72:1309-14, 1387-92 My 3-10 '23

Various systems of burning pulverized coal. C. F. Herington. diags Blast F & Steel Pl 11: 345-7 Je '23

Waste heat utilized to produce electric power in cement kilns. C. H. Reeder. *il* Elec R 79:976-70 D 31 '21

Will pulverized coal be substituted for fuel oil in smelting operations? T. H. O'Brien. Coal Age 23:1013-14 Je 21 '23

See also Boilers—Pulverized coal firing; Fuel, Colloidal; Fuel, Plastic; Lignite, Pulverized

Distribution

Conveying finely pulverized fuels through gas mains. Wittfeld. diags Mech Eng 44:834-6 D '22

Fuller S-H pulverized-coal feeder. *il* Power 54:972 D 20 '21

Pump for powdered coal. *il* diags Engineer 133:357 Mr 31 '22

Preparation

Apco unit pulverized coal system. diags Power 57:682-3 My 1 '23

Appareil Atritor pour la préparation du charbon pulvérisé. *il* Génie Civil 81:242-3 S 9 '22

Atritor coal-pulverising machine constructed by Messrs. Alfred Herbert, limited. diags Engineering 114:42-3, 46 Jl 14 '22

Ball mills pulverize coal almost without repair and attendance costs and with minimum power. *il* diags Coal Age 20:841-5 N 24 '21

Conical mill for pulverized fuel. *il* diags Power Pl Eng 25:1226 D 15 '21

Considerations of capacity of equipment and of power requirements for pulverizing coal. Iron Age 109:544 F 23 '22

Explosion in coal preparation plant. plan Power 58:344 Ag 28 '23

Lopulco pulverised fuel system. diag Elec R (Lond) 93:299 Ag 24 '23

Modern industrial plant in Milwaukee burns pulverized coal. *il* diags Power 56:868-74 D 5 '22

Powdered coal preparing machine developed by the K-B pulverizer co., inc., New York. *il* Iron Age 108:1266 N 17 '21; Elec R 79:931 D 17 '21; Chem & Met Eng 26:82-3 Ja 11 '22

Powdering coal without first drying it. diag Coal Age 20:838 N 24 '21

Preparing and distributing powdered coal. E. C. Greisen. *il* diags Iron Age 109:326-9 F 2 '22

Pulverized-coal system for small plants. *il* Power 54:1016-17 D 27 '21

Pulverised fuel: the Atritor system. *il* Elec R (Lond) 93:229 Ag 10 '23

Typical arrangement of coal-pulverizing plant with Hardinge mills. diag Min & Sci P 123:623-4 O 29 '21

Transportation

In Minneapolis trucks vend powdered coal for apartments, offices and factories. Coal Age 20:713 N 3 '21

Pulverized coal transported 5,400 ft. through 5-in. pipe. Power 58:711 O 30 '23

Coal ash

Burning low-ash coal. H. D. Fisher. Power 55:704-5 My 2 '22

Combustible matter in boiler ashes. W. S. Patterson. Soc Chem Ind J (Chem & Ind) 42:904-6 S 21 '23

Combustible reclaimed from ash. diag Power Pl Eng 26:1076 N 1 '22

Comparison of the standard gas furnace micropyrometer methods for determining the fusibility of coal ash. A. C. Fieldner, W. A. Selvig and W. L. Parker. diags J Ind & Eng Chem 14:695-8 Ag '22

Electric furnace for determination of coal-ash fusion temperatures. O. Monnett and J. F. Kohout. *il* diag Coal Age 23:329-30 F 22 '23

Fusibility of ash from coals of the United States. W. A. Selvig and A. C. Fieldner. diags U S Bur Mines Bul 209:1-119, pl 1-2 '22

Fusibility of coal ash. Coal Age 22:716 N 2 '22

How to calculate washed coal and refuse from ash and sulphur determinations. K. D. Dadds. Coal Age 23:635-6 Ap 19 '23

Inorganic constituents of coal: the melting-point of coal ash. F. S. Sinnatt, A. B. Owles and N. Simpkin. *il* diags Soc Chem Ind J 42:266-71; Discussion. 271-2 Je 22 '23

Low-ash coal not always desirable. S. W. Flagg. *il* diag Power 55:328-30 F 28 '22

Recovering coal and coke from ashes. W. D. Green. Chem & Met Eng 26:701 Ap 12 '22

Recovering fuel from boiler ash and clinker. C. H. S. Tupholme. *il* diags Power Pl Eng 27:1075-9 N 1 '23

Recovery of combustible material from coal ashes. *il* diags Paper Tr J 76:69-72 Ap 5 '23

Recovery of fuel from ashes. H. A. Prager. *il* diag Chem Age (Lond) 8:638-40 Je 16 '23

Utilizes combustible in ash; the Klinkerag process. C. O. Sandstrom. Power 56:602 O 17 '22

See also Ash handling; Clinkers

Coal barges

Electrically operated coal barges in service on San Francisco bay. C. W. Geiger. *il* Marine Eng 27:428-30 Jl '22

Coal bins, Concrete

Concrete cylindrical bins for coal storage. Engineer 134:85 Jl 28 '22

Economy of concrete bins and pits for coal storage. A. C. Irwin. *il* diags plan Elec R 79:811-16 N 26 '21

Coal bins, Steel

Lining coal bunkers with concrete. C. M. Daily. *il* Eng N 90:966 My 31 '23

Protection of steel bins from corrosion. J. V. Schaefer. *il* diag Power Pl Eng 26:632-3 Je 15 '22

Relining steel coal hoppers and bunkers with gunite. J. G. Melliush. *il* Munic Eng 63: 241-2 D '22

Some data on the design of steel coal bins. R. Fleming. diags Eng N 89:346-50 Ag 31 '22; Discussion. 89:669-70, 808, 1132-3 O 19, N 9, D 28 '22

Coal breakers

Buck Run coal co. methods of preparing and storing coal. D. C. Ashmead. flow sheet *il* Coal Age 20:955-60 D 15 '21

By uniting two collieries and building a new breaker operating cost and degradation will be reduced. D. C. Ashmead. *il* plan Coal Age 22:359-61 S 7 '22

Dunmore breaker makes a specialty of grate or broken coal. D. C. Ashmead. flow sheet *il* diags Coal Age 22:785-90 N 16 '22

Razing of Seneca hoist tower by dynamite and rebuilding of breaker. D. C. Ashmead. *il* Coal Age 22:5-8 Jl 6 '22

Wet preparation replaces dry at Marvinne colliery, the breaker being of fireproof construction. D. C. Ashmead. flow sheet *il* diags plan Coal Age 20:833-3 N 24 '21

See also Coal crushers; Coal cutters

Coal brokerage

Work for fact-finding commission appointed by president. Coal Age 23:339, 493, 1017 F 22, Mr 22, Je 21 '23

Coal carbonization. See Coal distillation**Coal cars**

Best representative examples of gondola cars constructed in 1922. *il* Ry R 72:46-7 Ja 6 '23

C. M. and St P. Ry. sets an example in good car design. *il* diags map Ry R 70:415-21 Mr 25 '22

Composite hopper cars for Nickel Plate. *il* Ry Age 75:703-4 O 20 '23; Ry Mech Eng 97:754-6 N '23

Consumption should control and determine number and ownership of coal cars. L. S. Evans. Coal Age 23:643 Ap 19 '23

Design of combination 40-ton stock and coal car. diags Ry R 73:159-69 Ag 4 '23

How the C. M. & St P.R.R. designed their new gondola cars. *il* diags plan Ry R 70:834-41 Je 10 '22

Coal cars—Continued

- Method used in designing C. M. & St P. gondola cars. *il diags plans Ry Mech Eng* 96: 638-44 N '22; Discussion. 97:4-5, 109-11, 201 Ja-F, Ap '23
- New export coal carrying equipment for C. & O. Ry. *il diags plans Ry R* 70:1-4 Ja 7 '22
- 100-ton gondola car with four-wheel trucks. *il diags Ry Mech Eng* 97:23-5 Ja '23
- Planned repetitive manufacture of heavy equipment—steel coal cars. W. B. Ferguson. *il Management & Adm* 6:585-92 N '23
- Rejuvenation of the McAdoo hoppers. *il diags Ry R* 73:89-91 Jl 21 '23
- Safe handling of railroad cars at mines. *il Coal Age* 22:757-8 N 9 '22
- 70-ton all steel gondola with clasp brake equipment. *il diags plans Ry R* 70:841-4 Je 10 '22

Coal cars, Distribution of. See Coal—Transportation

Coal cleaning

- Automatic spiral coal separator. *il Engineering* 113:359 Mr 24 '22
- Clean coal is broken up and screened out, leaving rock and bone as oversize. *Coal Age* 23:855 My 24 '23
- Developments in coal cleaning processes in Britain. C. H. S. Tupholme. *Power Pl Eng* 25:1198 D 15 '21
- Methods of dry cleaning and dust collecting at the coal-concentrating plant of the American coal co. *diags Coal Age* 22:875-7 N 30 '22
- Plant in Iowa picks its coal clean before weighing. M. W. Hibbard. *il Coal Age* 21: 1077-8 Je 29 '22
- See also Coal supply—Clean coal; Coal washing

Coal commission, United States. See United States coal commission

Coal consumption

- Census of manufactures gives interesting figures on coal consumption. *Coal Age* 21:753 My 4 '22
- Chicago is the world's greatest coal market. F. C. Honnold. *Coal Age* 21:18-19 Ja 5 '22
- Coal consumed by public utility plants, August-November 1921. *Coal Age* 21:22 Ja 5 '22
- Coal consumption in New York state public institutions. *Heat & Ven* 20:45 O '23
- Coal ration. *il Sci Am* 128:77+ F '23
- Conservation of coal by large consumers. G. B. Nichols. *Heat & Ven* 20:55-6 S '23
- Fewer pounds of coal per kilowatt-hour. A. H. Horton. *Elec W* 81:624 Mr 17 '23
- Record peace-time reserves of coal disclosed by survey of stocks November 1. *Coal Age* 20:934-6 D 8 '21
- Who consumes all this American coal? F. G. Tryon and W. F. McKenney. *Coal Age* 21: 85-7 Ja 19 '22
- See also Coal supply

Coal contracts

- Purchase of coal on contract, says commission report, is to advantage of both producer and consumer. *Coal Age* 24:489-90 S 27 '23

See also Coal purchasing

Bibliography

- References on coal contracts. J. Callan. *Special Lib* 12:209-14 N '21

Coal crushers

- Mechanical protection devices for coal crushers. S. Jones. *Gas J (Lond)* 163:250-1 Jl 11 '23
- Pennsylvania armorframe single roll coal crusher. *il Concrete* 21:sup97 D '22
- See also Coal breakers

Coal cutters

- Better machine bits would lower cost of cutting coal. A. F. Brosky. *il diags Coal Age* 23:803-6 My 17 '23
- By rolling coal-cutter bits in a die they are forged or sharpened to uniform length and outline. *il Coal Age* 20:883-4 D 1 '21

- Coal cutter having variable-speed drive cuts seam with controller wide open. *il Coal Age* 21:1048-9 Je 22 '22
- Coal-cutting machines increased in use in the United Kingdom in 1920. *Coal Age* 21: 20 Ja 5 '22
- Competent machine runners. *Coal Age* 23:18-19, 417-18 Ja 4, Mr 8 '23
- Correct shape for bits of coal cutters. C. B. Officer. *diags Coal Age* 21:47 Ja 12 '22
- Cutting thin and pitching coal beds in Belgium by longwall, using American chain machines. F. C. Cornet. *diags plans Coal Age* 22:949-51 D 14 '22
- Disk coal cutters installed at Windber mines. A. S. Brosky. *il Coal Age* 22:130-1 Jl 27 '22
- Electricity in mines; report of the chief inspector of mines. *Elec R (Lond)* 89:847-9 D 23 '21
- Experience with spraying water on the cutter bar of a mining machine. J. Crawford. *Coal Age* 21:406 Mr 9 '22
- Explosion-proof electrical equipment approved by the Bureau of mines. *Elec W* 80:997-8 N 4 '22
- Fixing the cutter picks of chain coal-cutters. *il diags Engineering* 114:726-7 D 8 '22
- Hardy-Bedford coal cutter. *il Electrician* 88: 597 My 19 '22
- How to reduce power costs, increase coal cut and save steel by handling bits judiciously. C. B. Officer. *il Coal Age* 21:826-8 My 18 '22
- Mavor and Coulson coal cutters. *il diags Engineering* 115:614-16, 648-50, 656 My 18-25 '23
- Progress in design of mining machines has greatly reduced labor cost of cutting kerf in coal. *il Coal Age* 21:809-16 My 18 '22
- Standard mining machine readily adapted to conditions at Spadra, Arkansas. *il Coal Age* 24:435 S 20 '23

Coal distillation

- Ammonia yields from vertical retorts. G. Braidwood. *il diags Gas J (Lond)* 163:180-8; Discussion. 188-9 Jl 4 '23
- Carbonization of mixed coals. *Gas Age* 49: 303-5+ Mr 11 '22
- Carbonization yields from run of mine, slack and + $\frac{3}{4}$ " coals. D. J. Demorest. *Am Gas J* 119:347-9 O 16 '23
- Carbonizing coal at low temperatures in the fusion retort. C. H. S. Tupholme. *diags Chem & Met Eng* 29:752-5 O 22 '23
- Carbonizing coal by the coalite process. C. H. S. Tupholme. *il diags Chem & Met Eng* 29:233-8 Ag 6 '23
- Le charbon boghead, sa distillation à basse température. H. Winter. *Chimie & Ind* 7: 898-9 My '22
- Coal carbonization and physical laws governing it. A. W. Warner. *diags Gas Age* 52: 517-21 O 27 '23; Same cond. *Am Gas J* 119: 486-7+ O 27 '23
- Coal carbonization and the world's fuel. H. C. Porter. *diags Ind & Eng Chem* 15:335-8 Ap '23
- Coal carbonization as applied to power plant practice. V. Z. Caracristi. *diags Power* 57: 331-6 My 29 '23; Same. *Am Gas J* 119:65-9, 76-8 Jl 28 '23; Abstract. *Gas J (Lond)* 64:534 Ag 15 '23
- Coal distillation as Britain's oil fuel source. A. Hurd. *Annalist* 22:135-6 Jl 30 '23
- Coal distillation by the Moscicki low temperature process. R. Moritz. *diag Am Gas J* 119: 129-31 Ag 18 '23
- Destructive distillation of mixtures of oil and coal. J. D. Davis, P. B. Place and G. S. Scott. *diags Chem & Met Eng* 25:1131-6 D 21 '21
- Devices for speeding low-temperature carbonization and procuring a dense and non-friable product. A. Thau. *diags Coal Age* 20:873-6 D 1 '21
- La distillation des combustibles à basse température par le procédé Moscicki. R. Moritz. *Chimie & Ind* 8:1172-4 D '22
- La distillation des lignites. F. Colomer. *Génie Civil* 83:181-3 Ag 25 '23
- La distillation pyrogénée des houilles et lignites à basse température. A. Grebel. *diags Génie Civil* 81:253-7 S 16 '22

Coal distillation—Continued

- Essais de distillation à basse température des combustibles et particulièrement des lignites. Génie Civil 81:262-3 S 16 '22
- Ethylene from Trent amalgams as a source of alcohol. J. D. Davis. Chem & Met Eng 27:1087-8 N 29 '22; Same. Am Gas J 117: 653-4+ D 9 '22
- Factors influencing the yield of ammonia in the carbonisation of coal. R. A. Mott and H. J. Hodsman. Soc Chem Ind J 42:4-12 Ja 5 '23; Same. Gas J (Lond) 163:530-1, 578-80, 737-9 Ag 15-22, S 12 '23; Discussion. Soc Chem Ind J 42:12, 26, 39-40 Ja 5, 19-26 '23; Gas J (Lond) 163:739 S 12 '23
- Great Britain points the way in low-temperature carbonization. C. H. S. Tupholme. Chem & Met Eng 29:142-5 Jl 23 '23
- Internally heated retorts. C. V. McIntyre. diags Am Gas Assn Technical sec v 4:76-93 '22
- Low temperature carbonisation. Eng & Ind Management 6:445 O 20 '21
- Low temperature carbonisation. Engineering 113:526-7 Ap 28 '22
- Low temperature carbonization. W. E. Davies. diags Gas Age 49:593-6 My 13 '22
- Low temperature carbonization. F. Johnstone-Taylor. Am Gas J 117:561-2+ N 11 '22
- Low temperature carbonization. F. Johnstone-Taylor. diags Am Gas J 118:561-4 Je 30 '23
- Low temperature carbonisation. C. H. Lander. Engineer 133:382 Ap 7 '22
- Low temperature carbonization. S. W. Parr. il diags Gas Age 50:531-4 O 21 '22
- Low temperature carbonisation. J. Stanley-Morgan. Chem Age (Lond) 8:400 Ap 14 '23
- Low temperature carbonization and its results. Gas Age 52:256 S 1 '23
- Low-temperature carbonization by the medium of water gas; the Marshall-Easton process. F. D. Marshall. diags Gas J (Lond) 162:667-72 Je 13 '23
- Low-temperature carbonization in England. D. Brownlie. il Chem & Met Eng 26:23-7 Ja 4 '22
- Low-temperature carbonization in horizontal retorts; report of Fuel research board. Engineering 116:168-9 Ag 10 '23
- Low temperature carbonisation in vertical retorts. Engineering 116:212-13 Ag 17 '23
- Low temperature carbonisation of coal. il diags Elec R (Lond) 89:664-6 N 18 '21
- Low temperature carbonization of coal. D. Brownlie. Power 58:603-4 O 16 '23
- Low-temperature carbonization of coal. H. A. Curtis and others. il diags Chem & Met Eng 28:11-17, 60-2, 118-23, 171-3 Ja 3-24 '23
- Low temperature carbonization of coal in vertical retorts. Gas J (Lond) 163:581-2 Ag 22 '23
- Low temperature carbonizing of coals; abstract. J. Roberts. Gas Age 48:654 N 19 '21
- Low-temperature distillation of amalgams of bituminous non-coking coal and asphaltic oils. J. D. Davis and C. E. Coleman. diags Am Gas J 116:83-6 Ja 28 '22; Same cond. Chem & Met Eng 26:173-4 Ja 25 '22; Same cond. Gas Age 49:107-9 Ja 28 '22
- Low temperature tar and its evaluation. J. D. Davis. diags Am Gas Assn Technical sec v 4:65-76 '22
- Manufacturing fuel by the pure coal briquette process. C. H. S. Tupholme. plan Chem & Met Eng 29:401-3 S 3 '23
- Markets for low-temperature coal tars. R. P. Soule. Chem Age 30:251-3 Je '22
- Mechanism of high temperature coal carbonization. D. W. Wilson. Am Gas J 119:349-50 O 16 '23
- Methods of transferring heat to the coal mass in low temperature carbonization with externally heated retorts. H. A. Curtis. Am Gas Assn Technical sec v 4:94-100 '22
- National significance of low-temperature carbonisation. D. Brownlie. Engineering 113:125-6 F 3 '22
- New retorts have toggle plates to release carbonized coal and cooling chamber in which to harden it. C. E. Hopkins. il diags Coal Age 21:197-201 F 2 '22
- Observations on mixing coals for carbonization. J. D. Davis. Gas Age 52:373-5 S 29 '23; Same cond. Am Gas J 119:350-2 O 16 '23
- Plunger of low-temperature carbonizing retort expels product as a bar, a knife slicing off briquets. A. Thau. diags Coal Age 20:913-14 D 8 '21
- Potentialities of low-temperature distillation in the conservation of our fuel resources. V. Z. Caracristi. diags plan Chem Age 31:361-5 Ag '23
- Present status of coal carbonization at low temperatures. J. D. Davis. diags Am Gas Assn Technical sec v 3:441-56 '21; Same abr. Gas Age 48:707-11 N 26 '21; Excerpt. Engineering 113:31 Ja 6 '22
- Producer gas for furnace work. il diags Engineering 113:347-51, pl 17 Mr 24 '22; Discussion. 113:452, 598 Ap 14, My 12 '22
- Products of low temperature distillation of coal. W. Runge. Chem Age 30:9-10 Ja '22
- Recent developments in low-temperature coal carbonization. Chem & Met Eng 26:1086-7 Je 7 '22
- Remarkable strides made in production of liquid fuels from coal. Automotive Ind 49: 432-5 Ag 30 '23; Same. Gas Age 52:307-10 S 15 '23
- Report of the low temperature carbonization section. Am Gas J 119:354-5 O 16 '23
- Sensible heat distillation of carbonaceous material. Gas J (Lond) 161:395-6 F 14 '23
- Studies in the carbonization of coal; characteristics of low-temperature coal tar. J. J. Morgan and R. P. Soule. Chem & Met Eng 26:923-8, 977-81, 1025-30 My 17-31 '22
- Study of gas from destructive distillation of a mixture of water-gas tar and coal. R. L. Brown. Chem & Met Eng 26:363-5 F 22 '22
- Sur la production d'essences légères pour moteurs au moyen des goudrons de lignite et de houille obtenus à basse température. F. Fischer. Chimie & Ind 8:359-61 Ag '22
- Survey of low-temperature carbonization. C. V. McIntire. Chem Age 31:449-53 O '23
- Thin layer of coal charred at low heat on traveling platform of hot metal plates, saving byproducts. R. D. Lamie. diags Coal Age 24:171-3 Ag 2 '23
- Ueber die vergasung rheinischer rohbraunkohle und ihren verlauf bei anwendung einer vortrocknung. G. Bulle. diags Stahl & Eisen 43:49-52 Ja 11 '23
- Value of low temperature distillation of coal. J. J. Morgan. Power Pl Eng 27:854 Ag 15 '23; Same. Coal Age 24:177-8 Ag 2 '23
- See also Coal tar; Coal-tar products; Xylene
- Coal dock.** See Coal piers
- Coal drying**
How relative drying time may be approximated. E. B. Atwater and R. A. Borkland. il Chem & Met Eng 29:227-8 Ag 6 '23
See also Coal washing
- Coal dust**
Coal dust explosion tests in the Bruceton experimental mine. Engineering 115:641 My 25 '23
Coal-dust explosion tests in the experimental mine, 1913 to 1918 inclusive. G. S. Rice and others. diags U S Bur Mines Bul 167:1-639, pl 1-31 '22
Damp carbide from acetylene lamp ignites coal dust warmed by sun. R. L. Grimes. Coal Age 24:557 O 11 '23
Disastrous inflammation of coal dust in excavating a mine dump. C. A. Herbert. Coal Age 24:209 Ag 9 '23; Same. Power Pl Eng 27:996 O 1 '23
Explosion hazards in industrial plants due to the use of pulverized coal. L. D. Tracy. il diags Eng Soc W Pa 37:259-82; Discussion. 283-95 Je '21
Explosion in coal preparation plant. plan Power 58:344 Ag 23 '23
Explosive tendencies of pulverized coal. H. Seymour. Chem Age (Lond) 9:82-4 Jl 28 '23
Factors determining the choice of materials for stone-dusting of mines. A. C. Dunningham. Soc Chem Ind J 42:195-200 My 11 '23

Coal dust—Continued

- Fire hazards in plants using pulverized coal. L. D. Tracy. Blast F & Steel Pl 10:395-9 JI '22; Same abr. Coal Age 22:161-8 Ag 3 '22; Abstract. Power 55:1030-1 Je 27 '22
- How mines can be moistened without use of a big force fan or obstruction of haulage roads. T. Chester. diag Coal Age 24:663-4 N 1 '23
- Inflammability of coal dust. diags Engineering 114:119 JI 28 '22
- La pratique de la neutralisation des poussières dans les houillères. Audibert. Génie Civil 82:450-1 My 12 '23
- Research mine studies explosions. S. R. Winters. il Gas Age 49:5-6 Ja 7 '22
- Stone dust, water and steam as means of protection against mine explosions. Coal Age 22:796 N 16 '22
- When mines are moistened by steam it may be necessary to do it split by split. F. C. Cornet. diags Coal Age 22:169-70 Ag 3 '22; Discussion. 22:497-8, 921, 1000-1, 1043-4 S 28, D 7, 21-28 '22

See also Coal, Pulverized

Coal dust as fuel

- Burning coal dust on Coxé stoker. F. B. Orr. diags Power 56:223-4 Ag 8 '22

Coal gas. See Coke-oven gas; Gas**Coal handling**

- Acrobatic boats for the handling of coal. W. H. French. il Sci Am 129:16-17 JI '23
- Ample reserve of fuel an insurance. W. Walker. diags Inst E E J 60:26-33 D '21
- At Clifford mine a flexible storage and reclamation plant counteracts fluctuations in demand. R. P. Lewis. flow sheet il Coal Age 21:399-402 Mr 9 '22
- Automatic railway. il Ind Management (Lond) 9:307-9 My 17 '23
- Automatic skip hoists for the handling of coal and ashes. H. W. Stevens. diags Blast F & Steel Pl 11:173-7 F '23
- Belt conveyor by sagging more closely in accord with grade lowers building costs. il Coal Age 20:922 D 8 '21
- Belt to carry mine's output through long tunnel. il Pop Mech 38:544-5 O '22
- British practice in handling coal by suction. C. H. S. Tupholme. diags Am Gas J 117:645-9 D 9 '22
- Buck Run coal co. methods of preparing and storing coal. D. C. Ashmead. flow sheet il Coal Age 20:955-60 D 15 '21
- Call for coal-handling equipment. H. E. Birch. Elec W 80:506 S 2 '22
- Car dumper and coal conveyors at coke oven plant. il diag plan Eng N 88:407-9 Mr 9 '22
- Cargo handling at ports: British and American methods compared. Ind Management (Lond) 10:81-2 Ag 9 '23
- Chain curtain saves coal on long chutes. J. S. Watts. diags Coal Age 22:493 S 28 '22
- Coal and ash handling. diags Power Pl Eng 26:65-7 Ja 1 '22
- Coal and ash handling plant at Blackburn Meadows generating station, Sheffield. il Eng & Ind Management 6:641-3 D 1 '21
- Coal and ash-handling plant: Royal naval cordite factory, Poole. G. F. Zimmer. il diags Engineering 112:706-7 N 18 '21; Same. Eng & Ind Management 6:701-4 D 15 '21
- Coal and coke grabbing steam cranes. il Gas J (Lond) 162:658-9 Je 13 '23
- Coal and coke handling at Birmingham. il Gas J (Lond) 163:853-5 S 19 '23
- Coal and ore handling plant at Mobile. D. Holt. il Eng & Contr (Ry) 59:681-2 Mr 21 '23
- Coal conveyors for modern power plants. J. E. Borland. il Power Pl Eng 27:917-21 S 15 '23
- Coal handling and electricity supply: a modern installation at a Blackburn electricity station. G. F. Zimmer. il diags Electrician 89:742-7 D 29 '22; Same. Ind Management (Lond) 9:115-18, 152-4 F 22-Mr 8 '23
- Coal handling by drag scraper. C. W. Ross. il diag Gas Age 50:230-2 Ag 19 '22
- Coal handling plant of the American sugar refining co., Baltimore, Maryland. E. B. Powell. diags plan Ind Management (Lond) 9:277-8 My 3 '23
- Coal-handling towers made portable by use of wooden rollers. C. W. Geiger. il Coal Age 24:633 O 25 '23
- Coal sorted, stored and transported by belt-conveyor system. il diags Power 58:598-602 O 16 '23
- Coal wharf and machinery of the North-Western fuel company of America. plan Engineer 134:595-6, 608, 623-4, 653-6, 666 D 8-22 '22
- Coaling installation at the Imperial paper works, Gravesend. il Eng & Ind Management 6:762-3 D 29 '21
- Control circuit for coal conveyor and crusher. E. L. Curtis. diag Power 58:541-2 O 2 '23
- Cutting cost of coal handling by electricity. il Elec R 80:52-3 Ja '22
- De Mayo portable elevator and conveyor system. diags Eng & Ind Management 7:485-6 Je 1 '22
- De Mayo system for loading coal into vessels. Eng & Ind Management 6:583-4 N 17 '21
- Development of mechanical handling devices during and since the war. G. F. Zimmer. diags Eng & Ind Management 6:706-7 D 15 '21
- Developments in power station design. il diags plan Engineer 132:600-1 D 2 '21
- Does it pay to store coal? D. O. Taber. il Iron Tr R 70:673-8+ Mr 9 '22
- Dump body on electric storage battery truck cuts cost by half. il Ind Eng 80:457 S '22
- Electric coal-conveying system; abstract. M. Druey. Elec W 80:1284 D 9 '22
- Flexible coal-loading dock equipment. il diags plan Iron Age 111:1851-4 Je 28 '23
- Ford principles and practice at River Rouge. J. H. Van Deventer. il diags Ind Management 64:195-201 O '22
- Gas works electrification; the coal and coke handling equipment at the Plymouth gas works. H. C. Widlake. il diags plan Electrician 89:738-41 D 29 '22
- Handling and mixing fifty tons of screenings and coke breeze in an hour. il Ind Eng 81:323 Je '23
- Handling coal in storage. il Power Pl Eng 25:1127 N 15 '21
- How one industrial plant saves money by handling coal with a portable loader and an industrial truck. il Elec R 80:306 Je '22
- Hydraulic conveying of coal. il Ind Management (Lond) 8:257-8 N 2 '22
- Lake coal dock with unloading and handling plant, Duluth, Minn. il diags plan Eng N 88:112-15 Ja 19 '22
- Loading Ruhr coal. diags Ind Management (Lond) 10:103+ Ag 23 '23
- La manutention des combustibles dans les dépôts de locomotives, par les distributeurs du système Marie. diags Génie Civil 82:235-6 Mr 10 '23
- Modern English coal and ash handling plants. il diag Ry R 70:709-11 My 20 '22
- Motor-driven loader saves double its operating and rental cost. il Elec W 82:234 Ag 4 '23
- Nechells power station of the Birmingham corporation; coal storage and handling. W. N. Twelvetees. Engineering 115:227-9, 238 F 23 '23
- New coal-handling plant at New Orleans. Pop Mech 37:215 F '22
- New coal shipping appliance at Maryport. il diags plans Engineer 133:715-16 Je 30 '22
- New equipment facilitates rapid coaling of ore and coal boats. il Iron Age 112:956 O 11 '23
- New power house of Lever brothers' soap works, Cambridge, Mass. diag Ind Management (Lond) 8:196-7 O 5 '22
- Owl Creek coal co., at Gebo, Wyoming, mines steeply pitching bed by rooms driven on the strike. C. M. Schloss. il diags plan Coal Age 21:439-42 Mr 16 '22
- Pneumatic coal-handling plant; Bankside installation. il diags Elec R (Lond) 90:580-1 Ap 28 '22

Coal handling *Continued*

- Pneumatic handling of coal, diags plan Ind Management (Lond) 9:371-3, 403-5 Je 14-28 '23
- Power problems of vital interest to executives; economical storage and handling of coal, J. T. Beard, il Ind Management 66:109-14 Ag '23
- Reduce coal-handling time by conveyor system, M. M. Mummert, il Elec W 80:183 Jl 22 '22
- Reducing the cost of handling coal, J. M. Kelly, il Blast F & Steel Pl 10:507-8 O '22
- Remodeled valley no. 2 operation of the Nineveh coal co., C. N. Martin, il diag Coal Age 23:3-6 Ja 4 '23
- Rocking cableway coal handling apparatus, il Power Pl Eng 25:1228-9 D 15 '21
- Roller-mounted towers unload coal ships, il Pop Mech 39:879 Je '23
- Ropeway handling coal from siding to power house, il diags plan Eng & Ind Management 8:20-2, 142+ Jl 27, S 7 '22
- Saving 30c per ton on coal handling, il Brick & Clay Rec 62:1039-41 Je 12 '23
- Sliding coal down a hillside in a tube, J. Keely, il Coal Age 23:558-9 Ap 5 '23
- Springdale mine furnishes fuel to West Penn power co. plant, cleaning every car of coal before weighing, D. J. Baker, il plan Coal Age 20:993-9 D 22 '21
- Steam power plant management, R. June, il Gas Age 51:737-40; 52:9-11, 63-5 Je 9, Jl 7, 21 '23
- Storing and reclaiming coal by portable conveyors under difficult conditions, D. A. Thomas, il Coal Age 23:634-5 Ap 19 '23
- Storing coal on the ground and reclaiming it with the aid of a cable drag scraper, H. V. Schiefer, il Coal Age 23:487-8 Mr 22 '23
- Storing the winter's coal supply, S. E. Balcome, il diag Management Eng 4:377-80 Je '23
- Taking coal by the air route to coaling station, C. K. Traber and W. C. Richards, il diags Coal Age 24:175-7 Ag 2 '23
- Utah's only coal-retarding conveyor lowers output of Spring Canyon mine, two hundred feet, C. M. Schloss, il Coal Age 22:717 N 2 '22; Discussion, G. A. Schultz, 22:959 D 14 '22
- Water employed to handle coal and ashes, J. S. Clarke, plan Elec W 81:1041-2 My 5 '23
- See also* Coal—Transportation; Coal piers; Coal storage; Coal trimmers; Coaling; Coaling stations

Cost

- Portable conveyor handles coal and ash at low cost, A. MacLean, Power 55:519 Mr 28 '22; Same, Eng & Ind Management 7:488 Je 1 '22

Coal inspection

- Anthracite carefully inspected for slate, bone or faulty sizing before shipping, D. C. Ashmead, il Coal Age 21:693-4 Ap 27 '22
- How Pennsylvania coal & coke corporation keeps its product in compliance with severe specifications, il Coal Age 23:219-21 F 1 '23

Coal lands

- Life of coal reserves, Coal Age 21:1036 Je 22 '22
- Valuation of anthracite lands for taxation soars; Schuylkill county makes 650 per cent raise, Coal Age 22:725-6 N 2 '22
- Valuation of coal land leaseholds in tax returns, W. B. Reed, Coal Age 22:590-1 O 12 '22
- See also* Coal mines and mining; Mineral lands

Coal measurement

- Fuel determination by scales, meters and counters for coal, by meters for oil, il diags Power Pl Eng 27:16-18 Ja 1 '23
- Measurement of fuel and oil, T. P. Walker, Gas Age 50:171-4 Ag 5 '22
- Standard weights and measures of coal, Coal Age 20:808 N 17 '21

Coal meters

- Coal consumption recorder used at Philadelphia water-works, H. R. Cady, diag Eng N 90:1054 Je 14 '23

- Coal meter records amount of fuel used per hour, il Pop Mech 38:895 D '22
- Fuel determination by scales, meters and counters for coal, by meters for oil, il diags Power Pl Eng 27:17-18 Ja 1 '23
- Lea coal meter, il Elec R (Lond) 92:874-5 Je 1 '23; Power 54:841 N 29 '21
- Pallas fuel indicator, il Engineering 112:693 N 18 '21

Coal miners

- Can anthracite mines and preparators be operated with advantage on more than one shift per day? D. C. Ashmead, Coal Age 21:162-7, 202-4 Ja 26-F 2 '22
- Clouding the coal labor situation, C. Scholz, Min & Met 185:19-20 My '22
- Coal miners' insecurity, L. Bloch, 50p Russell Sage foundation, New York '22
- Equal strength in operators' and miners' organizations would protect interests of labor and producer, P. Penna, Coal Age 21:330-1 F 23 '22
- Horny hands and hampered elbows, W. Williams, 285p Scribner '22
- Industry's turnover as a whole not unusually high though excessive in some districts, Coal Age 24:601-3 O 18 '23
- Labor and its effect on the cost of industrial coal, J. G. Bradley, Coal Age 23:829 My 17 '23
- Labor on tonnage basis, J. Thompson, Coal Age 22:96 Jl 20 '22
- Make wage scales so flexible that they will run for years without injustice, F. L. Baird, Coal Age 21:528 Mr 30 '22
- Miners now and forty years ago, J. Rose, Coal Age 21:249-50 F 9 '22
- Output of coal miners in Great Britain and various other countries, Monthly Labor R 15:612-13 S '22
- Physical examination of miners, Coal Age 20:888, 1055 D 1, 29 '21
- Production and efficiency of labor in coal mines, Monthly Labor R 17:112-15 Jl '23
- Senator Kenyon classifies coal as a public utility, Coal Age 21:215-16 F 2 '22
- Three classes of labor to avoid; prejudices and habits displayed by men in certain occupations, H. A. Haring, Ind Management 62:370-3 D '21
- Tonnage and output per man by schedules, May, 1923, Coal Age 24:544 O 11 '23
- What about coal? F. W. Parsons, il Gas Age 49:1-4+ Ja 7 '22
- See also* Coal strike, 1922; United mine workers of America

Diseases and hygiene

- Morbidity studies as an aid in preventing illness among miners, R. R. Sayers, Coal Age 23:524-6 Mr 29 '23
- Study of the mortality of coal miners, England and Wales, E. L. Collis, J Ind Hygiene 4:256-72, 307-13 O-N '22

Belgium

- Production and output in Belgian coal mines, Monthly Labor R 16:1034-6 My '23
- Wages and production in Belgian coal mines, 1919 to 1921, and September, 1922, Monthly Labor R 16:375-6 F '23

Chile

- Chilean coal strike, Monthly Labor R 15:173-5 Jl '22

Colorado

- Vocational training for Colorado mine and steel workers, E. S. Cowdrick, il J Elec 49:171-2 S 1 '22

France

- Production of French coal mines and output per worker, January to March, 1922, Monthly Labor R 15:782 O '22

Germany

- Wages of coal miners in Germany, first six months of 1921, Monthly Labor R 14:120 Ja '22

Coal miners—Continued

Great Britain

- British coal industry faces new crisis; may consider wage readjustment. C. H. S. Tupholme. Coal Age 20:728 N 3 '21
- Coal-war in Britain. H. Tracey. 50p Bureau of industrial research, New York '21
- Labor's opinion of wages in the British coal industry. F. Hodges. Coal Age 22:878 N 30 '22
- Miners' conflict with the mineowners. J. Thomas. 70p International bookshops, London '21
- Mining crisis, its history and meaning to all workers. W. Livesey. 89p Simpkin, Marshall, Hamilton, Kent & co., London '21
- Operations of British coal mines, July to September, 1922. Monthly Labor R 16:92-4 Ja '23
- Seven-hour day causes increase of £30,000,000 a year in production cost of British coal. C. H. S. Tupholme. Coal Age 22:679 O 26 '22
- Seven-hour day in British coal mines. Coal Age 21:922-4 Je 1 '22
- Story of the Durham miners (1662-1921). S. Webb. 154p Fabian society, Labour pub. co., London '21
- Study of the mortality of coal miners, England and Wales. E. L. Collis. J Ind Hygiene 4:256-72, 307-13 O-N '22
- Trained reserves as a protection against coal strike. H. M. Herrick. Comm & Fin Chr 115:2229-30 N 18 '22
- Wage reductions and employment in the British coal industry. Monthly Labor R 15:328-9 Ag '22
- Wage reductions, strikes and idle pits mark progress of British coal readjustments. Coal Age 20:901 D 1 '21
- Wages in the coal industry. J. W. F. Rowe. 174p P. S. King & son, London '23

Illinois

- Coroner's jury lays deaths of strike breakers in Herrin massacre to acts of company officials. Il Coal Age 21:1097-8 Je 29 '22
- Illinois mine workers' earnings. Coal Age 21:19, 91, 256, 498 Ja 5, 19, F 9, Mr 23 '22
- Illinois operators and miners. E. W. Davidson. Coal Age 21:421-2; 22:215, 255-6 Mr 9, Ag 10-17 '22

Japan

- Labour conditions in Japanese coal mines. Int Labour R 5:251-64 F '22; Excerpts. Monthly Labor R 14:703-5, 794-5 Ap '22

Montana

- Wages paid pick miners and machine miners and helpers in Montana. Coal Age 23:265 F 8 '23

Netherlands

- Coal mining and miners' wages in the Netherlands. Monthly Labor R 14:1186-7 Je '22

Pennsylvania

- Cost of living among wage earners, anthracite region of Pennsylvania, February, 1922. (Special rep. no. 21) 41p National industrial conference board, New York '22
- In non-union mines. P. Hapgood. 48p Bureau of ind. research, New York '22
- Pennsylvania soft-coal men mine nearly one thousand tons per man in 1920. Coal Age 20:812 N 17 '21
- Reports of central Pennsylvania mine workers' earnings at variance. Coal Age 21:748 My 4 '22
- Wages and hours of labor in anthracite coal mining in Pennsylvania in January, 1922. Monthly Labor R 14:855-62 My '22
- Work and welfare of children in an anthracite mining district. Monthly Labor R 15:1082-4 N '22

Ruhr valley

- Production bonus for miners in the Ruhr district. Monthly Labor R 16:87-8 Ja '23

South Africa

- Coal miners' wages in Natal, Union of South Africa. Monthly Labor R 14:1187 Je '22

United States

- Acrimonious conferences of operators fail to agree unanimously to Harding arbitration plan. Coal Age 22:100-4 Jl 20 '22
- Agreement reached to renew wage contract for one year. Coal Age 23:195 Ja 25 '23
- Anthracite convention calls for strike on April 1 if 20 per cent wage increase is not granted. Coal Age 21:179-80 Ja 26 '22
- Anthracite mine workers' demands—official data. Comm & Fin Chr 114:372-3 Ja 28 '22
- Anthracite miners demand 20-per cent wage increase, two-year contract and full union recognition; conferences, etc. Coal Age 21:29-30, 187-8, 259, 293-5, 371-4, 415-16 Jl 5, Ag 2, 16-23, S 6-13 '23
- Anthracite situation. R. V. Norris. Min & Met 186:13 Je '22
- Better settle for year at present wages on four-state basis, big western operators now say. Coal Age 22:1045 D 28 '22
- Bituminous coal mining agreement; text. Min & Met 189:8 S '22
- Bituminous miners and operators reach agreement in New York conference—renew wage contract for another year. Comm & Fin Chr 116:375-6 Ja 27 '23
- Chronology of controversies as to wages since Jan. 1, 1922. Coal Age 21:497 Mr 23 '22
- Coal commission investigators report on labor relations in anthracite industry. Coal Age 24:257-8 Ag 16 '23
- Coal commission submits recommendations to eliminate strikes in bituminous-coal mining. Coal Age 24:447-9 S 20 '23
- Coal crisis of 1922 and its ultimate solution. E. McAuliffe. Min & Met 185:7-13 My '22
- Coal labor board and the incorporation of coal labor unions advocated in Senate by Mingo investigators. Comm & Fin Chr 114:482-3 F 4 '22
- Coal miners' convention—report of wage scale committee for bituminous coal field. Comm & Fin Chr 114:699-700 F 18 '22
- Coal miners' demands and the way to a solution. Min & Met 185:18-19 My '22
- Coal mining—anthracite. Monthly Labor R 17:859 O '23
- Coal wage reductions in bituminous field. Comm & Fin Chr 114:487-9 F 4 '22
- Coming of coal. R. W. Bruere. 123p Assn. press. 317 Madison av., New York '22
- Commission urges continuance of present wage scale until 1924, if necessary to avert mine tie-up. P. Wooton. Coal Age 23:65-6 Ja 11 '23
- Competitive-field wage-making plan likely to be revived at second miner-operator conference. Coal Age 22:843-4 N 23 '22
- Conditions in the bituminous coal fields. (67th Cong., 2d sess. Senate. Doc. 171) 37p, U. S. Bur. of labor statistics, Washington '22
- Conference of miners and operators with reference to agreement for next year. Comm & Fin Chr 115:1591-2 O 7 '22
- Cost of living in coal-mining towns. Monthly Labor R 14:617-21 Ap '22
- Court of appeals temporarily lifts Anderson injunction against check-off; strike threat delayed. map Coal Age 20:775-7 N 10 '21
- Demands adopted by anthracite miners; conferences, etc. Comm & Fin Chr 117:40, 856-60, 964-5 Jl 7, Ag 25-S 1 '23
- Draft legislation for President's plan for coal agency; Hoover price raised to \$4.50. P. Wooton. Coal Age 22:292 Ag 24 '22
- Extent of operation of bituminous coal mines, October 28 to November 25, 1922. Monthly Labor R 16:121-2 Ja '23
- Fact finders write labor code. Iron Tr R 73:755 S 13 '23
- Force of public opinion only remedy for coal strikes. Coal Age 24:407-14 S 13 '23
- Four hour day in coal. H. Archbald. 148p H. W. Wilson co. '22
- Garfield opposes public ownership of mines; Philip Murray and T. H. Watkins present operators' side. Coal Age 21:705-6 Ap 27 '22

Coal miners—United States—Continued

Harding proposes resumption of mining at old wage pending fixing of basic scale by commission. Coal Age 22:63-4 J1 13 '22

Hearing on Bland coal commission bill provides general airing of coal situation. Coal Age 21:587-8 Ap 6 '22

Hours and earnings in anthracite and bituminous coal mining. U S Bur Labor Statistics Bul 316:1-63 '22

Hours and earnings in coal mining in the United States. Int Labour R 4:579-92 D '21

If the miners strike. H. A. Haring. Annalist 19:222 F 13 '22

Increase in anthracite wages greater than in manufacturing industries and on railroads. Coal Age 21:501 Mr 23 '22

Labor and its relation to the cost of industrial coal. J. G. Bradley. Nation's Business 11:60 Je 5 '23

Labor relation in the anthracite industry. Power 58:262 Ag 14 '23

Labor relations in the coal industry. Monthly Labor R 17:794-801 O '23

Lost time through strikes and other causes in the mining of anthracite and bituminous coal. Monthly Labor R 14:569-70 Mr '22

Miners' union opposes standardization of mines, living costs and amount of work performed. Coal Age 22:847 N 23 '22

Miners union should incorporate if peace is to be had. C. W. Eliot. Coal Age 23:1063-4 Je 28 '23

Miners will not submit to wage cut next year. E. Searles. Coal Age 22:888 N 30 '22

National strikes an extravagant and unfortunate method of settling disputes. Coal Age 24:485-7 S 27 '23

No mediation of wage-scale disputes will be undertaken by U. S. coal commission. P. Wooton. Coal Age 22:967 D 14 '22

Peace between operators and mine workers in sight; district committees to work out wage contracts. E. W. Davidson. Coal Age 22:559-60 O 5 '22

Position of anthracite operators in wage controversy. S. Warriner. Comm & Fin Chr 117:969 S 1 '23

Public's place in a coal strike. J. H. Barnes. Nation's Business 11:26 O '23

Readjustment in the coal industry. T. H. Watkins. Min & Met 182:13-17 F '22

Report of U. S. coal commission on anthracite. Coal Age 24:43-62 J1 12 '23

Some issues in the coal wage controversy. J. G. Puterbaugh. Min & Met 185:15-18 My '22

Supplementary report of the coal commission suggests points for help toward peace. Power 58:272-3 Ag 14 '23

Supplementary report of United States coal commission in anthracite industry. Comm & Fin Chr 117:629-33 Ag 11 '23

United mine workers of America and the non-union coal fields. A. F. Hinrichs. (Studies in history, economics and public law) 196p Columbia univ., New York '23

Untenable position of union in coal strike. E. Ludlow. Min & Met 185:27-8 My '22

Wages and employment in the bituminous coal industry. Monthly Labor R 14:960-6 My '22

Wages and hours of labor in bituminous coal mining in the fall and winter of 1921-22. Monthly Labor R 14:609-16 Ap '22

What is the check-off? H. A. Haring. Annalist 19:249-50 F 20 '22

What keeps your coal bill up. W. Bishop. Nation's Business 10:12-13 Ja '22

See also Coal strike, 1922; also Coronado coal company case; United mine workers of America

Washington

Pacific coast coal co. excludes union men and forms its own bargaining council. chart Coal Age 21:534-5 Mr 30 '22

West Virginia

Case of the West Virginia coal mine workers. P. Murray. 74p United mine workers of America '21

Charging oppression, miners' union asks Federal coal commission to probe conditions in Logan county. Coal Age 22:1007-8 D 21 '22

Civil war in West Virginia. W. D. Lane. 128p Huebsch '21

Judge Anderson enjoins unionization of coal miners in Williamson field and forbids check-off. Coal Age 20:736-7 N 3 '21

Report of Senate committee on West Virginia coal fields. Monthly Labor R 14:438-40 Mr '22

Welfare of children in bituminous coal mining communities in West Virginia. N. P. McGill. (pub. 117) 77p U. S. Children's bur., Washington '23

Wyoming

Coal problem in Wyoming. P. J. Quealy. Min & Met 185:21-2 My '22

Coal mines and mining

American institute of mining and metallurgical engineers 127th meeting, New York city. R. D. Hall. Coal Age 23:412-15 Mr 8 '23

American institute of mining engineers studies systematic and total recovery of mine pillars. Coal Age 21:449-52 Mr 16 '22

Betsy Layne mine presents unusual and suggestive methods of construction and operation. F. R. Morris. il diags plans Coal Age 23:361-6 Mr 1 '23

By uniting two collieries and building a new breaker operating cost and degradation will be reduced. D. C. Ashmead. il plan Coal Age 22:359-61 S 7 '22

Cable cut by rock from bottom shot fires crevice gas. Coal Age 22:669-71 O 26 '22

Coal- and metal-mining methods contrasted. D. Harrington. il Coal Age 23:961-7 Je 14 '23

Concentration in American vs. British mining. F. Ross. diag Coal Age 20:966 D 15 '21

Conditions under which Orient and Zeigler mines made wonderful one-hoist records. il Coal Age 22:318-21 Ag 31 '22

Despite irregular operation of union bituminous mines coal-mining technique progressed greatly in 1921. R. D. Hall. il Coal Age 21:95-9 Ja 19 '22

Disposal of slate refuse when working twin coal seams. W. H. Luxton. plan Coal Age 23:1054-5 Je 28 '23

Driving wide rooms a factor in maximum unit production of coal. Coal Age 22:1041: 23:259 D 28 '22. F 8 '23

Effect of drawing pillars on production of squeeze. Coal Age 23:226, 492, 529, 530-1 F 1, Mr 22-29 '23

Les effets des pressions de terrains dans les exploitations houillères. Génie Civil 82:236 Mr 10 '23

Enlisting the turntable in mechanical coal loading. E. N. Zern. diags Coal Age 22:283-5 Ag 24 '22

Extracting coal in a 30-ft. seam. C. W. Atkins. diag Coal Age 24:69 J1 12 '23

Extracting thick and steeply pitching coal seams. A. Gerke. diags Coal Age 23:336-8 F 22 '23

Faulting of an inclined seam in coal mining. H. Bock. Coal Age 24:18 J1 5 '23

Gathering without animals, locomotives or conveyors. F. C. Cornet. diags Coal Age 23: 631-3 Ap 19 '23

Haulage, hoisting and dumping practices at Rosedale mine. G. A. Richardson. il diags plans Coal Age 22:351-7 S 7 '22

Heating of gob areas. Coal Age 22:248-9, 327 Ag 17, 31 '22

How would you work this vertical coal bed? C. C. Clayberg. diag Coal Age 21:51-2 Ja 12 '22

Ideas that prove profitable to Columbus mining co. may fit your conditions. A. F. Brosky. il Coal Age 23:45-8 Ja 11 '23

Improved longwall panel system. W. H. Luxton. plan Coal Age 22:455-6, 759; 23:18 S 21, N 9 '22, Ja 4 '23

Lifting bottom in mine openings without disturbing timber sets. A. F. Brosky. diag Coal Age 22:1031 D 28 '22

Locating the coal beyond a fault. I. C. Parfitt. diags Coal Age 22:799-800 N 16 '22

Coal mines and mining—Continued

- Longwall retreat with coal conveyors modified so as to make each face independent of every other. F. C. Cornet. diags Coal Age 23:181-2 Ja 25 '23
- Longwall retreat with face and main conveyors and many air splits giving positive ventilation. F. C. Cornet. il diags Coal Age 23:7-10 Ja 4 '23
- Long-wall system of mining. R. W. McCasland. il diags maps Eng Soc W Pa 38:421-38; Discussion. 439-52 D '22
- Making the mine layout match the surface equipment. D. D. Wilcox. plans Coal Age 22:53-6 JI 13 '22
- Making the mining of thin coal seams profitable. G. A. M. Rees. diags Coal Age 21:1011-3 Je 22 '22
- Meeting. Coal mining institute of America, Pittsburgh, Dec. 7-9. Coal Age 20:1047-50 D 29 '21
- La méthode des longues tailles à transporteurs, dans les veines minces en plateau. M. Berthoud. Génie Civil 83:257-8 S 15 '23
- Methods of mining that enable the Pocahontas region to recover about 90 per cent of coal. T. H. Claggett. diags Coal Age 21:727-31 My 4 '22
- Methods of working highly inclined coal seams by room-and-pillar and by longwall. J. S. Chalmers. diags Coal Age 23:589-93 Ap 12 '23
- Mining a two-foot coal seam at Forest City. D. C. Ashmead. il plan Coal Age 22:991-3 D 21 '22
- Mining Alabama coal with stream of water. il Pop Mech 39:891 Je '23
- Mining coal by eighty-foot block system. J. A. Graft. plan Coal Age 22:17 JI 6 '22
- Mining coal in vicinity of gas wells. Coal Age 21:374 Mr 2 '22
- Mining seams where those below have been worked. H. N. Eavenson. Coal Age 23:373-6 Mr 1 '23
- Mining two beds at Gray Slope with heavy parting. D. C. Ashmead. diags Coal Age 23:299-301 F 15 '23
- Mortar ejected from cement gun protects roof from injurious effects of mine atmosphere. il diag Coal Age 23:807-11 My 17 '23
- Normal vs. reverse faults in the mining of coal. M. C. Butler. diags Coal Age 24:519 O 4 '23
- Observations in a model mine. Coal Age 20:807 N 17 '21
- One-third of soft coal lost in mining, says commission. Coal Age 24:487-8 S 27 '23
- Overcoming difficulties in working low coal. C. M. Schloss. diags Coal Age 22:288 Ag 24 '22
- Plan for shaft mine giving large capacity and saving in stoppings, overcasts, doors and air costs. O. J. Pleschner. Coal Age 22:83-4 JI 20 '22
- Planning working a coal property, two steeply pitching seams. il Coal Age 23:942; 24:145-6, 147, 325-6, 559-60 Je 7, JI 26, Ag 30, O 11 '23
- Providing maneuvering facilities and longwall face needed for mechanical coal loading. C. Gottschalk. diags Coal Age 21:695-6 Ap 27 '22
- Provision for keeping shaft sump clean of fallen coal at minimum cost. G. Bowker. diags Coal Age 24:353-4 S 6 '23
- Scheme of working suited to level bed with light cover has longwall work flanked by approach roadways. M. L. O'Neale. diags Coal Age 21:877-8 My 25 '22
- Shaft sinking methods, mine layout, trip handling and two-compartment skip hoist at Springdale. A. F. Brosky. il diags plans Coal Age 20:999-1008 D 22 '21
- Shaking chutes, swung from roof or resting on rollers meet loading and gathering problems in low coal. A. Gerke. diags plan Coal Age 22:487-9 S 28 '22
- Solid shooting. I. C. Parfitt. Coal Age 22:209-10 Ag 10 '22
- Standardizing methods in the mining of coal. C. W. Atkins. plan Coal Age 23:416 Mr 8 '23
- Steeply pitching bed mined by rooms driven on the strike. C. M. Schloss. il diags plan Coal Age 21:439-42 Mr 16 '22
- Steeply pitching coal bed mined by retreating longwall. G. W. Evans. diags plan Coal Age 21:157-9 Ja 26 '22
- Submersible pumproom will not flood till water rises one hundred and twenty feet above pumps. D. C. Ashmead. il plan Coal Age 23:257-8 F 8 '23
- Surface and underground methods at Blue Diamond mine; modification of Elkhorn system of mining used. A. F. Brosky. il diags Coal Age 23:171-4 Ja 25 '23
- Technical discussions elicit deep interest at Milwaukee convention of American mining congress. Coal Age 21:593-6 O 18 '23
- Thickness of coal, size of mine, and use of machinery, the three factors in efficient production. Coal Age 24:505-8 O 4 '23
- To mine large coal. Coal Age 20:928, 1054-5 D 8, 29 '21
- Unusually high recovery obtained by use of modified advance system of pillar drawing at Indianola. A. F. Brosky. plans Coal Age 21:3-5 Ja 5 '22
- Using modern methods in mining coal. H. F. Bain. Iron Tr R 71:1343+ N 16 '22
- Why shoot coal off the solid. Coal Age 20:806, 1016; 21:51, 250-1, 373, 660, 885-6, 1008-9 N 17, D 22 '21, Ja 12, F 9, Mr 2, Ap 20, My 25, Je 15 '22
- Work longwall by machine loaders as long as roof will stand, then shift to more costly room-and-pillar plan. M. R. Martin. il diags plans Coal Age 22:745-8 N 9 '22; Same. Ind Management (Lond) 9:87-9 F 8 '23
- Working a vertical seam of coal. diag Coal Age 20:726-7, 886; 21:290 N 3, D 1 '21, F 16 '22
- Working coal on steep pitches. J. W. Powell. Coal Age 21:536 Mr 30 '22
- Working coal seam with heavy slate parting. Coal Age 23:762; 24:68, 364-5 My 10, JI 12, S 6 '23
- Working contiguous coal seams on moderate pitches. C. M. Schloss. Coal Age 22:172-3 Ag 5 '22
- Working three continuous seams of coal. Coal Age 24:636 O 25 '23
- Working three feet of coal with slate and shale partings. Coal Age 24:219-20, 403-4 Ag 9, S 13 '23
- Year 1922 tackles hopefully many of the big problems of coal production and preparation. R. D. Hall. il diags Coal Age 23:89-91 Ja 18 '23
- Zeigler no. 2 adopts cage hoist and raises seventeen tons per minute with ease. F. H. Kneeland. flow sheet il Coal Age 23:247-50 F 8 '23

See also Coal breakers; Coal crushers; Coal cutters; Coal dust; Coal handling; Coal lands; Coal miners; Coal mining machinery; Coal storage; Coal washing; Hydraulic mine filling; Mine gases as fuel; Mining engineering

Accidents and explosions

- Are foreign workers more careful than Americans in coal mines? Coal Age 22:57 JI 13 '22
- Blowouts in Belgian coal seams and the way in which these and like phenomena may be explained. F. C. Cornet. diags Coal Age 23:367-72, 408-11 Mr 1-8 '23
- Cable cut by rock from bottom shot fires crevice gas. Coal Age 22:669-71 O 26 '22; Discussion. 22:1001-2 D 21 '22
- Carbon-dioxide and methane outbursts in coal region of the Gard. France. F. C. Cornet. Coal Age 23:719 My 3 '23
- Coal-dust explosion tests in the experimental mine, 1913 to 1918, inclusive. G. S. Rice and others. diags U S Bur Mines Bul 167: 1-639, pl 1-31 '22
- Coal-mine accidents in Pennsylvania, 1916 to 1920. Monthly Labor R 17:920-2 O '23
- Coal mine explosions demand precautions. H. F. Bain. Safety Eng 45:37-8 F '23; Excerpts. Coal Age 22:958 D 14 '22
- Coal-mine fatalities by causes and states. Published monthly in Coal age

Coal mines and mining—Accidents and explosions—Continued

Coal mine fatalities in the United States and the United Kingdom. *Int Labour R* 5:139-44 Ja '22

Coal-mine fatalities in the United States, 1921. *W. W. Adams. U S Bur Mines Tech Pa* 302:1-72 '22

Coal-mine fatalities in the United States, 1922. *W. W. Adams. U S Bur Mines Tech Pa* 339:1-97 '23

Coal miner's job safe, but accident cost grows steadily. *E. W. Davidson. Coal Age* 21:111-12 Ja 19 '22

Dangers of mining. *R. N. Hosler. Coal Age* 22:997-8 D 21 '22

Detecting use of matches in gassy mines; match streak on gauze lights gas. *J. H. Haertter. Coal Age* 21:653 Ap 20 '22

Fewer coal-mine fatalities in 1922 than in 1921, but ratio to output is higher. *W. W. Adams. Coal Age* 23:123-4 Ja 18 '23

1st report of the Departmental committee on spontaneous combustion of coal in mines. *5v Gt. Brit. Mines dept., London '14-'21*

Grass forty feet from entry is ignited by Mt. Mulligan explosion, Queensland. *Coal Age* 20:960 D 15 '21

High-power cable cut by cars that were uncoupled in a rotary dump explodes coal dust at Dolomite. *J. J. Forbes. Coal Age* 23:331-2 F 22 '23

Inborn superstition regarding mine accidents. *G. Edwards. Coal Age* 22:326 Ag 31 '22

Men with open lights ignite gas in shaft abandoned and about to be reopened. *Coal Age* 24:285 Ag 23 '23

Nine killed and three injured when windy shot explodes Marietta mine. *Coal Age* 21:402 Mr 9 '22

Non-gaseous mine explodes, killing two men on the surface. *G. Edwards. il Coal Age* 21:43 Ja 12 '22

Outbursts of gas and coal at Cassidy. *B. C. J. B. Touhey. diags Coal Age* 23:519-22 Mr 29 '23

Prevention of mine explosions an unsolved problem. *J. Rose. Coal Age* 24:597 O 18 '23

Problems of operating men. *Coal Age* 23:720-2 My 3 '23

Rapport de la commission pour l'étude des dérangements instantanés de gaz dans les houillères. *Génie Civil* 82:285-6 Mr 24 '23

Relative danger in the working of non-gaseous mines. *Coal Age* 23:645 Ap 19 '23

Report of Governor Stephens' committee of inquiry on the Argonaut mine disaster. *Eng & Min J* 114:1132 D 23 '22

Safety precautions at Dolomite prevented explosion from killing all the men in that mine. *H. S. Geisner. il Coal Age* 22:919-20 D 7 '22

Trip runs wild on slope, cuts conductor; dust ignites and eighty-six die. *il Coal Age* 22:877 N 30 '22

Two explosions, one in Dawson, N. M., and one in Dunsuir, B. C., kill many men. *Coal Age* 23:297 F 15 '23

View Park colliery explosion. *Elec R (Lond)* 90:826 Je 9 '22

Violation of mining laws chief cause of explosions in mines. *C. Halliday. Coal Age* 23:825 My 17 '23

Warning against mine explosions. *Coal Age* 23:378-9 Mr 1 '23

What caused the Wakesiah mine explosion. *Coal Age* 23:493-4, 940-1; 24:289 Mr 22, Je 7, Ag 23 '23

Why accidents in American mines do not decrease. *T. Hogarth. Coal Age* 22:840 N 23 '22

See also Coal mines and mining—Safety measures; Mine accidents

Accounting

Bituminous coal mine accounting. *W. B. Reed. 221p McGraw-Hill '22*

Critics of British coal strike settlement charge juggling of production costs. *C. H. S. Tupholme. Coal Age* 22:723; Discussion. *W. B. Reed. 723 N 2 '22*

Different classes of items not to be grouped under one head in keeping coal-operation costs. *R. W. Gardiner. Coal Age* 20:729-30 N 3 '21

Machine bookkeeping speeds accounts at the mine. *J. C. McNeil. Coal Age* 24:319-22 Ag 30 '23

See also Mine accounting

Costs

Analyzing the cost of producing anthracite. *S. D. Warriner. Min & Met* 187:7-9 JI '22

Anthracite costs and prices during 1921 compared with those of 1913. *Coal Age* 20:813-14 N 17 '21

Coal mining costs. *A. T. Shurick. 515p McGraw-Hill '22*

Cost data regarding an anthracite stripping aggregating about five thousand tons. *D. C. Ashmead. diag Coal Age* 21:1043-4 Je 22 '22

Cost of coal stripping in Hopkins county, Kentucky. *R. H. Whittlesey. il Eng & Contr (Ry)* 59:1141 My 16 '23

Critics of British coal strike settlement charge juggling of production costs. *C. H. S. Tupholme. Coal Age* 22:723; Discussion. *W. B. Reed. 723 N 2 '22*

Records at Kathleen mine show that when running time is halved power costs per ton mined are doubled. *E. McAuliffe. chart Coal Age* 21:817-19 My 18 '22

Report of U.S. coal commission on anthracite. *Coal Age* 24:43-62 JI 12 '23

Slack time raises mining cost. *Coal Age* 24:414-5 S 20 '23

What are the actual profits earned by the bituminous coal industry? *Coal Age* 21:883 My 25 '22

Equipment

How permanent records of mechanical and electrical equipment may be kept. *J. H. Edwards. Coal Age* 24:586-9 O 18 '23

Huntington show suggests modern ways of reducing coal cost. *il diags Coal Age* 22:629-30, 672-4 O 19-26 '22

Methods and practices of E. E. White coal co. at Stotesbury. *W. V. A. F. Brosky. il diags plan Coal Age* 22:197-201 Ag 10 '22

Steel guides and buntons in mine shafts. *F. C. Cornet. diags Coal Age* 22:676 O 26 '22

Examinations

Examination questions answered. *See weekly numbers of the Coal age*

Explosives

Choosing a permissible that will produce a large percentage of lump coal. *C. S. Hurter. Coal Age* 23:1010 Je 21 '23

Danger in use of black powder. *Coal Age* 23:903 My 31 '23

Les explosifs de sûreté; résultats obtenus dans les stations d'essais. *Génie Civil* 82:16-17 Ja 6 '23

Permissible explosives vs. black powder. *W. H. Luxton. Coal Age* 24:290-1 Ag 23 '23

See also Explosives

Finance

Coal mining stocks for investment. *H. A. Haring. Annalist* 20:245-6, 270+ S 11-18 '22

Determining what is most economical life for a mine. *F. Haas. Coal Age* 23:1043-5 Je 28 '23

Preliminary report of the Federal trade commission on investment and profit in soft-coal mining. 222p Federal trade commission, Washington, D.C. '22

Government ownership

Coal, government ownership or control. *D. J. McAdam. 188p Authors & publishers corp. New York '21*

Garfield opposes public ownership of mines; Philip Murray and T. H. Watkins present operators' side. *Coal Age* 21:705-6 Ap 27 '22

Miners' nationalization committee submits plan for public ownership and operation of coal industry. *Coal Age* 23:23-4 Ja 4 '23

Coal mines and mining—Government ownership

—Continued

- South Dakota operates its own coal mine in North Dakota. il Coal Age 24:514-15 O 4 '23
 United mine workers would have government acquire coal industry for \$4,500,000,000—union's plan for nationalization. Comm & Fin Chr 116:258-9 Ja 20 '23
 United mine workers would raise wages and cut prices by nationalization of anthracite mines. Coal Age 23:985-6 Je 14 '23; Same. Comm & Fin Chr 116:2732-3 Je 16 '23
 University debaters' annual. E. M. Phelps, ed. p. 249-94 [Bibliog. p. 291-4] H. W. Wilson co. '21
 University debaters' annual. E. M. Phelps, p. 287-334. H. W. Wilson co. '22

Haulage

See Mine haulage

History

- Anthracite development and railway progress. W: H. Williams. Comm & Fin Chr 116:1968-9 My 5 '23; Same cond. il Ry Age 74:1044-6 Ap 28 '23
 Delaware & Hudson, chartered a hundred years ago, opens mines and builds road and canal to Hudson. il map Coal Age 23:703-8 My 3 '23

Law

See Mining law

Lighting

See Mine lighting

Management

- Cambria steel co. finds that good housing increases output. G. A. Richardson. Coal Age 23:817 My 17 '23
 Can anthracite mines and preparators be operated with advantage on more than one shift per day? D. C. Ashmead. Coal Age 21:162-7, 202-4 Ja 26-F 2 '22; Abstract. Min & Met 182:58-9 F '22; Discussion. Coal Age 21:361-2 Mr 2 '22
 Caving system in England. W: Allan. Coal Age 23:185-6 Ja 25 '23
 Detection of waste of time and current at an anthracite colliery. D. C. Ashmead. il chart diag Coal Age 22:661-3 O 26 '22
 Elimination of waste in the coal industry. E. Ludlow. Min & Met 183:39-40 Mr '22
 Intelligence more important than knowledge in successfully managing anthracite mines. W. H. Williams. Coal Age 21:321-3 F 23 '22
 Mine management. R. Z. Virgin. 109p Van Nostrand '22
 Safety and economy provisions at the Francis mine. A. F. Brosky. il Coal Age 21:995-6 Je 15 '22
 Systematic methods and daily accounting keep down cost of producing coal at Indianola mines. A. F. Brosky. il Coal Age 20:839-41 N 24 '21
 Twenty-hour week; why it is not possible for the coal miner to work steadily, and what this means to the industry. il Sci Am 127: 252-3+ O '22
 Where coal-mining practice could be materially improved. W: Allan. Coal Age 22:675-6 O 26 '22

See also Coal miners

Power

- By measurement of current used and extended records large savings can be made in power cost. Coal Age 22:494-6 S 28 '22
 Case against use of purchased power at coal mines. C. W. Smith. il Coal Age 22:13-17 Jl 6 '22
 Census figures prove that output per man advances with increase in use of mining machinery. F. H. Kneeland. Coal Age 21:829-32 My 18 '22
 Demand factor of coal mining loads. C. Lee. W Soc E J 26:350-9 O '21; Abstract. Elec W 79:233-4 F 4 '22
 Isolated power plant in the coal industry. S. J. H. White. il Coal Age 23:895-6 My 31 '23
 More power often wasted by leaky pipes and cracked valves than would run a compressed-air system. J. A. Maguire. il Coal Age 22:483-5 S 28 '22

- Navajo no. 5 mine turns waste piles into power and solves water problem with 2,882-ft. well. H. B. Cooley. il diags Coal Age 21:387-91 S 13 '23
 New plant in anthracite field; East Penn electric company's power house at Pine Grove, Pa. il Elec W 81:60 Ja 6 '23
 North Wales coalfield; an electrification proposal. W. G. Pickvance. Elec R (Lond) 92:875-6 Je '23
 Philadelphia & Reading plans mine system. Elec W 81:59 Ja 6 '23
 Power used at twelve collieries and its distribution for eight separate operating purposes. G. M. Kennedy. Coal Age 22:749-50 N 9 '22
 Problem of electric power supply for the coal mine. A. L. Jones. Coal Age 23:859-61 My 24 '23
 Purchased power for coal mines. J. P. Clayton. W Soc E J 27:301-7 O '22; Same abr. Coal Age 21:1079-82 Je 29 '22; Discussion. W Soc E J 27:307-11 O '22
 Reading power system when completed will be largest in coal mining. Coal Age 23:14 Ja 4 '23
 Records at Kathleen mine show that when running time is halved power costs per ton mined are doubled. E. McAuliffe. chart Coal Age 21:817-19 My 18 '22
 Should power be purchased from a central station or generated at the mine where it is to be used? E. Steck. il Coal Age 21: 649-51 Ap 20 '22
 Supplementing locally-generated current with central-station power. M. E. Benedict. diag Coal Age 22:168-9 Ag 3 '22
 Under what conditions are steam turbines preferable to electrical units for driving auxiliaries? il Coal Age 21:875-6 My 25 '22
 Use of purchased power for coal mine operations. W. C. Adams. W Soc E J 27:294-300 O '22; Same. Coal Age 22:123-6 Jl 27 '22
 What equipment should be provided for hoisting men and ventilating mine when electric power fails. G. Bright. il Coal Age 24:433-5 S 20 '23

Production record

- Lynch mine, its record production and operating data. A. F. Brosky. il Coal Age 24:541-6 O 11 '23

Records

- How permanent records of mechanical and electrical equipment may be kept. J. H. Edwards. Coal Age 24:586-9 O 18 '23

Safety measures

- Dead-ending the trolley wire in mines. O. Bullock. il Coal Age 22:879 N 30 '22
 Explosion prevention in a bone-dry mine of the Pocahontas region. A. S. Brosky. il Coal Age 21:919-20 Je 1 '22
 Factors determining the choice of materials for stone-dusting of mines. A. C. Dunningham. Soc Chem Ind J 42:195-209 My 11 '23
 Group insurance as an aid to reducing mine accidents. T: A. Walsh. Coal Age 24:665-8 N 1 '23
 Illinois mine inspector makes suggestions for greater safety in mining. Coal Age 22:202 Ag 10 '22
 Inspectors condemn loading of more than one shothole at a time. il Coal Age 21:575 Ap 6 '22
 Inspectors' institute advances art of mine safety at 13th annual meeting. E. W. Davidson. Coal Age 22:133 Jl 27 '22
 Making coal mining a safer job. Safety Eng 42:221-3 N '21
 Method of working to reduce danger from sudden outbursts of gas. Coal Age 22:290-1, 760, 881-2 Ag 24, N 9, 30 '22
 Mine inspectors' institute advances cause of safety at its 14th annual convention. E. W. Davidson. Coal Age 24:113, 149-51 Jl 19-26 '23
 Permissible explosives, mining equipment, and apparatus, approved prior to March 15, 1922. S. P. Howell and others. U S Bur Mines Tech Pa 307:1-21 '22
 La pratique de la neutralisation des pous-sières dans les houillères. Audibert. Génie Civil 82:450-1 My 12 '23

Coal mines and mining—Safety measures—Cont.

Precautions taken to guard men from seam outbursts. F. C. Cornet. *Coal Age* 23:408-11 Mr 8 '23

Rules for prevention of gas explosions in anthracite mines. J. J. Walsh. *Safety Eng* 41:69-72 F '21; Same. *Am Soc Heat & V E* J 27:686-9 S '21

Safe handling of railroad cars at mines. *il Coal Age* 22:757-8 N 9 '22

Securing capable mine officials greatest factor in safety. T. Allen. *Coal Age* 23:824-5 My 17 '23

Sharp tools in every miner's working place. *Coal Age* 20:806-7 N 17 '21

Stone dust, water and steam as means of protection against mine explosions. *Coal Age* 22:796 N 16 '22

What hard-coal mines are doing to lessen derailments; symposium contributed by six leading anthracite officials. D. C. Ashmead, comp. *il Coal Age* 22:872-4 N 30 '22

What is lacking to make mines safer. D. Young. *Coal Age* 24:18-19 J1 5 '23

Why adopt half-way measures in safety? L. C. Illsley. *Coal Age* 21:924-5 Je 1 '22

See also Coal mines and mining—Explosives; Coal mines and mining—Sealing off abandoned areas; Mining engineering—Safety measures; Respiratory apparatus

Sealing off abandoned areas

Sealing abandoned areas safest practice. A. Bennett. *Coal Age* 23:455-6 Mr 15 '23

When a section of a mine is entirely worked out and abandoned would it be proper to seal off the section or should it be ventilated? *Coal Age* 21:210, 493-4, 536-7, 966-7; 22:414, 549-50 F 2, Mr 23-30, Je 8, S 14, O 5 '22

Stripping operations

Anthracite vs. bituminous stripping operations. J. R. Bazley. *Coal Age* 21:576 Ap 6 '22

Cost of coal stripping in Hopkins county, Kentucky. R. H. Whittlesey. *il Eng & Contr (Ry)* 59:1141 My 16 '23

Graphic time study of the efficiency of a shovel removing overburden. *Coal Age* 22:446 S 21 '22

Mining coal by the stripping method. S. A. Taylor. *diag Eng Soc W Pa* 39:1-7 F '23; Same. *Eng & Contr (Ry)* 59:1383-5 Je 20 '23; Discussion. *Eng Soc W Pa* 39:8-18 F '23

Strip-pit economics as developed at Shovel-ton mine. A. F. Brosky. *il map Coal Age* 21:773-6 My 11 '22

Stripping and selling coal on a dead market. W. G. Blanchard. *il plan Coal Age* 20:878-82, 915-20 D 1-8 '21

Stripping coal in Russia at fifty degrees below zero. G. Djilo. *Coal Age* 21:1001-2 Je 15 '22; Same. *Eng & Contr (Ry)* 58:40-2 O 18 '22

Stripping methods that afford clean coal. *il Coal Age* 22:236-7 Ag 17 '22

Stripping with power bottomless drag scraper. *il Eng & Contr (Ry)* 59:906 Ap 18 '23

Subaqueous operations

Removing coal from under the Susquehanna river where cover is shallow. D. C. Ashmead. *il map Coal Age* 23:1041-2 Je 28 '23

Robbing pillars in undersea operations. C. M. Schloss. *Coal Age* 22:549 O 5 '22

Ventilation

See Fans, Mine; Mine ventilation

Waste disposal

Pollution of river water in the Pittsburgh district. C. M. Young. *map Am Water Works Assn J* 8:201-17 My '21; Discussion. 8:541-9, 662-7 S-N '21

Alaska

Alaskan coal assumes commercial importance. L. W. Pedrose. *il Pop Mech* 37:562-4 Ap '22

Digest of our national government's coal mines—its history, coal seams and operation. S. S. Smith. *il maps Coal Age* 23:1037-41 Je 28 '23

Healey river a new coal field in Alaska with seven to forty-six foot coal. *il Coal Age* 22:243 Ag 17 '22

Arkansas

Mining machines save Spadra, Arkansas, field from extinction after long fight with union. H. Denman. *il maps Coal Age* 23:437-40 Mr 15 '23

Belgium

Cutting thin and pitching coal beds in Belgium by longwall, using American chain machines. F. C. Cornet. *diags plans Coal Age* 22:949-51 D 14 '22

Deep mining in Belgium. F. C. Cornet. *Coal Age* 24:254-5 Ag 16 '23

Discovery and development of the coal deposits of Campine. E. Mommens. *diags map Min & Met* 188:13-18 Ag '22

Production and output in Belgium coal mines. *Monthly Labor R* 15:340-1 Ag '22

Borneo

Coal resources of Borneo. *Engineer* 135:344 Mr 30 '23

British Columbia

Coal mining in British Columbia. R. Strachan. *Coal Age* 21:354 S 6 '23

Canada

Canadian mining institute discusses national fuel supply of Dominion. W. A. Lawrence. *Coal Age* 23:526-8 Mr 29 '23

China

Coal mining in China; the Kailan mining administration. *il Elec R (Lond)* 93:393-4 S 14 '23

Successful mining enterprise in China; the Kailan mining administration. *il maps Engineer* 134:296-8 S 22 '22

Colorado

Big-scale operation effects economies at Columbine, northern Colorado's largest lignite mine. C. M. Schloss and F. L. Peart. *il diags Coal Age* 22:529-34 O 5 '22

Crested Butte field produces four kinds of coal from a territory five miles wide. C. M. Schloss. *il Coal Age* 22:667-8 O 26 '22

Proposed Moffat tunnel in Colorado to open up vast coal field. *il map Coal Age* 21:1047-8 Je 22 '22

France

L'état de la reconstitution des houillères sinistrées du Nord et du Pas-de-Calais, à la fin de 1921. Stouvenot. *Génie Civil* 81:21 J1 1 '22

European conditions as I saw them. J. S. Negru. *Chem & Met Eng* 27:966-8, 1013-15 N 15-22 '22

Les mines d'anthracite de la Mure. L. Barthélemy. *Soc Ing Civils Bul* 74:515-19 O '21

Production in French coal mines and output per worker, October to December, 1922. *Monthly Labor R* 17:112 J1 '23

Progress in restoration of damaged coal mines in France. *Comm & Fin Chr* 117:1613 O 13 '23

Les travaux de dénoyage des houillères du Nord et du Pas-de-Calais. *il Génie Civil* 83:202-4 S 1 '23

Germany

Coal in Germany. A. W. MacMillan. *il map Pop Mech* 39:505-7 Ap '23

Development of German mines handicapped by depth of coal deposits. H. O. Herzog. *Coal Age* 23:27 Ja 4 '23

German coal output shows marked increase; renewal of equipment pressing need. H. O. Herzog. *Coal Age* 21:970 Je 8 '22

German mines now produce nearly as much coal as before the war. *Coal Age* 21:418 Mr 9 '22

Golpa plant dry dredges lignite and operates central power station. G. F. Zimmer. *il diags map plans Coal Age* 21:913-19 Je 1 '22; Same cond *Ind Management (Lond)* 8:291-6 N 16 '22

Coal mines and mining—Germany—Continued

Mining brown coal in Germany, briquetting it and extracting its byproducts. H. Hermanns. *il diags Coal Age* 22:621-4 O 19 '22
Output per worker, in coal mines and distribution of coal in Germany, 1920 and 1921. Monthly Labor R 14:323-5 F '22

Great Britain

All about anthracite by A. L. Summers. Review. *Coal Age* 23:263-4 F 8 '23
British coal-mining industry during the war, by R. A. Redmayne. Review. *Coal Age* 23:758-9 My 10 '23
Operations of British coal mines, January 1 to April 1, 1922. Monthly Labor R 15:91-2 JI '22
Underground waters in the Kent coalfield and their incidence in mining development. E. O. F. Brown. Engineering 114:658 N 24 '22

See also Coal miners—Great Britain

Idaho

In Idaho tests are being made of certain small semibituminous coal beds. H. M. Payne. *il diag Coal Age* 22:84-6 JI 20 '22

Illinois

Coal resources of district IV. G. H. Cady. 247p Illinois. State geological survey. Urbana '21
Standard oil co. of Indiana develops big stoker-fuel mine in Macoupin county, Illinois. *il Coal Age* 21:39-43 Ja 12 '22
Study of coal mine haulage in Illinois, including cost tables. H. H. Stoeck, J. R. Fleming and A. J. Hoskin. *il diags maps II U Eng Exp Sta Bul* 132:1-134 '22
Zeigler no. 1 with skip hoist, rotary bottom dumps and four shafts well-equipped for large output. E. W. Davidson. *il plan Coal Age* 21:871-4 My 25 '22

See also Coal miners—Illinois

Indo-China

Indo-China has many strippings in coal 100 ft. thick. *il Coal Age* 24:207-9 Ag 9 '23

Ireland

Memoir on the coalfields of Ireland; review. Engineer 132:542-3 N 18 '21

Japan

Operation of Japanese coal mines, 1910 to 1919. Monthly Labor R 15:341 Ag '22

Kansas

Cherokee-Crawford field of Kansas has prospective rival in Linn county coal. C. M. Young. *il Coal Age* 22:278-80 Ag 24 '22

Kentucky

Efficiency methods practiced at Hardburly mines. A. F. Brosky. *il diags plans Coal Age* 23:743-8 My 10 '23
General availability and excellent quality of Hazard coals in eleven years make field large producer. W. N. Cole. *il map Coal Age* 23:709-14 My 3 '23
Is western Kentucky lolling in downy bed of wealth? A. W. Williams. *Coal Age* 22:251-2 Ag 17 '22
Lynch coal buried in places 3,500 ft. deep; methods by which high percentage extraction is attained. *Coal Age* 24:547-52 O 11 '23
Lynch mine, its record production and operating data. A. F. Brosky. *il Coal Age* 24:541-6 O 11 '23
Mining methods in the Elkhorn district conserve the coal and retain it in its original purity. A. F. Brosky. *il diags Coal Age* 23:845-9 My 24 '23

Manchuria

Biggest Asiatic coal producer and thickest coal seam in the world at Fushun, South Manchuria. W. L. Seaman. *il Coal Age* 23:639-43 Ap 19 '23

Missouri

Coal mining methods in Missouri. W. W. Weigel. *il diags plan Mo U Sch Mines & Met Bul tech ser* 5:1-114 My '21; Abstracts.

Eng & Contr 56:571-2 D 21 '21; Coal Age 21:1088-90 Je 29 '22

Montana

Low-cost methods enable thin-seam mine in Montana to compete with thick coal found in that state. C. M. Schloss. *il diags Coal Age* 22:275-7 Ag 24 '22

Netherlands

Coal mining in the Netherlands. G. E. Anderson. U S Bur For & Dom Com Trade Information Bul 50:1-13 '22

New Mexico

Gallup American coal co. displaces four long slopes with one ultra-modern 5,000-ton shaft mine. H. B. Cooley. *il diags maps plans Coal Age* 24:165-70, 237-45, 387-91, 427-32 Ag 2, 16, S 13-20 '23

North Carolina

North Carolina again among coal states. B. H. Butler. *Coal Age* 22:837 N 23 '22

Nova Scotia

Coal mining—Nova Scotia. Monthly Labor R 14:739-41 Ap '22
Southern part of the Sydney coal field, Nova Scotia. A. O. Hayes and W. A. Bell. 108p Canada geol. survey, Ottawa '23

Ohio

Mine at Wolf Run, Ohio, has two double-decked cages and two separate steam-driven fans for alternate use. *il Coal Age* 20:961-3 D 15 '21

Oregon

Steeply pitching coal bed with limy roof and floor, which weather badly, mined by retreating longwall. G. W. Evans. *diags plan Coal Age* 21:157-9 Ja 26 '22

Pennsylvania

Anthracite workings in western middle field are 148 per cent deeper than in 1872. D. C. Ashmead. *diags Coal Age* 23:999-1004 Je 21 '23
Coal reserves in Armstrong county, Pa. J. F. Reese. *Coal Age* 23:57 Ja 11 '23
Coal reserves in Fayette county, Pa., contained in seven beds. J. F. Reese. *Coal Age* 22:718 N 2 '22
Coal reserves in Somerset county, Pa. J. F. Reese. *Coal Age* 22:486 S 28 '22
Coal reserves in Washington county are second largest in Pennsylvania. J. F. Reese. *Coal Age* 22:453 S 21 '22
Coal reserves in Westmoreland county, Pa. *Coal Age* 21:778 My 11 '22
Coal reserves of Cambria county, Pa. J. F. Reese. *Coal Age* 22:589 O 12 '22
Coverdale mine to hoist 4,000 tons per day is fitted with two-car self-dumping cages. A. F. Brosky. *il diags plan Coal Age* 22:855-71 N 30 '22
Description of Mather collieries plant. J. R. Elliott. *il diags maps plans Eng Soc W Pa* 37:448-73; Discussion. 474-6 D '21
How greater depth and reduced thickness of coal have intensified Lackawanna mine problems. D. C. Ashmead. *diags Coal Age* 23:323-9 F 22 '23
In half century depth of coal at Wilkes-Barre more than doubles and thickness falls 30 per cent. D. C. Ashmead. *diag Coal Age* 23:475-80 Mr 22 '23
Nanticoke coal is thickest though deepest of all measures in northern anthracite field. D. C. Ashmead. *diags Coal Age* 23:551-8 Ap 5 '23
Panther Creek district mines thickest coal found in Pennsylvania anthracite region. D. C. Ashmead. *Coal Age* 23:885-90 My 31 '23
Pennsylvania bulletins describe coal beds of Cambria and Greene counties. *Coal Age* 21:608 Ap 13 '22
Pennsylvania's largest coal reserves located in Greene county. J. F. Reese. *Coal Age* 21:647-8 Ap 20 '22

Coal mines and mining—Pennsylvania—Cont.

Remodeled valley no. 2 operation of the Nineveh coal co. C. N. Martin. *il* *Coal Age* 23:3-6 Ja 4 '23

Shaft in Connellsville region dumps run-of-mine into bins and transports it by larry to tippie. A. F. Brosky. *il* *Coal Age* 21:605-7 Ap 13 '22

Southern field has most beds and deepest workings in entire Pennsylvania anthracite region. D. C. Ashmead. *diag* *Coal Age* 21:347-50 S 6 '23

Steep pitches in thick coal seams greatly affect eastern middle anthracite field operations. D. C. Ashmead. *Coal Age* 23:749-54 My 10 '23

See also Coal miners—Pennsylvania

Philippine Islands

Public ownership of coal mines causes much loss to Philippine government and affords little coal. R. C. Bennett. *il* *Coal Age* 22:9-12 Jl 6 '22

Poland

Coal production in Poland in 1922. Monthly Labor R 17:114-15 Jl '23

Ruhr valley

La production des houillères de la Ruhr dans les dix dernières années. Génie Civil 82:120 F 3 '23

Recent views from German coal mines held by France in the Ruhr district. *il* *Pop Mech* 39:718-19 My '23

See also Coal miners—Ruhr valley

Russia

Coal of Soochan and its importance in Pacific trade. I. Tolmachoff. *il* *Coal Age* 24:509-14 O 4 '23

Shortage of shipping facilities now chief factor in Russian coal situation. *Coal Age* 23:223-30 F 1 '23

Stripping coal in Russia at fifty degrees below zero. G. Djilo. *Coal Age* 21:1001-2 Je 15 '22. Same. Eng & Contr (Ry) 58:40-2 O 18 '22

Saar valley

How the coal-mining industry in the Saar basin is governed. C. H. S. Tupholme. *Coal Age* 23:228 F 1 '23

South Dakota

South Dakota operates its own coal mine in North Dakota. *il* *Coal Age* 24:514-15 O 4 '23

United States

Anthracite produced in 1921, by regions. *Coal Age* 22:458 S 21 '22

Coal fields of the United States. *Coal Age* 21:supp Mr 16 '22

Idle-day costs in the coal-mining industry. F. S. Peabody. Monthly Labor R 15:89-90 Jl '22

Longer working year for coal to stabilize coal industry. G. O. Smith. *Comm & Fin Chr* 115:145 Jl 8 '22

Number and annual output of soft-coal mines classified by size of mine, 1919 and 1920. *Coal Age* 22:501 S 28 '22

Number and capacity of idle bituminous coal mines, August 20, 1921. Monthly Labor R 13:1085-6 N 2 '21

Preliminary statistics of production of coal in 1921. *Coal Age* 22:721 N 2 '22

Production of coal in anthracite and bituminous coal mines in the United States. Monthly Labor R 14:1189-91 Je '22

Romances of industry—anthracite. E. W. Parker. *il* *Am Ind* 23:13-16 N '22

Some considerations affecting percentage of extraction in bituminous coal mines in America; abstract. H. H. Stoeck. *Min & Met* 182:56-7 F '22

Where coal originates and where it goes. W. P. Ellis. *maps* *Coal Age* 23:111-15 Ja 18 '23

See also Coal miners—United States

Utah

In Utah outcrop fires, wants in coal seam and sluffing ribs present unusual and difficult mine problems. J. B. Forrester. *maps* *Coal Age* 20:1044-6 D 29 '21

Virginia

Systems of mining in Pocahontas coal field and recoveries obtained. T: H. Clagett. *diags* *Min & Met* 185:33-4 My '22

West Virginia

Are valleys usually accompanied by 'dips, and, if so, what is the explanation? G. F. Clevenberg. *Coal Age* 24:14 Jl 5 '23

Dabney mine before coal strike stored coal to maintain steady output. *il* *Coal Age* 22:280-1 Ag 24 '22

List of coal mines in West Virginia, July 1, 1921. 25p West Virginia Geological survey, Morgantown '21

Merrill mine, its housing problems, gravity chute and other original features. A. S. Brosky. *il* *plan* *Coal Age* 22:159-63 Ag 3 '22

Pocahontas coal field and operating methods of the United States coal & coke co. E. O'Toole. *diags* *plans* *Coal Age* 23:399-407 Mr 8 '23

Systems of mining in Pocahontas coal field and recoveries obtained. T: H. Clagett. *diags* *Min & Met* 185:33-4 My '22

See also Coal miners—West Virginia

Wyoming

Owl Creek coal co., at Gebo, Wyoming, mines steeply pitching bed by rooms driven on the strike. C. M. Schloss. *il* *diags* *plan* *Coal Age* 21:439-42 Mr 16 '22

Coal mines and mining, Cooperative. *See* Mining, Cooperative

Coal mining institute of America

Meeting, Pittsburgh, Dec. 7-9. *Coal Age* 20:1047-50 D 29 '21

Meeting, Pittsburgh, Dec. 13. *Coal Age* 22:997-9, 1037-40 D 21-28 '22

Coal mining machinery

Angle-compound air compressors at a colliery. *il* *diags* *Engineer* 133:111-12 Ja 27 '22

Cambria steel co. drops coal down well, loads it at bottom and hauls it to ovens. G: A. Richardson. *il* *diags* *plans* *Coal Age* 22:313-17 Ag 31 '22

Can mechanical replace human energy in underground loading? J. F. Joy. *il* *Coal Age* 22:241-3 Ag 17 '22

Coal miner now becomes operating engineer. E. J. Lovett. *il* *Pop Mech* 37:337-8 Mr '22

Despite irregular operation of union bituminous mines coal-mining technique progressed greatly in 1921. R. D. Hall. *il* *Coal Age* 21:95-9 Ja 19 '22

Electro-pneumatic decking plant for colliery shafts. *il* *diags* *Engineering* 113:93-6, 157-9, pl 4 Ja 27, F 10 '22

Give each mechanical loader its locomotive and spend a trifle on haulage to save much on mining cost. W. R. Calverley. *plan* *Coal Age* 21:997-8 Je 15 '22

Grading and making height in mine entries. *il* *Coal Age* 22:544 O 5 '22

How to handle mines so as to get best results from the use of shoveling machines in underground work. W: Whaley. *diags* *Coal Age* 21:235-8 F 9 '22

Kinds of haulage and cutting machines in coal mines of United States in 1921: abstracts. W. W. Adams. *Coal Age* 21:1018 Je 15 '22; Eng & Contr 57:589 Je 21 '22

Mining machines save Spadra, Arkansas, field from extinction after long fight with union. H. Denman. *il* *maps* *Coal Age* 23:437-40 Mr 15 '23

Power drills much reduce costs of drilling harder coals and lower the hazard costs of mining. N. G. Alford. *il* *Coal Age* 21:820-2 My 18 '22

Scraper loading well adapted to thin seams where coal will not slide from face to mine car. D. C. Ashmead. *il* *plan* *Coal Age* 21:285-7 F 16 '22

Coal mining machinery—Continued

Self-propelling coal loader designed with only 28-in. clearance above rail. *il* Coal Age 20: 803-4 N 17 '21

Some recent developments in scraper loading methods. J. S. Housman. *il* diag Coal Age 23:51-7 Ja 11 '23

Strange scraper bucket coal-face conveyor. diags Eng & Ind Management 6:647 D 1 '21

Underground loading machines a live topic at mining congress. Coal Age 21:526-7 O 1 '23

Work longwall by machine loaders as long as roof will stand, then shift to more costly room-and-pillar plan. M. R. Martin. *il* diags plans Coal Age 22:745-8 N 9 '22; Same. *Ind Management* (Lond) 9:87-9 F 8 '23

Year 1922 tackles hopefully many of the big problems of coal production and preparation. R. D. Hall. *il* diags Coal Age 23:89-91 Ja 18 '23

See also Coal breakers; Coal cutters; Shoveling machines

Lubrication

Frugal man saves oil without injuring his machinery. F. C. Sinback. Coal Age 22:948 D 14 '22

Coal piers

Coal wharf and machinery of the North-Western fuel company of America. plan Engineer 134:595-6, 608, 623-4, 653-6, 666 D 8-22 '22

Electrically-operated coal pier of the Western Maryland railway company. R. W. McNeill. *il* Elec J 20:329-33 S '23

Flexible coal-loading dock equipment. *il* diags plan Iron Age 111:1851-4 Je 28 '23

Lake coal dock with unloading and handling plant. Duluth, Minn. *il* diags plan Eng N 88: 112-15 Ja 19 '22

Coal preparation

Buck Run coal co. methods of preparing and storing coal. D. C. Ashmead. flow sheet *il* Coal Age 20:955-60 D 15 '21

Kohlenveredlung, insbesondere zur herstellung von aschearmen koks. A. Thau. Stahl & Eisen 42:1153-8, 1242-9 JI 27, Ag 10 '22

Mechanical methods applied to grading coal piles. *il* Power Pl Eng 26:981-2 O 1 '22

Nouveau rapport de la commission interministérielle d'utilisation des combustibles. Génie Civil 82:401-3 Ap 28 '23

Operating records and construction layouts of plants using Chance flotation process of preparing coal. D. C. Ashmead. *il* diags plans Coal Age 21:735-9 My 4 '22

Razing of Seneca hoist tower by dynamite and rebuilding of breaker. D. C. Ashmead. *il* Coal Age 22:5-8 JI 6 '22

Screening, dry cleaning, aspirating and dust collecting at Brilliant mine in New Mexico. F. A. Young. *il* diags plans Coal Age 23:791-7 My 17 '23

Springdale mine furnishes fuel to West Penn power co. plant, cleaning every car of coal before weighing. D. J. Baker. *il* plan Coal Age 20:993-9 D 22 '21

Tank for cleaning, classifying and thickening. in one operation, fine anthracite or bituminous coal. J. F. Hardecker. diags Coal Age 23:675-6 Ap 26 '23

West Virginia institute discusses coal preparation. Coal Age 20:1050-2 D 29 '21

Wet preparation replaces dry at Marvine colliery, the breaker being of fireproof construction. D. C. Ashmead. flow sheet *il* diags plan Coal Age 20:833-8 N 24 '21

Why leave anthracite preparation to the mercy of mine superintendents with pressing underground duties? D. C. Ashmead. Coal Age 20:763-4 N 10 '21

See also Coal, Pulverized—Preparation; Coal breakers; Coal cleaning; Coal crushers; Coal drying; Coal screening; Coal washing; Coal wetting

Coal prices. See Coal—Prices

Coal products

See Coal distillation; Coal tar; Coke; Coke manufacture—By-products; Gas

Coal purchasing

Forms of specifications for purchasing coal. H. Bell. Am Soc T M Pro 22 pt 2:567-71; Discussion. 572-9 '22

Fuel purchase. C. F. Wade. *Ind Management* (Lond) 8:307-10 N 30 '22

Holding down this year's coal bill. G. M. Levy. Factory 30:167 F '23

How coal should be sold. C. R. Hodgson. Power 56:659 O 21 '22

Judging coal values. G. B. Gould. 52p Fuel engineering co. of New York, New York '21

Propose coal buying by analysis. Iron Tr R 73:889 S '22

Purchase of coal by specification. H. Bell. Textile World 61:1044-5 F 11 '22

Rational basis for coal purchase specifications. E. B. Ricketts. diags Am Soc T M Pro 22 pt 2:557-66 '22; Abstract. Elec W 80:279-80 Ag 5 '22; Same. Power 56:683-3 JI 11 '22; Discussion. Am Soc T M Pro 22 pt 2:572-9 '22

Selection of most suitable coal for a given plant is engineering problem involving diverse factors. O. P. Hood. Coal Age 21:443-4, 181-6 Mr 16-23 '22

Should coal be purchased on the B.t.u. basis? T. A. Marsh. Power 56:601-2 O 17 '22

Specification systems should not be permitted to eliminate judgment in coal buying. G. B. Gould. Coal Age 21:239-41 F 9 '22

Storrs domestic coal plan; to finance household coal needs of employees. Aera 11:1284-5 My '23

Wide range of combinations of coal essentials hinders fixing of universal specification standards. G. B. Gould. Coal Age 21:283-4 F 16 '22

See also Coal contracts; Coal storage

Coal recovery: See Coal waste

Coal sampling

Coal analyses may be misleading because of crude and insufficient sampling. O. P. Hood. Coal Age 21:484-6 Mr 23 '22

Mine-car sampler improves quality of coal. *il* Pop Mech 39:269 F '23

Sampling and analyzing coal. J. R. Darnell. Power 56:887-8 D 5 '22

See also Coal—Analysis; Coal inspection

Coal saving. See Fuel economy

Coal screening

By washing only a part of the coal mined, lowest ash and sulphur and largest yield are attained. G. R. Delamater. *il* diag Coal Age 22:751-7 N 9 '22

Coal washing in Vancouver island. M. W. Garman. Coal Age 21:367-9 Mr 2 '22

Horizontal shaking screen which keeps coal moving in one direction without jerking tipple structure. A. F. Brosky. *il* diags Coal Age 21:324-7 F 23 '22; Same abr. Eng & Ind Management 7:407-10 My 4 '22

New method of screening coal. Sci Am 129: 286+ O '23

Plant in Iowa picks its coal clean before weighing. M. W. Hibbard. *il* Coal Age 21: 1077-8 Je 29 '22

Screen that imitates the effective way in which a hand sieve is manipulated. diags Coal Age 22:278 Ag 24 '22

Screening, dry cleaning, aspirating and dust collecting at Brilliant mine in New Mexico. F. A. Young. *il* diags plans Coal Age 23:791-7 My 17 '23

Coal shortage. See Coal supply

Coal storage

At Clifford mine a flexible storage and reclamation plant counteracts fluctuations in demand. R. P. Lewis. flow sheet *il* Coal Age 21:399-402 Mr 9 '22

Begin rational study of coal storage. Iron Tr R 72:1758-9 Je 14 '23

Can anthracite mines and preparators be operated with advantage on more than one shift per day? D. C. Ashmead. Coal Age 21: 202-4 F 2 '22

Coal deterioration. Textile World 64:239+ JI 11 '23

Coal storage—Continued.

- Coal handling by drag scraper. C. W. Ross. *il diag Gas Age* 50:230-2 Ag 19 '22
- Coal piles should be watched now. *Gas Age* 49:655 My 27 '22
- Coal storage at the Robert Gair company plant. J. A. Beck. *il Management & Adm* 6:200-2 Ag '23
- Coal storage for year's supply for Detroit water-works. *il plan Eng N* 90:10-11 Jl 5 '23; *Power* 58:133 Jl 24 '23
- Coal storage in plant of moderate size. *il Power* 57:90 Ja 16 '23
- Coal storage: merits and demerits. G. H. Cushing. *Textile World* 62:2645+ N 4 '22
- Coal storage possibilities studied by the F.A.E.S. *Power* 55:400-1 S 4 '23
- Consumer storage throughout the country as a means of regularizing the coal industry. T. R. Hay. *Coal Age* 20:892-2 D 1 '21
- Converting half time to full time by coal storage. W. R. Peck. *il plan Coal Age* 22:915-17 D 7 '22
- Deterioration of coal in storage. *Power* 57:577 Ap 10 '23
- Does it pay to store coal? D. O. Taber. *il Iron Tr R* 70:673-8+ Mr 9 '22
- Economy of concrete bins and pits for coal storage. A. C. Irwin. *il diag plan Elec R* 79:811-16 N 26 '21
- Effect of storage on the heating value of coal. *Coal Age* 22:249-50 Ag 17 '22
- Engineering societies to conduct study of coal storage. J. H. Schalek. *Gas Age* 52:166 Ag 11 '23
- Factors in the spontaneous combustion of coal. O. P. Hood. *U S Bur Mines Tech Pa* 311:1-9 '22; *Abstracts. Am Gas J* 117:92-3 Jl 29 '22; *Power* 56:392-3 S 5 '22; *Am Soc Heat & V E J* 28:654 S '22
- Fire in coal bin. *Power* 58:391, 543-4 S 4, O 2 '23
- How fire in coal storage was stopped. E. K. Manning. *Power* 56:61 Jl 11 '22
- How to prevent coal-pile fires. J. E. Williams. *il diag Coal Age* 21:998-9 Je 15 '22; *Same. Elec W* 79:1127 Je 3 '22; *Same. Gas Age* 49:723 Je 10 '22
- Keeping coal on an even keel. W. Bishop. *Nation's Business* 10:14-15 F '22
- No unsolvable technical difficulties in providing coal storage reservoirs. H. F. Bain. *Eng & Contr* 57:48 Ja 11 '22
- Objects and methods of the F.A.E.S. committee on coal storage. P. F. Walker. *Mech Eng* 45:508 Ag '23
- One method of handling fires in stored coal. *il Power* 55:105 Ja 17 '22
- Pack coal with caterpillar tractor to prevent storage-pile fires. J. R. McCausland. *il Coal Age* 23:13 Ja 4 '23
- Report of committee at International railway fuel congress on storage coal. *Ry Age* 72:1286-7 Je 3 '22
- Risks in handling and storing coal and oil. C. E. Paige. *Power Pl Eng* 25:1140-1 D 1 '21
- Safe storage of coal. E. C. Reed. *Eng & Ind Management* 7:35-6 Ja 12 '22
- Saving the coal pile. *il Locomotive* 34:67-73 Jl '22
- Seasonal storage favored as a means of stabilizing the coal industry. *Power* 57:386 Mr 6 '23
- Some helps in storing coal. F. I. Kinsman. *Factory* 29:42+ Jl '22
- Spontaneous combustion of stored coal and the conditions that favor it. *Coal Age* 23:528 Mr 29 '23
- Storage and weathering of coal. R. June. *il Gas Age* 49:39-42 Ja 14 '22
- Storage of bituminous coal. W. L. Abbott. *Power* 58:513-14 S 25 '23
- Storage of coal. J. W. Lieb. *Textile World* 63:2479+ Ap 14 '23
- Storage wall that will not bulge or fall. W. K. Crosson. *il Coal Age* 21:5 Ja 5 '22
- Storing bituminous coal safely. H. H. Stoeck and J. V. Freeman. *il Iron Tr R* 71:1207-11, 1272-3+ N 2-9 '22
- Storing bituminous coal to depth of 40 ft. F. W. Randall. *diag Elec W* 80:181 Jl 22 '22; *Same. Coal Age* 22:493 S 28 '22
- Storing coal on the ground and reclaiming it with the aid of a cable drag scraper. H. V. Schiefer. *il Coal Age* 23:487-8 Mr 22 '23
- Storing the winter's coal supply. S. E. Balcome. *il diag Management Eng* 4:377-80 Je '23
- Suggestions for underground storage of coal at the mines. Heat & Ven 20:47 F '23
- Summer storage of coal for next winter's use. R. B. Williams. *Gas Age* 52:163-5 Ag 11 '23; *Same. Paper* 32:11-12 Ag 29 '23; *Same abr. Textile World* 64:1267+ S 1 '23; *Same cond. Iron Tr R* 73:883-4 S 27 '23
- Underwater coal storage in the Twin Cities. *il Elec Ry J* 60:84-5 Jl 15 '22
- Urges large-scale, regular storage of city coal by consumers. *Coal Age* 24:491 S 27 '23
- When and where does it pay to store railway fuel? L. E. Dale. *il diag Ry R* 72:852-5 My 19 '23
- Why the coal pile blazes. Brass W 18:170 Je '22
- Will make coal storage investigation. *Iron Tr R* 72:1158-9 Ap 19 '23
- See also* Coal bins, Concrete; Coal bins, Steel; Coal tanks, Concrete

Tables, calculations, etc.

Coal, coke and ore storage. A. D. Williams. *diag Iron Age* 110:352 Ag 10 '22

Coal strike, 1922

- Accepting Cleveland agreement, Illinois operators in part sign as individuals. E. W. Davidson. *Coal Age* 22:297-8 Ag 24 '22
- Acrimonious conferences of operators fail to agree unanimously to Harding arbitration plan. *Coal Age* 22:100-4 Jl 20 '22
- All prosecutions against Herrin miners ended following acquittal of six defendants in second trial. *Comm & Fin Chr* 116:2212-13 My 19 '23
- Anthractite deadlock blocks peace in coal fields. *Coal Age* 22:331 Ag 31 '22
- Anthractite miners' demands and operators' reply at joint conference. *Monthly Labor R* 14:872-4 My '22
- Anthractite operators reply to miners' demands. *Coal Age* 21:890 My 25 '22
- Banks helped to finance the coal strike. *Comm & Fin Chr* 115:1268-9 S 16 '22
- Bituminous strike situation. E. Ludlow. *Min & Met* 186:11-12 Je '22
- Coal conference deadlocked. *Elec W* 80:88-9 Jl 8 '22
- Coal consumer and his strike. J. D. A. Morrow. *Min & Met* 185:13-14 My '22
- Coal controversy. 63p Federal council of the churches of Christ in America. New York '22
- Coal-mine labor situation in the West. *Coal Age* 21:461, 505 Mr 16-23 '22
- Coal strike and railroad earnings. *Ry Age* 72:1049 My 6 '22
- Coal strike may aid industrial revival. R. Bean. *map Annalist* 19:387-8 Ap 3 '22
- Coal strike ordered for April 1; text. *Comm & Fin Chr* 114:1243 Mr 25 '22
- Coal strike set for April. J. D. A. Morrow. *Am Ind* 22:13-14 Ap '22
- Coal strike settlement. *Ry Age* 73:364 Ag 26 '22
- Coal strikes. M. Gadsby. *Monthly Labor R* 15:931-52 N '22
- Coroner's jury lays deaths of strike breakers in Herrin massacre to acts of company officials. *il Coal Age* 21:1097-8 Je 29 '22
- Editorial review. *Coal Age* 21:625-8, 667-9, 709-11, 749-52, 791-4, 853-4, 895-6, 933-4, 978-9, 1019-20, 1059-61, 1099; 22:25-6, 67-8, 105-6, 143-4, 181-2 Ap 13-Ag 3 '22
- Government plan calls for more than temporary adjustment of strike differences. P. Wooton. *Coal Age* 22:27-8 Jl 6 '22
- Grand jury indictments in the Herrin labor massacre. *Comm & Fin Chr* 115:1471-2, 1594-5 S 30-O 7 '22
- Hopeful as to coal strike situation. L. W. Moffett. *Iron Age* 110:95-6 Jl 13 '22
- Lewis abandons four state contract to end coal strike, gets high wages and avoids arbitration. *Coal Age* 22:257-8 Ag 17 '22

Coal strike, 1922—Continued

- Message to Congress on coal and rail strikes. H. W. G. Harding. Comm & Fin Chr 115: 825-7 Ag 19 '22; Same. Ry R 71:276-9 Ag 26 '22
- Position of Labor department on coal strike. J. J. Davis. Coal Age 21:707 Ag 27 '22
- Present strike an anomaly in labor disputes in the Connellsville coke region. J. L. Gans. Coal Age 21:889-90 My 25 '22
- President wants emergency authority; would not take over roads or mines except as last resort. Ry Age 73:435-9 S 2 '22
- President's proposal accepted by mine operators, rejected by workers. Power 56:149 JI 25 '22
- Progress of the coal strike. Comm & Fin Chr 114:1366-8, 1487-90, 1609-11, 2784; 115: 27-8, 144-5, 262-7, 383-91, 500-5, 604-9, 713-18, 827-32, 944-8, 1044-50, 1162-5 Ap 1-15, Je 24, JI 1-S 9 '22
- So-called coal-strike settlement. E. McAuliffe and others. Min & Met 189:11-14 S '22
- Stern censure of Herrin officials. N. Sargent. Am Ind 24:32-4+ Ag '23
- Strike runs violent course for 137 days. E. W. Davidson. Coal Age 23:100-5 Ja 18 '23
- Untenable position of union in coal strike. E. Ludlow. Min & Met 185:27-8 My '22
- What the coal strike involves. E. A. Lyman. Am Ind 23:13-15 Ag '22
- Witnesses, including miners and bondsmen, identify prisoners in Herrin trial. Coal Age 22:1004 D 21 '22

Coal strike, 1923

- Anthracite coal strike settlement. Comm & Fin Chr 117:1196-1201, 1314-15 S 15-22 '23
- Coal strike (British), 1921**
- How Britain fought her great coal strike. H. C. Estep. Iron Tr R 71:159 JI 20 '22

Coal supply

- Coal shortage and the utilities. Gas Age 50: 163-4 Ag 5 '22
- Coal stocks recede a million tons in two months. F. G. Tryon and W. F. McKenney. Coal Age 21:259-60 F 9 '22
- Effect of coal supply on public utilities; abstracts. J. W. Lieb. Elec W 81:563-7 Mr 10 '23; Power Pl Eng 27:414-16 Ap 15 '23; N E L A Bul 10:271-3 My '23
- How to deal with fuel shortage problem. A. I. Phillips. Am Gas J 117:509-11 O 28 '22; Same. Gas Age 50:607-9 N 4 '22
- Keeping coal on an even keel. W. Bishop. Nation's Business 10:14-15 F '22
- World sources of mineral fuels. E. G. Sievers. Il maps Gas Age 51:757-61 Je 16 '23
- See also Coal consumption; Coal trade

Clean coal

- Plan to penalize high-ash coal. R. H. Sweetser. Iron Tr R 70:1060-1 Ap 13 '22

Statistics

- Bituminous production in 1921 a true index of demand. Coal Age 21:79-81 Ja 19 '22
- Britain leads Germany in coal resources; foreign production figures for 1921. plans Coal Age 22:208 Ag 10 '22
- Coal produced in the principal countries of the world in the calendar years 1919, 1920 and 1921. Coal Age 21:1056 Je 22 '22
- Coal stocks now equal those of armistice day. F. G. Tryon and W. F. McKenney. Coal Age 21:542-4 Mr 30 '22
- Looking ahead in the light of what happened in 1922. Coal Age 23:83-4 Ja 18 '23
- World's coal output higher in 1922 despite strike in United States. Coal Age 24:329-30 Ag 30 '23

California

- Future fuel supply of California. C. H. Delany. Mech Eng 44:655-6 O '22

Canada

- Fuel situation in Canada. B. F. Haanel. Power 56:704-5 O 31 '22
- Many strikes curtail output of Canadian mines. S. J. Cook. Coal Age 23:191-2 Ja 25 '23

- Review of the fuel situation in Canada. Can Eng 45:409-12 O 16 '23

Germany

- No coal stringency in interior of Germany after three months' occupation of Ruhr. H. O. Herzog. Coal Age 23:725-6 My 3 '23

Great Britain

- Fuel economy; fifth report of the fuel economy committee of the British association. Engineer 134:334-5, 364-6 S 29-O 6 '22

Italy

- Effects of the Ruhr occupation on Italy. Analyst 21:187-8+ Ja 29 '23

New England

- New England in fair way to escape domestic coal shortage. Il Coal Age 22:641-2 O 19 '22

United States

- Anthracite output hits lowest level since 1902. W. A. White. Coal Age 23:97-9 Ja 18 '23
- Bituminous coal production picks up rapidly. Ry Age 73:477-9 S 9 '22
- Bituminous coal stocks gain 2,000,000 tons in month; higher consumption rate lowers days' supplies. Coal Age 23:459-61 Mr 15 '23
- Coal produced in the United States in 1920; tabulation. Coal Age 21:1054 Je 22 '22
- Coal produced in the United States in 1922. Coal Age 24:676 N 1 '23
- Coal production. Ry Age 73:524-5, 578-9, 609-10 S 16-30 '22
- Coal shortage and the railroad strike. Ry Age 73:453-4 S 9 '22
- Coal supply and car supply. H. A. Haring. Analyst 20:566 N 27 '22
- Commercial stocks of anthracite and bituminous coal in United States. Comm & Fin Chr 115:2121 N 11 '22
- Commercial stocks of coal approaching normal. maps Power Pl Eng 26:1169-71 D 1 '22
- Domestic coal situation, as shown by the government report on consumers' stocks as of Oct. 1. W. F. McKenney, E. E. Finn and F. G. Tryon. maps Coal Age 22:883-5 N 30 '22
- Effect of slackening demand shown in coal industry. map Power Pl Eng 27:500-1 My 1 '23
- Fading soft-coal stocks as well as lack of anthracite attest timeliness of efforts for resumption. Coal Age 22:3-4 JI 6 '22
- 56,000,000 tons of soft coal in storage piles Sept. 1; exceeded only twice in last seven years. Coal Age 24:563-5 O 11 '23
- 41,000,000 tons of bituminous coal stocked June 1, largest reserve since March, 1922. maps Coal Age 24:79-80 JI 12 '23
- How gas companies can get coal; method of procedure outlined by J. W. Lieb. Gas Age 50:255-7 Ag 26 '22
- How the coal strike affected bituminous coal stocks shown by government report as of Oct. 1. W. F. McKenney, F. G. Tryon and E. E. Fenn. maps Coal Age 22:765-6 N 9 '22
- Imported coal and the strike. Sci Am 127: 380-1 D '22
- I.C.C. finds fuel shortage exaggerated. Ry Age 74:466 F 24 '23
- I.C.C. reports on anthracite. Ry Age 74:523-4 Mr 3 '23
- Lake district in sad need of coal. Gas Age 50:267-8 Ag 26 '22
- Looking ahead in the fuel industry. F. W. Parsons. Power Pl Eng 26:1045-7 N 1 '22; Abstract. Power 56:704 O 31 '22
- New England's share in the coal issue. G. O. Smith. Comm & Fin Chr 115:2230 N 18 '22
- Production of coal in 1921. Power 55:199 Ja 31 '22
- Prospects for increased coal production. Ry R 71:240-1 Ag 19 '22
- Public interest is paramount in coal industry. H. C. Hoover. Comm & Fin Chr 115:1278 S 16 '22
- Soft-coal stocks on Jan. 1 total 36,000,000 tons, sufficient for 26 days, survey report shows. Coal Age 23:271-2 F 8 '23

Coal supply—United States—*Continued*

Survey of coal supply, October 1. *Am Gas J* 117:564-5 N 11 '22

To keep the home fires burning; expert opinion on the coal shortage of the coming winter and how the householder may meet it. *J. M. Bird. il Sci Am* 127:302-3 N '22

Too much bituminous coal. *F. S. Peabody. Min & Met* 188:11-12 Ag '22

Coal tanks, Concrete

Coal pockets of concrete staves. *il Concrete* 22:186 My '23

Concrete material pockets for the Des Plaines lumber & coal co. *A. J. R. Curtis. il Concrete* 21:149-50 N '22

Coal tar

Coal tar as a source of fuel for internal combustion engines. *W. J. Huff. Chem Age* 31:147-50 Ap '23; Same. *Ind & Eng Chem* 15:485-8 My '23; Same. *Gas Age* 52:93-7 Jl '28 '23

Coal tar as a timber preservative. *Gas Age* 50:658 N 11 '22

Dehydrating coal tar. *diag Chem & Met Eng* 28:779 Ap 30 '23

La distillation continue du goudron de houille, par entraînement à la vapeur d'eau. *C: Ab-der-Halden. il diag Chimie & Ind* 7:226-34 F '22; Abstract. *Génie Civil* 81:22 Jl '22

Distribution of tar recovery from by-product coke-oven gas. *F: M. Washburn and G: E. Muns. flow chart Blast F & Steel Pl* 10:351-2 Je '22; Same. *Chem & Met Eng* 27:119-20 Jl 19 '22

European distillation of coal tar. *R. Furness. Gas Age* 51:175-7 F 10 '23

Examination of low-temperature coal tars. *J. J. Morgan and R. P. Soule. bibliog Ind & Eng Chem* 15:587-91, 693-7 Je-Jl '23

Fifty years in the coal-tar industry. *T. H. Davis. Chem & Met Eng* 29:225 Ag 6 '23

German distill tar from coal while burning under boiler. *A. Gradenwitz. il diag Power* 55:970 Je 20 '22

Low temperature tar and its evaluation. *J. D. Davis. diag Am Gas Assn Technical sec v* 4:65-76 '22

Markets for low-temperature coal tars. *R. P. Soule. Chem Age* 30:251-3 Je '22

New process of distilling tar. *C. Ab-der-Halden. diag Am Gas J* 117:32, 34-6 J 8 '22

Present day tars for pipe coatings. *W: R. Conard. Can Eng* 42:560-1 My 30 '22; Same. *Eng & Contr* 58:260-1 S 13 '22; Excerpts. *Eng N* 88:913 Je 1 '22

Procédés modernes pour le traitement du lignite et de ses dérivés. *C. Berthelot. diags Chimie & Ind* 7:1079-89 Je '22

Proper scrubbing and condensing facilities in a coal gas plant and their effect upon tar and ammonia recovery. *J. R. Wohrley. diags Am Gas Assn Technical sec v* 4:349-75 '22; Same. *Gas Age* 50:521-6+ O 21 '22; Abstract. *Am Gas J* 117:494-8 O 27 '22; Discussion. *Am Gas Assn Technical sec v* 4:376-87 '22

Researches on vertical retort tars; the phenolic constituents. *G. S. Currey. Soc Chem Ind J* 42:379-86 S 21 '23

Some of the constituents of coke-oven tar. *J: M. Weiss and C: R. Downs. Ind & Eng Chem* 15:1022-3 O '23

Stokes anthracite culm and gashouse tar. *J. Harrington. il diag Power* 57:523-4 Ap 3 '23

Studies in the carbonization of coal. *J. J. Morgan and R. P. Soule. Chem & Met Eng* 26:923-8, 977-81, 1025-30 My 17-31 '22

Les substances asphaltiques du goudron de lignite provenant des gazogènes. *J. Mzourek. Chimie & Ind* 8:582-4 S '22

Tars, new and old. *S. R. Church. diags plan N E Water Works Assn J* 36:571-86 D '22; Excerpt. *Eng N* 90:293-4 F 15 '23; Same. *Chem & Met Eng* 28:447 Mr 7 '23; Discussion. *N E Water Works Assn J* 36:586-8 D '22

Über den braunkohlen-vergaser-teer. *F. Fischer. Deutsche Chem Gesell Ber* 55:505-6 F '22

Use of liquid fuel in metallurgical furnaces. *It. C. Helia. diags Blast F & Steel Pl* 10:549-55 N '22; Abstracts. *Iron Age* 110:1137-9 N 2 '22; *Iron Tr R* 71:1281-3 N 9 '22; Discussion. *J. A. Larocca. 71:1487-8 N 30 '22*

Vapor pressures of some substances found in coal tar. *F. S. Mortimer and R. V. Murphy. diag Ind & Eng Chem* 15:1140-2 N '23

Viscosity of coke-oven tars and soft pitches. *W. J. Huff. Ind & Eng Chem* 15:1026-30 O '23

Why should gas companies sell their tar to distillers instead of working it themselves? *R. P. Perry. map Am Gas Assn General Sessions sec v* 3:146-61 '21; Same abr. *Chem Age* 29:439-43 N '21; Discussion. *Am Gas Assn General Sessions sec v* 3:161-6 '21

See also Roads, Tarred; Tar

Coal-tar colors

Chemie der organischen farbstoffe. *F. Mayer. 257p J. Springer, Berlin* '21

Chemistry of intermediates. *M. L. Crossley. J Ind & Eng Chem* 14:802-5 S '22

Coal-tar colours in the decorative industries. *A. Clarke. 166p Constable & co., London* '22

Commercial insignificance vs the national importance of coal-tar dyes. *C: H. Stone. Chem Age* 30:387-8 S '22

Le développement de l'industrie des colorants synthétiques. *E. Grandmougin. Génie Civil* 80:491-4, 517-20, 543-6 Je 3-17 '22

Lehrbuch der farbenchemie. *H. T. Bucherer. 2d ed., rev. 636p O. Spamer, Leipzig* '21

Relation between chemical constitution and antiseptic action in the coal tar dyes. *T. H. Fairbrother and A. Renshaw. Soc Dyers & Col J* 39:160-1 My '23

See also Aniline black; Dye testing; Dyes and dyeing; Isoquinoline; Rhodamines

Coal-tar products

Coal products chart. *A. Lowy. Van Nostrand* '23

Coal-tar dye and chemical industry registered great progress during 1922. *Oil Paint & Drug Rep* 104:68 Jl 9 '23

Coal-tar products market 1920, 1921 and 1922. *Chem & Met Eng* 26:89 Ja 11 '22

Coal-tar products: market review, 1922. *Oil Paint & Drug Rep* 103:35 Mr 29 '23

Distillation of coke-oven tar and the recovery of some of its products. *W. J. Huff. diags Chem & Met Eng* 26:113-18 Ja 18 '22

Dye and chemical census for last year shows large decrease in production. *Oil Paint & Drug Rep* 102:19+ Ag 14 '22

German coal-tar chemical industry. *F: E. Breithut. U S Bur For & Dom Com Trade Information Bul* 141:1-12 '23; Same cond. *Color Tr J* 13:120-2 O '23

Latent heat of vaporization of coal-tar oils. *J: M. Weiss. J Ind & Eng Chem* 14:72 Ja '22

Modern tar distillation plant. *W. J. Huff. flow sheet il plans Chem & Met Eng* 28:720-4 Ap 23 '23; Same cond. *Gas Age* 52:33-6 Jl 14 '23

Organic derivatives of coal tar. *J. B. Cohen. Gas Age* 50:429-30 O 7 '22

Practical chemistry of coal and its products. *A. E. Findley and R. Wigginton. 144p Benn bros., ltd., London* '21

Preliminary summary of the census of dyes and coal tar chemicals for 1921. *Oil Paint & Drug Rep* 101:19+ Je 12 '22

See also Benzene; Benzol; Carbolic acid; Coal distillation; Gas; Isoquinoline; Naphthalene; Toluene

Prices

Coal-tar bases and intermediates. See weekly numbers of the Oil paint & drug reporter
Coal-tar products: record of prices. *Oil Paint & Drug Rep* 103:37-9 Mr 29 '23

Coal testing

Assay of coal for carbonisation purposes. *T: Gray and J. G. King. 13p (Fuel research board Tech. pap. no. 1) Great Britain Department of scientific and industrial research, London* '21

Coal testing—Continued

- B.t.u. chart. C: J. Lohman, jr. Chem & Met Eng 27:1031 N 22 '22
- Coal testing. W: Bell. Gas J (Lond) 161:35-6; Discussion. 36-7 Ja 3 '23
- Co-operation of the engineer and chemist in the control of plants and processes. G. M. Gill. *Engng* 113:57-9 Ja 13 '22; Same cond. *Engineer* 133:52 Ja 13 '22; *Discussion. Engineering* 113:51-3 Ja 13 '22; *Engineer* 133:37-8 Ja 13 '22
- Equipment of power station fuel laboratories. C: F. Wade. *Elec R* (Lond) 93:405-6 S 14 '23
- Gasification of Ohio coals. D. J. Demorest. *Chem & Met Eng* 27:1221-4 D 20 '22
- Investigation of the properties of smelting coals. H. J. Sloman. (Min. exp. sta. Bul. no. 1) 16p Penn. State college, State College, Pa. '22
- Lean coals tested in gas producer. J: Blizard and E. S. Malloch. *diag Gas Age* 49:135-6 F 4 '22
- Simple practical coal-testing apparatus. H. G: D. Nutting. *diag Power* 56:617 O 17 '22
- What is the real aim in washing coal and how can washing efficiencies best be calculated? E. G. Hill. *Coal Age* 21:205-8 F 2 '22

See also Coal—Analysis

Coal trade

- American coal export trade shows effects of French occupation of Ruhr. *Coal Age* 23: 501 Mr 22 '23
- Bituminous industry drifting toward further trouble. E. McAuliffe. *Min & Met* 181:17-18 Ja '22
- Coal crisis of 1922 and its ultimate solution. E. McAuliffe. *Min & Met* 185:7-13 My '22
- Coal production equalled by few other industries. *Coal Age* 21:77-9 Ja 19 '22
- How to mend the broken year in the coal industry. G: O. Smith. *Eng N* 89:16 Jl 6 '22
- One way out of coal troubles. J. A. H. Hopkins. *Power* 55:914 Je 6 '22
- Problems of the coal industry nearly sixty years ago differed little from those of today. L: C. McCarthy. *Coal Age* 20:953-4 D 15 '21

See also Coal—Prices; Coal inspection; Coal storage; Coal supply

Accounting

- Complete uniform accounting system for retail coal merchants. 24p; Simplified system. 7p National retail coal merchants assn., 1414 S. Penn Square, Philadelphia '22

Advertising

- Coal dealer who still has his public's goodwill. *Ptr Ink* 123:49-50+ My 10 '23
- Merchants' association advertises the honest dealer. *Ptr Ink* 122:53-4 Ja 25 '23
- Producer advertises to gain market for trade-marked coal. F. H. Morse. *Ptr Ink* 121: 110+ Jl 26 '23
- When King Coal cavorts in the advertising field. J. J. Drew. *Ptr Ink* 120:101-2+ S 21 '22

Regulation

- Administration's coal distribution plan in effect. *Ry Age* 73:261-3 Ag 5 '22
- Coal control law in Indiana. *Monthly Labor R* 14:1029-32 My '22
- Coal distribution and price control bill passed by the House. *Comm & Fin Chr* 115:1044-50 S 2 '22
- Coal priority bill passed by the House. *Ry Age* 73:461-2 S 9 '22
- Coal priority bill passed; text of the main provisions of the bill as rewritten. *Ry Age* 73:556 S 23 '22
- Coal priority plan in operation. *Iron Tr R* 71: 353-4 Ag 10 '22
- Coal trade inquiry is assured. H. Hoover. *Iron Tr R* 71:727 S 14 '22
- Control of coal prices and investigation of the industry seems assured. *Power* 56:473 S 19 '22
- Economic causes of waste which increase the cost of fuel. W. S. Blauvelt. *Min & Met* 189:9-11 S '22
- Economic, not political, means will stabilize coal industry. W. S. Blauvelt. *Coal Age* 21: 378 Mr 2 '22

- Federal fuel distributor establishes procedure for getting emergency coal—committees named. *Coal Age* 22:213-14 Ag 10 '22
- Government control of coal distribution expected to continue throughout winter. P. Wooton. *Coal Age* 22:177-8 Ag 3 '22
- Government to control prices and regulate distribution of coal; priorities ordered. P. Wooton. *Coal Age* 22:141-2 Jl 27 '22
- Hands off, government! *Nation's Business* 10: 50-1+ Je 5 '22
- Harding signs coal distribution bill and names C. E. Spens as federal fuel distributor. *Coal Age* 22:505-6 S 28 '22; *Ry Age* 73:619-21 S 30 '22
- Interstate commerce commission issues priorities. *Ry R* 71:148-50 Jl 29 '22
- Miners' nationalization committee submits plan for public ownership and operation of coal industry. *Coal Age* 23:23-4 Ja 4 '23
- Plan for coal distribution and price restraint. *Ry Age* 73:195-8, 297-9, 330-2, 373-4 Jl 29, Ag 12-26 '22
- Price-control bills favorably reported in both Houses; Hoover urges enactment of Winslow measure. *Coal Age* 22:335 Ag 31 '22
- Priority order issued by Interstate commerce commission. *Heat & Ven* 19:45 S '22
- Recommend government regulation of coal. *Ry Age* 75:577-80 S 29 '23; *Abstracts. Eng N* 91:529-31 S 27 '23; *Power* 58:553 O 2 '23
- Report of the Federal fuel distributor. *Ry Age* 74:162 Ja 6 '23
- Spens orders daily reports on kind, amount and price of soft coal shipped and to whom sent. *Coal Age* 22:557-8 O 5 '22
- Spens outlines work as federal fuel distributor in report accompanying his resignation. *Coal Age* 23:21-2 Ja 4 '23
- State legislature passes measure recommended by Governor Miller to deal with fuel situation—text of the measure. *Comm & Fin Chr* 115:1047-9 S 2 '22
- Supplement to service order no. 23. *Ry R* 71:251 Ag 19 '22
- Take K out of engineers' block. C: Piez. *Iron Tr R* 72:373-5 F 1 '23
- That coal industry should reform from within seen as salient point of commission's final report. P. Wooton. *Coal Age* 24:479-80 S 27 '23
- Thirty-four states have fuel directors. *Coal Age* 23:446 Mr 15 '23
- U.S. coal commission arraigns jobbers in report on distribution; suggests regulation in emergency. *Coal Age* 24:639-40 O 25 '23
- Washington puts burden of coal distribution on states—hopeful that Cleveland conference will start mines. P. Wooton. *Coal Age* 22: 217-18 Ag 10 '22
- Why price control in fuel has failed. F. H. Alfred. *Ry R* 71:411 S 23 '22
- Work of the Federal fuel distributor and other matters pertaining to the regulation of the coal trade. *Comm & Fin Chr* 115:1492-5 S 30 '22

Working out coal distribution plans. *Iron Age* 110:297-8 Ag 3 '22

See also Coal—Transportation; also United States coal commission

Australia

- With superior product, Australia expects to recover coal trade from Japan. R. Bedford. *Coal Age* 21:1055 Je 22 '22

Canada

- Canada's January-June, 1921, coal output 14 per cent less than last year. *Coal Age* 20: 852 N 24 '21

France

- French coal industry experienced poor market in 1922. M. V: Truant. *Coal Age* 23: 117-18 Ja 18 '23
- French coal trade has an uncertain year; feels optimism based on nothing at all. E. Cornand. *Coal Age* 21:90-1 Ja 19 '22
- French colliery association taxes buyers of low-price coal to reimburse those charged high rates. C. H. S. Tupholme. *il Coal Age* 22:545-6 O 5 '22

Coal trade—Continued

Germany

- German coal situation proves not as 'bad as pictured. H. O. Herzog. Coal Age 22:685 O 26 '22
- Germany loses rank as second largest coal exporter. H. O. Herzog. Coal Age 23:121-3 Ja 18 '23
- How the coal trade is organized in Germany. F. Z. Nedden. Coal Age 22:988-90, 1035-6 D 21-28 '22
- Rheinisch-Westfälisches kohlsyndikat, Essen-Ruhr. Stahl & Eisen 42:1725-7 N 16 '22
- Zur erneuerung des Rheinisch-Westfälischen kohlen-syndikats. E. Herbig. Stahl & Eisen 42:725-8 My 11 '22

Great Britain

- After poor start, British coal trade had good year. C. H. S. Tupholme. Coal Age 23:119-20 Ja 18 '23
- British coal exports during 1922 may rival those of 1913. Coal Age 21:377 Mr 2 '22
- British coal mining industry during the war, by R. A. S. Redmayne. 348p Oxford '23; Review. Engineering 116:57-8 Jl 13 '23
- Coal and national prosperity. Engineering 114:401-2 S 29 '22
- Factors in the increased cost of coal to British consumers. Monthly Labor R 17:400-2 Ag '23
- Iron, steel, coal and engineering trades in 1921. Engineer 133:2-5, 31-2, 59-60 Ja 6-20 '22

See also Coal miners—Great Britain

Switzerland

- Coal, coke, and briquettes in Switzerland. M. Husik and P. Holland. U S Bur For & Dom Com Trade Information Bul 64:1-11 '22

United States

- A.R.A. committee reports to Coal commission. Ry Age 74:1367-71 Je 9 '23
- Anthracoite operators reply to Coal fact finding commission—miners make reply on standardization. Comm & Fin Chr 115:2341-2 N 25 '22; Same abr. Coal Age 22:845-6 N 23 '22
- Anthracoite report will have potent influence on whole industry. P. Wooton. Coal Age 24:42 Jl 12 '23
- Anthracoite shipped in 1921, by regions and sizes. Coal Age 22:458 S 21 '22
- Atlantic City conference of anthracite miners and operators unproductive of results. Comm & Fin Chr 117:856-60 Ag 25 '23
- Bituminous coal operators reply to Federal fact-finding commission on scope of its investigations. Comm & Fin Chr 115:2230-1 N 18 '22
- Bootlegging methods in anthracite. H. A. Haring. Annalist 21:351+ Mr 5 '23
- Chicago is the world's greatest coal market. F. C. Honnold. Coal Age 21:18-19 Ja 5 '22
- Coal and coke situation. Chem & Met Eng 26:1226 Je 28 '22
- Coal and the public. G. W. Pepper. Nation's Business 10:11-12 O '22
- Coal bill too high. H. Hoover. Iron Tr R 71:1577 D 7 '22
- Coal commission bent on finding remedy. Iron Age 111:209-10 Ja 18 '23
- Coal commission report. U.S. Coal commission, Washington '23
- Coal commission will confine efforts to submitting to Congress facts and conclusions. P. Wooton. Coal Age 22:1010 D 21 '22
- Coal commission's preliminary report. Am Ind 23:40-7 F '23; Coal Age 23:92-6 Ja 18 '23; Ry Age 74:225-8 Ja 20 '23; Monthly Labor R 16:262-8 F '23; Ry R 72:266-9 F 10 '23
- Coal manual for salesmen, buyers and users. F. R. Wadleigh. 184p National coal mining news, Cincinnati, O. '21
- Coal mine profits. H. A. Haring. Annalist 20:51-2 Jl 17 '22
- Coal operator's blind spot. G. O. Smith. il Coal Age 22:535-6 O 5 '22
- Coal production during first week of the strike. Ry Age 72:912 Ap 15 '22
- Coal remedies. F. W. Parsons. Gas Age 50:283-4+, 315-16+, 341-2+ S 2-16 '22
- Coal situation. J. W. Lieb. Elec Ry J 61:374-5 Mr 3 '23
- Coal situation discussed from all angles by New York section of A.I.M.E. Coal Age 23:343 F 22 '23
- Coal trade—current production and market conditions. See weekly numbers of Commercial and financial chronicle
- Coal wholesalers, in convention at Detroit chafe at Hoover plan to control coal market. E. W. Davidson. Coal Age 21:971-2 Je 8 '22
- Coal wholesalers submit detailed reply to nineteen questions of U.S. coal commission. Coal Age 22:1009 D 21 '22
- Coal's outlook for 1923. H. A. Haring. Annalist 21:61-2 Ja 8 '23
- Competitive costs and marketing methods in the sale of American coals abroad. C. A. Owen. Coal Age 20:931-3 D 8 '21
- Compulsory information in coal. 28p United mine workers of America, 1102-8 Merchants bk. bldg., Indianapolis '22
- Conclusions and recommendations summarized for government, industry and consumer. Coal Age 21:469-78 S 27 '23
- Consumer storage throughout the country as a means of regularizing the coal industry. T. R. Hay. Coal Age 20:391-2 D 1 '21
- Curb labor monopoly and other coal problems will solve themselves. J. Brydon. Coal Age 24:481-4 S 27 '23
- Despite business depression and adverse legislation 1921 anthracite output approached that of 1920. E. W. Parker. Coal Age 21:92-4 Ja 19 '22
- Economic vs. legislative solution of the coal problem. G. H. Cushing. Nation's Business 11:60-1+ Je 5 '23
- Fabric of the industries: a pictorial survey of American industries, with special reference to their interrelations. C. F. Talman. il Nation's Business 11:26-30 O '23
- Federal coal commission finds speculative wholesaler and jobber big factor in high hard-coal prices. Comm & Fin Chr 117:965-6 S 1 '23
- Federal coal inquiry concluded. Iron Tr R 73:897 S 27 '23
- Governors' conference with federal fuel distributor in New York—government's plan for coping with coal situation. Comm & Fin Chr 117:966-8 S 1 '23
- Harding's death to affect coal situation. Eng N 91:239-40 Ag 9 '23
- How many more years can southwestern coal fields keep up heartbreaking fight against oil? C. F. Butcher. il Coal Age 23:1049-52 Je 28 '23
- How to run coal. 39p United mine workers of America, Indianapolis '22
- If the miners strike. Ry Age 75:381-2 S 1 '23
- Is strike unavoidable? Western operators look into future as through a blue glass darkly. Coal Age 22:965 D 14 '22
- Lake market kept flooded with coal throughout season when demand elsewhere was poor. W. A. White. il Coal Age 21:83-4 Ja 19 '22
- Legal status of municipal coal and wood yards. J. N. Moonan. Munic Eng 65:56-9 Ag '23
- Markets and production in 1921 and forecasts. Coal Age 21:113-44 Ja 19 '22
- Markets and production in 1922 and forecasts. Coal Age 23:127-56 Ja 18 '23
- Mines blame labor and railroads. Iron Tr R 71:1359 N 16 '22
- National chamber of commerce discusses the coal question. Power 57:815 My 22 '23
- National coal association suggests investigation of seven fundamental points by coal commission. P. Wooton. Coal Age 22:803-5 N 16 '22
- Northwest is saved from suffering when Uncle Sam strikes Great Lakes shipping into action. Coal Age 23:106-7 Ja 18 '23
- Output of bituminous coal in United States in 1921 was 415,921,000 tons; tonnage per man higher. Coal Age 22:553 O 5 '22
- Overdeveloped coal industry cannot furnish cheap, plentiful coal. Mech Eng 45:206-7 Mr '23

Coal trade—United States—Continued

- Plan for stabilizing coal movement. C. M. Fox. *il Ry Age* 74:1005-6 Ap 21 '23
- Preliminary statistics of production of coal in 1921. *Coal Age* 22:504, 596, 807, 1048 S 28, O 12, N 16, D 28 '22
- Preliminary statistics of production of coal in Indiana in 1921. *Coal Age* 22:640 O 19 '22
- Public and the coal industry. H. Hoover. *Munic Eng* 63:137-40 O '22; Same. *Oil Paint & Drug Rep* 102:xvii-xix sec 2 S 18 '22; Excerpts. *Ry Age* 73:510 S 16 '22
- Public policy for the coal industry. J. A. Emery. *Coal Age* 22:683-4 O 26 '22
- Public utility fuel problem. C. M. Roos. *Munic Eng* 64:138-40 Ap '23
- Publication of production and profits in coal. 3v U.S. Congress. Senate. Committee on manufactures, Washington '21
- Report of U.S. coal commission on anthracite. *Coal Age* 24:43-62 J1 12 '23; Excerpts. *Comm & Fin Chr* 117:165-8 J1 14 '23; *Elec Ry* 62:56-7 J1 14 '23; *Eng N* 91:75-6 J1 12 '23; *Iron Tr R* 73:123 J1 12 '23; Management & Adm 6:221-3 Ag '23; *Monthly Labor R* 17:318-22 Ag '23; *Power* 55:101-2 J1 17 '23; *Ry Age* 75:77-8 J1 14 '23
- Selling the coal industry to the public. C. E. Lesh. *Coal Age* 20:851-2 N 24 '21
- Senatorial coal inquiry, started by retailers, to be held up while Hoover plan is tested. P. Wooton. *Coal Age* 21:1015-16 Je 15 '22
- Soft-coal industry to demonstrate that it can improve its own practices. P. Wooton. *Coal Age* 24:643 O 25 '23
- Some problems of the coal industry. G. B. Harrington. *Boston Soc C E J* 10:229-38 Je '23
- Status of the coal mining industry. F. S. Peabody and others. *Ry Age* 72:1283-5 Je 3 '22
- Suggestions for remedying the coal situation. G. O. Smith. *Am Gas J* 117:26-7 J1 8 '22
- Tidewater business suffered severe shrinkage in 1922. J. S. Burrows. *Coal Age* 23:108-10 Ja 18 '23
- Tidewater tonnage gains over 1919 and war years. J. S. Burrows. *Coal Age* 21:87-9 Ja 19 '22
- United States coal commission shows who profited. *Power* 58:398 S 4 '23
- U. S. wins coal markets abroad. V. G. Iden. *il map Marine R* 52:183-8+ My '22
- Wanted: more coal, fewer mines. G. O. Smith. *Nation's Business* 10:12-13 Je '22
- Washington opposes embargo on anthracite to Canada as solution of Northeastern coal shortage. *Coal Age* 23:345-6 F 22 '23
- Way to avoid nationalization of the coal industry. T. R. Hay. *Ptr Ink* 124:19-20 Ag 9 '23
- Ways by which the coal situation can be improved. *Elec Ry J* 61:812 My 12 '23
- What government's studies of coal shortages indicate. *Ptr Ink* 124:57-8+ J1 5 '23
- What happened in the coal industry in 1922; chronology. *Coal Age* 23:157-60, 188-90 Ja 18-25 '23

Where coal originates and where it goes. W. P. Ellis. *maps Coal Age* 23:111-15 Ja 18 '23

Why coal is scarce and high priced. Management *Eng* 4:131-4 F '23

Why does the coal industry need stabilization? G. S. Rice. *Min & Met* 185:23-6 My '22

See also Coal—Prices; Coal miners—United States; Coal strike, 1922; also American wholesale coal association; Consolidation coal company; National retail coal merchants' association; United States coal commission

Wales

Welsh coal trade in 1922. J. R. Bradley. *U S Bur For & Dom Com Trade Information Bul* 132:1-26 '23

Coal trimmers, Mechanical

Lane-Galloway coal trimmer. *Eng & Ind Management* 6:456, 512-13 O 20, N 3 '21

Wellman mechanical coal trimmer. *il Eng & Ind Management* 7:483-4 Je 1 '22

Coal washers

Draper coal washer. *il diag Engineering* 113: 684-5 Je 2 '22

Plant economy increased by coal washer. A. T. Hutchins. *il diag Elec W* 82:337-8 Ag 18 '23

Coal washing

Can expel water from wet slack by oils and pressure; much ash leaves the coal with the water. C. H. S. Tupholme. *Coal Age* 24: 277-8 Ag 23 '23

Le classement et le lavage des charbons: leur intérêt pratique, leur technique. C. Berthelot. *Génie Civil* 82:607-8 Je 23 '23

Clean Vancouver island coals by flotation process. P. E. Peterson. *diags Coal Age* 21:243-4 F 9 '22

Coal washing in Vancouver island. M. W. Garman. *Coal Age* 21:367-9 Mr 2 '22

Comparison of froth with the Trent process. O. C. Ralston. *Coal Age* 22:911-14 D 7 '22

Develop effective process for reclaiming waste coal. *il Pop Mech* 37:174 F '22

Equipment layout for washery to clean coal as prelude to making metallurgical coke. flow sheet *il Coal Age* 23:781-5 My 17 '23

Flotation methods successfully used in Great Britain to clean coal, culm and sludge. C. H. S. Tupholme. *diags Coal Age* 23:177-80 Ja 25 '23

Flotation plant will treat slack, sludge, and picking table refuse. *Coal Age* 21:365-6 Mr 2 '22

Froth flotation of coal. O. C. Ralston and A. P. Wichmann. *Chem & Met Eng* 26:500-3 Mr 15 '22

Froth flotation tests on bituminous coking coal. O. C. Ralston and G. Yamada. *Chem & Met Eng* 26:1081-6 Je 7 '22

How to calculate washed coal and refuse from ash and sulphur determinations. K. D. Dodds. *Coal Age* 23:635-6 Ap 19 '23

Interpretation of results of coal-washing tests. T. Fraser and H. F. Yancey. *Min & Met* 191:55-7 N '22

Investigating bituminous coal washing practice. *Am Gas J* 115:563-4 D 24 '21

Jig operating without suction through coal bed serves as its own pump. *il diags Coal Age* 23:907-8 Je 14 '23

Problems of bituminous coal washing and measures now being taken for their solution. G. R. Delamater. *Coal Age* 22:664-6, 751-7 O 26, N 9 '22

Recovery of unburned grate fuel. T. Fraser and H. F. Yancey. *Gas Age* 48:883-4 D 31 '21

Rosedale uses bumping tables to wash its product, mixing it for coking purposes with gas coal. G. A. Richardson. *il plans Coal Age* 23:285-92 F 15 '23

Salvaging fuel from boiler-furnace refuse. *il Sci Am* 126:183 Mr '22

Steps in recovery of anthracite from waste piles. W. Griffith. *il Coal Age* 23:923-6 Je 7 '23

Le traitement des cônes de résidus de lavage des charbons. E. Berl and H. Vierheller. *Chimie & Ind* 8:1024 N '22

Trent process of cleaning coal. *Am Soc Heat & V E J* 28:795-801 N '22

Washing coal in large pipe by an upward current of water. *il diag Coal Age* 22:797 N 16 '22

What is the real aim in washing coal and how can washing efficiencies best be calculated? E. G. Hill. *Coal Age* 21:205-8 F 2 '22

See also Coal cleaning

Coal waste

Burning mine wastes. *Iron Age* 110:467 Ag 24 '22; Same. *Iron Tr R* 71:584 Ag 31 '22; Same. *Ind Management (Lond)* 8:151 S 21 '22; Same. *Power Pl Eng* 26:1014 O 15 '22; Discussion. F. A. Scheffler. 26:1172-3 D 1 '22

Develop effective process for reclaiming waste coal. *il Pop Mech* 37:174 F '22

Possible to clarify black washery water and save coal by electrical action. *diag plan Coal Age* 20:802-3 N 17 '21

Recovering coal and coke from ashes. W. D. Green. *Chem & Met Eng* 26:701 Ap 12 '22

Recovering fuel from boiler ash and clinker. C. H. S. Tupholme. *il diags Power Pl Eng* 27:1075-9 N 1 '23

Recovery of fuel from ashes. H. A. Prager. *il diag Chem Age (Lond)* 8:638-40 Je 16 '23

Coal waste—Continued

Recovery of unburned grate fuel. T: Fraser and H. F. Yancey. Gas Age 48:883-4 D 31 '21

Refuse from picking table crushed, cleaned and used in boiler furnaces at Graham, Ky. C: M. Means. *il* Coal Age 23:441-2 Mr 15 '23
Salvaging fuel from boiler-furnace refuse. *il* Sci Am 126:183 Mr '22

Steps in recovery of anthracite from waste piles. W: Griffith. *il* Coal Age 23:923-6 Je 7 '23

Stimulation of free settling by electrolysis. diags Min & Met 181:53 Ja '22

Le transport des boues de lavage du charbon, à la mine Emma (Limbourg hollandais). Génie Civil 82:532-3 Je 2 '23

Treating ashes to save unburned fuel. *il* Min & Sci P 124:413 Mr 25 '22

Utilizes combustible in ash; the Klinkerag process. C. O. Sandstrom. Power 56:602 O 17 '22

Die wiedergewinnung von kohle und koks aus brennstoffrückständen. K. Aschof. diags Stahl & Eisen 42:258-64 F 16 '22

Coal weighing

Coal elevator as a coal weigher. J. R. Belknap. diags Power 55:942 Je 13 '22; Same. Eng & Ind Management 8:19-20 Jl 27 '22

See also Weigh pans

Coal wetting

Good way to wet down coal. R. K. Long. diag Eng & Contr 58:135 Ag 9 '22

Tempering coal reduces draft requirements. T: A. Marsh. diag Power Pl Eng 27:215-17 F 15 '23; Excerpt. Mech Eng 45:250 Ap '23
Tempering of coal. T: A. Marsh. Power 58:630 O 16 '23

Coaling

Coaling devices of the Suisted elevator company at the Victoria and Albert docks. G: F: Zimmer. *il* diags plan Eng & Ind Management 7:435-40 My 18 '22

Floating crane for coaling vessels. *il* diags plan Engineering 112:784, 792 D 9 '21

See also Coal trimmers, Mechanical

Coaling stations

Coal handling plant with ground storage feature at Columbus, Ga. *il* Ry R 72:522-4 Mr 17 '23

Coaling station built of used materials at Bartlett, Ill. diag Eng & Contr 58:151 Ag 16 '22

Foreign bunkering stations. H. C. Hawkins. U S Bur For & Dom Com misc ser 111:1-80 '22

Latest locomotive coal and ash handling plants of the London and North-western railway co. G: F: Zimmer. *il* diag Ind Management (Lond) 8:227-32 O 19 '22

Locomotive coal and ash-handling plant at Crewe. *il* diags plans Engineering 114:511-15, 526, pl 35 O 27 '22

New coaling station mixes fuel automatically. *il* diag Ry Age 74:1532-4 Je 23 '23

One man coal and cinder plant at Millville, N.J. *il* Ry Age 74:610 Mr 13 '23

Reinforced concrete coaling plant at Michigan City, Ind. *il* diags plan Ry R 72:214-19 F 3 '23

Report of committee on fuel stations. Ry Age 74:1287-8 My 26 '23

Thirty-day free storage given at the new government terminals, Mobile, Ala. D: Holt. *il* Coal Age 22:321-2 Ag 31 '22

World's principal oil and coal bunkering stations. Marine R 52:supp Jl '22

See also Coal piers

Coalite

Carbonizing coal by the coalite process. C. H. S. Tupholme. *il* diags Chem & Met Eng 29:233-8 Ag 6 '23

Low temperature carbonisation. Eng & Ind Management 6:445 O 20 '21

Low temperature carbonization. F. Johnstone-Taylor. diags Am Gas J 118:561-4 Je 30 '23

New retorts have toggle plates to release carbonized coal and cooling chamber in which to harden it. C. E. Hopkins. *il* diags Coal Age 21:197-201 F 2 '22

Smokeless fuel for domestic purposes. Electrician 87:579 N 4 '21

Coast guard. *See* United States—Coast guard

Coast guard cutters

Electric drive applied to coast guard cutters. Q. B. Newman. *il* diags Marine Eng 27:15-22 Ja '22

Coating

See also Chinchilla

Cobalt, Ontario

Cobalt—its past and future. C. W. Knight. *il* diags Eng & Min J 113:761-8 My 6 '22

Cobalt

Cobalt. W. R. Barclay. Engineering 114:766 D 22 '22

Cobalt—its production and uses. C. W. Drury. Am Electrochem Soc Trans v 43 (preprint 27):357-63 My '23; Same. Brass W 19:298-9 S '23; Same. Can Chem & Met 7:248-9 O '23
Magnetostriction and magnetolectric effects in iron, nickel and cobalt. F. McCorkle. Phys R 22:271-8 S '23

Separation and determination of cobalt. H. H. Willard and D. Hall. Am Chem Soc J 44:2219-31, 2237-53 O '22

See also Stellite

Analysis

Determination of arsenic in cobalt ores and cobalt nickel speiss by the distillation method. C. A. Knittel. diag Can Chem & Met 6:146-7 Jl '22

Determination of cobalt and nickel in arsenide ores. C. A. Knittel. Can Chem & Met 6:201-3 S '22

Dinitroso-resorcinol as a reagent for the quantitative determination of cobalt in the presence of nickel and other metals of the iron group. W. R. Orndorff and M. L. Nichols. Am Chem Soc J 45:1439-44 Je '23

Separation and determination of cobalt; gravimetric determination of cobalt. H. H. Willard and D. Hall. Am Chem Soc J 44:2226-31 O '22

Separation and determination of cobalt; the volumetric determination of cobalt. H. H. Willard and D. Hall. Am Chem Soc J 44:2237-53 O '22

Cobalt alloys

Cobalt tungsten alloys. K. Kreitz. diag Metal Ind 20:463-4 D '22

Cobalt amines

Complex metallic amines; *cis*-phthalato-, *cis*-homophthalato-, and other diethylene-diaminecobaltic salts. J. C. Duff. Chem Soc J 119:1982-8 D '21

Heats of solution and of transformation of the acido and aquo cobalt pentamines. A. B. Lamb and J. P. Simmons. Am Chem Soc J 43:2188-99 O '21

Properties of subsidiary valence groups; the preparation, properties and molecular volume relationships of the hydrates and amines of cobalt fluoride, bromide, iodide, nitrate, carbonate and citrate. G: L. Clark and H: K. Buckner. Am Chem Soc J 44:230-44 F '22

Researches on residual affinity and co-ordination. G. T. Morgan, J. D. M. Smith and H. J. S. King. Chem Soc J 121:160-9, 1723-9, 1956-71 Ja, S '22

Researches on residual affinity and coordination; cobaltamine and chromic lakes and the azo-salicylic acids. G. T. Morgan and J. D. M. Smith. Chem Soc J 121:2866-74 D '22

Researches on residual affinity and coordination; cobaltamine and ferric lakes of dinitrosoresorcinol. G. T. Morgan and J. E. Moss. Chem Soc J 121:2857-66 D '22

Researches on residual affinity and co-ordination; cobaltic lakes of the alizarin series. G. T. Morgan and J. D. M. Smith. Chem Soc J 121:160-9 Ja '22

Researches on residual affinity and co-ordination; normal and acid salicylatotetrammino-cobaltic salts. G. T. Morgan and J. D. M. Smith. Chem Soc J 123:1096-1108 My '23
Strengths of cobaltamine bases and Werner's theory of bases. A. B. Lamb and V. Yngve. Am Chem Soc J 43:2352-66 N '21

Cobalt chloride

Equilibrium in the systems, nickel chloride, cobalt chloride, cupric chloride—hydrochloric acid—water. H. W. Foote. *Am Chem Soc J* 45:663-7 Mr '23

Cobalt compounds

Complexes in solutions of copper and cobalt salts. H. G. Denham and S. W. Penny-cuick. *Am Chem Soc J* 45:1353-7 Je '23

Properties of subsidiary valence groups; the preparation, properties and molecular volume relationships of the hydrates and amines of cobalt fluoride, bromide, iodide, nitrate, carbonate and citrate. G. L. Clark and H. K. Buckner. *Am Chem Soc J* 44:230-44 F '22

See also Erdmann's salt

Cobalt hydroxide

Preparation of colloidal solutions of nickel and cobalt hydroxides and some other compounds of these metals. O. F. Tower and M. C. Cooke. *J Phys Chem* 26:728-35 N '22

Cobalt oxides

Higher oxide of cobalt. O. R. Howell. *Chem Soc J* 123:65-71 Ja '23

Cobalt steel

Cobalt steels for permanent magnets. J. F. Kayser. *Engineer* 135:57, 83-4 Ja 19-26 '23

Cobble stones

Some hints on cobble stone work. J. Upton. *Il Bldg Age* 44:39 O '22

Coca-cola

How coca-cola teaches distributors best use of dealer helps. W. B. Edwards. *Ptr Ink M* 7:50+ Ag '23

Advertising

Coca-cola more than doubles advertising outlay. G. A. Nichols. *Ptr Ink* 117:3-4+ N 24 '21

Coca-cola picture advertising takes intricacies from turnover. *Ptr Ink* 119:25-6 Ap 27 '22

Cocaine

Cocaine and cocoa. *Sci Am* 128:399 Je '23

Cochin China

Dragages de canaux exécutés en Cochinchine. Benabeng. *Il diags Génie Civil* 81:590-3 D 23 '22

Cochineal

Detection of natural dyes on the fibre. A. G. Whittaker. *Textile Col* 45:648-50 O '23 (to be cont)

Cochrane, David, 1850-1923

Sketch. *por Power Pl Eng* 27:301 Mr 1 '23

Cochrane, Ontario**Water supply**

Cause of typhoid epidemic at Cochrane. *plan Can Eng* 44:458 My 1 '23

Cock (term)

Faucets, cocks, etc. *Dom Eng* 103:544-5; 104:183-4 Je 16, JI 28 '23

Coco-quinine

Duplication of competitors' products and its legal limitations in sales policies. *Chem Age* 30:79-80 F '22

Cocoa

Cocoa and cacao. *Sci Am* 126:123 F '22
Gas firing increases capacity of cocoa roasters. H. O. Andrew. *Il Gas Age* 52:199 Ag 18 '23

Coconut

See also Arrack

Advertising

Food product that is sprinkling its way to greater sales volume. J. True. *Ptr Ink* 120:81-2+ S 21 '22

Coconut oil

Coconut oil; how the copra is handled and the oil expressed and refined. A. W. Allen. *flow sheet il diag Chem & Met Eng* 29:614-20 O 1 '23

Cocaoanut oil manufacturing. W. W. Larkin. *J Account* 33:178-86 Mr '22

Coconut oil or copra as Philippine export. V. Villamin. *Oil Paint & Drug Rep* 104:21 O 15 '23

Copra and coconut oils in the Netherlands, East Indies and British Malaya. J. A. Fowler. *U S Bur For & Dom Com Trade Information Bul* 34:1-12 '22

\$5,000,000 coconut oil industry in the Northwest. F. W. Watson. *Il J Elec* 49:85-8 Ag 1 '22

Liquid soaps from coconut oil. M. Doniger. *Chem & Met Eng* 26:1132-3 Je 14 '22

Coconut oil butter

How coconut oil butter is manufactured. C. W. Geiger. *Il Pop Mech* 37:262-4 F '22

Cocoons

Master builders called insects. S. F. Aaron. *Il Sci Am* 128:382 Je '23

Cod liver oil

Cod liver oil industry in Newfoundland. S. S. Zilva and J. C. Drummond. *Soc Chem Ind J* 42:185-8 My 4 '23; Discussion. 42:250-1 Je 8 '23

Codding process

Rise and fall of metallurgical processes. E. H. Robie. *Eng & Min J* 115:275 F 10 '23

Code sending and receiving machine

Electrical machines can make eleven million codes. H. H. Dunn. *Il Pop Mech* 38:849-50 D '22

Codeine

Morphine group; a discussion of the constitutional problem. J. M. Gulland and R. Robinson. *Chem Soc J* 123:980-96; Bibliography. 996-8 My '23

Über die hydrierung des iso-kodeins und pseudo-kodeins. E. Speyer and H. Wieters. *Deutsche Chem Gesell Ber* 54:2647-50 N '21

Codeineoxidesulfonic acids

Beitrag zur kenntnis der kodeinoxydsulfonsäuren und ihrer derivative. E. Speyer and H. Wieters. *Deutsche Chem Gesell Ber* 54:2976-87 D '21; Abstract. *Chem Soc J* 122 pt 1:169-70 F '22

Codes. See Cipher and telegraph codes**Codes, Electric. See National electrical code****Codes, Office. See Classification****Codes, Safety. See Safety codes****Codfish**

Dehydration and freshening of codfish. H. W. Banks. *Am Soc Heat & V E J* 28:45-8 Ja '22

Codfish cakes**Advertising**

Selling a new product in competitive field with terse copy; William Underwood & co. enter market with own brand of codfish cakes. *Ptr Ink* 122:41-2 F 15 '23

Coefficient of slip. See Slip (gases)**Coffee**

All about coffee. W. H. Ukers. 796p [bibliog. p. 738-68] Tea & coffee trade journal co., New York '22

Brazilian government valorization methods reported as disorganizing coffee trade. *Comm & Fin Ch* 116:576 F 10 '23

Coffee cultivation Colombia's principal industry. M. Garcia-Pena. *Annalist* 19:128 Ja 16 '22

Coffee market and Brazil's financial situation. F. E. Nortz. *Annalist* 19:61+ Ja 9 '22

Romance of package coffee. W. H. Ukers. *Nation's Business* 11:40+ JI '23

Sales that are lost by reason of neglected opportunities. *Ptr Ink* 123:69-70+ Je 28 '23

Valorization of Brazilian coffee. W. L. Schurz. *U S Bur For & Dom Com Trade Information Bul* 73:1-8 '22

Advertising

Coffee trade committee reports. *Ptr Ink* 118:153+ Mr 23 '22

Introducing the retail grocer to his coffee competitor. *Ptr Ink* 118:73-4 Ja 19 '22

Reason-why advertising in 1652. *Ptr Ink* 123:96 Ap 12 '23

Seven-word campaign for La Touraine coffee. H. Burwen. *Ptr Ink* 125:33-4+ O 18 '23

Stating the case to doctors. A. P. Ames. *Il Ptr Ink* 119:17-19 Je 1 '22

Using the light touch to sell coffee flavor. *Il Ptr Ink* 119:33-4 Je 8 '22

Coffee—Advertising—*Continued*

- Wagon coffee sellers join in advertising. *Pt* Ink 120:117+ Ag 3 '22
 What coffee advertising is accomplishing. *Pt* Ink 121:68 D 21 '22

Cofferdams

- Building a sheet pile cofferdam in a 28-ft. tide at Courtney Bay dry dock, St John. H. E. Huestis. *il* diags plan Eng N 87:806-8 N 17 '21
 Caisson cofferdam foundation with special bracing. T. K. Thomson. *il* diags plans Eng N 88:914-18 Je 1 '22
 Cofferdam sheeting stands after cribwork is removed. *il* Eng N 88:1070 Je 29 '22
 Cofferdams for the Dnieper river improvement, Russia. S. N. Petrenko. *diags* Eng N 87:943 D 8 '21
 Constructing Mitchell dam. L. G. Warren. *il* Pub Works 54:247-50 Ag '23
 Earth-filled cofferdam with concrete core wall. *il* diags plan Eng N 89:226-8 Ag 10 '22
 Emsworth lock and dam construction. *il* diags plan Pub Works 53:162-4 S '22
 Field check on formulas for earth pressure; thrust of saturated bank measured by deflections of cofferdam wales. H. S. Schick. *il* diags Eng N 88:994-5 Je 15 '22
 Sinking a large cofferdam crib. *il* diags Eng N 90:170-1 Ja 25 '23
See also Bridges—Foundations and piers

Coffin foundation

- Charles A. Coffin foundation. *Am Inst E E J* 41:sup235-6 D '22; *Elec Ry J* 60:921 D 9 '22; *Elec W* 80:1293-4 D 9 '22; *Gen Elec R* 26:5-6 Ja '23; *N E L A Bul* 10:24 Ja '23
 Charles A. Coffin foundation. W. W. Trench. *Gen Elec R* 26:278-9 My '23
 Coffin prize awarded to Chicago, North Shore & Milwaukee R.R. *il* *Elec Ry J* 62:591-3, 671-81 O 13-20 '23; *Same*. *Aera* 12:555-85 N '23
 Prizes for electric railways. *Aera* 11:661-2 Ja '23
 Southern California Edison gets the first award of gold medal of the Charles A. Coffin foundation. *il* *Elec W* 81:1370 Je 9 '23

Coffins

- Casket manufacture; statutory bronze finish on solid bronze caskets. C. H. Proctor. *Metal Ind* 20:260 J1 '22

Coffins, Glass

- Conveying glass coffins. *il* *Ind Management* (Lond) 8:200 O 5 '22

Cohesion

- Cohesion and molecular forces; discussion. W. H. Bragg and others. *Engineer* 136:302-4 S 21 '23; *Engineering* 116:359-60 S 21 '23; *Soc Chem Ind J* (Chem & Ind) 42:930-4 S 28 '23
 Cohesion from the engineering standpoint. A. A. Griffith. *Engineering* 116:377 S 21 '23; *Same cond*. *Engineer* 136:303 S 21 '23

Coils

- Aluminum field coils for replacing copper save 60 per cent weight. *il* *Elec Ry J* 60:10 J1 '22
 Changing a cross-over coil to one less liable to short circuit. A. C. Roe. *diags* *Ind Eng* 80:550-1 N '22
 Le comptage des nombres de tours des bobines par mesure électrique. *diags* *Génie Civil* 83:185-6 Ag 25 '23
 Details of coil-making methods. A. C. Roe. *il* *diags* *Ind Eng* 80:337-42+ J1 '22
 Electric coil-forming machine at the Olympia exhibition. *il* *diags* *Engineering* 116:294-5 S 7 '23
 How to make diagrams for coil winders. A. C. Roe. *il* *diags* *Elec R* 80:283-8+ Je '22
 Impregnation of enameled wire coils. W. D. A. Peaslee. *Elec W* 80:926-7 O 28 '22
 Incorporating series trip coil inside circuit breakers. *diags* *Elec W* 82:660-1 S 29 '23
 Methods for laying out coils for d. c. armatures and a. c. stators. A. C. Roe. *il* *diags* *Elec R* 80:159-64 Ap '22
 Modernizing old-style field coils. *Elec Ry J* 60:814 N 18 '22

- Repair shop simple coil winder for making double-nose coils. E. T. Walk. *Ind Eng* 81:366 J1 '23
 Treatment of enameled wire coils. L. E. Frost. *Elec J* 19:331-2 Ag '22

See also Armatures; Inductance coils; Induction coils; Reactors; Solenoids

Testing

- Rapid and practical method of testing field coils for short circuits. A. C. Roe. *il* *Ind Eng* 80:549-50 N '22
 Testing motor field coils. *Ind Eng* 80:544 N '22

Coins

- Artistic fare tokens command premium. K. Sieber. *il* *Elec Ry J* 59:402-3 Mr 11 '22
 New French aluminium bronze money. *il* *diags* *Engineer* 134:74 J1 21 '22; *Same cond*. *Iron Age* 110:649 S 14 '22; *Same cond*. *Metal Ind* 20:381 O '22
 Tragedies and romances of world history revealed by coins of all nations. *il* *Pop Mech* 40:716-19 N '23

Coke

- Anthracite famine to boom coke. *Gas Age* 50:117+ J1 22 '22
 Burning coke in blast furnaces. G. St. J. Perrotti and S. P. Kinney. *diag* *Iron Tr R* 72:941-6 Mr 29 '23
 Coke and by-products in 1919-1920. R. S. McBride and F. G. Tryon. *map* *U S Geol S Min Res of U S* 1920, pt 2:361-437 '22
 Coke as a fuel for commercial vehicles. T. Clarkson. *Engineering* 112:579-80 O 21 '21; *Abstract*. *Automobile Eng* 11:389-90 N '21
 Le coke de hauts fourneaux. *Génie Civil* 83:328 O 6 '23
 Coke quality and blast furnace operations. F. W. Sperr and D. L. Jacobsen. *diags* *Blast F & Steel Pl* 11:314-18, 378-83, 426-31 Je-Ag '23
 Coke; report of 1923 committee. V. A. Miller. *Am Gas J* 119:414-19 O 18 '23; *Same abr*. *Gas Age* 52:485-9 O 20 '23
 Coke residue test for creosote oils. C. S. Reeve and F. W. Yeager. *J Ind & Eng Chem* 14:966-7 O '22
 Coke shortages in both France and Germany. *Chem & Met Eng* 28:403 F 28 '23
 Les cokes de la Sarre et de la Haute-Silésie. *diag* *Génie Civil* 81:299-300 S 30 '22
 Combustibility of blast furnace coke. R. A. Sherman and S. P. Kinney. *Iron Age* 111:1839-44 Je 28 '23
 Combustibility of coke. W. A. Haven. *il* *Iron Age* 110:695 S 14 '22
 La combustion du coke sur grille fixe. *Génie Civil* 81:544-5 D 9 '22
 Cooling coke; patent. *diags* *Gas J* (Lond) 161:340-1 F 7 '23
 Current talk about substitute fuels. *Gas Age* 52:257-8+ S 1 '23
 Determination of the specific gravity of coke. W. A. Selvig and W. L. Parker. *Chem & Met Eng* 28:547-50 Mr 21 '23
 Determination of the true specific gravity of coke. H. J. Rose. *J Ind & Chem Eng* 14:1047-9 N '22
 Economy of coke as steam fuel. C. O. Thomas. *Power* 56:65 J1 11 '22; *Same*. *Gas Age* 50:107-8 J1 22 '22
 Experiences of coke recovery by the Columbus process. *il* *Gas J* (Lond) 163:310 J1 18 '23
 Foundry and furnace coke compared. R. Moldenke. *Iron Age* 111:825-7 Mr 22 '23
 Fuel of the future—what shall it be? I. Ginsberg. *Am Gas J* 119:193-6, 204-5 S 8 '23
 Fuels available for domestic use. R. Kudlich. *Heat & Ven* 20:62 O '23
 Getting rid of the coke pile. L. L. Osler. *Gas Age* 50:483-4 O 14 '22
 Koks und sein einfluss in der giesserei. *diags* *Stahl & Eisen* 42:1492-5 S 28 '22
 Measuring coke combustibility. R. A. Sherman and J. Blizard. *diag* *Iron Tr R* 72:737-41 Mr 8 '23
 Pittsburgh meeting. A.C.S., section of gas and fuel chemistry. *Chem & Met Eng* 27:648-9 S 27 '22
 Production of shrunk coke in electrode manufacture. J. L. M. Yardley. *diags* *Chem & Met Eng* 26:321-2 F 15 '22

Coke—Continued

- Reactivity of coke as a factor in the fuel economy of the blast-furnace. E. R. Sutcliffe and E. C. Evans. *diag Iron & Steel Inst J* 107:27-78, pl 1-2 no 1 '23; Same. *Engineering* 115:603-5, 638-40, 664-7 My 11-25 '23; Abstract. *Engineer* 135:529 My 18 '23; Discussion. *Iron & Steel Inst J* 107:79-96 no 1 '23; *Engineering* 115:610-11 My 18 '23; *Engineer* 135:529-30 My 18 '23
- Récupération du coke dans les crasses de gazogènes et autres foyers. Mougin. *diags Génie Civil* 83:9-10 JI 7 '23
- Die rohstoffe und ihre vorbereitung für den hochofenbetrieb in Nordamerika. H. A. Brasert. *Stahl & Eisen* 43:69-73 Ja 18 '23
- Session of the American Institute of mining and metallurgical engineers devoted to coke. *Iron Age* 111:611 Mr 1 '23
- Testing materials society defines coke. *Coal Age* 22:838 N 23 '22; Same. *Blast F & Steel Pl* 10:653 D '22
- Ueber die bestimmung und ursachen der leichtverbrennlichkeit von koks. H. Broche. *diag Stahl & Eisen* 43:722-5 My 31 '23
- Use of coke in homes urged by Bureau of mines. *Heat & Vent* 19:49 O '22
- Volumetrische bestimmung des wirklichen und des scheinbaren spezifischen gewichtes von koks. A. Schmolke. *diag Stahl & Eisen* 42:1237-40 Ag 10 '22
- What the present coal situation means to the heating industry. F. B. Howell. *chart Heat & Vent* 19:36-8 S '22

See also Coal; Coke-oven gas; Coke ovens

Analysis

- Determination of volatile combustible matter in pitch coke. H. E. Lloyd and F. W. Yeager. *J Ind & Eng Chem* 14:220-2 Mr '22
- Quantitative determination of sulfur forms in coke. A. R. Powell. *Ind & Eng Chem* 15:951-3 S '23

Gasification in steam

- Gasification of coke in steam, with special reference to nitrogen and sulphur. S. Pexton and J. W. Cobb. *diags Gas J (Lond)* 163:160-73 JI 4 '23

Nitrogen content

- Gasification of coke in steam, with special reference to nitrogen and sulphur. S. Pexton and J. W. Cobb. *diags Gas J (Lond)* 163:160-73 JI 4 '23

Prices

- Coke output increases in year. *Iron Tr R* 72:81-5 Ja 4 '23
- Coke price drop feature of year. *Iron Tr R* 70:72-3 Ja 5 '22
- Connellsville coke prices for nineteen years, 1903-1921. *Iron Age* 109:63 Ja 5 '22
- Connellsville coke prices for twenty years. *Iron Age* 111:73 Ja 4 '23

Sulfur content

- Action of sulphur on steamed coke. *Chem & Met Eng* 29:708 O 15 '23
- Forms of sulfur in coke. A. R. Powell. *diag Am Chem Soc J* 45:1-15 Ja '23
- Gasification of coke in steam, with special reference to nitrogen and sulphur. S. Pexton and J. W. Cobb. *diags Gas J (Lond)* 163:160-73 JI 4 '23
- Investigates sulphur effect in coke. J. H. Thompson. *Iron Tr R* 73:1180-1 O 25 '23
- Iron sulphide in coke can be reduced by air and heat also free sulphur, but not in sufficient quantity. A. R. Powell. *Coal Age* 23:899-901 My 31 '23; Same. *Iron Tr R* 72:1888-90 Je 28 '23; Same cond. *Blast F & Steel Pl* 11:364-5 Je '23
- Quantitative determination of sulfur forms in coke. A. R. Powell. *Ind & Eng Chem* 15:951-3 S '23
- Restricting sulphur in pig iron. A. R. Powell. *Iron Tr R* 72:874-8 Mr 22 '23

Terminology

- Tentative definitions of terms relating to coke. *Am Soc T M Pro* 21:708-10 '21

Testing

- By-product coke and other fuels for householding boilers. H. Kreisinger and others. *U S Bur Mines Tech Pa* 315:1-21, pl 1 '23; Same. *Gas Age* 52:283-6 S 8 '23; Excerpt. *Iron Tr R* 73:711 S 13 '23
- Le coke métallurgique. W. Boulin. *Chimie & Ind* 7:23-5 Ja '22
- Mass und bestimmung der verbrennlichkeit des kokses. F. Häusser. *diag Stahl & Eisen* 43:903-7 JI 12 '23
- Report of committee D-6 of A.S.T.M. on coke. *Am Soc T M Pro* 22 pt 1:463-5 '22
- Shatter and tumbler tests for metallurgical coke. S. P. Kinney and G. St. J. Perrott. *il diags J Ind & Eng Chem* 14:926-31 O '22
- Suggests standard shatter test for coke. *Coal Age* 22:711 N 2 '22
- Vorschläge zur prüfung des kokses für hochofen- und giessereizwecke. H. Koppers. *diags Stahl & Eisen* 42:569-73 Ap 13 '22
- Vorschläge zur prüfung des kokses für hochofen- und giessereizwecke. C. Zix. *Stahl & Eisen* 42:1430-1 S 14 '22

Transportation

- Coking-in-transit rate. *Iron Age* 112:1241 N 8 '23

Coke breeze

- Burning coke braise with natural draft. C. W. Fisher. *Power* 56:293-4 Ag 22 '22
- Coke breeze as fuel for steam boilers in Great Britain. C. H. S. Tupholme. *Gas Age* 52:3-6 JI 7 '23
- Observations on the use of coke-breeze as auxiliary fuel in steel plants. W. N. Flanagan. *Blast F & Steel Pl* 11:210 Mr '23
- Use of coke breeze in conjunction with illuminating gas. Dr Wilde. *Am Gas J* 118:317-20 Ap 14 '23
- Utilization of coke breeze; abstract. *Mech Eng* 45:656-7 N '23
- Value of mixtures of coke breeze and bituminous coal as fuel for a hand-fired boiler. J. Blizard and J. Neil. *Am Soc Heat & V E J* 27:645-55 S '21; Same, without tables. *Gas Age* 48:848-9 D 24 '21

Coke handling

- Coal and coke handling at Birmingham. *il Gas J (Lond)* 163:853-5 S 19 '23
- Coke handling on new lines. *il diags Ind Management (Lond)* 10:51-3 JI 26 '23
- Electric telfer installation at Plymouth gas works. H. Blyth. *il diags plan Electrician* 87:829-32 D 30 '21
- Elevating coke by skip hoist. *il plan Gas Age* 49:683-4 Je 3 '22
- Gas works electrification; the coal and coke handling equipment at the Plymouth gas works. H. C. Widdlake. *il diags plan Electrician* 89:738-41 D 29 '22
- La manutention mécanique du coke à l'usine de Perrache, de la Compagnie du gaz de Lyon. C. Dantin. *il Génie Civil* 82:541-3, pl 4 Je 9 '23

- Mechanische kokslösch- und -verladeeinrichtungen. A. Thau. *il diags Stahl & Eisen* 42:1838-43, 1868-74 D 14-21 '22

- Quenching and loading machine for metallurgical coke. *diags plan Eng & Ind Management* 8:57-8 Ag 10 '22

Coke industry

- Buy now—pay later, sells coke. J. T. Bartlett. *Gas Age* 50:201-2 Ag 12 '22
- Coke for 1921 reverses preceding year's record. *Iron Age* 109:69-70 Ja 5 '22
- Coke; report of 1923 committee. V. A. Miller. *Am Gas J* 119:414-19 O 18 '23; Same abr. *Gas Age* 52:485-9 O 20 '23
- Merchandizing of coke. W. G. Rich. *Am Gas Assn General Sessions sec v* 4:321-55 '22; Abstracts. *Am Gas J* 117:504-6 O 27 '22; *Iron Tr R* 71:1414 N 23 '22; Discussion. *Am Gas Assn General Sessions sec v* 4:356-66 '22
- Price the Connellsville coke region will have to pay for present strike. J. L. Gans. *il Coal Age* 22:547-8 O 5 '22
- Review of coking in the Pacific Northwest. *Blast F & Steel Pl* 10:207 Mr '22

Coke industry—Continued

Selling of coke; the home market should be developed. J. R. McKnight. *Am Gas J* 116: 161-3 F 18 '22

See also Coke—Prices

Advertising

Merchandizing of coke. W. G. Rich. *Am Gas Assn General Sessions* sec v 4:321-55 '22; Abstracts. *Am Gas J* 117:504-6 O 27 '22; *Iron Tr R* 71:1414 N 23 '22; Discussion. *Am Gas Assn General Sessions* sec v 4:356-66 '22

Statistics

By-product coke output for 1921. *Iron Tr R* 71:1291 N 9 '22

By-product coke output gains. *Iron Tr R* 73: 746 S 13 '23

By-product coke oven statistics; abstracts. R. S. McBride. *Gas Age* 49:431-2 Ap 8 '22; *Coal Age* 21:580 Ap 6 '22; *Iron Age* 109: 919-20 Ap 6 '22

Byproduct coke produced and sold or used by producers in the United States, 1920, by states and kinds. *Coal Age* 21:504 Mr 23 '22

By-product coke production in 1921 less by 28 per cent than in 1920. *Am Gas J* 116:82 Ja 28 '22

Coke and by-products in 1921. R. S. McBride. *U S Geol S Min Res of U S* 1921, pt 2:371-444 '23

Coke by-products in 1922. *Iron Age* 112:676 S 13 '23

Coke industry recovered in 1922 despite difficulties. R. S. McBride. *Chem & Met Eng* 28:163-4 Ja 24 '23; Same. *Coal Age* 23:125-6 Ja 18 '23

Coke production in 1922. *Gas Age* 52:516 O 27 '23; Same. *Coal Age* 24:677-8 N 1 '23; 1921 coke output cut in half. *Iron Tr R* 70: 908 Mr 30 '22

Production of coke in 1921. *Iron Age* 111:670 Mr 8 '23

20,000,000 tons of byproduct coke produced during 1921. *Coal Age* 22:914 D 7 '22

Coke manufacture

Bases physiques et chimiques de l'extinction à sec du coke; abstract. Eitner. *Chimie & Ind* 9:926-7 My '23

By-product coke oven operation; 10 pushing series. A. Coe. diags *Blast F & Steel Pl* 10:619-22 D '22

By-product coking. G. S. Cooper. 2d ed., rev. and enl. 192p Bann bros., London '23

By-product coking with particular reference to new combination oven. J. Becker. il diags *Blast F & Steel Pl* 10:575-83 N '22; Same. *Chem & Met Eng* 27:875-81 N 1 '22; Same. *Iron Tr R* 71:1055-62 O 19 '22; Same. *Gas Age* 50:653-6, 671-5 N 11 '22; Same abr. *Iron Age* 110:1275-9 N 16 '22; Same cond. *Am Gas J* 117:649-53 D 9 '22

Chemistry of the coking process. F. Lieng. *Am Gas J* 118:63-6, 74-7 Ja 27 '23

Coal carbonization as applied to power plant practice. V. Z. Caracristi. diags *Power* 57: 831-6 My 29 '23; Same. *Am Gas J* 119:65-9, 76-8 J1 28 '23; Abstract. *Gas J* (Lond) 64:534 Ag 15 '23

Cokéfaction dans les fours, système Mac-laurin. diag *Génie Civil* 82:630 Je 30 '23

La cokéfaction de la tourbe et du bois. B. Waeser. diag *Chimie & Ind* 7:277-8 F '22

La cokéfaction des charbons de la Sarre. C. Berthelot. *Génie Civil* 83:385-6 O 20 '23

Complete gasification ovens. F. C. Cornet. *Gas Age* 49:205 F 18 '22

Cooling coke. diags *Chem & Met Eng* 26:849 My 3 '22; Same. *Eng & Ind Management* 8: 100-1 Ag 24 '22

Fortschritte auf dem gebiete der kokserzeugung, der einfluss der kokschaffenheit auf den hochofenbetrieb und vorschläge für die verbesserung des letzteren. *Stahl & Eisen* 42:297-303, 382-8, 1284-90 F 23, Mr 9, Ag 17 '22

Good coke now manufactured from non-coking coals of Illinois, with saving of byproducts. H. V. Patterson. il diag *Coal Age* 22: 45-50 J1 13 '22

Heat treatment of coke. S. R. Greene. *Blast F & Steel Pl* 10:456-7 S '22

Illinois coal as a source of smokeless fuel. S. W. Parr. il diag maps *Power Pl Eng* 26:600-5 Je 15 '22

Increasing profits from coke sales. D. C. Edwards. *Gas Age* 50:869-70 D 23 '22

Kohlenveredlung, insbesondere zur herstellung von aschearmen koks. A. Thau. *Stahl & Eisen* 42:1153-8, 1242-9 J1 27, Ag 10 '22

Low-temperature distillation of amalgams of bituminous non-coking coal and asphaltic oils. J. D. Davis and C. E. Coleman. diags *Am Gas J* 116:83-6 Ja 28 '22; Same cond. *Chem & Met Eng* 26:173-4 Ja 25 '22; Same cond. *Gas Age* 49:107-9 Ja 28 '22

Manufacture and preparation of coke. R. L. Fletcher. il *Am Gas Assn General Sessions* sec v 4:283-320 '22; Same abr. *Am Gas J* 117:499-503 O 27 '22

Manufacturing fuel by the pure coal briquette process. C. H. S. Tupholme. plan *Chem & Met Eng* 29:401-3 S 3 '23

Metallurgical coke by froth flotation process. *Iron Age* 109:329 F 2 '22

Method of making non-fingery coke from bituminous coals high in volatile matter K. Shimomura. il *Soc Chem Ind J* (Chem & Ind) 42:556-8 Je 8 '23; Same abr. *Am Gas J* 119:47-8 J1 21 '23; Discussion. F. Egner. 119:115-16 Ag 11 '23

New coke ovens use highly volatile coals. H. J. Gifford. *Am Gas J* 117:45-8 J1 15 '22

Observations on mixing coals for carbonization. J. D. Davis. *Gas Age* 52:373-5 S 29 '23; Same cond. *Am Gas J* 119:350-2 O 16 '23

Relation between width of coke oven chambers and coking time. A. Ruehl. *Blast F & Steel Pl* 11:167-8 F '23

Roberts ovens successfully coke Illinois coals. H. V. Patterson. il diag *Blast F & Steel Pl* 10:388-93 J1 '22

Roberts type of by-product coke ovens. M. W. Ditto. il diag *Iron Age* 109:580-3+, 649-50 Mr 2-9 '22; Same cond. *Iron Tr R* 70:664-7+ Mr 9 '22

Slow cooling of coke. I. Ginsberg. diag *Am Gas J* 116:55-7 Ja 21 '22

Structure of coke. H. D. Greenwood and J. W. Cobb. *Blast F & Steel Pl* 10:480-2 S '22

Treatment of fuels by direct flame. F. Frank. il diags *Sci Am* 126:408 Je '22

Ueber trockene kokskühlung. P. Schläpfer. il diags *Stahl & Eisen* 42:1269-75 Ag 17 '22; Translation (Dry cooling process of coke). *Blast F & Steel Pl* 11:19-21 Ja '23; Same. *Gas J* (Lond) 161:266 Ja 31 '23

Utilization of bituminous coals. W. E. Davies. *Gas Age* 49:597-600 My 13 '22

Wege zur verbesserung der kokschaffenheit. A. Thau. *Stahl & Eisen* 43:1127-36, pl 5 Ag 30 '23

See also Coke ovens; Coke plants, By-product

By-products

Adapting coal to the furnace. O. Monnett. *Power Pl Eng* 26:1043-4 N 1 '22

By-product coke oven statistics. R. S. McBride. *Gas Age* 49:431-2 Ap 8 '22

By-product coking. F. W. Sperr, jr. *J Ind & Eng Chem* 14:844-6 S '22

Coke and by-products in 1919-1920. R. S. McBride and F. G. Tryon. map *U S Geol S Min Res of U S* 1920, pt 2:361-437 '22

Coke and by-products in 1921. R. S. McBride. *U S Geol S Min Res of U S* 1921, pt 2:419-44 '23

Distillation of coke-oven tar and the recovery of some of its products. W. J. Huff. diags *Chem & Met Eng* 26:113-18 Ja 18 '22

European by-product coking during 1921. A. Thau. *Blast F & Steel Pl* 10:18-20 Ja '22

Ford principles and practice at River Rouge. J. H. Van Deventer. flow sheet il *Ind Management* 64:280-7 N '22

Progress in the byproduct coke industry. C. R. Bellamy. il diags *Am Inst Chem Eng Trans* v 13 pt 1:325-43 '20

Some of the constituents of coke-oven tar. J. M. Weiss and C. R. Downs. *Ind & Eng Chem* 15:1022-3 O '23

Treatment of effluent spent liquors; the problem in ammonia works. *Chem Age* (Lond) 9:58-60 J1 21 '23

Coke manufacture—By-products *Continued*

20,000,000 tons of byproduct coke produced during 1921. *Coal Age* 22:211 D 7 '22

See also Coke-oven gas; Coke plants, By-product; Sodium cyanide

Tables, calculations, etc.

By-product oven heat balance. D. S. Chamberlin and E. W. McGovern. *Gas Age* 51:199-202 F 17 '23

Heat balance of carbonization process. J. K. Munster. *diags Blast F & Steel Pl* 11:389-92 J1 '23

Coke-oven gas

L'application des gaz de fours à coke à la synthèse de l'ammoniaque. G. Claude. *Génie Civil* 12:159-60 F 17 '23

Beiträge zur erhöhung der ammoniakausbeute bei der destillation der steinkohle; die gewinnung des im koksofengase enthaltenen zyanwasserstoffs durch umwandlung in ammoniumsulfat. F. Sommer. *diags Stahl & Eisen* 41:852-9 Je 23 '21; Abstract (Increasing ammonia output in coal distillation). *Am Gas J* 116:271-2 Mr 25 '22

Blast furnace waste heat utilized. H. Hermanns. *diags Blast F & Steel Pl* 10:531-4 O '22

Can ammonia be made, as well as saved, from coke-oven gas? *Coal Age* 24:281-2 Ag 23 '23

City gas from by-product ovens. A. I. Phillips. *Gas Age* 50:689-92, 709-12 N 18 '22

Coke-oven gas in open-hearth furnaces. J. Dupuis. *Iron Age* 110:1561-2 D 14 '22

Distribution of tar recovery from by-product coke-oven gas. F. M. Washburn and G. E. Muns. flow chart *Blast F & Steel Pl* 10:351-2 Je '22; Same. *Chem & Met Eng* 27:119-20 J1 19 '22

East St Louis gets coke oven gas. *il Gas Age* 48:746-8 D 3 '21

Ford principles and practice at River Rouge. J. H. Van Deventer. flow sheet *il Ind Management* 64:280-7 N '22

Fuel gas question in steel industry. F. J. Denk. *Iron Age* 111:401-5+ F 8 '23; Same. *Gas Age* 51:327-32 Mr 17 '23

Fuel gases in iron and steel plants; abstracts. H. S. Watts. *Iron Age* 110:153-7 J1 20 '22; *Iron Tr R* 70:605-9 Mr 2 '22

Light oil in coke-oven gas. A. L. Davis. *Ind & Eng Chem* 15:689 J1 '23

Manufacture of hydrogen by the partial liquefaction of water gas and coke oven gas. G. Claude. *diags Engineering* 114:506-7 O 20 '22; Same. *J Ind & Eng Chem* 14:1118-19 D '22

Practice and control of benzol recovery from gas; the use of solid absorbents. R. Funness. *Sci (Chem Ind J (Chem & Ind))* 42:850-4 S 7 '23

Recovery and utilization of cyanide from by-product coke ovens. E. V. Espenhahn. flow sheet *Chem & Met Eng* 26:938-41 My 17 '22

Synthetic ammonia from coke-oven gas. *Chem & Met Eng* 29:105 J1 16 '23; Same. *Chem Age (Lond)* 9:121 Ag 4 '23

Ueber die arbeitsweise im Martinwerk des eisen- und stahlwerks Hoesch unter besonderer berücksichtigung des Hoeschverfahrens und der beheizung der oefen mit koksofengas. O. Schweitzer. *diags Stahl & Eisen* 43:649-57; Discussion. 657-9 My 17 '23

L'utilisation des gaz de fours à coke. P. Mallet. *Chimie & Ind* 7:438-40; Discussion. 440-1 Mr '22

L'utilisation du gaz de fours à coke pour le chauffage des fours Martin. J. Dupuis. *Génie Civil* 79:469-70 N 26 '21

See also Blast furnace gas; Coke manufacture—By-products

Coke-oven tar. See Coal-tar products**Coke ovens**

L'aspiration des gaz dans les fours à coke. A. Thau. *diags Chimie & Ind* 6:782-4 D '21

Beehive coke ovens with central generator. H. Kleinholz. *il diag Am Gas J* 115:519-22+ D 10 '21

Better use of low-grade coal; a coking furnace of novel design. G. H. Dacy. *il Sci Am* 126:108 F '22

Bricks for coke ovens; abstract with discussion. A. H. Middleton. *Engineering* 114:455-6 O 13 '22

By-product coking with particular reference to new combination oven. J. Becker. *il diags Blast F & Steel Pl* 10:575-83 N '22; Same. *Chem & Met Eng* 27:875-81 N 1 '22; Same. *Iron Tr R* 71:1055-62 O 19 '22; Same. *Gas Age* 50:653-6, 671-5 N 11 '22; Same abr. *Iron Age* 110:1275-9 N 16 '22; Same cond. *Am Gas J* 117:649-53 D 9 '22

Coke-oven construction; patent. *diags Chem & Met Eng* 27:1090 N 29 '22

Description of carbonizing apparatus of the Improved equipment company. G. H. Niles. *il Am Gas Assn Technical sec v* 3:485-93 '21

Description of the Foundation oven corporation's balanced draft coke ovens. W. H. Wright. *diags Am Gas Assn Technical sec v* 3:462-74 '21

Description of the Koppers company ovens. H. J. Rose. *il Am Gas Assn Technical sec v* 4:155-65 '22

Description of the Koppers company ovens and producers. J. T. Tierney. *il Am Gas Assn Technical sec v* 3:496-503 '21

Description of the Piette ovens. H. Prud'homme. *il Am Gas Assn Technical sec v* 3:504-11 '21

Description of the Roberts oven. H. V. Patterson. *il diags Am Gas Assn Technical sec v* 4:135-40 '22

Dessau vertical coke ovens. W. Schultz. *Am Gas Assn Technical sec v* 4:170-2 '22

Good coke now manufactured from non-coking coals of Illinois, with saving of byproducts. H. A. Patterson. *il diag Coal Age* 22:45-50 J1 13 '22

Heating coke ovens with blue water-gas. J. F. O'Malley. *il Chem & Met Eng* 27:75-8 J1 12 '22

New coke ovens use highly volatile coals. H. J. Gifford. *Am Gas J* 117:45-8 J1 15 '22

Piette by-product coke ovens at St Louis. *il diags Iron Age* 103:1526-9 D 15 '21; Same cond. *Iron Tr R* 70:145-7 Ja 12 '22

Piette coke oven. W. A. Dunkley. *Gas Age* 48:623 N 12 '21

Piette coke oven. H. Prud'Homme. *il diags Chem & Met Eng* 26:794-6 Ap 26 '22; Same. *Coal Age* 21:1003-5 Je 15 '22

Roberts ovens successfully coke Illinois coals. H. V. Patterson. *il diag Blast F & Steel Pl* 10:388-93 J1 '22

Roberts type of by-product coke ovens. M. W. Ditto. *il diag Iron Age* 109:580-3+, 649-50 Mr 2-9 '22; Same cond. *Iron Tr R* 70:664-7+ Mr 9 '22

Rosedale byproduct coke ovens and what they accomplish. G. A. Richardson. *il plan Coal Age* 24:93-8 J1 19 '23; Same. *Gas Age* 52:99-102 J1 28 '23

Thermal operation of modern regenerator coke ovens. D. W. Wilson, H. O. Forrest and C. H. Herty, jr. *Ind & Eng Chem* 15:251-4 Mr '23

See also Coke manufacture; Coke-oven gas; Fire brick

Accidents

Coke-oven accidents in the United States during 1921. W. W. Adams. *U S Bur Mines Tech Pa* 318:1-34 '22; Excerpts. *Gas Age* 50:724 N 25 '22; *Ind Management* 64:371 D '22

Coke-oven accidents in the United States, during the calendar year 1922. W. W. Adams. *U S Bur Mines Tech Pa* 319:1-37 '23; Abstract. *Iron Age* 112:263 Ag 2 '23

Coke plants, By-product

By-product coke capacity 44,000,000 tons. *Iron Age* 111:62-3 Ja 4 '23

By-product coke oven industry in 1921. C. J. Ramsburg. *Blast F & Steel Pl* 10:21-2 Ja '22

By-product coke ovens in the gas industry. B. W. Winslip. *il diags Am Gas J* 115:535-41 D 17 '21

By-product coke plant at Midland. *il Blast F & Steel Pl* 10:320-2 Je '22

Coke plants, By-product—Continued

By-product coking during the past year, 1922.
C. J. Ramsburg. *Blast F & Steel* Pl 11:18-19 Ja '23

By-product ovens as the future source of town gas. J. M. Hastings, jr. *il diags Am Gas Assn Technical sec v* 3:523-43 '21

Carbonization of coal with blue gas and producer gas. W. R. Morris. *il diags Am Gas Assn Technical sec v* 4:21-61 '22; Same abr. *Blast F & Steel* Pl 11:22-30 Ja '23; Discussion, *Am Gas Assn Technical sec v* 4:195-210 '22

Description of new Semet-Solvay by-product coke and gas oven plants. C. R. Bellamy. *il diag Am Gas Assn Technical sec v* 4:179-86 '22

Developments in by-product coking. A. Thau. *diag Blast F & Steel* Pl 10:122-5, 164-6, 221-3 F-Ap '22

Ersparnismöglichkeiten im kokerei- und nebergewinnungsbetriebe unter besonderer berücksichtigung der wärmewirtschaft. W. Wollenweber. *Stahl & Eisen* 41:1453-8 O 13 '21

Franklin byproduct plant makes ammonia, motor and pure benzol, toluol, xylol and solvent naphtha. G. A. Richardson. *il plan Coal Age* 24:309-15 Ag 30 '23

From coke oven to byproduct market, Rosedale refinery. G. A. Richardson. *il diag Coal Age* 24:201-7 Ag 9 '23

Interference with water filtration plant operation by wastes from by-product coke ovens and gas-works. C. A. Emerson, jr. *Am Soc C E Pro* 47:662-3 D '21; Same. *Eng & Contr* 57:132-3 F 8 '22

New by-product coke oven plants. J. M. Hastings, jr. *il Blast F & Steel* Pl 10:12-17 Ja '22; Same. *Iron Tr R* 70:262-6+ Ja 26 '22

Rosedale byproduct coke ovens and what they accomplish. G. A. Richardson. *il plan Coal Age* 24:93-8 Jl 19 '23; Same. *Gas Age* 52:99-102 Jl 28 '23

See also Coke manufacture—By-products

Coke separators

Columbus coke separator recovers unburned fuel. *diag Power* 55:899-900 Je 6 '22

Cold

See Cooling; Freezing points; Refrigeration and refrigerating machinery; Temperature, Low

Cold (disease)

Common colds in relation to industrial hygiene. H. G. Tobey. *J Ind Hygiene* 3:333-8 Mr '22

Cold light. See Luminescence

Cold storage

Capacities of cold storage plants in U.S. *Refrig W* 58:25-6 O '23

Cold storage and the Newfoundland fisheries. Lord Morris. *Refrig W* 57:23-4 Ag '22

Cold storage research laboratory. *Refrig Eng* 9:105 S '22

Defrosting cooling-room coils. D. A. Fanan. *Power* 54:753-4 N 15 '21

Experiments in grapefruit storage. L. A. Hawkins. *Refrig W* 58:15-16 My '23

Handling, shipping and cold storage of Bartlett pears in the Pacific coast states; abstract. J. R. Magness. *Refrig Eng* 9:137-8 O '22

Respiration calorimeter experiments with fruits, celery and eggs. H. G. Barott. *Refrig Eng* 9:103-5 S '22

Seasonal trend of cold-storage holdings. H. B. Weiss. *Annalist* 20:381-2 O 16 '22

Small boarding of foodstuffs in cold storage. I. C. Franklin. *Annalist* 18:559 D 12 '21

Speaking about food. H. J. Hughes. *il Nation's Business* 11:25-6 My '23

Thermometer lag in cold storage practice. E. Griffiths and J. H. Awbery. *diags Engineering* 114:508 O 20 '22

See also Eggs—Preservation; Fish, Frozen; Meat, Frozen; Refrigerating plants; Refrigeration and refrigerating machinery; Refrigerator cars

Costs

Selling cold storage. G. Grow. *Power* 56:541-2 O 3 '22

Cold working of metals. See Brass, Cold working of; Metals, Cold working of; Steel, Cold working of

Coldwell, Orin B.

Sketch. *por Elec W* 81:258 F 3 '23

Cole, Francis J.

Sketch. *por Ry Mech Eng* 97:82 F '23

Colemanite

Colemanite in Clark county, Nevada. L. F. Noble. *il diag map U S Geol S Bul* 735-B: 23-39 '22

Vein nature of commercial borates; novel characteristics of the colemanite deposits of California and Nevada. C. R. Keyes. *Eng & Min J* 113:1082 Je 24 '22

Colgate university, Hamilton, New York

Chapel at Colgate university. *Arch Forum* 38:69, pl 26-8 F '23

Coliseum. See Amphitheatres

Collagen

Conditions affecting the hydrolysis of collagen to gelatin. R. H. Bogue. *Ind & Eng Chem* 15:1154-9 N '23

Hydrolysis of collagen by trypsin. A. W. Thomas and F. L. Seymour-Jones. *Am Chem Soc J* 45:1515-22 Je '23

Iso-electric point of collagen. A. W. Thomas and M. W. Kelly. *Am Chem Soc J* 44:195-201 Ja '22

Collars

Weaving the Van Heusen collar. S. Brown. *Textile World* 60:3497+ D 17 '21

Advertising

Advertising and its by-products; the Arrow collar man. E. E. Calkins. *il Ptr Ink M* 6: 46+ Je '23

Translating starchless into stylish for collars. R. W. Johnson. *il Ptr Ink* 119:17-20 Je 29 '22

Van Heusen makes the retort courteous. R. Bostick. *Ptr Ink* 119:124+ Je 15 '22

Collecting of accounts

Branch house collections from the sales angle. H. K. Sheridan. *Ptr Ink* 118:73-4+ F 2 '22

Collecting accounts without losing the goodwill of customers. H. F. Podhaski. *Dom Eng* 99:136-9 Ap 22 '22

Collecting association dues by mail. C. Reynolds. *Ptr Ink* 119:65-6 Ap 6 '22

Collecting old accounts with a baseball score. J. True. *Ptr Ink* 121:153-4 O 26 '22

Collection idea that brought results. *Ptr Ink* 122:56 F 15 '23

Collection letter gets forty per cent returns. *Ptr Ink* 118:88 Mr 9 '22

Collection letter that gets the money. E. P. Corbett. *Ptr Ink* 122:57-8+ Ja 4 '23

Collection letters that have held customers. J. F. Cameron. *Ptr Ink M* 5:68+ D '22

Collection letters that make sales for tomorrow. M. Droke. *Ptr Ink M* 4:50+ My '22

Collection methods which bring profits. H. K. Sheridan. *Ptr Ink* 119:77-8+ My 18 '22

Collection plan that collects. R. W. Wheeler. *System* 43:596-7+ My '23

Collections. L. E. Jacobson. *N E L A Bul* 9: 376-7 Je '22

Constructive collecting. R. J. Cassell. 497p Gregg '23

Credit and collections. D. E. Beebe and T. V. Morton. (Modern business v. 10) 335p Alexander Hamilton institute, New York '21

Cutting the cost of a charge business. G. S. Robinson. *System* 43:483-4+ Ap '23

Export credits and collections. G. C. Poole. 180p Prentice-Hall '23

Five ideas that cut down accounts receivable. *System* 42:420-1+ O '22

Form letter for collections. *Am Gas J* 118:185-6 Mr 3 '23

Friendly letters: prompt collections; more sales. R. M. Dulin. *il System* 43:172-4+ F '23

General manager answers retailer who objects to company's collection methods. *Ptr Ink* 124:100+ S 6 '23

Get your money but keep the customer. J. K. Novins. *Sanitary & Heat Eng* 96:338+ D 2 '21

Collecting of accounts—Continued

- Getting the right tone for the collection letter. R. B. Newton. *Ptr Ink* 119:125-6+ Je 29 '22
- How prompt collections aid sales. F. C. Letts. *Ptr Ink M* 5:21-2 S '22
- How the sales angle bettered our collection letters. K. G. Silliman. *System* 41:113-1 O '23
- How to make sure of foreign collections. J. Chapman. *il System* 43:340-2+ Mr '23
- Important collection thoughts for the printer. C. T. Hubbard. *Inland Ptr* 70:215-16 N '22
- Installment sales and collections. B. W. Griffin. 205p [bibliog. p. 202] Prentice-Hall, New York '22
- Interesting and effective ways of collecting accounts of long standing. H. F. Podhaski. *Dom Eng* 100:196-7 Jl 29 '22
- Little tricks in your collection letters that collect. J. K. Novins. *Sanitary & Heat Eng* 97:14+ Ja 13 '22
- Making customers want to pay. K. G. Silliman. *il System* 41:424-7+ Ap '22
- Making painless collections. P. W. Kearney. *Sanitary & Heat Eng* 99:405-6 Je 15 '23
- Making the collection letter as individual as a personal call. P. F. O'Shea. *Ptr Ink* 121:85-6 D 7 '22
- 101 best collection letters. J. L. Cartwright. 102p United creditors of America, Springfield, Mo. '22
- Our worst office now tops the list. L. J. Dykes. *il System* 43:322-4 Mr '23
- Problem of turning foreign mercantile debts into cash. A. J. Wolfe. *Annalist* 21:137 Ja 15 '23
- Quick collections without "dunning". S. C. Gunn. *System* 42:569-71+ N '22
- Seven informal letters that made collections easier. G. W. Gray. *System* 42:26-8+ Jl '22
- Some helpful collection letters. *Sanitary & Heat Eng* 100:289 N 2 '23
- Tact, plus system, collects outstanding bills. T. E. Moffett. *Inland Ptr* 70:667-9 F '23
- This brings checks from 75% of the slowpays. R. M. Dulin. *System* 43:772-3 Je '23
- Try these collection letters. *Dom Eng* 101:531 D 23 '22
- Unique collection letters. L. G. Ihrig. 336p L. G. Ihrig, Dayton, O. '21
- United States national collection system and business encyclopedia. 96p U.S. national adjustment co., Chicago '22
- Water collections. E. MacDonald. *Am Water Works Assn J* 10:659-63 Jl '23
- We make every salesman a credit man. S. C. Gunn. *il System* 41:554-6+ My '22
- When the printer writes collection letters. M. Droke. *Ptg Art* 41:569-71 Ag '23
- Why we collect 89% of our accounts before the due date. R. M. Dulin. *System* 41:162-4+ F '22

See also Billing

Bibliography

- Collection letters that bring back orders. *Ptr Ink* 120:64 Ag 31 '22

Estimates

- Estimating monthly collections of cash. J. H. Barber. *Management & Adm* 6:581-4 N '23
- How much money can your department collect by the first of next month? J. W. Hallman. *Management & Adm* 6:473-4 O '23

- Collective agreements.** See Trade agreements
- Collective piece work.** See Piece work, Collective

Collectors and collecting

- Lure of amateur collecting. G. B. Dexter. 189p Little, Brown & co., Boston '23

College architecture

- Alumni memorial administration building for Lehigh university. M. Price. *il diags plans Arch Rec* 53:158-72 F '23
- Denison university. Granville, Ohio. M. Price. *il diags plans Arch Rec* 54:299-320 O '23
- Memorial quadrangle, Yale university, New Haven, Conn. J. G. Rogers. *il diags plans Am Arch* 120:333-42, 346b-m N 9 '21

- Soundproofing a building; study of results at Smith Memorial Hall, University of Illinois. F. R. Watson. *plans Arch Forum* 35:178-82 N '21

- Vassar college. C. Collens. *il Am Arch* 123:47-55 Ja 17 '23
- Wellesley college; views. *Am Arch* 121:60a-e Ja 18 '22

- Western school of music; Smith Memorial Hall at University of Illinois. W. M. Stanton. *Arch Forum* 35:177, pls 62-4 N '21

See also Dormitories; Stadia

College art association of America

- 12th annual meeting, Boston, April 6-7. *Am Cer Soc J (Bul)* 6:203-6 Jl '23

College athletics**Advertising**

- Football foots the bill with advertising. *Ptr Ink* 125:178+ N 1 '23

College buildings

- Chemical education and resources of West Virginia. F. E. Clarke. *il plans Chem Age* 30:527-30 D '22
- Chemical instruction at Dartmouth college. *il plans Chem Age* 29:508-9 D '21
- Stages in college auditoriums. G. Linnell. *diags Arch Forum* 38:59-62 F '23

See also College architecture; Stadia; also names of colleges and universities, e.g. Rose polytechnic institute, Terre Haute; Rutgers college—Ceramics building

College education

- Aims and means in college education. V. Karapetoff. *Eng Educ* 12:398-402 My '22
- College as training for industry. *Nation's Business* 10:48-9+ S '22
- Education and management. S. Freed. *Ind Management* 64:231 O '22
- Liberal and professional education. B. H. Bode. *Eng Educ* 12:461-9 Je '22
- Place of mental growth in the college plan. G. W. Munro. *Eng Educ* 13:333-44 F '23

See also Edison questionnaire

College graduates

- Antagonism between practical*operatives and college trained men disappearing. T. L. Crossley. *Paper* 33:14-15 O 25 '23
- College graduate and his first job. R. L. Catlett. *Eng & Contr (Ry)* 60:336-9 Ag 15 '23
- College graduate on the grill again. *Am Mach* 58:296 F 22 '23
- College man in railroading. S. Rea. *Eng & Contr (Ry)* 59:911-12 Ap 18 '23
- Do you favor the employment of college men in railway work; opinions of railroad and supply men. *Ry R* 72:118-20 Ja 13 '23
- Engineer as a leader of business. W. E. Wickenden. *Eng Educ* 14:15-31 S '23
- Opportunities for college graduates. A. H. Burnham, jr. *il Ry Mech Eng* 97:677-8 O '23
- Views pro and against the question of need of college men. *Comm & Fin Chr* 115:2236-7 N 18 '22
- What the world offers the college man. *Pop Mech* 40:338-9 S '23
- Why college men fail on the railroads. *Ry Age* 71:1130-1 D 10 '21
- Why do not college men enter railroading? H. D. Dozier. *Ry Age* 75:19-20 Jl 7 '23; Discussion. 75:147-8, 462 Jl 28, S 15 '23

College professors**Salaries**

- Professorial salaries. J. J. Tigert. *Chem Age* 30:115-16 Mr '22

Colleges and universities

- Conservation or waste of material in educational institutions. J. W. Upp. *Am Inst E E J* 41:724-6 O '22
- How the college can facilitate payment of the debt it owes to business. E. Ellery. *Chem Age* 30:473-4 N '22
- Inside of the question. E. Ellery. *Sci Am* 126:410 Je '22

See also College architecture; Engineering colleges; Scholarships and fellowships; also names of colleges and universities, e.g. Antioch college; Dennison university, Granville, Ohio; Yale university

Colleges and universities—Continued

Advertising

- Advertising aids in eight-year endowment campaign. *Ptr Ink* 122:89-90 Ja 11 '23
 Advertising aids Syracuse university to reduce debt. *Ptr Ink* 118:50+ Ja 5 '22
 Co-operative campaign to sell small colleges to a state. *Ptr Ink* 120:25-6 Jl 27 '22
 New York university runs prestige campaign. *Ptr Ink* 117:120+ D 15 '21

Curriculum

- Course schedules in a professional curriculum. L. L. Thurstone. *Eng Educ* 12:293-7 F '22
 University instruction in architecture. C. H. Moore. *Arch Rec* 50:407-12 N '21

United States

- Can the college do anything for industry? E. Ellery. *J Ind & Eng Chem* 14:544 Je '22

Colloidion

- Anomalous osmose of solutions of electrolytes with colloidion membranes. F. E. Bartell and D. C. Carpenter. *J Phys Chem* 27:101-16 F '23
 Colloidion membrane for liquid junctions. H. A. Fales and M. J. Stammelman. *Am Chem Soc J* 45:1271-2 My '23

Colloid mill

- Colloid mill. *Engineering* 115:705-6 Je 8 '23
 Colloid mill. *il India Rubber W* 68:425-6 Ap '23
 Colloid mill and the ultra-filter press. A. W. Kenney. *bibliog* *diags Chem & Met Eng* 27:1080-5 N 29 '22
 Colloid process of reclaiming rubber. *diag India Rubber W* 67:144 D '22
 Mill for colloidal comminution in industrial chemical work; abstract. C. Naske. *Am Cer Soc J* 5(Cer A 1):34-5 F '22
 Plauson colloid mill. *diags India Rubber W* 66:539 My '22
 Plauson colloid mill. W. J. Kelly. *il diags Ind & Eng Chem* 15:926-8 S '23

Colloidal fuel. See Fuel, Colloidal

Colloids

- Absorption of water by soil colloids. W. O. Robinson. *J Phys Chem* 26:647-53 O '22
 Action of light on arsenic trisulfide hydrosol. R. V. Murphy and J. H. Mathews. *Am Chem Soc J* 45:16-22 Ja '23
 Action of penetrating radium radiation on inorganic and bio-colloids. A. Fernau and W. Pauli. *Chem Soc J* 122 pt 2:202 Mr '22
 Action of trypsin on colloids and the influence of neutral salts on this action; abstract. E. Stiasny and W. Ackermann. *Chem Soc J* 124 pt 2:301-3 My '23
 Action of ultra-violet light on gels. E. O. Holmes, jr. and W. A. Patrick. *diags J Phys Chem* 26:25-41 Ja '22
 Adsorption during the precipitation of colloids by mixtures of electrolytes. H. B. Weiser. *J Phys Chem* 25:665-83 N '21
 Application of colloid chemistry to study of filter effluents. M. Pirnie. *Am Water Works Assn J* 9:247-73 Mr '22
 Black colloidal suspensions in phosphorus. C. H. Hall, jr. *Am Chem Soc J* 45:67-9 Ja '23
 Carrageen as a protective colloid. A. Gutbier and J. Huber. *Chem Soc J* 122 pt 2:203 Mr '22
 Catalytic action of colloids in corrosion. J. K. Wood. *Chem & Met Eng* 29:188-92 Jl 30 '23
 Cell for the observation of colloidal solutions for use with substage ultra-condensers. *diags Am Chem Soc J* 44:1071-2 My '22
 Centrifugal method for preparing colloidal ferric hydroxide, aluminum hydroxide and silicic acid. R. Bradfield. *Am Chem Soc J* 44:965-74 My '22
 Chemistry of colloidal china clay. A. B. Searle. *Chem Age (Lond)* 8:sup8-10 Mr 17; sup8-10 Ap 21; sup8-9 My 19; sup8-9 Je 16; 9: sup8-10 Jl 21; sup8-9 Ag 18 '23
 Chemistry of colloids and some technical applications. W. W. Taylor. 2d ed. 232p E. Arnold & co., London '21
 La chimie colloïdale des savons. J. W. McBain. *Chimie & Ind* 8:867-71 O '22
 Coagulation of colloidal solutions by electrolytes. E. F. Burton and E. Bishop. (Papers from chemical laboratories no. 120) p.701-15 Univ. of Toronto '21
 Coagulation of colloidal solutions of arsenious sulphide by electrolytes. E. F. Burton and E. D. MacInnes. *J Phys Chem* 25:517-25 O '21
 Coagulation of colloids. A. Westgren and J. Reistötter. *bibliog J Phys Chem* 26:537-48 Je '22
 Colloid chemistry. J. Alexander. *J Ind & Eng Chem* 14:800-2 S '22
 Colloid chemistry. W. D. Bancroft. *Am Inst E E J* 42:367-71 Ap '23
 Colloid chemistry and its relation to tank treatment of sewage. F. W. Mohlman and L. Pearse. *Am Water Works Assn J* 9:311-18 Mr '22
 Colloid chemistry and metallurgy; abstracts. W. D. Bancroft. *Chem & Met Eng* 26:391-2 Mr 1 '22; *Min & Met* 192:29-30 D '22
 Colloid chemistry and the rubber industry. W. Ostwald. *India Rubber W* 67:359-60 Mr '23
 Colloid chemistry and water purification. M. F. Stein. *Am Water Works Assn J* 8:571-82 N '21; Discussion. 9:130-1, 350-1 Ja, Mr '22
 Colloid chemistry of basic chrome solutions. F. L. Seymour-Jones. *Ind & Eng Chem* 15:75-8 Ja '23
 Colloid chemistry of petroleum. A. E. Dunstan. *Inst Pet Tech J* 8:73-9 Ja '22; Abstract. *Nat Pet N* 14:37 Ag 30 '22
 Colloid chemistry of the proteins. W. Pauli. *Blakiston* '22
 Colloid chemistry practically applied. J. Alexander. *Oil Paint & Drug Rep* 103:21+ Ap 30; 21+ My 21; 21+ My 28; 21+ Je 4; 21+ Je 11; 21+ Je 18; 21+ Je 25; 104:21+ Jl 2; 21+ Jl 9; 21+ Jl 16; 21+ Jl 23; 20+ Jl 30 '23
 Colloid content of vegetable tanning extracts. A. W. Thomas and S. B. Foster. *J Ind & Eng Chem* 14:191-5 Mr '22
 Colloid elements and compounds; patent. *Chem & Met Eng* 26:84 Ja 11 '22
 Colloid progress. *Ind & Eng Chem* 15:319-20 Mr '23
 Colloidal electrolyte extracted from carrageen (chondrus crispus). F. C. Harwood. *Chem Soc J* 123:2254-8 S '23
 Colloidal metals that cure human ills. *il Sci Am* 127:228 O '22
 Colloidal state in its medical and physiological aspects. W. M. Bayliss. 95p Oxford '23
 Colloidal state in metals and alloys. J. Alexander. *Chem & Met Eng* 26:54-8, 119-23, 170-2, 201-7 Ja 11-F 1 '22
 Colloidal state of clay. *Am Soc C E Pro* 48:535-56; Bibliography. 556-7 Mr '22
 Colloidal state of matter in its relation to the asphalt industry. C. Richardson. *Inst Pet Tech J* 8:79-82 Ja '22
 Les colloïdes. J. Duclaux. 2d ed., rev. & enl. 305p Gauthier-Villars et c^{ie}, Paris '22
 Colloiding agents for nitrocellulose. T. L. Davis. *J Ind & Eng Chem* 14:1140-1 D '22
 Colloids and your health. I. Ginsberg. *Sci Am* 127:250 O '22
 Colloids in geological problems. G. D. Hubbard. *Am J Sci* 5th ser 4:95-110 Ag '22
 Colloids in the mechanism of cleansing. F. H. Guernsey. *diags Am Dyestuff Rep* 12:766-8 O 22 '23
 Colloids—their cranks and wanton wiles. *Chem Age (Lond)* 9:259-60 S 8 '23
 Concentrated colloidal coagulant is discovered. *Eng N* 89:293 Ag 17 '22
 Constitution of ferric oxide hydrosol from measurements of the chlorine- and hydrogen-ion activities. F. L. Browne. *diag Am Chem Soc J* 45:297-311 F '23
 Co-ordinating colloid data. *Chem & Met Eng* 28:1117-18 Je 25 '23
 Effect of dissolved substances on the deposition of colloidal particles from a solution by means of an electric current. R. D. Kleeman. *Phys R* 20:272-9 S '22
 Electrical precipitation of colloids. C. H. Hall, jr. *Am Chem Soc J* 44:1246-9 Je '22
 Ferric salt as the solution link in the stability of ferric oxide hydrosol. A. W. Thomas and A. Frieden. *Am Chem Soc J* 45:2522-32 N '23

Colloids—Continued

- Formation of colloids. T. Svedberg. 127p J. & A. Churchill, London '21
- Fundamentals of colloids as applied to paints and varnishes. E. W. Pasig. Can Chem & Met 7:90-2 Ap '23
- Heat of coagulation of ferric oxide hydrosol with electrolytes. F. L. Browne and J. H. Mathews. Am Chem Soc J 43:2336-52 N '21
- Heat of coagulation of ferric oxide hydrosol with sodium sulfate. F. L. Browne. Am Chem Soc J 45:311-21 F '23
- Hydrogen ion concentration and the properties of the emulsoid colloids. R. H. Bogue. J Phys Chem 26:801-11 D '22
- Hydrophobic and hydrophilic sols of sulphur; abstract. H. Freundlich and P. Scholz. Chem Soc J 122 pt 2:841-3 D '22
- Importance of colloid chemistry to industry. H. N. Holmes. Chem Age 31:223-5 My '23
- Industrial outlook for colloid chemistry. H. N. Holmes. Ind & Eng Chem 15:856-8 Ag '23
- Influence of emulsoids upon the velocity of chemical reactions. J. N. Friend. Soc Chem Ind J (Chem & Ind) 42:299-300 Mr '23
- Influence of protective colloids on the corrosion of metals and on the velocity of chemical and physical change. J. A. N. Friend and R. H. Vallance. Chem Soc J 121:466-74 Mr '22
- Influence of the concentration of colloids on their precipitation by electrolytes. H. P. Weiser and H. O. Nicholas. J Phys Chem 25:742-57 D '21
- Influence of the size of colloid particles upon the adsorption of electrolytes. H. D. Murray. Philos Mag 6th ser 44:401-15 Ag '22
- Interesting colloid gel. R. A. Gortner and W. F. Hoffman. Am Chem Soc J 43:2199-2202 O '21
- Introduction to the physics and chemistry of colloids. E. Hatschek. 4th ed. 172p Blakiston '22
- Introduction to theoretical and applied colloid chemistry "The world of neglected dimensions". C. W. W. Ostwald. 2d ed., enl. 266p Wiley '22
- Kapillarchemie. H. Freundlich. 2d ed., rev. 1181p Akademische verlagsgesellschaft m. b. h., Leipzig '22
- Kolloidchemie. R. A. Zsigmondy. 429p O. Snamer, Leipzig '22
- Kolloidchemie und metallurgie. A. Imhausen. Stahl & Eisen 41:1641-5; Discussion. 1645-9 N '22
- Kolloidchemie und metallurgie. R. Kühnel; F. Körber. il Stahl & Eisen 42:622-4 Ap 20 '22
- Laboratory manual of colloid chemistry. H. N. Holmes. 127p Wiley '22
- Law of distribution of particles in colloidal suspensions, with special reference to Perrin's investigations. A. W. Porter and J. J. Hedges. diags Philos Mag 6th ser 44:641-51 S '22
- Mechanism of plasticity from colloid standpoint. G. A. Bole. Am Cer Soc J 5:469-75; Discussion. 475-7 Ag '22
- Mechanism of the mutual precipitation of certain hydrosols. A. W. Thomas and L. Johnson. Am Chem Soc J 45:2532-41 N '23
- Organogels of silicic acid. B. S. Neuhausen and W. A. Patrick. Am Chem Soc J 43:1844-6 Ag '21
- Physical properties of colloidal solutions. E. F. Burton. 2d ed. 221p Longmans '21
- Physics and chemistry of colloids and their bearing on industrial questions. 190p Faraday society, London '21
- Plastometer as an instrument for process control. E. C. Bingham, H. D. Bruce and M. O. Wolbach, Jr. J Ind & Eng Chem 14:1014-15 N '22
- Preliminary study of a plunger type of jelly-strength tester. S. E. Sheppard and S. S. Sweet. il diags Ind & Eng Chem 15:571-6 Je '23
- Preparation of colloidal solutions of nickel and cobalt hydroxides and some other compounds of these metals. O. F. Tower and M. C. Cooke. J Phys Chem 26:728-35 N '22
- Properties of some silver organosols. J. K. Giles and C. S. Salmon. Chem Soc J 123: 1597-1608 Je '23
- Proteins and the theory of colloidal behaviour. by Dr Jacques Loeb. 292p McGraw-Hill '22; Review by J. Alexander. Chem & Met Eng 27:368-70 Ag '23; Discussion. 2:462N, S 27, O 25 '22
- Rate of evolution of carbon dioxide from solution in presence of colloids. A. Findlay and O. R. Howell. Chem Soc J 121:1046-52 Je '22
- Relation of anomalous osmose to the swelling of colloidal material. F. E. Bartell and L. B. Sims. diags Am Chem Soc J 44:289-99 F '22
- Report of committee no. 4, on colloidal chemistry, of the Council on standardization. Am Water Works Assn J 40:273-80 Mr '23
- Role of hydrogen-ion concentration in the precipitation of colloids. H. V. Tartar and Z. J. Gailey. Am Chem Soc J 44:2212-18 O '22
- Role of protective colloids in catalysis. T. Iredale. Chem Soc J 121:1536-42 Ag '22
- Some novel aspects of colloidal protection. J. Alexander. Ind & Eng Chem 15:283-5 Mr '23
- Structure of elastic gels. R. H. Bogue. Am Chem Soc J 44:1343-56 Je '22
- Studies in adsorption; charge reversal of some colloids. N. R. Dhar and K. C. Sen. J Phys Chem 27:376-83 Ap '23
- Study of soap solutions and its bearing upon colloid chemistry. J. W. McBain. Am Dye-stuff Rep 12:822-5; Bibliography. 825-6 N 5 '23; Abstract. Soc Chem Ind J (Chem & Ind) 42:615-16 Je '23
- Symposium on colloids. Chem & Met Eng 28: 727 Ap 23 '23
- Théorie & pratique des colloïdes en biologie & en médecine. W. Kopaczewski. 308p Vigot frères, Paris '23
- Transition from crystalloid to colloid properties within homologous series. E. J. Witzemann. J Phys Chem 26:201-16 Mr '22
- Transition from the colloidal to the crystalloidal state; solutions of potassium oleate. L. L. Bircumshaw. Chem Soc J 123:91-7 Ja '23
- Über amorphe niederschläge und kristallisierte sole. F. Haber. il Deutsche Chem Gesell Ber 55:1717-33 Je '22; Abstract. Chem Soc J 122 pt 2:553-4 Ag '22
- Zur analytischen chemie kolloid-disperser systeme. A. Guthier, J. Huber and O. Kupping. Deutsche Chem Gesell Ber 55:748-52 Mr '22
- Zur kenntnis des kolloiden selens. A. Guthier and R. Emslander. Deutsche Chem Gesell Ber 54:1974-8 S '21
- See also Absorption; Catalysis; Coagulation; Gelatin; Liesegang rings; Proteins
- Collophane**
Collophane, a much neglected mineral. A. F. Rogers. Am J Sci 5th ser 3:269-76 Ap '22
- Colombia**
See also Aeronautics, Commercial—Colombia; Geology—Colombia; Gold mines and mining—Colombia; Petroleum—Colombia; Railroads—Colombia
- Industries and resources**
Coffee cultivation Colombia's principal industry. M. Garcia-Pena. Annalist 19:128 Ja 16 '22
- Colombo, Ceylon**
Sewerage
Colombo drainage works. R. E. Tickell. Engineering 115:215 F 16 '23
- Colon bacilli.** See Water—Bacteriology
- Colonial architecture.** See Architecture, Colonial
- Colonization**
Activities of organisations engaged in colonisation work. Int Labour R 8:97-104 Jl '23
- Colonization, Agricultural.** See Agricultural colonization

Colophenic acid

über neue kolophonum-bestandteile, die kolophensäuren und analogen. O. Aschan. Deutsche Chem Gesell Ber 54:867-86 My '21; Abstract. Chem Soc J 120 pt 1:512-13 J1 '21; Discussion. Deutsche Chem Gesell Ber 54:1944; 55:1-3, 709 S '21, Ja, Mr '22

Color

Art of colour. M. Jacobs. 90p Doubleday '23
Changes in indigo colours. I. Ginsberg. Textile World 64:2417+ O 27 '23
Charm of color; various use of color to attract business. W. Moore. Color Tr J 12:202-3 My '23
Chromophore grouping of atoms in inorganic triple salts, and a general theory for the cause of the colors of substances. H. L. Wells. Am J Sci 5th ser 3:417-22 Je '22
Classifying and measuring color by the Ostwald method. H. T. Tenen. Am Dyestuff Rep 12:127-32 F 12 '23
Color in relation to dyeing. J. M. Matthews. diags Color Tr J 10:183-8, 229-35; 11:47-50, 187-91; 12:12-15, 47-9 151-4, 237-9; 13:1-4, 80-3, 113-15, 153-6 My-Je, Ag, N '22, Ja-F, Ap, Je-J1, S-N '23
Color in theory and practice. J. F. Earhart. Inland Ptr 69:203-6 My '22; Discussion. 69:683-4; 70:59 Ag, O '22
Color measurement by the Ostwald method. I. Ginsberg. diag Textile World 64:1519+ S 15 '23
Colors of King Tut. Textile World 63:149 Mr 24 '23
Colour harmony in dress. G. A. Audsley. 132p R. M. McBride & co., New York '22
Criticism of Ostwald's color theory. W. B. Van Arsdell. Paper 31:113-14+ Ap 18 '23
Enjoyment and use of color. W. Sargent. 274p Scribner '23
Evaluation of the colours of the spectrum in terms of the three primary colours. R. A. Houstoun and E. L. Larned. diags Philos Mag 6th ser 45:169-76 Ja '23
Light and color. diags Textile Col 45:176-8 Mr '23
Light and color phenomena. W. A. Melcher. Textile Col 45:219-22 Ap '23
Light and colour. R. A. Houstoun. 179p Longmans '23
Loss of colour in objects exposed to light. S. F. Harmer. Illum Engr 15:308-10 N '22
Mathematics of the dicyclic colour theory, and a new theory of the structure of the nitrogen atom. J. Moir. Chem Soc J 121:1808-13 S '22
Method for color description. L. V. Solon. diags plan Arch Rec 52:164-8 Ag '22
Modern color. C. G. Cutler and S. C. Pepper. 163p Harvard univ. press, Cambridge '23
New method of measuring colors; classifying, identifying and measuring colors by the Ostwald method. I. Ginsberg. Paper 31:7-10+ F 7 '23
New system of color harmony and chromatics worked out by W. Fraetras. Color Tr J 12:106-7 Mr '23
Ostwald color atlas. Sci Am 128:169 Mr '23
Ostwald color theory. I. Ginsberg. Textile World 63:2615+ Ap 21 '23
Ostwald theory of color harmony in weaving practise. M. Loescher. Color Tr J 10:242-4 Je '22
Ostwald's color system. Color Tr J 10:84 F '22
Ostwald's color theory. I. Ginsberg. Color Tr J 11:93-6 S '22
Psychology of colors made subject of study. Pop Mech 38:891 D '22
Simplified method of applying the Ostwald color theory. I. Ginsberg. Am Dyestuff Rep 12:809-12 N 5 '23
Structural colors in feathers. C. W. Mason. J Phys Chem 27:201-51, 401-47 Mr, My '23
Taylor system of color harmony. charts Color Tr J 12:55-8 F '23
Taylor system of color harmony; chart. Pub. by Taylor system of color harmony, inc., 425 5th av., New York '22
Tetrachromatic vision and the development theory of color. C. Ladd-Franklin. diags Color Tr J 11:107-11 S '22

Triphenylmethyl; diphenyl-beta-naphthylmethyl and the color of free radicals. M. Gomberg and F. W. Sullivan, jr. il Am Chem Soc J 44:1810-33 Ag '22
Value and balance in color. Color Tr J 10:24-6 Ja '22

What is color; something about the new theories of Ostwald. I. Ginsberg. Sci Am 129:112+ Ag '23

Word value as applied to color. J. F. Earhart. Inland Ptr 69:678-9 Ag '22

See also Bricks—Color; Coal-tar colors; Colorimeters and colorimetry; Colorimetric analysis; Colors; Concrete—Coloring; Diamonds—Coloring; Dyes and dyeing; Glass, Colored; Light; Ocean—Color; Paint; Phototropy; Pigments; also headings beginning Color

Color blindness

Are most animals color blind? Sci Am 129:16 J1 '23

Colour-vision theories in relation to colour-blindness. F. W. Edridge-Green. Philos Mag 6th ser 44:916-20 N '22

Visibility curves for color defectives; abstract. M. C. Shields. J Fr Inst 193:113-14 Ja '22

Color fastness. See Dyes, Fastness of**Color in advertising**

Color advertising creates trade-mark recognized by patent office. S. F. Haxton. Ptr Ink 120:33-4+ Ag 17 '22

Color advertising for a colorless product. Ptr Ink 123:148 Je 21 '23

Color-inserts help build distribution quickly. S. C. Lambert. Ptr Ink 117:73-6 D 22 '21

Light and color in advertising and merchandising. M. Luckiesh. 268p Van Nostrand '23
New spirit in color advertising. W. L. Larned. Ptr Ink M 6:131-2+ Je '23

Seeing red—in advertising. S. Curtiss. Ptr Ink M 4:70+ D '21

Spotlighting the highlights of automotive advertising. M. W. Sohn. Ptr Ink M 7:108+ S '23

When color seems to be almost indispensable. W. L. Larned. Ptr Ink 122:33-4 Ja 4 '23

When the printer employs color; when may a color scheme of a label or package be copyrighted? W. Fawcett. Inland Ptr 69:525-6 J1 '22

When you can make color build sales. L. Peake. Ptr Ink M 5:58-9+ Ag '22

Color in architecture

Architectural polychromy. L. V. Solon. il Arch Rec 51:1-7, 93-100, 189-96, 285-91, 377-86, 465-75, pl 3-6; 52:83-4, 164-8 Ja-Ag '22

Architectural polychromy. C. H. Walker. Arch Rec 53:272-8 Mr '23; Excerpts. Brick & Clay Rec 62:334-5 F 20 '23

Brick—its color value. G. C. Mars. il Am Arch 123:447-50 My 23 '23

Color in architecture. F. S. Laurence. il Am Arch 122:215-24, 262-71, 311-18+ S 13-O 11 '22; Bibliography. 122:321 O 11 '22

Polychrome treatment of cornice and capital. Arch Rec 52:pl 1-2 Ag '22

Résumé of Viollet le Duc's observations and deductions on mediaeval architectural polychromy. L. V. Solon. Arch Rec 52:245-7, 356-8 S-O '22

See also Bricks—Color; Terra cotta; Tiles, Decorative

Color in factory management

Simple uses of color that make management easier. Factory 30:282-3 Mr '23

Color in the textile industries

Chemist knows. R. Buckmaster. Color Tr J 10:83-4 F '22

Dress of today and yesterday in relation to color. il Color Tr J 10:47-52 F '22

Fundamentals of color research for textiles. H. S. Busby. Textile World 61:654+ F 4 '22

Heather mixes in yarns and fabrics. Textile World 60:3385+ D 10 '21

Manufacture of colored cotton yarns and fabrics. H. D. Martin. il Color Tr J 10:161-6, 188-93 Ap-May '22

See also Dyes and dyeing

Color laboratory. See United States—Chemistry, Bureau of—Color laboratory

Color lighting

Artistic color lighting in motion picture theatres. S. L. Rothafel. *Illum Eng Soc* 18:413-18; Discussion. 426-33 My '23

Color matching

Accuracy in color-matching. W. E. Forsythe. *J Fr Inst* 193:115-16 Ja '22

Color in relation to dyeing. J. M. Matthews. *diags Color Tr J* 12:151-4 Ap '23

Color matching as a factor in accurately rating the relative values of dyestuffs. H. S. Busby. *chart Am Dyestuff Rep* 12:17-21 Ja 1 '23

Color matching on paper. J. N. Stephenson. *Am Dyestuff Rep* 12:803-4 N 5 '23

Color matching units in the industries. *il Am Inst E E J* 42:63-4 Ja '23

Colour identification. *Chem Age (Lond)* 8:307 Mr 24 '23

Demonstration of a new artificial daylight lamp. F. E. Lamplough. *Soc Dyers & Col J* 39:37-8 F '23

Technology of garment dyeing and cleaning. J. Loeb. *Color Tr J* 9:228-30 D '21

Coal measurement. See Colorimeters and colorimetry

Color mixing machine

Twitmeyer differential or two-way color mixer. *Color Tr J* 13:56-7 Ag '23

Color of flowers

See Anthocyanins

Color pastes

Preparation of color pastes. R. Sansone. *Color Tr J* 10:270-1 Je '22

Color photography

Byepaths of colour photography. O. Reg. 116p Dutton

Dyeing of celluloid. J. F. Springer. *Textile Col* 45:291-3 My '23

Guide pratique pour réussir la photographie en couleurs. L. Godefroy. 52p J. Lamarre. Paris '21

K.D.B. process of color photography. *Color Tr J* 13:164 N '23

Method of producing reversed dye images. J. I. Crabtree. *J Fr Inst* 193:109-10 Ja '22

La photographie des couleurs. J. Thovert. *Chimie & Ind* 8:312-15 Ag '22

La photographie en couleurs sur pellicules versicolores par les procédés Louis Dufay. A. Bidault des Chauxes. *Génie Civil* 82: 543-5 Je 9 '23

Practical color photography. E. J. Wall. 248p American photographic pub. co., Boston '22

Color printing

Letters to a printer's devil. R. T. Porte. *Inland Ptr* 71:243-4 My '23

Offset printing. S. H. Horgan. *Inland Ptr* 69: 368 Je '22

Standard conditions for the printing ink industry adopted by the color standardization committee. *Color Tr J* 11:114-15 S '22

See also Calico printing; Color in advertising

Color sense

Are bees color blind? *Sci Am* 129:157 S '23

Chromatic vision and color theory. C. Ladd-Franklin. *Sci Am* 127:309 N '22

Colour vision. W. Peddie. 208p Longmans '22

Have you an eye for color? *il Sci Am* 127:261-2 O '22

Physics of colour vision. W. Peddie. *Philos Mag* 6th ser 45:1058-62 My '23

Quantum theory of color vision. J. Joly. *Sci Am* 126:114 F '22

Statistical investigation of the visibility of red light. R. A. Houston and E. W. M. Heddlie. *diags Philos Mag* 6th ser 46:699-706 O '23

Tetrachromatic vision and the development theory of color. C. Ladd-Franklin. *diags Color Tr J* 11:107-11 S '22

See also Color blindness

Color temperature

Color temperature and brightness of various illuminants. E. P. Hyde and W. E. Forsythe. *Illum Eng Soc* 16:419-27; Discussion. 427-30 no 8 '21

Color temperature and its relation to the quality of light. W. E. Forsythe. *Am Inst E E J* 41:279-80 Ap '22

Measurement of the color temperature of the more efficient artificial light sources by the method of rotary dispersion. I. G. Priest. *diags U S Bur Stand Sci Pa* 443:221-34 '22

Colorado

See also Coal—Colorado; Coal mines and mining—Colorado; Geology—Colorado; Mines and mineral resources—Colorado; Oil shales—Colorado; Silver mines and mining—Colorado

Public works

Denver and Pueblo. W. W. DeBerard. *map Eng N* 89:530-2 S 28 '22

Colorado and Southern railway

Colorado & Southern an exception in Colorado. *Ry Age* 71:1465-6, 1504 Je 16 '23

Colorado and Southern assisted by coal strike. *Ry Age* 73:211-12 Jl 29 '22

23d annual report for the year ended December 31, 1921. *Ry Age* 73:226 Jl 29 '22

Colorado fuel and iron company

Experimenting with the human mechanics of industry. J. Davis. *Ind Management* 65:23-6 Ja '23

Colorado river

Arizona's failure to ratify Colorado pact holds up many plans. *Elec W* 81:768 Mr 31 '23

Colorado river compact provides definite water-use allocation; text. *Eng N* 89:987-8 D 7 '22; Same. *Elec W* 80:1294-5 D 9 '22; Same. *J Elec* 49:432-3 D 15 '22

Colorado river development. A. P. Davis. *Am Soc C E Pro* 48:1738-40 N '22

Colorado river development. H. C. Hoover. *Ind Management* 63:291 My '22

Colorado river development. A. J. McCune. *Elec W* 78:1175 D 10 '21

Colorado river development bills introduced in Congress. *Power* 55:709 My 2 '22

Colorado river; its control and development. *il map Eng N* 88:741-4 My 4 '22

Colorado river project. T. A. Rickard. *Eng & Min J* 114:1148 D 30 '22

Colorado river—yesterday, to-day and to-morrow. L. R. Freeman. 451p Dodd '23

Colossal Colorado river project. J. G. Scrugham. *N E L A Bul* 10:522-5 S '23; Same cond. *J Elec* 51:123-5 Ag 15 '23

Comments on the Colorado river problem. C. E. Grunsky. *Munic Eng* 65:120-1 S '23

Commission seeks solution of Colorado problem. *J Elec* 48:286 Ap 1 '22

Conquering an American Nile. H. Hoover. *il map Nation's Business* 10:9-11 Ag '22

Controlling the principal artery of the Southwest states. C. E. Grunsky. *il J Elec* 48: 348-50 My 1 '22

Curbing the Colorado. R. G. Skerrett. *il Sci Am* 126:246-7 Ap '22

Development of the Colorado river. O. C. Merrill. *map Mech Eng* 44:132-3 F '22

Discuss Arizona plan of developing Colorado river. *J Elec* 51:312 O 15 '23

Engineers explore Colorado river canyons. *Eng N* 89:762 N 2 '22

Government would control the Colorado river. *Elec W* 79:845 Ap 29 '22

Officials declare for federal Colorado development. *J Elec* 47:479 D 15 '21

Power development on the Colorado river and its relation to irrigation and flood control. O. C. Merrill. *maps Am Inst E E J* 41:500-7 Jl '22

Power must bear burden of development on Colorado river. F. G. Baum. *il map J Elec* 51:202-5 S 15 '23

Rights of down-stream users on interstate rivers sustained. P. Wooton. *J Elec* 49:53 Jl 15 '22

River diversion on the delta of the Colorado in relation to Imperial Valley, California. S. L. Rothery. *il diags maps Am Soc C E Pro* 49:671-97 Ap '23; Discussion. P. M. Entenmann. 49:1285-91 Ag '23

Supreme court decision on interstate waters. *Eng N* 88:1057 Je 22 '22

Colorado river—Continued

- Supreme court, wiping out state lines in water-power claims, sets up priority. *Elec W* 79:1237 *Je* 17 '22
- Tentative plan for the construction of a 780-foot rock-fill dam, on the Colorado river, at Lees Ferry, Arizona. E. C. La Rue. *il diag map plan Am Soc C E Pro* 48:835-52 *Ap* '22; Discussion. 48:1605-36, 1711-15, 1909-12; 49:942-51 S-O, D '22, *My* '23
- Transmountain diversion of water in Colorado. R. Follansbee. *map Eng N* 90:123-4 *Ja* 18 '23
- Water power problem. J. B. Lippincott and C. S. Jarvis. *Am Soc C E Pro* 49:113-15 *Ja* '23
- Why Colorado river should be developed. *il map Elec W* 78:963-7 *N* 12 '21

See also Grand Canyon of the Colorado

Bibliography

- Colorado river and its tributaries. B. L. Walsworth, comp, 137 l Riverside pub. lib., Calif. '22

Colorado Springs, Colorado**Architecture**

- Municipal auditorium, Colorado Springs, Colorado. *il diag plans Am Arch* 122:156-8 *Ag* 16 '22

Colored glass. See Glass, Colored**Colorimeters and colorimetry**

- Analysis and comparison of systems of color measurement; a proposed arrangement for measured colors; and some notes on interchangeability in color measurement. H. S. Busby. *diags Am Soc T M Pro* 22 pt 2: 504-14 '22
- Application of the Pfund colorimeter to the determination of tinting strength of white pigments. J. H. Calbeck and C. P. Olander. *Am Soc T M Pro* 22 pt 2:515-21; Discussion. 522 '22
- Calculation of the colour of the azo-dyes and related coloured substances. J. Moir. *Chem Soc J* 121:1555-62 *Ag* '22
- Color measurement by the Ostwald method. I. Ginsberg. *diag Textile World* 64:1519+ *S* 15 '23
- Color of refined oil by Saybolt chromometer. *Am Soc T M Pro* 22 pt 1:427-9 '22
- Colorimetric test for concrete sand studied. C. E. Proudley. *Eng N* 89:617-18 *O* 12 '22
- Colors are now numbered, measured, and matched. *il Pop Mech* 37:70 *Ja* '22
- Estimation of caramel in sugar products—criticism of the Ehrlich method. G. P. Meade. *Ind & Eng Chem* 15:275 *Mr* '23
- Evaluation of decolorizing carbons. M. T. Sanders. *Chem & Met Eng* 28:541-2 *Mr* 21 '23
- Measurement of the colour of brown solutions, with special reference to tannin extracts. H. R. Procter. *Soc Chem Ind J* 42:73-9 *Mr* 2 '23
- New method of color measurement for oils. L. W. Parsons and R. E. Wilson. *il J Ind & Eng Chem* 14:269-78 *Ap* '22; Discussion. 14:1169-70 *D* '22
- New method of measuring colors; classifying, identifying and measuring colors by the Ostwald method. I. Ginsberg. *Paper* 31:7-10+ *F* 7 '23
- Petroleum colorimetry; its importance and summary of methods. P. D. Barton. *Nat Pet N* 14:53-4 *My* 31 '22
- Simple method of measuring color. A. E. O. Munsell. *charts Am Cer Soc J* 6:777-82 *Jl* '23
- Simplified method of applying the Ostwald color theory. I. Ginsberg. *Am Dyestuff Rep* 12:809-12 *N* 5 '23
- Standardized method for color measurement. H. S. Busby. *il diag Textile World* 63: 1827+ *Mr* 17 '23
- Tentative method of test for color of lubricating oils by means of union colorimeter. *diag Nat Pet N* 15:87-8 *O* 31; 45 *N* 7 '23
- Transformation of color mixture equations from one system to another; graphical aids. H. E. Ives. *diags J Fr Inst* 195:23-44 *Ja* '23; Same. *Color Tr J* 12:102-6, 154-7 *Mr*-*Ap* '23

Use of colorimetry and other branches of physical optics in color and textile processes. H. S. Busby. *Am Dyestuff Rep* 12:271-2 *Ap* 9 '23

Use of secondary reference standards in process problems of color measurement. H. S. Busby. *il diag Am Soc T M Pro* 21:1139-46; Discussion. 1147-53 '21

Colorimetric analysis

Colorimetric analysis. F. D. Snell. 150p *Van Nostrand* '21

Colorimetric determination of hydrogen peroxide. M. L. Isaacs. *Am Chem Soc J* 44: 1662-3 *Ag* '22

Colorimetric method of analysis for sewage effluents. R. C. S. Walters and V. G. Pickering. *Engineer* 134:602 *D* 8 '22; Same. *Eng & Contr* 59:258-9 *Ja* 31 '23

Lösungsgleichgewichte der desmotropisomeren diacetbernsteinsäure-ester und ihre colorimetrische bestimmung. L. Knorr and H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55: 232-48 *Ja* '22

Coloring matter

See Anthocyanins; Dyes and dyeing; Indigo; Pteralgonin; Pigments

Colors

Color combinations for haberdashers. *Color Tr J* 10:128 *Mr* '22

How proper colors of ruling and paper cut clerical costs. F. E. Rein. *Administration* 3:534-8 *My* '22

Iridescent colors in feathers. W. D. Bancroft. *J Ind & Eng Chem* 14:898-9 *O* '22

See also Color; Pigments; also names of colors, e.g. Black, Brown, Gray, Green, Malachite green, Methylene blue, Prussian blue, Red

Standards

Standard conditions for the printing ink industry adopted by the color standardization committee. *Color Tr J* 11:114-15 *S* '22

Standardization of colors. H. Trillich. *Color Tr J* 10:194-7; 11:14-19 *My*, *Jl* '22

Colors, Fastness of. See Dyes, Fastness of**Columbia, South Carolina****Rapid transit**

Columbia, Carolina capital city, completely carless. *il Elec Ry J* 59:483-6, 532 *Mr* 18-25 '22

Columbia gas and electric company

Annual report, 1921. *Comm & Fin Chr* 114: 1077-8 *Mr* 11 '22

Annual report 1922. *Comm & Fin Chr* 116: 836-8 *F* 24 '23

Columbia river

Columbia basin report filed; Gen. Goethals recommends project be financed with government funds. *J Elec* 48:360 *My* 1 '22

Facts about Priest Rapids; the largest possible hydroelectric development in the United States west of Niagara Falls. H. J. Pierce. *Am Inst E E J* 42:1102-4 *O* '23

Majority and minority reports on Columbia basin project. *Eng N* 89:921 *N* 30 '22; Excerpts. *Elec W* 80:1178 *N* 25 '22

Report on large power development at Umatilla Rapids. *Eng N* 87:803 *N* 17 '21

Report to the Federal power commission on the uses of the upper Columbia river. 98p Federal power commission, Washington, D.C.

Water power problem. D. C. Henny. *map Am Soc C E Pro* 49:115-17 *Ja* '23

Columbia river highway

New loops in Columbia river highway. H. E. Thomas. *il Pop Mech* 39:350-2 *Mr* '23

Columbia university**College of pharmacy library**

Service features of a college of pharmacy library. H. V. Arny. *Lib J* 48:125-7 *F* 1 '23

Columbian carbon company

Annual report March 15, 1923. *Comm & Fin Chr* 116:1316-17 *Mr* 24 '23

Columbites

Tantalate and some columbites from Custer county, South Dakota. W: P. Headden. Am J Sci 5th ser 3:293-9 Ap '22

Columbium

Investigations into the analytical chemistry of tantalum, columbium, and their mineral associates: the use of tartaric acid in the analysis of natural tantalocolumbates; the separation of zirconium from tantalum and from columbium. W. R. Schoeller and A. R. Powell. Chem Soc J 119:1927-35 D '21

Separation of columbium and tantalum by means of selenium oxychloride. H: B. Merrill. Am Chem Soc J 43:2378-83 N '21

Columbus, Georgia**Bridges**

Building concrete bridge around an old steel bridge. S. B. Slack. il diags plan Eng N 89: 870-2 N 23 '22

Columbus, Ohio

Unemployment survey in Columbus, Ohio. M. L. Mark and F. E. Croxton. Monthly Labor R 14:622-31 Ap '22

Architecture

Domestic architecture by Miller & Reeves; illustrated from recent work at Columbus, Ohio. W: D. Smith. il plans Arch Forum 38:19-24, pl 15-16 Ja '23

Public schools

School building program of Columbus, Ohio. H. D. Smith. il plans Arch Forum 37:85-90 Ag '22

Column bases

Column base, Mont St Michel. il diag Am Arch 122:506, 510 D 6 '22

Multiple steel slabs for large column bases. E. W. Stern. diag Eng N 88:684 Ap 27 '22
Steel design for buildings. C: L. Shedd. diags Arch Forum 35:183-6 N '21

Column footings

Improved steel column footing. diag Can Eng 42:322 Mr 21 '22

Steel design for buildings. C: L. Shedd. diags Arch Forum 35:183-6 N '21

Column footings, Concrete

Design of a reinforced concrete column footing. M. M. Bush. Am Arch 122:422-3 N 8 '22

Column shoes

New method of placing column shoes for steel frame buildings. diags Eng N 91:71 JI 12 '23

Columns

Buckling of elastic structures. H. M. Westergaard. Am Soc C E Pro 47:455-529 N '21; Discussion. 48:103-10, 373-83 Ja-F '22

Columns. E. H. Salmon. 279p Oxford '21
Heavy columns handled by rolling skid on trailer. il Pop Mech 40:119 JI '23

Lateral strength of columns subject to flexure. C. R. Young. diags Eng N 89:788-9 N 9 '22

Length of columns. D: C. Coyle. diag Eng N 89:143-4 JI 27 '22

Two columns from La Daurade. il Am Arch 121:349-50 Ap 26 '22

Use of handbooks. E. F. Rockwood. Arch Forum 38:243-4 My '23

Using standard pipes as columns or struts. W. F. Schaphorst. Heat & Ven 18:45 N '21; Same. Power Pl Eng 26:135-6 Ja 15 '22

See also Architecture; Poles; Strains and stresses

Testing

Factors affecting fire resistance of building columns. S. H. Ingberg. Eng N 88:1088-90 Je 29 '22

Fire tests of loaded timber columns. T. F. Laist. Ry R 70:653-5 My 6 '22; Same. Eng & Contr 58:188-9 Ag 23 '22; Same abr. Can Eng 43:438-9 O 10 '22

Fire tests of new post cap for mill construction. G: B. Muldaur. il diags Eng N 87:972-3 D 15 '21

Floor slab, beam and column testing machine at the National physical laboratory. diags Engineering 114:484-7 O 20 '22

Sixty long timber columns tested. Eng N 90: 1117 Je 28 '23

See also Columns, Concrete—Testing; Columns, Steel—Testing

Columns, Concrete

Designing chart for reinforced concrete columns. charts Am Arch 122:470-1 N 22 '22

Designing reinforced concrete columns. diags Am Arch 121:109-12 F 1 '22

How to make forms for concrete buildings—columns. W: F. Lockhardt. diags plans Concrete 20:164-9 Ap '22

Joint committee rules for columns. C. A. P. Turner. Concrete 21:144 N '22

Methods of reinforcing Phoenix columns for elevated railway. J. Harris. diags Eng & Contr 57:175 F 22 '22

Reinforced concrete columns. J: Tucker, jr. Am Soc C E Pro 49:165-239 F '23; Discussion. 49:787-804, 999-1006 Ap-May '23

Simple reinforced concrete structural members. H. W. Barker. diags Concrete 19: 238-41 D '21

Supporting fiber conduit and potheads with concrete columns. C. E. Schnell. il diags Elec W 82:542 S 15 '23

Testing

Fire resistance of building columns. S. H. Ingberg. Eng & Contr (Bldgs) 59:941-6 Ap 25 '23; Same. Can Eng 45:171-4 JI 24 '23

Slenderness-ratio and strength of concrete columns. F. E. Giesecke. il diags Eng N 89: 274-6 Ag 17 '22

Study of column test data. F. R. McMillan. Am Concrete Inst Pro 17:150-71; Discussion. 172-81 '21

Columns, Steel

Rankine's and Euler's formulas for columns: data sheets. Mach 29:694a My '23

Testing

Column strength of single angles. Eng N 89: 1103-9 D 28 '22

Tests of twelve large columns. Eng N 88:877-8 My 25 '22

Wide-web column tests for Delaware river bridge. diags Eng N 89:986 D 7 '22

Colza oil. See Rapeseed oil**Combination packages. See Package goods****Combinations, Industrial**

50 years a trader. C: R. Flint. System 41:156-8+ F '22

Shows management problem raised by industrial companies' growth. A. W. Atwood. Nat Pet N 14:79+ N 1 '22

See also Trusts, Industrial

Combustion

Abgasanalytische fluchtlinien-rechentafeln zweiter art (für kollektive verbrennung). W. Ostwald. Stahl & Eisen 41:1489-91 O 20 '21

Advantage of nitrogen in the boiler furnace. Power 54:647, 819, 902 O 25, N 22, D 6 '21

Air required for combustion of gases in steel plants. R. T. Haslam and A. F. Spiehler. Blast F & Steel Pl 10:174-5 Mr '22

Apparatus for use in the combustion analysis of volatile hygroscopic liquids. J. B. Shoemith. Soc Chem Ind J 42:57-8 F 16 '23

Application of automatic combustion control to mechanical stokers. C: H. Smoot. Power 58:152 JI 24 '23

Automatic control of combustion. E. M. Eliot. Power Pl Eng 27:514-16 My 15 '23

Bildung von acetylen und ammoniak bei der unvollständigen verbrennung. K. A. Hofmann and E. Will. diags Deutsche Chem Gesell Ber 55:3228-33 O '22

Calorific value of carbon compounds. D. Kononov. Chem Soc J 123:2184-2202 S '23

Centralized combustion control for boilers. il diags Power 55:771-4 My 16 '22

Checking up on combustion. Power Pl Eng 27:598-9 Je 1 '23

Chemistry of combustion. J: A. N. Friend. 110p Van Nostrand '22

Combustion—Continued

Chemistry of combustion in coal-fired furnaces. W. K. Lewis. *Ind & Eng Chem* 15: 502-3 My '23

Coal and combustion. L. M. Emmet. *diags Dom Eng* 100:94-7+, 232-5 JI 15, Ag 5 '22

Combustion control apparatus. *il diags Power Pl Eng* 27:8-11 Ja 1 '23

Combustion control for steam boilers. C. H. Smoot. *Power* 57:354-6 Mr 6 '23; *Discussion*. 57:690-1, 808-9, 991 My 1, 22, Je 19 '23

Combustion of gaseous fuels. G. F. Moulton. *il Ind & Eng Chem* 15:583-7 Je '23

Combustion of gaseous fuels judged from gas analyses. A. G. Witting. *Am Gas* J 117: 250-4, 256-61 S 16 '22; *Same*, without Appendix. *Blast F & Steel Pl* 10:522-8 O '22; *Same cond*. *Iron Age* 110:1281+ N 16 '22

Combustion of powdered coal. H. Kreislinger and J. Blizard. *diag Ind & Eng Chem* 15: 249-51 Mr '23; *Same cond*. *Power* 58:436 S 11 '23

La détermination du pouvoir comburivore et le dosage de l'azote du gaz d'éclairage. M. Nicloux. *Chimie & Ind* 9:866-74 My '23

Economical use of bituminous fuels. J. B. C. Kershaw. *diags Elec W* 80:1317-24 D 16 '22

Effect of coal on excess air in boiler operation. H. R. Carr. *charts Power Pl Eng* 26: 112-14 Ja 15 '22

Flame characteristics and their influence upon combustion. C. A. French. *Automotive Ind* 44:1100-2+ My 26 '21; *Same*. *Automobile Eng* 12:204-6; *Discussion*. 206-8 JI '22

Formeln für die kontrolle der gaszusammensetzung bei verbrennungs- und vergasungsvorgängen und für die berechnung der luft- und abgasemengen. G. Neumann. *Stahl & Eisen* 41:1811-17 D 15 '21

Fuel of the future—what shall it be? I. Ginsberg. *Am Gas* J 119:457-61 O 20 '23

Fuel saving effected by combustion control. T. A. Peebles. *Power Pl Eng* 27:473-4 My 1 '23

Gaseous combustion at high pressures. W. A. Bone. *il diags Gas J (Lond)* 163: 363-5, 415-16, 475-7 JI 25-Ag 8 '23; *Abstracts*. *Chem Age (Lond)* 8:541, My 19 '23; *Engineering* 115:625-6 My 18 '23; *Discussion*. *Soc Chem Ind J (Chem & Ind)* 42:519-21 My 25 '23

Heat values and air requirements of fuels. *Power* 58:112 JI 17 '23

Intra-molecular energy during combustion. W. T. David. *Philos Mag* 6th ser 42:868-70 N '21

Judging the combustion of liquid fuels. A. G. Witting. *Blast F & Steel Pl* 11:125-7 Ja '23

Making the study of combustion profitable in your own plant. B. Robinson. *il Ind Management* 64:75-8+ Ag '22

Meaning of CO₂. *Power* 58:512 S 25 '23

Measuring coke combustibility. R. A. Sherman and J. Blizard. *diag Iron Tr R* 72:737-41 Mr 8 '23

Modern management methods in the power plant. B. Robinson. *il Ind Management* 64: 346-9; 65:57-61 D '22-Ja '23

Molecular movements during combustion in closed systems. T. Midgley, jr. *diags Soc Auto Eng J* 10:357-61; *Discussion*. 362-3 My '22

New developments in smokeless combustion. H. M. Nobis. *diags Heat & Ven* 20:48-9 F '23

L'oxyde de carbone, les combustibles et l'hygiène. E. Kohn-Abrest. *il Chimie & Ind* 7:590-605 Mr '22

Power plant management. R. June. *Blast F & Steel Pl* 11:546-50 O '23; *Same*. *Gas Age* 52:139-42 O 13 '23

Simultaneous combustion of hydrogen and carbon monoxide. R. T. Haslam. *bibliog Ind & Eng Chem* 15:679-81 JI '23

Spectroscopic investigation of internal combustion. T. Midgley, jr., and W. K. Gilkey. *il diags Soc Auto Eng J* 10:218-19+ Mr '22; *Discussion*. 10:383-4 My '22

Tests for good combustion and heat transfer. *diags Power Pl Eng* 27:25-7 Ja 1 '23

Ueber die verbrennlichkeit der kohle. A. Korevaar. *diags Stahl & Eisen* 43:431-5 Mr 29 '23

What happens to moisture when it enters the furnace? *Power* 58:468-9, 700-1, 743 S 18, O 30, N 6 '23

What the plant manager should know about coal. B. Robinson. *Ind Management* 63:50-4 Ja '22

See also Carbon dioxide recorders; Draft; Firing; Flame propagation; Flash point; Fuel; Gas burners; Ignition; Mechanical draft; Oxyacetylene apparatus; Oxyacetylene flame; Smoke prevention; Spontaneous combustion; Surface combustion

Combustion, Heat of

Bemerkungen zu den arbeiten v. Weinbergs Verbrennungswärme und dissoziierungsarbeit. W. Hüchel. *Deutsche Chem Gesell Ber* 55:2839-43 S '22

Combustion, Surface. See Surface combustion**Comets**

Comets that have lost their tails. J. F. Springer. *il Sci Am* 126:14-15 Ja '22

Comf-thermometer

Reliability of the comf-thermometer (fresh-air gauge), as an indicator for the cooling effect of air. H. I. Eadie, D. H. Ash and T. C. Angus. *diags J Ind Hygiene* 4:441-7 F '23

Commerce

Ambassadorial views on commerce. *Am Ind* 22:31-2+ Je '22

Commerce of nations. C. F. Bastable. 9th ed., rev. 212p Methuen & co., London '23

Imports, exports and trade balances of the principal countries of the world since the world war reduced to a gold basis. *Analyst* 21:539+ Ap 16 '23

International trade in 1922. J. J. Kral. *US Bur For & Dom Com Trade Information Bul* 123:1-22 '23

Merchant shipping and world commerce in relation to sea-power. W. Abell. *Engineer* 133: 396-8 Ap 7 '22; *Same*. *Engineering* 113:432-5 Ap 7 '22; *Discussion*. *Engineer* 133:381-2 Ap 7 '22; *Engineering* 113:427-8 Ap 7 '22

Money, credit and commerce. A. Marshall. 369p Macmillan '23

Selected readings in international trade and tariff problems. F. W. Taussig. 566p Ginn '21

Technical procedure in exporting and importing. M. S. Rosenthal. 312p McGraw-Hill '22

Trade, transport and finance. G. Mairret. 444p Macmillan '23

See also Accounting; Advertising; Balance of trade; Banks and banking; Barter; Book-keeping; Business; Canals; Chambers of commerce; Commercial law; Communication and traffic; Competition; Contracts; Cooperation; Credit; Delivery of goods; Dumping (commercial policy); Economic conditions; Export trade; Finance; Foreign exchange; Free harbors; Free trade and protection; Geography, Commercial; Government regulation of industry; Harbors; Insurance, Marine; Interest; International chamber of commerce; Interstate commerce; Interstate commerce commission; Marketing; Mercantile agencies; Merchandizing; Money; Peddlers and peddling; Ports; Prices; Profit sharing; Railroads; River traffic; Salesmanship; Shipment of goods; Shipping; Statistics; Stock exchange; Stocks; Success; Tariff; Trade marks; Transportation; Trust companies; Trusts, Industrial; Warehouses; Waterways; Weights and measures; *also* subdivision Commerce under names of countries, e.g. Japan—Commerce, Latin America—Commerce, South America—Commerce, United States—Commerce

Bibliography

Foreign periodicals on trade and economic conditions. E. M. Crampton. *US Bur For & Dom Com misc ser* 114:1-33 '22

History

History of commerce. C. Day. *Rev., & enl. ed.* 676p Longmans '22

Romance of commerce. new ed. H. G. Selfridge. 422p Dodd '23

Commerce—History—Continued

Studies in empire and trade. J. W. Jeudwine. 463p Longmans '23

Commercial aeronautical association of the seventh army corps area

Convention, Sioux City, Ia., Mar. 27-29. Aviation 12:420-1 Ap 10 '22

Seventh corps area commercial aeronautical association organized. R. Taylor. Aerial Age 15:128-9 Ap 17 '22

Commercial art. See Art, Commercial**Commercial associations**

Arizona's industrial congress. H. E. O. Whitman. Nation's Business 11:88+ O '23

Commercial and industrial organizations of the United States. U S Bur For & Dom Com misc ser 99:1-225 '23

What your association can do for you. System 42:572-3+; 43:167-8+ N '22, F '23

See also Chambers of commerce; Federal business associations

Commercial correspondence

Actual business correspondence. P. H. Deffendall. 267p Macmillan '23

Applied business correspondence. H. Watson. 599p Shaw '22

Building retail business by letter. J. B. Buffalo. 550p The John service, 79 5th av., New York '23

Business correspondence. C. W. Hurd and B. Barton. (Modern business v. 11) 323p Alexander Hamilton institute, New York '21

Business letter; its principles and problems. C. A. Naether. 516p Appleton '23

Business letters made easy. P. W. Kearney. 297p E. J. Clode, New York '23

Complete letters, giving right information in right way. R. B. Newton. Ptr Ink 118:8+ F 9 '22

Do your firm's letters show ignorance of facts? T. G. Goodwin. Ptr Ink M 4:48+ Ap '22

Down with useless words! Nation's Business 10:63+ My '22

Five better letter ideas. System 42:170 Ag '22

Friendliness made manifest in business letters. J. T. Bartlett. Ptr Ink 121:117-18+ D 21 '22

Group instruction for gas company letter writers. W. F. Doolittle. il Gas Age 52:85-6 Jl 21 '23

Handbook for business letter writers. L. E. Bonney and C. P. Cole. 98p Harcourt, Brace & co., New York '22

Handbook of business correspondence. S. R. Hall. 1048p McGraw-Hill '23

How better letters bring up profits. System 41:545+ My '22

How shall I sign that letter? A. Bradbury. Ptr Ink 119:73-4+ Ap 13 '22

How to cultivate better English in business letters. A. G. Saunders. Ptr Ink 125:129-30+ O 25 '23

How we cement friendships by our everyday letters. S. Perry. System 42:694-6+ D '22

Ideas for the man who writes letters. System 41:32-3, 155+ Ja-F '22

It made that letter pull. System 43:458+ Ap '23

Letter that forgets business for a while. A. L. Townsend. Ptr Ink 117:73-4+ N 10 '21

Make your letter show character. R. R. Voorhies. Gas Age 51:147-8 F 3 '23

Making letters pay. E. H. Schulze. 455p Appleton '23

Making the business letter sincere. R. Bostick. Ptr Ink 119:149+ My 25 '22

Making the letter pay. A. P. Stowe. 106p Regan pub. corp., Chicago '22

Manual of business letter writing. E. W. Dolch. 327p Ronald press '22

Mechanics of correspondence. 79p Correspondence dept., American rolling mill co., Middletown, O. '21

Not so short, please. A. Bradbury. Ptr Ink M 6:55-6 Mr '23

Office bulletins on better letters turn out to be business getters. Ptr Ink M 6:86+ My '23

Principles of business letter writing. T. H. B. Whipple. Eng & Contr 57:30 Ja 4 '22

Principles of good correspondence. S. Perry. 60p American rolling mill co., Middletown, O. '22

Putting that certain something into business letters. A. L. Townsend. Ptr Ink 117:107-8+ D 22 '21

Received 9:15; answered 9:30. A. L. Townsend. Ptr Ink M 5:88+ Ag '22

Right letters to write. Dom Eng 100:535 S 23 '22

Secretarial dictation. R. P. So Relle and J. R. Gregg. 368p Gregg '23

Styles in the complimentary letter close. R. B. Hewitt. Ptr Ink 117:123-4 N 24 '21

These letter plans brought good business. il System 42:270-1+ S '22

They write me only when they want an order. Ptr Ink 119:130+ Je 8 '22

When attention becomes dynamic in letters. J. T. Bartlett. Ptr Ink M 4:98+ My '22

When diplomatic letters fall down. H. McJohnston. Ptr Ink 122:93-4+ F 22 '23

Why our letters bring us greater profits. S. Perry. System 40:693-5 D '21

Why our letters produce more profits. S. Perry. Am Mach 58:902 Je 21 '23

Write as you would talk. C. M. Mackintosh. System 44:591-2+ N '23

Writing the letter that is sure of a response. H. S. Woods. Ptr Ink M 4:102+ Ap '22

See also Collecting of accounts; Follow-up systems; Mail order business; Mailing departments; Postscripts; Sales letters; Stenographers

French commercial correspondence. L. J. Fish and A. D'Avesne. 230p Macmillan '22

Commercial education. See Business education

Commercial geography. See Geography, Commercial

Commercial ideal

Ourselves and the commercial ideal. H. B. Creswell. Am Inst Arch J 10:143-9 My '22

Commercial law

American commercial law series, revised edition; answers to questions and problems. A. W. Bays. 253p Callaghan & co., Chicago '22

Cases on business law. W. E. Britton and R. S. Bauer. 1563p West pub. co., St Paul '22

Commercial law cases. H. L. Perrin and H. W. Babb. Doran '21

Commercial law for high schools, business colleges and business men. W. C. Townley. 265p Holt '22

Commercial law, including recent examination questions. I. Amster. 179p Globe book co., New York '23

Commercial law with illustrative examples and legal forms. P. B. S. Peters. 294p Southwestern pub. co., Cincinnati '22

Free business from harmful law. A. J. Beveridge. Nation's Business 10:15 Jl '22

Law and business. W. H. Spencer. v. 2. 670p Univ. of Chicago press, Chicago '21

Laws of business for all the states and territories of the Union and the Dominion of Canada. C. M. Reed. Rev. & enl. ed. 961p Doran

Legal adviser in foreign trade. A. J. Wolfe. Sci Am 126:19 Ja '22

Manual of commercial law. E. W. Spencer. 3d ed. 736p Bobbs '22

Standardizing the laws affecting foreign trade. A. J. Wolfe. Am Mach 56:335 Mr 2 '22

See also Acceptances; Advertising—Laws and regulations; Agency (law); Arbitration; Banking law; Bills of lading; Business law; Carriers; Checks; Contracts; Corporation law; Corporations; Debtor and creditor; Drafts; Foreign exchange; Government regulation of industry; Landlord and tenant; Partnership; Patent laws and legislation; Price fixing; Public utilities—Law; Railroad law; Sales; Suretyship and guaranty; Trusts, Industrial; Trusts and trustees

Study and teaching

American institute of accountants; examination in commercial law. J Account 33:296-307; 34:222-31; 35:295-307; 36:297-309 Ap, S '22, Ap, O '23

Commercial law—Study and teaching—Cont.

Law quiz for accounting students. S: F. Racine. 125p Western inst. of accountancy, commerce and finance, Seattle '23
Questions and answers on commercial law. R. W. Holland. 152p Pitman '22

Argentina

Bankruptcy and insolvency laws of Argentina. W. H. Robertson. U S Bur For & Dom Com Trade Information Bul 126:1-20 '23

Powers of attorney for use in Argentina. W. H. Robertson. U S Bur For & Dom Com Trade Information Bul 78:1-49 '22

Asia

Legal aspects of construction enterprises in Asiatic countries. U S Bur For & Dom Com Trade Information Bul 121:1-9 '23

Australia

Protesting drafts in Australia and New Zealand. U S Bur For & Dom Com Trade Information Bul 120:1-7 '23

China

Protesting drafts in China. U S Bur For & Dom Com Trade Information Bul 142:1-28 '23

France

Legal aspects of construction enterprises in France. C. L. Jones. U S Bur For & Dom Com Trade Information Bul 124:1-8 '23

Hungary

Trading under the laws of Hungary. E. C. Kemp and W. F. Upson. U S Bur For & Dom Com Trade Information Bul 42:1-10 '22

India

Protesting drafts in southeastern Asia. U S Bur For & Dom Com Trade Information Bul 143:1-20 '23

Japan

Doing business under Japanese company laws. F. R. Rutter. U S Bur For & Dom Com Trade Information Bul 46:1-7 '22

Latin America

Legal aspects of construction enterprises in Latin America. U S Bur For & Dom Com Trade Information Bul 118:1-48 '23

Panama canal

Commercial law in the Canal zone. J. O. Collins. U S Bur For & Dom Com Trade Information Bul 39:1-20 '22

Portugal

Legal aspects of trade in Portugal. W. S. Hollis. U S Bur For & Dom Com Trade Information Bul 103:1-11 '23

Scotland

Mercantile law of Scotland. A. McNeil and J. A. Lillie. 329p W. Green & son, Edinburgh '23

Commercial libraries. See Business libraries

Commercial paper. See Acceptances; Bonds; Checks; Drafts; Letters of credit; Negotiable instruments

Commercial photography. See Photography, Commercial

Commercial policy

Governmental influence in foreign trade. A. B. Cook. Administration 4:149-54 Ag '22

See also Dumping (commercial policy); Free harbors; Ship subsidies; Tariff

Commercial products

Raw products of the world. R. Davol. 264p Davol pub. co., Taunton, Mass. '22
Some great commodities. E. M. Miller and others. 287p Doubleday '22
Warehousing general merchandise; an encyclopedia. 415p American warehousemen's association, Pittsburgh '23

See also Chemicals; Farm produce; Geography, Commercial

Commercial research. See Business research

Commercial secretaries. See Chambers of commerce—Secretaries

Commercial statistics

Statistics and their application to commerce. A. L. Boddington. 220p H. F. Lynch & co., London '21

See also Business statistics

Bibliography

Source-book of research data. 70 numb. 1. Prentice-Hall '23

Commercial treaties. See United States—Commercial treaties

Commission problems. See Income tax—Commission problems

Common brick manufacturers' association

3d annual meeting, St Louis, Mo. Brick & Clay Rec 60:190-7 F 7 '22

Common law companies. See Business trusts

Commonwealth Edison company

Interpreting the central station in a year book. Elec W 80:29-30 J1 1 '22

Commonwealth power corporation, New York

Report for the year ended December 31, 1922. Comm & Fin Chr 116:2029 My 5 '23

Communication, Interplanetary

Interplanetary communication. Elec W 78:620; 79:85, 186 S 24 '21, Ja 14, 28 '22

Communication and traffic

Chronology of communication. G. F. D. Marshall. Engineer 132:615 D 9 '21

World communication. A. N. Goldsmith. il maps Am Inst E E J 40:885-99 D '21

See also Aeronautics; Canals; Carriers; Commerce; Express service; Harbors; Postal service; Radio communication; Railroads; Rapid transit; Shipping; Street railroads; Telegraph; Telephone; Traffic regulations; Transportation; Waterways

Communism

Capitalism versus communism. F. C. Chapell. Annalist 21:701 My 21 '23

Communists

Communist activities described by mine workers. Ry R 73:375-6 S 15 '23

Communists and the nation. N. Sargent. Am Ind 23:11-12+ Ap '23

Community advertising

Advertising a misadvertised community; the All-year club of southern California uses paid space. E. B. Weiss. Ptr Ink 120:117-18+ J1 6 '22

Community development through advertising. Ptr Ink 123:50+ Je 14 '23

What brought back the buying spirit to our town; automobile show at Holdrege, Nebraska. S. Wills. il System 42:415-17+ O '22

See also Municipal advertising; State advertising

Community centers

Community buildings for industrial towns. 94p Community service, New York '21

Community buildings for industrial towns. M. Candler. plans Am Arch 121:311-16 Ap 12 '22

Community center at isolated power plant. C. W. Geiger. il plans Pop Mech 37:888-9 Je '22

Lorraine community house opened at Westerly, R.I. il Textile World 64:2397-8 O 27 '23

Memorial town halls in New England. W. R. Greeley. il plans Arch Forum 37:125-30, pl 41-9 S '22

Movie theatre and assembly hall form community center for small town. il plans Bldg Age 45:48-50 Mr '23

Whiting, Ind., given \$500,000 memorial by Standard oil interests. il Nat Pet N 14:77+ J1 26 '22

See also Parish houses

Bibliography

List of recent references on community centers. 12 mim p U.S. Library of Congress, Washington '21

Community church

Building of a community church. il plans Bldg Age 45:16-7 J1 '23

Community life

Community. E: C. Lindeman. 222p Association press, New York '21
Organizing the community. B. A. McClenahan. 260p Century co. '22

Community trusts

Central financing of social agencies. W: F. Persons. 284p Columbus advisory council, Columbus, O. '22
Charity. H. W. Jordan. J Ind & Eng Chem 14:158-9 F '22
New York community trust. Comm & Fin Chr 117:153-4 J1 14 '23
Report of A.B.A. committee on community trusts. Comm & Fin Chr 117:122-4 sec 2 O 13 '23

Commutation (electricity)

Commutation in continuous current dynamos. A. Still. diags J Fr Inst 193:657-91 My '22

Commutator stones

Grinding commutators with artificial commutator stones. E. H. Martindale. il Power 58: 647-9 O 23 '23

Commutators

Care and operation of commutators on new machines. J. Dixon. Ind Eng 80:547-8 N '22
Care and repair of commutators. Coal Age 24:106 J1 19 '23
Care of commutators. W. J. Stewart. Power Pl Eng 26:921-2 S 15 '22; Discussion. C: N. Shaw. 26:1017 O 15 '22
Cleaning commutator bars. A. C. Roe. Elec W 78:1030-1 N 19 '21
Commutator insulation failures. J. L. Rylander. Elec J 18:554-5 D '21; Same. Power Pl Eng 26:176-8 F 1 '22
Commutator slotter operated on lathe bed. il Elec Ry J 62:416 S 15 '23
Commutator trouble; high brush tension and loose pulley caused vicious sparking and unsteady voltage. R. A. Cultra. diags Power Pl Eng 26:613-14 Je 15 '22
Convenient commutator slotter. il Elec Ry J 61:1052 Je 23 '23
Defects in a commutator. E. H. Martindale. il Ind Eng 81:153-5+ Mr '23
Grinding commutators and collector rings. E. H. Thompson. il diags Power 56:376-9, 455-8, 529-31 S 5, 19, O 3 '22
Grinding commutators by hand. il Elec R (Lond) 93:124-5 J1 27 '23
Grinding commutators with artificial commutator stones. E. H. Martindale. il Power 58:647-9 O 23 '23
How best to undercut commutators of direct-current armatures. Coal Age 24:288 Ag 23 '23
Improved portable grinding devices for truing commutators. il Power 57:599 Ap 17 '23
Locating brushes on the neutral of interpole machines. B. A. Briggs. diags Power 58:381-2 S 4 '23; Discussion. E. Ogur. 58: 662-3 O 23 '23
Maintenance of commutators and brushes. R. Brown. Power 56:426 S 12 '22
Making small commutators. il Pop Mech 40: 301 Ag '23
Pointers on the maintenance of commutators. A. R. Knapp. diag Power Pl Eng 27: 888-9 S 1 '23
Preventing troubles in commutators. C: A. Armstrong. diags Power 55:186 Ja 31 '22
Protecting railway motor commutators at front V ring. J: S. Dean. diags Elec J 20:310 Ag '23
Refilling commutators. A. Hervey. il diags Power 55:52-3 Ja 10 '22
Removing the cause of high mica in commutators. T: H. Watson. Power 56:172 Ag 1 '22
Safe method of turning down commutators. W. B. DeMuth. diags Power Pl Eng 25: 1205-6 D 15 '21
Slotting fixture for commutator segments. J: E. Unger. diags Mach 28:909 J1 '22
Slotting improves commutator operation. J. A. Robinson. diags Elec W 81:165-7 Ja 20 '23

Some of the causes of ring-fire and how it can be prevented. R. Toke. Ind Eng 81: 161-2 Mr '23

Truing commutators of large generators. R. A. Cultra. diags Power 57:68 Ja 9 '23

Undercutting commutator in lathe. P. H. Harris. diags Power 54:858 N 29 '21

Undercutting commutators. H. A. Rose. diag Power 56:579 O 10 '22

What caused the black spots on the commutator? Power 56:697, 816, 894; 57:224-5 O 31, N 21, D 5 '22, F 6 '23

See also Brushes (electric machinery); Electric generators; Electric motors

Company names. See Corporate names

Company saving banks. See Saving banks, Company

Company schools. See Corporation schools

Company stores

Company cooperative stores in the United States. Monthly Labor R 13:1347-8 D '21

Company store—a neglected outlet for advertised goods. P. Winchell. il Ptr Ink M 7:21-2+ N '23

Company store, past and present. F. C. Cornet. Coal Age 23:825-6 My 17 '23

Delivering store orders at the gate. Management Eng 3:96 Ag '22

Improved status of company stores. G: Edwards. Coal Age 23:303 F 15 '23

Company towns

L'assainissement des agglomérations et des cités ouvrières. C. Dantin. il diags plans Génie Civil 81:229-33, pl 8 S 9 '22

Bemis mill village development. T. S. Rogers. il Textile World 61:3517+ Je 10 '22

Cramerton: a textile town in the making. il Textile World 63:732-3 F 3 '23

Seventy-five mile city; what Henry Ford wants to do with Muscle Shoals. L. McClung. il Sci Am 127:156-7+ S '22

See also Mining towns; also Longview, Washington

Comparators

Compateur, système Hirth, pour le contrôle des pièces usinées. il diag Génie Civil 82:66-7 Ja 20 '23

Comparator for checking precision gage-blocks. F. D. Jones. il Mach 28:689-93 My '22

Federal dial comparator. il Am Mach 58:782 My 24 '23

Hartness modified screw thread comparator. il Mach 29:571-2 Mr '23; Am Mach 58:353 Mr 1 '23

Testing gear and gear-cutting teeth. R. E. Flanders. il Mach 28:817-19 Je '22; Same. Automotive Ind 46:1116-19 My 25 '22

Compass

Adjustments of the compass. C. H. Peabody. diags Marine Eng 27:439-42 J1 '22

Aircraft compasses—description and classification. J: A. C. Warner. il diag U S Nat Advisory Com for Aeronautics 1921:616-45 '23

Deadbeat magnetic compass for aerial navigation. il Pop Mech 36:889 D '21

New airplane compass. Aviation 12:204 F 13 '22; Same. Aerial Age 14:537 F 13 '22

See also Radio compass

Testing

Testing and use of magnetic compasses for airplanes. R. L. Sanford. il U S Nat Advisory Com for Aeronautics 1921:612-15 '23

Compass, Gyrostatic

Self-steering vessels; recent German developments in automatic gyro practice. A. Gradenwitz. il Sci Am 127:96 Ag '22

Compensating devices (machine work)

Compensator. H. M. Darling. diags Am Mach 59:65 J1 12 '23

Compensators

Automatic compensator limits heavy starting current of induction motor. il Ind Eng 80: 447-8 S '22

Neatly arranged motor compensators. A. L. Williams. diag Elec W 80:230 J1 29 '22

Compensators—Continued

Supporting frame for mounting compensators on ceilings. H. L. Burns. *il* *diags* Elec R 80:245 My '22

Competition

Competition in the new era. R: T. Ely. *Ad-ministration* 5:129-38 F '23

Competitive system under fire. N. B. Gaskill. *Ptr Ink* 121:61-2+ N 23 '22

Does it pay to buy out competitors? J: A. Murphy. *Ptr Ink* 122:3-1+ Mr 29 '23

How your competitor builds up your business; an interview with E. N. Hurley, jr. G. A. Nichols. *il* *Ptr Ink* M 5:35-6+ Ag '22

There is no such thing as cheap competition. E. S. Conrad. *il* *J Elec* 49:372-3 N 15 '22

See also Price fixing; Purchasing, Co-operative; Restraint of trade; Trusts, Industrial

Competition, International

Economic causes of modern war; a study of the period: 1878-1918. J: E. Bakeless. 265p Printed for the Dept. of political science of Williams college, by Moffat, Yard & co., New York '21

Competition, Unfair

Competition's twilight zone. J: Walsh. *Nation's Business* 10:11-12 F '22

Curbing the fraudulent refilling of bottles. *Ptr Ink* 121:173-4+ D 21 '22

Duplication of competitors' products and its legal limitations in sales policies. *Chem Age* 30:79-80 F '22

Farmers seek protection against unfair competition from foreign foods. *Ptr Ink* 125:41-2+ O 18 '23

How Moxie stifles substitution. *Ptr Ink* 123:45-6 Ap 26 '23

Index—digest of vols. I, II, and III of Decisions of the Federal trade commission with annotations of federal cases. 233p U.S. Federal trade comm., Washington '22

Injunction protects fruit of the loom manufacturer and licensee. *Ptr Ink* 121:166+ O 19 '22

Law of unfair competition; Royal baking powder co. must cease misrepresentation of its own product. *Chem & Met Eng* 29:23 J1 2 '23

Leasing of equipment to dealers not unfair competition—court discusses competition. W. Gustin. *Chem & Met Eng* 27:698 O 4 '22

Protection needed against unfair competition from abroad; importation of goods under trade-marks registered in United States. *Ptr Ink* 120:134+ Ag 3 '22

Test of unfair competition through use of some natural names in business. W. Gustin. *Chem & Met Eng* 26:131 Ja 18 '22

See also Bribery, Commercial; Dumping (commercial policy); Misbranding

Competitive bidding. *See* Contracts, Letting of

Complaints

Advertising manager will watch adjustments. *Ptr Ink* 120:65-6+ S 7 '22

Before you answer that complaint letter. A. Bradbury. *Ptr Ink* 122:56 Mr 29 '23

Making the factory worker make good on complaints. *Ptr Ink* 121:169-70 S 13 '23

Receiver's views on handling complaints. R. W. Johnson. *Ptr Ink* 117:105-6+ D 8 '21

See also Electric utilities—Complaints; Gas companies—Complaints; Returned goods; Sheet metal trade—Complaints

Composing machines. *See* Typesetting machines

Composite steel. *See* Steel castings

Compound words

Meet Mr Hyphen. E: N. Teall. *Inland P'tr* 72:139-40 O '23

Compressed air

Air hoists have many applications. *il* *Gas* Age 50:439 O 7 '22

Clear piping with compressed air. T. J. Griffin. *il* *Gas Age* 50:165-8 Ag 5 '22

Comparative values of the flooding and air pressure methods. J. O. Lewis. *Nat Pet* N 14:83-4+ Ap 5 '22

Compressed air data. W: L. Saunders and C: A. Hirschberg. 280p Compressed air magazine, New York '20

Compressed air operates ship's steering gear. *il* *Pop Mech* 39:708 My '23

Conservation of compressed air. J. P. Cotter. *Min & Sci P* 124:192 F 11 '22

Constituents of compressed air *Metal Ind* 20:341 S '22

L'emploi de l'air comme agent frigorifique: nouvelle machine frigorifique, système Maurice Leblanc. *il* *diag plan Génie Civil* 81: 289-92 S 30 '22; *Abstract. Mech Eng* 44:731-3 N '22; *Abstract. Engineering* 114:765-6 D 22 '22

Freezing of air pipes in a raw-water ice plant. *Power* 55:509-10 Mr 28 '22

Handling rock with compressed air operated shovel. *Eng & Contr* 56:563 D 21 '21

More power often wasted by leaky pipes and cracked valves than would run a compressed-air system. J. A. Maguire. *il* *Coal Age* 22:483-5 S 28 '22

New method of salvage by compressed air. *il* *Sci Am* 128:181+ Mr '23

Pipe laying by compressed air. *il* *diags Pub Works* 53:193-4 O '22

Pneumatic power and transmission losses; methods for locating and stopping air losses common in railroad shops and yards. B. C. Bertram. *il* *charts diag Ry Mech Eng* 96: 529-32, 591-5 S-O '22

Preheated air increases air motor output. C. R. Richards and J. N. Vedder. *diag Power Pl Eng* 27:835-6 Ag 15 '23

Reducing air pressures with compressed air. R. G. Skerrett. *il* *diags plan Can Eng* 45: 181-5 J1 31 '23

Reheating of compressed air. C: R. Richards and J. N. Vedder. *il* *diags Ill U Eng Exp Sta Bul* 130:1-95 '22

Removing reinforced concrete Venturi vault with air operated breakers. *il* *Munic Eng* 63:sup27-8 S '22

Ship without a bottom; how the F. D. Asche was towed from Florida to New York. R. G. Skerrett. *il* *Sci Am* 126:256-7 Ap '22

Steam shovels operated by compressed air. R. T. Stone. *il* *Eng & Contr (Ry)* 60:608-9 S 19 '23

Study of air-steam mixtures. L. A. Wilson and C. R. Richards. *Ill U Eng Exp Sta Bul* 131:1-96 '22

Tiny air bubbles and giant dams; how air jets protect a great dam against the destructive fields of ice. S. G. Roberts. *il* *Sci Am* 128:232+ Ap '23

Unloading tank cars by compressed air. *diag Power* 57:491 Mr 27 '23

Unloading tank cars by compressed air. T. M. Gunn. *diag Power* 57:942 Je 12 '23; *Same. Gas Age* 51:792 Je 25 '23

Use of geophone in locating compressed-air leaks. B. O. Pickard. *Eng & Min J* 114:635 O 7 '22; *Same. Mech Eng* 44:741-2 N '22; *Same cond. Eng N* 90:172 Ja 25 '23

Uses of compressed air in mining. W. R. Wade. *diags Eng & Min J* 113:172-3 Ja 28 '22

Uses of compressed air; speeds up cleaning and repair work—a necessity in modern textile mill power plant. *Textile World* 61: 1305+ S 2 '22

Utilization of compressed air in clearing gas piping. J. T. Griffin. *il* *Am Gas Assn Technical sec v* 3:143-52 '21; *Same. Am Gas J* 115:446-9 N 12 '21; *Discussion. Am Gas Assn Technical sec v* 3:153-60 '21

Waste in compressed-air systems. F. Johnstone-Taylor. *il* *diags Eng & Min J* 116:331-2 Ag 25 '23

Water in the air line. M. A. Kolb. *Power Pl Eng* 27:1001 O 1 '23

See also Air compressors; Air lifts; Air receivers; Caissons; Gas, Compressed; Pneumatic conveying; Pneumatic tools; Vacuum cleaners; Vacuum cleaning

Cooling

Advantages of aftercooling in air compression. P. A. Baumeister. *il* *Power* 55:928-9 Je 13 '22

Atmospheric aftercooler. E. A. Miller. *diags Ry Mech Eng* 96:156-7 Mr '22

Value of intercooling compressed air. C. K. Bennett. *il* *diags Power Pl Eng* 25:1142-4 D 1 '21

Compressed air—Cooling—Continued**Tables, calculations, etc.**

- Further air-receiver calculations. T. Simons. Eng & Min J 112:244-5 Ag 13 '21; Discussion. 112:885; 113:476-7 D 3 '21, Mr 25 '22
- Leakage in compressed-air lines. T. Simons. Eng & Min J 113:453 Mr 18 '22
- Method for measuring leakage in compressed air lines. W. S. Weeks. diag Eng & Min J 113:17 Ja 7 '22

Compressed-air illness. See Caisson disease**Compressed air locomotives. See Locomotives, Compressed air****Compressed gases. See Gases, Compressed****Compressed yeast. See Yeast****Compressibility**

- Compressibility, internal pressure and atomic magnitudes. T. W. Richards. Am Chem Soc J 45:422-37 F '23
- Compressibility of minerals and rocks at high pressures. L. H. Adams and E. D. Williamson. il diags J Fr Inst 195:175-529 Ap '23
- Further studies on the electron theory of solids: the compressibilities of a divalent metal and of the diamond; electric and thermal conductivities of metals. J. J. Thomson. Philos Mag 6th ser 44:657-79 O '22
- Investigation of the structure of the halogen salts based on their compressibility. I. Woodward. diag Philos Mag 6th ser 45:882-95 My '23

See also Elasticity

Compression of gases

- Compressing oxygen and other gases. Chem Age 31:80 F '23
- Safety in compression of gases. A. D. Risteen. Iron Tr R 72:233-6 Ja 18 '23; Same. Mech Eng 45:242-5 Ap '23; Same abr. Chem Age 31:153-6 Ap '23; Same. Chem Age (Lond) 8: 592-3; 9:120-1 Je 2, Ag 4 '23; Abstract. Chem & Met Eng 28:632 Ap 9 '23

Compressors

- Evaporation by compression. W. Gensecke. il diags Chem & Met Eng 28:448-56 Mr 7 '23

See also Air compressors; Ammonia compressors; Carbon dioxide compressors; Compression of gases

Compressors, Air. See Air compressors**Compressors, Ammonia. See Ammonia compressors****Compulsory education**

- Compulsory education. L. N. Gulick. Eng Educ 13:571-2 My '23

Computing-tabulating-recording company

- 10th annual report—for the year ended December 31, 1921. Comm & Fin Chr 114:1548 Ap 8 '22

- 11th annual report—for the year ended December 31, 1922. Comm & Fin Chr 116:1556 Ap 7 '23

Comstock mines. See Gold mines and mining—Nevada; Mining industry and finance—Nevada**Concannon, C. C.**

- Appointed to direct Division of chemistry of Commerce bureau. por Chem & Met Eng 29:118 Ji 16 '23

Concentration cells

- Corrosion by electrolyte concentration cells. R. J. McKay. il diag Am Electrochem Soc Trans v 41 (preprint 14):177-87 Ap '22

- Electromotive-force measurements with a saturated potassium chloride bridge or with concentration cells with a liquid junction. G. Scatchard. Am Chem Soc J 45:1716-23 Ji '23

- Free energy of dilution of alcoholic solutions of lithium chloride and the effect of solvent upon the activity of the ions. J. N. Pearce and H. B. Hart. Am Chem Soc J 44:2411-19 N '22

- Transference numbers of sulfuric acid by the concentration cell method. A. L. Ferguson and W. G. France. diag Am Chem Soc J 43:2150-60 O '21

Concentration of ore. See Ore treatment**Concrete**

- Cement and concrete for shipbuilding purposes. H. H. Thayer. il Marine Eng 27: 331-3+, 391-3, 456-8 My-Jy '22
- Concrete and reinforced concrete. W. N. Twelvrees. 137p Pitman '22
- Concrete exposed to atmosphere. P. J. Freeman. Eng N 91:54 Ji 12 '23
- Concrete for study. Eng N 91:46-7 Ji 12 '23
- Concrete—past and future. Eng N 88:20-2 Ja 5 '22

- Controlling quality of 400,000 cu. yds. of concrete in the Queenston-Chippewa development. R. B. Young. il Concrete 21:3-6 Ji '22

- Discussion on the behavior of concrete by A. S. T. M. Eng N 91:52-7, 142-7 Ji 12, 26 '23; Brick & Clay Rec 63:27-8 Ji 10 '23

- Estimation of the constituents of Portland cement concrete. G. W. Burke. (Bul. 61, Eng. exp. sta.) 16p Iowa state college of agric. and mechanic arts, Ames '23

- How to make watertight concrete. Can Eng 45:316 S 11 '23

- Improvements in concrete practice. G. E. Warren. il Concrete 22:187-90 My '23

- Light-weight concrete. Good Roads 63:86 S 6 '22

- Making concrete of maximum strength. A. J. R. Curtis. il diags Pop Mech 38:123-4 Ji '22

- New-process concrete made in sheets. A. P. Child. il Pop Mech 38:564-5 O '22

- Plain concrete for farm use. T. A. H. Miller. U S Agric Farmers' Bul 1279:1-27 '22

- Some doubts about concrete. Eng N 90:192-3 F 1 '23

- Use of pozzolana in concrete. Eng & Contr 56:517 N 30 '21

- What properties and methods of making concrete require further investigation? Concrete 23:11-14, 37-8 Ji '23

- Which is most important in the making of good concrete; strength, density or impermeability? Am Concrete Inst Pro 19:250-7 '23

See also Cement; Concrete, Porous; Concrete, Reinforced; Concrete construction and other headings beginning Concrete; Grouting; Gunite; Pavements, Concrete; Pipes, Concrete; Roads, Concrete; Sewers, Concrete; Ships, Concrete; Waterproofing

Aggregate

- Aggregate strength no measure of concrete strength. F. E. Geisecke. Eng N 88:1090-1 Je 29 '22

- Blast-furnace slag as an aggregate in concrete. R. Harsch. Eng N 91:146-7 Ji 26 '23; Summary. Iron Age 112:480 Ag 23 '23

- Blower reduces cost of concrete aggregate. il Pop Mech 37:623 Ap '22

- Broken coral reefs as aggregate for concrete. R. J. Beaujon, jr. il diags Concrete 23:55-7 Ag '23

- Concrete pavement materials. H. S. Mattimore. Can Eng 45:413 O 16 '23

- Construct concrete surfacing with special aggregate solidit. L. Luigi and I. Vendone. Eng & Contr (R & S) 59:1296-7 Je 6 '23

- Floor of coral aggregate, green color and a minimum of water. Concrete 23:122 S '23

- Glass and fire tile used as aggregate in concrete building foundation. F. F. Royal. Eng N 88:1033 Je 22 '22

- Grading of aggregates and strength of concrete. Can Eng 45:427-30 O 23 '23

- How should aggregate for road concreting be stored and delivered? Pub Works 51:364-6 N 5 '21

- How to make good concrete. Good Roads 65:108 O 3 '23

- Inspection and control of concrete materials. R. W. Crum. Good Roads 62:127-8+ Mr 1 '22; Same. Can Eng 43:183-4 Ji 25 '22

- Interesting case of dangerous aggregate. J. C. Pearson and G. F. Loughlin. il Am Concrete Inst Pro 19:142-54 '23; Same. Concrete 22:144-7 Ap '23; Discussion. Am Concrete Inst Pro 19:155 '23

Concrete—Aggregate—Continued

Inundation methods for measurements of sand in making concrete. G. A. Smith and W. A. Slater. *il diags Am Concrete Inst Pro* 19:222-40 '23; Same. *Eng & Contr (Bldgs)* 59:713-22 Mr 28 '23; Same. *Can Eng* 44:376-80 Ap 3 '23; Summary. *Eng N* 90:216 F 1 '23; Discussion. *Am Concrete Inst Pro* 19:241-8 '23

Light weight aggregate economical in concrete building; tests show concrete with burnt shale aggregate stronger than with stone. *diags plan Eng N* 87:765-7 N 10 '21

Operating costs on grinder used to make sand from basalt. P. O. Crawford. *Eng N* 91:106 Jl 19 '23

Pit-run aggregate for concrete. G. M. Williams. *Can Eng* 45:268-9 Ag 28 '23

Practical use of excess sand in concrete mixtures. R. W. Crum. *il Eng N* 87:812-14 N 17 '21; Abstract. *Concrete* 19:235-6 D '21

Safely use more fines in road concrete. *Concrete* 19:241 D '21

Sampling fine aggregate for concrete highway construction. G. W. Hutchinson. *Eng & Contr (R & S)* 60:736-9 O 3 '23

Selecting fine aggregates. P. J. Freeman. *Concrete* 20:79 F '22

Selection of aggregate for concrete roads. D. A. Abrams. *Concrete* 20:159-63 Ap '22; Same cond. *Good Roads* 62:67-70 F 1 '22; Same cond *Eng & Contr* 57:419-21 My 3 '22; Excerpts. *Can Eng* 43:211-13 Ag 1 '22; Discussion. *Eng N* 89:287, 809 Ag 17, N 9 '22

Slag aggregate—a review. *Concrete* 19:194-5 N '21

Some tests of light-weight aggregate. H. V. Mathews. *Eng N* 90:387 Mr 1 '23

Special methods in using slag in concrete roads. *il Eng N* 88:58-9 Ja 12 '22

Stone screenings as fine aggregate for concrete. D. A. Abrams. *Concrete* 22:128-32 Ap '23; Same. *Eng & Contr (Bldgs)* 59:947-53 Ap 25 '23; Same. *Can Eng* 44:577-9 Je 12 '23

Study of the composition of blast-furnace slags suitable for concrete aggregate. L. G. Carmick. *Am Soc T M Pro* 21:976-81 '21; Same. *Eng & Contr* 56:82-3 Jl 27 '21; Discussion. *Am Soc T M Pro* 21:982 '21

Tentative specifications for concrete aggregates. *Am Soc T M Pro* 21:544-6 '21; Same. *Can Eng* 45:446 O 30 '23

Test two beams to determine strength of light-weight aggregate. B. S. Myers. *diag Eng N* 90:1089 Je 21 '23

Testing materials for concrete. D. Abrams. *Can Eng* 45:392-3 O 9 '23

Tolerance of coarse aggregate passing the 1/4 in. sieve as affecting specifications for gravel aggregates. W. K. Hatt and R. B. Crepps. *Am Concrete Inst Pro* 17:213-30 '21

Use of excess sand and pit-run gravel in concrete pavements. R. W. Crum. *Am Soc T M Pro* 22 pt 2:375-84 '22; Same (without tables). *Can Eng* 43:397-8 S 26 '22; Same. *Eng & Contr (R & S)* 58:60-2 O 4 '22; Abstract. *Eng N* 89:109 Jl 20 '22

Use of local material for concrete aggregate. H. J. Kuelling. *il Eng & Contr (R & S)* 59:334-41 F 7 '23; Same. *Munic Eng* 64:153-9 Ap '23; Same cond. *Good Roads* 64:61-3+ F 11 '23; Same cond. *Eng N* 90:826-8 My 10 '23; Excerpts. *Can Eng* 44:129-31 Ap 21 '23

Wisconsin produces aggregates locally at low cost. H. G. Kuehling. *Eng N* 88:494-5 Mr 23 '22

See also Gravel

Coloring

Coloring concrete. J. W. Lowell. *Am Concrete Inst Pro* 17:122-32 '21

German colorings for cement. *Eng & Contr* 57:532 My 31 '22

Mill for mixing cement with color. *diag Concrete* 21:130 O '22

Mineral colors in concrete; a review of German investigations. F. A. Brackmann. *Concrete* 23:155-6 O '23

Curing

Calcium chloride as a curing agent and accelerator. H. F. Clemmer and F. Burggraf. *Eng N* 91:143-5 Jl 26 '23

Effect of curing methods on concrete roads. H. J. Kuelling. *Eng N* 91:466-8 S 20 '23

Proper curing increases strength of concrete. *Can Eng* 45:395-6 O 9 '23

Street sprinkler used in curing concrete pavement. J. G. Bragg. *il Eng N* 91:69 Jl 12 '23

Suggested layouts for products plants—detailed data on curing. *Concrete* 20:149-54 Ap '22

Tests on molding of concrete under pressure. H. M. Nelson. *Eng N* 89:21-2 Jl 6 '22

Finishing

Beautiful finish on concrete. G. I. Stodola. *il Bldg Age* 45:74 My '23

Cement or granolithic finish on concrete floors. J. C. Grady. *Am Concrete Inst Pro* 18:115-21 '22

Cold glazing of concrete in Germany. F. A. Brackmann. *Concrete* 21:107 O '22

Developments in surface treated concrete. R. F. Havlik. *il Am Concrete Inst Pro* 19:75-87 '23; Same. *Concrete* 22:83-8 Mr '23; Same cond. *Eng & Contr (Bldgs)* 59:1191-4 My 23 '23

Exterior concrete. W. W. Clifford. *il diags Arch Forum* 36:67-70 F '22

Finishing the interior concrete of Grauman's Metropolitan theatre, Los Angeles. W. L. Woollett. *il Concrete* 23:47-54 Ag '23

Floor finish. *Concrete* 20:134-5 Mr '22

Granolithic finish. E. F. Rockwood. *Arch Forum* 38:25-6 Ja '23

Report of committee C-3, on treatment of concrete surfaces. *il Am Concrete Inst Pro* 18:279-90; Discussion. 291-2 '22

Report of committee on treatment of concrete surfaces. *Am Concrete Inst Pro* 17:306-15 '21

Siamese legation, Washington, D.C. *il Concrete* 22:61-3 F '23

Special type of floor finish. W. M. Bailey. *Am Concrete Inst Pro* 18:122-3 '22

Surface treatment of monolithic concrete buildings. R. F. Havlik. *il diag Concrete* 22:173-5 My '23

Tentative standard recommended practice for treatment of exterior surfaces of industrial reinforced concrete buildings. *Am Concrete Inst Pro* 19:464-70 '23; Same. *Eng & Contr (Bldgs)* 59:476-80 F 28 '23; Same abr. *Am Arch* 123:522-4 Je 6 '23

Water-proofing and protective treatment; surface finish. P. Marquand and others. *Am Soc C E Pro* 48:582-93 Mr '22

See also Concrete, Ornamental; Concrete stone

Freezing

See Concrete construction in winter

Mixing

See Concrete mixing

Moisture content

Study of the effect of moisture content upon the expansion and contraction of plain and reinforced concrete. T. Matsumoto. *Ill U Eng Exp Sta Bul* 126:1-37 '21; Same abr. *Eng & Contr* 57:278-80 Mr 22 '22; Abstract. *Eng N* 88:528-9 Mr 30 '22; Conclusion. *Good Roads* 62:217 Ap 12 '22

Protection

Acid-proof coatings for concrete surfaces. *Chem Age* 31:184-7 Ap '23; Same cond. *Am Inst Arch J* 11:XIII+ O '23

Best way of protecting reinforced concrete from marine deterioration. F. E. Wentworth-Shields. *Engineering* 112:73 Jl 8 '21; Same abr. *Eng & Contr* 57:318 Mr 29 '22; Discussion. *Engineering* 112:40-2 Jl 8 '21

Cement and concrete for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:456-8 Jl '22

Concrete in the construction of chemical-manufacturing facilities. A. C. Irwin and F. W. Ashton. *Ind & Eng Chem* 15:562-5 Je '23

Corrosion of iron in concrete. B. Zschokke. *Eng & Contr (Bldgs)* 60:194-5 Jl 25 '23

New weapon to fight alkali; alkagel. *Concrete* 19:181 N '21

Concrete—Protection—Continued

- Prevention of alkali action in concrete aqueduct. *diag* Concrete 19:205 N '21
- Protecting cement structures. R. C. Sheeler. *Textile World* 62:69 J1 1 '22
- Protection of concrete and other building materials against water and noxious fumes. M. Toch. *Ind & Eng Chem* 15:665 J1 '23
- Report of committee E-6, on destructive agents and protective treatments. *Am Concrete Inst Pro* 19:301-14 '23
- Tar impregnation for concrete drain tile. E. C. E. Lord. *Eng N* 90:28 My 10 '23
- See also* Concrete, Effect of alkalis on

Repair

- How to patch and point up. *diags* Concrete 23:67 Ag '23

Rodding

- Variation in the effect of rodding concrete. F. E. Giesecke. *Am Soc T M Pro* 21:1008-12 '21; Same, without table. *Eng & Contr* 56:81-2 J1 27 '21

Sampling

- Tentative method of securing specimens of hardened concrete from the structure. *Am Soc T M Pro* 21:588-9 '21

Setting

- Calcium chloride as a curing agent and accelerator. H. F. Clemmer and F. Burggraf. *Eng N* 91:143-5 J1 26 '23
- Effect of accelerators in concrete. *Eng & Contr* (Bldgs) 60:358-61 Ag 22 '23; Abstract. *Eng N* 91:142 J1 26 '23
- Some experimental results with quick setting concrete. *Ry Age* 73:1093 D 9 '22
- Time of set of concrete. W. Davis. *il Am Soc T M Pro* 21:995-1006 '21; Same. *Eng & Contr* 56:79-81 J1 27 '21; Same. *Good Roads* 61:121-2+, 135-8 S 7-14 '21; Same cond. *Eng N* 87:30-1 J1 7 '21

Shrinkage

- Shrinkage and temperature changes in reinforced concrete. E. H. Harder. *Eng N* 90:661-4 Ap 12 '23

Specifications

- Address before the American specification institute. E. B. Wilson. *Am Arch* 121:200-1 Mr 1 '22
- Committee reports on concrete at A. S. T. M. meeting. *Eng N* 89:31 J1 6 '22
- Concrete by strength—Austrian specifications; translated by W. A. Slater. *Concrete* 19:231-2 D '21
- Criticism of joint committee report heard in two-day meeting. *Eng N* 87:997-8 D 15 '21
- Discussion of report of joint committee on concrete and reinforced concrete. *Am Concrete Inst Pro* 18:322-97 '22
- Discussion on tentative specifications for concrete and reinforced concrete. *Am Soc C E Pro* 48:581-674, 1451-5, 1811-14 Mr, Ag, N '22
- Progress report of the joint committee on standard specifications for concrete and reinforced concrete submitting tentative specifications for concrete and reinforced concrete. *diags plans* *Am Soc T M Pro* 21:212-83 '21
- Report of committee C-9 of A.S.T.M. on concrete and concrete aggregates. *Am Soc T M Pro* 22 pt 1:321-3 '22
- Résumé of criticisms of the joint committee report. *Eng N* 90:32-3 Ja 4 '23
- Tentative specification for concrete and reinforced concrete; abstract. *Am Inst Arch J* 10:55-6 F '22
- Tentative specification for testing of concrete and steel for buildings. *Am Arch* 122:sup12+ D 6 '22

Standards

- See also* Concrete blocks—Standards; Concrete construction—Standards; Culverts, Concrete—Standards

Study and teaching

- School studies of concrete for a month. H. D. Kemperton. *Concrete* 21:154 N '22

Temperature

- Interesting and valuable record of interior temperatures in concrete. *il diags plan Ry* R 73:181-1 O 6 '23

Terminology

- Report of committee G-4, on nomenclature. *Am Concrete Inst Pro* 19:319-30 '23
- Report of committee on nomenclature. *Am Concrete Inst Pro* 17:322-7 '21

Testing

- Aggregate strength no measure of concrete strength. F. E. Giesecke. *Eng N* 88:1090-1 Je 29 '22
- Analysis of tests on effect of hydrated lime in concrete made at Lewis institute. T. B. Shertzer. *Am Soc T M Pro* 22 pt 1:269-83; Discussion. 292-307 '22
- Analysis of the variables in concrete from the construction standpoint. W. P. Bloecher. *Am Concrete Inst Pro* 19:100-10 '23; Same. *Eng & Contr* (Bldgs) 59:511-19 F 23 '23; Discussion. *Am Concrete Inst Pro* 19:111-13 '23
- Appareil pour l'essai des blocs de béton à l'imperméabilité. *diags Génie Civil* 81:499 N 25 '22
- Ball test applied to cement mortar and concrete. R. B. Crepps and R. E. Mills. *il diags Purdue U Eng Exp Sta Bul* 12:1-32 '23
- Ball test applied to concrete. W. K. Hatt. *il diag Pub Roads* 4:25-6 N '21; Same. *Eng & Contr* 56:522 D 7 '21; Same. *Concrete* 20:76-7 F '22
- Cannon-ball tests of concrete. *il diag Sci Am* 127:247 O '22
- Central-plant-mixed concrete tested for maximum safe haul. *Pub Roads* 4:22-3 D '21; Same. *Eng & Contr* 57:101-2 F 1 '22; Same. *Good Roads* 62:148-9 Mr 8 '22
- Comparative test of haydite and rock concrete beams. B. S. Meyers. *Eng & Contr* (Bldgs) 60:198 J1 25 '23
- Comparison of the results of the slump test and the flow table in the measurement of the consistency of concrete. W. L. Schwalbe. *Am Soc T M Pro* 21:983-7 '21; Excerpts. *Eng & Contr* 56:79 J1 27 '21; Discussion. *Am Soc T M Pro* 21:988-94 '21
- Concrete compression tests. H. C. Badder. *Concrete* 22:245-6 Je '23
- Concrete testing on the site. *diag Eng & Contr* 57:299 Mr 29 '22
- Cooperative tests on effect of hydrated lime on concrete mixtures. *Am Soc T M Pro* 21:294-301; Discussion. D. A. Abrams. 302-14 '21
- Correction data for comparative test results from field specimens. G. W. Hutchinson. *Am Concrete Inst Pro* 19:191-5; Discussion. 196-7 '23
- Effect of accelerators in concrete. *Eng & Contr* (Bldgs) 60:358-61 Ag 22 '23; Abstract. *Eng N* 91:142 J1 26 '23
- Effect of hydrated lime on strength and flow of concrete. H. C. Berry. *Am Soc T M Pro* 22 pt 1:290-1 '22
- Effect of imperfect ends on compressive strength of concrete test cylinders. D. V. Terrell. *Eng & Contr* (R & S) 59:984; 60:228 My 2, Ag 1 '23
- Expansion and contraction of concrete due to moisture. *Concrete* 20:216 My '22
- Fatigue of concrete. H. F. Clemmer. *il Am Soc T M Pro* 22 pt 2:408-18; Discussion. 419 '22
- Flexural strength of plain concrete. D. A. Abrams. *Am Concrete Inst Pro* 18:20-45 '22; Excerpts. *Am Arch* 122:164-6, 200-1 Ag 16-30 '22; Discussion. *Am Concrete Inst Pro* 18:46-51 '22
- Heat transmission through concrete. A. P. Carman. *Concrete* 19:221 D '21
- New test for the workability of concrete. J. C. Pearson and F. A. Hitchcock. *diag Eng N* 91:145-6 J1 26 '23

Concrete—Testing—Continued

Placing 410,000 cu. yd. of concrete on Ontario's Niagara power development. A. C. D. Blanchard and R. B. Young. Eng N 88: 613-15 Ap 13 '22

Practical use of excess sand in concrete mixtures. R. W. Crum. il Eng N 87:812-14 N 17 '21; Abstract. Concrete 19:235-6 P '21

Proposed consistency test of pavement concrete. Can Eng 43:364 S 19 '22

Proposed method of estimating the density and strength of concrete and of proportioning the materials by the experimental and analytical consideration of the voids in mortar and concrete. A. N. Talbot. Am Soc T M Pro 21:940-67 '21; Same abr. Eng & Contr 56:306-12 S 28 '21; Same cond. Eng N 87:147-52 JI 28 '21; Discussion. Am Soc T M Pro 21:968-75 '21

Relation between molded and core concrete specimens. H. S. Mattimore. Eng N 88:73 Ja 12 '22; Discussion. 88:165, 370 Ja 26, Mr 2 '22

Report of committee C-9 of A. S. T. M. on concrete and concrete aggregates. Am Soc T M Pro 21:317-21; Discussion. 322-3 '21

Report of committee P-5, on fire resistance of concrete building units. Am Concrete Inst Pro 19:331-59 '23

Report on field tests and methods used in building construction to obtain concrete of specified strength. J. G. Ahlers. il Am Concrete Inst Pro 19:114-24; Discussion. 125-8 '23

Resistance of concrete to wear. Engineering 116:182-3 Ag 10 '23

Slump test for concrete. Am Arch 122:425-6 N 8 '22

Stone screenings as fine aggregate for concrete. D. A. Abrams. Concrete 22:128-32 Ap '23; Same. Eng & Contr (Bldgs) 59:947-53 Ap 25 '23; Same. Can Eng 44:577-9 Je 12 '23

Strength of concrete at increasing intervals after mixing. R. C. Durst. Eng N 87:773 N 10 '21

Study of the effect of moisture content upon the expansion and contraction of plain and reinforced concrete. T. Matsumoto. Ill U Eng Exp Sta Bul 126:1-37 '21; Same abr. Eng & Contr 57:278-80 Mr 22 '22; Abstract. Eng N 88:528-9 Mr 30 '22

Summary of data obtained in series 201, compression tests of concrete made in cooperation with committee C-9. Am Soc T M Pro 22 pt 1:329-51 '22

Tentative methods of making compression tests of concrete. Am Soc T M Pro 21:579-84 '21

Testing and inspecting concrete. Pub Works 51:503-4 D 31 '21

Tests on molding of concrete under pressure. H. M. Nelson. Eng N 89:21-2 JI 6 '22

Torsional strength of rectangular sections of concrete, plain and reinforced. C. R. Young, W. L. Sagar and C. A. Hughes. diags Am Arch 124:121-6 Ag 1 '23

Wear tests of concrete. D. A. Abrams. il Am Soc T M Pro 21:1013-34 '21; Abstract. Pub Works 52:281 Ap 22 '22; Discussion. Am Soc T M Pro 21:1035-8 '21

See also Concrete, Reinforced—Testing; Concrete blocks—Testing; Concrete construction—Fire resistance; Floors, Concrete—Testing; Poles, Concrete—Testing

Waterproofing

See Waterproofing

Wrecking

See Wrecking

Concrete, Effect of age on

Effect of age on the strength of concrete. D. A. Abrams. Eng & Contr 58:225-6 S 6 '22

Concrete, Effect of alkalis on

Action of alkali salt on Portland cement mortars. D. G. Miller. Eng & Contr 57:359-60 Ap 12 '22

Alkali attack on concrete roads and building brick. I. Furlong. il Eng N 89:64-7 JI 13 '22; Discussion. H. C. Lott. 89:577 O 5 '22

Behavior of concrete exposed to alkaline conditions. G. M. Williams. Eng & Contr (W) 60:288-91 Ag 8 '23; Abstract. Eng N 91:56-7 JI 12 '23

Concrete deterioration in alkali soil. J. Smith. Sanitary & Heat Eng 98:9-11 JI 14 '22

Concrete drain tile in alkaline soil. D. G. Miller. Eng N 88:967 Je 8 '22

Drain tile tests show concrete affected by alkali. Eng N 89:181 Ag 3 '22

Durability of cement drain tile and concrete in alkali soils: third progress report (1919-20). G. M. Williams. il map U S Bur Stand Tech Pa 214:463-94 '22; Summary. Pub Works 53:244-5 N '22

Durability of concrete in alkali soils. G. M. Williams. Can Eng 43:533-4 N 14 '22

Effect of soil alkalis on concrete tile in southwestern Minnesota. Eng & Contr 58:262 S 13 '22

Review of investigation into deterioration of concrete in alkali soils. G. M. Williams. Can Eng 42:209-10 F 7 '22

Use of concrete in alkaline soils. H. S. Kleinschmidt. Concrete 21:148-9 N '22

Concrete, Effect of hydrated lime on. See Concrete mixing

Concrete, Effect of oil on

Action of oils upon concrete. Eng & Contr 56:499 N 30 '21

Concrete, Effect of sea water on

Action of sea water on concrete structures; committee report presented to the American concrete institute. Eng & Contr (Bldgs) 59: 495-503 F 28 '23

Application of concrete and reinforced concrete to hydraulic work. Engineer 136:66 JI 20 '23; Engineering 116:74-6 JI 20 '23

Deterioration of materials used in harbour construction. Engineering 113:739-40 Je 16 '22; Same. Eng & Contr 58:270-2 S 20 '22; Same. Can Eng 43:431-3 O 10 '22

Disintegration of cement in sea water. W. G. Atwood and A. A. Johnson. Eng & Contr (Bldgs) 59:1425-36 Je 27 '23; Same. Am Soc C E Pro 49:1038-58; Bibliography. 1058-64 Ag '23; Abstract. Ry R 73:239-40 Ag 18 '23; Conclusions. Ry Age 74:1462 Je 16 '23; Same. Mech Eng 45:544 S '23; Discussion. Am Soc C E Pro 49:1647-61, 1762-6, 1914-23 S-N '23

Exposure to sea water. S. C. Hollister. Eng N 91:55-6 JI 12 '23

Report of committee E-6, on destructive agents and protective treatments. Am Concrete Inst Pro 19:301-14 '23

Test action of salt water on concrete piers. il Pop Mech 39:774 My '23

Tests of concrete in sea water. L. C. Wason. il Am Soc C E Pro 48:1597-1604 S '22; Same. Eng & Contr 58:293-5 S 27 '22; Same. Concrete 21:151-3 N '22; Discussion. Am Soc C E Pro 48:1808-10; 49:137-8 N '22, Ja '23

Use of reinforced concrete in or near sea water. K. Allen. Eng & Contr 56:487-3 N 23 '21

Concrete, Effect of sugar on. See Concrete mixing

Concrete, Effect of sulfates on

Effect of water containing sulphates on concrete. Eng & Contr 59:262-3 Ja 31 '23

Concrete, Ornamental

Big business in concrete specialties. il Concrete 21:82-5 S '22

Building the Fountain of time. J. J. Earley. il Am Concrete Inst Pro 19:185-90 '23

Concrete bridge has interesting ornamental features. J. F. McClarren. il Concrete 21: 178-80 D '22

Decorative effects in molded concrete. il Pop Mech 37:722-3 My '22

Developments in surface treated concrete. R. F. Havlik. il Am Concrete Inst Pro 19:75-87 '23; Same. Concrete 22:83-8 Mr '23; Same cond. Eng & Contr (Bldgs) 59:1191-4 My 23 '23

Exterior concrete. W. W. Clifford. il diags Arch Forum 36:67-70 F '22

Finishing the interior concrete of Grauman's Metropolitan theatre, Los Angeles. W. L. Woollett. il Concrete 23:47-54 Ag '23

Concrete, Ornamental—Continued

- Lorado Taft's Fountain of time done in concrete by John J. Earley. *il* Concrete 21:170-3 D '22
- New art of concrete. L. Taft. *Am Concrete Inst* Pro 19:178-84 '23
- Spanish cement tile industry. F. A. Henry. *Concrete* 23:98-9 S '23
- Unusual and artistic concrete work. *il* Concrete 22:217-18 Je '23

Concrete, Porous

- Bungalows of stucco on porete slab base. *plan* Concrete 21:28 Ji '22
- Manufacture and application of light-weight concrete slabs. A. G. Wikoff. *il* Chem & Met Eng 28:975-6 Je 4 '23
- Porous concrete for well strainers and well casing. *il* diags Eng N 87:853-4 N 24 '21

Concrete, Reinforced

- Caissons en béton armé, pour fondations à l'air comprimé. J. E. Ribera. *diags plans* Génie Civil 80:318-20 Ap 8 '22
- Climax in concrete construction; erecting an eighteen story reinforced concrete building at a lower cost than a structural steel type. R. G. Skerrett. *il* Sci Am 125A:132-3 D '21
- Concrete road reinforced with job-assembled mats. *diag plan* Eng N 89:244 Ag 10 '22
- Concrete vs. structural steel in New York city schools. E. E. Seelye. *il* Concrete 19:218-19 D '21
- Cours de béton armé. A. Mesnager. 534p Dunod, Paris '21
- Design of simple reinforced concrete structural members. H. W. Barker. *diags* Concrete 18:123-5, 169-70, 250-1, 285-7; 19:73-4, 197-9, 238-41 Mr-Je, Ag, N-D '21
- Development of concrete in railway construction. M. Hirschthal. *il* diags Ry Age 73: 705-9, 791-7, 843-6 O 14, 28-N 4 '22
- Examples of articulation between reinforced concrete and structural steel in recent structures. E. E. Seelye. *diags* Am Arch 121:323-4 Ap 12 '22
- Ferro-concrete and its applications to gas-works construction. J. Twist. *Gas J* (Lond) 162:105-6 Ap 11 '23
- Fireproofing old mill construction warehouse with reinforced concrete. W. H. Wheeler. *il* diag Concrete 20:253-4 Je '22
- Manual of reinforced concrete. C. F. Marsh and W. Dunn. 4th ed., enl. 504p Constable & co., London '22
- Merits of bar reinforcement for concrete pavements. W. S. Edge. *Good Roads* 63:91-3 S 13 '22; Same. *Can Eng* 44:354-5 Mr 27 '23
- Ohio stadium, a double-deck steel and concrete horseshoe. *il* diags plans Eng N 89: 640-4 O 19 '22
- Reinforced concrete. R. J. H. Hudson. 318p Dutton '22
- Reinforced concrete columns. J. Tucker, jr. *Am Soc C E Pro* 49:165-239 F '23; Discussion. 49:787-804 Ap '23
- Reinforced concrete constructions on railways. *il* Engineer 132:628-9 D 9 '21
- Reinforced concrete floating dry dock. *diag* Engineer 134:10 Ji 7 '22
- Reinforced concrete for water retaining structures. H. C. Ritchie. *Can Eng* 43:177-80 Ji 25 '22
- Reinforced concrete on the Chinese railways. H. Stringer. *Engineering* 115:73 Ja 19 '23
- Reinforced concrete simply explained. O. Faber. 77p Oxford '22
- Reinforced concrete suspended drain. W. L. Scott. *diag Eng & Contr* 56:501 N 30 '21
- Relation of bar spacing to strength and stiffness. C. A. P. Turner. *diags* Concrete 19:219-20 D '21
- Rod make-up diagram. H. J. Finebaum. *diag Eng & Contr* (Bldgs) 58:12-13 O 25 '22
- Royce deformed bar. *il* Concrete 21:127 O '22
- Sheet fabric reinforcement for concrete pavements. W. C. Kuhn. *Good Roads* 63:102-3 S 20 '22; Same. *Can Eng* 44:108-9 Ja 2 '23
- Shrinkage stresses in reinforced concrete. *diags* Am Arch 121:193-4 Mr 1 '22
- Small vs. large reinforcing bars. C. E. Reynolds. *Concrete* 21:126 O '22
- Stadium in Wembley park. *il* diags plan Engineer 135:358-62, 368 Ap 6 '23

- Strength of alcement reinforced concrete. J. Bied. *Concrete* 23:22 Ji '23
- Stresses in reinforcement caused by shrinkage of concrete in hardening. M. S. Duecker and H. R. Reed. *Eng & Contr* (Bldgs) 59:492-4 F 28 '23
- Use of concrete and reinforced concrete on railways; reports at the International railway congress. *Engineering* 113:643-6 My 26 '22
- Use of concrete on railways. W. W. Grierison. *Can Eng* 42:680 Ji 4 '22
- Use of reinforced concrete for pit-head gears. W. L. Scott. *il* Engineering 115:2-6 Ja 5 '23
- Why steel forms were successful on one concrete job. R. C. Reese. *il* diags Eng N 91: 302-5 Ag 23 '23

See also Boardwalks, Concrete; Concrete; Concrete construction; Concrete slabs; Gas holders, Concrete; Retaining walls, Concrete

Fire resistance

See Concrete construction—Fire resistance

Specifications

- Contractors find stumbling blocks in joint committee report. *Concrete* 20:31-3 Ja '22
- Discussion of report of joint committee on concrete and reinforced concrete. *Am Concrete Inst* Pro 18:322-97 '22
- Discussion on tentative specifications for concrete and reinforced concrete. *Am Soc C E Pro* 48:581-674, 1451-5, 1811-14 Mr, Ag, N '22
- Progress report of the joint committee on standard specifications for concrete and reinforced concrete submitting tentative specifications for concrete and reinforced concrete. *diags plans* Am Soc T M Pro 21:212-83 '21
- Résumé of criticisms of the joint committee report. *Eng N* 90:32-3 Ja 4 '23
- Specifications for reinforcing steel. *Am Arch* 123:76-8, 257-8+ Ja 17, Mr 14 '23

See also Steel reinforcing wire—Specifications

Tables, calculations, etc.

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Testing

- Essais de pièces en béton de ciment fondu armé. G. Leflot. *Génie Civil* 83:126-30, 151-4, 176-81 Ag 11-25 '23
- Floor slab, beam and column testing machine at the National physical laboratory. *diags* Engineering 114:484-7 O 20 '22
- Shrinkage and temperature changes in reinforced concrete. E. H. Harder. *Eng N* 90: 661-4 Ap 12 '23
- Strength of short concrete beams. J. B. MacPhail. *Eng & Contr* (Bldgs) 60:863-4 O 24 '23
- Tests of heavily reinforced concrete slab beams: effect of direction of reinforcement on strength and deformation. W. A. Slater and F. B. Seely. *il* diags U S Bur Stand Tech Pa 233:297-344 '23
- Torsional strength of reinforced concrete beams. C. R. Young, W. L. Sagar and C. A. Hughes. *il* diags *Can Eng* 43:425-30 O 10 '22

See also Concrete construction—Fire resistance

Concrete air pipes. See Air pipes, Concrete

Concrete barges. See Barges, Concrete

Concrete barrels. See Barrels, Concrete

Concrete blocks

- Apollo steel co. builds cinder block houses. *il* diags plans *Concrete* 20:89-91 F '22
- Atlantic city housing with concrete blocks. E. F. Brumby. *il* Concrete 23:141 O '23
- Block business is built up by good jobs. *il* plans *Concrete* 20:203-4 My '22
- Block regulations and their enforcement. *Concrete* 21:31-3 S '22
- Building blocks so shaped that they lock together. *il* Pop Mech 37:604 Ap '22
- Cinder block and stucco house for less money. *il* plans *Concrete* 22:176-7 My '23

Concrete blocks—Continued

- Cinder block—yes or no? W. D. M. Allan. *il*
Concrete 20:23-5 Ja '22
- Concrete blocks protect river bank from flood.
Concrete 21:180 D '22
- Colosimo air-space block. *diag* Concrete 21:
155 N '22
- Concrete building block and brick; abstract.
Am Inst Arch J 10:XVII+ JI '22
- Developments of concrete building units in
England. J. T. Stewart. *diags* Am Con-
crete Inst Pro 17:112-21 '21
- Fire resistance of concrete block and brick;
a discussion. J. E. Freeman; and others.
Am Concrete Inst Pro 17:231-43 '21
- How shall we build our concrete houses?—
the small unit. A. J. R. Curtis. *il* *diags* plans
Concrete 20:3-8, 59-61, 181-3 Ja-F, Ap '22
- Large concrete block house on Long Island. W.
F. Anderson. *il* plan Concrete 21:53-5 Ag
'22
- Large hollow concrete blocks form dock wall.
il *diags* plan Eng N 88:956-7 Je 8 '22
- Mr Straphanger's house; how cinder block
was introduced in Detroit. *il* plans Concrete
23:137-8 O '23
- Morgan Park church of concrete block. A. J.
R. Curtis. *il* *diag* plan Concrete 22:179-81
My '23
- Possibilities and limitations of present and fu-
ture markets for concrete building units. W.
D. M. Allan. Am Concrete Inst Pro 18:155-
61 '22

Manufacture

- Fast time recorded in casting concrete seg-
mental sewer blocks. *il* plan Eng N 89:1127-8
D 28 '22
- Making separator and diffuser container
blocks for aeration units of Milwaukee sew-
age works. R. R. Lundahl. *il* *diags* plans
Eng N 89:785-8 N 9 '22
- Mold for making concrete blocks. A. J. R.
Curtis. *il* Pop Mech 37:123-4 Ja '22
- New kind of block machine; Debay. *il* Con-
crete 20:92 F '22
- Volume production means higher dividends
for block makers. E. W. Dienhart and S.
Walker. *il* *diags* Concrete 22:191-3 My '23

Specifications

- New regulations for block manufacture. A.
J. R. Curtis. Concrete 21:192-3 D '22
- Report of committee P-1, on standard build-
ing units. Am Concrete Inst Pro 18:303-14
'22
- Tentative standard specification for concrete
building block and concrete building tile.
Am Concrete Inst Pro 19:384-6 '23; Same
cond. Eng & Contr (Bldgs) 60:378 Ag 22
'23

Standards

- What quality of concrete block should become
standard? J. C. Pearson. Concrete 21:135-7
N '22
- What strength for block, brick and tile. Con-
crete 20:129-30 Mr '22

Testing

- Cinder block fire tests. *il* Concrete 21:123-5
O '22; Excerpts. Eng N 89:694 O 26 '22
- College and commercial laboratories equipped
for testing concrete block and drain tile.
Concrete 21:21-2 JI '22
- Concrete block fire tests. Concrete 21:174-5 D
'22
- How well are concrete block made in prac-
tice? A. J. R. Curtis. Concrete 21:19-20 JI
'22
- New type of pre-cast concrete construction.
F. M. McCullough. *diags* Eng & Contr
(Bldgs) 60:175-8 JI 25 '23
- Owner makes novel fire test for new house.
il plans Pop Mech 39:734-5 My '23
- Report of committee P-5, on fire resistance of
concrete building units. Am Concrete Inst
Pro 18:255-9 '22
- Tests on absorptive qualities of concrete
blocks. S. Walker. Eng N 88:282-4 F 16 '22

Concrete brick

- Concrete brick house with unusual founda-
tion *il* *diags* plans Concrete 22:76 F '23

- Development of Shope brick. *diag* Concrete 21:
55 Ag '22
- Fire resistance of concrete block and brick;
a discussion. J. E. Freeman; and others. Am
Concrete Inst Pro 17:231-43 '21
- Possibilities and limitations of present and
future markets for concrete building units.
W. D. M. Allan. Am Concrete Inst Pro 18:
155-61 '22
- What about synthetic brick and tile? *il* Brick
& Clay Rec 62:118-19+ Ja 23 '23

Manufacture

- Concrete brick manufacture. Concrete 23:80-1
Ag '23
- New concrete brick plant at Baltimore. C. M.
Chapman. Concrete 21:176-7 D '22

Specifications

- Report of committee P-1, on standard build-
ing units. Am Concrete Inst Pro 18:303-14
'22

Testing

- Characteristics of concrete brick masonry;
comparison with clay brick. H. A. Davis. *il*
diags plan Concrete 21:10-13 JI '22
- Comparative tests of clay, sand-lime and con-
crete brick masonry. A. H. Beyer and W. J.
Krefeld. *il* Concrete 22:166-72+ My '23
- Concrete block again resists fire. E. W.
Dienhart. *il* Concrete 21:193-5 D '22
- Synthetic versus real brick. W. Carver. *il*
Brick & Clay Rec 61:868-72 D 12 '22
- Tests show differences between clay and con-
crete brick. *il* Eng N 90:959-61 My 31 '23;
Discussion. W. Carver. 90:1137 Je 28 '23

- Concrete bridges. See Bridges, Concrete
- Concrete buildings

See also Concrete construction; Concrete
houses; Garages, Concrete; Roundhouses,
Concrete; Silos, Concrete; Warehouses,
Concrete

Repair and reconstruction

- Reconstruction of a fire damaged reinforced
concrete building. *il* Am Arch 122:419-21 N
8 '22
- Restoring a fire damaged concrete building in
Berlin. *il* *diags* Eng N 89:159-60 JI 27 '22
- Concrete chimneys. See Chimneys, Concrete
- Concrete coal tanks. See Coal tanks, Concrete
- Concrete columns. See Columns, Concrete

Concrete construction

- Atlas handbook on concrete construction.
144p Atlas Portland cement co., New York
'22
- Building Ohio state stadium. C. W. Dair. *il*
diags plans Concrete 20:210-12 My '22
- Chicago building huge public stadium on lake
front. *il* *diags* plans Eng N 90:288-91 F 15
'23
- Cincinnati double-deck terminal for electric
lines. *il* *diags* plans Eng N 89:218-23 Ag 10
'22
- Climax in concrete construction; erecting an
eighteen story reinforced concrete building
at a lower cost than a structural steel type.
R. G. Skerrett. *il* Sci Am 125:A:132-3 D '21
- Concrete boat landings and docks. A. C. Cole.
diags plans Pop Mech 37:467-8 Mr '22
- Concrete bottom for mechanical water filters;
A. L. Gammage. *diags* Eng N 91:430-1 S
13 '23
- Concrete construction. W. W. Clifford. *il* *diag*
Arch Forum 36:177-9; 37:21-4, 147-50, 171-4,
231-4 My, JI, S-N '22
- Concrete construction for architects. D. C.
Pond. 203p Scribner '23
- Concrete frame and exterior for high tower
building. W. J. Knight. *il* *diags* plans Eng
N 90:610-13 Ap 5 '23
- Concrete grain elevator rebuilt at Chicago. *il*
Eng N 89:483-5 S 21 '22
- Concrete in surprising places; the aero-shed.
il Sci Am 129:35 JI '23
- Concrete in the field. W. W. Clifford. *il* Arch
Forum 36:25-8 Ja '22
- Concrete Lion Grotto for the San Diego zoo.
il Concrete 23:88-93 S '23
- Concrete on the farm. 94p Atlas Portland
cement co., New York, Chicago '22

Concrete construction -Continued

- Concrete units for station platforms. diags Eng N 91:151-2 J1 26 '23
- Constructing new 10-story building on and around old 4-story structure; United States National bank building at Denver, Colo. W. H. Wheeler. diags Eng & Contr 58:305-6 S 27 '22
- Construction methods and plant on the Marseilles lock. il diags plans Eng N 89:962-5 D 7 '22
- Construction operation on the Marseilles lock of the Illinois waterway. il Eng & Contr 56:565-7 D 21 '21
- Construction plant and methods on Ohio stadium. W. S. Hindman. il diag Eng N 89:882-3 N 23 '22
- Design and construction of stadiums. C. T. Morris. il diags Am Concrete Inst Pro 19:198-214 '23
- Development of concrete cell structures for oil circuit breakers, bus-bars and disconnecting switches. A. F. MacCallum. il Elec J 19:166-70 Ap '22
- Durant motor plant extension, Leaside, Ontario. il diags plans Can Eng 43:651-5 D 26 '22
- L'église en béton armé du Raincy. C. Dantin. il diags plan Génie Civil 83:1-4, pl 1 J1 7 '23
- Eighteen-story concrete structure; the Hide and leather building, New York. R. C. Gautier. il diag plans Arch Forum 36:101-4 Mr '22
- Few concrete hints. D. R. Van Horn. il diag Bldg Age 44:62-3 My '22
- Flat-slab designs for two railway elevated stations. M. Hirschthal. il diags plans Eng N 90:568-73 Mr 29 '23
- Formless construction using cordwood and concrete. M. B. Lagaard. il Concrete 21:26 J1 '22
- Franklin Field stadium of the University of Pennsylvania. H. T. Campion. Am Concrete Inst Pro 19:215-17 '23
- Grauman's Metropolitan theatre—unusual structural features. il diags plans Concrete 23:107-14 S '23
- Grid flat slab construction. il Concrete 21:103 O '22
- Hangar en béton armé, pour avions, construit pour le Service technique de l'aéronautique, à Villacoublay (Seine-et-Oise). A. Lesage. il diags plan Génie Civil 82:217-20, pl 3 Mr 10 '23
- Hangars à dirigeables en ciment armé en construction à l'aéroport de Villeneuve-Orly (Seine-et-Oise). Freyssinet. il diags Génie Civil 83:265-73, 291-7, 313-19 S 22-O 6 '23
- Highest reinforced concrete buildings. Concrete 19:sup57 D '21
- Holding power of concrete inserts. F. N. Menefee. il diags Concrete 19:182-4 N '21
- How we combined reinforced concrete and mill construction. K. D. Hamilton. Factory 31:608-10+ N '23
- How world's largest swimming tank was built of concrete. il plan Concrete 23:152-3 O '23
- Huge concrete girders and trusses in Grauman's new theater and office building in Los Angeles. R. C. Mitchell. il diags plan Eng N 91:4-9 J1 5 '23
- I-beam construction facilitates concrete slab work. il Ry Age 75:205-6 Ag 4 '23
- Industrial architecture in concrete. C. Gilbert. il Arch Forum 39:83-6 S '23
- International paper company completes power plant on the Hudson. il diags plans Eng N 91:470-6 S 20 '23
- Large open air swimming pool at Camp Dodge, Iowa. L. N. Hintgen. il diags plan Eng N 91:518-19 S 27 '23
- Modern concrete structure replaces old buildings. diags plans Concrete 21:sup90-1 D '22
- Monolithic concrete grain elevator poured in two weeks. il diags Eng N 87:974-6 D 15 '21
- New development in reinforced concrete construction: Truscon-I. il Eng & Contr (Bldgs) 59:1462 Je 27 '23

- Nitrate storage pit of reinforced concrete constructed in record time. il diags plans Concrete 20:170-3 Ap '22
- Precast block and reinforced concrete in Cross Hill reservoir. il Concrete 19:230-1 D '21
- Reaching upward with concrete. N. M. Stine-man. il Sci Am 129:252 O '23
- Rebuilding and fireproofing wrecked elevator. G. F. Paul. il Concrete 21:77-9 S '22
- Reconstruction of grandstand at Chicago ball park. il diags plan Eng N 91:172-4 Ag 2 '23
- Reinforced concrete bath house withstands sulfur vapors. il diags Concrete 22:18-20 Ja '23
- Reinforced concrete coaling plant at Michigan City, Ind. il diags plan Ry R 72:214-19 F 3 '23
- Reinforced concrete for water retaining structures. H. C. Ritchie. Can Eng 43:177-80 J1 25 '22
- Reinforced concrete ribs for roof of seaplane hangar. F. Johnstone-Taylor. diags Concrete 23:147-8 O '23
- Report of the A.R.E.A. committee on masonry. Ry Age 74:626-8 Mr 14 '23
- Report on field tests and methods used in building construction to obtain concrete of specified strength. J. G. Ahlers. il Am Concrete Inst Pro 19:114-24; Discussion. 125-8 '23
- Rock drop constructed of rocks set in concrete. R. S. Stockton. il Concrete 19:179-80 N '21
- Safe walking places. H. W. Mowery. Concrete 19:195-6 N '21
- Speeding up Chicago apartment construction. il Concrete 21:140 N '22
- Surface treatment of monolithic concrete buildings. R. F. Havlik. il diag Concrete 22:173-5 My '23
- University of Kansas stadium. C. C. Williams. Am Concrete Inst Pro 19:218-21 '23
- Waterproofing, joints and drainage in concrete bridge. diags Eng N 88:411-13 Mr 9 '22; Abstract. Concrete 20:100-1 Mr '22
- See also* Arches, Concrete; Barges, Concrete; Boardwalks, Concrete; Bridges, Concrete; Chimneys, Concrete; Coal bins, Concrete; Column footings, Concrete; Columns, Concrete; Concrete—Finishing; Concrete, Reinforced; Concrete blocks; Concrete brick; Concrete buildings; Concrete houses; Concrete lining; Concrete lumber; Concrete mixing; Concrete piling; Concrete placing; Concrete plants; Concrete slabs; Concrete staves; Concrete stone; Concrete; Cribs, Concrete; Culverts, Concrete; Curbs; Dams, Concrete; Fireproof construction; Floors, Concrete; Flumes, Concrete; Garages, Concrete; Gas holders, Concrete; Piers, Concrete; Poles, Concrete; Reservoirs, Concrete; Retaining walls, Concrete; Roofs, Concrete; Roundhouses, Concrete; Sea walls, Concrete; Septic tanks, Concrete; Sewers, Concrete; Ships, Concrete; Silos, Concrete; Stairways, Concrete; Standpipes, Concrete; Tanks, Concrete; Towers, Concrete; Walls, Concrete; Warehouses, Concrete; Water tanks, Concrete; Wharves, Concrete

Cost

- Comparative costs of buildings. Concrete 20:137-8 Mr '22
- Cost figures for reinforced concrete stadiums. Eng & Contr (Ry) 59:1095 My 16 '23
- Cost of reinforced concrete for lighter use buildings. Concrete 23:133-5 O '23
- Cubic foot costs for reinforced concrete buildings. Concrete 23:138 O '23
- Discussion on concrete specifications. N. M. Loney and others. Am Soc C E Pro 48:605-26 Mr '22
- Precast concrete flume on Klamath project. E. C. Koppen. il diags Eng N 90:194-9 F 1 '23
- Reinforced concrete most economical in school construction. diags plans Concrete 23:132, 135-6 O '23
- See also* Concrete construction in mines—Cost; Concrete houses—Cost; Concrete lining—Cost

Concrete construction—Continued

Design

Accurate mechanical solution of statically indeterminate structures by use of paper models and special gages. G. E. Beggs, il diags Am Concrete Inst Pro 13:58-78 '22; Same abr. Am Arch 122:32-6, 69-74 Jl 5-19 '22; Discussion. Am Concrete Inst Pro 13:79-82 '22

Le béton armé et le ciment fondu; construction des ouvrages en béton armé à grande portée. H. Lossier, il diags Génie Civil 80:79-83, pl 3 Ja 28 '22

Calcul et répartition des étriers d'une pièce fléchie en béton armé. A. Taton. Génie Civil 81:220-1 S 2 '22

Calcul général des pièces à deux appuis à encastrement partiel. L. Gellusseau. Génie Civil 80:315-18, 335-9 Ap 8-15 '22

Comparison of concrete groined arches as an aid in their design. P. O. Macqueen. Am Soc C E Pro 48:1665-74 O '22; Same abr. Eng & Contr (W W) 58:91-7 N 8 '22; Discussion. 49:251-7, 575-8 F-Mr '23

Concrete construction. W. W. Clifford, diags Arch Forum 37:171-4 O '22

Danger during construction in too light designs. W. H. Wheeler. Concrete 19:208 N '21

Design features of the University of Kansas stadium. C. C. Williams, il diags plan Eng N 89:790-3 N 9 '22

Design of a reinforced concrete column footing. M. M. Bush. Am Arch 122:422-3 N 8 '22

Design of concrete structures. L. C. Urquhart and C. E. O'Rourke. 450p McGraw-Hill '23

Design of simple reinforced concrete structural members. H. W. Barker, diags Concrete 18:123-5, 169-70, 250-1, 285-7; 19:73-4, 197-9, 238-41 Mr-Je, Ag, N-D '21

Designing chart for reinforced concrete columns. charts Am Arch 122:470-1 N 22 '22

Designing reinforced concrete columns. diags Am Arch 121:109-12 F 1 '22

Discussion on concrete specifications. N. M. Loney and others. Am Soc C E Pro 48:605-33 Mr '22

Do designers use diagrams? C. S. Whitney. Eng N 88:924 Je 1 '22

Exact theory of flexure. C. A. P. Turner, diags Concrete 21:108-11 O '22

Foster unit slab system. diags Concrete 23:29-30 Jl '23

Moments and stresses in slabs. H. M. Westergaard and W. A. Slater, il diags plans Am Concrete Inst Pro 17:415-538 '21; Same. (Reprint & Circ Ser. 32) 124p '21 \$1 National Research Council, 1701 Massachusetts av, Washington, D.C.

New phase of the shear problem in reinforced concrete. E. Godfrey, diags Concrete 20:243-4 Je '22

New type of pre-cast concrete construction. F. M. McCullough, diags Eng & Contr (Bldgs) 60:175-8 Jl 25 '23

Le plancher tronconique en béton armé sous la scène tournante du Grand-Théâtre de Lyon, il diags Génie Civil 82:178-9 F 24 '23

Powder house has unique design. il diags plans Concrete 21:105 O '22

Reinforced concrete beam—design simplified. T. D. Mylrea, diags Can Eng 44:531-4 My 29 '23

Reinforced concrete columns. J. Tucker, jr. Am Soc C E Pro 49:165-239 F '23; Discussion. 49:787-804 Ap '23

Reinforced concrete elevated water tanks. S. R. Ross, diags Can Eng 44:445-50 My 1 '23

Reinforced concrete formulas. diag Am Arch 120:453 D '21

Report of committee E-1, on design. Am Concrete Inst Pro 18:375-82 '22

Simple method of reviewing concrete beams. C. E. O'Rourke, diags Eng & Contr (Bldgs) 59:196-9 Ja 24 '23

Some defects in concrete buildings—their causes and how to minimize by proper design. H. D. Loring. Am Concrete Inst Pro 19:20-3 '23; Same. Concrete 22:148-9 Ap '23; Same. Eng & Contr (Bldgs) 59:929-31 Ap

25 '23; Same. Can Eng 44:503-4 My 15 '23; Same. Eng N 90:216-17 F 1 '23; Discussion. Am Concrete Inst Pro 19:24-6 '23

Stresses in rigid portal frames. E. S. Andrews, diags Eng & Contr 57:303-4 Mr 29 '22

Structure of the house. il diags plans Concrete 22:40-56 F '23

Study of column test data. F. R. McMillan. Am Concrete Inst Pro 17:150-71; Discussion. 172-81 '21

Tentative specifications for concrete and reinforced concrete; design. Am Soc T M Pro 21:242-69, 278-83 '21

Use of diagrams for reinforced-concrete design. E. G. Walker. Eng N 89:758-9 N 2 '22

Utility of modular ratio questioned. H. K. Dyson, diags Can Eng 42:492 My 16 '22

See also Arches, Concrete

Estimates

Estimating the cost of plain concrete work. C. F. Dingman. Concrete 21:112-16 O '22

Measurement of and estimating concrete for contractors and engineers. Am Concrete Inst Pro 19:277-84 '23

Methods of estimating the cost of concrete work. F. R. Walker. Am Concrete Inst Pro 19:156-61 '23; Same. Concrete 22:111-13 Mr '23; Same. Eng & Contr (Bldgs) 59:709-12 Mr 28 '23

Methods of measurement. J. W. Ginder. Am Concrete Inst Pro 19:162-6 '23

Preliminary estimate figures. C. F. Dingman. Concrete 20:163 Ap '22; Same. Eng & Contr 57:623-4 Je 28 '22

See also Concrete construction—Tables, calculations, etc.

Expansion joints

Expansion and construction joints in concrete highway bridges. A. B. Cohen, Eng & Contr 57:614-15 Je 28 '22; Same. Can Eng 43:307 Ag 29 '22; Same. Good Roads 63:68+ Ag 23 '22

Expansion joints in stadium construction. A. M. Korsmo, diags Eng & Contr (Bldgs) 59:706-8 Mr 28 '23; Same. W Soc E J 28:88-90 Mr '23

Failures

Inadequate design causes failure of concrete swimming pool. il diag plan Eng N 91:383 S 6 '23

Nashville concrete bridges show serious deterioration. il diags Eng N 87:934-8 D 8 '21

Tacoma concrete arch rib fails due to laitance at joint. diag plan Eng N 90:355 F 22 '23

See also Concrete slabs—Failures; Culverts, Concrete—Failures

Fire resistance

Cinder block fire tests. il Concrete 21:123-5 O '22; Excerpts. Eng N 89:694 O 26 '22

Concrete block again resists fire. E. W. Dienthart, il Concrete 21:193-5 D '22

Fire resistance of concrete block and brick; a discussion. J. E. Freeman and others. Am Concrete Inst Pro 17:231-43 '21

Fires in formwork in concrete buildings. Eng N 90:1084 Je 21 '23

Floor saves Pennsylvania college building. R. U. Blasingame, il Concrete 21:117 O '22

Germans learn lessons from first concrete building fire. il Eng N 88:795-6 My 11 '22

Lessons in fire-resistance from the Frankford fire. W. A. Hull, il diags plan Am Concrete Inst Pro 17:205-12 '21

Liquified rubber fire wrecks concrete roof. A. B. MacMillan, il diags Eng N 88:158-61 Ja 26 '22

Porite slab partition in lacquer room fire. il Concrete 19:200 N '21

Reconstruction of a fire damaged reinforced concrete building. il Am Arch 122:419-21 N 8 '22

Report of committee on Far Rockaway fire. il diags plans Am Concrete Inst Pro 17:368-411 '21

Report of committee P-5, on fire resistance of concrete building units. Am Concrete Inst Pro 18:255-9 '22; 19:331-59 '23

Concrete construction—Fire resistance—Cont.

Resistance to fire of concrete and reinforced concrete. F. C. Lea and R. E. Stradling. *il diags Engineering* 114:341-4, 380-2 S 15-22 '22

Severe formwork fire. A. R. Lord. *il diags Am Concrete Inst Pro* 19:27-38 '23; Same. *Concrete* 22:113-16 Mr '23; Same, without *il. Eng & Contr (Bldgs)* 59:740-2 Mr '23 '23; Discussion. *Am Concrete Inst Pro* 19:39-40 '23

Bibliography

Committee on Far Rockaway fire. *Am Concrete Inst Pro* 17:412-14 '21

Forms

Analysis of formwork for concrete members in steel building. R. P. Wallis. *charts Eng N* 88:1030-1 Je '22 '22

Collapsible all-steel form for culverts of all sizes. *il Pop Mech* 37:551 Ap '22

Collapsible steel forms for gigantic sewer, Detroit. *il Pop Mech* 36:842-3 D '21

Experience with metal forms for a flat-slab floor. D. Patch. *il diags Eng N* 90:296-8 F 15 '23

Flat and curved flanged steel forms. *il Pub Works* 52:187-8 Mr 11 '22

Floor forms protected in stripping by ropes stretched beneath them. E. F. Clasby. *Eng N* 89:509 S 28 '22

Form for pouring concrete hollow walls in courses. *il Pop Mech* 38:715 N '22

Forms for flat slab floors. G. W. Maker. *diags plan Concrete* 21:48-9 Ag '22

Highway culvert forms standardized. G. C. Habicht. *diags Concrete* 22:177-8 My '23

How to make forms for concrete buildings—beams and girders. W. F. Lockhardt. *il diags Concrete* 20:191-7 Fy '22

How to make forms for concrete buildings—belt courses and cornices. W. F. Lockhardt. *diags Concrete* 21:45-7 Ag '22

How to make forms for concrete buildings—columns. W. F. Lockhardt. *diags plans Concrete* 20:164-9 Ap '22

How to make forms for concrete buildings—flat slabs. W. F. Lockhardt. *diags plans Concrete* 20:239-42; 21:14-16 Je-Jl '22

How to make forms for concrete buildings—footings. W. F. Lockhardt. *diags plan Concrete* 20:56-8 F '22

How to make forms for concrete buildings—stairs. W. F. Lockhardt. *diags Concrete* 22:89-91 Mr '23

How to make forms for concrete buildings—walls. W. F. Lockhardt. *diags Concrete* 20:113-15 Mr '22

Metal forms for building construction. *Concrete* 20:136 Mr '22

New steel forms and continuous mixer on Cleveland house job. *Concrete* 21:165-6 N '22

Pouring concrete under water; barge canal dock walls at Buffalo. *il Sci Am* 126:252 Ap '22

Precast concrete flume on Klamath project. E. C. Koppen. *il diags Eng N* 90:194-9 F 1 '23

Precast concrete form. *diag plan Concrete* 19:248 D '21

Removable steel forms. N. F. Ambrusen. *il Bldg Age* 44:48-9+ F '22

Report of the special committee on the application of metal forms to reinforced-concrete construction. *Am Concrete Inst Pro* 17:292-6; 18:293-302 '21-'22

Sliding steel form for concrete canal lining. *il Pop Mech* 37:535 Ap '22

Special formwork required in setting wharf piers. S. Kent. *diags plan Eng N* 89:344 Ag 31 '22

Traveling forms cut expense in pouring concrete stadium. *il diags Eng N* 87:977-8 D 15 '21

Type of concrete forms depends upon local conditions. T. T. Black. *Concrete* 19:184 N '21

Why steel forms were successful on one concrete job. R. C. Reese. *il diags Eng N* 91:302-5 Ag 23 '23

See also Roads, Concrete—Forms

Inspection

Inspection of concrete construction. J. K. Dickerson. *Good Roads* 63:110+ S 27 '22

Specifications

Department of specifications. *Am Arch* 121:228-30, 320-2+, 399-401, 484-6+; 122:29-31-4, 119-20+, 203-5, 297-9, 381-3+ Mr 15, Ap 12, My 10, Je 7, Jl 5, Ag 2, 30, S 27, O 25 '22

Discussion on concrete specifications. C. T. Morris and others. *Am Soc C E Pro* 48:594-604 Mr '22

See also Bridges, Concrete—Specifications; Chimneys, Concrete—Specifications

Standards

Building codes show great divergence in unit stresses for concrete. *Arch & Bldg* 54:77-8 Ag '22

Report of committee on standard units of design. *Am Concrete Inst Pro* 17:316-21 '21

Tables, calculations, etc.

Abaques pour la détermination des taux de travail dans une poutre rectangulaire en béton armé, soumise à la flexion composée. V. Loup. *Génie Civil* 80:154-7 F 18 '22

Computing stresses in reinforced concrete arches and other structures. A. Bull. *diags Concrete* 19:242-5 D '21

Concrete computation charts. R. T. Dana and J. M. Kingsley. 14p Codex book co., New York '22

Device for spacing reinforcing bars in concrete slabs. W. A. Green. *diag Eng & Contr* 57:625 Je 28 '22

Rapid calculation of ferro-concrete beams. A. Esnouf and L. J. Coutanceau. *diags Engineering* 113:155-7, 193-5, 221-3, 273-4 F 10-Mr 3 '22; Discussion. J. Botin. 113:390 Mr 31 '22

Règle logarithmique, système Rieger, pour le calcul des constructions en béton armé; application au calcul de la flexion composée. J. Rieger. *diags Génie Civil* 81:155-8 Ag 12 '22

Simplified slab design. M. Bernstein. *diags Concrete* 19:216-17 D '21

Utilisation de la règle à calcul ordinaire (types Mannheim et similaires) pour le calcul rapide des pièces minces en béton armé. R. Deguillaume. *Génie Civil* 79:541-2 D 17 '21

L'utilisation d'une règle à calcul pour l'étude des projets de béton armé. R. Deguillaume. *Génie Civil* 82:350-4 Ap 14 '23

Testing

Loading test of a hollow tile and reinforced concrete floor of Arlington building, Washington, D.C. L. J. Larson and S. N. Petrenko. *il diags plan U S Bur Stand Tech Pa* 236:405-44 '23

Concrete construction, Military

Concrete in front line work, 1914-1917. E. C. Eckel. *il Concrete* 20:173-6, 199-200+ Ap-My '22

Concrete construction, Subaqueous

Application of concrete and reinforced concrete to hydraulic work. *Engineer* 136:66 Jl 20 '23; *Engineering* 116:74-6 Jl 20 '23

Building a 9-ft. siphon on the Hetch Hetchy aqueduct. N. A. Eckart. *il diag Eng N* 91:100-1 Jl 19 '23

Casting and sinking cylinders for Ballantyne pier at Vancouver. W. Smaill. *il diags plan Eng N* 90:908-14 My 24 '23

La construction des jetées et appontements en béton armé. *diags Génie Civil* 81:280-1 S 23 '22

Lining a power ditch while in service. *il Eng N* 90:345-6 F 22 '23

Ohio basin dock wall construction at Buffalo. *il Pub Works* 52:221-4 Ap 1 '22

Precast piers and arches for shipping terminal, San Francisco. *il Concrete* 22:241-2 Je '23

Precast units form substructure of Ballantyne pier. *il diag Concrete* 23:61-6 Ag '23

Reinforced concrete piers and marine borers. N. W. Twelvetrees. *Can Eng* 43:574-6 N 28 '22

Concrete construction, Subaqueous—Continued

The St James's park and other London lakes: reconditioning the bottoms. il diag map Engineer 136:60-2 J1 20 '23
Underwater concrete laid by unique system. diags Eng N 89:144 J1 27 '22

Concrete construction in mines

Concrete for mines and mine buildings. B. G. Best. il diags plans Concrete 20:69-70, 117-20, 213-16, 247-53 F-Mr, My-Je '22

Design of a concrete fan housing equally efficient for blowing and exhausting. F. C. Cornet. diags Coal Age 21:960 Je 8 '22
Gunite in metal mines. Eng & Min J 114:890 N 18 '22

Lining a shaft in sixty-foot sections, starting from near top downward, greatly reduces cost. A. F. Brosky. il diags plan Coal Age 21:563-6 Ap 6 '22

Method and cost of building reinforced concrete shaft houses. J. E. Hayden and L. Eaton. il diags plans Eng & Contr 58:297-9 S 27 '22

Present practice in the design and sinking of mine shafts. R. G. Johnson. diags plans Eng Soc W Pa 39:134-53 My '23; Same. Engineering 116:250-2 Ag 24 '23; Same cond. Coal Age 24:397-400 S 13 '23; Discussion. Eng Soc W Pa 39:154-8 My '23

Use of cement and concrete in the underground workings of the North Butte mining company. R. Linton. il diags plans Eng Soc W Pa 38:76-96; Discussion. 97-107 Ap '22

Use of reinforced concrete for pit-head gears. W. L. Scott. il Engineering 115:2-6 Ja 5 '23

Cost

Cost of concreting mining shafts. E. E. Campbell. Eng & Contr 56:466 N 16 '21

Concrete construction in winter

Building a five-span concrete bridge in cold weather. G. F. Scales. il Eng N 89:563 O 5 '22

Building Lake Placid club at 50° below zero. il diag plan Concrete 23:59-60 Ag '23

Cold weather concreting in construction of Hide and leather building, New York. Eng & Contr 58:79 J1 26 '22

Cold weather concreting methods and equipment. diags Eng N 88:196-8 F 2 '22

Concrete bridge completed in cold weather. il Concrete 19:180 N '21

Concrete bridge construction in winter. N. M. Stineman. il Eng & Contr 56:585-6 D 28 '21

Concreting operations in cold weather. il diag Eng & Contr (Bldgs) 58:14-17 O 25 '22

Concreting plant designed for cold weather work. R. P. Wallis. il diags Eng N 90:994-7 Je 7 '23

Concreting with cal in cold weather. Concrete 19:227-8 D '21

Enclosing pier in canvas affords uninterrupted winter work. A. B. Harding. il Eng N 88:481-2 Mr 23 '22

Example of concrete construction in winter weather. il Ry R 73:650 N 3 '23

Fundamentals of cold weather concreting. il Eng & Contr (Bldgs) 60:343-7 O 24 '23

Heat in fresh concrete—winter protection. Concrete 19:227 D '21

Laying concrete road in cold weather. C. Tappan. Eng N 90:266 F 8 '23

Making an early start. H. C. Campbell. il Bldg Age 45:54-5 F '23

Methods of placing concrete in cold weather. A. J. R. Curtis. il Bldg Age 44:39-42 N '22

Practical side of cold weather concreting. diags Eng & Contr 57:83-5 Ja 25 '22

Severe formwork fire. A. R. Lord. il diags Am Concrete Inst Pro 19:27-38 '23; Same. Concrete 22:113-16 Mr '23; Same, without il. Eng & Contr (Bldgs) 59:740-2 Mr 28 '23; Discussion. Am Concrete Inst Pro 19:39-40 '23

Simulating summer conditions for midwinter construction. il Eng N 91:72-3 J1 12 '23

Three ways to build bridges in winter. il Concrete 23:142-3 O '23

Use of calcium chloride. P. Cottringer and H. S. Kendall. Concrete 22:150-5 Ap '23

Winter concrete work on large sewage plant. R. A. Lingley. il Eng & Contr (W W) 59: 823-4 Ap 11 '23

Winter construction of concrete roads; an interview with W. W. Fisher and Joseph Gradison. C. S. Hill. il Eng N 90:1082-4 Je 21 '23

Concrete cornices. See Cornices, Concrete

Concrete culverts. See Culverts, Concrete

Concrete dams. See Dams, Concrete

Concrete finishing. See Concrete—Finishing

Concrete floors. See Floors, Concrete

Concrete flumes. See Flumes, Concrete

Concrete garages. See Garages, Concrete

Concrete guards. See Bridge approaches—Guards

Concrete handling

Hints on haulage of lean mixtures of concrete. C. C. Wiley. Munic Eng 63:245-6 D '22

Special flivver car for charging mixer. Eng & Contr (R & S) 58:7-8 O 4 '22

See also Concrete placing

Concrete houses

Apollo steel co. builds cinder block houses. il diags plans Concrete 20:89-91 F '22

Cambria steel company completes 89 hollow wall houses. E. T. Gray. il diags plans Concrete 20:19-22 Ja '22

Chicago houses by Fellgren system. il plans Concrete 20:207-8 My '22

Commerce dept. investigates concrete houses. J. C. Pearson. Concrete 20:27 Ja '22

Concrete and stucco houses. O. C. Hering. 135p R. M. McBride & co., New York '22

Concrete best for suburban homes. L. C. Thompson. il diags plans Concrete 20:36-8, 140 Ja, Mr '22

Concrete block houses in France. H. J. Harms. il Concrete 20:157-8 Ap '22

Concrete house that is all concrete; large fireproof home. H. F. Tyler. il plans Concrete 22:98-100 Mr '23

Concrete masonry home adjoining the White House. W. F. Lockhardt. il plans Concrete 23:39-41 J1 '23

Concrete tile in house construction. B. E. Brooke. Am Concrete Inst Pro 18:151-4 '22; Same. Concrete 20:105-6 Mr '22

Developments of concrete building units in England. J. T. Stewart. diags Am Concrete Inst Pro 17:112-21 '21

Fireproof concrete houses built economically. il Pop Mech 37:676 My '22

Frost system double wall houses. il Concrete 20:46-7 Ja '22

Group of 26 block houses in Brooklyn. il plans Concrete 21:59-60 Ag '22

Gun-stone house at Watertown, Massachusetts; with cost table. H. W. Brown. il diags plans Am Concrete Inst Pro 18:131-40 '22; Abstract. Concrete 20:102-4 Mr '22

How shall we build our concrete houses?—the small unit. A. J. R. Curtis. il diags plans Concrete 20:3-8, 59-61, 121-4, 181-3, 217-19, 255-7 Ja-Je '22

Hueber brothers' aim isn't cheap houses. il diags plans Concrete 20:39-41 Ja '22

Large concrete block house on Long Island. W. F. Anderson. il plan Concrete 21:53-5 Ag '22

Monolithic concrete architecture. V. H. Wigglesworth. il plans Concrete 21:39-43 Ag '22

Monolithic concrete house construction at Phillipsburg, N.J. P. R. Smith. il Am Concrete Inst Pro 18:141-50 '22

My own concrete house. A. J. R. Curtis. il diags plans Concrete 20:107-12 Mr '22

Needham system employs precast units. il diags plan Concrete 20:44 Ja '22

Needham system of concrete building construction. Eng & Contr 57:616-17 Je 28 '22

New England house of concrete that cannot be told from wood. A. J. R. Curtis. il plans Pop Mech 39:45-8 Ja '23

New Gleason houses have unusual features. il plans Concrete 22:102-3 Mr '23

New kind of cement gun house. Concrete 20:2 Ja '22

1921 progress in the Gleason house development at East Rochester. il diag plans Concrete 20:9-13 Ja '22

Painter system employs large precast units. il diags plans Concrete 20:14-18 Ja '22

Concrete houses—Continued

- Recommended practice for house construction. Concrete 20:101-2 Mr '22
- Reinforced-concrete fireproof construction applied to home building. P. J. Hueber. Am Concrete Inst Pro 18:162-6 '22; Abstract. Concrete 20:104 Mr '22
- Report of committee on concrete houses. Am Concrete Inst Pro 17:302-5 '21
- Report of committee S-5, on reinforced-concrete houses. Am Concrete Inst Pro 18:243-7; Discussion. 248-9 '22
- 7 years' experience building concrete houses. F. F. Wilson. il Concrete 20:26-7 Ja '22
- Shooting houses from a gun. C. Gaines. il Pop Mech 37:361-2 Mr '22
- Small concrete houses at Rochester, N.Y.; with discussion. K. Gleason. Am Concrete Inst Pro 18:124-30 '22
- Structure of the house. il diags plans Concrete 22:40-56 F '23
- Thirteen year test of a concrete house. P. Sellers. il plan Concrete 22:95-6 Mr '23
- Thomas precast unit system. il diag Concrete 22:78-9 F '23
- Thoughts on concrete houses. J. C. Pearson. Am Concrete Inst Pro 19:167-77 '23; Same. Concrete 22:64-8 F '23
- Three plans for concrete block houses. il plans Concrete 23:115-16 S '23
- See also Concrete construction; Floors, Concrete

Bibliography

- Concrete house construction. Am Concrete Inst Pro 16:220-9 '20

Cost

- Cost of Morrill type concrete houses in France. il Concrete 20:209 My '22

Concrete lining

- Canal concrete-lined without dewatering. il Pop Mech 39:574-6 Ap '23
- Concrete-lined metal pipes. il Engineer 135: 531-2 My 18 '23
- Concrete tunnel lining poured through well holes; C. B. & Q. R. R. diag Eng N 90:458 Mr 8 '23
- Concreting Liberty highway tunnels. il Pub Works 53:198-200 O '22
- Controlling quality of 400,000 cu. yds. of concrete in the Queenston-Chippewa development. R. B. Young. il Concrete 21:3-6 Jl '22
- Lining a creek with concrete. il Sci Am 126: 111 F '22
- Lining a power ditch while in service. il Eng N 90:345-6 F '22 '23
- Lining coal bunkers with concrete. C. M. Daily. il Eng N 90:966 My 31 '23
- Lining Queenston-Chippewa power canal. R. B. Young. il diags Concrete 21:141-3 N '22
- Lining the St Paul pass tunnel. C. F. Urbutt and S. H. George. Ry R 69:872-5 D 24 '21; Same. Eng & Contr 57:66-8 Ja 18 '22
- Paving a 34-degree slope with concrete. A. C. D. Blanchard. il Concrete 22:125-8 Ap '23
- Placing 410,000 cu. yd. of concrete on Ontario's Niagara power development. A. C. D. Blanchard and R. B. Young. il diags plan Eng N 88:554-9, 613-15 Ap 6-13 '22
- Precast concrete units used for relining railroad tunnels. il Eng N 90:669-70 Ap 12 '23
- Small tunnels lined with precast concrete ribs. il Eng N 89:1119 D 28 '22
- Steel pipe concrete jacketed and concrete lined for Catskill aqueduct. il Min & Met 188:29-30 Ag '22
- Thin concrete lining successful in irrigation canals. R. C. E. Weber. il Eng N 88:436-7 Mr 16 '22

See also Cement gun; Concrete construction in mines; Concrete placing; Gunite

Cost

- Economy of concrete for irrigation canal linings. R. C. E. Weber. il Concrete 23:158-9 O '23; Same. Eng & Contr (W W) 60:539-41 S 12 '23

Concrete lumber

- California concrete lumber. il diags Concrete 21:122 O '22

- Two types of concrete lumber. F. B. Howe. il Pop Mech 38:100-2 Jl '22

Concrete mixers

- Aero mixer. il diags Engineering 113:515-18 Ap 28 '22
- Archer Ford concrete mixer. il Eng & Contr (R & S) 58:60 O 4 '22; Pub Works 53:sup21 O '22
- Archer junior concrete mixer. il Eng & Contr 57:187 F '22 '22
- Cheap concrete mixer. W. S. Betts. diags Pop Mech 38:458-60 S '22
- Concrete machinery. il Pub Works 54:9-11 Ja '23
- Concrete mixers and mixing. F. S. Besson. il Pub Works 54:46-8, 90-1 F-Mr '23
- Discharge and tower chutes operated by elevator bucket. diag Eng & Contr 57:623 Je 28 '22
- How to select, install and operate a concrete mixer. Pub Works 51:418-20, 435-7 N 26-D 3 '21
- Mixer performance on Illinois road work in 1921. il Eng N 89:193-4 Ag 3 '22
- Mixers on city paving work charged by batch-box method. T. W. Dieckman. diags Eng N 87:830 N 17 '21
- New developments in concrete mixing. diag Eng & Ind Management 7:441-2 My 18 '22
- New steel forms and continuous mixer on Cleveland house job. Concrete 21:165-6 N '22
- New type continuous concrete mixer. Eng N 88:274 F 16 '22
- 1923 improvement in mixer construction. il Eng & Contr (Bldgs) 59:1458 Je 27 '23
- Paving contractors endorse 13-E mixer. Eng N 91:535 S 27 '23
- Road material preparing plant. il diags Engineering 115:682-3 Je 1 '23
- Smith 375 tilting mixer. il Eng & Contr (Bldgs) 59:967 Ap 25 '23
- Truck mixes concrete on way to work. il Pop Mech 36:847 D '21
- Two-wheel concrete mixer of extreme portability. il Pop Mech 38:558 O '22
- See also Paving mixers

Standards

- Concrete mixer conference discusses standards. Eng N 91:36-7, 120, 160, 244, 324-5 Jl '5, 19-26, Ag 9, 23 '23; Good Roads 65:43-4 Ag 1 '23

Testing

- Tests of a concrete mixer. W. K. Hatt. il diag chart Am Concrete Inst Pro 17:47-67; Discussion. 68-72 '21

Concrete mixing

- Action of sea water on concrete structures; committee report presented to the American concrete institute. Eng & Contr (Bldgs) 59: 495-503 F '23 '23
- Action of sugar juices on concrete. E. J. Ochs. Concrete 22:161-2 Ap '23
- Analysis of tests on effect of hydrated lime in concrete made at Lewis institute. T. B. Shertzer. Am Soc T M Pro 22 pt 1:269-83; Discussion. 292-307 '22
- Comparison of the results of the slump test and the flow table in the measurement of the consistency of concrete. W. L. Schwalbe. Am Soc T M Pro 21:983-7 '21; Excerpts. Eng & Contr 56:79 Jl 27 '21; Discussion. Am Soc T M Pro 21:988-94 '21
- Concrete construction; mixing and placing of concrete. W. W. Clifford. Arch Forum 37: 21-4 Jl '22
- Concrete is automatically proportioned by weight. il Pop Mech 37:387 Mr '22
- Concrete materials proportions. R. W. Crum. Can Eng 45:395 O 9 '23
- Consistency of mix in concrete. D. A. Abrams. Can Eng 45:355-6 S 25 '23
- Cooperative tests on effect of hydrated lime on concrete mixtures. Am Soc T M Pro 21:294-301; Discussion. D. A. Abrams. 302-14 '21
- Design of concrete mixture without use of Abrams' tables. H. C. Boyden. Eng & Contr 58:91-3 Jl 26 '22
- Design of concrete mixtures. F. S. Besson. il Concrete 22:10-18 Ja '23

Concrete mixing—Continued

- Determining the amount of water to use for concrete. Bldg Age 44:29 D '22
- Discussion on concrete specifications. E. Klapp and others. Am Soc C E Pro 48:657-74 Mr '22
- Effect of hydrated lime on strength and flow of concrete. H. C. Berry. Am Soc T M Pro 22 pt 1:290-1 '22
- Effect of hydrated lime on the strength and flow of concrete. W. E. Emley. Am Soc T M Pro 22 pt 1:284-7 '22
- Effect of sugar in concrete mix. M. Lora. Concrete 22:160-1 Ap '23
- Field tests to determine proportions for concrete. S. Walker. Am Concrete Inst Pro 18:182-90 '22
- Hot water mix in warm weather. Concrete 23:127 S '23
- Method for measuring sands in an inundated condition. R. L. Bertin. diag. plans Am Soc T M Pro 22 pt 2:404-7 '22
- New device for accurately and uniformly proportioning batches. il Eng & Contr 57:29 Ja 4 '22
- Nouveaux procédés de mélange des matériaux et des liants dans la fabrication du béton et des pierres artificielles. R. Marc. diag. Génie Civil 81:277-9 S '23 '22
- Proper mixture for alkaline conditions. Concrete 21:121 O '22
- Proportioning concrete mixtures. D. A. Abrams. Am Concrete Inst Pro 18:174-81 '22
- Proposed method of estimating the density and strength of concrete and of proportioning the materials by the experimental and analytical consideration of the voids in mortar and concrete. A. N. Talbot. Am Soc T M Pro 21:940-67 '21; Same abr. Eng & Contr 56:306-12 S '23 '21; Same cond. Eng N 87:147-52 Jl 28 '21; Discussion. Am Soc T M Pro 21:968-75 '21
- Quality control in concrete products plants. S. Walker. Am Concrete Inst Pro 19:88-99 '23
- Rich mix strengthens concrete. Can Eng 45:367-8 O 2 '23
- Slump test for measuring consistency of concrete. il diag Eng & Contr (Bldgs) 59:1421-2 Je 27 '23
- Some fallacies in concrete proportioning theories. G. M. Williams. Can Eng 43:416-19 O 3 '22; Discussion. 43:628; 44:175-6 D 12 '22, Ja 23 '23
- Strength specifications used for large concrete bridge. J. B. Huntley. il diag. plan Eng N 91:586-90 O 11 '23
- To avoid variable concrete due to variable sand wetness. R. L. Bertin. Eng N 88:1047 Je 22 '22
- To mix good concrete. B. Smith. Eng N 89:578 O 5 '22
- Workability of concrete mixtures. J. C. Pearson and F. A. Hitchcock. diag Eng & Contr (Bldgs) 60:379-88 Ag 22 '23
- See also Concrete—Aggregate; Concrete mixers; Concrete plants; Sand—Measurement

Central plants

- Central mixing plant for city work. E. E. Bauer. il Eng & Contr (R & S) 59:975-6 My 2 '23
- Central mixing plant used in widening macadam road with 3-ft. shoulders. L. A. Rein-dollar. Eng N 90:85 Ja 11 '23
- Central plant mixed concrete tested for maximum safe haul. Pub Roads 4:22-3 D '21; Same. Eng & Contr 57:101-2 F 1 '22; Same. Good Roads 62:148-9 Mr '22
- Electrically operated central mixing plant. il Eng & Contr (Equip R) 60:883-4 O 31 '23
- Haulage of concrete from central mixing plants. Eng & Contr 57:536 Je 7 '22
- Haulage of lean mixture of concrete. C. C. Wiley. Eng & Contr (R & S) 59:986 My 2 '23
- Mixing and delivering concrete for city pavements. F. S. Besson. il plan Concrete 22:137-40 Ap '23
- Using the flow table in central mixing for concrete roads. G. M. Williams. Eng N 87:993-4 D 15 '21

Concrete pavements. See Pavements, Concrete

Concrete piers. See Piers, Concrete

Concrete piling

- Bignell reinforced concrete jet pile. il diag plan Ry R 70:527-30 Ap 15 '22
- Building Brooklyn bridge pier. il Pub Works 53:266-8 D '22
- Concrete—boring molluscs. il Eng & Contr (Ry) 59:1396-7 Je 20 '23
- Concrete pile. G. P. Morrill. il Concrete 20:229-33 Je '22
- Coney's board walk supported on concrete piles. il Concrete 22:21-2 Ja '23
- Cutting concrete piles with dynamite. S. Gordon. il Eng & Contr (Ry) 60:339 Ag 15 '23
- Divers work in cavities of big concrete piles. il Pop Mech 38:554 O '22
- Driving 250-ft. piles for Hudson river tunnel shaft. il diag. plans Eng N 90:242-8 F 8 '23; Abstract. Engineering 115:266-7 Mr 2 '23
- Foundation and scour protection of Cahokia power station on Mississippi river. il diag. plans Eng N 90:219-21 F 1 '23
- Handling and driving precast concrete piles in railway work. Eng N 89:896-7 N 23 '22
- How to handle concrete piles 80 feet long. diag. Pub Works 52:408-10 Je 3 '22
- Mollusk borer attacks concrete pile protection. il Ry R 72:690-4 Ap 21 '23
- Pile holes blasted for ocean pier. H. H. Braun. diag. Eng N 87:1035 D 22 '21
- Pile jetting tests show unusual results. il Ry Age 72:1281-2 Je 3 '22
- Precast concrete piles. P. Kircher. il Concrete 22:181-2 My '23
- Pulling concrete piles at the Galveston causeway. il Eng N 89:756-7 N 2 '22
- Quay wall reconstruction at Mare Island navy yard. E. W. Earl. il diag. plan Eng N 91:397-9 S 6 '23
- Ravier system of sheet piling. il diag. Engineer 136:132-3 Ag 3 '23
- Reinforced concrete boards for canal revetments. H. J. Harms. il diag. Concrete 23:30-2 Jl '23
- Rock boring mollusks attack concrete pile jackets. C. A. Kofoid and R. C. Miller. il Eng N 90:499-500 Mr 15 '23; Discussion. 90:635-6, 894 Ap 5, My 17 '23
- Timber serves as line and grade in jetting piles into place. il Eng N 89:145 Jl 27 '22
- Wood borers increase activity over large area; progress report of Marine piling survey. Ry Age 74:1159-60 My 12 '23

Concrete pipes. See Pipes, Concrete

Concrete placing

- Advantages in applying cement mortar under pressure. Eng & Contr 57:578 Je 14 '22
- Chuting vs. wheeling. Concrete 20:132-4 Mr '22; Excerpt. Eng & Contr 57:402-3 Ap 26 '22
- Concrete train places 25 signal foundations a day. il Ry Age 75:542 S 22 '23
- Discussion on concrete specifications. C. T. Morris and others. Am Soc C E Pro 48:594-604 Mr '22
- Handling concrete with railway motor cars in track elevation work at Aurora. il Eng & Contr (Ry) 59:1120 My 16 '23
- New method of placing concrete in subway construction. G. Murgatroyd. diag Eng & Contr 56:453-4 N 16 '21
- Placing concrete by several methods on same job. il plan Eng N 89:526-7 S 28 '22
- Placing concrete with belt. il Concrete 21:127 O '22
- Placing concrete with belt conveyor. il Eng & Contr (Ry) 60:795-6 O 17 '23
- Placing 410,000 cu. yd. of concrete on Ontario's Niagara power development. A. C. D. Blanchard and R. B. Young. il diag. Eng N 88:554-9 Ap 6 '22
- Pneumatic concreting of a Swiss power tunnel. il diag Eng & Contr (W W) 58:77-9 N 8 '22
- Portable plant used in replacement of pipe line sills and cradles. il Eng N 90:269 F 8 '23
- Traveling tower places bridge concrete. A. E. Whillock. il diag Concrete 22:228-30 Je '23
- See also Concrete plants

Concrete placing—Continued**Patents**

Court denies infringement of chuting apparatus. Eng N 89:162-3 Jl 27 '22

Concrete plants

Aerial tramways serve mixing plant at Gilboa dam. C: K. Traber. il plan Eng N 89:604-6 O 12 '22

Central mix road job in Iowa. T. W. Ingemanson. il plans Concrete 19:187-8 N '21

Central mixing plant on road contract at Colorado Springs. il Good Roads 62:202 Ap 5 '22

Chuting vs. wheeling. Concrete 20:132-4 Mr '22; Excerpt. Eng & Contr 57:402-3 Ap 26 '22

Concrete plant for Springfield bridge. il Pub Works 52:449-51 Je 17 '22

Concreting plant designed for cold weather work. R: F. Wallis. il diags Eng N 90: 994-7 Je '23

Construction methods at Laurel Road dam, Stamford, Conn. D: Bonner, jr. il Eng & Contr (W W) 60:745-50 O 10 '23

Fast loading of motor trucks speeds road work. il diag plan Eng N 88:525-6 Mr 30 '22

Homemade paver-charging equipment. il Pub Works 52:147 F 25 '22

Manufacturing methods and concrete structures; principles of waste saving applied in the erection of Don Pedro dam. il J Elec 49:97-8 Ag 1 '22

Mixing and placing 50,000 yards of concrete. il diag Pub Works 52:160-1 Mr 4 '22

Mixing plant operated at low cost. J. C. Weston. il diag plan Concrete 19:172-3 N '21

Movable mixing, elevating and chuting concreting units. diags Eng & Contr (Bldgs) 60:682 S 26 '23

Multiple-batch charging plant for truck haulage. il Eng N 88:74-5 Ja 12 '22

Novel construction features on 279-ft. Don Pedro dam. R. M. Beanfield. il diags plan Eng N 88:896-900 Je 1 '22

One-man mixers and bulk cement on 105,000 yard job. H. L. Muchemore. il Concrete 20: 66-8 F '22

Portable road building outfit. il Eng & Contr (R & S) 56:130-2 D 6 '22

Report of committee C-1, on contractors plant. Am Concrete Inst Pro 19:360-75 '23; Same. Concrete 22:156-9 Ap '23; Same. Eng & Contr (Bldgs) 59:932-8 Ap 25 '23

Unusual plant used in Hetch Hetchy dam construction. C: W. Geiger. il Concrete 21: 75-6 S '22

See also Concrete construction; Concrete mixers; Concrete placing; Concrete products plants; Pipes, Concrete—Manufacture

Layout

Plant layout—saving of 36% equipment cost. R: P. Wallis. diags Concrete 21:138-40 N '22; Same. Eng & Contr (Bldgs) 58:20-3 O 25 '22

Report of special committee on contractors plant. diags plans Am Concrete Inst Pro 17: 335-59; Discussion. 360-7 '21

Concrete poles. See Poles, Concrete

Concrete post caps. See Post caps, Concrete

Concrete posts. See Posts, Concrete

Concrete products

Concrete products, their manufacture and use. W. R. Harris and H. C. Campbell. 282p International trade press, Chicago '21 Government report on products business. Concrete 21:22 Jl '22

Quality control in concrete products plants. S. Walker. Am Concrete Inst Pro 19:88-99 '23

Some basic problems of products makers. Concrete 20:258 Je '22

See also Concrete blocks; Concrete brick; Concrete staves; Concrete tile; Pipes, Concrete

Concrete products plants

Analysis of a products plant's possibilities. il Concrete 19:189-90 N '21

Barriball plants in Cleveland. il Concrete 20: 63-4 F '22

Big business in concrete specialties. il Concrete 21:82-5 S '22

Diversified manufacture for products plants. M. Hanson, pseud. Concrete 20:201-2 My '22

Products plant investment, production and profit. M. Hanson, pseud. Concrete 20: 125-6 Mr '22

Report of committee P-6, on concrete products plant operation. diags plans Am Concrete Inst Pro 18:260-76 '22

Accounting

Cost accounting in products manufacture. M. Hanson, pseud. Concrete 20:235-8; 21:33-6, 66-8; 22:201-4 Je-Ag '22, My '23

Report of committee P-6, on concrete product plant operation. Am Concrete Inst Pro 19: 403-13; Discussion. 414-19 '23

Cost of operation

Winter operation of products plants—extra profits. C: L. Bourne. diag Concrete 23:150-2 O '23

Layout

Suggested layouts for products plants—detailed data on curing. Concrete 20:149-54 Ap '22

Concrete proportioning. See Concrete mixing

Concrete research

Report on committee E-3, on research. Am Concrete Inst Pro 18:198-219 '22

Concrete reservoirs. See Reservoirs, Concrete

Concrete roads. See Roads, Concrete

Concrete roundhouses. See Roundhouses, Concrete

Concrete safes. See Safes, Concrete

Concrete sewers. See Sewers, Concrete

Concrete ships. See Ships, Concrete

Concrete sidewalks. See Sidewalks, Concrete

Concrete slabs

Analysis of two-way flat slabs. E. F. Rockwood. diags Arch Forum 39:21-2 Jl '23; Same. Eng & Contr (Bldgs) 60:155-7 Jl 25 '23

Bates road test develops new slab design in Illinois. diags plan Eng N 90:79 Ja 11 '23

Bridge slabs waterproofed before erection. H. B. Glisson. il diags Ry Age 72:873-5 Ap 8 '22

Car track zone paved with precast concrete slabs. il Eng & Contr (Ry) 58:30-1 N 15 '22

Concrete road built of precast slabs as experiment. il Eng N 91:711-12 N 1 '23

Concrete slab highway grade crossings. il Eng & Contr (Ry) 60:590-2 S 19 '23

Concrete slab quantity table. C: F. Dingman. Concrete 19:196 N '21

Concrete slab supports for Chicago union station tracks. il diag Eng & Contr (Ry) 60: 611-13 S 19 '23

Concrete slab track support, new union station Chicago. il diags plans Ry R 72:539-44 Mr 24 '23; Discussion. 72:629 Ap 7 '23

Construction of a pre-cast concrete slab bridge at Central street, Lowell. S. S. Kent. il Boston Soc C E J 9:213-22 N '22; Same. Eng & Contr (Bldgs) 58:65-71 N 22 '22

Design of simple reinforced concrete structural members. H. W. Barker. diags Concrete 19:73-4, 197-9 Ag, N '21

Diagonal reinforcement sometimes desirable in concrete slabs. Bldg Age 45:61 My '23

Diagram for designing tunnel roof slabs. R: P. Wallis. Eng N 90:970 My 31 '23

Flat-slab designs for two railway elevated stations. M. Hirschthal. il diags plans Eng N 90:568-73 Mr 29 '23

Flat slab structure carries track elevation. A. W. Newton. il diags plan Concrete 21: 200-1 D '22

Foster unit slab system. diags Concrete 23: 29-30 Jl '23

How to make forms for concrete buildings—flat slabs. W: F. Lockhardt. diags plans Concrete 20:239-42; 21:14-16 Je-Jl '22

I-beam construction facilitates concrete slab work. il Ry Age 75:205-6 Ag 4 '23

Jointed concrete pavement in New York state. diags plans Eng N 88:918-19 Je 1 '22

Concrete slabs—Continued

- Light weight cement slabs that take the place of lumber in building operations. *il* Sei Am 129:93 Ag '23
- Manufacture and application of lightweight concrete slabs. A. G. Wikoff. *il* Chem & Met Eng 28:975-6 Je 4 '23
- Method of constructing pre-cast concrete slab bridge floor. H. W. Woodill. *il* Eng & Contr (R & S) 59:756 Ap 4 '23; Abstracts. Eng N 90:823 My 10 '23; Pub Works 54:225-6 Jl '23
- Method of constructing precast concrete slab pavement for Wyoming highway. Z. E. Severson. *il* Eng & Contr 57:329 Ap 5 '22
- Moments and stresses in slabs. H. M. Westergaard and W. A. Slater. *il* diags plans Am Concrete Inst Pro 17:415-538 '21; Same. (Reprint & Circ. Ser. 32) 124p '21 \$1 National Research Council, 1701 Massachusetts av, Washington, D.C.
- Needham system employs precast units. *il* diags plans Concrete 20:44 Ja '22
- Painter system employs large precast units. *il* diags plans Concrete 20:14-18 Ja '22
- Paving slab and subgrade studies in Illinois. C. Older. *il* diags Eng N 88:80-3 Ja 12 '22
- Porete slab partition in lacquer room fire. *il* Concrete 19:200 N '21
- Precast concrete slab road after fourteen months' use. *il* Eng N 89:516 S 28 '22
- Reinforced concrete slab railroad crossings. O. A. Seward, jr. *il* Eng & Contr (R & S) 55:34 O 4 '22
- Relation of bar spacing to strength and stiffness. C. A. P. Turner. diags Concrete 19:219-20 D '21
- Simplified slab design. M. Bernstein. diags Concrete 19:216-17 D '21
- Some experiences with thin concrete slabs. J. V. Schaefer. *il* Am Concrete Inst Pro 17:40-6 '21
- Thin concrete revetments on the Sacramento river. *il* Eng N 90:1002 Je 7 '23
- Thirteen-ton concrete slab moved to repair reservoir floors. *il* Eng N 89:309 Ag 24 '22
- Two treatments of flat slab viaduct construction. Ry Age 75:423-4 S 8 '23

Failures

- Concrete roof-slab failure. E. G. Friedrich. Eng N 90:704 Ap 19 '23

Testing

- Effect of repeated loads on concrete slabs. R. E. Crepps. Eng & Contr (R & S) 60:209-12 Ag 1 '23; Abstract. Eng N 91:142-3 Jl 26 '23
- Test of a flat-slab floor of the new Channon building. H. F. Gonnerman and F. E. Richard. *il* diags Am Concrete Inst Pro 17:182-204 '21
- Concrete stave silo association.** National. See National concrete stave silo association
- Concrete staves**
- Coal pockets of concrete staves. *il* Concrete 22:186 My '23
- Stave strength and quality. Concrete 20:205 My '22
- Concrete stone**
- Interesting case of dangerous aggregate. J. C. Pearson and G. F. Loughlin. *il* Am Concrete Inst Pro 19:142-54 '23; Same. Concrete 22:144-7 Ap '23; Discussion. Am Concrete Inst Pro 19:155 '23
- Precast stone trim produced for Baltimore refinery. J. R. Sharp. *il* Eng N 87:1027-8 D 22 '21

See also Concrete blocks

Concrete stoves

- Park stoves. diags Concrete 20:267 Je '22

Concrete surfaces. See Concrete—Finishing**Concrete tanks.** See Tanks, Concrete**Concrete ties.** See Railroad ties, Concrete**Concrete tile**

- Acme tile has a local success in New Jersey. *il* Concrete 19:201-2 N '21
- Building unit progress in Southern California. *il* Concrete 21:86-7 S '22
- Colored cement floor tiles. E. L. Heidenreich. Concrete 19:191-2 N '21

- Concrete roof tile in Europe. *il* Concrete 19:234 D '21
- Concrete tile in house construction. B. E. Brooke. Am Concrete Inst Pro 18:151-4 '22; Same. Concrete 20:105-6 Mr '22
- Precast tiles make for economical building. *il* Pop Mech 39:838 Je '23
- Small units in house building. A. J. R. Curtis. *il* Concrete 20:255-7 Je '22
- Spanish cement tile industry. F. A. Henry. Concrete 23:98-9 S '23

See also Drain tile

Manufacture

- Automatic roof tile machines. *il* Concrete 19:203-4 N '21
- How to make concrete roof tile. diags Concrete 23:120-1 S '23
- How to make concrete tile. H. Lindquist. *il* Pop Mech 38:779-80 N '22
- Manufacture of concrete roofing tile. Am Concrete Inst Pro 19:271-6 '23

Standards

- What strength for block, brick and tile. Concrete 20:129-30 Mr '22

Testing

- Testing roof tile for higher quality. *il* Concrete 21:129 O '22
- Concrete tombstones.** See Tombstones, Concrete
- Concrete walls.** See Walls, Concrete
- Concrete wharves.** See Wharves, Concrete
- Concreteing**
- Concreteing steel water pipe in California. R. W. Whitaker. *il* Concrete 22:91-2 Mr '23
- Damming water in the Star crosscut. Eng & Min J 113:871 My 20 '22

Condensation, Chemical

- Condensation of aromatic *o*-amino-sulphonic acids with isocyanic acid. J. R. Scott and J. B. Cohen. Chem Soc J 121:2034-51 O '22
- Condensation of certain nitriles and various poly-hydroxyphenols to form phenolic acids. W. D. Langley and R. Adams. Am Chem Soc J 44:2320-30 O '22
- Condensation of diphenic anhydride with resorcinol. F. Bischoff and H. Adkins. Am Chem Soc J 45:1030-3 Ap '23
- Condensation of phenols with the hydrochlorides of cyanamides and carbodi-imides, and its relation to the Hoesch reaction. W. F. Short and J. C. Smith. Chem Soc J 121:1803-8 S '22
- γ -oxalyl derivatives of $\beta\beta$ - and $\alpha\beta$ -dimethylacrylic acids. L. Higginbotham and A. Lapworth. Chem Soc J 123:1325-32 Je '23
- Intermolecular condensation of methyl ethyl ketone in the presence of calcium carbide. O. Becker and J. F. Thorpe. Chem Soc J 121:1303-6 Jl '22
- Production of imido thiol esters by the condensation of thiocyanates with resorcinol or phloroglucinol. R. J. Kaufmann and R. Adams. Am Chem Soc J 45:1744-52 Jl '23
- Some condensation reactions with para-*para*-bis (dimethylamino)-benzohydrol (Michler's hydrol). M. T. Bogert and A. Ruderman. Am Chem Soc J 44:2612-21 N '22
- Sulfo-essigsäure als kondensationsmittel; isoacetovanillon. W. Schneider and E. Kraft. Deutsche Chem Gesell Ber 55:1892-9 Je '22
- Über die kondensation von α -halogen-ketonen mit aldehyden. K. H. Bauer and F. Werner. Deutsche Chem Gesell Ber 55:2494-2500 S '22

See also Michael reaction

Condensation, Physical

- Condensation of vapor from mixtures of vapors and noncondensable gas. B. F. Dodge. J Ind & Eng Chem 14:1062-6 N '22
- Condensation return pumps.** See Steam heating—Return systems
- Condensed milk.** See Milk, Condensed
- Condensers, Ammonia.** See Ammonia condensers
- Condensers (electricity)**
- Automatic control of synchronous condensers. D. W. Ellyson. *il* diags Elec R 79:843-6 D 3 '21

Condensers (electricity)—Continued

- Automatic synchronous condenser station to insure good voltage regulation. R. J. Wensley and W. L. Newmeyer. *il diags map Elec W 82:373-6 Ag 25 '23*
- Auxiliary condensers and loading coil used with simple homemade radio receiving outfits. *diags U S Bur Stand Circ 137:1-19 '23*
- Charging transmission lines. A. W. Copley. *Elec W 82:426-7 S 1 '23*
- Dielectric stresses in static condensers for power-factor correction. R. E. Marbury and A. L. Atherton. *il Elec J 26:334-7 S '23*
- Improvement of power factor. G. Kapp. *Inst E E J 61:92-3 Ja '23; Same. Engineering 114:660 N 24 '22*
- Individual condensers at motor for reducing power-factor loss. J. L. Merrill. *Elec W 78:1029 N 19 '21*
- Line regulation and power factor correction. C. W. Bates. *Elec W 81:966 Ap 28 '23*
- Power-factor correction by the use of synchronous condensers. C. W. Bates. *Elec W 82:117-19 Jl 21 '23*
- Power-factor correction with static condensers. C. W. Bates. *Elec W 81:739-41 Mr 31 '23*
- Static condenser table for correcting power factors of motors. J. L. Merrill. *Elec W 79:637 Ap 1 '22*
- Static condensers; abstract. C. Marmy. *Elec W 81:818 Ap 7 '23*
- Static condensers for power-factor correction. R. E. Marbury. *il Elec J 26:334-7 S '23; Same. Power Pl Eng 27:280-1 Mr 1 '23*
- Synchronous condensers for voltage regulation. E. V. Smith. *il diags Elec J 26:281-3 Ag '23*
- Theory of energy loss in a pair of leaky condensers in series. *Ann Inst E E J 41:445-4 Je '22*
- Variation with frequency of the power loss in dielectrics. H. J. MacLeod. *il diags Phys R 21:53-73 Ja '23*
- Waterwheel generators and synchronous condensers for long transmission lines. M. W. Smith. *il diags Am Inst E E J 42:894-903 S '23*
- Condensers (steam)**
- British engineers investigate corrosion of condenser tubes. *Power 55:560 Ap 4 '22*
- Condenser air leakage measured at vacuum pump discharge. B. C. Sprague. *diag Power 55:166-7 Jl 31 '23*
- Condensers maintaining a high state of efficiency. *diags Power Pl Eng 26:57-61 Ja 1 '22*
- Condensing equipment at Gennevilliers. R. H. Andrews. *Power 56:162 Ag 1 '22; Discussion. D. W. R. Morgan. 56:389 S 5 '22*
- Condensing plant for 20,000-kw. turbine at Shanghai. *il diags Engineering 116:494-6. 498 O 19 '23*
- Corrosion and protection of condenser tubes; abstracts. G. D. Bengough. *Engineer 133:266 Mr 10 '22; Engineering 112:302-3 Mr 10 '22; Discussion. Engineer 133:295-6 Mr 17 '22; Engineering 112:303 Mr 10 '22*
- Determining quantity of condensing water required. E. C. Miller. *Power 58:253 Ag 14 '23*
- Development of condensing plant and auxiliaries. J. H. Shaw. *il diags Electrician 88:784-7 Je 30 '22*
- Developments in power station design. *il diags Engineer 133:347-50. 457-9. 463. 529-32. 574-8. 683-5 Mr 31. Ap 28. My 12. 26. Je 23 '22; Abstract (Condenser doors). Mech Eng 44:534 Ag '22*
- Discussion of vapor-refrigerating condensers for steam turbines. F. C. Evans. *diags Sibbey J 36:175-7+ D '22; Abstract. Power 57:74 Ja 9 '23*
- Effect of suction level of jet condenser on pumping cost. *diag Power 55:392. 512-14 Mr 7. 28 '22*
- Efficiency ratio for surface condensers. P. A. Bancel. *Power 55:814-15 My 23 '22*
- Further studies in season-cracking and its prevention in condenser tubes. H. Moore and S. Beckinsale. *il Engineering 113:337-40 Mr 17 '22; Abstract. Engineer 133:325 Mr*

- 24 '22; Abstract. Power Pl Eng 26:461-2 My 1 '22; Discussion. Engineering 113:317-18 Mr 17 '22; Engineer 133:325 Mr 24 '22
- Gaseous fluid ejector. H. A. Hepburn. *Engineer 134:401-2. 429-30 O 20-27 '22; Discussion. 134:505. 524 N 10-17 '22*
- Heating with condenser circulating water. J. E. Williams. *il diags Am Soc Heat & V E J 29:399-406 Jl '23*
- Ingersoll-Rand surface condenser. *diags Eng & Contr 57:51 Ja 11 '22; Marine Eng 27:135-6 F '22; Power Pl Eng 26:292-3 Mr 1 '22*
- Interpretation of surface-condenser readings. B. C. Sprague. *il Power 55:47-9 Jl 10 '23*
- Jet condenser performance. A. L. Penniman. *diags Power Pl Eng 26:711-16 Jl 15 '22*
- Large condensing plant for the Whitehall Road electricity works. *il diag Elec R (Lond) 91:248-9 Ag 13 '22*
- Maintaining a vacuum with a cracked condenser. D. H. Carter. *diag Power 57:696 Ap 17 '23*
- Marine-engine condenser of novel construction. *il Pop Mech 37:374 Mr '22*
- Measurement of surface-condenser leakage by electrolytic-conductivity method. E. A. Keeler. *il diags Power 55:126-8 Ja 24 '22*
- Modern jet condensers in small lighting plants. R. E. Hellmer. *il diags plan Gen Elec R 26:55-60 Ja '23*
- Modern steam condenser. E. R. Briggs. *diag Mech Eng 43:816-17 D '21*
- New condensers for an old turbine. *il diags Power 55:492-3 Mr 28 '22*
- Pair of jet condensers arranged in tandem. A. J. Dixon. *diag Power 55:423 Mr 14 '22*
- Practical ideas for the engineer. H. George. *Marine R 52:357-8 Ag '22*
- Les progrès récents des installations de condensation de la vapeur dans les usines thermiques: le système d'alimentation et de condensation Weir, à circuit fermé. *il diags Génie Civil 81:125-8 Ag 5 '22*
- Properties of condenser tubes. C. A. Gleason. *Power 55:343-4 F 28 '22*
- Rapid corrosion of condenser tubes. G. D. Bengough and R. May. *il diags Engineer 136:7-10 Jl 6 '23; Abstracts. Mech Eng 45:542-4 S '23; Power 58:235 Ag 7 '23*
- Relative efficiency of condensing apparatus. A. F. Brewer and F. A. Stivers. *Power Pl Eng 25:1092-4 N 15 '21*
- Report of an investigation of condenser performance in the St Louis water department. L. A. Day. *Am Water Works Assn J 9:686-792 S '22*
- Results achieved by the corrosion committee British institute of metals. E. E. Thum. *il Chem & Met Eng 26:301-6 F 15 '22*
- Rotary evaporative condenser. *diag Engineer 134:100 Jl 25 '22*
- Steam condenser development and practice. F. G. Boyer and J. W. Mackenzie. *il diags Power Pl Eng 27:588-91 Ja 1 '23*
- Steam condensing plants. P. A. Bancel. *il diags Mech Eng 43:711-16+ N '21; Excerpts. Power Pl Eng 25:1188-90 D 15 '21; Abstract. Power 54:965-6 D 20 '21*
- Surface condenser performance. J. M. Drachelle. *Power 57:484-5 Mr 27 '23*
- Surface condensing plant. *il diags Engineer 134:70-2 Jl 21 '22; Discussion. 134:112. 168 Ag 4. 18 '22*
- Surface condensing plant and auxiliaries. *il diags plan Engineer 134:403-6. 414 O 26 '22*
- Twin-jet condenser for 20,000-kw turbine. *il Blast F & Steel Pl 3:725 D '21; Same. Power Pl Eng 25:1128 N 15 '21*
- Typical jet condenser for central stations. H. C. Woodward. *il Power Pl Eng 27:698-4 Jl 1 '23*
- Wooden condenser for reclaiming exhaust steam. P. H. Herren. *diag Power 55:864 My 30 '22*

See also Cooling towers; Feed water; Steam engines; Steam plants

Cleaning

- Cleaning condenser tubes. *Power Pl Eng 27:243-4 F 15 '23*
- Condenser tubes cleaned by acid in 12 hours. A. C. Salzman. *Elec W 82:715 O 6 '23*

Condensers (steam)—Cleaning—Continued

High-pressure streams to clean condensers. il Pop Mech 39:933 Je '23

Worthington condenser-tube washer. diags Power 55:732-3 My 9 '22

Manufacture

How condenser tubes are made. il Marine R 53:212-16 Je '23

Repair

Repairing a 23,000 square-foot condenser shell. diags Power 58:260 Ag 14 '23

Testing

Condenser records show air leaks, tube scale or good performance. S. Thomas. Power 58:565-6 O 9 '23

Condensing plant tests at Dalmarnock. Engineer 135:215 F 23 '23

Determining efficient operation and causes of low vacuum in surface condensers. S. Thomas. Power 58:416-17 S 11 '23; Discussion. J. D. McAdoo. 58:583 O 9 '23

Simple test for measuring surface-condenser leakage. O. P. Adams and P. F. Hoots. Power 55:540-1 Ap 4 '22

Temperature as a measure of vacuum. Power 56:430, 544-5, 698-9, 776-7, 856 S 12, O 3, 31, N 14, 28 '22

Testing condenser apparatus. R. N. Ehrhart. il diags Power 55:248-50 F 14 '22

Testing jet condensers. L. Long. diag Power 58:293-6 Ag 21 '23

Weekly test for leakage on surface condensers. Elec W 82:663 S 29 '23

Conditional sales. See Sales, Conditional**Conductivity, Electric. See Electric conductivity****Conductivity, Heat. See Heat conductivity****Conductor pipes**

Eliminating unnecessary sizes of conductor pipe, eaves trough, elbows and accessories. Sheet Metal Worker 13:851-2, 901 Ja 5-19 '23

Conduits

See also Subways (conduits)

Conduits, Concrete

Underground steam main construction; experiments in state institution with hot water heating through direct injection of high pressure steam. J. K. Raymond. diags plan Dom Eng 104:384-5 Ag 25 '23

Conduits, Electric. See Electric conduits**Conduits, Water. See Water conduits****Cone-in-cone**

Cone-in-cone. W. A. Tarr. diags Am J Sci 5th ser 4:199-212; Bibliography. 213 S '22

Coney Island

Building reinforced concrete boardwalk at Coney Island. il diags plan Eng N 89:229-31 Ag 10 '22

Confectioners

Women in the candy industry in Chicago and St Louis. U S Women's Bur Bul 25:1-72 '22

Confectionery

Confectioners' raw materials. J. Grant. 173p E. Arnold & co., London '21

See also Candy; Candy trade

Manufacture

Gas for sugar boiling and the making of confectionery. W. B. McLusky. Gas J (Lond) 164:124-5 O 10 '23

Confederate memorial

Huge photo on mountainside aids sculptor. R. C. Folger. il Pop Mech 39:492-4 Ap '23

Lost cause memorial work is started. il Pop Mech 40:414-15 S '23

Confédération générale du travail, France. See Trade unions—France**Conference on Central American affairs**

Signing of pacts growing out of conference in Washington of Central American republics. Comm & Fin Chr 116:682-3 F 17 '23

Conference on the limitation of armaments, Washington, D.C.

Advertising significance of the Washington conference; America's attitude will make easier sales in the Far East. J. B. Powell. Ptr Ink 118:33-4+ F 23 '22

Arms conference—results and prospects. R. Bean. Annalist 18:459, 483-4; 19:41+ N 14-21 21, Ja 9 '22

Conference for the limitation of armament; editorial. Comm & Fin Chr 114:559-60 F 11 '22

Conference on the limitation of armaments. Comm & Fin Chr 113:2136-50, 2246-56, 2361-70, 2466-7 N 19-D 10 '21

Melting pot of militarism. Am Ind 22:7-10 D '21

Naval armaments and the Washington conference. Engineer 132:443-5, 570-1 O 28, N 25 '21

Report of American delegation to conference on limitation of armament. Comm & Fin Chr 114:695-6 F 18 '22

Report of the sub-committee on the limitation of aircraft. Aerial Age 14:542-5 F 13 '22; Same. Aviation 12:128-32 Ja 30 '22; Discussion. Aerial Age 14:490-2 Ja 30 '22

Five-power naval treaty

Address of Secretary Hughes proposing ten year naval holiday. Comm & Fin Chr 113:2138-40 N 19 '21

Points from the naval treaty. Engineer 133:201 F 24 '22

Text of five power naval treaty agreed on at armament conference. Comm & Fin Chr 114:476-9 F 4 '22

Text of proposals by United States for limitation of naval armaments. Comm & Fin Chr 113:2147-8 N 19 '21

Washington naval treaty. Engineer 133:215-16 F 24 '22

Five-power submarine and poison gas treaty

Five-power submarine and poison gas treaty approved at armament conference; text. Comm & Fin Chr 114:479-80 F 4 '22

Four-power treaty

Allegations of secret agreement between U.S. and Great Britain on Four-power treaty. Comm & Fin Chr 114:1362-3 Ap 1 '22

Authorship of Four-power Pacific treaty. C. E. Hughes. Comm & Fin Chr 114:1134 Mr 18 '22

Criticism of Four-power Pacific treaty. Borah and Johnson. Comm & Fin Chr 114:1136-8 Mr 18 '22

Four-power treaty a world-wide benefit. R. Bean. Annalist 18:579+ D 19 '21

Four power treaty described as gold brick. J. A. Reed. Comm & Fin Chr 113:2675-6 D 24 '21

Four-power treaty signed at Washington. Comm & Fin Chr 113:2560-71, 2672-6, 2774-9; 114:21-9, 138-61, 252-9, 474-80, 573-86 D 17 '21-Ja 21, F 4-11 '22

Ratification by Senate of Four-power treaty; text. Comm & Fin Chr 114:1360-1 Ap 1 '22

Ratification of Four-power Pacific treaty urged. O. W. Underwood. Comm & Fin Chr 114:1134-5 Mr 18 '22

Senator Robinson's declaration that Four-power Pacific treaty was originated through British and Japanese sources. Comm & Fin Chr 114:1135-6 Mr 18 '22

Treaties

Address to Senate asking approval of treaties agreed on at Arms conference. W. G. Harding. Comm & Fin Chr 114:580-1 F 11 '22

Exchange of ratifications of five-power naval and Four-power Pacific treaties at Washington. Comm & Fin Chr 117:860-1 Ag 25 '23

French Senate ratifies naval treaty and Four-power Pacific treaty. Comm & Fin Chr 117:277-8 Jl 21 '23

Treaties and resolutions of arms conference summarized. Comm & Fin Chr 114:575 F 11 '22

Conglomerate

Rangeley conglomerate. E. S. C. Smith. Am J Sci 5th ser 5:147-54 F '23

Conglomerate—Continued

Tillite-like conglomerate in the "Eocambrian" sparagmite of southern Norway. O. Holte-dahl, diag map Am J Sci 5th ser 4:165-73 Ag '22

Congo, Belgian. See Kongo, Belgian

Congressmen

Congressman earns his pay. F. C. Kelly. Na-tion's Business 10:25 O '22

Conifers

Soil acidity preferences of some eastern conifers. E. T. Wherry. Sci Am 128:33 Ja '23
Über die coniferen-harz-säuren: nitroschlorid, nitrosit und nitrosat der pinabietinsäure und abietinsäure; die konstitution der abietin-säure und des abietins. O. Aschan and others. Deutsche Chem Gesell Ber 55:2944-59 O '22; Abstract. Chem Soc J 122 pt 1:1152-3 D '22

See also Hemlock; Pine; Spruce

Connecticut

See Geology—Connecticut; Motor bus lines—Connecticut; Roads—Connecticut

Connecticut company, New Haven

Connecticut commission believes five-cent rate impracticable in large cities. Elec Ry J 60:960 D 16 '22

Cutting maintenance costs. L. Spraggon. Aera 11:1419-22 Je '23; Same. Eng & Contr (Ry) 59:1367-9 Je 20 '23

Definition of duties an essential to organization. charts Elec Ry J 62:18-19 Jl 7 '23
Return of trolleys to New Haven favored. Elec Ry J 58:1088 D 17 '21

Connecticut motor stage association

Connecticut motor stage association incorporated. Bus Transportation 1:661 D '22

Connecting rods

Angularity of connecting rods. A. R. Nottingham. diags Power 57:326-7 F 27 '23
Design of connecting-rods for high-speed engines. M. Platt. diags Automobile Eng 13:279-85 S '23

Economy and precision in connecting rod manufacture. J. E. Schipper. il Automotive Ind 47:117-19 Jl 20 '22

Finish boring connecting rods and crank-case. H. Crawford. il diag Am Mach 57:197 Ag 3 '22

Forged aluminum vs. steel for connecting rods. L. H. Pomeroy. Automotive Ind 47:978-80 N 16 '22

Indexing fixtures allow continuous cutting and reduce labor needs. J. E. Schipper. il Automotive Ind 48:828-31 Ap 12 '23

Inspecting and straightening connecting rods. H. F. Crawford. diags Am Mach 58:634 Ap 26 '23

Machining duralumin connecting-rods. F. H. Colvin. il Am Mach 58:321-3 Mr 1 '23

Mack connecting rod methods. F. H. Colvin. il Am Mach 56:707-9 My 11 '22

Making Wills Sainte Claire connecting-rods. F. R. Daniels. il diags Mach 29:196-200, 293-7 N-D '22

Marmion connecting-rod methods. F. H. Colvin. il Am Mach 56:440-2 Mr 23 '22

Milling automobile connecting-rods. C. Littellmann. il diags Mach 29:433-5 F '23

Milling connecting-rods. R. Mawson. il Mach 29:142 O '22

Reducing cost of connecting-rods by welding. P. J. Rees. diags Mach 30:193 N '23

Reo connecting rod methods. F. H. Colvin. il Am Mach 56:731-2 My 18 '22

Testing

Methods of testing connecting-rod alignment. T. W. Airey. diags Power 55:933 Je 13 '22
Strength of forked connecting rods. W. J. Kearton. il diags Engineering 116:442-4 O 5 '23; Abstract. Engineer 136:333-4 S 28 '23

Connectors, Train line

Automatic hose couplers for railroad cars. il Pop Mech 37:71-2 Ja '22

Development of the Robinson connector. il diags Ry Age 71:1259-63 D 24 '21; Same. Ry Mech Eng 96:77-81 F '22

Flexible metallic conduit to replace steam hose. il diag Ry R 71:193-4 Ag 5 '22; Ry Mech Eng 96:662-3 N '22

Future of the automatic hose connector. Ry Age 72:361, 906-7 F 11, Ap 15 '22

Metal steam heat connection for passenger cars. il diag Ry Age 75:259 Ag 11 '23

Recent changes in American hose connectors. il Ry Age 72:375-7 F 11 '22; Same. Ry Mech Eng 96:141-3 Mr '22

Universal car and hose coupler. il diag Ry Age 72:440-1 F 18 '22; Same. Ry Mech Eng 95:699-700 N '21

See also Locomotives—Feed water connections

Conservation of resources

Conservation vs. control of profits. H. F. Bain. Min & Met 188:23-5 Ag '22

See also Coal; Forests and forestry; Gas, Natural; Petroleum; Reclamation of land; Water power

Conservatoire national des arts et métiers. See Paris, France—Conservatoire national des arts et métiers

Conservatories. See Greenhouses

Consignment selling

Suspicion plan of selling; how it differs from consigning. Ptr Ink 120:81-2 Jl 6 '22

Bibliography

Consignment and instalment. Ptr Ink 124:141-+ S 27 '23

Consolidated accounts. See Consolidated statements

Consolidated gas company of New York

Annual report reviews progress during 1922. Am Gas J 118:69-72+ Ja 27 '23; Excerpts. Comm & Fin Chr 116:405-6 Ja 27 '23

New York co. celebrates centenary. Gas Age 51:417-18 Mr 31 '23

Consolidated gas electric light and power company of Baltimore

Annual report for the fiscal year ending December 31, 1921. Comm & Fin Chr 114:1315-16 Mr 25 '22

Consolidated mining & smelting company of Canada

Preliminary report, 1920-1921. Eng & Min J 113:228 F 4 '22

Consolidated statements

Consolidated balance-sheet—mutual stock holdings. H. A. Finney. J Account 33:368-84 My '22

Consolidated statements for holding company and subsidiaries. H. A. Finney. 229p Prentice-Hall, New York '22

Elimination of intercompany profits in consolidated statements. G. C. Carson. J Account 36:1-6 Jl '23; Discussion. 36:310-13, 390-1 O-N '23

Mechanical difficulties in consolidating accounts. M. E. Peloubet. J Account 35:413-29 Je '23

Simplifying the compilation of multi-company consolidated statements. W. R. Donaldson. J Account 36:268-75 O '23

Consolidated steel corporation

Consolidated steel corporation decides to withdraw from Canada. Can Eng 43:422 O 3 '22

Consolidation coal company, inc.

58th annual report for year ending December 31, 1921. Comm & Fin Chr 114:1193-5 Mr 18 '22

59th annual report for the year ending December 31, 1922. Comm & Fin Chr 116:1314-16 Mr 24 '23

Consolidations. See Business consolidations; Combinations, Industrial; Consolidated statements

Constantinescu sonic waves. See Sonic waves
Constantinople

Churches

Church of Saint Sophia. C: H. Moore. Arch Rec 52:156-9 Ag '22

Constants. See Units

Constipation

Treatment of constipation. F. W. Dershimer. J Ind Hygiene 4:518-21 Ap '23

Construction. See Architecture; Building; Engineering

Construction camps

Camp cars adapted from trailers for floating bridge and maintenance gangs of North Carolina highway commission. Eng & Contr 57:335-6 Ap 5 '22

Constructing Scituate reservoir. il diags plan Pub Works 53:137-43 S '22

Increasing the efficiency of laborers on construction work. R. C. Starr. il J Elec 48:305-6 Ap 15 '22

Construction equipment

Economizing materials storage space in building construction. H. S. Hines. Eng N 91:687-8 O 25 '23

Equipment division of Nebraska department of public works. Munic Eng 63:sup26 S '22

Equipment rental agreement. Eng & Contr 57:162-3 F 15 '22

Equipment rental and depreciation record cards. Eng N 90:794-5 My 3 '23

Equipment review; quarterly issue of Engineering and contracting (beginning May 30, 1923)

Load curve of construction equipment. H. V. Knouse. il Am Water Works Assn J 10:173-82 Mr '23; Same abr. Eng & Contr (W W) 59:817-19 Ap 11 '23; Same cond. Eng N 89:1015-16 D 14 '22

Rental of contractor's equipment. Pub Works 53:191-2 O '22

Review of developments during 1922 in the field of construction equipment and materials. Eng N 90:38-41, 92+, 138-41, 230-1 Ja 4-18, F 1 '23

Road machinery and its economic aspect. F. L. MacPherson. Can Eng 44:357-61 Mr 27 '23

Some modern applications of compressed air. F. A. McLean. il Can Eng 43:522-4 N 7 '22

Storing construction equipment. Eng & Contr (Bldgs) 58:130-2 D 27 '22; Abstract. Pub. Works 54:84 Mr '23

See also Concrete plants

Advertising

Should equipment makers feature record runs? Eng N 90:559-60, 602-3, 643, 688, 729, 769-70, 900, 981 Mr 22-Ap 26, My 17, 31 '23

Painting

Part played by good paint in equipment maintenance. R. C. Sheeler. Eng N 90:728 Ap 19 '23

Standards

Equipment standardization. L. C. Wason. Concrete 21:186-7 D '22

Consumers' cooperative societies. See Cooperation

Consumers' deposits. See Public utilities—Law

Consumption (economics)

Annual production-consumption equation. W. T. Foster. Annalist 20:439-40 O 30 '22

Standard of living. N. H. Comish. 340p Macmillan '23

Contact angle

Investigation of the angle of contact between paraffin wax and water. R. Ablett. diags Philos Mag 6th ser 46:244-56 Ag '23

Contact flying. See Aviation—Contact flying

Contact metamorphism. See Metamorphism

Contact plow. See Electric railroads—Contact plow

Contactors, Electric. See Electric contactors

Contactors, Magnetic. See Magnetic contactors

Container board. See Paper board

Container cars

Avoidable waste in car operation—the container car. W. C. Sanders. il diags Mech Eng 43:799-802 D '21; Same. Engineer 132:647-8 D 16 '21; Same. Ry R 69:904-7 D 31 '21; Same cond. Ry Age 71:1147-9 D 10 '21; Same cond. Eng & Contr 56:569-70 D 21 '21; Same cond. Ry Mech Eng 96:17-18 Ja '22

Container car for milk shipments. il diags Ry R 71:777-9 D 2 '22; Sci Am 128:311 My '23

Container cars in use in Poland. il Ry Mech Eng 95:689 N '21

Economic advantages of the unit container car. H. W. Kirchner. il Ry R 69:682-3 N 19 '21

New freight shipping system by container cars of New York Central lines; abstracts. F. S. Gallagher. Eng & Contr (Ry) 58:46-50 O 18 '22; Ry Age 73:833-5 N 4 '22; Ry Mech Eng 96:693-5 D '22

New York Central railway system container cars. il Engineering 112:820-1 D 16 '21

Container system (freight handling)

Avoidable waste in car operation—the container car. W. C. Sanders. il diags Mech Eng 43:799-802 D '21; Same. Engineer 132:647-8 D 16 '21; Same. Ry R 69:904-7 D 31 '21; Same cond. Ry Age 71:1147-9 D 10 '21; Same cond. Eng & Contr 56:569-70 D 21 '21; Same cond. Ry Mech Eng 96:17-18 Ja '22; Summary. Eng N 88:60 Ja 12 '22

Cincinnati road uses containers. il Elec Ry J 58:949-50; 59:315-18 N 26 '21, F 25 '22

Container system creates freight service. il map Ry Age 72:475-6 F 25 '22

Container system in operation on British railways. il Sci Am 126:109 F '22

D.U.R. will install new system for expediting freight. Elec Ry J 62:467-8 S 22 '23

Electric railway and truck transport combined by use of container cars. D. M. McDonald. il Automotive Ind 49:678-80 O 4 '23

Electric railway used for freight container service. map Eng N 88:323-5 F 23 '22

Erie adopts direct freight delivery at New York. Ry Age 72:233-4 Ja 21 '22

New freight shipping system by container cars of New York Central lines; abstracts. F. S. Gallagher. Eng & Contr (Ry) 58:46-50 O 18 '22; Ry Age 73:833-5 N 4 '22; Ry Mech Eng 96:693-5 D '22

Unit container and demountable body increase transport efficiency. F. C. Horner. il Automotive Ind 49:788-91 O 18 '23; Same cond. Elec Ry J 62:709-10 O 20 '23

Containers

Advertising display containers to the dealer's consciousness. C. B. Larrabee. Ptr Ink 122:73-4+ Mr 29 '23

Australian devises collapsible case to prevent pilfering. J Elec 47:434 D 1 '21

Cargo containers for ocean use. il Marine R 53:91-4 Mr '23

Company derives its name from its container: Little brown jug products co. C. M. Harrison. il Ptr Ink M 4:46 F '22

Container makes big sales in saturated market: Phroso-lemon-lime. J. M. Mosely. il Ptr Ink M 7:98+ Jl '23

Display containers that will increase your sales. D. Gridley. Ptr Ink M 6:39-40+ Ap '23

Getting the consumer to use the container. Ptr Ink 121:72 D 28 '22

Giving pictorial interest to box tops. W. L. Larned. Ptr Ink M 5:64+ O '22

Growth of the corrugated fibre container. H. H. Squire. Ind Management 66:43-5 Jl '23

How McQuay-Norris company makes containers help selling operations. Ptr Ink 124:96-7 Ag 30 '23

Human interest in container wins jobbers' favorable attention for new products. D. M. Hubbard. Ptr Ink M 7:52 S '23

Let the box sell it. P. W. Kearney. Ptg Art 41:369-70 Je '23

Package facts; notes on labels, cans, cartons and bottles. G. P. Nelson. 48p George P. Nelson, New York '22

Report of special committee on permanent packages to transport heavy materials. Oil Paint & Drug Rep 102:21+ N 23 '22

Small insulated containers; with discussion. M. E. Pennington. A S R E J 8:393-7 Mr '22

Solving the shipping container problem. B. L. Huestis. il diags Management & Adm 6:575-80 N '23

Containers—Continued

Use of metal "one-time" shipping containers for paints and oils. J. C. Kirk. Ry Age 74: 1222-3 My 19 '23

See also Ammonia containers; Barrels; Bottles; Boxes; Carboys; Container system (freight handling); Gas containers; Hosiery boxes; Package goods; Packing for shipment; Paper bags; Paper board; Paper boxes; Pressure vessels; Tanks; Tin cans; Tubs

Standardization

Simplification of containers. Ry Age 74:346-8 F 3 '23

Working for standard sizes of food containers. Ptr Ink 122:166+ Ja 25 '23

Testing

Teaching manufacturers how to prevent crating and boxing loss. Ptr Ink 125:17-19 O 25 '23

Containers, Glass. See Bottles

Containers, Pressure. See Pressure vessels

Containers, Vacuum. See Vacuum containers

Contests, Factory. See Factory management—Contests

Contests, Sales. See Sales contests

Continents

Vestiges of an ancient continent in North-east Mexico. E. Böse. map Am J Sci 5th ser 6:127-36, 196-214, 310-37 Ag-O '23

Continuous-process industries

Continuous-process industries. H. B. Drury. Mech Eng 44:682-3, 685-6 O '22

What are the best ways to run a plant 24 hours a day? il System 44:26-8+ JI '23

Contour maps. See Topographical maps

Contour measuring projector. See Measuring instruments

Contract bonds. See Suretyship and guaranty

Contraction

Contraction and shrinkage of non-ferrous alloys as related to casting practice. R. J. Anderson. Rep. of Investigations U.S. Bur. of Mines 2410 13p '22; Excerpt. Chem & Met Eng 28:254 F 7 '23

Bibliography

Contraction and shrinkage of nonferrous alloys as related to casting practice. R. J. Anderson. p. 11-13 Rep. of Investigations U. S. Bur. of Mines 2410 '22

Contractometer

Application of contractometer to the study of nickel deposition. E. A. Vuilleumier. diag Am Electrochem Soc Trans v 42 (preprint 16):159-68; Discussion. 168a-e S '22

Contractor cooperation. See Advertising—Contractor cooperation

Contractors

Building contracts. E. J. Evans. 304p Dut-ton '22

Business methods in highway contracting; an interview with Henry W. Horst. C. S. Hill. chart diag plans Eng N 90:948-51 My 31 '23

Contractors' overhead problem. G. F. Meyne. Bldg Age 45:37-8 F '23; Same. Eng & Contr (Bldgs) 59:1178-80 My 23 '23; Same. Can Eng 45:375-6 O 2 '23

Co-operation between engineer and contractor. A. S. Bent. Eng & Contr (Ry) 58:27-30 O 18 '22; Excerpts. Eng N 89:752-3 N 2 '22

Co-operation between engineer and contractor. W. R. Neel. Eng & Contr (R & S) 58: 115-17 N 1 '22; Same. Can Eng 43:566 N 21 '22; Same. Munic Eng 63:180-1 N '22; Same. Good Roads 63:158 N 1 '22

Co-partners in the contract; relations of the contractor, the surety and the banker. G. L. Steyick. Eng & Contr (R & S) 59:775-8 Ap 4 '23

Defines professional attitude toward contracting. Eng N 88:350-1 Mr 2 '22

Elimination of irresponsible bidder. Eng & Contr (Bldgs) 59:1199-1200 My 23 '23

How to finance a job. Pub Works 51:383-4 N 12 '21

Importance to the contractor of better co-operation between contractors and engineers. C. H. McAllister. Eng & Contr 57: 494-5 My 24 '22

Income from long term contracts. E. J. Brosnan. Eng & Contr (R & S) 60:55-6 JI 4 '23

Planning building work in the office. M. J. Farrell. Bldg Age 45:45-6 F '23

Relations between contractor and engineer. H. Thackery. Eng & Contr (R & S) 58:26 O 4 '22

Relations of banker and contractor. H. S. McKee. Eng & Contr (Ry) 59:903-5 Ap 18 '23

Respective services of constructor and designer. Eng & Contr (Bldgs) 60:152 JI 25 '23; Same. Arch Forum 39:72 JI '23

Selecting the qualified contractor. Eng & Contr (Ry) 60:115-16 JI 18 '23

Simple interesting story of one building contractor's success. C. H. Thomas. il Bldg Age 44:35-7 D '22

Supplying water for contractors' use. W. Luscombe. Eng & Contr (W W) 59:861-3 Ap 11 '23; Same. Can Eng 44:483-4 My 8 '23

Why we buy and sell on promptness of delivery. L. J. Horowitz. System 41:139-41+ F '22

See also Building contracts; Contracts, Letting of; Day labor; Electric contractors; Engineering contracts; Estimates; also Associated general contractors of America

Accounting

Construction costs. W. N. Connor. Can Eng 43:454-6 O 17 '22; Same. Eng & Contr (Bldgs) 58:27-31 O 25 '22

Correct cost keeping for building contractors. M. G. Farrell. Bldg Age 45:77-9 My; 80-2 Je '23

Cost keeping in construction industry. J. R. Hagelin. Eng & Contr (Bldgs) 59:736-9 Mr 28 '23

Handling extra work charges on construction contracts. W. E. Weller. Munic Eng 62:161-3 My '22

Overhead in construction work. M. J. Reinhardt. Eng & Contr 56:583 D 28 '21

Practical accounting for general contractors. H. D. Grant. 254p McGraw-Hill '22

Records

Graphical method of determining the approximate date of completion of a building operation. R. P. Wallis. Eng & Contr (Bldgs) 58: 127 D 27 '22

Contractor's equipment. See Construction equipment

Contracts

A.R.E.A. report on uniform general contract forms. Ry Age 74:713-16 Mr 16 '23

Arbitration clauses in commercial contracts. Engineering 114:241-2 Ag 25 '22

Chemist in relation to his contracts. E. J. MacGillivray. Chem Age 31:296-9 JI '23

Gordon's annotated forms of agreement. S. Gordon. 904p Prentice-Hall '23

Liability of a collateral contractor; the right of the manufacturer to hold the collateral contractor liable for damages. L. Childs. Am Mach 59:419-20 S 13 '23

Rules governing interpretation of written contracts where parties dispute the agreements. W. Gustin. Chem & Met Eng 27: 939-40 N 8 '22

Selection of cases illustrative of the law of contract. C. S. Kenny. 511p Macmillan '22

Selection of cases on the law of contracts. Ed. and annotated by S. Williston. 2d ed. 1064p Little, Brown, & co., Boston '22

Treatise on the law of public contracts. J. F. Donnelly. 559p Little, Brown, & co., Boston '22

See also Advertising contracts; Agency; Bills of lading; Building contracts; Coal contracts; Contractors; Engineering contracts; Exclusive agencies; Future contracts; Gas contracts; Heating contracts; Labor contracts; Partnership; Pavements—Contracts; Plumbing contracts; Roads—Contracts; Sales; Smelting contracts; Suretyship and guaranty; Trade agreements

Contracts, Government

Government construction contracts. Monthly Labor R 14:998-1004, 1216-24; 15:126-30, 368-77, 631-8, 801-3, 1091-7 My-N '22
Government suits against cantonnement contractors. Eng & Contr (Ry) 59:444-7 F 21 '23

Indicting a whole industry; campaign against construction operations of the war. Eng N 90:99-101 Ja 18 '23

Preparing for war production. Iron Tr R 72:1687-9 Je 7 '23

Uncle Sam learns business sense. W; P. Helm. il Nation's Business 11:25-6 Ap '23

Contracts, Letting of

Competitive bidding on cost plus contracts. F. W. Lord. Am Inst Arch J 10:32-4 F '22

Competitive bidding on cost-plus contracts. M. C. Tuttle. Am Inst Arch J 10:89-90 Mr '22

Compilation of the principal federal statutes relating to public contracts. 134p U.S. Interdepartmental bd. of contracts and adjustments, Washington '22

Co-operation between engineer and contractor. A. S. Bent. Eng & Contr (Ry) 58:27-30 O 18 '22

Delay in awarding contracts costly to contractors. W; R. Davis. Munic Eng 65:62-3 Ag '23

Indicting a whole industry; campaign against construction operations of the war. Eng N 90:99-101 Ja 18 '23

Large mileage highway contracts; symposium. Eng N 88:70-2 Ja 12 '22

New cost plus contracts. Eng & Contr 57:154-6 F 15 '22

Open vs. closed specifications for asphalt resurfacing. C. R. Andrew. Munic Eng 65:54-5; Discussion. J; B. Hittell. 55-6 Ag '23

Special features and handling of cost-plus contract at a southern university. T; C. Atwood. Boston Soc C E J 9:59-70 Mr '22; Same abr. Eng & Contr 57:491-3 My 24 '22; Discussion. Boston Soc C E J 9:71-2 Mr '22

Standard form of contract for public works. J; B. Hawley. Can Eng 43:560 N 21 '22

Standard form of public works contract adopted by Texas section Am. Soc. C. E. J; B. Hawley. Munic Eng 63:6-9 Jl '22

Under what conditions may a bidder withdraw his bid? C. H. Blake, jr. Am Arch 123:167-8 F 14 '23

Unique sewage-works and pump-equipment bid plan. G. D. Holmes. Eng N 89:1121-4 D 28 '22

See also Building contracts; Estimates; Heating contracts; Plumbing contracts; *also* subdivision Contracts under special subjects, e.g. Roads—Contracts

Contracts, Sales. See Sales**Control boards**

Control board in an English locomotive shop. I. W; Chubb. il chart Am Mach 58:941-2 Je 28 '23

Cost recording and production control in drop-forging plants. H. F. Osler. diags Mach 28:807-9 Je '22

Now we keep our production abreast of our promises. S. W; Borgenicht. System 43:195-6 F '23

Organisation of file factories. H. G. Smith. Eng & Ind Management 7:473-7 Je 1 '22

Simplified control board. G. F. Hamilton. Ind Management 65:61-2 Ja '23

Tell-tale control board. C. B. Lord. il Management & Adm 6:319-22, 467-72, 617-21 S-N '23

Ticketograph control board. il Management & Adm 6:635 N '23

Unique control board. P. S. Brown. il Ind Management (Lond) 9:35-8 Ja 25 '23

Working methods for profitable management; controlling the production. C. E. Knoeppel. il Management Eng 4:321-8 My '23

Works organization. T. E. Pattinson. Eng & Ind Management 7:215-17 F 23 '22

See also Gantt charts

Control in production. See Control boards; Cost accounting; Factory management; Industrial management; Progress records

Control jumpers. See Electric railroads—Control jumpers

Controllers, Electric. See Electric controllers

Convection of heat. See Heat convection

Conventions

Specifications for conventions. Eng & Contr (W W) 58:4-5 O 11 '22

See also Business conferences; Sales conventions

Convents

Convent of the Sacred Heart, Detroit, Mich.; views. Am Arch 122:406 1-m N 8 '22

Converse, E. C.

Portrait. System 41:157 F '22

Conversion chart. See Metric system

Converters

Converter makes better steel. R. Burke. diags Foundry 50:915-17 N 15 '22; Same. Iron Tr R 71:1555-6+ D 7 '22

Side-blown Bessemer converters; abstract. T. Levoz. diags Mech Eng 44:122 F '22

Tropenas converter for making steel. S. R. Robinson. Blast F & Steel Pl 10:282-4 My '22

Use of the small converter for the production of large steel castings. C. Vanzetti. diags Engineering 116:374-5 S 21 '23

See also Bessemer process; Metallurgy; Ore treatment

Converters (electricity). See Converters, Synchronous; Electric current converters; Frequency changers

Converters, Synchronous

Analytical investigation of the causes of flashing of synchronous converters. E. B. Shand. biblog il diags Am Inst E E J 41:174-83 Mr '22; Discussion. 41:657-62 S '22

Characteristics and performance of conversion apparatus for Edison systems. T. F. Barton and C. M. Fulk. il diags Gen Elec R 26:348-62 Je '23

Les chemins de fer Suisse—les redresseurs à vapeur de mercure dans les réseaux de tramways. Génie Civil 81:418-19 N 4 '22

Comparison of synchronous-motor generators and rotary converters. Power 56:411 S 12 '22

Conversion of electrical power. J. E. Cannell. diags Power 57:88-90 Ja 16 '23

L'emploi des commutateurs pour la transformation du courant alternatif en courant continu dans les exploitations de chemins de fer. Génie Civil 82:209-10 Mr 3 '23

English electric rotary converters. il Elec R (Lond) 90:367 Mr 17 '22

1500-volt 50-cycle rotary converters. il diag Engineer 134:252 S 8 '22

Flashing problems of 60 cycle railway synchronous converters. E. B. Shand. il Elec J 19:83-7 F '22

Function of and operation of the series field of a rotary converter. Coal Age 23:717 My 3 '23

Operation of rotary converters. Elec R (Lond) 90:797-8 Je 9 '22

Peculiar behavior of rotary converters. Elec W 79:289, 385 F 11, 25 '22

Power-factor correction with converters. C. W. Bates. Elec W 82:857-9 O 27 '23

Rotary converters, with special reference to railway electrification. F. P. Whitaker. il diags Inst E E J 60:501-12 My '22; Abstracts. Engineer 133:221-2 F 24 '22; Elec R (Lond) 90:391-3 Mr 17 '22; Electrician 88:258-60 Mr 3 '22; Discussion. Inst E E J 60:512-25, 835-44 My, Jl '22; Electrician 88:346-7, 476 Mr 24, Ap 21 '22; Elec R (Lond) 90:713-15 My 19 '22

Starting rotary converters from the A.C. side; extracts from an operating code. Elec W 81:696, 753 Mr 24-31 '23

Synchronous motor-generator sets may supplant rotary converters for coal mines. E. J. Gealy. il Coal Age 23:715-16 My 3 '23

Use of converter in mining service. J. L. M. Yardley. il Elec W 80:1148-50 N 25 '22

Voltage limitations and flashing of synchronous converters. J. L. Burnham. il diags Gen Elec R 25:348-51 Je '22

Converters, Synchronous—Continued

Voltage ratio of rotary converters. Power 56: 365 S 5 '22

See also Frequency changers

Conveying machinery

- Application of conveyor equipment to a small production plant. H. P. Harrison. *il Soc Auto Eng J* 13:357-65 N '23; Same cond. *Automotive Ind* 49:887-92 N 1 '23; Discussion. *Soc Auto Eng J* 13:478-80 D '23
- Assembling by conveyor. W. Ordway. *il Mach* 29:103-6 O '22
- Automatic conveying in material handling. L. S. Love. *il Iron Age* 112:1105-9 O 25 '23
- Belt-conveyor for messages which works on a novel principle. *il Sci Am* 129:323 N '23
- Belt-conveyor made of steel. *il Min & Sci P* 123:837-8 D 10 '21; Power 54:1008 D 27 '21; Foundry 50:85 Ja 15 '22; Power *Pl Eng* 26: 149-50 Ja 15 '22; *Sci Am* 126:340 My '22
- Belt conveyor on parcel post duty in the United States. *il Eng & Ind Management* 7:232-4 F 23 '22
- Belt conveyors and belt elevators. F. V. Hetzel. 333p Wiley '22
- Belting to revolutionize mining methods. *Coal Age* 23:593-4 Ap 12 '23
- Belts as inspection tables. F. L. Prentiss. *il Iron Age* 108:1414 D 1 '21
- Better methods of handling materials. F. E. Gooding. *il Ind Eng* 81:41-5+ Ja '23
- Bulk materials handling, and the common labor shortage. M. W. Potts. *il diags Ind Management* 65:338-45 Je '23
- Chicago parcel-post office employs the largest band conveyor installation. D. R. Egbert. *diags Eng & Ind Management* 7:551-4 Je 29 '22
- Coal sorted, stored and transported by belt-conveyor system. *il diags Power* 58:598-602 O 16 '23
- Conveying and elevating machinery. G. Mitchell. *il diags Engineering* 112:866-70 D 23 '21; Same, without *il Eng & Ind Management* 7:109-14 Ja 26 '22; Discussion. *Engineering* 112:859-61 D 23 '21; *Engineer* 132:667 D 23 '21
- Conveying at the brewers' exhibition. *il diag plan Ind Management (Lond)* 8:324-7, 385-6 N 30, D 28 '22
- Conveying automobile bodies to assembly. *il Iron Age* 112:406-7 Ag 16 '23
- Conveying biscuits. G. F. Zimmer. *il diags Ind Management (Lond)* 8:321-3 N 30 '22
- Conveying hot loaves from the ovens of a bakery in Lisbon. G. F. Zimmer. *il diags plan Eng & Ind Management* 7:179-82 F 9 '22
- Conveying in rod mills. E. Poncelet. *Ind Management (Lond)* 10:227 O 18 '23
- Conveying in the chemical industry. G. F. Zimmer. *diags Eng & Ind Management* 7: 374-8, 404-6 Ap 20-My 4 '22
- Conveying on the farm. R. B. Matthews. *il Eng & Ind Management* 7:403-4 My 4 '22
- Conveying 200,000 bushels of oyster shells. *il Eng & Ind Management* 6:757-8 D 29 '21
- Conveying window glass and similar fragile loads. *il Ind Management (Lond)* 8:163-4 S 21 '22
- Conveyor system at Jackson mills. G. H. Goldsmith. *il Textile World* 61:881-4 F 4 '22
- Conveyor system for compound and mill rooms. W. C. Hoover. *diags India Rubber W* 67:294-5 F '23
- Conveyors at Great Falls mfg. co. E. Fallows. *il Textile World* 62:67+ J1 1 '22
- Conveyors for loose materials. W. T. Spivey. *il Factory* 30:158-62+ F '23
- Conveyors for painting and baking. *il Iron Age* 109:482-3 F 16 '22
- Conveyors handle clay at British port. *Eng N* 91:719 N 1 '23
- Development of mechanical handling devices in Germany during and since the war. G. F. Zimmer. *diags Eng & Ind Management* 6:514-15, 645-6 N 3, D 1 '21
- Double-rail overhead conveying system. G. L. Lacher. *il Iron Age* 109:409-10 F 9 '22
- Doubling the capacity of a mineral water bottling plant by conveyor system. *il Ind Eng* 80:505-6 O '22
- Electrically-equipped harbour jetty. *il Elec R (Lond)* 93:590 O 19 '23
- Equipment that saves floor space. G. L. Montgomery. *il Chem & Met Eng* 29:96-7 J1 16 '23
- Essentials of a serviceable belt conveyor. *diags Eng & Ind Management* 7:585-9 J1 13 '22
- Full significance of industrial conveying. G. F. Zimmer. *il Eng & Ind Management* 7: 549-51 Je 29 '22
- Ground nuts conveyors in West Africa. F. P. Overstall. *il diags plans Electrician* 87:832-5 D 30 '21; Same. *Eng & Ind Management* 7: 259-61+ Mr 9 '22
- Handling by conveyor belts. H. Carlson. *Gas Age* 50:903-4 D 30 '22; Same. *Paper Tr J* 75: 58-9 S 14 '22
- Handling clay with belt conveyors. plan Brick & Clay Rec 62:1136-7 Je 26 '23
- Handling materials. *il Elec R* 80:252-3 My '22
- Handling porcelain at the plant of the Square D company by conveyors. *il Ind Eng* 80:404-5 Ag '22
- Handling the finished products of industry. G. L. Montgomery. *diag Chem & Met Eng* 27:731-3 O 11 '22
- Handling with portable conveyors. E. J. Tournier. *il Gas Age* 49:317-23 Mr 18 '22
- Highly efficient cargo conveyor developed in Seattle. *il diag J Elec* 49:98 Ag 1 '22
- How to protect belt conveyors by keeping them clean. F. V. Hetzel. *diags Ind Management (Lond)* 9:215-17 Ap 5 '23
- Influence of mechanical conveyors upon financial and operating policies. W. L. Churchill. *il Management Eng* 2:133-6 Mr '22
- Installing a conveyor to perform a complicated series of handling operations. *il Ind Eng* 81:168-9 Mr '23
- Life of a belt conveyor. F. V. Hetzel. *Ind Management (Lond)* 9:374-6 Je 14 '23
- Louden-King overhead runway system. *il diags Engineer* 134:588 D 1 '22
- Mechanical handling methods in use in an Australian canning factory. *il Eng & Ind Management* 6:508-12 N 3 '21
- Moist fuels present unusual conveying problems. Z. Kogan. *diags Power Pl Eng* 27: 461-3 My 1 '23
- Monorail conveyors on clay plants. *il Brick & Clay Rec* 60:613-15 Ap 18 '22
- Portable conveyor handles coal and ash at low cost. A. MacLean. *Power* 55:519 Mr 28 '22; Same. *Eng & Ind Management* 7:488 Je 1 '22
- Production efficiency offsets rise in wages and material prices; overhead conveyor installation cuts unit cost of enameling windshield frames at Ternstedt plant. *il plan Automotive Ind* 48:1181-2 My 31 '23
- Saving time in assembling; conveyor methods. A. A. Dowd and F. W. Curtis. *diags Mach* 28:296-300 D '21
- Semi-mechanical barrow conveyor. *il Ind Management (Lond)* 9:279 My 3 '23
- Ship-loading conveyor has flexibility and economy. *il Pop Mech* 36:901 D '21
- Speeding shipments by a conveyor system and special packing bench. *il Ind Eng* 81: 321-3 Je '23
- Steel belt conveyor for cement plants. *il Concrete* 21:sup42-3 S '22
- Steel belt conveyors. *il Chem & Met Eng* 28: 861-2 My 14 '23
- Swedish steel belt conveyors. H. Carlson. *il diags Iron Age* 109:321-3 F 2 '22; Same. *Gas Age* 49:383-5 Ap 1 '22
- Telescopic conveyor halves time of handling ship cargoes. G. F. Nicholson. *plan Eng N* 88:151 Ja 26 '22; Same. *Eng & Ind Management* 7:378 Ap 20 '22
- Three barrels a minute from the basement to the box car by conveyors. *il Elec R* 80: 307 Je '22
- Unique conveyor system reduces labor cost in a packing and shipping department. *il Elec R* 80:150 Mr '22
- Use of conveyors to save labor and prevent accidents in material handling. H. L. McKinnon. *Munic Eng* 64:sup23-6 My '23

Conveying machinery—Continued

- Use of steel bands for power transmitting and conveying purposes. B. Kruger. W Soc E J 26:428-32 D '21; Same. Iron Age 109: 640-2 Mr 9 '22; Abstract. Mech Eng 44:124-5 F '22
- Using conveyor belts to speed up service in the lunchrooms. S. M. Crosset. Am Mach 56:26 Ja 5 '22
- Using gravity to solve transportation problems. A. L. Dahl. Il Ind Management 66: 104-7 Ag '23
- Utah's only coal-retarding conveyor lowers output of Spring Canyon mine, two hundred feet. C. M. Schloss. Il Coal Age 22:717 N 2 '22; Discussion. G. A. Schultz. 22:959 D 14 '22
- Utilizing steel belt conveyors. H. Carlson. Il Iron Tr R 71:781-2+ S 21 '22; Same. Chem Age 30:419-20 S '22
- Value of anti-friction bearings in determining the power constants of belt conveyors. Il chart Ind Management (Lond) 9:119-21 F 22 '23
- What it pays to know about material handling. W. T. Spivey. Il Factory 29:244-7+, 395-7+; 30:27-9+ S-O '22, Ja '23
- See also Ash handling; Cableways; Coal handling; Cranes, derricks, etc.; Freight handling; Gravity railroad; Hoisting machinery; Loading and unloading; Mail handling; Mechanical handling; Mine haulage; Mine hoisting; Ore handling; Pneumatic conveying; Runways; Telpherage
- Conveyor belts**
History of conveying belts. T. Robins. Il India Rubber W 66:473-4, 545-6 Ap-May '22
- What to look for in rubber conveyor belts. A. M. Oliver. Chem & Met Eng 29:370-1 Ag 27 '23
- Conveyors.** See Conveying machinery
- Cook, Charles Stetson**
Portrait. Elec W 82:470 S 8 '23
- Cookery**
Memorandum on determining the efficiency of cooking appliances; fifth report of the Fuel economy committee of the British assn. Engineer 134:393 O 13 '22
- See also Advertisements—Cook books and recipes; Bakers and bakeries; Baking; Biscuits; Electric cooking; Gas cooking; Kitchen; Leavening agents; Shortening (cookery)
- Cookies**
Biscuit and cake manufacture. W. Platt. Chem Age 30:157-60 Ap '22
- Cooking utensils.** See Kitchen utensils
- Coolbaugh process**
Rise and fall of metallurgical processes. E. H. Robie. Eng & Min J 115:275-6 F 10 '23
- Cooled light.** See Light
- Coolidge, Calvin**
Have faith in business. Nation's Business 11: 16-17 S '23
- President Coolidge and industry. Am Ind 24: 5-8 S '23
- Coolidge tubes.** See X ray tubes
- Cooling**
Air cooling by refrigeration. J. B. Williams. Refrig W 57:22-3 D '22; Excerpts. Power Pl Eng 27:137 Ja 15 '23; Excerpts. Heat & Ven 20:50 Mr '23
- Atmospheric aftercooler. E. A. Miller. diag Ry Mech Eng 96:156-7 Mr '22
- Cooling coke. diag Chem & Met Eng 26:849 My 3 '22; Same. Eng & Ind Management 8:100-1 Ag 24 '22
- Cooling of theatres and public buildings. F. Wittenmeier. Refrig Eng 9:115-17; Discussion. 11:17-18+ O '22
- Cooling power of the atmosphere and comfort during work. L. Hill and J. A. Campbell. bibliog J Ind Hygiene 4:246-52 O '22
- Cooling systems for buildings. A. M. Feldman. diag plans Am Arch 124:379-84 O 24 '23
- Cooling systems of buildings. A. M. Feldman. Il diag plan A S R E J 8:377-89; Discussion. 389-92 Mr '22

- European practice in cooling chemical liquids. A. Thau. Il diag Chem & Met Eng 29: 98:102 Jl 16 '23
- Heating, ventilating and cooling plant of the Tivoli theatre. Il diag plans Power Pl Eng 26:249-55 Mr 1 '22
- Hot bodies cooling in air. E. J. Janitzky. Chem & Met Eng 28:343 F 21 '23
- Making most of surrounding conditions in ventilation and heating; fresh air in summer and tempered air in winter obtained from Chicago's freight tunnel. M. Kimberley. Il diag Sanitary & Heat Eng 98:247-9 N 3 '22
- Metallurgical aspect of the production of cold. C. Johns. Engineering 114:524 O 27 '22
- New use for our old friend hypo. F. B. Howe. Il Sci Am 126:124 F '22
- Refrigeration in mines; a notable air-cooling plant in Brazil. Refrig Eng 9:135-6 O '22
- Spray cooling equipment for ice plants. B. R. Sausen. Power 57:309 F 20 '23
- Spray cooling systems; synopsis. P. K. Lind-say. A S R E J 8:420; Discussion. 420-5 Mr '22
- Spray-nozzle cooling theory and practice. B. H. Coffey and G. S. Dauphinee. plan A S R E J 8:177-202 N '21; Discussion. Refrig Eng 9:74-5 Ag '22
- Ventilation of English factories and work-shops in hot weather. T. C. Angus. diag J Ind Hygiene 4:479-90 Mr '23
- Water cooling of glass tanks. Am Cer Soc J (Bul) 5:310-14 N '22
- See also Automobile engines—Cooling; Cold storage; Cooling of water; Cooling ponds; Cooling towers; Cooling water; Electric generators—Cooling; Electric transformers—Cooling; Gas and oil engines—Cooling; Heat convection; Oil coolers; Pig iron—Cooling; Quenching; Refrigeration and refrigerating machinery
- Cooling of water**
Cooling water for ammonia condenser. A. H. Luedicke. Power 55:302 F 21 '22
- Cooling ponds**
Spray pond design. Power Pl Eng 27:846-7 Ag 15 '23
- Spray pond on roof. C. R. Henderson. Gas Age 50:440 O 7 '22
- Cooling towers**
Analysis of cooling tower performance. J. W. Gavett, jr. chart Power Pl Eng 27:217-21 F 15 '23
- Cooling towers. E. Burhorn. Refrig Eng 9: 275-6+ Mr '23; Same cond. Power 57:345-6 F 27 '23
- Cooling-water systems for internal combustion engines. E. J. Kates. diag Power 54: 710-13 N 8 '21
- Design of cooling towers. C. S. Robinson. bibliog Refrig Eng 9:169-73; Discussion. 173+ D '22; Same. Mech Eng 45:99-102 F '23; Abstract. Power 56:975-6 D 19 '22
- Developments in power station design. Il diag Engineer 133:290-2, 302 Mr 17 '22
- Induced draft cooling tower. diag Power Pl Eng 26:542 My 15 '22
- Wheeler cooling towers. 63p Wheeler condenser & engineering co., Carteret, N.J. '22
- Cooling water**
Condenser-water supply for CO₂ refrigerating machines. A. E. Kimberly. Power 56:48-9 Jl 11 '22
- Corrosion of a producer-gas cooling system. L. E. Jackson. Il diag Chem & Met Eng 26:60-4 Ja 11 '22
- Safety devices for circulating systems. Il diag Engineering 115:584-5 My 11 '23
- Warm cooling water for carbon dioxide refrigerating plant. Power 56:738 N 7 '22
- Cooperation**
Consumers' co-operative societies. C. Gide. 287p Knopf '22
- Cooperation. See monthly numbers of Monthly labor review
- Co-operative democracy. J. P. Warbasse. 493p Macmillan '23

Cooperation—Continued

Cooperative movement in Yugoslavia, Rumania and north Italy during and after the world war. D. Coffey. (Preliminary econ. studies of the war no. 21) 99p Oxford '22

Education in the co-operative movement. Int Labour R 7:973-6 Je '23

Effect of strikes on cooperative stores. T. D. Stiles. Monthly Labor R 17:230-1 Jl '23

Histoire abrégée de la coopération en France & à l'étranger. J. Gaumont. 196p F. Rieder et cie, Paris '21

Legal phases of cooperative associations. L. S. Hulbert. U S Agric Bul 1106:1-74 '22

Organized co-operation. J. J. Dillon. 134p Rural New Yorker, New York '23

Producer's place in society. R. Halstead. 48p Co-operative union ltd., Manchester '21

Progressive copartnership. E. Walls. 283p Nisbet & co., London '21

Le rôle du consommateur dans l'économie moderne. G. Z. Strat. 252p Editions de la Vie universitaire, Paris '22

Third congress of Consumers' cooperative societies. Monthly Labor R 15:1402-7 D '22

Types of co-operative societies and their economic relations. H. Kaufmann. Int Labour R 6:163-83 Ag '22

Workers' non-profit co-operatives. J. E. Wiggins. 122p C. H. Kerr & co., Chicago '23

See also Advertising; Cooperative; Agriculture, Cooperative; Apartment houses—Cooperative ownership; Benefit societies; Building, Cooperative; Building and loan associations; Company stores; Credit unions; Employees' representation in management; Foundries, Cooperative; Garages, Cooperative; Housing, Cooperative; Marketing, Cooperative; Mining, Cooperative; Profit sharing; Purchasing, Cooperative; Socialism; Trade unions; Typesetting machines—Cooperative ownership; also International co-operative alliance; Tobacco growers cooperative association

Bibliography

Co-operation. (Bul. no. 48, Aug. '21) 4p Russell Sage foundation library, New York '21
Pamphlets on cooperation may be obtained from the Cooperative league of America, 167 W 12th St, New York city

International trading

Problem of international cooperative trade. Monthly Labor R 17:516-18 Ag '23

Czechoslovakia

Federations of co-operative societies in Czecho-Slovakia. Int Labour R 4:391-401 N '21

Finland

Co-operation in Finland. V. Hyvönen. Int Labour R 8:503-20 O '23

France

Number and distribution of cooperative labor associations in France. Monthly Labor R 15:911-12 O '22

Great Britain

Consumers' co-operative movement. S. Webb, and B. Webb. 504p Longmans '21; Review. Monthly Labor R 15:1153-6 N '22

Co-operative movement of Great Britain and its recent developments. S. Webb. Int Labour R 4:227-56; Bibliography. 255-6 N '21

Political aspect of co-operation. A. Barnes. 3d ed., rev. 51p Co-operative party of the Co-operative union, Manchester '23

India

Cooperation in India in 1920-21. Monthly Labor R 15:452-3 Ag '22

Co-operative movement and labour in India. H. W. Wolff. Int Labour R 5:229-50 F '22
Introduction to co-operation in India. C. F. Strickland. 75p Oxford '22

Weavers' cooperative societies in the Punjab, India. Monthly Labor R 14:1060-1 My '22

Italy

Guild movement in Italy. O. Por. Int Labour R 7:669-94 My '23

Italian co-operative movement. M. Ruini. Int Labour R 5:13-33 Ja '22

Russia

Co-operation in Russia before the war. V. T. Totomiantz. Int Labour R 7:15-24 Ja '23

Russian co-operatives under the soviets. L. Pasvolksy. Annalist 18:607 D 26 '21

United States

Condition of the consumers' cooperative movement in the United States. Monthly Labor R 15:444-50 Ag '22

Consumers' co-operative movement in the United States. F. E. Parker. Int Labour R 6:317-23 D '22

Consumers' cooperative societies in the United States in 1920. F. E. Parker. U S Bur Labor Statistics Bul 313:1-146 '23; Abstract. Ptr Ink 122:101-2+ Mr 22 '23

Some developments in cooperation in the United States. Monthly Labor R 14:829-32 Ap '22

Cooperative advertising. See Advertising, Co-operative

Cooperative associations

See also Cooperation

Directories

Directory of consumers' cooperative associations in the United States. F. E. Parker. U S Bur Labor Statistics Bul 313:99-146 '23
International labour directory, 1923. p. 998-1095 International labour office, Geneva '23

Law

Legal phases of cooperative associations. L. S. Hulbert. U S Agric Bul 1106:1-72 '22

Taxation

Liability of cooperative societies for federal income tax. Monthly Labor R 17:513-16 Ag '23

Cooperative credit societies. See Credit unions

Cooperative day

Establishment of cooperative day. Monthly Labor R 17:513 Ag '23

Cooperative foundries. See Foundries, Cooperative

Cooperative Grange league federation exchange

Co-operative buying movement among farmers. J. A. Murphy. Ptr Ink 122:73-4+ Mr 15 '23

Cooperative housing. See Housing, Cooperative

Cooperative marketing. See Marketing, Cooperative

Cooperative mining. See Mining, Cooperative

Cooperative ownership. See Apartment houses—Cooperative ownership; Cooperation

Cooperative purchasing. See Purchasing, Co-operative

Cooperative stores. See Company stores; Cooperation

Coordination (chemistry)

Chelate co-ordination. J. D. M. Smith. Soc Chem Ind J (Chem & Ind) 42:347-50 S 7 '23

Co-ordination and the electron. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:1001-7 O 19 '23

Co-ordination compounds and the Bohr atom. N. V. Sidgwick. Chem Soc J 123:725-30 Ap '23

Electron theory of valency applied to coordination compounds. C. H. Spiers. Soc Chem Ind J (Chem & Ind) 42:534-8 Je 1 '23

Old and new theories of co-ordination. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:146-7 Ag 3 '23

Plausible error in the theory of coordination. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:623-4 Je 22 '23

Researches on residual affinity and co-ordination. G. T. Morgan and others. Chem Soc J 121:160-9, 1723-9, 1956-71, 2432-73; 123:444-52, 1096-1108 Ja, S. N '22, Mr, My '23

Some factors influencing co-ordination. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:316-19, 412-15 Mr 29, Ap 27 '23

Coordination (chemistry)—Continued

- Stability of co-ordination-compounds. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42: 711-15 J1 20 '23
- Studies of electrovalency; co-ordinated hydrogen. T. M. Lowry and H. Burgess. Chem Soc J 123:2111-24 S '23
- Über die Koordinationszahl des kohlenstoffs. A. Hantzsch. Deutsche Chem Gesell Ber 54:2627-33 N '21
- Use of co-ordination compounds in analysis. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:462-5 My 11 '23
- Valency and co-ordination. S. H. C. Briggs. Chem Soc J 119:1876-9 N '21

Co-partnership

- South suburban gas company's co-partnership meeting. Gas J (Lond) 162:547-8 My 30 '23

Copeland, Royal S.

- How advertising has aided public health. R. S. Copeland. por Ptr Ink M 4:20-1 D '21

Coping machines

- Coping machines for steel car shops. il diag Ry Mech Eng 96:601 O '22

Copper

- Action of ammonium nitrate and of aqueous ammonia on copper; properties of cupric tetrammine nitrite and nitrate. H. Bassett and R. G. Durrant. Chem Soc J 121:2630-40 N '22
- Action of several salt solutions on aluminium, copper, lead and zinc. C. H. Crowe. Can Chem & Met 6:151-2 J1 '22
- Action of solutions of alkali hydroxides on copper oxide and on copper, and the existence of salts of cupric acid. H. J. M. Creighton. Am Chem Soc J 45:1237-43 My '23
- Absorption of gases by copper. R. N. Pease. Am Chem Soc J 45:2296-2305 O '23
- Amount of copper consumed in buildings. Sheet Metal Worker 13:645 O 27 '22
- Automotive use of copper and brass increasing constantly. W. C. Hirsch. Automotive Ind 48:1282-3 Je 14 '23
- Catalytic activity of copper. O. W. Brown and C. O. Henke. J Phys Chem 26:715-27 N '22
- Copper. il U S Bur Stand Circ 73:1-108 '22
- Copper and copper alloys in the chemical and allied industries. W. Stark. il Chem Age 30: 457-9, 509-12, 555-8 O-D '22
- Copper horseshoes to help prevent forest fires. Pop Mech 38:430 S '22
- Copper shingles interlock to form durable roof. il Pop Mech 37:523 Ap '22
- Copper's importance in domestic commerce. T. D. Brophy. Min & Sci P 123:873-4 D 17 '21
- Dial copper and 12% watch nickel. W. B. Price. il Metal Ind 21:11-12, 58-9, 104-5, 148 Ja-Apr '23
- Early records of the Michigan copper industry. C. R. Keyes. Eng & Min J 112:776 N 12 '21
- Effects of oxygen on copper. D. Hanson, C. Marryat and G. W. Ford. diags Engineering 116:351-2, 383-4 S 14-21 '23; Discussion. Engineering 136:318 S 21 '23
- Electrolytic solution and deposition of copper. T. R. Briggs. Am Electrochem Soc Trans v 40 (preprint 29):376a-n O '21; Same. Brass W 18:45-8 F '22
- Extreme sensitiveness of the action of reducing atmospheres upon heated copper. T. S. Fuller. il Gen Elec R 25:184-8 Mr '22
- Fabrication and uses of copper. A. Bregman. Metal Ind 20:304-6 Ag '22
- Increasing the use of copper. Eng & Min J 113:706-7 Ap 29 '22
- Influence of copper on corrosion of steel. R. C. Case. Ry Mech Eng 97:403 J1 '23
- Laying copper roofing and gutters. W. Neubecker. diags Sheet Metal Worker 12:403-4, 465-6, 595-6, 665-6, 888-9 J1 8, Ag 5, S 30, O 28 '21, Ja 20 '22
- Magnetic surveying on the copper-bearing rocks of Wisconsin. H. R. Aldrich. map Econ Geol 18:562-74 S '23
- Massive dome roofed with copper. il diags Sheet Metal Worker 14:41-2 F 16 '23

Mineral industry of the British Empire and foreign countries, 1913-1919. 203p Gt. Brit. Imperial mineral resources bureau, London '22

Mineral industry of the British Empire and foreign countries, 1919-1921. 70p Gt. Brit. Imperial mineral resources bur., London '23

Nonferrous metal industry. A. L. Scott. Brass W 18:9-12 Ja '22

One phase of the problem of increasing the consumption of copper; abstract. H. H. Stout. Am Inst Arch J 10:XIII+ D '22

Oxidation of copper and the reduction of copper oxide by a new method. W. C. Palmer. Chem Age (Lond) 9:311 S 22 '23

Rate of combination of copper and phosphorus at various temperatures. C. A. Edwards and A. J. Murphy. Engineering 113:697-700 Je 2 '22

Secondary electron emission from copper and copper oxide surfaces. L. E. McAllister. diags Phys R 21:122-30 F '23

Some observations on copper roofing. J. F. Gowen. Sheet Metal Worker 14:575-8+ Ag 17 '23

Thermal expansion of copper and some of its important industrial alloys. P. Hidnert. il diags U S Bur Stand Sci Pa 410:91-159 '21

Use of copper and its alloys in chemical engineering. W. G. Schneider. il Chem & Met Eng 28:682-3 Ap 16 '23

Vapor pressure of copper oxide and of copper. E. Mack, G. G. Osterhof and H. M. Kraner. diags Am Chem Soc J 45:617-23 Mr '23

When copper should be used in chemical equipment. J. A. Steffens. Chem & Met Eng 28:683 Ap 16 '23

Why do America's public utility undertakings use up copper four times as fast as is necessary? L. H. B. Sandwell. Elec W 80:229 J1 29 '22

See also Brass; Bronze; Copper alloys; Copper founding; Copper industry and trade; Copper metallurgy; Copper mines and mining; Copper ores; Copper plating

Analysis

- Eine eigenartige katalytische reaktion als nachweis und bestimmungsverfahren für kleinste kupfermengen (zugleich vorlesungsversuch). F. L. Hahn and G. Leimbach. Deutsche Chem Gesell Ber 55:3070-4 O '22; Abstract. Chem Soc J 122 pt 2:870-1 O '22
- Potentiometrische titration des kupfers. E. Zintl and H. Wattenberg. diags Deutsche Chem Gesell Ber 55:3366-70 O '22; Abstract. Chem Soc J 122 pt 2:871-2 D '22
- Rapid iodometric estimation of copper and iron in mixtures of their salts. I. W. Wark. Chem Soc J 121:358-63 Mr '22
- Trivalent titanium; the estimation of copper and iron in the presence of each other. W. M. Thornton, jr. Am Chem Soc J 44:998-1001 My '22

Cleaning

- Method for cleaning and retinning. A. Eyles. Sheet Metal Worker 12:895-6 Ja 20 '22

Coloring

- Coloring of copper. D. D. Forbes. Sheet Metal Worker 14:9+ F 2 '23
- Colouring of metals. A. E. Tucker. Soc Chem Ind J 42:299-302 J1 13 '23; Same. Metal Ind 21:402-4 O '23

Cost

- Costs of American copper production, 1909-1920 inclusive. H. A. C. Jenison. Eng & Min J 113:442-5 Mr 18 '22
- Costs of the Miami copper co. Eng & Min J 115:980 Je 2 '23
- Mining costs at Butte, Montana. Eng & Min J 115:1114 Je 23 '23
- See also Copper metallurgy—Cost

Testing

- Elastic limits of copper under cyclical stress variations. diags Engineering 114:291-3 S 8 '22

Copper—Testing—Continued

Experiments in the working and annealing of copper. F. Johnson. *il Engineering* 112:899-901 D 30 '21

Copper alkali sulfates

Dissociation pressures of hydrated double sulphates; hydrated cupric alkali sulphates. R. M. Caven and J. Ferguson. *diag Chem Soc J* 121:1406-14 J1 '22

Copper alloys

Alamagoosalum alloy; troubles with aluminum and manganese brass and bronze. W. H. Parry. *Metal Ind* 20:62-3 F '22

Aluminum-copper alloys. R. J. Anderson. *Am Electrochem Soc Trans* v 40(preprint 16): 207-36 S '21; Same abr. *Brass W* 17:335-8, 364-8 N-D '21

Casting brass and bronze. C. Vickers. *Foundry* 51:578-81, 627-30 J1 15-Ag 1 '23

Cold rolling and annealing of some copper-zinc alloys. P. Powell. *diags Brass W* 19: 281-4, 335-8 S-O '23

Copper-cadmium wire for electrical transmission. W. C. Smith. *Chem & Met Eng* 25:1178-9 D 28 '21

Copper-rich aluminium-copper alloys. D. Stockdale. *il Engineering* 114:396-8; Discussion. 395-6 S '22

Hardness curves for copper-tin and copper-zinc alloys. G. K. Elliott. *Foundry* 50:278a Ap 1 '22

Influence of iron on copper and copper alloys. *Engineer* 134:412 O 20 '22; Same. *Chem & Met Eng* 27:992 N 15 '22

Internal mechanism of cold-work and recrystallisation in cupro-nickel. F. Adecock. *il Engineering* 113:305-8, 340-2 Mr 10-17 '22; Discussion. 113:317 Mr 17 '22

Linear contraction of a series of brasses and bronzes. R. J. Anderson and E. J. Fahlman. *Brass W* 19:341-3 O '23

List of alloys. W. Campbell. *Am Soc T M Pro* 22 pt 1:215-24 '22 Same. *Metal Ind* 21: 143-4, 189-90, 281-2, 360-2 Ap-May, J1, S '23

Metallographic etching reagents for copper alloys, nickel, and the alpha alloys of nickel. H. S. Rawdon and M. G. Lorentz. *il U S Bur Stand Sci Pa* 435:635-76 '22

Physical properties of some copper-silicon-aluminum alloys when sand cast. E. H. Dix, jr. and A. J. Lyon. *il Am Soc T M Pro* 22 pt 2:250-65 '22; Same. *Foundry* 51:331-6 Ap 15 '23

Preparation of light aluminum-copper casting alloys. R. J. Anderson. *U S Bur Mines Tech Pa* 287:1-44, pl 1-6 '22; Abstract. *Iron Age* 110:1687 D 28 '22

Research covers alloy age hardening. *Foundry* 50:822 O 15 '22

Seigerungserscheinungen in metalllegierungen; with discussion. O. Bauer and H. Arndt. *il diags Stahl & Eisen* 42:1346-56 Ag 31 '22; Same (Liquation phenomena in metal alloys). *Brass W* 19:103-7, 160-2 Ap-May '23

Some properties of the copper-rich aluminium-copper alloys. R. C. Reader. *il Engineering* 115:344-7 Mr 16 '23; Summary. *Engineer* 135:292 Mr 16 '23; Discussion. *Engineering* 115:322 Mr 16 '23; *Engineer* 135:292 Mr 16 '23

La tension de vapeur de quelques alliages de cuivre et de zinc, à l'état solide. L. Guillet and M. Ballay. *Génie Civil* 81:543-4 D 9 '22

Thermal expansion of copper and some of its important industrial alloys. P. Hidnert. *il diags U S Bur Stand Sci Pa* 410:91-159 '21

Thermoelectromotive force of copper-manganese alloys. S. Kimura and Z. Isawa. *Phys R* 20:441-51 N '22

See also Alloys; Aluminum bronze; Brass; Brazing; Bronze; Gun metal; Heusler alloys; Manganese bronze; Monel metal; Nickel silver

Copper ammonium hydroxide. See Schweitzer's reagent

Copper and brass research association

Collective promotion of copper and brass; what is the association that does it? W. A. Willis. *Brass W* 19:339-40 O '23

Copper starts to advertise. R. Dickinson. *Ptr Ink* 119:17-20 My 11 '22

Research as aid to the industry. *Am Ind* 23: 21 Mr '23

Copper bromides

Phototropy of inorganic salts; cuprous chloride and bromide. G. Singh. *Chem Soc J* 121:782-5 My '22

Copper carbonate

Deposition of copper carbonate from mine water. P. D. Wilson. *Min & Met* 188:37 Ag '22

Copper chlorides

Action of sodium hyposulphite on cupric chloride in aqueous solution. J. B. Firth and J. Higson. *Chem Soc J* 123:1515-19 Je '23

Action of sulphur on cuprous chloride. F. W. Pinkard and W. Wardlaw. *Chem Soc J* 121: 1300-2 J1 '22

Equilibrium in the systems, nickel chloride, cobalt chloride, cupric chloride—hydrochloric acid—water. H. W. Foote. *Am Chem Soc J* 45:663-7 Mr '23

Equilibrium of the reaction between metallic silver, cupric chloride in aqueous solution, and solid cuprous and silver chlorides. G. Edgar and L. S. Cannon. *Am Chem Soc J* 44:2842-9 D '22

Oxidising properties of sulphur dioxide; copper chlorides. W. Wardlaw and F. W. Pinkard. *diags Chem Soc J* 121:210-21 Ja '22

Phototropy of inorganic salts; cuprous chloride and bromide. G. Singh. *Chem Soc J* 121:782-5 My '22

Spectrophotometric study of solutions of cupric chloride. F. H. Getman. *J Phys Chem* 26:217-46 Mr '22

Studies on hypophosphorous acid; its reaction with cupric chloride. A. D. Mitchell. *Chem Soc J* 121:1624-38 Ag '22

See also Copper lithium chloride

Copper compounds

Absorption of carbon monoxide by cuprous ammonium carbonate and formate solutions. A. T. Larson and C. S. Teitsworth. *diag Am Chem Soc J* 44:2878-85 D '22

Action of solutions of alkali hydroxides on copper oxide and on copper, and the existence of salts of cupric acid. H. J. M. Creighton. *Am Chem Soc J* 45:1237-43 My '23

Action of thiosulphates on cupric salts. H. Bassett and R. G. Durrant. *Chem Soc J* 123:1279-91 My '23

Complexes in solutions of copper and cobalt salts. H. G. Denham and S. W. Pennycook. *Am Chem Soc J* 45:1353-7 Je '23

Peroxidic compounds of copper. J. Aldridge and M. P. Applebey. *Chem Soc J* 121:233-43 F '22

Promoter action in homogeneous catalysis; copper salts as promoters in the iron salt catalysis of hydrogen peroxide. V. L. Bohnson and A. C. Robertson. *Am Chem Soc J* 45: 2512-22 N '23

Trihalogen-methyl reactions; reaction of trichloro-acetic acid with copper. H. W. Doughty and B. Freeman. *Am Chem Soc J* 44:636-45 Mr '22

Zur kenntnis der cellulose-kupfer-verbindungen (teilweise mitbearbeitet von Frl. E. Jagla); mitteilung über cellulose. K. Hess and E. Messmer. *Deutsche Chem Gesell Ber* 55:2432-43 S '22; Abstract. *Chem Soc J* 122 pt 1:988-9 N '22

See also Chalcocite; Chalmersite; Copper chlorides; Copper oxides; Copper sulfate

Copper ethylenediamine hydroxide

Zur kenntnis der alkalischen kupferoxydlösungen und der kupferoxyd-ammin-cellulose-lösungen. W. Traube. *Deutsche Chem Gesell Ber* 54:3220-32; 55:1899-1912 D '21, Je '22; Abstract. *Chem Soc J* 122 pt 1:115-16, 718-19 F, Ag '22

Copper founding

Casting copper without a riser. N. F. Flanagan. *diag Metal Ind* 20:182 My '22

See also Brass founding

Copper halides

Crystal structures of the cuprous halides. R. W. G. Wyckoff and E. Posnjak. *Am Chem Soc J* 44:30-6 Ja '22

Copper hydroxide

Colloidal copper hydroxide as a fungicide. H. D. Hooker, jr. *Ind & Eng Chem* 15:1177-8 N '23

Zur kenntnis der alkalischen kupferoxyd-lösungen und der kupferoxyd-ammin-cellulose-lösungen. W. Traube. *Deutsche Chem Gesell Ber* 54:3220-32 D '21; *Abstract. Chem Soc J* 122 pt 1:115-16 F '22

Copper industry and trade

Commercial future of copper, brass and bronze. H. George. *Metal Ind* 19:444-6 N '21

Comparative earning power of capital invested in copper industry of western hemisphere. A. Notman. *Eng & Min J* 115:1141-6 Je 30 '23

Copper. J. Clendenin. *Eng & Min J* 115:148 Ja 20 '23

Copper before, during, and after the war. J. F. Channing. *Eng & Min J* 112:999 D 17 '21

Investing in copper shares. A. E. Parsons. *Min & Sci P* 124:157-66 F 4 '22

Marketing of copper. E. H. Robie. *Eng & Min J* 115:704-9 Ap 21 '23

Outlook for copper. J. Clendenin. *Eng & Min J* 113:130-2 Ja 21 '22

Overproduction or underconsumption of copper. F. E. Wormser. *Eng & Min J* 116:481 S 15 '23

Present and future of the copper industry. C. F. Kelley. *Min & Met* 182:9-12 F '22

Speculative position of copper. Brass W 18:369-70 D '22

See also Quincy mining company

Advertising

Copper starts to advertise. R. Dickinson. *Ptr Ink* 119:17-20 My 11 '22

Struggle of the copper industry. C. H. Getz. *Annalist* 20:467+ N 6 '22

Russia

Condition of Russian copper industry. A. Borman. *Brass W* 19:261-5 Ag '23

United States

Copper in 1921. H. A. C. Jenison. *Eng & Min J* 113:81-2 Ja 21 '22

Copper in 1921. H. A. C. Jenison. *U S Geol S Min Res* of U S 1921, pt 1:235-81 '22

Copper, lead and zinc production in the U. S. for 1921. *Chem & Met Eng* 26:153 Ja 25 '22

Copper mining future is assured. C. Hayden. *Annalist* 19:59 Ja 9 '22

Copper mining in 1922. H. A. C. Jenison. *Eng & Min J* 115:91 Ja 20 '23

Copper outlook—record for 1921. *Comm & Fin Chr* 114:480-2 F 4 '22

Copper situation. C. Hayden. *Annalist* 21:71 Ja 8 '23

Copper to be scarce. J. P. Channing. *Brass W* 18:27-8 Ja '22

Copper's dubious outlook: curtailment is threatened unless the demand increases. G. F. Creveling. *Annalist* 22:504-5+ O 15 '22

Costs of American copper production, 1909-1920 inclusive. H. A. C. Jenison. *Eng & Min J* 113:442-5 Mr 18 '22

From coal and steam power to water and electricity: the effect on the copper industry. G. L. Walker. *Annalist* 20:386+ O 16 '22

Many more copper companies resume operations. F. E. Wormser. *Eng & Min J* 113:699 Ap 22 '22

Michigan copper industry. *Eng & Min J* 114:487 S 16 '22

Output of copper increases in 1922. *Comm & Fin Chr* 116:355 Ja 27 '23

Plan for copper merger agreed upon. *Eng & Min J* 116:251 Ag 11 '23

Porphyry coppers' past and future. F. E. Calkins. *Eng & Min J* 113:350-1 F 25 '22

Production of copper in 1921. H. A. C. Jenison. *Brass W* 18:29 Ja '22; *Abstract. Am Inst E E J* 41:78 Ja '22

Statistics of the copper industry in the United States in 1921 and 1922. *Eng & Min J* 116:128-9 Jl 21 '23

What Anaconda-Chile copper merger means. *Elec W* 81:251 Ja 27 '23

See also Tariff—United States—Copper

Copper lactates

Metallic hydroxy-acid complexes; cupri-lactates. I. W. Wark. *Chem Soc J* 123:1815-26 Jl '23

Copper lithium chloride

Study of the absorption of light by solutions of cupric lithium chloride. F. H. Getman. *J Phys Chem* 26:377-83 Ap '22

Copper malates

Metallic hydroxy-acid complexes; cupri-malates; their formation, properties, and composition. I. W. Wark. *Chem Soc J* 123:1826-40 Jl '23

Copper metallurgy

Ajo enterprise of the New Cornelia copper co. A. W. Allen. flow sheet *il Eng & Min J* 113:1003-8, 1051-3; 114:184-90 Je 10-17, Jl 29 '22

Ancient South American smelting practice. J. Miers. *il Min & Sci P* 123:861-2 D 17 '21

Ball-milling and flotation at Catemu, Chile. F. Benitez. *il diags Min & Sci P* 123:883-9, 921-31 D 24-31 '21

Copper content and specific gravity of copper mattes. W. F. Deitrich and W. J. Crook. *Eng & Min J* 113:1083 Je 24 '22

Copper in impure sulphate solution. J. A. Bradbury. *Min & Sci P* 123:710 N 19 '21

Copper smelting at Braden in 1921. *Eng & Min J* 114:22 Jl 1 '22

Copper smelting by Central African natives. S. H. Ball. *diag Eng & Min J* 113:680 Ap 22 '22

Copper-smelting industry. A. G. McGregor. *Eng & Min J* 113:110-13 Ja 21 '22

Cyanide leaching of copper ores impracticable. *Eng & Min J* 113:541 Ap 1 '22

Equilibrium diagram of the system CuS—FeS. C. B. Carpenter and C. R. Hayward. *il diags Eng & Min J* 115:1055-61 Je 16 '23

Ferric salts as solvents in the leaching of roasted copper ores. P. R. Middleton. flow sheets *Eng & Min J* 114:451-4 S 9 '22; Discussion. 114:709-10, 933 O 21, N 25 '22

Heap leaching of low-grade copper ores. J. Irving. *il Eng & Min J* 113:714-21, 774-7 Ap 29-May 6 '22

History of side-charging of reverberatory furnaces. *Eng & Min J* 112:856-8 N 26 '21

Investigation of losses in copper blast-furnace slag. D. F. Stedman. *Eng & Min J* 114:1023-7, 1072-6 D 9-16 '22

Leaching a copper mine. F. E. Wormser. *il Eng & Min J* 116:665-70 O 20 '23

Leaching copper ore with SO₂. *Chem & Met Eng* 27:989 N 15 '22

Leaching nonsulphide copper ores with sulphur dioxide. C. E. van Barneveld and E. S. Leaver. flow sheets *diags U S Bur Mines Tech Pa* 312:1-91, pl 1-5 '23

Leaching ore with sulphur dioxide. J. Irving, jr. flow sheet *Eng & Min J* 114:360-4 Ag 26 '22

Metallurgical requirements of refractories in copper smelting and refining. F. R. Pyne. *Am Cer Soc J* 6:1188-90 N '23

Native copper smelting in Africa. R. Murray-Hughes. *il diags Eng & Min J* 114:490-1 S 16 '22

New Britannia mill starts on Howe Sound. B. C. R. Dunn. *il Eng & Min J* 115:375 F 24 '23

Non-ferrous metallurgy in Russia. M. G. Korsunsky. map *Eng & Min J* 113:813-15 My 13 '22

Old Japanese converting process. I. Omori. *il diag Min & Met* 189:35-7 S '22

One phase of the problem of increasing the consumption of copper. H. H. Stout. *il diag Min & Met* 191:8-15 N '22

Les progrès de la métallurgie du cuivre. A. Conduché. 254p Masson & c^{ie}, Paris '22

Pyritic smelting and basic converting at the Kosaka copper smelter. Japan. K. Ikeda. *Eng & Min J* 115:409 Mr 3 '23

Pyritic smelting at the Siemens-Kwarzchana copper works, in the Caucasus. C. Offerhaus. *il diags plans Eng & Min J* 114:589-96 S 30 '22

Résumé of copper leaching in Australia. H. R. Sleeman. *Eng & Min J* 116:193-6 Ag 4 '23

Copper metallurgy—Continued

- Review of the work of Ernest A. LeSueur. L. E. Westman. *Can Chem & Met* 6:29-32 F '22
- Separation of copper by means of phenylthiohydantoic acid. H. H. Willard and D. Hall. *Am Chem Soc J* 44:2253-4 O '22
- Simple, rapid and economical method of separating nickel and copper from iron. E. G. R. Ardagh and G. M. Broughall. *Can Chem & Met* 7:198-200 Ag '23
- Smelting silica bricks with reverberatory slags in a copper blast furnace. R. F. Wood. *flow sheet* il Eng & Min J 115:404-7 Mr 3 '23
- Sulphatizing roasting of copper ores. A. L. Tuttle. Eng & Min J 113:994 Je 10 '22
- Sulphatizing roasting of semi-oxidized copper ores. P. R. Middleton. il Eng & Min J 113:629-31 Ap 15 '22
- Sulphur-dioxide leaching of copper ores. Eng & Min J 113:1078-9 Je 24 '22
- Sulphur-dioxide leaching of copper ores as viewed by an Australian. B. Du Faur. Eng & Min J 115:669 Ap 14 '23
- Treating the copper impurity in lead ores. D. C. McGruer. *Min & Sci P* 123:606-8 O 29 '21
- Treatment of mixed sulfide-oxide ores of copper. H. W. Morse. il flow sheet *Min & Met* 189:15-20 S '22
- Water in blister copper bars and pigs. A. R. Ledoux. il *Min & Met* 190:7-9 O '22
- Webster process. Eng & Min J 113:434-5, 615-16 Mr 18, Ap 15 '22

Bardt process

- Precipitating copper by the Bardt process. Eng & Min J 114:413, 622 S 2, O 7 '22

Cost

- Miami copper's costs per ton decline. Eng & Min J 113:1046 Je 17 '22
- Milling operations of Utah copper co. in 1921. Eng & Min J 114:190 Jl 29 '22
- Milling results at Inspiration consolidated copper co. Eng & Min J 115:978 Je 2 '23

Electrometallurgy

- Calculation of anode-furnace charges in a copper refinery. C. M. Brister, jr. Eng & Min J 113:167-9 Ja 28 '22
- Conductivity of copper refining electrolytes. E. F. Kern and M. Y. Chang. *Am Electrochem Soc Trans* v 41 (preprint 11):125-42 Ap '22; Excerpt. *Chem & Met Eng* 26:873-4 My 10 '22
- L'extraction électrolytique du cuivre par le procédé Greenawalt. *diags Génie Civil* 82: 85-6 Ja 27 '23
- Greenawalt electrolytic copper-extraction process. W. E. Greenawalt. *diags Eng & Min J* 114:712-17 O 21 '22
- Trail smelter. G. J. Young. *flow sheets* il Eng & Min J 116:139-49 Jl 28 '23
- Two electrolytic copper processes compared. A. G. Betts. Eng & Min J 115:19-21 Ja 6 '23
- Westly electric furnace for copper smelting. C. S. Witherell and H. E. Skuogor. il *diags Eng & Min J* 113:356-61 Mr 4 '22

Patents

- Webster-Dosenbach decision. Eng & Min J 114:1069 D 16 '22

Copper mines and mining

- Leaching a copper mine. F. E. Wormser. il Eng & Min J 116:665-70 O 20 '23
- Loading converter matte. F. Taylor. *Min & Sci P* 123:790 D 3 '21
- Work of the geological department at a porphyry copper mine. X. B. Starnes. *Min & Sci P* 124:361-6, 396-404 Mr 18-25 '22
- See also Copper ores

Arizona

- Ajo enterprise of the New Cornelia copper co. A. W. Allen. il maps Eng & Min J 113: 952-6, 1003-8, 1051-3; 114:184-90 Je 3-17, Jl 29 '22
- Bisbee mining district: past, present, and future. M. J. Elsing. *biolog* il map Eng & Min J 115:177-84 Ja 27 '23
- Early days at Ajo. T. F. Van Wagenen. Eng & Min J 114:49-50 Jl 8 '22

- Electrified copper mine. J. B. Johnson and C. L. Gerhardt. il *diags plan Elec W* 82: 903-9 N 3 '23
- Mining under fire conditions. W. G. Scott and S. A. McWhirter. *diags Eng & Min J* 116:101-6 Jl 21 '23
- Sampling and estimating ore in Copper Queen mines. R. W. Prouty and R. T. Green. *Min & Met* 191:51-4 N '22
- Story of the New Cornelia. T. A. Rickard. Eng & Min J 115:7-10 Ja 6 '23

Bolivia

- Geology of the Corocoro copper district of Bolivia. J. T. Singewald, and E. W. Berry. 117p Johns Hopkins press, Baltimore '22

British Columbia

- Marble Bay mine, Texada Island, British Columbia. V. Dolmage. *Econ Geol* 16:372-92, pl 12-13 S '21

Chile

- Geology of the Braden mine, Rancagua. W. Lindgren and E. S. Bastin. *diags maps Econ Geol* 17:75-99 Mr '22; Discussion. R. Marsh, jr. 17:498-501 S '22

Finland

- Copper mines of eastern Finland. *Min & Sci P* 124:94 Ja 21 '22; Same cond. Eng & Min J 113:47 Ja 14 '22

Idaho

- Diamond drilling in the Seven Devils mountains. F. A. Kennedy. il Eng & Min J 113: 521-3 Ap 1 '22

Japan

- Mining methods at the Ashio copper mine; abstract. M. Otagawa. il *Min & Met* 182:57 F '22
- Sumitomo: a Japanese Anaconda. il Eng & Min J 115:16-18 Ja 6 '23

Montana

- East Butte's mining operations. F. E. Wormser. il *diags Eng & Min J* 115:449-54 Mr 10 '23

New Mexico

- Chino enterprise. T. A. Rickard. il map Eng & Min J 116:753-8, 803-10 N 3-10 '23

North Carolina

- Geology and ore deposits of the Virginiana district of Virginia and North Carolina. F. B. Laney. (North Carolina. *Geologic and economic survey*. Bul. 26) 176p J. P. Bell, Lynchburg, Va. '17

Peru

- Ica copper region of Peru. A. B. Reader. Eng & Min J 115:578 Mr 31 '23
- Peruvian copper mines to be developed by A. S. & R. subsidiary. Eng & Min J 113:669 Ap 22 '22

Spain

- Copper in the Sierra Nevada, Spain. C. De Kalb. il *diags map Min & Sci P* 124:291-8 Mr 4 '22

Copper ores

- Chuquibambilla ore body. J. A. Hendricks. (Bul. Dept. geol. sci. v. 14, no. 2) p 75-81 Univ. of Cal. press, Berkeley '22
- Copper deposits of the Tyrone district, New Mexico. S. Paige. *U S Geol S Prof Pa* 122: 1-53 '22
- Copper ores. R. Allen. 221p J. Murray, London '23
- Primary chalcocite: Bristol copper mine, Connecticut. A. M. Bateman. il *Econ Geol* 18: 122-66 Mr '23
- Sampling and estimating disseminated copper deposits; abstract. I. B. Joralemon. *diag Min & Met* 182:51-2 F '22

Copper oxides

- Behaviour of cuprous oxide photo-voltaic cells. A. D. Garrison. *J Phys Chem* 27:601-22 O '23

- Catalytic formation of water vapor from hydrogen and oxygen in the presence of copper and copper oxide. R. N. Pease and H. S. Taylor. *Am Chem Soc J* 44:1637-47 Ag '22
- Catalytic oxidation of carbon monoxide; efficiency of the catalysts, manganese dioxide, cupric oxide and mixtures of these oxides. J. A. Almqvist and W. C. Bray. *diag Am Chem Soc J* 45:2305-22 O '23
- Cupric oxide, jellies. H. B. Weiser. *J Phys Chem* 27:685-91 O '23
- Hydrous cupric oxide. H. B. Weiser. *J Phys Chem* 27:501-32 Je '23
- Reduction of copper oxide by carbon monoxide and the catalytic oxidation of carbon monoxide in presence of copper and of copper oxide. H. A. Jones and H. S. Taylor. *diag J Phys Chem* 27:623-51 O '23
- Reduction of copper oxide by hydrogen. R. N. Pease and H. S. Taylor. *diags Am Chem Soc J* 43:2179-88 O '21
- Secondary electron emission from copper and copper oxide surfaces. L. E. McAllister. *diag Phys R* 21:122-30 F '23
- Study of the effect of adsorbed gas on the high-frequency resistance of copper wire. A. Bailey. *il diags Phys R* 20:154-65 Ag '22
- Vapor pressure of copper oxide and of copper. E. Mack, G. A. Osterhof and H. M. Kraner. *diags Am Chem Soc J* 45:617-23 Mr '23
- Copper plating**
Building up worn metal parts by electro-deposition. W. E. Hughes. *Chem & Met Eng* 26:267-9 F 8 '22
- Electrodeposition of metals—copper. W. E. Hughes. *Brass W* 19:110-12, 144-8 Ap-May '23
- Protective action of copper in case carburizing. J. C. McCullough and H. A. H. Pray. *Chem & Met Eng* 27:1119-20 D 6 '22
- Structure and properties of alternately electrodeposited metals. W. Blum. *Chem & Met Eng* 25:961-3 N 23 '21
- Copper research.** See Copper and brass research association
- Copper smelting.** See Copper metallurgy
- Copper sulfate**
Aerators and copper sulphate for tastes and odors. H. M. Ely. *il diag Eng N* 89:70-1 JI 13 '22
- Application of copper sulphate to reservoirs. J. E. Garratt. *Can Eng* 43:396-7 S 26 '22; Same. *Eng & Contr (W W)* 58:18-21 O 11 '22; Same. *N E Water Works Assn J* 36:522-6 D '22; Same cond. *Pub Works* 53:240-1 N '22; Same cond. *Eng N* 89:1124-5 D 28 '22
- Basic copper sulphate. F. S. Williamson. *J Phys Chem* 27:789-97 N '23
- Copper sulphate treatment for preventing algae growths in lakes and reservoirs; experiences at Fairmount. Minn. N. L. Huff. *Eng & Contr* 58:33-6 JI 12 '22; Same. *Can Eng* 43:298-301 Ag 29 '22
- Prevention of tastes and odors due to microscopic organisms; history of New York's problem. W. W. Brush. *il map Eng & Contr* 57:560-1 Je 14 '22; Same. *Can Eng* 42:673-4 JI 4 '22
- Synura and other organisms in Catskill water supply. W. W. Brush. *il map plan Eng N* 88:266-71 F 16 '22
- Copper sulfide**
Equilibrium diagram of the system Cu_2S —FeS. C. B. Carpenter and C. R. Hayward. *il diags Eng & Min J* 115:1055-61 Je 16 '23
- Neue beobachtungen am kupfersulfid. W. Gluud. *Deutsche Chem Gesell Ber* 55:952-3 Ap '22
- Die strukturformel des kupfersulfids. W. Gluud. *Deutsche Chem Gesell Ber* 55:1760-1 Je '22
- See also Chalcocite
- Copper tetrammine nitrite**
Action of ammonium nitrate and of aqueous ammonia on copper; properties of cupric tetrammine nitrite and nitrate. H. Bassett and R. G. Durrant. *Chem Soc J* 121:2630-40 N '22
- Copper wire.** See Wire, Copper
- Copper works**
Management in the brass and copper industry. J. E. Morrison. *Management Eng* 2:1-6, 103-8, 173-8, 237-42, 297-302, 367-70 Ja-Je '22
- Copra**
Coconut oil; how the copra is handled and the oil expressed and refined. A. W. Allen. *flow sheet il diag Chem & Met Eng* 29:614-20 O 1 '23
- Coconut oil or copra as Philippine export. V. Villamin. *Oil Paint & Drug Rep* 104:21 O 15 '23
- Copra and coconut oils in the Netherlands, East Indies and British Malaya. J. A. Fowler. *U S Bur For & Dom Com Trade Information Bul* 34:1-12 '22
- Copy for advertisements.** See Advertisements—Copy
- Copy preparation.** See Advertisements—Copy; Printing, Practical
- Copying processes**
Duplicating industrial records and reports. H. L. Keely. *il Management Eng* 2:363-6 Je '22
- Labor-saving method of duplicating problems for engineering students. H. L. Whittemore. *diags Eng Educ* 13:345-53 F '23
- This store selling plan cut railway accidents; an inexpensive, home-made mailing knack. E. Thompson. *il System* 42:281-2 S '22
- Copyright**
Copyright on directory of trade-marks upheld. *Ptr Ink* 118:126+ F 23 '22
- When the printer employs color; when may a color scheme of a label or package be copyrighted? W. Fawcett. *Inland Ptr* 69:525-6 JI '22
- Advertisements**
Do you copyright your advertisements? C. P. Carter. *Ptr Ink M* 6:82+ Ja '23
- How to copyright unpublished advertising sketches. J. P. Wilder. *il Ptr Ink M* 4:35 Ja '22
- Rights to copyrighted advertising upheld by court. *Ptr Ink* 122:138+ F 15 '23
- Great Britain**
Copyright, condensed and explained. L. C. Russell. 64p Jarrolds, Ltd., London '22
- Coral Gables, Florida**
Building homes of coral. *il plans Bldg Age* 45:35-7 S '23
- Coral reefs and islands**
Broken coral reefs as aggregate for concrete. R. J. Beaujon, jr. *il diags Concrete* 23:55-7 Ag '23
- Marginal belts of the coral seas. W. M. Davis. *Am J Sci* 5th ser 6:181-95 S '23
- Corals**
Ancestry of the hexacoralla. W. I. Robinson. *Am J Sci* 5th ser 6:424-6 N '23
- History of corals and the limeless oceans. P. E. Raymond. *il Am J Sci* 5th ser 2:343-7 D '21
- Soft coral rock hardens when used in houses. *Pop Mech* 40:539 O '23
- Coralydine**
Reduction des coralyns zu dihydro-coralydine und coralydine. W. Schneider and O. Böger. *Deutsche Chem Gesell Ber* 54:2021-31 S '21; Abstract. *Chem Soc J* 120 pt 1:801-2 N '21
- Coralyn**
Reduktion des coralyns zu dihydro-coralydine und coralydine. W. Schneider and O. Böger. *Deutsche Chem Gesell Ber* 54:2021-31 S '21; Abstract. *Chem Soc J* 120 pt 1:801-2 N '21
- Corbino effect**
Corbino effect in iron. E. P. Adams. *Philos Mag* 6th ser 42:677-9 N '21
- Cordage mills**
Principles of pneumatic conveying shown by an unusual conveyor for cordage mill waste. H. M. Nichols. *il Management Eng* 3:1-4 JI '22; Same cond. *Ind Management (Lond)* 8:259-62 N 2 '22
- Corduroy**
Velvet and corduroy industry. J. H. Cooke. 116p Pitman '22

Core baking

Air required in baking cores made with linseed oil. J. C. Olsen. Chem & Met Eng 25:948-9 N 23 '21

Core boxes

Construction features useless detail. M. E. Duggan. diags Foundry 51:678 Ag 15 '23
Construction of coreboxes. J. Horner. diags Foundry 51:156-60, 188-92 F 15-Mr 1 '23
Corebox construction is simplified. M. E. Duggan. diags Foundry 51:506-7 Je 15 '23
Core box for making sash-weight cores. il diag Iron Age 110:344 Ag 10 '22
Core forms square eye in sash weights. diags Foundry 50:601 Jl 15 '22
Easily constructed core-box. M. E. Duggan. diags Mach 29:682 My '23
Method employed to make tee corebox. J. W. Broadbent. diag plan Foundry 50:291-2 Ap 1 '22
Skeleton corebox forms core in one piece. M. E. Duggan. diags Foundry 50:337 Ap 15 '22
Tries band saw for pattern work. M. E. Duggan. diags Foundry 51:845 O 15 '23

Core oven cars**Repair**

Core oven car repairs made in foundry. J. W. Robertson. diags Foundry 50:847 O 15 '22

Core ovens

Core-ovens tests; oil-fired vs. electric core ovens; with cost tables. F. L. Wolf and A. A. Grubb. Metal Ind 20:346-50 S '22; Abstract. Min & Met 184:37-8 Ap '22

Gas burning equipment installed on large core oven. W. M. Hepburn. il diags Iron Age 109:342-3 F 2 '22

Heat oven electrically. il Foundry 51:556 Jl 1 '23

Study core oven heat loss. C. F. Mayer. il diags Foundry 50:839-43, 885-8 O 15-N 1 '22

Cores. See Foundry practice; Molds**Cork**

Electric heater softens cork composition and maintains uniform temperature. A. Kochs. diag Elec R 80:139-40 Mr '22

Cork, Artificial

Artificial cork; waste materials used in its manufacture, and the applications found for it. I. Ginsberg. il Sci Am 126:91 F '22

Corliss, George H.

Reminiscences of a veteran mechanical engineer. Power 58:50-2 Jl 10 '23; Discussion. 58: 266-7, 306-7, 340-1, 467-8, 545 Ag 14-28, S 18, O 2 '23

Corn

Acetone, butanol, and ethanol in gas from the butyric fermentation of corn. A. L. Davis. Ind & Eng Chem 15:631-2 Je '23

Burning up the corn. H. C. Hardy. Sci Am 126:244 Ap '22

Characteristic proteins in high- and low-protein corn. M. F. Showalter and R. H. Carr. Am Chem Soc J 44:2019-23 S '22

Heat value of corn. W. L. DeBaufre. Power 56:212 Ag 8 '22; Same. Am Soc Heat & V E J 28:739-40 O '22

Method for determining hydrogen sulfide evolved by foods when cooked at various temperatures; its application to steam distillation under pressure. E. E. Kohman. diag J Ind & Eng Chem 14:527-9 Je '22

Where corn is king; why our agricultural prosperity depends largely on our annual hundred million acres of corn. G. H. Dacy. il Sci Am 129:22-3 Jl '23

See also Hominy

Prices

When does it pay to burn corn instead of coal? W. F. Schaphorst. Sanitary & Heat Eng 97:125 Mr 10 '22

Corn oil

Chemical composition of corn oil. W. F. Baughman and G. S. Jamieson. Am Chem Soc J 43:2696-2702 D '21

Comparison of corn oils obtained by expeller and benzol extraction methods. A. F. Sievers. bibliog diag U S Agric Bul Prof Pa 1054:1-20 '22; Abstract. Chem & Met Eng 26:942-3 My 17 '22

Corn oil an example of conservation by the chemist. A. F. Sievers. Chem Age 31:33-4 Ja '23

Preparation of an edible oil from crude corn oil. A. F. Sievers and J. H. Shrader. diags U S Agric Bul 1010:1-25 '22

Study of the phytosterols of corn oil, cottonseed oil and linseed oil. R. J. Anderson and M. G. Moore. Am Chem Soc J 45:1941-53 Ag '23

Corn products refining company

Three ways to build steady profits. E. T. Bedford. il System 43:306-9+ Mr '23

Corn starch. See Starch**Corn sugar. See Dextrose****Corncoobs**

Building material from corn coobs. Chem Age 30:515 N '22

Corncob seen as source of new industry. il Pop Mech 38:765 N '22

Furfural from corncoobs. F. B. LaForge and G. H. Mains. il diags Ind & Eng Chem 15:499-502, 823-9, 1057-60 My, Ag, O '23

Preparation of xylene from maize coobs. A. R. Ling and D. R. Nanji. Chem Soc J 123:620-1 Mr '23

Cornell, W. G., company, New York city

What is essential for success in the plumbing business. il Dom Eng 98:2-4 Ja 7 '22

Cornices

How to make and erect modillion cornices. diags Sheet Metal Worker 13:518-20, 582-3, 610-11+ S 1, 29-O 13 '22

Cornices, Concrete

How to make forms for concrete buildings—belt courses and cornices. W. F. Lockhardt. diags Concrete 21:45-7 Ag '22

Corona (electricity)

Corona in air spaces in a dielectric. J. E. Shrader. diags Am Inst E E J 41:702-9 S '22; Discussion. 41:965-81 D '22

Pressure in the corona discharge. J. Kunz. Phys R 19:165-72 F '22

Time and pressure measurements in the corona. C. S. Fazel. il diag Phys R 19:157-64 F '22

Wave form and amplification of corona discharge. J. B. Whitehead and N. Inouye. diags Am Inst E E J 41:1-10 Ja '22; Discussion. 41:662-3 S '22

Coronado coal company case

Labor union held suable under Sherman law by Supreme court—the Coronado coal case. Comm & Fin Chr 114:2538-9 Je 10 '22

Plaintiffs urge rehearing of Coronado case. Coal Age 22:418 S 14 '22

Status of unincorporated labor organizations as to liability for damages and acts affecting interstate commerce. Monthly Labor R 15:147-52 Jl '22

What the Coronado case really means. Nation's Business 10:12 Jl '22

Corporate names

Changing the name without lost motion. Ptr Ink 122:111-12 F 22 '23

Quick change in company's name promotes sale of new product; The Best Foods, inc. Ptr Ink 125:111-12 O 18 '23

When a corporate title might deceive the public. Ptr Ink 123:28 Ap 12 '23

Corporation law

Advantages, organization and management of Massachusetts business corporations. F. A. North. 4th ed. 151p Johnson & North, Boston '22

American corporations. J. J. Sullivan. 2d ed., rev. & enl. 463p Appleton '21

Arnold's guide for New York business corporations. J. A. Arnold. 7th ed., rev. & enl. 543p Baker, Voorhis & co., New York '21

Bill amending N. Y. stock corporation-law requiring reports of existence signed by governor. Comm & Fin Chr 114:1494-5 Ap 8 '22

Corporation law—Continued

Byers on Kentucky corporations. G. K. Byers. 544p W. H. Anderson co., Cincinnati '23

Corporation forms and precedents; supplement. W. M. Fletcher. 806p Callaghan & co., Chicago '23

Corporation laws of New York. R. P. Ettlinger. 374p Prentice-Hall, New York '21

Digest of the corporation laws of the several states. Univ. bur. of research, Cleveland, O. '23

Doing business under Japanese company laws. F. R. Rutter. U S Bur For & Dom Com Trade Information Bul 46:1-7 '22

Foreign corporations. Rev. ed. 64p U.S. corporation co., New York '23

Handbook on companies. W. K. Fraser and H. W. Macdonnell. 414p Carswell co., Toronto, Canada '22

Law of corporations. A. W. Bays. 2d ed. 255p Callaghan & co., Chicago '21

Law of corporations (Maryland). J. W. Bryan. 4v Baltimore Pace institute, Baltimore '21

La loi sur les sociétés: historique de la loi de 1867; modifications successives; errements nouveaux. L. Le Chatelier. Génie Civil 80:362-4 Ap 22 '22

New Jersey corporation law. J. B. R. Smith. 2d ed. 1419p Soney & Sage co., Newark '23

New York laws affecting business corporations. J. B. R. Smith, ed. 4th ed. 266p United States corporation co., New York '23

Payment of dividends before restoring impaired capital. C. F. Schlatter. J Account 35:172-85 Mr '23; Same. Paper Tr J 77:57-60+ Ji 5 '23

La protection des actionnaires dans les sociétés anonymes. A. Lainé. Génie Civil 80:233-6 Mr 11 '22

Representation of Works councils on boards of directors of German corporations. Monthly Labor R 15:30-2 Ji '22

75 points of comparison, corporation laws, Delaware, New York, Illinois, Michigan, Indiana. 19p Corporation trust co. system, Chicago '22

75 points of comparison, corporation laws, Minnesota, Delaware, Wisconsin, Iowa, Nebraska. 19p Corporation trust co. system, Chicago '22

Les sociétés anonymes. J. Ract. 585p Rousseau & cie, Paris '21

State laws regulating foreign corporations. Ptr Ink 122:19-20 Ja 18 '23

State regulation of foreign corporations. L. Childs. Ind Management 64:251-2 O '22

Stockholder in a corporation cannot bind his firm to pay for goods without some specific authority to do so. Dom Eng 98:321-2 F 18 '22

Treatise on the law of corporations in New York. A. I. Rosbrook. 1264p M. Bender & co., Albany, N.Y. '22

Treatise on the law of private corporations. C. B. Elliott. 5th ed., rev. 773p Bobbs '23

Where and how; a corporation hand book containing the laws of Delaware, New Jersey, New York and Pennsylvania. J. S. Parker. 6th ed. 350p Broun-Green co., New York '22

See also Banking law; Building and loan associations; Commercial law; Income tax; Public utilities—Law; Railroad law; Trusts, Industrial

Corporation schools

Apprenticeship training program of a large corporation; Worthington pump company. J. F. Biehl. Ind Management 64:209-12+ O '22

Building workers from within the plant. R. McKnight. Factory 30:30-2+ Ja '23

Central stations and technical schools. M. S. Sloan. Elec W 81:971-2 Ap 23 '23

Chance for self education increases efficiency in California and Hawaiian sugar refining corporation. L. F. Leurey. J Elec 49:135-6 Ag 15 '22

Free school for teaching oil burning. il Marine R 53:408-10 N '23

Corporations

Common law companies established by deed of trust. T. H. Sanders. Administration 4:163-8 Ag '22

Corporation procedure. T. Conyngton, R. J. Bennett and P. W. Pinkerton. 1689p Ronald press '22

Manual of corporation minutes. C. F. Bostwick. 12th ed., rev. 256p Broun-Green co., New York '22

Notes on corporate organization and accounts. H. C. Bentley. 29p Bentley school of accounting and finance, Boston '22

Organization and management of business corporations in Ohio. H. A. Couse. 2d ed. 447p W. H. Anderson co., Cincinnati '23

See also Banks and banking; Building and loan associations; Combinations, Industrial; Corporate names; Corporation law; Electric utilities; Gas companies; Government ownership; Municipal ownership; Promoters; Public utilities; Railroads; Secretaries; Stocks; Street railroads; Trust companies; Trusts, Industrial

Accounting

Accounting for modern corporations. W. M. Lybrand, F. H. Macpherson and A. L. Dickinson. 87p American school, Chicago '22

Accounting theory, with special reference to the corporate enterprise. W. A. Paton. 508p Ronald press '22

Minority interests in inter-company profits. W. T. Sunley. J Account 35:350-5 My '23

Problem in the consolidation of three corporations. H. A. Finney. J Account 36:51-9, 371-89 Ji, N '23

Stock investments. H. A. Finney. J Account 34:297-310 O '22

Surplus of corporations. P. W. Pinkerton. Administration 4:437-44, 588-96; 5:68-76, 213-20, 335-42, 459-64 O-N '22, Ja-Ap '23

See also Consolidated statements; Dividends

Finance

American cotton oil transfers trade-marked brands to Gold Dust corporation. Ptr Ink 124:10+ S 27 '23

Controlling the finance of a business. J. O. McKinsey and S. P. Meech. 638p Ronald press '23

Corporation finance. A. S. Dewing and F. R. Dewing. 457p Ronald press '22

Finance and common sense. C. L. Eiermann. Management & Adm 6:487-90 O '23

President of Libby, McNeill and Libby issues frank statement. Ptr Ink 119:93-4 Ap 13 '22

Problems in private finance. C. W. Gerstenberg. 68p Prentice-Hall, New York '22

Problems of the corporation treasurer. G. B. Robinson. Administration 4:525-33, 656-64 N-D '22

Stock rights—what they really are. T. York. Administration 4:53-63 Ji '22

Syllabus of corporation finance. C. W. Gerstenberg. 1922 ed. 58p Prentice-Hall, New York '22

See also Consolidated statements; Public utilities—Finance; Railroads—Finance; Securities

Taxation

Contingent liability of corporations on past tax returns. M. Goldstein. Administration 5:83-5 Ja '23

Corporation surplus and stock dividends. G. E. Roberts. Ptr Ink 121:61-2+ D 14 '22

Corporations under the new tax law. M. Rindler. Administration 3:223-9 F '22

Federal taxes and the application of the various relief sections. Paper Tr J 77:53-5 Ag 30 '23

Income tax—new provisions affecting returns of corporations. Comm & Fin Chr 114:805 F 25 '22

Invested capital accounting. J. W. Beers. 307p Accountants' pub. co., Washington, D.C. '22

New York state franchise tax on business corporations. 44p Guaranty trust co. of New York, New York '22

Corporations—Taxation—Continued

New York state franchise tax on business corporations. 32p Equitable trust co. of New York, New York '22

Pennsylvania corporation taxes on the capital stock and loans of corporations. S. L. Ruslander and F. W. Main. 516p Accountants supply co., Pittsburgh, Pa. '23

Tax on foreign corporations in New York—shares having no par value cannot be assessed at \$100. Comm & Fin Chr 115:403 J1 '22 '22

Taxation of corporations and personal income in New York. H. M. Powell. 4th ed. Boyd press, 29 Reade st., New York '21

U.S. Supreme court holds stock transferred in corporate reorganization subject to income tax. Comm & Fin Chr 113:2472-3 D 10 '21

See also Excess profits tax; Income tax; Mine taxation; Railroads—Taxation

Corporations, Public service. See Public utilities**Corpuscular theory of matter.** See Matter**Correspondence, Commercial.** See Commercial correspondence**Correspondence schools and courses**

Extension and correspondence schools. J. A. Moyer. Mech Eng 45:169-73 Mr '23

Corrosion and anti-corrosives

A.C.S. division of industrial and engineering chemistry. Chem & Met Eng 29:574-5 S 24 '23

Acid and rust proof materials for chemical works. R. Furness. Chem Age (Lond) 9: 198-200 Ag 25 '23

Adsorption a criterion of corrosion. B. D. Saklatwalla. Chem & Met Eng 27:647 S 27 '22

Alloys resistant to corrosion; discussion. Engineering 115:517-18 Ap 27 '23; Elec R (Lond) 92:716 My 4 '23

Analyses of the causes and remedy for the corrosion of mains. Gas Age 51:696 Je 2 '23

Boiler corrosion. Eng & Ind Management 7: 351-3 Ap 20 '22

British engineers investigate corrosion of condenser tubes. Power 55:560 Ap 4 '22

Brittleness developed in aluminum and duralumin by stress and corrosion. H. S. Rawdon, A. I. Krynitsky and J. F. T. Berliner. il Chem & Met Eng 26:154-8 J 25 '22

Brittleness developed in pure lead by stress and corrosion. H. S. Rawdon, A. I. Krynitsky and J. F. T. Berliner. il Chem & Met Eng 26:109-11 Ja 18 '22

Catalytic action of colloids in corrosion. J. K. Wood. Chem & Met Eng 29:188-92 J1 30 '23

Colloidal theory of rust. J. N. Friend. Sci Am 127:79 Ag '22

Commercial rust remover and pickling compound. Am Mach 57:825 N 23 '22

Control of boiler and economizer corrosion. J. R. McDermet. Power 57:346-7 F 27 '23

Control of corrosion by deactivation of water. F. N. Speller. il diags J Fr Inst 193: 515-42 Ap '22; Same. Blast F & Steel Pl 10: 500-4, 592-6 O-N '22; Same cond. Can Eng 44:128-31 Ja 9 '23

Control of corrosion in refrigerating systems. F. N. Speller. A S R E J 8:216-21; Discussion. 221-4 N '21

Correction and protection of condenser tubes; abstracts. G. D. Bengough. Engineer 133:266 Mr 10 '22; Engineering 112: 302-3 Mr 10 '22; Discussion. Engineer 133: 295-6 Mr 17 '22; Engineering 112:303 Mr 10 '22

Corrosion. Engineer 134:357-8 O 6 '22

Corrosion and its cure. Power 55:158 Ja 24 '22

Corrosion and its prevention in vessels carrying water. J. R. McDermet. Am Soc Heat & V E J 28:407-16 My '22; Abstract. Heat & Ven 19:52-4 J1 '22; Discussion. Am Soc Heat & V E J 28:581-3 J1 '22

Corrosion and other deposits in gas services. B. Richardson. Gas J (Lond) 162:348-50 My 9 '23

Corrosion—apparatus to prevent it. il diags Power 56:645-8, 728-30 O 24, N 7 '22

Corrosion as affecting the metals used in the mechanical arts. W. H. Hatfield. il Engineer 134:639-43 D 15 '22; Discussion. Engineering 114:747-8 D 15 '22

Corrosion by acid water. D. H. Jackson. Power 55:217 Ag 7 '23

Corrosion due to galvanic effect. diag Power 55:788; 56:141 My 16, J1 25 '22

Corrosion in gas-mains and meters. H. E. Williams. Gas J (Lond) 162:725-6; 163:679 Je 20, S 5 '23; Discussion. H. G. Colman. 162:794 Je 27 '23

Corrosion in iron and steel pipe. Textile World 60:2873+ N 12 '21

Corrosion in service tests and in actual service. B. Chapple. Ry Age 71:1185 D 17 '21

Corrosion investigations. D. M. Strickland. il Sci Am 126:104 F '22

Corrosion—its cause and cure. diags Power 56:532-3 O 3 '22

Corrosion of a producer-gas cooling system. L. E. Jackson. il diag Chem & Met Eng 26:60-4 Ja 11 '22

Corrosion of chrome steels. Sci Am 127:95 Ag '22

Corrosion of electrolytic iron. W. E. Hughes. il Chem & Met Eng 29:536-7 S 17 '23

Corrosion of ferrous metals; abstracts. R. A. Hatfield. Engineering 113:419 Ap 7 '22; Engineer 133:414 Ap 14 '22; Eng & Contr 57: 530 My 31 '22; Iron Tr R 70:1481-3 My 25 '22; Mech Eng 44:734-5 N '22

Corrosion of iron and steel. T. S. Fuller. Gen Elec R 25:425-7 J1 '22

Corrosion of iron and steel. C. L. Wright. il Locomotive 34:131-43 Ja '23

Corrosion of iron and steel—influence of molecular concentration on immersion-test investigations. D. M. Strickland. Chem & Met Eng 26:1165-9 Je 21 '22

Corrosion of iron by natural waters. Chem & Met Eng 27:592+ S 20 '22

Corrosion of iron in concrete. B. Zschokke. Eng & Contr (Bldgs) 60:194-5 J1 25 '23

Corrosion of lead-covered wiring by oak. P. Dunsheath. il Elec R (Lond) 90:690-1 My 19 '22

Corrosion of metals by refrigeration brine. P. Poste and M. Donauer. Chem & Met Eng 28:645 Ap 9 '23

Corrosion of metals in acid mine water. Ind Management (Lond) 10:220+ O 18 '23

Corrosion of petroleum refining equipment. R. R. Matthews and P. A. Crosby. il Chem & Met Eng 26:1119-20 Je 14 '22; Same. Nat Pet N 14:39+ Ag 30 '22

Corrosion of rustproofed iron and steel. W. P. Wood. diag Chem & Met Eng 28:769-72 Ap 30 '23; Discussion. 28:1081 Je 18 '23

Corrosion of spikes in treated and untreated ties. il Ry R 72:459-60 Mr 10 '23

Corrosion of underground structures. E. R. Shepard. il Munic Eng 64:51-3 F '23

Corrosion of various steels. Iron Tr R 70:1475 My 25 '22; Same. Blast F & Steel Pl 10:346 Je '22

Corrosion patterns on cold-worked tin and zinc. H. S. Rawdon, A. I. Krynitsky and J. F. T. Berliner. il Chem & Met Eng 26:212-13 F 1 '22

Corrosion-resisting irons and steels. J. A. Aupperle. Chem & Met Eng 28:681-2 Ap 16 '23

Corrosion; some brief notes in relation to internal-combustion engines. W. R. D. Shaw. Automobile Eng 13:139-40 My '23

Corrosion under oil films, with special reference to the cause and prevention of the after-corrosion of firearms. W. J. Huff. il U S Bur Mines Tech Pa 188:1-26 '22

Corrosion, with special reference to the ferrous metals and the deterioration of ships. A. Pickworth. Electrician 89:100-1 J1 28 '22

Costliness of corrosion. Eng & Contr 58:308 S 27 '22

De-aerating heater reduces tube corrosion. il Power Pl Eng 26:1063 N 1 '22

Discussion on corrosion of iron and steel. Am Soc T M Pro 21:191-4 '21

Effect of velocity on the corrosion of steel in sulfuric acid. W. G. Whitman and others. diag Ind & Eng Chem 15:672-6 J1 '23

Electro-chemical corrosion of pipe. W. N. Smith. Gas Age 48:665-7 N 19 '21

Corrosion and anti-corrosives—Continued

Experiments on the corrosion of iron and steel. W. D. Richardson. *Am Inst Chem Eng Trans* v 13 pt 1:169-263 '20

Fighting corrosion as a major source of waste in industry. R. H. Hubbell. *il J Elec* 49:9-11 J1 '22

How iron rust grows. A. Gradenwitz. *il Sci Am* 128:183 Mr '23; Same. *Brass W* 19:123-4 Ap '23

Influence of copper on corrosion of steel. R. C. Case. *Ry Mech Eng* 97:408 J1 '23

Influence of nickel and chromium upon the solubility of steel in relation to corrosion. W. H. Hatfield. *il diag Engineering* 116:415-16; Discussion. 403-4 S 28 '23

Influence of protective colloids on the corrosion of metals and on the velocity of chemical and physical change. J. A. N. Friend and R. H. Vallance. *Chem Soc J* 121:466-74 Mr '22

Is all corrosion electrochemical; abstract. U. R. Evans. *Power* 58:629 O 16 '23; Abstracts, with discussion. *Engineer* 136:317-18 S 21 '23; *Engineering* 116:341 S 14 '23

Joint conference on corrosion problems. *Chem Age (Lond)* 8:394-5 Ap 14 '23; *Engineer* 135:412-13 Ap 20 '23; *Engineering* 115:517-18 Ap 27 '23

La lutte contre la corrosion des tôles de chaudières par le dégazage des eaux. H. Marchand. *diags Génie Civil* 82:423-5 My 5 '23

Mechanism of corrosion. J. Johnston. *Ind & Eng Chem* 15:904-5 S '23

Mechanism of metallic oxidation at high temperatures. N. B. Pilling and R. E. Bedworth. *Chem & Met Eng* 27:72-4 J1 12 '22

Mechanism of the corrosion of iron and steel in natural waters and the calculation of specific rates of corrosion. R. E. Wilson. *Ind & Eng Chem* 15:127-33 F '23; Discussion. 15:426-7 Ap '23

Metal corrosion. *Can Eng* 44:383 Ap 3 '23

Meter deposits and meter corrosion. W. H. Fulweiler. *il Am Gas J* 118:446-9 My 26 '23

New methods of preventing corrosion of steel. B. Zschokke. *Iron Age* 112:1253-4 N 8 '23

New rustproofing process. *Automotive Ind* 47:733 O 12 '22

Nickel and monel metal in corrosion-resisting machinery. R. J. McKay. *il Ind & Eng Chem* 15:555-9 Je '23

Non-corrosive alloy. *Chem & Met Eng* 29:24-5 J1 2 '23

Oiling prevents corrosion of rail and fixtures. *il Ry R* 73:377-8 S 15 '23

Old cannon balls prove corrosion facts. *Pop Mech* 39:587 Ap '23

Paint as a protection for steel structures. J. Grieve. *Can Eng* 43:601-3 D 5 '22; Same. *Eng & Contr (Bldgs)* 58:135-9 D 27 '22

Pitted corrosion of impure iron. D. M. Strickland. *il Gas Age* 49:623-4 My 20 '22

Preliminary notes on corrosion. W. D. Bancroft. *Am Soc T M Pro* 22 pt 2:232-6; Discussion. 237-49 '22

Preservation of iron and steel. J. N. Friend. *Engineer* 134:450 O 27 '22

Prevention of corrosion in hot water supply systems and boiler economizer tubes. C. R. Texter. *diags Am Water Works Assn J* 10:764-72 S '23; Excerpt. *Gas Age* 52:532 O 27 '23; Excerpt. *Power* 58:588-9 O 9 '23

Prevention of corrosion in pipes. *Power Pl Eng* 26:119-20 Ja 15 '22

Prevention of corrosion in water pipes. *il Sanitary & Heat Eng* 96:194-5, 315-16 S 23, N 18 '21

Prevention of corrosion of metals by water in a closed system. P. West. *il diags J Ind & Eng Chem* 14:601-7 J1 '22

Problems in corrosion. C. G. Fink. *J Ind & Eng Chem* 14:338 Ap '22

Problems of corrosion. B. D. Saklatwalla. *Ind & Eng Chem* 15:39-40 Ja '23

Procédés de préservation du fer contre la rouille par les sels de chrome. *Génie Civil* 83:284 S 22 '23

Production of rust by carbonic acid. G. Bruhn. *Sci Am* 127:257 O '22

Protection of pipe from corrosion. H. R. Reddington. *il Gas Age* 50:891-3 D 30 '22

Protection of steel bins from corrosion. J. V. Schaefer. *il diag Power Pl Eng* 26:632-3 Je 15 '22

Protection of steel equipment. *il Ry Mech Eng* 97:689-92 O '23

Rapid corrosion of condenser tubes. G. D. Bengough and R. May. *il diags Engineer* 136:7-10 J1 6 '23; Abstracts. *Mech Eng* 45:542-4 S '23; *Power* 58:235 Ag 7 '23

Rates of solution of iron and steel in non-oxidizing and oxidizing acids. W. D. Richardson. *Am Inst Chem Eng Trans* v 13 pt 1:265-76 '20

Reducing the corrosion in steel cars. J. J. Tatum. *il Ry Age* 74:1427-30 Je 16 '23; Same. *Ry Mech Eng* 97:413-16 J1 '23

Resistance to corrosion of various types of chromium steels. H. S. Rawdon and A. I. Krynsky. *Chem & Met Eng* 27:171-3 J1 26 '22

Resistivity of iron and its application to the chemical industry. D. M. Strickland. *il Ind & Eng Chem* 15:566-9 Je '23

Results achieved by the corrosion committee British institute of metals. E. E. Thum. *il Chem & Met Eng* 26:301-6 F 15 '22; Discussion. A. S. Cushman. 26:773 Ap 26 '22

Rust dust causes meter troubles. J. Ferrier. *diag Gas Age* 51:203-4 F 17 '23

Self corrosion of cast iron and other metals in alkaline soils. W. N. Smith. *diags Sibley J* 36:40-50 Mr '22; Same cond. *Elec Ry J* 58:911-12 N 19 '21; Abstracts. *Mech Eng* 43:811-12 D '21; *Engineering* 113:36 Ja 13 '22

Self-corrosion of iron and steel pipes. A. D. Flinn. *Am Water Works Assn J* 8:630-1 N '21

6th report of the corrosion research committee of the Institute of metals. *Engineer* 134:307 S 22 '22; Same. *Elec R (Lond)* 91:466-7 S 29 '22; Same. *Brass W* 18:290-1 O '22; Abstracts. *Engineering* 114:370 S 22 '22; *Power* 56:588 O 10 '22; Discussion. *Engineering* 114:370-1 S 22 '22; *Engineer* 134:307 S 22 '22

Societies co-operate in work on corrosion under committee of National research council. *Chem & Met Eng* 26:660-1 Ap 5 '22

Sprinkler heads in automatic fire protection systems need care. C. C. Brown. *Eng N* 90:869 My 17 '23; Discussion. 90:1097 Je 21 '23

Suggestion basis for an index of corrosion for iron and steel. W. D. Richardson. *Am Inst Chem Eng Trans* v 13 pt 1:277-82; Discussion. 282-6 '20

Symposium on corrosion. *Chem & Met Eng* 29:11 J1 2 '23

What happens inside of the water leg? W. J. Fowler. *il Power* 55:734 My 9 '22

What is the real cause of water-line corrosion? K. M. Watson. *Chem & Met Eng* 29:706-8 O 15 '23

What it pays to know about corrosion. G. A. Van Brunt. *il Factory* 27:621-3, 763-6; 28:49-52, 172-4 N 21-F '22

Why pickling tank rods corrode. R. J. McKay. *il diag Iron Tr R* 70:959-64 Ap 6 '22

Why superheated steam causes failure of cast iron. *Sci Am* 127:331 N '22

See also Acid-resisting materials; Concrete—Protection; Electrolytic corrosion; Galvanizing; Metal coating; Metal protection; Paint; Protective; Water pipes—Corrosion; Zinc plating

Tables, calculations, etc.

New method of measuring corrosion in water. F. N. Speller and V. V. Kendall. *il diags Ind & Eng Chem* 15:134-9 F '23

Testing

Control of motion and aeration in corrosion tests. J. F. Thompson and R. J. McKay. *il diag Ind & Eng Chem* 15:1114-18 N '23

Laboratory corrosion tests. W. S. Calcott. *Ind & Eng Chem* 15:677-9 J1 '23

Report of sub-committee V of A.S.T.M. on total immersion tests. *il Am Soc T M Pro* 21:157-90 '21

Report of sub-committee III of A.S.T.M. on inspection of the Fort Sheridan, Pittsburgh and Annapolis tests. *il Am Soc T M Pro* 21:106-56, pl 1-6; 22 pt 1:156-94, pl 1-3 '21-'22

Corrugated board. See Paper board, Corrugated
Corsets

Selling a style garment direct to the consumer by a health appeal; Spencer corset co. R. Cole. *Ptr Ink* 122:57-8+ F 1 '23

Advertising

Calling a spade a spade to wake a dormant market. D. M. Hubbard. *Ptr Ink* 125:109-10+ O 11 '23

Catering to neglected buyers—a sound merchandising principle. R. Cole. *Ptr Ink* 119:81-2+ Ap 13 '22

Children's miniature model helped introduce Warner corsets in Canada. R. A. Gibney. *Ptr Ink* 125:162+ O 4 '23

How Gossard merchandises corsets to 12,000,000 farm women. R. K. Sewell. *Ptr Ink* 119:73-4+ Je 8 '22

Quit corsets? flappers' ban brings new kind of advertising. C. M. Harrison. *Ptr Ink* 119:85-6 Ap 27 '22

Corundum, Artificial

Artificial corundum; patent. Chem & Met Eng 27:273 Ag 9 '22

Corydaline

Zur konstitution des corydalins. E. Späth and N. Lang. *Deutsche Chem Gesell Ber* 54:3074-8 D '21

Cosecants

Sum of series of cosecants. G. N. Watson. *Philos Mag* 6th ser 45:577-81 Mr '23

Coslett process

What it pays to know about corrosion; how iron phosphate keeps rust away. *Factory* 28:173-4 F '22

Cosmetics

Color industry in the beauty parlor. L. W. Alwyn-Schmidt. *Color Tr J* 12:139-41 Ap '23

Advertising

Copy strategy sells face powder to flappers and anti-flappers. R. W. Johnson. *Ptr Ink* 120:89-90+ S 28 '22

Cossettes. See Beets and beet sugar

Cost

La hantise des frais généraux. O. J. Gérin. *Chimie & Ind* 9:1235-8 Je '23

What shall the selling price be? W. R. Bas-set. *Ptr Ink* 119:3-4+ Ap 20 '22

See also Cost accounting; Factory costs; Labor cost; Power cost; Prices; also subdivision Cost and Costs under special subjects, e.g. Building—Cost, Railroads—Costs

Cost accounting

Acceptance and installation of uniform methods of cost accounting. T. J. Burke. *Paper Tr J* 77:57 O 11 '23

Accounting and cost records for county roads. E. L. Miles. *Eng & Contr (R & S)* 59:782-7 Ap 4 '23; Same. *Can Eng* 44:391-2 Ap 10 '23

Accounting for foundry overhead expense. F. C. Everett and J. Heywood. *Iron Age* 112:67-70, 147-50, 340-2 *Jl* 12-19, Ag 9 '23

Accounting systems to fill jobbers' need and what they can show. D. S. Ross. *Nat Pet* N 15:27+ S 12 '23

Adoption of uniform cost accounting. *Iron Age* 110:22 *Jl* 6 '22

Advantages and disadvantages of the estimated cost system. A. F. Stock. *Administration* 3:29-33 *Ja* '22

Are costs the best basis for estimating and fixing selling prices? S. L. Gill. *Paper Tr J* 77:59-62+ N 1 '23

Better cost checking. J. A. Knowles. *Elec R (Lond)* 93:223-4 Ag 10 '23

Budget basis of developing costs. J. Balch. *Paper* 30:11-12 *Jl* 19 '22

Budgetary control over costs. G. E. Frazer. *Paper Tr J* 76:53-6 Mr 15 '23

Bugbear of burden distribution. G. C. Harrison. *diags Management & Adm* 6:49-54 *Jl* '23

Business side of chemical manufacturing. C. Wadsworth. *Chem & Met Eng* 27:293-6 Ag 16 '22

Calculation, distribution, and application of burden. G. L. Harris. *Management & Adm* 6:521+ O '23

Charges and costs in toy manufacture. A. Lazarus. *Ind Management* 66:243-6 O '23

Charts valuable in accounting. E. F. Evans. *Iron Tr R* 71:241-2+ *Jl* 27 '22

Common sense cost accounting. A. Lazarus. *Ind Management* 65:170-4 Mr '23

Construction cost keeping and management. H. P. Gillette and R. T. Dana. 572p McGraw-Hill '22

Construction costs. W. N. Connor. *Can Eng* 43:454-6 O 17 '22; Same. *Eng & Contr (Bldgs)* 58:27-31 O 25 '22

Correct cost accounting methods. A. Lazarus. *Sanitary & Heat Eng* 97:375-7+ *Je* 30 '22

Correct cost keeping for building contractors. M. G. Farrell. *Bldg Age* 45:77-9 *My*; 80-2 *Je* '23

Cost accountants and superintendents. E. T. A. Coughlin. *Paper* 29:22-3 N 16 '21

Cost accounting. W. J. Goggin. 36p La Fayette institute, New York, Philadelphia '21

Cost accounting and cost accountants. A. Lazarus. *Administration* 4:209-16 Ag '22

Cost accounting and estimating. H. H. Schulze. *Marine Eng* 27:253-7 Ap '22; Discussion. 26:907-8 D '21

Cost accounting and factory efficiency. G. P. Comer. *Chem & Met Eng* 27:417-21 Ag 30 '22

Cost accounting for practicing engineers. A. L. Mullergren. *Munic Eng* 63:107-9 S '22

Cost accounting for sanitary and heating contractors. A. L. Brown. *Sanitary & Heat Eng* 98:65-7+ Ag 11 '22

Cost accounting in chemical laboratories. F. W. Feuerbacher. *Chem Age* 30:497 N '22

Cost accounting in cotton mills. J. I. Howard. *Textile World* 64:2281+ O 20 '23

Cost accounting in products manufacture. M. Hanson. *Concrete* 22:201-4 *My* '23

Cost accounting in stave silo erection. M. Hanson. *Concrete* 22:211-14 *Je* '23

Cost accounting in the laundry industry. F. Elliott. *Administration* 2:850-1 D '21

Cost accounting, principles and methods. E. J. Borton. 243p Lyons and Carnahan, Chicago, New York '23

Cost accounting procedure. W. B. Castenholz. 333p LaSalle extension university, Chicago '22

Cost accounting system which has proven satisfactory. H. Lloyd. *Sanitary & Heat Eng* 97:226-8+ Ap 21 '22; Same. *Dom Eng* 99:101-3+ Ap 15 '22

Cost and production standards. W. B. Castenholz. *J Account* 33:81-6 F '22

Cost audit. C. W. Bennett. *J Account* 34:25-33 *Jl* '22

Cost finding in knitting mills. S. R. Gordon. *Textile World* 61:2201+, 3169+, 3671+; 62:447+, 1005+, 1789+, 2303+, 2905+, 3551+; 63:351+, 1291+, 1953+, 2301+, 3159+, 4061+; 64:365+, 957+, 1793+, 2249+, 3021+ Ap 15, *My* 27, *Je* 17, *Jl* 22, Ag 19, S 30, O 21, N 18, D 23 '22, *Ja* 20, F 17, Mr 24, Ap 7, *My* 12, *Je* 23, *Jl* 21, Ag 18, S 29, O 20, N 17 '23

Cost keeping for the small shop. E. M. Pierce. *Am Mach* 59:199-201 Ag 9 '23

Cost keeping in construction industry. J. R. Hagelin. *Eng & Contr (Bldgs)* 59:736-9 Mr 28 '23

Cost keeping on highway construction. A. R. Losh. *Good Roads* 62:62-5 *Ja* 25 '22; Same. *Eng & Contr* 57:111-12 F 1 '22; Same. *Pub Works* 52:83-4 F 4 '22; Same. *Munic Eng* 62:sup29-32 Mr '22; Same. *Can Eng* 42:440-2 *My* 2 '22

Cost of mismanagement. E. A. Lucey. *Management Eng* 2:25-8 *Ja* '22

Cost periods. *Administration* 3:391-3 Mr '22

Cost records prevent waste. J. H. Slater. *Paper* 30:14+ *Je* 7 '22

Cost system as an aid to efficient plant control. D. T. Farnham. *Am Cer Soc J* 5:43-7 *Ja* '22

Cost systems and operating statistics. A. F. Wagner. *J Account* 34:198-202 S '22

Cost systems for road building. F. B. Trisko. *Administration* 3:693-8 *Je* '22

Costing and price-fixing. J. M. Scott-Maxwell. 211p Pitman '23

Costing as a function of management. J. R. Blythe. *Paper Tr J* 76:57-8+ F 22 '23

Cost accounting—Continued

- Costing in industry. Eng & Ind Management 7:357-60 Ap 20 '22
- Costing system and its relation to production. G. H. Hales. Eng & Ind Management 7:17-19, 31-4, 63-5, 91-2 Ja 5-26 '22
- Costs and accounting methods in the packing industry. J. H. Bliss. Administration 3:279-90 Mr '22
- Costs and their relation to general accounting. W. A. Musgrave. Paper Tr J 76:60+ Ap 26 '23
- Costs as an aid to management. J. M. Scanlon. Administration 2:845-6 D '21
- Costs in a hosiery mill. R. A. Thistle. Textile World 60:3005+ N 19 '21
- Curtailling waste by cost accounting. L. P. Alford. Brick & Clay Rec 60:926-7 Je 13 '22
- Deflation in relation to cost accounting. S. G. H. Fitch. J Account 33:1-11 Ja '22
- Determining woolen mill costs. C. W. Bennett. Management Eng 3:91-4 Ag '22
- Easy calculation of price tables. G. W. Greenwood. Management Eng 3:294 N '22
- Engineer and manufacturing costs. F. C. Lawrence. Inst E E J 61:52-8 D '22; Same. Ind Management (Lond) 9:11-14, 42-4 Ja 11-25 '23
- Engineering methods applied to cost finding. R. S. Denham. Ind Management 63:67-73, 161-6, 218-20, 310-12, 375-80; 64:46-9, 121-3, 155-9 F-S '22
- Essentials of a cost system. I. W. Wolfe. Inland Ptr 68:329-30, 475-6, 620-1 D '21-F '22
- Essentials of industrial costing. G. S. Armstrong. 297p Appleton '21
- Establishing a rational basis for industrial analyses. H. Emerson. Chem & Met Eng 27: 614-6 S 27 '22
- Établissement et ventilation des feuilles de paye et analyse des prix de revient par l'emploi de machines automatiques. il Génie Civil 82:398-401 Ap 28 '23
- Executive and the cost accountant. E. H. Naylor. Paper Tr J 75:28+ N 16 '22
- Factory costing: the practical aspect. F. W. Pope. Elec R (Lond) 93:453-4 S 28 '23
- Formulas for computing economies of labor-saving equipment. Mech Eng 45:564-5 S '23; Same. Eng & Contr (Bldgs) 60:673-6 S 26 '23; Same. Textile World 64:1975+ O 6 '23; Abstract. Management & Adm 6:443-4 O '23
- Functions of cost and technical men. F. C. Clark. Paper 29:29-30 N 9 '21
- Fundamentals of a cost system for manufacturers. R. E. Belt and R. W. Gardiner. 31p U.S. Federal trade comm., Washington '22
- Gage of purchasing efficiency. Chem & Met Eng 28:1064-5 Je 18 '23; Same. Ind Management (Lond) 10:72+ Ag 9 '23
- Getting a profit out of low prices. W. R. Basset. Am Mach 57:478-80 S 28 '22
- Handling expenses of idleness. T. W. Dinlocker and A. W. Wainwright. Iron Tr R 70:1047-9 Ap 13 '22
- Home made cost systems. R. E. Loper. Textile World 63:756-7 F 3 '23
- How cost systems help superintendents. C. O. Wellington. Paper Tr J 74:33-5 Je 8 '22
- How far should drafting cost records go? L. J. Spinner. Am Mach 56:7 Ja 5 '22
- How the superintendents are benefited by cost reports based on accurate manufacturing data. J. A. Reilly. Paper Tr J 74:39-41 Je 8 '22
- How the Western electric company is analyzing its distribution costs. O. D. Street. Ptr Ink 121:33-4+ D 7; 129-30+ D 14 '22
- Increased profits through control of costs. R. W. Darnell. Management & Adm 6:301-4, 459-66, 605-10 S-N '23
- Industrial cost accounting for executives. P. M. Atkins. Am Mach 57:727-9, 773-5, 833-5, 921-3, 991-6; 58:39-41, 257-61, 337-41, 407-10, 481-4, 541-5, 697-9, 765-8, 897-900; 59:15-17, 53-5, 143-5, 175-7, 259-62, 297-9, 377-9, 449-52, 513-17, 591-4 N 9-16, 30, D 14, 28 '22; Ja 4, F 15, Mr 1, 15, 29, Ap 12, My 10, 24, Je 21, Jl 5-12, 26-Ag 2, 16-23, S 6, 20, O 4, 18 '23
- Industrial depression and cost manipulation. J. L. O'Hara. Administration 3:545-58 My '22
- Interpreting operation to the directors; planning department charts supplant accounting statements. G. C. Brown. Management & Adm 6:593-8 N '23
- Is our investment in cost accounting profitable? T. W. Howard. Factory 31:172-4+, 318-21, 466-7, 605-7 Ag-N '23
- Labor routine; Todd dry dock & construction co. chartered by W. C. Bober. Ind Management 63:176-7 Mr '22
- Laboratory manual; cost accounting. F. H. Elwell. 35p Parker co., Madison, Wis. '21
- Legal aspects of statistics. N. B. Gaskill. Paper Tr J 77:53-6+ Ag 16 '23
- Letters to teach the dealer to be a better merchant. D. C. Gale. Ptr Ink 118:111+ Ja 5 '22
- Linking accounting to production; new German system. E. Just. Management & Adm 6:491-3 O '23
- Main elements of paper mill costing. L. W. Farrow. Paper 29:24-8; Discussion. 28-30+ N 23 '21
- Making best use of cost reports. G. A. Galliver. Paper 30:11-13 Je 7 '22; Same. Paper Tr J 74:54+ Je 8 '22
- Making textile cost accounting a necessity. E. Szepesi. Textile World 62:2149-50+ O 14 '22
- Managerial control through costs. J. P. Jordan. Management Eng 4:81-6, 169-76, 235-40, 335-40, 399-404 F-Je '23
- Material cost accounting in a foundry. F. C. Everitt and J. Heywood. Iron Age 111:1165-9 Ap 26 '23
- Measuring management by cost accounting. W. R. Basset. Am Mach 58:37-8 Ja 4 '23
- Methods of costing in chemical works. F. M. Potter. Chem Age (Lond) 8:588-9, 612-15 Je 2-9 '23
- Misplaced modesty in the use of costs. L. M. Lamb. Paper Tr J 76:57-9 Ap 26 '23
- Modern developments of standard cost accounting. G. C. Harrison. Paper Tr J 76: 65-9 Je 7 '23
- More accurate costs in less time; tying up operation costs with payroll disbursements. H. A. Krill. Factory 30:545-7 My '23
- More than just figures from the cost department. T. W. Howard. Factory 29:668-70+ D '22
- Normal burden rates, some problems in their application, by Charles Van Zandt. Review. Administration 4:370-1 S '22
- Obtaining engineering costs in foundry and machine shop. H. B. May. Iron Tr R 69: 1218-21, 1356-8, 1485-9, 1619-22+; 70:207-10 N 10, 24, D 8, 22 '21, Ja 19 '22
- Our method of keeping tab of costs. J. C. Robinson. Brick & Clay Rec 63:171-3 Ag 7 '23
- Outlines steel sheet cost system. K. B. Woods. Iron Tr R 72:586-90 F 22 '23
- Predetermination of costs. J. McD. Cronin. Ind Management 63:221-4 Ap '22
- Pre-determined or standard costs. H. Wilmot. Paper Tr J 77:55-6 S 6 '23
- Present method of obtaining cost per lb. of rubber belt. Ind Management 65:142-3 Mr '23
- Present status of uniform cost accounting. T. H. Sanders. Paper Tr J 76:53-4+ F 15 '23
- Pricing and costing graded product. N. E. Webster. Am Cer Soc J (Bul) 6:104-8; Discussion. 108-9 My '23
- Problem in joint cost. W. M. Cole. Paper Tr J 77:53-6 Ag 2 '23
- Quotations that get the job—yet insure a profit. R. H. L. Lee. System 44:152-4+ Ag '23
- Recording of material costs. E. W. Workman. Eng & Ind Management 6:126-7 O 20 '21
- Relation of cost accounting to production engineering. F. R. F. Scovell. Paper Tr J 76: 58+ My 10 '23
- Relation of time study to cost accounting. R. W. Darnell. Ind Management 64:272-8, 341-5 N-D '22
- Selling your department to the others. B. E. Hutchinson. Management Eng 3:89-90 Ag '22
- Setting machine rates. P. J. Rider. Factory 27:782+ D '21
- Simplicity in cost methods in textile industry. R. E. Loper. Textile World 60:2675+ N 5 '21

Cost accounting—Continued

- Simplified cost accounting. R. Brainerd. Am Mach 57:629 O 19 '22
- Solving cost and economy problems by graphs. J. A. Brown. diags Management Eng 4:251-4 Ap '23
- Some of the frequently met errors in cost analysis. W. A. Breen. Chem & Met Eng 27:1224-5 D 20 '22
- Some phases of chemical cost accounting. C. B. E. Rosén. Chem Age 29:501-4; 30:29-31 D '21-Ja '22
- Squaring accounting with economics. E. E. Du Brul. Management Eng 2:263 My '22
- Standard costs. A. Lazarus. J Account 35: 247-52 Ap '23; Same cond. Paper Tr J 76: 371+ Ap 12 '23
- Standard costs—how to establish and apply them. Paper Tr J 77:61-4 JI 12 '23
- Standard foundry costs. T. Harper. Metal Ind 20:377-81 O '22; Same. Foundry 50:942-5 D 1 '22; Discussion. Metal Ind 20:417-19, 459-60, 477 N-D '22
- Standardisation in cost accountancy. H. G. Jenkins. Ind Management (Lond) 9:117-8 Mr 22 '23; Discussion. 9:205-8 Ap 5 '23
- Standardized cost methods for sheet metal work. A. Baruch. Sheet Metal Worker 12: 669-72, 706-9, 739-43, 775-9, 805-9, 844-8, 881-6; 13:7-11, 38-41, 76-80, 112-15+, 149-52, 176-9+, 210-12, 252-6, 286-9, 320-4, 357-61, 390-3, 423-7, 455-8, 487-91+, 512-16, 584-8, 613-14 O 28 '21-S 1, 29-O 13 '22
- Symbolization of expenditures as an aid to executive control. D. T. Farnham. Administration 3:230-4 F '22
- System keeps tab on foundry costs. H. C. Keller. Foundry 50:309-10+ Ap 15 '22
- Taylor method of expense and burden distribution. P. M. Atkins. Ind Management 66: 217-23 O '23
- Theory and practice of costing. E. W. Newman. 195p Pitman '21
- Treating interest as a cost. C. H. Scovell. Factory 29:125-7 Ag '22
- Uncostly cost accounting system. W. A. Bar-ron. Brick & Clay Rec 62:30-5+ Ja 9 '23
- Uniform classification of accounts. M. F. Reeder. Am Gas J 118:243-5 Mr 24 '23
- Untruthful costs through faulty time studies. H. K. Reed. Ind Management 64:88 Ag '22
- Using cost figures to cut costs. W. R. Bas-set. Am Mach 56:1-3 Ja 5 '22
- Value of uniform cost accounting. S. I. White-stone. Elec W 82:47-8 JI 7 '23
- What cost knowledge is of most worth? G. C. Harrison. Management Eng 2:73-6 F '22
- What does a brick cost? J. A. Pugh. Brick & Clay Rec 63:107-8 JI 24 '23
- What expenditures should be charged to the advertising account? J. A. Murphy. Ptr Ink 121:3-4+ N 16 '22
- When a cost system becomes dangerous. G. McWilliams. Ind Management 63:160 Mr '22
- Where to stop in price cutting. C. B. Wil-iams. Iron Tr R 70:330-2 F 2 '22
- Why I consider costs basic in shaping my policies; business' of dyeing and bleaching straw braid. R. H. Comey. Factory 28:397-9 Ap '22
- Working methods for profitable management. C. E. Knoepfel. Management Eng 4:245-50 Ap '23
- Working plans for standard costs. G. C. Har-ri-son. Management Eng 2:331-6; 3:5-10, 97-101, 161-6, 227-31, 289-94, 353-7 Je-D '22
- Works accountancy: its relation to production. W. Campbell. Eng & Ind Management 7: 534-8 Je 29 '22
- Yardstick for measuring textile costs. E. Szepesi. chart Textile World 61:655+ F 4 '22
- Your cost policies from your banker's view-point. J. A. House. Factory 30:682-4 Je '23
- See also Accounting; Budget, Business; Depletion; Depreciation; Equipment records; Estimates; Farm accounting; Inventories; Overhead expense; Power cost—Accounting; Power plants—Accounting; Power transmission—Accounting; Sales costs; also Industrial cost association

Bibliography

- Cost literature. (Bul. service n.s. no. 19 Jan. 15 '22 p. 122-6) Nat. assn. of cost account-ants, New York
- Publications of the National association of cost accountants. Special Lib 14:46-7 Mr '23
- What belongs on your bookshelf; a selected bibliography of industrial engineering and accounting. P. M. Atkins. Ind Management 65:176-8 Mr '23

Terminology

- Non-productive costs. A. L. De Leeuw. Am Mach 56:13-14 Ja 5 '22

Cost association, Industrial. See Industrial cost association

Cost association of the paper industry

- Convention, Kalamazoo, Mich., June 1-3. Paper Tr J 74:16-21 Je 8 '22
- Work of the cost association. C. A. Jaspersen. Paper Tr J 76:369+ Ap 12 '23

Cost control. See Factory management; Indus-trial management

Cost of doing business. See Accounting; Cost accounting; Plumbing supplies industry—Accounting; Retail trade—Costs

Cost of living

- Cost of living. H. C. Wallace. Comm & Fin Chr 114:1966-8 My 6 '22
- Cost of living and retail prices. See month-ly numbers of International labour review
- Food and shelter. H. W. Jordan. J Ind & Eng Chem 13:1161-2 D '21
- Methods of determining the cost of living. Management Eng 2:257-60 Ap '22; Same. Monthly Labor R 14:939-47 My '22
- Prices and cost of living. See monthly num-bers of Monthly labor review
- Trends in industry. See monthly numbers of Management engineering

See also Boarding houses—Costs; Index numbers (economics); Prices; Standard of living

Alaska

- Cost of an Alaskan grubstake. Monthly La-bor R 17:623 S '23
- Wholesale prices of certain food commodities at Anchorage. Monthly Labor R 15:546 S '22

Austria

- Retail prices of food and fuel in Vienna, Austria. 1914, 1920, and 1921. Monthly Labor R 14:478 Mr '22

California

- Cost of living survey. 84p Civil service com-mission, Sacramento, Calif. '23

Chile

- Chilean index of commodity prices. Monthly Labor R 15:1035-6 N '22

China

See also Prices—China

Denmark

- Changes in cost of living. Monthly Labor R 15:767-9 O '22

Detroit

- Cost of living among wage-earners, Detroit, Mich., Sept. 1921. (Sp. rep. no. 19) 22p Na-tional industrial conference board, New York '21

Finland

- Cost of living and retail prices in Scandinavian countries and Finland. Monthly Labor R 16: 999-1001 My '23
- Cost of living in Finland, 1921 and 1922. Monthly Labor R 14:1153 Je '22

France

- La baisse des salaires en 1921. R. Roure. Génie Civil 79:582-3 D 31 '21
- Cost of living in France, 1920 and 1921. Monthly Labor R 13:792-3 O '21
- Retail prices of food and clothing in Paris, France, 1914 to 1921. Monthly Labor R 14: 949-50 My '22

Cost accounting—Continued**Germany**

Cost of living and retail prices in Germany. Monthly Labor R 14:306-8 F '22
Minimum of subsistence costs in Berlin in October, 1921. Monthly Labor R 14:91-3 Ja '22

Great Britain

Final report on the cost of living. 144p G. Allen & Unwin, London '21

Greece

Cost of living in Greece. Monthly Labor R 14:93 Ja '22

Iceland

Retail prices in Reykjavik, Iceland, in April, 1923. Monthly Labor R 17:624 S '23

India

Cost of living in Bombay, India, 1920-1922. Monthly Labor R 14:1156-7 Je '22

Cost of living of the working classes in Bombay (India); abstracts. Monthly Labor R 17:87-91 Jl '23; Int Labour R 8:235-8 Ag '23

Italy

Cost of living in Italy, July, 1921. Monthly Labor R 13:1031-3 N '21

Methods of recording retail prices and measuring the cost of living in Italy. U. Giusti. Int Labour R 4:257-74 N '21

Japan

Cost of living in Osaka, Japan, 1920. Monthly Labor R 13:800-2 O '21

See also Prices—Japan

Kansas

Cost of living survey of wage-earning women in Kansas. Monthly Labor R 14:1150-1 Je '22

Mexico

Cost of living in Mexico in 1922. Monthly Labor R 16:992-3 My '23

Relation of cost of living to wages in Federal district of Mexico. Monthly Labor R 16:1279-81 Je '23

Netherlands

Budgets of workmen's families in Amsterdam before, during, and after the war. Monthly Labor R 13:1033-6 N '21

Philippine Islands

Average retail prices of certain foodstuffs in Manila, P.I., 1918-1921. Monthly Labor R 15:315-16 Ag '22

Poland

Cost of living in Warsaw; Poland, January, 1920, to May, 1921. Monthly Labor R 13:1036 N '21

Portugal

Cost of living in Portugal, July, 1914, to May, 1921. Monthly Labor R 14:309 F '22

Scandinavia

Cost of living and retail prices in Scandinavian countries and Finland. Monthly Labor R 16:993-9 My '23

Spain

Cost of living in Spain, 1921. Monthly Labor R 14:1157-8 Je '22

Cost of living in Spain and measures for its reduction. Monthly Labor R 17:402-4 Ag '23

Sweden

Cost of living of agricultural laborers in Sweden, 1920. Monthly Labor R 14:1158-60 Je '22

Switzerland

Cost of living in Switzerland. Monthly Labor R 14:312 F '22

Cost of living in the city of Zurich, Switzerland, 1920 and January and February, 1921. Monthly Labor R 13:803-5 O '21

United States

Changes in the cost of living between July 1914 and August 1923. Comm & Fin Chr 117:1405 S 29 '23

Changes in cost of living in the United States [1914-1922]. Monthly Labor R 15:294-302 Ag '22

Changes in cost of living in the West. J Elec 48:300-1 Ap 15 '22

Changes in the cost of living, July, 1914-March, 1923. 34p National industrial conference board, New York '23

Cost of living again increases slightly. Management Eng 4:77-8 F '23

Curve of the food cost of living. See weekly numbers of the Annalist

Decrease in retail prices of food. Comm & Fin Chr 114:591-2 F 11 '22

Food cost of living—Annalist index number—weekly averages, 1914-1922. Annalist 21:72-3 Ja 8 '23

Increase in cost of living, with special reference to rent. Eng & Contr 58:76 Jl 26 '22

Prices and cost of living. See monthly numbers of Monthly labor review [Reprinted in Bulletins of U.S. Bureau of Labor Statistics]

Quantity and cost of clothing purchased by average workman's family in one year. Monthly Labor R 15:529-45 S '22

Quantity of and expenditures for furniture and house furnishings and expenditures for miscellaneous items purchased by the average workman's family in one year. Monthly Labor R 15:759-62 O '22

Railroad wages and cost-of-living budgets. B: Baker. Annalist 19:651-2 Je 19 '22

Real wages at new high level. Iron Tr R 73: 976 O 4 '23

Where the workman's wages go. il Sci Am 128:149 Mr '23

Bibliography

List of articles on cost of living in the United States published in Monthly labor review. Monthly Labor R 15:1034-5 N '22

Uruguay

Index of commodity prices in Uruguay, 1913 to 1922. Monthly Labor R 16:1001-2 My '23

Cost-plus contracts. See Contracts, Letting of Costa Rica

See Geology—Costa Rica; Petroleum—Costa Rica

Costume

Dress of today and yesterday in relation to color. Color Tr J 10:47-52 F '22

Cottages

Attractive cottage of English design. il plans Bldg Age 44:54 Ja '22

Convenient six room cottage of English design; with quantity survey. il plans Bldg Age 45:62-3 My '23

Cottage design for narrow lot; with quantity survey. il plans Bldg Age 45:56-9 My '23

Cottage for E. Clarence Jones, Saratoga Springs, N.Y. Arch Forum 36:pl 44-5 Mr '22

Cottage of English farm house design. plans Bldg Age 45:44-5 S '23

English type cottage of charm; with quantity survey. il plans Bldg Age 45:54-7 Ag '23

Farm cottage at Demarest, N.J.; views and plans. Am Arch 124:348h-i O 10 '23

Hollow tile house of English design. il plans Bldg Age 43:40-1 D '21

Little Dutch cottage; view and plans. Arch & Bldg 55:Dwelling house ser 12 Je '23

Superintendent's cottage, estate at Yonkers, N. Y. Arch Forum 35:pl 74 N '21

See also Architecture, Domestic; Bungalows; Country houses

Cotter-pin extractor

Cotter-pin extractor that does the trick. il Sci Am 126:206 Mr '22

Cotton

Absorption of caustic soda solutions by cotton. H. F. Coward and L. Spencer. Textile Inst J 14:T32-45 Ja '23

Cotton—Continued

- Acid alkaline chlorine bleach for cotton. E. Ristenpart. Color Tr J 11:274 D '22
- Action of heat on the chemical properties of cotton. J. M. Matthews. Color Tr J 12:255-8; 13:23-6 Je-Jl '23
- Action of light on cotton. P. W. Cunliffe. bibliog Textile Inst J 14:T314-18 S '23
- Bleaching of cotton. J. M. Matthews. Color Tr J 9:172-6 N '21
- Brazil—the promising land. W. I. Bullard. il Textile World 63:2823+ Ap 28 '23
- Brazil's potentiality in cotton growing. A. S. Pearce. Textile World 61:2837-8, 2961+ My 13-20 '22
- Causes of reduced cotton production. G. L. Fossick. Textile World 61:662+ F 4 '22
- Chemical properties of cotton. C. E. Mead. Textile World 60:3501+ D 17 '21
- Chemical properties of cotton: action of water. J. M. Matthews. Color Tr J 13:64-6 Ag '23
- Comparison of the volatile products derived from cotton by the action of water, and of sodium hydroxide, at 40 lbs. pressure. P. H. Clifford and R. G. Fargher. [bibliog] Textile Inst J 14:T117-24 My '23
- Compression of cotton for experimental purposes. A. M. Williams. diags Textile Inst J 14:T295-6 S '23
- Constituents of raw cotton. E. Knecht and G. H. Streat. Soc Dyers & Col J 39:73-7 Mr '23
- Cotton and linen. E. B. Thompson. (Merchandise manual series) 199p Ronald press '22
- Cotton growing within the British Empire. Annalist 21:607+ Ap 30 '23
- Cotton in India and the Sudan. W. H. Himbury. Textile World 63:3007-8 My 5 '23
- Cotton is not cotton; observations on the character and staple of the 1921-22 cotton crop. D. E. McCuen. Textile World 60:3374+ D 10 '21
- Cotton, the universal fiber. W. D. Darby. 68p Dry goods economist, New York '22
- Cotton year book. C. B. Griffith, ed. New Orleans '23
- Destructive effect of micro-organisms on raw cotton and cotton fabrics. D. Armstead and S. C. Harland. Textile Inst J 14:T157-60 Je '23; Same. Color Tr J 13:72-4 Ag '23; Abstract. Soc Dyers & Col J 39:307 O '23
- Detection and estimation of cotton in mixtures. B. F. Wadsworth. Textile Col 45:443-6, 582-6 Jl, S '23 (to be cont)
- Efficacy of a centrifuge for removing surface liquids from cotton hairs. H. F. Coward and L. Spencer. Textile Inst J 14:T28-32 Ja '23; Abstract. Color Tr J 12:167 Ap '23
- Egyptian cotton from field to dock. W. R. Meadows and W. L. Pryor. il Textile World 61:650+ F 4 '22
- Future of world's cotton supply. C. W. Macara. Textile World 61:3662 Je 17 '22
- Guard our cotton industry. Color Tr J 11:73-4 Ag '22
- Hester's cotton report for 1921-1922. Textile World 62:1002 Ag 19 '22
- Improvements in cotton growing. O. F. Cook and W. A. Taylor. il Textile World 61:649+ F 4 '22
- International federation resolutions. Textile World 62:313 Jl 15 '22
- Mildew in cotton; its cause and cure. P. Bean. Textile Col 45:180+ Mr '23; Same. Textile World 64:833+ Ag 11 '23
- Need of more exact fibre knowledge. J. McDowell. Textile World 61:2065+ Ap 8 '22
- Plastic wood made from cotton. Engineer 133:230-1 Mr 3 '22
- Raw materials of industry, cotton and wool. J. S. M. Ward. 270p [Cotton bibliog. p. 156-66] W. Rider & son, London '21
- Reginned and cleaned cottons. W. R. Meadows and W. G. Blair. Textile World 61:201 Ja 14 '22
- Relationship of cotton to water and steam. R. G. Fargher and A. M. Williams. bibliog Textile Inst J 14:T77-82 Mr '23
- Romances of industry—cotton. C. A. Carriere. il Am Ind 23:5-9 Ap '23

- Session of National association of cotton manufacturers on cotton. Textile World 63:2796+ Ap 23 '23
- Studies on the swelling of cotton cellulose—cotton hairs in solutions of sodium hydroxide. G. E. Collins and A. M. Williams. diags Textile Inst J 14:T287-95 S '23; Same. Color Tr J 13:182-5 N '23
- Swelling of cotton cellulose. G. E. Collins. Textile Inst J 14:T264-72; Bibliography. T273-6 Ag '23; Same. Am Dyestuff Rep 12:669-77 S 10 '23; Same cond. Soc Dyers & Col J 39:303-7 O '23
- Textile chemistry. F. J. Cooper. 235p Dutton
- Will the world be short of cotton? A. H. Ulm. il Nation's Business 11:33-5 Mr '23
- Wool from cotton. Sci Am 126:436 Je '22

See also Bleaching—Cotton; Cotton fabrics; Cotton fibers; Cotton mills; Cotton trade and other headings beginning Cotton; Dyes and dyeing—Cotton; Lingette

Analysis

- Absorption of methylene-blue by cotton; effect of bleaching. C. Birtwell, D. A. Clibbens and B. P. Ridge. diags Textile Inst J 14:T297-313 S '23
- Constituents of the benzene extract of American cotton. R. G. Fargher and M. E. Probert. Textile Inst J 14:T49-65 F '23
- Preparation of standard cotton cellulose and the proposed methods of analysis. Ind & Eng Chem 15:748-51 Jl '23

Costs

- Egyptian cotton costs. L. Maynard. Textile World 61:679+ F 4 '22

Diseases and pests

- Chemical warfare will control boll weevil. B. R. Coad. il map Textile World 61:651+ F 4 '22

See also Boll weevils

Manufacture

See Cotton manufacture

Moisture content

- Mechanical testing of cotton materials; the effect of humidity and temperature. A. R. Urquhart. bibliog Textile Inst J 14:T183-8 Jl '23

Prices

- Federal trade commission on causes for decline in cotton prices. Comm & Fin Chr 116:896-7 Mr 3 '23
- Staple cottons do not share advance. Textile World 63:815+ F 3 '23
- Year in extra staple cottons. Textile World 61:709+ F 4 '22

Standards

- Cotton conference in Washington agrees on revision of universal standards. Comm & Fin Chr 117:278-9 Jl 21 '23; Textile World 64:354+ Jl 21 '23; Am Ind 24:20 Ag '23
- International cotton standards conference agree to adopt U.S. cotton standards. Textile World 63:3919-20 Je 16 '23; Comm & Fin Chr 116:2727-8 Je 16 '23
- Method of preparing cotton standards. il Textile World 64:665-6+ Ag 4 '23
- President Harding signs bill to establish official cotton standards; text. Comm & Fin Chr 116:1133-4 Mr 17 '23
- Scope of United States cotton standards act. il Textile World 64:228-9 Jl 14 '23

Statistics

- Acreage and production of tobacco, cotton and rice in the United States. Comm & Fin Chr 115:2237-8 N 18 '22
- Cotton acreage condition June, 1922. Comm & Fin Chr 114:2765-71 Je 24 '22
- Cotton production and distributing, season of 1920-21. (Bul. 147) 138p U.S. Bureau of the census, Washington '21
- Cotton production in the United States, crop of 1921. U.S. Bureau of the census. 35p U.S. Bureau of the census, Washington '22

Cotton—Statistics—Continued

Cotton production statistics. A. H. Garside.

Textile World 61:59 Ja 7 '22

Indications of cotton acreage in June 1923.

Comm & Fin Chr 116:2822-9 Je 23 '23

See also Cotton trade—Statistics

Testing

Importance of fiber knowledge. J. McDowell.

il Textile World 63:2850-1+ Ap 28 '23; Discussion. Textile World 63:3321+ My 19 '23

Mechanical testing of cotton materials. F. T. Peirce. Textile Inst J 14:T161-81; Bibliography. T181-2 J1 '23

Mechanical testing of cotton materials; the effect of humidity and temperature. A. R. Urquhart. bibliog Textile Inst J 14:T183-8 J1 '23

Mechanical testing of cotton materials; the machines commonly used. E. Midgley. bibliog diags Textile Inst J 14:T189-208 J1 '23

Spinning tests of cotton compressed to different densities. W. R. Meadows and W. G. Blair. U S Agric Bul 1135:1-18 '23

Strength of cotton. E. D. Walen. il Textile World 62:2017+ O 7 '22

Testing strength of materials (cotton and linen). G. R. Smith. 122p E. Marlborough and co., London '22

See also Cotton fabrics—Testing; Cotton yarn—Testing

Cotton, Substitutes for

That substitute for cotton. M. S. Sharp. Chem Age 31:215 My '23

Cotton baling

New process makes cotton bales fireproof. il Pop Mech 37:654-5 My '22

Cotton belt railway. See St Louis Southwestern railway**Cotton boll weevils. See Boll weevils****Cotton carding**

Automatic card silver eveners. il Textile World 62:327 J1 15 '22

Le débouillage des cardes par le vide. Neu. il Génie Civil 83:155-6 Ag 18 '23

Three-process picking. G. W. Macomber. Textile World 61:203+ Ja 14 '22

See also Carding machines

Cotton cellulose. See Cellulose**Cotton duck. See Canvas****Cotton exchange, New York. See New York cotton exchange****Cotton exchanges**

Future market for raw silks similar to that for cotton. J. Chittick. Textile World 64:2267+ O 20 '23

Cotton fabrics

Commercial solvent extraction applied to cotton and linen fabrics. M. Fort. Soc Dyers & Col J 39:42-6 F '23

Cotton goods with the silk effect. B. Teufer. Am Dyestuff Rep 12:491-3 J1 2 '23

Design in cotton manufacture. M. D. C. Crawford. Textile World 61:2671+ N 3 '23

Dress cottons gain in variety and distinction. L. McDougal. il Textile World 63:3153+ My 12 '23

Inspecting and drying cotton fabrics in rubber factories. il plan India Rubber W 66:673-5 J1 '22

Manufacture of colored cotton yarns and fabrics. H. D. Martin. il Color Tr J 10:161-6, 188-93 Ap-May '22

Technique of Indian muslins. C. G. E. Bunt. il Textile World 61:3931+ Je 16 '23

See also Balloon fabric; Calico printing; Canvas; Cotton finishing; Dyes and dyeing—Cotton; Tire fabrics; Trunk lining; Ultratex

Prices

International gray-cloth prices. Textile World 64:820-1 Ag 11 '23

Stains

Staining and molding of fabrics. E. J. Sidebotham. Textile World 62:206 J1 8 '22

Stains arising in a finishing plant. E. W. Adams. Am Dyestuff Rep 12:687-90 S 24 '23

Testing

Acid in goods. Textile World 63:4185 Je 30 '23

Committee D-13 recommends the following

revisions in the present standard general methods of testing cotton fabrics. Textile World 64:70 J1 7 '23

Effect of metallic salts, of starch, and of soap upon the tensile and the ripping strain of cotton. J. Huebner and V. Malwin. Soc Chem Ind J 42:66-8 F 23 '23; Same abr. Color Tr J 12:176-7 Ap '23; Abstract. Chem Age 8:34 Ja 13 '23

Quality of muslins and sheetings. C. J. Burkle. il Textile World 64:1673+ S 22 '23

Cotton fibers

Cotton fiber length vs. stapling length. H. B. Gordon. Textile World 64:2115+ O 13 '23

Importance of fiber knowledge. J. McDowell. il Textile World 63:2850-1+ Ap 28 '23; Discussion. Textile World 63:3321+ My 19 '23

Neps in cotton fabrics and their resistance to dyeing and printing. G. G. Clegg and S. C. Harland. il Textile Inst J 14:T125-32 My '23; Same. Am Dyestuff Rep 12:456, 473-7 Je 18 '23

New apparatus for measuring cotton staple. il diag Color Tr J 11:76-7 Ag '22

Newer ways with textile problems. il Textile World 64:1671+ S 22 '23

Rigidity of cotton hairs. F. T. Peirce. il diags Textile Inst J 14:T1-17 Ja '23

Structure of the cotton hair and its botanical aspects; the morphology of the wall. H. J. Denham. diags Textile Inst J 14:T86-111, pl 1-8; Bibliography. T112-13 Ap '23

Studies on the swelling of cotton cellulose. G. E. Collins and A. M. Williams. diag Textile Inst J 14:T287-95 S '23

Yellowing and tendering of cotton. W. R. Atkinson. Textile Col 45:425-9, 508-10, 572-5 J1-S '23 (to be cont)

See also Mercerizing

Cotton finishing

Acid treatment of cotton fabrics for the production of special finish. B. De Puyster. Color Tr J 11:54-9 Ag '22

Finishing pant and trunk linings. Am Dyestuff Rep 12:685 S 10 '23

Improvements in the process for producing permanent finish on cotton fabrics. Color Tr J 12:173-6 Ap '23

Linen effects produced on cotton fabrics. Color Tr J 12:267-8 Je '23

New method of lustering cotton. Color Tr J 11:221-2 N '22

New process for imparting transparent effects to cotton. Color Tr J 12:120-1 Mr '23

Physical causes of lustre in cotton. A. Adderley. bibliog Textile Inst J 14:T249-53 Ag '23

Power and process steam in finishing. A. Idles. il diags plan Textile World 64:83+ J1 7 '23

Preparation of cloth for finishing. S. H. Higgins and A. Hodge. Color Tr J 11:37-9 J1 '22

Production of permanent finish on cotton fabrics. C. L. Schuttig. Color Tr J 12:266-7 Je '23

Production of transparent effects on cotton fabrics. Color Tr J 11:71 Ag '22

Production of transparent finish on cotton. A. Kertess. Color Tr J 13:176 N '23

Stains arising in a finishing plant. E. W. Adams. Am Dyestuff Rep 12:687-90 S 24 '23

Transparent effects on cotton fabrics. Color Tr J 12:267 Je '23

Use of fats and oils in the cotton finishing industry. R. B. Earle. Am Dyestuff Rep 12:320-2 Ap 23 '23

See also Mercerizing; Tate electrolytic processes, inc.

Cotton gins

Cotton-ginning machinery. S. E. Gillespie. il diags Mech Eng 44:231-6+ Ap '22; Same. Engineering 114:189-92 Ag 11 '22

New cotton gin uses two sets of saws. il Pop Mech 39:342 Je '23

Cotton growers' exchange. American. See American cotton growers' exchange**Cotton linters**

Chemical properties of cotton linters. W. F. Henderson. Ind & Eng Chem 15:319-22 Ag '23

Cotton linters—Continued

Group meeting of writing paper men; work on cotton linters. Tech Assn Pa ser 4:102-3 Je '21

Purification of cotton linters for the manufacture of gun cotton and various pyroxylin products. W. Stark. Chem & Met Eng 26: 167-9 Ja 25 '22

Stamso—cotton linter pulp. S. E. Seaman. Tech Assn Pa ser 5:43-5 Je '22; Same. Paper 30:88-90+ Ap 19 '22; Same. Paper Tr J 74: 265+ Ap 13 '22; Discussion. Tech Assn Pa ser 5:154 Je '22

Cotton machinery

Chain drives in Woodruff mills. il Textile World 63:3695 Je 2 '23

Cotton opening, mixing and carding machinery. H. Wilkinson. diag Engineer 134:550-1 N 21 '22

Fibre selector makes possible relatively rapid measuring of fibers. il Textile World 62:3567 D 23 '22

Formulas; cotton textile formulas and memoranda. J. T. Kersey. 91p J. T. Kersey, New Orleans '22

Future of cotton manufactures. K. Moller. Textile World 62:2013+ O 7 '22

Invention and the cotton industry. E. K. Swift. Textile World 62:2011-13 O 7 '22

Mechanical history of cotton textiles. Textile World 62:1962+ O 7 '22

Mechanical testing of cotton materials; the machines commonly used. E. Midgley. bibliog diag Textile Inst J 14:T189-208 Jl '23

Mills of other days. P. D. Howe. Textile World 62:2009-11 O 7 '22

1922 model Nasmith comber. il Textile World 63:475 Ja 27 '23

Novel method of opening and cleaning cotton. il Pop Mech 39:226 F '23

Opener and breaker especially designed for Egyptian and American cotton of medium and long staple. diag Textile World 62:3447 D 16 '22

Saco-Lowell vertical opener and cleaner. R. C. Curley. il Textile World 62:321+ Jl 15 '22

Tunstall comber. il Textile World 62:2481 O 28 '22

Vertical opener with patented spiral gear drive. il Textile World 64:2437 O 27 '23

See also Carding machines; Cotton gins; Cotton picking machinery

Cotton manufacture

Development of cotton fabrics. G. T. Thompson. Textile World 64:2675-6 N 3 '23

Eliminating filling defects. H. D. Martin. Textile World 61:1545+ Mr 11 '22

New method of preparing cotton. Textile World 62:2894 N 18 '22

Papers presented before Southern textile assn. discuss relation of different mill processes to the production of better goods. L. L. Brown and others. Textile World 62:2442+ O 28 '22

Progress in cotton manufacture. S. E. Smith. Textile World 64:2711+ N 3 '23

Technical session of N.A.C.M. convention at Atlantic City. Textile World 62:1979+ O 7 '22

Treatment of cotton; patent. E. Knecht. Soc Dyers & Col J 39:183-4 Je '23

Waste in cotton manufacturing. R. E. Loper. Textile World 62:3435-6, 3555+ D 16-23 '22

What cotton does when it's thirsty. E. H. Davis. Am Dyestuff Rep 12:147-8 F 12 '23

See also Cotton carding; Cotton finishing; Cotton machinery; Cotton mills; Cotton sizing; Cotton spinning; Cotton waste; Cotton weavers; Cotton yarn

History

Birthplace of cotton industry to be a museum; Old Slater mill at Pawtucket, R.I. D. J. Lawlor. il Textile World 61:647+ F 4 '22

China

Cotton manufacture in China. Textile World 64:1250+ S 1 '23

Leaders of China in cotton manufacturing. il Textile World 61:2443-4 Ap 29 '22

Mexico

Mexican cotton textile industry. H. B. Hoskins. Textile World 60:3595+ D 24 '21

New England

Address of president-elect. R. Amory. Textile World 61:2681+ My 6 '22

New England's textile problem. K. Moller. Textile World 63:1906-7 Mr 21 '23

Sweden

Cotton and cotton goods in western Sweden. W. H. Sholes. U S Sp Cons Rep 84:1-60 '22

United States

Rise of cotton mills in the South. B. Mitchell. 281p Johns Hopkins press, Baltimore '21

Cotton manufacturers, National association of. See National association of cotton manufacturers

Cotton manufacturers' association, American. See American cotton manufacturers' association

Cotton manufacturers' association of North Carolina

17th summer session, Winston-Salem, June 15-16. Textile World 63:4049-50 Je 23 '23

Cotton manufacturers' association of South Carolina

Annual meeting, Greenville, S.C. Textile World 62:2437+ O 28 '22

Cotton mills

Address of president at A.C.M.A. meeting. L. D. Tyson. Textile World 61:3355+ Je 3 '22

American vs. English cotton mills. S. B. Paine. Textile World 61:1437+ Mr 4 '22

Bemis mill village development. T. S. Rogers. il Textile World 61:3517+ Je 10 '22

Development in Southern states. F. L. Brynt. Textile World 64:2427+ O 27 '23

Development of a mill city. H. C. Meserve. Textile World 62:1997+ O 7 '22

Dixie spinning mills development. J. M. Shelton. il plan Textile World 63:994-5+ F 3 '23

Empire cotton mills' weave shed. il Textile World 63:3689+ Je 2 '23

Enlarged and modernized Bancroft plant, Reading, Pa. C. M. Mumford. il Textile World 63:1572+ Mr 3 '23

Important alterations at Wamsutta mills, New Bedford. il Textile World 60:2853+ N 12 '21

Impressions of Georgia mill life. W. H. McLaurine. Textile World 64:2399+ O 27 '23

Increased capacity at Shawmut mills, Fall River, Mass. il Textile World 60:2713+ N 5 '21

Increasing finishing plant production. R. A. S. Reoch. Textile World 61:2325+ Ap 22 '22

New Bedford mills weather storm. Textile World 61:837-9+ F 4 '22

Outlook for textile development of the South. W. D. Adams. il Textile World 63:728-31 F 3 '23

Possibilities in southern mills. G. S. Harris. Textile World 64:2283+ O 20 '23

Record mill construction; fine yarn plant at Cherryville, N.C., completed in 121 working days. il Textile World 62:3308-9 D 9 '22

Southern mill village developments. E. S. Draper. il Textile World 61:841 F 4 '22

Thatcher spinning company, mill no. 2. il Textile World 61:839+ F 4 '22

See also Cotton waste

Accounting

Cost accounting in cotton mills. J. I. Howard. Textile World 64:2281+ O 20 '23

Cost calculation for cotton yarns and cloths. Textile World 63:3381 My 19 '23

Installing standard cotton mill cost system. Textile World 62:55+ Jl 1 '22

Standard cotton mill cost system. Textile World 61:2702+ My 6 '22

Standard system of cotton mill costs; report. Textile World 61:2669+ My 6 '22

Costs

Mill construction costs. A. H. Garside. Textile World 61:1242 F 25 '22

Cotton mills—Costs—Continued

What costs ought to be. Textile World 61:2453+ Ap 29 '22

Electric equipment

Electric drive in cotton mills. G: Wrigley. il Gen Elec R 25:102-10 F '22
 Electric features of weaving mill. G: W. Robertson. il Textile World 62:2637-8 N 4 '22
 Electrical equipment of a cotton mill. il Elec R (Lond) 92:899-902 Je 8 '23
 Electrical equipment of mill no. 8 of the Riverside division of the Riverside and Dan river cotton mills. G: W. Robertson. il Gen Elec R 25:762-5 D '22
 Electrical equipment of the D. R. cotton mills; modern method in tyre manufacture. il Electrician 88:473-4 Ap 21 '22
 Electrical installation in Eford mill no. 5. C. L. Emerson. il Textile World 61:1945+ Ap 1 '22
 Electrical layout in Bay State cotton mill. W. S. Maddocks. il Elec W 80:323-6 Ag 12 '22
 Electrification of the Massachusetts cotton mills, Lindale, Ga. D. W. Peabody. il Gen Elec R 26:168-72 Mr '23
 Mechanical and electrical speed control. C. T. Guildford. il plan Textile World 64:1255+ S 1 '23

Employees

Cotton mill strike situation. Comm & Fin Chr 114:586-7, 698 F 11-18 '22
 Educating operatives for jobs higher up. il Textile World 63:734+ F 3 '23
 Education in our mill villages. K. Dozier. Textile World 64:2285+ O 20 '23
 Effect of 48-hour week on cotton mill production. H. Cliff. Textile World 61:3659+ Je 17 '22
 Human element in Southern mills. S. W. Cramer. Textile World 62:460+ J1 22 '22
 Producing better citizens in southern mills. il Textile World 63:724-7 F 3 '23
 Wages and hours of labor in cotton-goods manufacturing, 1920. U S Bur Labor Statistics Bul 288:1-125 '21
 Wages and hours of labor in cotton-goods manufacturing, 1922. U S Bur Labor Statistics Bul 345:1-27 '23
 Wages and hours of labor in cotton textile industry of Bombay (India) Presidency. Monthly Labor R 16:1013-16 My '23
 Wages and hours of labor in the cotton-manufacturing industry in Massachusetts. Monthly Labor R 14:954-9 My '22
 Wages and hours of labor in the cotton manufacturing industry in the southern states, 1907 to 1922. Monthly Labor R 15:584-95 S '22

See also Cotton weavers

Equipment

Conveyors at Great Falls mfg. co. E. Fallows. il Textile World 62:67+ J1 1 '22
 Mechanical handling of materials in textile plants. C: M. Mumford. il Ind Management (Lond) 10:104-10 Ag 23 '23
 Turbine drive for Lancashire cotton mills. Power 55:795 My 16 '22

See also Cotton machinery

Heating and ventilation

Heating a cotton weave shed by electricity. C. T. Guildford. il diag charts Am Inst E E J 42:582-8 Je '23

Lighting

Cotton mill lighting. J. M. Ketch. il diags Illum Eng Soc 17:577-99 O '22

Management

Cotton mill handbook for superintendents and overseers in cotton yarn and cloth mills. 165p Bragdon, Lord & Nagle co., New York '22
 Cotton mill organization. G: F. Payne. Textile World 61:201+ Ja 14 '22
 Management applied to textile plants. G: S. Harris. Mech Eng 44:382-4 Je '22
 Mechanics of cotton mill management. Textile World 63:1825+ Mr 17 '23

Planning system for a colored cotton mill. C: Herdegen. Textile World 61:2449+ Ap 29 '22

Real partnership plan operating in the South; at the Abbeville cotton mills. il Textile World 63:453-4 Ja 27 '23
 Sees principle of democracy gaining ground. H. R. Fitzgerald. il Textile World 63:205-6+ Ja 13 '23

Waste in spinning and following processes. Textile World 64:237+ J1 14 '23
 Waste leaks in cotton mills. Textile World 64:2121+ O 13 '23
 What the machine ought to do. S. S. Paine. Textile World 64:2423+ O 27 '23

Power

Electricity in southern cotton mills. Elec W 81:534 Mr 3 '23
 Power and process steam in finishing. A. Iddles. il diags plan Textile World 64:83+ J1 7 '23

Safety devices and measures

See Carding machines—Safety devices and measures

Cotton picking machinery

Another cotton picker. il Sci Am 129:25 J1 '23
 Cotton growing machinery. G. A. Lowry. Color Tr J 12:258-9 Je '23
 Electric cotton picking device. il Textile World 60:3617 D 24 '21; Sci Am 126:179 Mr '22

Cotton printing. See Calico printing

Cotton purchasing

Cotton buying terms. Textile World 64:1249+ S 1 '23

Cotton research

Cotton research company's accomplishments. E. D. Walen. il Textile World 63:749-51 F 3 '23
 Fundamental research in the cotton industry. il Textile World 63:742-3 F 3 '23
 International cotton research. F. S. Blanchard. Textile World 60:2686-8 N 5 '21
 Movies in cotton research. il Textile World 61:3330+ Je 3 '22
 Program of research. R. T. Fisher. Textile World 61:2717+ My 6 '22
 Research in cotton industry. R: Amory. Textile World 60:2685-6 N 5 '21
 Shirley institute for co-operative research work in cotton. Engineer 133:447-8 Ap 21 '22

Cotton research company

Cotton research company's accomplishments. E. D. Walen. il Textile World 63:749-51 F 3 '23

Cotton sampling

New apparatus for measuring cotton staple. il diag Color Tr J 11:76-7 Ag '22

Cotton seed. See Cottonseed

Cotton sizing

Sizing. W. H. Whewell. Soc Dyers & Col J 39:65-7 Mr '23; Same. Am Dyestuff Rep 12:714-16 S 24 '23
 Sizing; a review of the literature. F: D. Farrow. Textile Inst J 14:T254-62; Bibliography. T262-3 Ag '23; Same. Color Tr J 13:146-51 O '23; Same cond. Soc Dyers & Col J 39:318-22 O '23
 Sizing materials for cotton fabrics. M. N. Conklin. Color Tr J 13:61-2 Ag '23
 Sizing of cotton warps. Color Tr J 12:77-8 F '23

Cotton spinning

Cotton spinning calculations and yarn costs. J. Winterbottom. 2d ed. 280p Longmans '21
 Four roll drafting on roving frames. A. N. Sheldon. Textile World 63:2349-50 Ap 28 '23
 Long draft spinning. E. D. Walen. diags Textile World 62:2015-17 O 7 '22
 Preliminary manufacturing tests of the official cotton standards of the United States for color for Upland tinged and stained cotton. W: R. Meadows and W. G. Blair. U S Agric Bul 990:1-12 '21

Cotton trade

Addresses and reports at A.C.M.A. Richmond convention. Textile World 63:3336+ My 19 '23

Cotton trade—Continued

- Buying cotton on call. D: E. McCuen. Textile World 61:696+ F 4 '22
- Conflicting estimates of world carry-over of cotton. Comm & Fin Chr 116:2347-9, 2473 My 26-Je 2 '23
- Cotton and the cotton market. W: H. Hubbard. 503p Appleton '23
- Cotton marketing. W. L. Clayton. Textile World 63:2841+ Ap 28 '23
- Cotton production and cooperatives. A. H. Stone. il Textile World 63:2843+ Ap 28 '23
- Cotton supply and some of its problems. W. R. Dunlop. Textile Inst J 14:P157-61 Jl '23
- Cotton trade's plight. C: Macara. Textile World 64:1660+ S 22 '23
- Danger point in the cotton supply. C: W. Macara. Textile World 63:721-3 F 3 '23
- Economic aspects of world cotton industry. W. I. Bullard and H. C. Meserve. Textile World 62:2293-4 O 21 '22
- Economics of cotton industry. M. T. Cope land. Textile World 62:2004+ O 7 '22
- Factors restricting Europe's cotton consumption. E: T. Pickard. Textile World 62:2759-60 N 11 '22
- Foreign industrial situation. W. I. Bullard. Textile World 60:2689+ N 5 '21
- Growth of competition. F. Nasmith. Textile Inst J 14:P61-70 Ap '23
- President's annual address. R. B. Lowe. Textile World 61:2681 My 6 '22
- Problems affecting business today. F. H. Fries. Textile World 61:187+ Ja 14 '22
- Radical fluctuations in cotton goods market. Textile World 61:665-6 F 4 '22
- Transportation and production. E. Watkins. Textile World 63:3351+ My 19 '23
- World cotton trade and its future. C: W. Macara. Textile World 61:1031+ F 11 '22
- See also Cotton—Prices; Cotton exchanges; Cotton fabrics—Prices; Cotton yarn

Statistics

- Census report on cotton consumed and on hand, active spindles and exports and imports. Comm & Fin Chr 115:823 Ag 19 '22
- Cotton movement and crop of 1921-22. Comm & Fin Chr 115:1058-69 S 2 '22
- Cotton movement and crop of 1922-23. Comm & Fin Chr 117:974-87 S 1 '23
- International federation's cotton statistics. Textile World 64:1955-6 O 6 '23
- Movement of the crop. See weekly numbers of Commercial and financial chronicle
- 1921 world cotton crop, 15,593,000 bales—U.S. department of agriculture reports smallest world production since 1900. Comm & Fin Chr 113:2781-2 D 31 '21
- Raw cotton supply worries trade. Textile World 63:811+ F 3 '23
- Ten year cotton statement, Jenks, Gwynne & co., New York '21
- World cotton consumption and curtailment; report of International federation for half year ended January 31. Textile World 61:1935+ Ap 1 '22
- World cotton situation; estimated consumption for year ending July 31, 1922. Textile World 61:2658 My 6 '22
- World cotton statistics for half year ending Jan. 31. Textile World 63:2598 Ap 21 '23
- World cotton statistics for the year ending July 31. Textile World 62:1785 S 30 '22
- World's cotton crops in 1921. J. A. Todd. Textile World 61:648+ F 4 '22

Belgium

- Textile industries of Belgium and the Netherlands. S. H. Cross and G. E. Anderson. U S Bur For & Dom Com Trade Information Bul 105:1-16 '23

China

- Cotton yarn market in China. S. Z. Yang. il Textile World 61:1127+ F 18 '22
- Packing yarn for China. Textile World 62:2439 O 23 '22

See also Cotton manufacture—China

Czechoslovakia

- Survey of Czecho-Slovak cotton industry, 1922. A. Broft. U S Bur For & Dom Com Trade Information Bul 97:1-8 '23

France

- Cotton industry in France. R. B. Forrester. 142p Longmans '21

Germany

- Economic handicaps of German industry. Textile World 60:3243+ D 3 '21

Great Britain

- Buying of spot cotton in Liverpool. R. V. Grandison. il Textile World 62:725-6 Ag 5 '22
- Cure for English cotton trade ills. C: W. Macara. Textile World 62:3179-80 D 2 '22
- Disastrous year in Lancashire. F: W. Tattersall. Textile World 61:667+ F 4 '22
- Year in English cottons. F: W. Tattersall. Textile World 63:775+ F 3 '23

India

- New cotton depot at Bombay. diags Engineer 135:496-7 My 11 '22

Japan

- Effects on Japan's cotton industry. Textile World 64:1665 S 22 '23
- Japanese cotton industry and trade. 162p U.S. Tariff commission, Washington '21

Peru

- Cotton industry of Peru. W. E. Dunn. U S Bur For & Dom Com Trade Information Bul 95:1-17 '23

Russia

- Progress of Russia's cotton trade. Textile World 64:1787 S 29 '23

South Africa

- Cotton goods in British South Africa. P. J. Stevenson. U S Bur For & Dom Com 219:1-71 '23

Sweden

- Cotton and cotton goods in western Sweden. W. H. Sholes. U S Sp Cons Rep 84:1-60 '22

United States

- American ships and Egyptian cotton. W. L. Marvin. Textile World 60:2989+ N 19 '21
- Basis of better times. J. S. Alexander. 15p National bank of commerce in New York '21
- Census report on cotton consumed and on hand, active spindles and exports and imports. Comm & Fin Chr 115:1789 O 21 '22
- Conference in Dallas under auspices of Federal reserve bank to provide for orderly marketing of cotton. Comm & Fin Chr 117:615-16, 958-9 Ag 11, S 1 '23
- Conservative optimism, the cotton goods outlook. C: L. Bernheimer. Annalist 19:62-3 Ja 9 '22
- Consumption and exportation of cotton—the carry-over. Comm & Fin Chr 114:801 F 25 '22
- Cotton. See weekly numbers of the Annalist
- Cotton and woolen goods. E. F. Greene. Textile World 61:311 Ja 21 '22
- Cotton cloth exports grow. Am Ind 23:31 S 22 '22
- Cotton mill sale-note. F. W. Ryan. 57p The Robert Morris associates, Lansdowne, Pa. '21
- Cotton trade guide and student's manual. T: S. Miller. 4th ed. 450p E. L. Steck co., Austin. Texas '23
- Emergency tariff act and long-staple cotton. (Tariff information ser. no. 27) 35p U.S. Tariff comm., Washington '22
- Foresees a prosperous new year for cotton. L. S. Bache. Annalist 21:66 Ja 8 '23
- Hopeful attitude toward cotton goods future. Textile World 63:771+ F 3 '23
- Menace to cotton industry through holl weevil. H. Jordan. Comm & Fin Chr 115:2008 N 4 '22
- Pink bollworm quarantine modified to permit cotton shipment to Canada. Comm & Fin Chr 117:1739 O 20 '23
- Prosperous year for cotton in sight. L. S. Bache. Annalist 19:63 Ja 9 '22

Cotton trade—United States—Continued

Protest against agricultural department's cotton acreage report. J. S. Wannamaker. *Comm & Fin Chr* 116:1851 Ap 28 '23

See also American cotton association; American cotton growers' exchange; New York cotton exchange; Staple cotton co-operative association

Cotton waste

Cotton wastes have a good year in 1922. *Textile World* 63:819+ F 3 '23

Cotton wastes have poor year in 1921. *Textile World* 61:711 F 4 '22

Effective waste control system. *il Textile World* 61:2311-12 Ap 22 '22

Utilization of cotton waste. *Textile World* 61:2850-1+, 3795+ My 13, Je 24 '22

Cotton weavers

Atmospheric conditions in cotton weaving. S. Wyatt. 36p Gt. Brit. Industrial fatigue research board. London '23

Variations in efficiency in cotton weaving. J. A. Hunter. *Textile World* 64:235+ J1 14 '23

Variations of efficiency in cotton weaving. S. Wyatt. *Engineering* 115:498-9 Ap 20 '23

Summary. *Textile World* 63:3150 My 12 '23

Cotton yarn

Changes in yarn situation radical during 1922. *Textile World* 63:807+ F 3 '23

Cotton yarn market in China. S. Z. Yang. *il Textile World* 61:1127+ F 18 '22

Effects of waterproofing materials and outdoor exposure upon the tensile strength of cotton yarn. H. P. Holman and T. D. Jarrell. *il Ind & Eng Chem* 15:236-40 Mr '23

Hesitating advance in fine yarns. *Textile World* 61:701+ F 4 '22

Influence of heat on yarns. R. A. Truesdale. *Textile World* 63:1295+ F 17 '23

Long chain beaming of cotton warps. C. Herdegen. *il Textile World* 62:2015+ O 7 '22

Machine for bleaching yarn in form of cheeses. *diags Color Tr J* 13:26-8 J1 '23

Manufacture of colored cotton yarns and fabrics. H. D. Martin. *il Color Tr J* 10:161-6, 188-93 Ap-May '22

Method of removing waxes from cotton yarns to increase tensile strength. *Color Tr J* 11:264 D '22

Oxidation of dyed cotton yarn. Knecht. *Color Tr J* 12:78 F '23

Packing cotton yarns for export. *il Textile World* 61:1535 Mr 11 '22

Packing yarn for China. *Textile World* 62:2439 O 28 '22

Printing yarn for chintz effects. *Am Dyestuff Rep* 12:399-400 My 21 '23

Production of cotton yarn. W. Bailey. *Textile Inst J* 14:P139-43 Je '23

Report of the Federal trade commission on combed cotton yarns. 94p U.S. Federal trade commission. Washington '21

Special yarn effects. J. H. Kershaw. *Textile World* 61:2211+ Ap 15 '22

Twist contraction in two-plying 13s yarn. G. R. Merrill. *Textile World* 60:3495+ D 17 '21

Prices

American yarn basic prices. *Textile World* 63:3802+ Je 9 '23

Specifications

Proposed tentative specifications for tolerances and test methods for cotton yarns and cords. *Textile World* 64:70 J1 7 '23

Testing

Test methods for electrical yarns. *Textile World* 64:1664-5 S 22 '23

Testing spinning value of cotton. S. R. Winters. *il Textile World* 62:2771+ N 11 '22

Cottonizing

Cottonizing of bast fibers and the potential industrial value of this process. O. Johannsen. *il Color Tr J* 11:42-5 J1 '22

Cottonseed**Prices**

Cottonseed, cake, meal and cottonseed oil. See weekly numbers of the Oil paint and drug reporter

Cottonseed crushers' association, Interstate. See Interstate cottonseed crushers' association

Cottonseed oil

Application of chemical research to the cotton oil industry. D. Wesson. *Chem & Met Eng* 26:1219 Je 28 '22

Consumption of cottonseed oil in May estimated at 128,871 bbl. *Chem & Met Eng* 28:1129 Je 25 '23

Cottonseed, oil, cake, meal. See weekly numbers of Oil, paint and drug reporter

Cottonseed oil outlook. W. A. Shelton. *Oil Paint & Drug Rep* 101:33 Ap 10 '22

June distribution of cottonseed oil exceeds general expectations. *Chem & Met Eng* 29:159 J1 23 '23

Mississippi anti-gin act upheld by Supreme court. W. Gustin. *Chem & Met Eng* 26:638 Ap 5 '22

Study of the phytosterols of corn oil, cottonseed oil and linseed oil. R. J. Anderson and M. G. Moore. *Am Chem Soc J* 45:1944-53 Ag '23

Cottrell, Frederick Gardner, 1877- Sketch. *por Elec W* 81:140 Ja 20 '23

Cottrell process. See Electric precipitation

Cough drops**Advertising**

Enlarging a market and creating a new one by adding a new product; Smith brothers put out new cough drop. R. Cole. *Ptr Ink* 120:101-2+ S 23 '22

Coumarone resins. See Resinous products

Council on industrial relations for the electrical construction industry in the United States and Canada

Industrial council in the electrical construction industry. *Monthly Labor R* 17:322-39 Ag '23

Councils, Industrial. See Industrial councils

Counter books

Getting dealers to sell full lines without carrying full stocks. M. Hastings, jr. *il Ptr Ink M* 4:35-6 D '21

Counter display cabinets

Stimulating turnover with counter display cabinets. E. B. Weiss. *Ptr Ink M* 4:44+ Ap '22

Counterbores

Counterbores or spot-facing tools with interchangeable cutters. E. H. Tingley. *diags Mach* 28:998 Ag '22

Counterboring attachment. D. A. Nevin. *diags Mach* 28:535 Mr '22

Countershafts

Methods of machine tool design. A. L. DeLeeuw. *diags Am Mach* 56:878-81 Je 15 '22

Countersinking machines

Fox no. 12 automatic countersinking machine. *il Am Mach* 57:239 Ag 10 '22

Counting machines and devices

Automatic counters in the rubber industry. J. P. Blackiston. *il India Rubber W* 68:769-70 S '23

Counter used to record opening of circuit breakers. *il Power* 58:569 O 9 '23

Counting accurately in the least time. *il Factory* 29:678-80+ D '22

Precision universal model counter with measuring attachment. *il Am Mach* 57:38 J1 6 '22

Uses of counting machines. J. T. Chidsey. *Textile World* 62:2651+ N 4 '22

Counting of threads. See Textile fabrics—Thread counting

Country clubs. See Clubhouses

Country homes

Landscape design for the modern country house. A. Giffert, jr. *il plan Arch Forum* 38:141-6 Mr '23

See also Sewage disposal, Rural; Water supply, Rural

Service buildings

Service building, estate of William V. Kelley, Lake Forest, Ill. *Arch Forum* 38:69, pl 24-5 F '23

Country houses

Alterations to a house on estate of Arthur H. Marks, Yorktown Heights, N.Y. *Am Arch* 123:271a-e Mr 28 '23

Country house architecture in the Middle West. T: E. Tallmadge. *il plan Arch Rec* 52:284-307 O '22

Country house in the Italian manner. M. Price. *il plan Arch Rec* 51:387-96 My '22

Country life book of building and decorating. R. T. Townsend, ed. 100p Doubleday '22

Current tendencies in country house design in the East. A. Embury. *il plans Arch Rec* 52:250-83 O '22

Design of the country house. W: L. Bottomley. *il plans Arch Rec* 50:242-74 O '21

Distinctive country home. Arch & Bldg 54:30, Dwelling house series 4-5 Mr '22

Garden of the country house. W: J. Lamb. *il plan Arch Rec* 50:295-336 O '21

House of Andrew V. Stout, Red Bank, N. J.; views. *Am Arch* 124:258a-e S 12 '23

House of E. Guy Dawber, architect, Long Wittenham, Berks, England. *il Am Arch* 123:355-8 Ap 25 '23

House of Malcolm Stevenson, Westbury, L.I., N.Y. *Am Arch* 123:271f-h Mr 28 '23

Interior of the country house. A. R. Colton and A. W. Colton. *il plans Arch Rec* 50:275-94 O '21

Modern American country houses. A. Embury. *il plans Arch Forum* 38:79-106 Mr '23

Redeeming old homes; country homes for modest purses. A. L. Hill. 160p Holt '23

Some country house architecture in the Far West. E. Grey. *il diags plans Arch Rec* 52:308-44 O '22

Two houses at Locust Valley, N.Y. *Arch Forum* 38:234, pl 54-7 My '23

See also Architecture, Domestic; Architecture, Domestic—Italy; Bungalows; Farm-houses

Heating and ventilation

More comfort with less work; devices that tend toward placing country life on a par with city life. *il diags Sci Am* 126:191-2 Mr '22

Country life. *See* Sociology, Rural

Country stores

We built a big-town trade in a small-town store. C. M. Johnson. *System* 44:61-4+ JI '23

What will become of the country store? P. White. *System* 44:512-13+ O '23

Country bonds

Acts of relating to the issuance of bonds by counties in Ohio. *Comm & Fin Chr* 116:2795-6 Je 16 '23

County libraries. *See* Libraries, County

County newspapers. *See* Newspapers, County

Couplings

Compact flexible coupling is durable and quiet. *il Pop Mech* 40:938 D '23

Falk-Bibby coupling with unusual flexibility as feature. *il Iron Age* 112:1239 N 8 '23

Flexible couplings and their use. *Mach* 29:194-5 N '22

Flexible couplings for marine auxiliaries. *il diag Marine R* 53:204-5 My '23

Flexible couplings; where and how they should be used. J: J. Serrell. *il Mach* 29:91-3 O '22

Points to consider in using various types and kinds of flexible couplings. F. E. Gooding. *il diags Ind Eng* 81:529-33+ N '23

Positive and flexible chain couplings. *il Eng & Ind Management* 7:15-16 Ja 5 '22

Some factors which affect the use of rigid and compression couplings. F. E. Gooding. *il Ind Eng* 81:499-501+ O '23

Spring coupling for oil-engine drive used in England. *diag Power* 56:445 S 19 '22

Steel-flex cut-spring flexible shaft coupling. *il Am Mach* 57:506 S 23 '22; *Mach* 29:158 O '22

Tilting-bar flexible shaft coupling. *il Am Mach* 57:745 N 9 '22

Vibration in small direct connected units. H. M. Phillips. *diags Power* 57:398-400 Mr 13 '23; *Discussion*. H. R. Geiger. 57:571 Ap 10 '23

See also Car couplings; Hose couplings; Joints, Universal; Tractors—Hitches

Coupons. *See* Advertisements—Coupons

Courtesy

Courtesy and rewards. A. Bradbury. *Ptr Ink* M 6:36 Ap '23

Courthouses

Johnston county court house, Smithfield, N.C. *Arch & Bldg* 54:47, pl 71-2 My '22

United States post office and court house at Denver, Colorado. E. Swartwout. *il diag plan Arch Rec* 54:361-75 O '23

See also New York (county)—Court house

Courts**United States**

Courts and the constitution; an analysis of the fundamental structure of our vital institutions and of the recent attacks made upon our entire judicial system by individuals and such bodies as the American federation of labor. T: D. O'Brien. *Am Ind* 23:11-12+ O '22

Putting courts on business basis. T: W. Shelton. *Am Ind* 23:27-31 Ap '23

Courts (architecture)

Small city garden. *il plan Arch Forum* 36:180 My '22

Tendencies in apartment house design. F. C. Brown. *il plans Arch Rec* 51:62-76, 152-69, 249-68 Ja-Mr '22

Courts, Commercial

See Arbitration

Courts, Industrial

Industrial court. W: W. Mackenzie. 44p Butterworth & co., 4-6 Bell Yard, Temple Bar, W.C. 2, London '23

Industrial court of Great Britain. *Monthly Labor R* 13:1133-5 N '21

Industrial courts, collective agreements, or what? W: L. Stoddard. *Administration* 4:261-8 S '22

Industrial justice—not peace. W: A. White. *Nation's Business* 10:14-16 My '22

Labor courts do not solve problem. H. Tipper. *Automotive Ind* 46:629 Mr 16 '22

Responsibility of government for industrial justice. H: J. Allen. *Comm & Fin Chr* 115:104-7 sec 2 O 21 '22

See also Kansas—Court of industrial relations

Bibliography

University debaters' annual. E. M. Phelps, ed. p. 137-9 H. W. Wilson co. '21

Courts, International

See Permanent court of international justice

Courtyards. *See* Courts (architecture)

Couzens, James, 1872-

Business policy of next Congress; an interview with James Couzens. *por Ptr Ink* 123:17-20+ My 31 '23

Couzens, radical—and rich. J. B. Morrow. *por Nation's Business* 11:22-4 Je '23

Covert cloth

Wool and worsted covert coating. *il Textile World* 63:2505+ Ap 14 '23

Coyotes

Coyote industry doomed to die. M. Wharton. *il Pop Mech* 39:265-6 F '23

CPS'er

The CPS'er. V. Karapetoff. *il diags Sibley J* 37:46-51 Mr '23

Crackers. *See* Biscuits; National biscuit company

Cracking processes. *See* Gasoline—Manufacture; Petroleum refining

Craftsmanship

Definite encouragement of the crafts. *Arch Forum* 36:76 F '22

Need for craft revival. *Arch Forum* 36:34 Ja '22

Craftsmanship—Continued

37th annual exhibition of the Architectural league of New York with a foreword on the development of a better craftsmanship. *il Am Arch* 121:131-8+ F 15 '22

See also American ceramic society—Art division

Cramerton, North Carolina

Cramerton: a textile town in the making. *il Textile World* 63:732-3 F 3 '23

Cranberries

Artificial cranberry bogs in the Northwest. L. W. Pedrose. *il Pop Mech* 37:409-10 Mr '22
Sales methods and policies of a growers' national marketing agency. A. Holston and J. E. Chaney. *U S Agric Bul* 1109:1-36 '23

Crane cars. See Cars, Crane; Cranes, derricks, etc.**Crane chains**

Crane chains and their use. E. G. Quesnel. *il Safety Eng* 45:199-200 Je '23

Crane hooks

S hook for flask equipment. G. W. Childs. *diag Foundry* 50:332a Ap 15 '22
Safe crane hook. H. A. Peters. *diags Am Mach* 59:225 Ag 9 '23

Cranes, derricks, etc.

American bridge crane in Holland for handling ore and coal, erected by the Brown hoisting machinery co. *il Iron Age* 110:1491 D 7 '22

Building a floor crane. J. V. Romig. *diags Pop Mech* 40:622-3 O '23

Clamshell and dragline crawler crane. *il Eng & Min J* 114:439 S 2 '22

Coal and coke grabbing steam cranes. *il Gas J (Lond)* 162:658-9 Je 13 '23

Coal handling installation at the power-house electricity works of the county borough of Blackburn. G. F. Zimmer. *il diags Ind Management (Lond)* 9:115-18, 152-4 F 22-Mr 8 '23

Contractor's jib crane. J. V. Romig. *il diags Pop Mech* 36:923-4 D '21

Crane car has interchangeable hoisting booms. *il Elec Ry J* 61:960 Je 9 '23

Crane excavates and builds cofferdam for filtered water basin. *il diags Eng N* 91:315 Ag 23 '23

Crane for serving vertical gap riveter. *il Iron Age* 109:996 Ap 13 '22

Crane which removed a 150-ton bridge intact. *il Sci Am* 129:103 Ag '23

Crane works at Rodley. *il Engineer* 134:122-3 Ag 4 '22

Derrick raises piledriver and flat car 100 feet. *il Pop Mech* 36:861 D '21

Derricks lashed to building columns in restricted operating area. *il Eng N* 88:1032 Je 22 '22

Device for determining crane loads. W. W. Burrell. *diag Am Mach* 58:346-7 Mr 1 '23

Dismantling 150-ton shear legs in Havana harbor. F. J. Litter. *il Eng N* 89:836 N 16 '22

Erie improves its erecting shops at Hornell. N. Y. *il diags Eng N* 90:952-3 My 31 '23

15-cwt. trailer crane. *il diags Engineering* 115:331-2 Mr 16 '23

15-ton steam traveling cranes for Morocco. *il Engineer* 134:174-5 Ag 18 '22

5-ton overhead magnet-lifting crane. *il Engineering* 114:103-4, pl 12 Jl 28 '22

Flexible propelling gear of large navy yard crane. *il diags Eng N* 90:1004-6 Je 7 '23

Gantry crane for handling heavy freight built by Niles-Bement-Pond co. *il Ry Age* 73:1242 D 30 '22; *Iron Age* 111:162 Ja 11 '23; *Ry Mech Eng* 97:65-6 Ja '23

Gantry cranes now used for the smaller plants. *il Power* 56:371 S 5 '22

General purpose small crane for railroad service. *il Eng & Contr (Equip R)* 60:891-2 O 31 '23

Good practice in the design of crane runways. R. Fleming. *diags Eng N* 90:918-20 My 24 '23

Grue-derrick des établissements Stork de Hengelo (Hollande). *il diag plans Génie Civil* 82:613-16 Je 30 '23

Grue pivotante et basculante de 60 tonnes, installée aux Chantiers navals d'Harfleur. *il diag Génie Civil* 82:341-3 Ap 14 '23

Grues à vapeur de 15 tonnes pour l'exploitation des carrières au Maroc. *il Génie Civil* 81:445-6 N 11 '22

Harbour equipment at Glasgow. D. Fife. *diags Ind Management (Lond)* 10:134-8 S 6 '23

Hydraulic crane without cable or chain. G. A. Luers. *diags Am Mach* 58:234-5 F 8 '23

Improved gantry cranes for the port of Hamburg, Germany. E. Krahn. *il diags Eng N* 91:296-7 Ag 23 '23

Increasing the scope of locomotive cranes. *il Ry Age* 72:365-7 F 11 '22

Industrial works builds 200-ton wreck crane for Virginian Ry. *il Iron Age* 110:1346 N 23 '22; *Ry Age* 73:1000-1 N 25 '22; *Ry R* 71:783 D 2 '22; *Eng & Contr (Ry)* 58:148 D 20 '22; *Sci Am* 128:249 Ap '23

Jack-knife crane solves problem of restricted operating space. A. B. Proal. *il Eng N* 88:647 Ap 20 '22

Labor-saving use of cranes; new plant of Alfred Box & co. *il Iron Age* 112:604-5 S 6 '23

Large cranes for shipyards and harbor service. E. Krahn. *il diags Marine Eng* 27:583-5 S '22

Link-belt crawler crane. *il Eng & Contr* 58:119 Ag 2 '22; *Iron Age* 110:152 Jl 20 '22; *Iron Tr R* 71:312 Ag 3 '22; *Good Roads* 63:115 S 27 '22

Locomotive cranes in paper mills. G. H. Olson. *il Paper* 32:11-12+ My 16 '23

Locomotive shop served by 180-ton crane: M. K. N. T. R.R. *il diags plan Eng N* 91:762-4 N 8 '23

Louden-King push-and-pull crane. G. F. Zimmer. *diags Eng & Ind Management* 8:95-7 Ag 24 '22

Mobile trailer crane. *il diags plan Ind Management (Lond)* 9:377-8 Je 14 '23

Motor truck mounting for Byers crane. *il Munic Eng* 63:sup24-6 S '22

Müller's rotating cargo-handling derricks. *diags Engineering* 114:340 S 15 '22

New development in traveling cranes for shops. *il Ry Age* 73:662-3 O 7 '22; *Ry Mech Eng* 96:538 S '22

New type of crawling tractor crane. *il Ry Age* 71:950 N 12 '21

One-man hydraulic crane is easily handled. *il Pop Mech* 39:582 Ap '23

P. H. super-tractor crane. *il Good Roads* 63:135 O 11 '22

Portable crane for quick handling. *il Sci Am* 126:342 My '22

Portable derrick has wide range of uses. *il Pop Mech* 40:612 O '23

Recent development in steel mill cranes. G. Fox. *Blast F & Steel Pl* 10:22 Ja '22

Rotary crane for handling transformers. E. F. Pearson. *il diag Elec W* 81:107-8 Ja 13 '23

70-ton portable steam derrick crane. *il diags Engineering* 115:425-7 Ap 6 '23

Special crane for ordnance plant. *il Iron Age* 108:1674 D 29 '21

Steam-operated 10-ton crawler crane. *il Iron Age* 111:1324 My 10 '23

Ten-ton locomotive steam breakdown crane. *il Engineer* 133:357, 360 Mr 31 '22

30-cwt. hydraulic wharf cranes for Tilbury docks. *il Engineer* 134:126 Ag 4 '22

3-ton Toplis horizontal luffing steam crane. *il Engineering* 113:618-19 My 19 '22

Traveling bridge crane used to handle sewer construction materials. J. H. McGinn. *il Eng N* 89:138 Jl 27 '22

Traveling crane has radial path. *diags Eng N* 88:277 F 16 '22

Traveling crane has turntable to swing locomotives. *il diags Eng N* 90:250-1 F 8 '23

20-ton revolving wharf crane at Vernon-on-Shore. *il diags Engineering* 116:79-80, 84 Jl 20 '23

Two-hundred-ton fitting out crane at Camden yard. *il Marine Eng* 27:383-5 Je '22

Type of shipyard cranes. *diags Eng & Ind Management* 7:58+ Ja 12 '22

Unique application of electric traveling crane. *il Elec Ry J* 59:479 Mr 18 '22

Cranes, derricks, etc.—Continued

- Use shifting gear on German crane. *il* *diags*
 Iron Tr R 70:140-2 Ja 12 '22
 Varied uses for locomotive cranes. *il* *Gas Age*
 49:499-500 Ap 22 '22
 Water-tube boiler and crane construction. *J.*
 H. R. Kemnal. *il* *diags* *Engineering* 115:815-
 17 Je 29 '23; *Abstract. Engineer* 135:695 Je
 29 '23; *Discussion. Engineering* 115:809 Je 29
 '23; *Engineer* 135:695-6 Je 29 '23
 What it pays to know about material hand-
 ling. W. T. Spivey and E. F. Church, jr.
Factory 31:169-72+ Ag '23

See also Buckets; Crane hooks; Hoisting
 machinery; Loading and unloading

Cost

- Advancing rig timber prices strong 25 per
 cent under peak. *Nat Pet N* 14:31-2 Ap
 5 '22

Electric equipment

- Auxiliary electrical equipment for motor-
 operated cranes. H. W. Eastwood. *Am Inst*
 E E J 41:319-28 Ap '22; *Discussion. 41:755-
 7 O '22*
 Baker locomotive-type industrial crane. *il*
Am Mach 56:531-2 Ap 6 '22
 Electric cranes. D. Adamson. *Elec R (Lond)*
 93:567-8 O 19 '23
 Electric cranes and hauling machines. F. E.
 Chilton. 114p *Pitman* '23
 Electric cranes at the Swiss federal railway
 shops at Bellinzona. *il* *diag* *Engineering* 113:
 653-4 My 26 '22
 Electric runabout crane. *il* *diags* *Engineer* 135:
 153 F 9 '23
 Electrical crane controllers. J. F. Schnabel.
diags *Am Inst E E J* 41:313-19 Ap '22; *Dis-
 cussion. 41:755-7 O '22*
 Elwell-Parker electric crane truck. *il* *Am*
Mach 56:461 Mr 23 '22; *Elec Ry J* 59:648 Ap
 15 '22; *Ry Age* 72:980 Ap 22 '22; *Ry Mech*
Eng 96:229-30 Ap '22; *Ry R* 71:391 S 16 '22
 5-ton electric double cantilever dumping
 crane. *il* *Engineer* 132:491 N 4 '21
 Lansing electric crane trucks. *il* *Engineer* 136:
 183 Ag 17 '23
 Latest developments in crane motors and
 their accessories; abstract. E. Schwarz.
Elec W 82:346 Ag 18 '23
 Mobile electric battery crane. *il* *Engineer*
 133:160 F 10 '22
 New limit switch for crane operation. *il*
Power Pl Eng 26:246-7 F 15 '22
 100-ton overhead electric travelling crane. *il*
diag *Engineer* 134:554, 562 N 24 '22
 Operating and maintenance practice for elec-
 tric traveling cranes. B. Hantunan. *il* *diags*
Ind Eng 81:176-80+ Ap '23
 Ransome crane and electric trucks. *il* *Elec R*
 (Lond) 92:250-1 F 16 '23
 Safety rules for electric crane equipment.
Elec W 81:1040-1 My 5 '23
 Selection of electrical apparatus for cranes.
 R. H. McLain. *Am Inst E E J* 41:249-56
 Mr '22; *Discussion. 41:755-7 O '22*
 Signal system used to call crane operator.
 A. L. Gear. *diag* *Ind Eng* 80:451 S '22
 Structural steel shapes used as crane runway
 conductors. W. S. Jones. *Ind Eng* 80:598 D
 '22
 10-ton electric overhead travelling crane. *il*
Engineering 114:553-4, 556 N 3 '22
 Things that the crane inspector looks for.
 A. L. Gear. *il* *Elec R* 80:111-18+ Mr '22
 Traveling cranes with single-phase brush-
 shifting motors. E. Altschul. *Elec W* 79:
 742 Ap 15 '22
 Using electric cranes in foundries. A. H. Mc-
 Dougall. *Iron Tr R* 70:1653-4 Je 8 '22

Standards

- Crane manufacturers adopt performance
 standards. *Ry Age* 74:1164 My 12 '23

Stresses

- Wind pressure is bridge hazard. C. O. Burton.
il *Iron Tr R* 72:1090-3 Ap 12 '23

Cranes, Floating

- Convert giant battleship into floating crane.
il *Pop Mech* 37:66-7 My '22

- Floating crane for coaling vessels. *il* *diags*
 plan *Engineering* 112:784, 792 D 9 '21
 Floating crane unloads export locomotives.
il *Pop Mech* 38:867 D '22
 From battleship to floating crane. *il* *Sci Am*
 128:179 Mr '23
 Kearsarge crane. *il* *diag* *Engineer* 135:690,
 698 Je 29 '23
 New 60-ton floating crane of the Manchester
 ship canal company. *Eng & Ind Manage-*
ment 6:455 O 20 '21
 150-ton self-propelled floating crane. *il* *diags*
Engineering 114:268 S 1 '22
 30-ton self-propelling floating crane for Kara-
 chl. *il* *diags* *Engineer* 135:454-5 Ap 27 '23
 United States navy crane ship no. 1. *il* *Iron*
Age 112:16 Jl 5 '23
 U. S. navy crane ship no. 1: an achievement.
il *diags* *Mech Eng* 45:333-41+ Je '23; *Same*
cond. Engineering 115:783-6 Je 22 '23

Crankcases

- Refitting bearings in automobile crankcases.
il *Mach* 28:631 Ap '22
 Trend toward greater stiffness in crankcase
 design. J. E. Schipper. *diags* *Automotive*
Ind 47:612-17 S 28 '22

Manufacture

- Boring and running-in machine for motor-
 omnibus engine crankcases. *il* *diags* *Engi-*
neering 113:586-8, 590, pl 24 My 12 '22
 British motor castings methods. B. Shaw and
 J. Edgar. *diags* *Foundry* 50:102-7, 149-52,
 198-202 F 1-Mr 1 '22
 Machining an unusual crankcase. F. H. Col-
 vin. *il* *Am Mach* 56:403-4 Mr 16 '22
 Machining the Mack crankcase. F. H. Col-
 vin. *il* *Am Mach* 56:256-7 F 16 '22
 Making the Pierce-Arrow crankcase. F. H.
 Colvin. *il* *Am Mach* 57:66-9 Jl 13 '22
 Marmion methods on cylinders and crank-
 cases. *il* *Am Mach* 57:374-5 S 7 '22
 Rigging an intricate crankcase core. E. H.
 Tingley. *diags* *Foundry* 51:507 Je 15 '23
 Some unique facilities for crankcase produc-
 tion. J. E. Schipper. *il* *Automotive Ind* 45:
 1017-20 N 24 '21
 Using diamond tools in motor building. G. T.
 Lintling. *il* *Am Mach* 57:437-9 S 21 '22

Repair

- How oil leak through sand hole in crank-
 case was stopped. R. A. Cultra. *diags* *Power*
 58:740 N 6 '23

Crankpins

- Adjusting crankpin boxes. A. J. Dixon. *diags*
Power 55:431-2 Mr 14 '22
 Analytical study of crank-pin bearing design
 and lubrication. G. D. Angle. *diags* *Auto-*
otive Ind 48:520-3, 571-4, 623-6 Mr 1-15 '23
 Design of crank-pin and crank-pin hub. H. J.
 Coventry. *Ry Mech Eng* 96:394-6 Jl '22
 Design of crank-pin and crank-pin hub. A.
 Montangie. *diags* *Ry Mech Eng* 96:330-1 Je
 '22
 Fitting a new crankpin in an air-compressor
 disk. R. A. Cultra. *diags* *Power* 58:506 S 25
 '23
 Re-turning crankpins in an automobile ser-
 vice station. *il* *Mach* 29:280 D '22
 Temporary crankpins for use in counterbal-
 ancing locomotive drivers. J. R. Phelps. *il*
diags *Am Mach* 57:24-5 Jl 6 '22

Manufacture

- Making a crankpin turning machine. J. Ellis.
diags *Pop Mech* 36:930-2 D '21
 Making a crankpin turning tool. *il* *Am Mach*
 55:956-7 D 15 '21

Crankshafts

- Balancing crankshafts in the Chalmers plant.
 F. C. Hudson. *il* *Am Mach* 58:268 F 15 '23
 Crankshaft alignment. J. E. Great. *diags*
Power 57:901-2 Je 5 '23
 Designing power press crankshafts. P. A.
 Fiedell. *diags* *Mach* 29:284-6 D '22
 50-ton twelve-throw crankshaft. *il* *diag* *En-*
gineering 112:723 N 25 '21
 Interest in eight-in-line engines centers in
 crankshaft layout. *diags* *Automotive Ind* 49:
 166-9 Jl 26 '23
 New crankshaft balancing machine. P. M.
 Heldt. *il* *Automotive Ind* 46:518-19 Mr 2 '22

Crankshafts—Continued

- Setting the crankshaft bearings of internal-combustion engines. H. F. Shepherd. diags Power 57:363-5 Mr 6 '23; Discussion. F. E. Myers. 57:570 Ap 10 '23
- Setting the eccentrics of steam engines. T. W. Airey. Power 56:573-4 O 10 '22
- Tests of Liberty engine crankshaft material. il Automotive Ind 48:823 Ap 12 '23
- Torsion of crankshafts. S. Timoshenko. diags Mech Eng 45:96-8 F '23
- Torsional resonance; a consideration of the critical speeds of crankshafts. J. Morris. Automobile Eng 13:113 Ap '23

Manufacture

- Crank arm turning machine. P. M. Heldt. il Automotive Ind 46:77-8 Ja 12 '22
- Crankshaft and camshaft work. F. H. Colvin. il Am Mach 57:141-3 Jl 27 '22
- How Franklin made Rolls-Royce airplane motor crankshafts. F. H. Colvin. il Am Mach 56:955-7 Je 29 '22
- Machining automobile crankshafts. F. H. Colvin. il diags Am Mach 56:504-7, 544-6, 585-7, 621-3 Ap 6-27 '22
- Making a casehardened crankshaft. il Am Mach 56:72 Ja 12 '22
- Making crankshafts in a commercial shop. il Am Mach 58:32 Ja 4 '23
- Manufacture of crankshafts. il diags Engineering 112:777-8, 811-13, pl 43 D 9-16 '21
- Manufacture of crankshafts. C. S. Pettit. diags Automobile Eng 13:75-7 Mr '23

Repair

- Automobile crankshaft repair work. il Mach 28:567-8 Mr '22
- Repairing crankshaft of pump. J. Ellis. diag Mach 28:748 My '22
- Repairing crankshafts. diags Pop Mech 38:954-5 D '22

Cravenette**Advertising**

- Booklet as the centre of the merchandising plan. R. Dickinson. Ptr Ink 121:25-8 D 14 '22

Crawfish. See Crayfish**Crayfish**

- Elimination of crawfish borers in a canal bank. F. M. Nash. Eng N 87:887-8 D 1 '21

Cream separators

- Grinding data on cream separator work. diags Am Mach 58:458-9 Mr 22 '23

Creameries

- Plumbing in dairy and creamery buildings in England. J. Y. Dunlop. il diags Sanitary & Heat Eng 96:364-5+ D 16 '21

Creatine

- Kinetics of the conversion of creatine into creatinine in hydrochloric acid solutions. G. Edgar and R. A. Wakefield. Am Chem Soc J 45:2242-5 O '23

Creatinine

- Kinetics of the conversion of creatine into creatinine in hydrochloric acid solutions. G. Edgar and R. A. Wakefield. Am Chem Soc J 45:2242-5 O '23

Credit

- Analytical credits. A. Wall. 258p Bobbs '21
- Bank credit investigator. R. F. Prudden. 192p Bankers pub. co., New York '22
- Bank credit methods and practice. T. J. Kavanaugh. 241p Bankers pub. co., New York '21
- Banking and credit. D. R. Dewey and M. J. Shugrue. 506p Ronald press '22
- Borrowing from your bank. S. H. Patterson. Management & Adm 6:569-74 N '23
- Building sales by credit co-operation. Ptr Ink 121:3-4+ D 21 '22
- Business forecasting in the Edison industries. E. H. Philips and G. H. Baldwin. Administration 4:671-9 D '22
- Changing the buyers of a community from slow to prompt payers. Ptr Ink 125:125-6 O 25 '23
- Contractor-dealer as a credit risk. R. E. Chatfield. J Elec 51:90-2 Ag 1 '23

- Cotton mill sale-note. F. W. Ryan. 57p The Robert Morris associates, Lansdowne, Pa. '21
- Credit and collections. D. E. Beebe and T. V. Morton. (Modern business v. 10) 335p Alexander Hamilton institute, New York '21
- Credit in the machine business. H. B. Egg. Am Mach 57:568 O 12 '22
- Credits. 480p American inst. of banking, New York '23
- Effect upon credit of new lines of merchandise such as radio. A. F. Hearl. Elec W 82:459-60 S 1 '23
- Enrolling the selling force in credit-collection work. Ptr Ink 121:89-90 N 16 '22
- Expanding credit to increase sales. P. O'Shea. Ptr Ink M 5:72+ N '22
- Federal reserve board says 1922 marks close of protracted period of liquidation. Comm & Fin Chr 116:228-9 Ja 20 '23
- Finance companies demand assurance of a good risk from motor bus purchasers. G. McIntyre. Bus Transportation 2:225-7 My '23
- Five ideas that cut down accounts receivable. System 42:420-1+ O '22
- Friendly letters: prompt collections; more sales. R. M. Dulin. il System 43:172-4+ F '23
- Frozen credit. R. Estcourt. Annalist 18:583-4 D 19 '21
- Fundamental principles involved in considering the credit risk. A. De R. Harris. Nat Pet N 15:101+ F 14 '23
- Granting credit in an expanding market. W. H. Steiner. Ptr Ink 123:17-20 Je 28 '23
- How buses can be bought on time. L. Swan. Bus Transportation 2:227-9 My '23
- How customers get a quick O.K. for credit. C. E. Mann. System 43:28-31 Ja '23
- How far can firms selling by mail go in extending credit? G. A. Nichols. Ptr Ink M 7:68+ Ag '23
- How much money can your department collect by the first of next month? J. W. Hallman. Management & Adm 6:473-4 O '23
- How the manufacturer can help the retailer out of the jungle. E. M. Skinner. Ptr Ink 120:117-18+ S 21 '22
- Influence of credit analysis on earnings. E. W. Shepard. Elec W 82:358-9 Ag 18 '23
- Intelligent use of bank credit. H. E. Martin. Ptr Ink 124:69-70+ S 13 '23
- Legal aspects of credit. S. F. Brewster. 549p Ronald press '23
- Long-term credits and the fertilizer industry. Chem & Met Eng 28:49, 291, 335-6 Ja 10, F 14-21 '23
- Mechanism of commercial credit; terms of sale and trade acceptances. W. H. Steiner. 375p Appleton '22
- Mercantile credits. F. H. McAdow. 200p Ronald press '22
- Modern credit company, its place in business financing. R. G. Merrick. 69p The Norman, Remington co., Baltimore '22
- Money, credit and commerce. A. Marshall. 369p Macmillan '23
- New policy for labour. H. Cousins. 110p C. Palmer, London '21
- New York Federal reserve bank on credit expansion outside federal reserve banks. Comm & Fin Chr 116:1485-6 Ap 7 '23
- Obtaining better credit information. J. S. Thomas. Elec W 82:408-9 Ag 25 '23
- Out-of-date credit information: what it is costing manufacturers in sales. J. R. Sprague. Ptr Ink 123:3-4+ My 3 '23
- Part character plays in business. T. J. Kavanaugh. Dom Eng 100:110-11 Jl 15 '22
- Problems of the corporation treasurer. G. B. Robinson. Administration 4:656-64 D '22
- Queer things in credit work. A. N. Hogg. Nation's Business 10:19-21 S '22
- Receiver finds the main difficulty; lack of sentiment in business. R. W. Johnson. Ptr Ink 120:109-10+ Ag 17 '22
- Reducing credit risks in selling merchandise by mail; how local banker is used by Walsh harness company. Ptr Ink 124:17-18 S 20 '23
- Relation of engineer and banker. H. D. Thrall. Eng & Contr (Ry) 59:1121-5 My 16 '23

Credit—Continued

- Relation of gold imports and exports to volume of credit. P. Jay. *Comm & Fin Chr* 116:2584-5 Je 9 '23
- Report of N.W.D.A. committee on credits and collections. *Oil Paint & Drug Rep* 104:27+ O 17 '23
- Retail trade account. F: W. Walter, ed. 264p Ronald press '22
- Salesmen and credit. B. Bell. *Ptr Ink M* 4: 18 My '22
- Service to customer in credits rule followed for distribution. P. Wagner. *Nat Pet N* 15: 53+ My 16 '23
- Shirt-sleeve contacts vs. dressed-up credit statements. W. H. C. Just. *System* 42:256-8 S '22
- Should bankers have credit? *System* 43:174+ F '23
- Sifting out credit misinformation. W. H. Steiner. *Ptr Ink* 125:17-20 O 4 '23
- System for following up credit references. C. B. Van Antwerp. *Filing* 6:33-4 O '22
- Walk-over shoe combines sales and credit departments. E. A. Burrill. *Ptr Ink* 123:3-4+ Je 21 '23
- We make every salesman a credit man. S. C. Gunn. *il System* 41:554-6+ My '22
- What every merchant plumber should know about financing. H. F. Podhaski. *Dom Eng* 99:570-2+ Je 24 '22
- What must a corporation do to borrow money from a bank? C: Wadsworth. *Chem & Met Eng* 28:758-61 Ap 30 '23
- What the credit man does to and for sales. C: A. Bates. *Ptr Ink* 123:25-8 My 10 '23
- What the printer should know about credit. T: F. Moffett. *Inland Ptr* 68:473-4 Ja '22
- When diplomatic letters fall down. H. Mc-Johnston. *Ptr Ink* 122:93-4+ F 22 '23
- Why retail merchants get into financial trouble. J. R. Sprague. *Ptr Ink* 120:3-4+ S 21 '22

See also Acceptances; Agricultural credit; Banks and banking; Billing; Charge account (retail trade); Collecting of accounts; Debtor and creditor; Discount; Finance companies; Financial statements; Instalment plan; Securities

Credit, Agricultural. *See* Agricultural credit**Credit, Foreign**

- Discount without recourse. F: Todd. *Analyst* 20:100 Jl 31 '22
- Export credits and collections. G. C. Poole. 180p Prentice-Hall '23
- Export credits (national schemes) comp. on April 1, 1921. (Brochure no. 1) 19p International chamber of commerce, Paris '21
- Financial status of Germany. G: W. Edwards. *Analyst* 21:253-4 F 12 '23
- Financing exports and imports. A. B. Cook. 218p Ronald press '23
- Financing exports of machinery. W. H. Rastall. *Iron Tr R* 72:161-2 Ja 11 '23; *Same.* *Am Mach* 58:192-3 F 1 '23
- Financing foreign trade. P. Jay. *Comm & Fin Chr* 114:2666-7 Je 17 '22
- Foreign credit facilities in the United Kingdom. L. R. Robinson. *U S Bur For & Dom Com Trade Information Bul* 99:1-46 '23
- Foreign credits session at the National association of manufacturers convention. *Am Ind* 23:32-4 Je '23

Credit, International

- Financial rehabilitation of Europe: the ter Meulen plan and Gold reserve bank of the United States of Europe. R. Estcourt. *Analyst* 19:245-6 F 20 '22
- Herbert Hoover and the Federal reserve board on the ter Meulen plan. *Comm & Fin Chr* 113:2556-7 D 17 '21
- New reservoir of credit: the ter Meulen plan. D. D. Fraser. *Nation's Business* 9:26+ D '21

See also Finance, International

Credit unions

- Coöperative banking. R. F. Bergengren. 398p Macmillan '23
- Coöperative credit societies (credit unions) in America and in foreign countries. E. L. Whitney. *U S Bur Labor Statistics Bul* 314: 1-56 '22

Credit unions for small loans. S: Crowther. *System* 42:707-10+ D '22

Bibliography

Coöperative credit societies (credit unions) in America and in foreign countries. E. L. Whitney. *U S Bur Labor Statistics Bul* 314: 57-60 '22

Creed, Wigginton E.

Builders of the West. *por J Elec* 48:90 F 1 '22

Sketch. *por Elec W* 81:82 Ja 13 '23

Creels

Fressmann-Haemmerle creel. *il Textile World* 61:3377 Je 3 '22

Creosote

- Burlington uses creosoted cypress piling. G. A. Haggander. *il Ry Age* 72:730 Mr 18 '22
- Coal-tar and water-gas tar creosotes. E. Bateman. *U S Agric Bul* 1036:1-114 '22
- Coke residue test for creosote oils. C: S. Reeve and F: W. Yeager. *J Ind & Eng Chem* 14:966-7 O '22
- Creosote shortage threatens wood preservation. C. M. Taylor. *il Ry Age* 74:505-7 Mr 3 '23
- Creosote treatment of sleepers. W. Kynoch and J. A. Coderre. *Engineer* 135:141-5 F 9 '23
- Creosoted timber for highway bridge construction approved. *Munic Eng* 62:24 Ja '22
- Creosoted water tanks; abstracts. C. R. Knowles. *Ry Age* 74:334-5 F 3 '23; *Ry R* 72:305-7 F 17 '23
- Creosoting experience at two small mining plants. T: R. Clark. *diags Coal Age* 24: 357-8 S 6 '23
- Creosoting timber on the Santa Fe railway system. A. F. Robinson. *W Soc E J* 27: 84-90 Mr '22; *Same.* *Ry R* 70:303-9 S 20 '22; *Excerpts.* *Ry Age* 72:369-70 F 11 '22; *Same.* *Eng & Contr* 57:176-7 F 22 '22; *Discussion.* *W Soc E J* 27:90-6 Mr '22
- Damage by fire to creosoted trestle. N.C. & St. L. Ry. *il diag plan Ry R* 69:133-5 Jl 30 '21; *Same.* *Eng & Contr* 58:278-9 S 20 '22
- Heating creosote. *Dom Eng* 98:123 Ja 21 '22
- Home treatment of lumber for mill roof with creosote; with cost tables. W: E. Rudolph. *il Eng N* 88:874-6 My 25 '22
- Mixture of creosote and crude oil for ties. G: E. Rex. *Ry Age* 74:518-9 Mr 17 '23
- Preservative treatment of car lumber. H. S. Sackett. *il Ry Age* 71:1079-80 D 3 '21
- Preservative treatment of ties and timber. F. C. Shepherd. *charts Ry R* 71:354-60 D 16 '22; *Same cond.* *Eng & Contr (Ry)* 59:141-7 Ja 17 '23
- Treating ties with creosote in two minutes. *il Ry Age* 74:911-13 Ap 7 '23

See also Wood preservation

Creosoting apparatus

- Norfolk & Western goes to treated cross ties. *il plan Ry Age* 71:1141-4 D 10 '21
- Sleeper creosoting plant. *il Engineer* 133:524, 526 My 12 '22
- Tie and timber treating plant of the Boston Elevated Ry. H. M. Steward. *il plan Eng & Contr (Ry)* 58:104-6 N 15 '22
- Treating plant solves New Haven's tie problem. *il diag plan Ry Age* 73:1179-83 D 23 '22

Crêpe de chine

Uneven places in crepe de chine. J. Chittick. *Textile World* 62:2479+ O 28 '22

Cresol

- Arsonation of ortho- and meta-cresol. W. G. Christiansen. *Am Chem Soc J* 45:800-4 Mr '23
- Compound formation in phenol:cresol mixtures. J. Kendall and J. J. Beaver. *Am Chem Soc J* 43:1853-67 Ag '21
- Detection of sugar in condensed waters by means of cresol. G. E. Stevens. *Ind & Eng Chem* 15:363 Ap '23
- Nitro-derivatives of m-cresol. G: P. Gibson. *Chem Soc J* 123:1269-77 My '23
- Reciprocal induced polarity effects in cresols and their derivatives; properties of the isomeric methoxybenzyl bromides. A. Lapworth and J: B. Shoesmith. *Chem Soc J* 121: 1391-1400 Jl '22

Cresol—Continued

Separation of *m*- and *p*-cresols from coal-tar crude carboic acid. A. F. Campbell. J Ind & Eng Chem 14:732-7 Ag '22

Crete**Antiquities**

Leaves from the archaeologist's note-book. il Sci Am 128:26-7 Ja '23

Cribs

Crib dams on the Cumberland river. J. R. Slattery. diag Eng & Contr (Bldgs) 60:638-40 S 26 '23

Factors in construction of water works intakes. R. W. Angus. diags Can Eng 44:500-2 My 15 '23; Same. Eng & Contr (W W) 60: 97-100 J1 11 '23

Cribs, Concrete

Precast concrete cribbing for retaining walls. il diags Eng N 91:718-19 N 1 '23
Repairing Chicago waterworks crib. il diag plan Pub Works 52:335-6 My 13 '22

Crime and criminals

Planning big crimes. R. A. Giles. Sci Am 126: 388+ Je '22

Practical criminology at work; adventures of the scientific modern detective. N. G. Meade. il diags Sci Am 129:232-3 O '23

Some brand-new arguments for better street lighting. Elec W 79:140 Ja 21 '22

See also Burglary

Cripples

See Disabled—Rehabilitation

Crisco

Crisco advertised as a baker's salesman. Ptr Ink 121:81-2 O 26 '22

Crissinger, Daniel Richard, 1860-

Sketch. J. B. Morrow. por Nation's Business 11:23-4 My '23

Critical point

Does the critical point depend on the strength of the magnetising field? K. Honda. Iron & Steel Inst J 104:186-90 no 2 '21

Méthodes et appareils utilisés pour la détermination des points critiques des métaux et alliages. P. Dejean. il diags plan Chimie & Ind 9:654-64, 888-99; Bibliography. 899-900 Ap-My '23

Simple device for determining critical point in steel known as the Nilson kritiskope. il Iron Age 110:806 S 28 '22

See also Thermal analysis

Critical solution temperature

Binary critical solution temperatures as criteria of the purity of acetic acid. D. C. Jones. Chem Soc J 123:1374-84 Je '23

Critical solution temperature for solids in the binary system ammonium chloride-manganese chloride dihydrate. F. W. J. Clendinning and A. C. D. Rivett. Chem Soc J 123: 1344-51 Je '23

Ternary critical solution temperatures as criteria of liquid purity. D. C. Jones. Chem Soc J 123:1384-95 Je '23

Croconic acid

Über krokonsäure und leukonsäure. B. Homolka. Deutsche Chem Gesell Ber 55: 1310-11 My '22

Crop fumigation. See Fumigation**Crop protection institute**

New cooperative movement. Sci Am 126:56 Ja '22

Crop reports

How nation's crop estimates are gathered and sent out to waiting millions. R. H. Moulton. il Pop Mech 40:760-2 N '23

Monthly spread of crop marketings. H. B. Weiss. Annalist 20:197 Ag 23 '22

Crops

Crop conditions and their effect on business. A. W. Douglas. Administration 4:478-80 O '22

Estimates for the current Russian harvests. Annalist 22:546-7 O 22 '23

Harvests in 1922. Comm & Fin Chr 116:223-6 Ja 20 '23

Specialization in crops and what it means. C. B. Sherman. Nation's Business 11:93+ F '23

Cross ties. See Railroad ties

Crossheads. See Locomotives—Crossheads

Crossheads, Mine. See Mine crossheads

Crossotheca

Crossotheca from the Rhode Island carboniferous. E. M. Round. il Am J Sci 5th ser 4:131-5 Ag '22

Crotonic acid

Über das verhalten der crotonsäure im ultraviolett licht. R. Stoermer and E. Robert. Deutsche Chem Gesell Ber 55:1030-40 Ap '22

Crowe process

Crowe process. Eng & Min J 114:685 O 14 '22

Crowfoot, Arthur

Metallurgical engineers of note. por Eng & Min J 115:966 Je 2 '23

Crown sea food company

Crown sea food company turned to mail selling. R. W. Johnson. il Ptr Ink M 4:22-4 Mr '22

Crucibles

Brass vs. iron foundries. C. F. Hopkins. diags Metal Ind 21:351-5 S '23

Combined crucible holder and thermocouple. C. Y. Clayton. il Chem & Met Eng 26:81-2 Ja 11 '22

Graphite for steel and melting crucibles. R. T. Stull and G. A. Bole. Brass W 19:345-6 O '23

Melting metal in crucibles. T. H. A. Eastick. Metal Ind 20:118-19 Mr '22

Notes on the Gooch crucible. A. Craig. diag Chem Age 31:31-2 Ja '23

Radiator for platinum crucibles. M. M. Green. diag Ind & Eng Chem 15:890 S '23

Standardization of crucibles. Brass W 19:176 Je '23; Same. Iron Tr R 72:1682 Je 7 '23; Same. Foundry 51:567 J1 15 '23

Crushed stone. See Stone, Crushed

Crushing

Artificial pebbles for tube-milling. A. W. Allen. diags Min & Sci P 124:405-9 Mr 25 '22

Asbestos mining and milling in Quebec. W. A. Rukeyser. flow sheets il diags Eng & Min J 113:670-7 Ap 22 '22

Ball-milling and flotation at Catemu, Chile. F. Benitez. il diags Min & Sci P 123:883-9 D 24 '21

Continuous system of grinding ceramic materials. H. Hardinge. il diags Am Cer Soc J 6:548-62 Mr '23

Crushing plant engineering. B. M'Grew. Eng & Contr 58:153-4 Ag 16 '22

Crushing-surface diagrams and Rittinger's law. A. O. Gates. diags Eng & Min J 113: 324-8 F 25 '22

Dust in milling plants. M. W. von Bernewitz. il Eng & Min J 114:1070-1 D 16 '22

Effect of grinding upon the apparent density of lead oxides. O. W. Brown, S. V. Cook and J. C. Warner. J Phys Chem 26:477-80 My '22

Electric crushing and screening plant at quarry. il Eng N 90:387-8 Mr 1 '23

Grinding and pulverizing with air separation. S. B. Kanowitz. il Concrete 20:sup109-11 Je '22

Is much grinding accomplished on the ball-mill liner? H. Hardinge. diags Eng & Min J 116:49 J1 14 '23

Large quarry rock crushing and screening plant. H. F. Smith. diags plan Eng N 88: 348-50 Mr 2 '22

Laws of crushing; Kick vs. Rittinger. J. Herman. Eng & Min J 115:498-9 Mr 17 '23; Discussion. 115:789-91, 1096 My 5, Je 23 '23

Measurement of the work in crushing. E. A. Hersam. J Fr Inst 196:95-104 J1 '23

Modern tale mill at Gouverneur, N.Y. E. H. Robie. flow sheets il Eng & Min J 116: 359-63 S 1 '23

Pulverizing. H. Hardinge. plan Chem & Met Eng 29:434-6 S 10 '23

Crushing—Continued

World's largest combination flux and commercial crushing plant at Marblehead, O. quarry. flow sheet il Eng & Contr (Ry) 59: 155-64 Ja 17 '23; Same. Concrete 22:sup20-7 F '23

See also Crushing machinery; Gold milling; Ore treatment; Screening

Cost

Cost of milling and treating ores. Eng & Min J 113:918-20 My 27 '22
Operating costs on grinder used to make sand from basalt. P. O. Crawford. Eng N 91:106 JI 19 '23

Crushing machinery

Belt, gear, and chain drives for grinding mills. G. J. Young. il Eng & Min J 112:969-72 D 17 '21
Blake-type jaw crushers. il Eng & Min J 113: 703 Ap 22 '22; Min & Sci P 123:765 N 26 '21
Crushing steel turnings. il diags Iron Age 112:152-3 JI 19 '23
Development of the disc-crusher and leaching practice. A. W. Allen. il diags Min & Sci P 123:849-54 D 17 '21
Development of the vertical disk crusher. D. Cole. il diags Eng & Min J 114:541-4 S 23 '22

General notes on crushing and grinding. B. W. Rogers. il Chem & Met Eng 29:432-4 S 10 '23

Grinding and mixing apparatus in dyestuff manufacture. il Color Tr J 7:136-42; 8:4-8; 9:103-5, 177-80 N '20, Ja, S, N '21

Grinding 1,000 tons of ore per day on 80-kw. input. C. A. Gauss. il Chem & Met Eng 29: 407 S '23

Milling graphite at Stockertown, Pa. A. B. Parsons. il diags plans Eng & Min J 114: 325-9 Ag 19 '22

New crushing plant of Bonner Portland cement co. C. S. Lincoln. il diag Concrete 19: sup75-7 N '21

New hinge-joint jaw crusher frame developed. il Concrete 19:sup110 D '21

Recent development in stone crushing machinery. E. W. Roland. diags Good Roads 65: 111-12 O 3 '23

Research in grinding practice needed. C. H. Sonntag. Concrete 19:sup61-2 O '21; Discussion. H. Harding. 19:sup84 N '21

Rexman center-feed, screen-discharge rod mill. A. W. Allen. il diags Eng & Min J 113:987-8 Je 3 '22

World's largest combination flux and commercial crushing plant at Marblehead, O. quarry. flow sheet il Eng & Contr (Ry) 59: 155-64 Ja 17 '23; Same. Concrete 22:sup20-7 F '23

Zerkleinerungsvorrichtungen und mahanlagen. C. Naske. 3d ed., enl. 339p O. Spamer, Leipzig '21

See also Coal breakers; Crushing; Stamp mills; Tube mills

Manufacture

Advantages of basic-electric-furnace iron for castings to resist abrasion. L. J. Barton. il Eng & Min J 115:628-30 Ap 7 '23

Cryolite

Fluorspar and cryolite in 1922. H. W. Davis. U S Geol S Min Res of U S 1922, pt 2:15-22 '23

Crystal

Critical examination of the aromatic aldehydes occurring in certain eucalyptus oils. A. R. Penfold. Chem Soc J 121:266-9 F '22

Cryptobrucinolone. See Kryptobrucinolone

Cryptography

Les machines à cryptographie et leurs applications dans la télégraphie sans fil. M. Givierge. Génie Civil 81:218-20 S 2 '22

Crystal Palace, London

Old cast-iron frame of Crystal Palace strengthened by steel framing. diag Eng N 91:65 JI 12 '23

Crystallization

Bendigo problem and its bearing on force of crystallization. F. L. Stillwell. diags Econ Geol 18:506-10 Ag '23

Coarse crystallisation in mild steel sheets. C. A. Edwards and L. B. Pfeil. Engineering 116:416 S 28 '23

Colloidal state in metals and alloys; crystallization. J. Alexander. diags Chem & Met Eng 26:119-23 Ja 18 '22

Crystal growth in metals. G. R. Fonda. bibliog il Gen Elec R 25:305-15 My '22

Crystallisation. Engineer 134:195-6 Ag 25 '22

Crystallization. G. T. Walker. il Chem & Met Eng 29:495-8 S 10 '23

Crystallization by continuous process. il Chem & Met Eng 29:761-2 O 22 '23

Delayed crystallisation in the carbon steels: the formation of pearlite, troostite and martensite. A. F. Hallmond. Engineering 113: 767-9 Je 16 '22

Effect of dialysis on direct crystallization of citric acid from lemon juice. H. D. Poore. Ind & Eng Chem 15:775-8 Ag '23

Effect of impurities on recrystallisation and grain growth in tungsten. il Engineering 113:342-6 Mr 17 '22; Abstract. Engineer 133: 325 Mr 24 '22; Discussion. Engineering 113: 317 Mr 17 '22; Engineer 133:325 Mr 24 '22

Formation of globular pearlite. J. H. Whiteley. il Engineering 113:733-6 Je 9 '22

Grain growth and recrystallization in metals. Z. Jeffries and R. S. Archer. il Chem & Met Eng 26:343-5, 402-10, 449-57 F 22-Mr 8 '22; Discussion. H. A. Holz. 26:580-1 Mr 29 '22

Inner structure of the pearlite grain. N. T. Belaew. il diags Iron & Steel Inst J 105: 201-27, pl 17-27a no 1 '22; Same. Engineering 113:634-8, pl 26-8 My 19 '22; Discussion. Iron & Steel Inst J 105:228-39 no 1 '22; Engineering 113:627-8 My 19 '22

Internal mechanism of cold-work and recrystallisation in cupro-nickel. F. Adcock. il Engineering 113:305-8, 340-2 Mr 10-17 '22; Discussion. 113:317 Mr 17 '22

Probability of spontaneous crystallization of supercooled liquids. C. N. Hinshelwood and H. Hartley. Philos Mag 6th ser 43:78-94 Ja '22

Recrystallization of niter cake at 12°. B. Saxton. J Ind & Eng Chem 14:281-5 Ap '22

Die rekristallisation des technischen eisens. P. Oberhoffer and H. Jungbluth. il diags Stahl & Eisen 42:1513-19 O 5 '22

Solidifying materials. Chem & Met Eng 28: 510 Mr 14 '23

Vacuum pan evaporation in the sugar industry. C. F. Huttlinger. Chem & Met Eng 29:498-9 S 10 '23

See also Crystallography; Solutions, Solid

Crystallography

Amphisymmetric crystals. E. T. Wherry. Am J Sci 5th ser 4:237-44 S '22

Application of the electron theory of chemistry to solids. J. J. Thomson. Philos Mag 6th ser 43:721-57 Ap '22

Breaking stress of crystals of rock-salt. G. N. Antonoff. Philos Mag 6th ser 44:62-6 JI '22

Composition and crystal structure of nickel nitrate hexammoniate. R. W. G. Wyckoff. Am Chem Soc J 44:1260-6 Je '22

Cored crystals and metallic compounds. E. C. Bain. diags Chem & Met Eng 28:65-9 Ja 10 '23

Crystal cleavage and crystal structure. M. L. Huggins. Am J Sci 5th ser 5:303-13 Ap '23

Crystal structure of ammonium chloride. R. W. G. Wyckoff. il diags Am J Sci 5th ser 4:169-75 JI '22

Crystal structure of ammonium chloroplatinate. R. W. G. Wyckoff and E. Posnjak. il Am Chem Soc J 43:2292-2309 N '21

Crystal structure of ammonium fluosilicate. R. M. Bozorth. Am Chem Soc J 44:1066-70 My '22

Crystal structure of bismuth. L. W. McKeehan. diags J Fr Inst 195:59-66 Ja '23

Crystal structure of cadmium iodide. R. M. Bozorth. Am Chem Soc J 44:2232-6 O '22

Crystal structure of hexamethylene-tetramine. R. G. Dickinson and A. L. Raymond. diags Am Chem Soc J 45:22-9 Ja '23

Crystal structure of hydrazine dihydrochloride. R. W. G. Wyckoff. diags Am J Sci 5th ser 5:15-22 Ja '23

Crystal structure of iron-nickel alloys. L. W. McKeehan. Phys R 21:402-7 Ap '23

Crystallography—Continued

- Crystal structure of molybdenite. R. G. Dickinson and L. Pauling. diags Am Chem Soc J 45:1466-71 Je '23
- Crystal structure of phosphonium iodide. R. G. Dickinson. Am Chem Soc J 44:1489-97 Ji '22
- Crystal structure of potassium cyanide. R. M. Bozorth. Am Chem Soc J 44:317-23 F '22
- Crystal structure of potassium hydrogen fluoride. R. M. Bozorth. Am Chem Soc J 45:2128-32 S '23
- Crystal structure of quartz. M. L. Huggins. diags Phys R 19:363-8 Ap '22
- Crystal structure of quartz. L. W. McKeehan. diags Phys R 21:503-8 My '23
- Crystal structure of silver molybdate. R. W. G. Wyckoff. Am Chem Soc J 44:1994-8 S '22
- Crystal structure of silver oxide. R. W. G. Wyckoff. Am J Sci 5th ser 3:184-8 Mr '22
- Crystal structure of silver-palladium and silver-gold alloys. L. W. McKeehan. Phys R 20:424-32 N '22
- Crystal structure of solid solutions; abstracts. E. C. Bain. Min & Met 182:61-2 F '22; Chem & Met Eng 26:655 Ap 5 '22
- Crystal structure of the alums. R. W. G. Wyckoff. il diags Am J Sci 5th ser 5:209-17 Mr '23
- Crystal structure of tin tetra-iodide. R. G. Dickinson. Am Chem Soc J 45:958-62 Ap '23
- Crystal structures of aragonite (CaCO_3) and related minerals. M. L. Huggins. diags Phys R 19:354-62 Ap '22
- Crystal structures of complex cyanides of potassium with zinc, cadmium and mercury. R. G. Dickinson. Am Chem Soc J 44:774-84 Ap '22
- Crystal structures of marcasite (FeS_2), arsenopyrite (FeAsS) and loellingite (FeAs_2). M. L. Huggins. diags Phys R 19:369-73 Ap '22
- Crystal structures of potassium and ammonium chlorostannates. R. G. Dickinson. Am Chem Soc J 44:276-88 F '22
- Crystal structures of potassium chloroplatinate and of potassium and ammonium chloropalladates. R. G. Dickinson. diags Am Chem Soc J 44:2404-11 N '22
- Crystal structures of sodium chlorate and sodium bromate. R. G. Dickinson and E. A. Goodhue. Am Chem Soc J 43:2045-55 S '21
- Crystal structures of the common elements. A. W. Hull. il diags J Fr Inst 193:189-216 F '22
- Crystal structures of the cubic forms of arsenious and antimonious oxides. R. M. Bozorth. diags Am Chem Soc J 45:1621-7 Ji '23
- Crystal structures of the cuprous halides. R. W. G. Wyckoff and E. Posnjak. Am Chem Soc J 44:30-6 Ja '22
- Crystal structures of the hexamminates of the nickel halides. R. W. G. Wyckoff. Am Chem Soc J 44:1239-45 Je '22
- Crystal structures of the system palladium-hydrogen. L. W. McKeehan. Phys R 21:334-9; Bibliography. 339-42 Mr '23
- Crystal structures of vanadium, germanium and graphite. A. W. Hull. Chem & Met Eng 26:1024 My 31 '22
- Crystalline form of electrodeposited metals. W. Blum and H. S. Rawdon. il Am Electrochem Soc Trans v 44 (preprint 22):245-67 S '23
- Crystalline liquids. W. J. Pope. Soc Chem Ind J (Chem & Ind) 42:809-11 Ag 24 '23
- Crystalline structures of silver iodide. R. B. Wilsey. diag Philos Mag 6th ser 46:487-96 S '23
- Crystallographic and atomic symmetries of ammonium chloride. R. W. G. Wyckoff. Am J Sci 5th ser 3:177-83 Mr '22
- Crystallographic descriptions of some pyridine and picoline derivatives. M. W. Porter. diags Chem Soc J 119:1769-73 N '21
- Crystallography and practical crystal measurement. A. E. H. Tutton. 2d ed., 2v Macmillan '22
- Crystallography of hydromagnesite. A. F. Rogers. diags Am J Sci 5th ser 6:37-47 Ji '23
- Deformation of the rings and brushes as observed through a spath hemitrope. B. N. Chuckerbutti. Philos Mag 6th ser 43:560-7, pl 9 Mr '22
- Determination of the space group of a cubic crystal. R. W. G. Wyckoff. Am J Sci 5th ser 4:175-87 S '22
- Distortion of an aluminium crystal during a tensile test. G. I. Taylor. Engineering 115:403 Mr 30 '23
- Effect of agitation on the rate of solution of crystals. E. V. Murphree. Ind & Eng Chem 15:148-9 F '23
- Effect of temperature, pressure and structure on mechanical properties of metal. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:747-51 O 11 '22
- Electronic structures of crystals. M. L. Huggins. Am Chem Soc J 44:1841-50 S '22
- Electronic structures of the spinels. M. L. Huggins. diags Phys R 21:509-16 My '23
- Elemente der physikalischen und chemischen kristallographie. F. H. Groth. 363p R. Oldenbourg, München and Berlin '21
- Die energie der atombindungen in diamanten und in aliphatischen kohlenwasserstoffen. K. Fajans. Deutsche Chem Gesell. Ber 55:2826-38; Discussion. A. Thiel. 2844-5 S '22
- Graphical and tabular methods in crystallography as the foundation of a new system of practice. T. V. Barker. 152p T. Murby & co., London '22
- Identification of alkaloids under the microscope from the form of their picrate crystals. B. E. Nelson and H. A. Leonard. Am Chem Soc J 44:369-73 F '22
- Inorganic complex salts; crystallographic and optical study. I. E. Knaggs. diags Chem Soc J 121:2069-79 O '22
- Investigation of the structure of the halogen salts based on their compressibility. I. Woodward. diag Philos Mag 6th ser 45:882-95 My '23
- Mechanical properties as affected by grain size. Z. Jeffries and R. S. Archer. il Chem & Met Eng 27:789-92 O 18 '22
- New optical property of biaxial crystals. C. V. Raman and V. S. Tamma. diag Philos Mag 6th ser 43:510-13 Mr '22
- Precision measurements of crystals of the alkali halides. W. P. Davey. Phys R 21:143-61 F '23
- Production of single metallic crystals and some of their properties. H. C. H. Carpenter. diags Iron & Steel Inst J 107:175-202, pl 5-9 no 1 '23; Same. Engineering 115:579-82, 636-8 My 11-18 '23; Same cond. Engineering 135:551-2 My 25 '23; Discussion. Iron & Steel Inst J 107:203-11 no 1 '23; Engineering 115:612-13 My 18 '23; Engineer 135:546, 555-6 My 25 '23
- Properties of single crystals of aluminum. H. C. H. Carpenter and C. F. Elam. il Chem & Met Eng 26:514-15 Mr 15 '22
- Radii of the alkali and halogen ions and of the atoms of inert gases. W. P. Davey. Phys R 22:211-20 S '23
- Relation between the crystal structure and the constitution of carbon compounds; compounds of type CX_n . I. E. Knaggs. Chem Soc J 123:71-9 Ja '23
- Significance of crystal structure. W. H. Bragg. diags Chem Soc J 121:2766-87 D '22
- Sir William Bragg and his crystal units. Chem & Met Eng 27:1011 N 22 '22
- Sizes of atoms in crystals. R. N. Pease. Am Chem Soc J 44:769-74 Ap '22
- Sizes of atoms in diamond-type crystals. R. N. Pease. Am Chem Soc J 44:1497-8 Ji '22
- Studies of the etched figures of Japanese minerals. S. Ichikawa. diags Am J Sci 5th ser 6:53-72, 137-56 Ji-Ag '23
- Survey of existing crystal structure data. R. W. G. Wyckoff. diags J Fr Inst 195:183-210, 349-65, 531-49; Bibliography. 549-52 F-Ap '23; Discussion. 196:675-7 N '23
- Symmetry and crystal structure of sodium hydrogen acetate. W. G. Wyckoff. il Am J Sci 5th ser 4:193-3 S '22
- Symmetry and crystal structure of zinc bromate hexahydrate. R. W. G. Wyckoff. Am J Sci 5th ser 4:188-92 S '22

Crystallography—Continued

- Theories of magnetic crystals and the magneton. J. Kunz. *Nat Research Council Bul v 3*, pt 3:165-213 Ag '22
- Theory of the structure and polymorphism of silica. R. B. Sosman. *diags plans J Fr Inst* 194:741-64 D '22
- Third law of thermodynamics; evidence from the specific heats of glycerol that the entropy of a glass exceeds that of a crystal at the absolute zero. G. E. Gibson and W. F. Glaueque. *diag Am Chem Soc J* 45:93-104 Ja '23
- Transition from the colloidal to the crystalloidal state; solutions of potassium oleate. L. L. Bircumshaw. *Chem Soc J* 123:91-7 Ja '23
- Types of crystal symmetry in which no finite symmetrical crystal unit having the complete symmetry of the crystal is to be found. W. Barlow. *Philos Mag* 6th ser 46: 638-40 O '23
- Über amorphe niederschläge und krystallisierte sole. F. Haber. *il Deutsche Chem Gesell Ber* 55:1717-33 Je '22; *Abstract. Chem Soc J* 122 pt 2:553-4 Ag '22
- With eye-piece and camera; recent British developments in petrological and metallurgical microscopy and photography. A. A. Hopkins. *il Sci Am* 126:23-4 Ja '22
- See also Crystallization; Dimorphism; Liquid crystals; Mineralogy; Piezoelectricity; Pseudomorphs; also names of minerals, e.g. Feldspar; Quartz

Nomenclature

- Nomenclature of the point groups. R. W. G. Wyckoff. *Am J Sci* 5th ser 6:288-90 O '23

X ray studies

- Crystal structure as determined by X-ray analysis. *il diags Elec R (Lond)* 90:909-10 Je 30 '22
- Crystal structure of various Heusler alloys by the use of X-rays. J. F. T. Young. *Philos Mag* 6th ser 46:291-305, pl 4 Ag '23
- Determination of the coefficient of reflexion of X-rays for calcite and rock-salt. B. Davis and H. M. Terrill. *Philos Mag* 6th ser 45: 463-70 Mr '23
- Effect of temperature on the scattering of X-rays by crystals. G. E. M. Jauncey. *Phys R* 20:421-3 N '22
- Effect of the form and dimensions of the sample upon the accuracy of X-ray crystal analysis by the powder method. L. W. McKeehan. *J Fr Inst* 193:231-42 F '22
- Existence of an anomalous reflection of X-rays in Laue photographs of crystals. R. W. G. Wyckoff. *il Am J Sci* 5th ser 6:277-87 O '23
- New methods of crystal analysis and their bearing on pure and applied science. W. H. Bragg. *Engineering* 115:150 F 2 '23
- New X-ray diffraction apparatus. W. P. Davey. *il charts diags Gen Elec R* 25:565-80 S '22
- Reflection of X-rays from rock salt. B. Davis and W. M. Stempel. *diags Phys R* 19:504-11 My '22
- Reflexion of X-rays from imperfect crystals. C. G. Darwin. *Philos Mag* 6th ser 43:800-29 My '22
- Resolution of the $K\alpha$ doublet in the powder method of X-ray crystal analysis. L. W. McKeehan. *il diag J Fr Inst* 194:87-92 JI '22
- Röntgenograms of strained crystals. A. F. Joffe and M. V. Kirpicheva. *Philos Mag* 6th ser 43:204-6, pl 2 Ja '22
- Scattering of X-rays by crystals. G. E. M. Jauncey. *diag Phys R* 20:405-20 N '22
- Significance of crystal analysis; abstracts. W. Bragg. *Engineer* 134:292 S 22 '22; *Engineering* 114:471-2 O 13 '22
- X-ray studies on the crystal structure of steel. A. Westgren and G. Phragmén. *diags Iron & Steel Inst J* 105:241-62, pl 28-33 no 1 '22; *Same. Engineering* 113:630-4, pl 25 My 19 '22; *Discussion. Iron & Steel Inst J* 105: 263-73 no 1 '22; *Engineering* 113:626-7 My 19 '22

Crystals, Liquid. See Liquid crystals

Crystals, Mixed. See Solutions, Solid Cuba

See also Automobile industry and trade—Cuba; Cement industry and trade—Cuba; Electric industries—Cuba; Finance—Cuba; Mines and mineral resources—Cuba; Railroads—Cuba; Textile industry—Cuba

Commerce

- Import and export schedules of Cuba. U S Bur For & Dom Com misc ser 110:1-19 '22
- See also Tariff—Cuba

Economic conditions

- Change for the better in economic and financial conditions in Cuba. *Annalist* 21: 282-3 P 19 '23
- Economic conditions in Cuba. P. L. Edwards. U S Bur For & Dom Com Trade Information Bul 159:1-18 '23
- Economic reawakening of Cuba. *Am Ind* 23: 38-9 Ja '23
- Cuba cane sugar corporation, New York 7th annual report—year ended Sept. 30, 1922. *Comm & Fin Chr* 115:2682-3 D 16 '22
- Cuban-American sugar company Annual report for the fiscal year ended September 30, 1921. *Comm & Fin Chr* 113: 2730-1 D 24 '21
- Annual report—for the fiscal year ended September 30, 1922. *Comm & Fin Chr* 115: 2698 D 16 '22

Cubebinolide

- Cubebin; derivatives of cubebinolide. E. Ma-mell. *Chem Soc J* 122 pt 1:347-8 Ap '22

Culm

- Burning pulverized anthracite mine waste. O. M. Rau. *il diags Elec Ry J* 58:945-9 N 26 '21; *Same. Power* 54:828-32 N 29 '21; *Discussion. M. W. Arrowood. 55:234-5 F 7 '22*
- Stokes anthracite culm and gashouse tar. J. Harrington. *il diag Power* 57:523-4 Ap 3 '23

Cultivators, Motor

- Light weight cultivator designed to supplement tractor. *il Automotive Ind* 47:77 JI 13 '22

Culture media. See Bacteriology**Culverts**

- Castleton cut-off of the New York Central R.R. *il diags Ry R* 73:41-52 JI 14 '23
- Corrugated culvert pipe jacked through embankment. P. F. Jones. *il Eng N* 89:321-2 Ag 24 '22
- Corrugated iron and concrete used for crosswalks. W. S. Farley. *plan Eng N* 88:862 My 25 '22
- Corrugated metal culverts. *Ry Age* 74:691 Mr 15 '23
- Culverts and small bridges. E. L. Miles. *Can Eng* 44:600-1 Je 19 '23; *Excerpts. Eng & Contr (R & S)* 60:478-9 S 5 '23
- Flow of water through vitrified clay and corrugated metal culvert pipe. *il diags Good Roads* 64:131-3+ Ap 4 '23; *Abstract. Mech Eng* 45:437 JI '23
- Headwalls for pipe culverts. H. See. *Eng N* 90:624-5 Ap 5 '23
- Important hydraulic factor in culvert design. C. E. De Leuw. *Munic Eng* 65:126-7 S '23
- Method of constructing railroad culvert without interruption of traffic by jacking cylindrical shell through embankment. *il diag Eng & Contr* 56:461 N 16 '21
- New method of culvert construction, on the Pennsylvania railroad. *il Eng & Contr* 57: 478 My 17 '22
- Rapid progress being made on Castleton cut-off. *il Ry Age* 74:1684-5 Je 30 '23; *Excerpt. Eng & Contr (Ry)* 60:143 JI 18 '23
- Relative merits of concrete, cast-iron and corrugated metal pipe culverts. *Ry Age* 75: 710-11 O 20 '23
- Renewing railroad culverts. F. L. Wheaton. *Eng N* 91:774-5 N 8 '23

Cost

- Costs of installing corrugated pipe. *diags Eng N* 89:1036-7 D 14 '22

Culverts—Continued**Failures**

Culvert failure and replacement for drainage district. W. F. Heath. *il diags Eng N 89: 967 D 7 '22*

Footings

Reinforced encased tile culvert. P. L. Fetherston. *diags Eng N 90:264 F 8 '23*
Special footing for a culvert. P. L. Fetherston. *diags Eng N 90:357 F 22 '23*

Culverts, Concrete

Bilger culvert form. *diag Concrete 20:94 F '22; Eng & Contr 57:30 Ja 4 '22; Can Eng 43:525 N 7 '22*
Concrete bridges and culverts. W. J. Moore. *Can Eng 42:291-2 Mr 7 '22*
Constructing monolithic culverts in North Carolina tidewater swamps. I. H. Boggs and C. L. Tindall. *Munic Eng 65:sup19-20 S '23; Same. Eng & Contr (R & S) 60:704-5 O 3 '23*
Culvert pipe load investigations. *Eng N 88: 59-60 Ja 12 '22*
Highway culvert forms standardized. G. C. Habicht. *diags Concrete 22:177-8 My '23*
Laying concrete culvert pipe. P. Kircher. *il Ry R 71:407-10 S 23 '22*
Laying 7-ft. concrete pipe culvert on New York Central lines. *il Eng N 90:456 Mr 8 '23*
Pre-cast concrete culverts. *diags Ry R 73: 572-4 O 20 '23*
Report of committee J-2, joint concrete culvert pipe committee. *Am Concrete Inst Pro 19:292-3 '23*
Standard concrete highway bridges and culverts. A. C. Irwin. *diags Am Concrete Inst Pro 17:90-111 '21*

Standards

Culvert standards progress. *Concrete 20:131 Mr '22*

Cuminaldehyde

Critical examination of the aromatic aldehydes occurring in certain eucalyptus oils. A. R. Penfold. *Chem Soc J 121:266-9 F '22*

Cunard building**Lighting**

Recent departures from usual lighting practice in public spaces and offices. A. D. Curtis and J. L. Stair. *il diags plan Illum Eng Soc 16:555-8 no 9 '21*

Cupferron

Experiments relative to the determination of uranium by means of cupferron. J. A. Holladay and T. R. Cunningham. *Am Electrochem Soc Trans v 43 (preprint 7):83-93 My '23*

Separation of tin from other metals, including its determination after precipitation by means of cupferron. N. H. Furman. *Ind & Eng Chem 15:1071-3 O '23*

Cupola furnaces

Beiträge zur kenntnis des kuppelofenbetriebes. F. Braun and G. Hollender. *Stahl & Eisen 41:1021-7 Jl 23 '21; Discussion. 42:130-2 Ja 26 '22*

Compares cupola receivers. F. J. Cook. *il diags Foundry 51:27-30 Ja 1 '23*

Cupola is the heart of the foundry. J. R. Hedges. *Foundry 50:156-7 F 15 '22*

Cupola malleable production. C. C. Hermann. *Foundry 50:952-5 D 1 '22*

Cupola tapper and stopper simple and safe. *il Pop Mech 39:746 My '23*

Der Hurst-kuppelofen. C. Irresberger. *il diags Stahl & Eisen 42:1198-1200 Ag 3 '22*

Install giant cupola to meet need. E. C. Kreutzberg. *il Foundry 50:6-8 Ja 1 '22*

Limestone is necessary to clean melting. *Foundry 50:119-20 F 1 '22*

Making cupola tending safe. *il Safety Eng 45:47-8 F '23*

New cupola lining; German liner rings as a substitute for brick. *Iron Age 110:1279 N 16 '22*

New development in cupola construction; the Schuermann cupola. *diag Iron Age 110:991-2 O 19 '22*

Pitfalls in cupola operation. *Foundry 50:782 O 1 '22*

Remarques sur les bilans thermiques des cupolots à fonte. J. Seigle. *Génie Civil 81:341-2 O 14 '22*

Small cupola set up for emergency jobs. *il Foundry 50:975 D 1 '22*

Suitable fan for cupola. *Foundry 50:843 O 15 '22*

Theorizes on cupola reactions. S. J. Felton. *Foundry 51:351-2 My 1 '23*

Throws light on steel melting. G. Muntz. *Foundry 51:77-9 Ja 15 '23; Same. Iron Tr R 72:880-1 Mr 22 '23*

Too much coke retards cupola melting. *Foundry 51:110 F 1 '23*

Two heats a day taken from cupola. C. E. Akers. *Foundry 50:208-9 Mr 1 '22*

Use of a blast meter in foundry practice. L. L. Vayda. *il diags Iron Age 109:1584-6 Je 8 '22*

Warm blast conserves cupola heat. H. Hermanns. *il diag Foundry 51:509+ Je 15 '23*

See also Foundry practice

Charging

Charging machines for cupolas. *il diags Engineer 133:727-8 Je 30 '22*

Chart cupola charging data. C. C. Hermann. *Foundry 50:627-31 Ag 1 '22*

Cupola electrically operated charging hoist. *il Iron Age 109:1674 Je 15 '22*

Develops new cupola charging device. *il Foundry 50:766 S 15 '22*

Devise flexible charging system.* *il diags Foundry 51:276-9 Ap 1 '23; Same. Iron Tr R 72:1237-40 Ap 26 '23*

Hoist for cupola charging. *diag Iron Age 110: 134 Jl 20 '22*

Melting iron in a British shop. H. C. Estep. *il Foundry 51:475-8 Je 15 '23*

Cupola hoods

Movable cupola hoods. *il Iron Age 109:1224 My 4 '22*

Cuprammonium hydroxide solution. See Schweitzer's reagent

Cuprene

Acetylen-kondensationen; versuche zur konstitionsermittlung des cuprens. H. P. Kaufmann and M. Schneider. *Deutsche Chem Gesell Ber 55:267-82 Ja '22; Abstract. Chem Soc J 122 pt 1:245-7 Mr '22*

Cupric chloride. See Copper chlorides

Cupric oxide. See Copper oxides

Curbs

Brick header curbs for brick pavements. H. F. Dorr. *il Eng & Contr 57:19 Ja 4 '22*

Brick on waterbound macadam with penetration curb. C. H. Henning. *il diags Eng N 91:468-9 S 20 '23*

Concrete curbs and gutters. J. Tate. *diags Pop Mech 39:617-18 Ap '23*

Method of constructing integral curbs. *diag Eng & Contr (R & S) 60:711 O 3 '23*

Steel bars tie combined curb and gutter to pavement at Libertyville, Ill. C. E. De Leuw. *il Munic Eng 65:59-60 Ag '23*

Curbs, Steel

Steel ties and curbs. *il diags Can Eng 43: 558-9 N 21 '22*

Currency. See Money

Currenium

Currenium, a new gas for airships. *Aerial Age 15:76 Ap 3 '22*

Currenium—what is it? *Aviation 12:481 Ap 24 '22*

Origin and possibilities of currenium. E. Curran. *Aviation 12:602 My 22 '22*

Currents, Alternating. See Electric currents, Alternating

Curtis, Cyrus Hermann Kotzschmar, 1850-Cyrus Curtis, go-getter at 72. R. Spillane. *por Nation's Business 10:31-2 O '22*

"It's up to you to prove it", the business philosophy of Cyrus H. K. Curtis. R. C. Epstein. *por System 44:606+ N '23*

Curtis publishing company

Curtis publishing company upheld by Supreme court decision in exclusive agency issue against Federal trade commission. *Comm & Fin Chr* 116:253 Ja 20 '23

Curtiss, Glenn Hammond, 1878-

United States court decides Glenn H. Curtiss invented hydroairplane. *Aerial Age* 14:390-1 Ja 2 '22; Same. *Aviation* 12:19-20 Ja 2 '22

Curtiss aeroplane and motor corporation

Reorganization of the Curtiss corporation. *Aviation* 14:342-3 Mr 26 '23

Curve plotting

Plotting curves on logarithmic paper. *F. R. Wheeler. Power* 56:21 Jl 4 '22

Curves

Convenient method of staking curves with surveyor's tape. *L. G. Williams. Eng & Contr (W W)* 59:589 Mr 14 '23

Two curve problems solved. *diags Eng N* 89:713, 1126 O 26, D 28 '22

See also Railroads—Curves and turnouts; Roads—Curves

Curves, Caustic

Method of tracing caustic curves. *A. S. Percival. diags Philos Mag* 6th ser 43:258-77 F '22

Curves, Involute

Law of the involute curve. *O. G. Simmons. diags Am Mach* 57:801-3, 837-9 N 23-30 '22

Cuscohygrine

Über das di-[N-methyl- α -pyrrolidyl]-methan; mitteilung über die alkaloid der hygrinreihe. *K. Hess and F. Anselm. diag Deutsche Chem Gesell Ber* 54:2310-26 O '21; Abstract. *Chem Soc J* 120 pt 1:881-2 D '21

Custer battlefield hiway

Development of the Custer battlefield hiway. *W. D. Fisher. il Good Roads* 61:63 F 14 '23

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Customer ownership. *W. H. Hodge. Am Gas J* 117:127 Ag 5 '22

Making partners of customers. *R. Dickinson. Ptr Ink* 122:126+ F 15 '23

Selling securities to customers. *il Aera* 11:26-37 Ag '22

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Oxidation of dyed cotton yarn. *Knecht. Color Tr J* 12:78 F '23

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Some things I have learned in building a business from scratch. *N. Warren. Ptr Ink* 121:3-4 N 9 '22

Cutlery**Manufacture**

Making cutlery in New England. *H. R. Simonds. il Iron Tr R* 71:111-16 Jl 13 '22

Making stainless steel cutlery; abstracts. *R. G. Hall. Iron Tr R* 70:896-7 Mr 30 '22; *Iron Age* 109:855-6 Mr 30 '22; *Chem & Met Eng* 26:437 Mr 8 '22

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Buffalo universal slitting shear and bar cutter. *il Mach* 28:921 Jl '22

Campbell nibbling machines. *il Am Mach* 59:605-6 O 18 '23; *Iron Age* 112:964 O 11 '23; *Mach* 30:232 N '23

Engineering problems solved by photoelastic methods. *E. G. Coker. il diags J Fr Inst* 196:168-76 O '23

G. W. & E. automatic cutting machine. *il Am Mach* 56:115 Ja 19 '22; *Elec Ry J* 59:479 Mr 18 '22

Godfrey universal oxygen-jet cutting machine. *il Automobile Eng* 11:446-7 D '21; *Eng & Ind Management* 6:565-6 N 17 '21

Requirements in cutting off metal. *M. E. Erskine. Mach* 29:863-4 Jl '23

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Fixture for multiple cutting off. *D. A. Nevin. diags Mach* 28:881 Jl '22

Modern machine tool co. improves cutting-off machine. *il Iron Age* 110:1348 N 23 '22; *Am Mach* 57:900 D 7 '22; *Iron Tr R* 71:1571 D 7 '22; *Mach* 29:321 D '22

Morris toolholder and interchangeable cutters. *il Am Mach* 57:588 O 12 '22

Cuyler, Thomas De Witt, 1854-1922

Sketch. *Comm & Fin Chr* 115:2011-12 N 4 '22; *por Ry Age* 73:856-8 N 4 '22; *Ry R* 71:626 N 4 '22

Cyanamide

Cyanamide in some fertilizer mixtures. *W. S. Landis. J Ind & Eng Chem* 14:143-5 F '22

Determination of urea alone and in the presence of cyanamide by means of urease. *E. J. Fox and W. J. Geldard. Ind & Eng Chem* 15:743-5 Jl '23

La fabrication de la cyanamide. *Garaix. diags Soc Ing Civils Bul* 75:270-92, pl 26 Ap '22; Abstract. *Génie Civil* 80:459-60 My 20 '22

Hydrolysis and polymerization of cyanamide. *H. C. Hetherington and J. M. Braham. Am Chem Soc J* 45:824-9 Mr '23

L'industrie de la cyanamide. *Génie Civil* 79:419-20 N 12 '21

L'industrie française de la cyanamide. *H. Gall. il diag Chimie & Ind* 6:430-9 O '21

Manufacture of cyanogen compounds in Canada. *H. Freeman. Can Chem & Met* 6:129-31 Je '22; Abstract. *Chem & Met Eng* 27:32 Jl 5 '22

Qualitative scheme for detection of cyanamide and related compounds. *G. H. Buchanan. Ind & Eng Chem* 15:637-40 Je '23

Synthesen mit cyanamid; darstellung von thiocarbaminocyaniden, carbaminocyaniden und biureten. *E. Fromm and H. Wenzl. Deutsche Chem Gesell Ber* 55:804-13 Mr '22

L'usine de cyanamide de la Roumanie. *C. Matignon. il diag Chimie & Ind* 7:26-9 Ja '22

See also Calcium cyanamide

Cyanamidoethyl alcohol

Synthesen mit cyanamid; cyanamido-äthylalkohol und cyanido-äthylalkohol. *E. Fromm and E. Honold. Deutsche Chem Gesell Ber* 55:902-11 Ap '22; Abstract. *Chem Soc J* 122 pt 1:529-30 Je '22

Cyanide plants

Design and construction of United Comstock mills. *W. L. Reid. flow sheet Min & Met* 191:44-7 N '22

Refinery practice and flue losses in smelting cyanide precipitate at Buckhorn. *Nev. E. R. Richards. diags Eng & Min J* 113:865-7 My 20 '22

Management

Amalgamation, all-cyanidation, and thievery. *A. W. Allen. Eng & Min J* 115:63-4 Ja 13 '23

Cyanide process

Amalgamation and all-cyanidation. *H. Hanson. Eng & Min J* 115:886 My 19 '23

Charcoal and cyanidation. *Min & Sci P* 123:493-4, 600 O 8, 29 '21

Cyanidation of coarse and fine concentrates. *C. Flury. Eng & Min J* 114:450 S 9 '22

Cyanidation of flotation concentrate. *P. T. Bruhl. Min & Sci P* 124:193-6 F 11 '22

Cyanide leaching of copper ores impracticable. *Eng & Min J* 113:541 Ap 1 '22

Cyanide notes. *A. Del Mar. diag Min & Sci P* 122:810-12 Je 11 '21; Discussion. 122:870-1; 123:81-2, 123:81-19; 124:218, 394 Je 25, Jl 16, Ag 13, D 31 '21, F 18, Mr 25 '22

Cyanide plant of the Nurupi mines. *Korea. C. Flury. flow sheets il Eng & Min J* 115:579-80 Mr 31 '23

Cyanide process—Continued

- Cyanide regeneration. H. R. Layng. *Min & Sci P* 124:357-8 Mr 18 '22
- Cyaniding at Virginia City. *Min & Sci P* 123:733 N 26 '21
- Cyaniding gold and silver ores. H: F. Julian and E. Smart. 3d ed., rev. & enl. 417p Lip-pincott '22
- Cyaniding gold ore at the Ashanti mine. flow sheets Eng & Min J 115:844-6 My 12 '23
- Development of metallurgical practice at the Hollinger mine. P. A. Robbins. flow sheet Eng & Min J 113:1093-7 Je 24 '22
- Difficulties of developing an invention; the story of the cyanide process. A. James. Eng & Min J 113:9-12 Ja 7 '22
- Dusting and volatilization losses during melting of cyanide precipitate and air re-fining of bullion. G. H. Clevenger, F. S. Mulock and G. W. Harris. diags *Min & Met* 181:11-15 Ja '22
- Lime consumption in cyanidation. R. W. Perry. *Min & Sci P* 123:605 O 29 '21
- Lime in cyanidation. P. T. Bruhl. *Min & Sci P* 123:629-30; 124:43-4, 113-14 N 5 '21, Ja 14, 28 '22
- New treatment plant of the United Com-stock mines. G: J. Young. il diags plans Eng & Min J 114:846-53 N 11 '22
- Regeneration of cyanide solutions. H. B. Wright. flow sheet Eng & Min J 115:806-8 My 5 '23
- Sampling mill heads in cyanidation. F. H. Huff. Eng & Min J 115:308 F 17 '23
- Use of peroxides in the cyanide process. W. J. Sharwood. Eng & Min J 115:876-7 My 19 '23
- Use of sodium peroxide in cyanidation at the Teck-Hughes gold mine. D: L. H. Forbes. il diags Eng & Min J 115:410-1 Mr 10 '23
- Wright-Hargreaves cyanide mill. J. E. Grant. flow sheet il diags Eng & Min J 115:883-6 My 19 '23

See also Crowe process; Gold metallurgy

Costs

- Regeneration of cyanide solutions. H. B. Wright. Eng & Min J 115:808 My 5 '23

Cyanides

- Dissociation of complex cyanides. G: J. Burrows. *Chem Soc J* 123:2026-9 Ag '23
- Manufacture of cyanogen compounds in Canada. H. Freeman. *Can Chem & Met* 6: 129-31 Je '22; Abstract. *Chem & Met Eng* 27:32 Jl 5 '22
- Metal cyanides from air. *Brass W* 17:201 Jl '22
- Production of cyanides. flow sheet *Chem Age* 31:132 Mr '23

See also Sodium cyanide

Cyanine dyes. See Dyes and dyeing**Cyanines**

- Brominated isocyanines. K. L. Moudgill. *Chem Soc J* 121:1509-11 Ag '22

See also Benzothiazole; Thiocyanines

Cyanoacetamide

- Delta ketonic nitriles and their relation to cyclic compounds. E. P. Kohler and B. L. Souther. *Am Chem Soc J* 44:2903-14 D '22

Cyano-acetic esters

- Reaction between cyano-acetic esters and benzalacetone. E. P. Kohler and P. Allen, jr. *Am Chem Soc J* 45:1987-90 Ag '23

Cyanogen

- On the viscosities and molecular dimensions of methane, sulphuretted hydrogen, and cyanogen. A. O. Rankine and C. J. Smith. *Philos Mag* 6th ser 42:615-20 N '21

Cyanogen bromide

- Zur kenntnis organischer arsen-verbindungen: über die einwirkung von bromcyan auf phenylierte tertiäre arsine. W: Steinkopf and G. Schwen. *Deutsche Chem Gesell Ber* 54:2791-2801 N '21; Abstract. *Chem Soc J* 122 pt 1:72-3 Ja '22

- Zur kenntnis organischer arsenverbindungen: über die einwirkung von bromcyan auf tertiäre arsine. W: Steinkopf, H. Donat and P. Jaeger. *Deutsche Chem Gesell Ber* 55: 2597-2614 S '22; Abstract. *Chem Soc J* 122 pt 1:994-6 N '22

Cyanogen compounds

- Estimation of simple, soluble cyanogen compounds, making use of the principle of aeration. J. H. Roe. *diag Am Chem Soc J* 45:1878-83 Ag '23

See also Nitrogen fixation

Cyanogen halides

- Action of cyanogen haloids on phenylhydrazine; o-phenyleneammethyl chloride; abstract. G. Pellizzari. *Chem Soc J* 122 pt 1:585-6 Je '22

Cyanoglutaconates

- Addition of hydrogen cyanide to derivatives of glutaconic acid; the addition of hydrogen cyanide to ethyl α -cyano- β -methylglutaconate and its homologues. E: Hope and W. Sheldon. *Chem Soc J* 121:2223-35 O '22
- Ethyl α -cyano- β -methylglutaconate and its methyl homologues. E: Hope. *Chem Soc J* 121:2216-23 O '22

Cyanothiourea

- Synthesen mit cyanamid; darstellung von thiocarbamincyaniden, carbamincyaniden und biureten. E. Fromm and H. Wenzl. *Deutsche Chem Gesell Ber* 55:804-13 Mr '22

Cyanourea

- Synthesen mit cyanamid; darstellung von thiocarbamincyaniden, carbamincyaniden und biureten. E. Fromm and H. Wenzl. *Deutsche Chem Gesell Ber* 55:804-13 Mr '22

Cycle cars

- Automobile and near-automobiles. *il Sci Am* 129:329 N '23

Cyclic compounds

- Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; intra-annular tautomerism. E. H. Farmer, C. K. Ingold and J. F. Thorpe. *Chem Soc J* 121:128-59 Ja '22

- Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; intra-annular tautomerism of α -campholytic acid. J. P. C: Chandrasena, C. K. Ingold and J. F. Thorpe. *Chem Soc J* 121:1542-51 Ag '22

- Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; the simulation of benzenoid properties by the five-carbon intra-annular nucleus. C. K. Ingold, E. A. Seeley and J. F. Thorpe. *Chem Soc J* 123:853-74 Ap '23

- Conditions underlying the formation of unsaturated and cyclic compounds from halogenated open-chain derivatives; products derived from halogenated glutaconic acids. E. H. Farmer and C. K. Ingold. *Chem Soc J* 119:2001-21 D '21

- Conditions underlying the formation of unsaturated and cyclic compounds from halogenated open-chain derivatives; products formed from halogen derivatives of muconic acid; the constitution of muconic acid. J. P. C: Chandrasena and C. K. Ingold. *Chem Soc J* 121:1306-19 Jl '22

- Cyclische analoge des atophans. J. v. Braun and P. Wolff. *Deutsche Chem Gesell Ber* 55: 3675-88 D '22; Abstract. *Chem Soc J* 124 pt 1:143-4 F '23

- Delta ketonic nitriles and their relation to cyclic compounds. E. P. Kohler and B. L. Souther. *Am Chem Soc J* 44:2903-14 D '22

- Dicyclic and polycyclic compounds with bridged linking; dicyclo-[1,3,3]-nonane and its derivatives. H. Meerwein and others. *Chem Soc J* 124 pt 1:221-4 Mr '23

- Labile nature of the halogen atom in organic compounds. H. Graham and A. K. Macbeth. *Chem Soc J* 121:2601-8 N '22

- Die relative festigkeit cyclischer basen; der phenmorpholin- und der homo-tetrahydrochinolin-ring. J. v. Braun and J. Seemann. *Deutsche Chem Gesell Ber* 55:3818-25 D '22; Abstract. *Chem Soc J* 124 pt 1:146-7 F '23

- Die relative festigkeit cyclischer basen; substituierte tetrahydro chinolin-ringe. J. v. Braun, J. Seemann and A. Schultze. *Deutsche Chem Gesell Ber* 55:3803-17 D '22; Abstract. *Chem Soc J* 124 pt 1:138-40 F '23

Cyclic compounds—Continued

Some delta ketonic nitriles and their relation to cyclic compounds. E. P. Kohler, A. Graustein and D. R. Merrill. *Am Chem Soc J* 44:2536-56 N '22

Synthesis of *m-a*-benzobispyrrole derivatives. W. Davies and E. H. C. Hickox. *Chem Soc J* 121:2640-55 N '22

Cyclobutanedione

Über die beziehungen zwischen den aimeren ketenen und dem 1,3-cyclo-butan-dion und seinen derivaten. W. Dieckmann and A. Wittmann. *Deutsche Chem Gesell Ber* 55: 3331-47 O '22; Abstract. *Chem Soc J* 122 pt 1:1156-8 D '22

Cyclobutanone

Darstellung von cyclobutanon durch pyrochemische zersetzung der 1-oxy-cyclobutan-1-carbonsäure. N. J. Demjanow and M. Dojarenko. *Deutsche Chem Gesell Ber* 55: 2737-42 S '22

Cycloheptane

Formation and stability of *spiro*-compounds; *spiro*-compounds derived from *cyclo*-heptane. J. W. Baker and C. K. Ingold. *Chem Soc J* 123:122-33 Ja '23

Cyclohexane

Chemistry of the three-carbon system; the influence of the *cyclohexane* ring on the $\alpha\beta$ - γ change. S. F. Birch, G. A. R. Kon and W. S. G. P. Norris. *Chem Soc J* 123: 1361-74 Je '23

Vapor pressure of volatile solvents. R. E. Wilson and E. P. Wyde. *diag Ind & Eng Chem* 15:801-9 Ag '23

Cyclohexylene phenyldithiocarbazine

Configuration of the doubly-linked tervalent nitrogen atom. W. H. Mills and H. Schindler. *Chem Soc J* 123:320-3 F '23

Cyclones

See Storms

Cyclopentane

Effect of attached groups on the ease of formation of the cyclopentane ring. J. P. C. Chandrasena and C. K. Ingold. *Chem Soc J* 121:1552-5 Ag '22

Cyclopropane

Spiro-pyrimidines; condensation of cyclopropane-1,1-dicarboxylic ester with ureas. A. W. Dox and L. Yoder. *Am Chem Soc J* 43: 2697-2101 S '21

Cyclopropane carboxylic acid

New hydroxamic acids derived from cyclopropane carboxylic acid, isobutyric acid and dibenzyl-acetic acid; a comparative study of the Beckmann rearrangement of their derivatives. L. W. Jones and A. W. Scott. *Am Chem Soc J* 44:407-23 F '22

Cyclopropene acid

Chemistry of the glutaric acids; three carbon tautomerism in the cyclopropane series. F. R. Goss, C. K. Ingold and J. F. Thorpe. *Chem Soc J* 123:327-61 F '23

Cylinder heads

Stresses and deformation in flat circular cylinder heads. G. D. Fish. *charts diags Mech Eng* 44:165-9; Discussion. 170 Mr '22
Two-stroke-cycle Diesel cylinder heads. L. J. Le Mesurier. *il Power* 55:889 Je 6 '22

Cylinders (engines)

Automobile cylinder lap. R. E. D. Delrue. *diags Am Mach* 57:893 D 7 '22
Boring cross compound air compressor cylinders. *il diags Ry Mech Eng* 97:53-4 Ja '23
Casting Chevrolet cylinders. *il diag Foundry* 50:565-9+ J1 15 '22
Cavity drilling tool for engine cylinders. C. M. Schleh. *diags Mach* 28:943-4 Ag '22
Cylinder cooling and re-evaporation. *diag Power* 55:479 Mr 21 '22
Cylinder inspection gages. F. C. Hudson. *diags Am Mach* 58:769-70 My 24 '23
Cylinder methods in the Reo plant. F. H. Colvin. *il Am Mach* 56:281-3 F 23 '22
Cylinder wear in oil engines. M. S. Howard. *diags Power Pl Eng* 27:789-91 Ag 1 '23
Cylinders for the Mack motor. F. H. Colvin. *il diags Am Mach* 56:173-4 F 2 '22

Cylinders of British gas engines. Major Taylor-Johnson. *diags Power* 56:641 O 24 '22

Experience in development of cylinders for air-cooled engines. S. D. Heron. *Automotive Ind* 46:657-61 Mr 23 '22

Experimental development of air-cooled engine-cylinders. C. F. Taylor. *il Soc Auto Eng J* 12:46-53 Ja '23

Ford engine-cylinder production. P. E. Haglund and I. B. Scofield. *il diag plan Soc Auto Eng J* 11:463-71 D '22

Foundry production of air-cooled cylinders. E. H. Dix, jr. *il Soc Auto Eng J* 12:53-6 Ja '23

Foundry work on motor cylinders. *il Am Mach* 56:362-3 Je 29 '22

Grinding large cylinders. *il Mach* 29:347-8 Ja '23

Increasing the durability of truck parts by special production methods. D. D. Blanchard. *il diags Automotive Ind* 48:22-5 Ja 4 '23

Large internal combustion cylinders. H. F. P. Purday. *Engineering* 113:335-6 Mr 17 '22

Machining the Bean motor cylinders; methods used in a well equipped English motor plant. L. W. Chubb. *il diags Am Mach* 55: 827-30 N 24 '21

Making Packard auto castings. P. Dwyer. *il Foundry* 50:131-5+, 180-4 F 15-Mr 1 '22

Marmon methods on cylinders and crankcases. *il Am Mach* 57:374-5 S 7 '22

Molding Franklin cylinders. F. H. Colvin. *il Am Mach* 58:465-7 Mr 29 '23

New foundry process secures uniform hardness in cylinder bore. *diags Automotive Ind* 47:422-3 Ag 31 '22

Operations on the cylinders of the Wills Saint Claire. F. H. Colvin. *il diags Am Mach* 56: 216-18 F 9 '22

Overcoming unafow cylinder trouble. *Power* 57:138 Ja 23 '23

Refinishing the bores of internal combustion motors. S. M. Ransome. *Am Mach* 56: 560 Ap 13 '22

Research shows how to increase cylinder fin efficiency. C. B. Dicksee. *diags Automotive Ind* 48:768-72 Ap 5 '23

Some aspects of air-cooled cylinder design and development. S. D. Heron. *il diags plans Soc Auto Eng J* 10:231-60 Ap '22; Discussion. 11:363-7 O '22

Storm cylinder refinishing machines. *il Am Mach* 58:127 Ja 18 '23

Using metal faced cores in cylinders. *diags Foundry* 50:684-5 Ag 15 '22

Water in steam-engine cylinders. I. L. Kentish-Rankin. *diags Power* 54:1019-20 D 27 '21

Welded steel cylinder water jackets. G. D. Angle. *il diags Aviation* 15:148-52 Ag 6 '23

See also Pistons

Repair

Fitting a new valve face on a cylinder. T. W. Airey. *diags Power* 56:504-5 S 26 '22

Reboring compressor cylinders in a lathe. *il Elec Ry J* 62:253 Ag 18 '23

Repair of mammoth vertical compressor engine cast iron cylinder. A. M. Candy. *il Power* 58:242-4 Ag 14 '23

Repairing a broken locomotive cylinder. F. M. A'Hearn. *diag Am Mach* 57:194-5 Ag 3 '22

Cymene

Para-cymene studies; the bromination of 2-amino-para-cymene. A. S. Wheeler and I. W. Smithey. *Am Chem Soc J* 43:2611-18 D '21

Para-cymene studies; the chlorination of 2-amino-para-cymene. A. S. Wheeler and I. V. Giles. *Am Chem Soc J* 41:2605-12 N '22

Preparation of 6,6'-di(alpha hydroxyisopropyl) indigo from para-cymene. M. Phillips. *diag Am Chem Soc J* 44:1775-80 Ag '22

Synthesis of thymol from para cymene. M. Phillips. *Am Chem Soc J* 45:1489-93 Je '23

Über präparate verschiedener herkunft von cymol und äthyl-benzol. K. v. Auwers and H. Kolligs. *Deutsche Chem Gesell Ber* 55: 3872-9 D '22

Cymenestearosulfonic acid

Fat-splitting reagent. *Chem Age* 31:236-7 My '23

Cyperaceæ

Studies in the cyperaceæ. T. Holm. *il Am J Sci* 4th ser 49:195-206, 429-42; 4th ser 50:159-68; 5th ser 2:285-94, 322-9; 5th ser 3:138-44, 260-8 Mr, Je, Ag '20, N-D '21, F, Ap '22

Cypress

Suggestions for painting cypress and yellow pine. H: A. Gardner. *Am Arch* 123:164-5 F 14 '23

Cyprine

Cyprine and associated minerals from the zinc mine at Franklin, N.J. J. V. Lewis and L. H. Bauer. *Am Cer Soc J* 5th ser 4:249-51 S '22

Cystine

Experimental studies of cystine. A. R. T. Merrill. *Am Chem Soc J* 43:2688-96 D '21
Sulfur in proteins; the effect of acid hydrolysis upon cystine. W. F. Hoffman and R. A. Gortner. *Am Chem Soc J* 44:341-60 F '22

Czechoslovakia

See also Cooperation—Czechoslovakia; Dobříš, Czechoslovakia; Electric plants (central stations)—Czechoslovakia; Finance—Czechoslovakia; Geology—Czechoslovakia; Immigration and emigration—Czechoslovakia; Libraries—Czechoslovakia; Prices—Czechoslovakia; Radio stations—Czechoslovakia; Taxation—Czechoslovakia; Trade unions—Czechoslovakia; Wages—Czechoslovakia

Commerce

Commerce and finance in Czechoslovakia. V. A. Geringer and E. P. Herman. *U S Bur For & Dom Com Trade Information Bul* 53:1-21 '22

Conditions in Czechoslovakia continue to improve. *Annalist* 22:38+ J1 9 '23

Economic conditions

Czechs face collapse. *Iron Age* 110:1516 D 7 '22

La situation économique en Tchéco-Slovaquie. *Chimie & Ind* 7:1237-40 Je '22

See also Finance—Czechoslovakia

Industries and resources

Czecho-Slovakia adopts American methods of scientific management. *Am Mach* 58:130 Ja 18 '23

Glass and allied industries of Czechoslovakia. C: S. Winans. *U S Bur For & Dom Com Trade Information Bul* 47:1-8 '22

L'industrie Tchéco-Slovaque. H: Hauser. *Chimie & Ind* 7:369-73 F '22

See also Automobile industry and trade—Czechoslovakia; Cotton trade—Czechoslovakia; Iron industry and trade—Czechoslovakia; Steel industry and trade—Czechoslovakia; Steel works—Czechoslovakia

D**Dacrydium biforme**

Essential oil in the leaves of *dacrydium biforme*. B. H. Goudie. *Soc Chem Ind J* 42: 357-8 Ag 31 '23

Dahlia sugar

Dahlia sugar. *Sci Am* 129:93 Ag '23

Dairen, Manchuria**Water supply**

Water-works and filtration plant for Dairen, Manchuria. *Eng N* 89:244-5 Ag 10 '22

Dairy accounting

Dairy accounting. J: B. Ballingall. *J Account* 33:100-6 F '22

Dairy buildings

Plumbing in dairy and creamery buildings in England. J: Y. Dunlop. *il diags Sanitary & Heat Eng* 96:364-5+ D 16 '21

Dairy products

Wisconsin dairymen working toward advertising. *Ptr Ink* 122:145-6 Mr 22 '23

See also Butter; Buttermilk; Cheese; Milk; Milk, Condensed

Advertising

Form national sales agency to market dairy products. *Ptr Ink* 123:101-2 Ap 19 '23

Marketing

Wisconsin's dairy marketing experiment. W. A. Freehoff. *Annalist* 22:471+ O 8 '23

Dairymen's league cooperative association, inc. 72,000 embattled farmers sell ice cream. J. Henle. *Ptr Ink* 120:33-4+ Ag 24 '22

Dairymen's league of New York

Co-operative marketing is giving farmer greater buying power. S. Q. Grady. *Ptr Ink* 123:81-2+ Je 7 '23

Dallas, Texas**Rapid transit**

Authorizes six-cent fare continuation in Dallas. *Elec Ry J* 61:1103 Je 30 '23
\$462,395 for improvement. *Elec Ry J* 60:58-9 J1 8 '22

Sanitary affairs

Refuse disposal in Dallas. *Pub Works* 51:412-13 N 26 '21

Water supply

Second water purification plant for Dallas, Texas. *il diag plan Eng N* 90:1042-4 Je 14 '23

Dalton adding machine company

Chief's biggest job. J. L. Dalton. *il System* 43:463-5+ Ap '23

Dam failures. See Dams—Failures**Damages**

No recovery for damage to Soda Lakes by government project. W. Gustin. *Chem & Met Eng* 26:637-8 Ap 5 '22

Refining company responsible for escaping oil causing damage to overflowed lands. W. Gustin. *Chem & Met Eng* 27:257 Ag 9 '22

Damascene steel. See Steel**Damped vibrations. See Vibration****Dampers**

Constant low draft over the fire. E. M. Eliot. *Power* 56:523-6 O 3 '22

Control for damper placed in convenient location. J. V. Emery. *diag Power* 56:1030 D 26 '22

Controlling the rate of combustion. *diags Sanitary & Heat Eng* 96:313-14 N 18 '21

Craig damper regulator. *il diag Power* 55: 334 F 23 '22

Dome dampers for the fireplace. *il Arch & Bldg* 55:78-9 J1 '23

Economy of damper regulations. W. F. Schap-horst. *Sanitary & Heat Eng* 97:249 My 5 '22

Fire-controlling system for hand-fired furnaces. *diag Power* 58:176 J1 31 '23

Heat losses accompany draft variation. J. L. Kimball. *Power Pl Eng* 27:237 F 15 '23

New Carrick regulator operated by draft. *il Power* 55:421 Mr 14 '22

Northwestern boiler damper control. *il Power* 56:289-90; 58:576 Ag 22 '22, O 9 '23

Obtaining positive control of the damper from the boiler front. H: L. Robinson. *diags Power* 58:304 Ag 21 '23

Regulator for hand-operated dampers. W. M. Edwards, jr. *diags Power* 56:774 N 14 '22

Swinging damper reduces air leakage at rear of chain-grate stokers. J: J. Monaghan. *diags Power* 56:947-8 D 12 '22

Dams

Air vibrations due to fluttering of water sheet over dams. F: I. Winslow. *Eng N* 91:107 J1 19 '23

Alternate plans for proposed Colorado river dam. A. P. Davis. *Eng N* 88:184-6 F 2 '22

Barrages à contreforts triangulaires. G. Pigeaud. *Génie Civil* 81:128-30 Ag 5 '22

Barrages triangulaires en maçonnerie. G. Pigeaud. *Génie Civil* 82:591-6 Je 23 '23

Building a dam in Bolivia. R. A. Bennitt. *il Eng N* 90:526-8 Mr 22 '23

Calaveras dam raised with dry fill and puddled core. plans *Eng N* 90:117-18 Ja 18 '23

Le calcul des barrages arqués. *Génie Civil* 81:182-3 Ag 19 '22

Dams—Continued

- Circular arch under normal loads. W. Cain. Am Soc C E Pro 47:285-300 O '21; Discussion, 47:795-800; 48:91-8, 683-702 D '21-Ja, Mr '22
- Concours pour un barrage sur l'oued Kébir (Tunisie) en vue de l'alimentation de Tunis en eau. M. Jacquinot and M. Garbe. il diags plans Génie Civil 80:537-43 Je 17 '22
- Constructing earth dams in Vermont. il Pub Works 54:80-2 Mr '23
- Construction of Kettle Creek dam, St Thomas. W. C. Miller and G. H. Chalmers. il diags Can Eng 42:444-7 My '22
- Controlling a mountain torrent in Switzerland. K. Haller. il Eng N 88:354-6 Mr 2 '22
- Core studies in the hydraulic-fill dams of the Miami conservancy district. C. H. Paul. il diags plan Am Soc C E Pro 48:453-73 Mr '22; Same. Eng & Contr 57:353-7 Ap 12 '22; Discussion. Am Soc C E Pro 48:1321-31 My '22
- Core-wall construction in deep trench at Wanakee dam. A. H. Pratt. il diags Eng N 89:92-5 Ji 20 '22; Same. Eng & Contr (W W) 58:9-15 O 11 '22; Same cond. N E Water Works Assn J 36:457-66 S '22
- Core walls of U. S. reclamation service dams. C. H. Howell. diags Eng & Contr (W W) 58:54-6 O 11 '22; Same. Eng N 89:939-40 N 30 '22; Same cond. Pub Works 53:241 N '22
- Crib dams on the Cumberland river. J. R. Slattery. diag Eng & Contr (Bldgs) 60:638-40 S 26 '23
- Dam construction in America. Engineering 114:163 Ag 11 '22; Same cond. Eng & Contr (W W) 58:56 O 11 '22
- Dam construction in New England. il Eng & Contr (Ry) 58:11-15 O 18 '22
- Dam in Flaming Gorge. map N E L A Bul 10: 455 Ag '23
- Dams constructed by U. S. reclamation service. Eng & Contr (W W) 60:270 Ag 8 '23
- Deflection measurements on arch dam in Switzerland. F. A. Noetzi. il diag plan Eng & Contr (W W) 60:530-3 S 12 '23
- Deformations of arched dam measured by triangulation. diags Eng N 91:63 Ji 12 '23
- Design and construction of dams. E. Wegmann. 7th ed., rev. & enl. 555p Wiley '22
- Design of earth dams. J. D. Justin. diags Am Soc C E Pro 49:856-916 My '23; Excerpt (Criteria). Eng & Contr (W W) 60:90 Ji 11 '23; Abstract. Engineer 136:100-1 Ji 27 '23; Discussion. Am Soc C E Pro 49:1296-1329, 1608-20, 1744-50, 1874-1900 Ag-N '23
- Design of masonry dams. E. Wegmann. diags Eng & Contr (W W) 58:121-7; 59:81-8 D 13 '22, Ja 10 '23; Discussion. 59:811-13, 1032-3, 1301-2 Ap 11, My 9, Je 13 '23
- Digging from below, up; Tieton dam. J. F. Springer. il diag Sci Am 128:185-6 Mr '23
- Dry fill and hydraulic sluice methods on same dam. il diags plan Eng N 89:1073-5 D 21 '22
- Earth dam built by flooding dry fill. A. S. Fry. il diags Eng N 90:1118-20 Je 28 '23
- Effect of a low dam at Harrisburg on flood stages and discharge. S. N. Whitman. diag Eng N 89:738 N 2 '22
- Flood and drought control on the North Platte. S. R. Winters. il Sci Am 126:315 My '22
- Flood control in the Miami valley, Ohio. C. H. Paul. il diags map Am Soc C E Pro 48:1206-25 My '22
- For and against a small dam. C. W. Stuart; G. Dixon. Eng N 88:206 F 2 '22
- \$4,500,000 Texas water supply project. R. A. Thompson. il Eng & Contr (W W) 60:277-80 Ag 8 '23
- Geologist discusses relation of damsites to earthquake faults. B. Willis. diag J Elec 48:48 Ja 15 '22
- Geology and the Decatur dam and reservoir project. M. M. Leighton. diag map Eng N 91:264-6 Ag 16 '23
- Gilboa dam construction. il Pub Works 52: 205-8, 295-7, 319-21 Mr 25, Ap 29-May 6 '22
- How high is a dam; editorial. Eng N 89:728 N 2 '22; Discussion. 89:946, 1086 N 30, D 21 '22
- How Oklahoma City water-works dam withstood floods. A. S. Holway. il Eng N 91: 292-4 Ag 23 '23
- Hydraulic dam construction with electric dredge. Pub Works 54:158 My '23
- Hydraulic-fill dam solves irrigation problem. il Pop Mech 39:431 Mr '23
- Hydraulic-fill dams safe to construct. Eng N 88:820 My 18 '22
- Hydraulic jump; Ohio's big impounding dam. il diag Sci Am 126:18-19 Ja '22
- Improved type of multiple-arch dams. F. A. Noetzi. diags plan Am Soc C E Pro 49: 1065-92, pl 3 Ag '23; Discussion. 49:1767-84, 1921-6 O-N '23
- L'influence de l'encastrement latéral dans les grands barrages. Juillard. Génie Civil 80: 367-8 Ap 22 '22
- Irrigation in Australia; the Murrumbidgee project, with storage capacity for 200 billion gallons. P. J. Risdon. il Sci Am 128:244-5 Ap '23
- Lockington dam completed. il diag Eng N 87: 731-2, 947 N 3, D 8 '21
- Lockington hydraulic fill dam completed. Pub Works 51:456 D 10 '21
- Marron Lake dam. il Can Eng 43:473 O 24 '22
- Maze irrigation dam. M. Randall. Engineering 115:376 Mr 23 '23
- Mining methods applied to dam construction. S. R. Winters. il Pop Mech 37:358-9 Mr '22
- Notes sur le calcul des barrages en voûte. G. Pigeaud. Génie Civil 81:106-8 Ji 29 '22
- Novel manner of building an irrigation dam. O. Johnson. il Pop Mech 38:762-3 N '22
- Percolation through and hydraulic pressure under earth dams. A. L. Fellows. Eng N 90: 399 Mr 1 '23; Same. Eng & Contr (W W) 59:367 F 14 '23
- Porto Rican irrigation project has novel features. R. A. Gonzalez. diags map Eng N 90:161-4 Ja 25 '23
- Possible full-size dam tests at Boulder canyon. F. A. Noetzi. Eng N 88:625 Ap 13 '22
- Profits from municipal dam. Pub Works 51: 469-70 D 17 '21
- Progress on flood prevention at Phoenix, Ariz. map Eng N 88:162 Ja 26 '22
- Progress on the Wanakee project. il Pub Works 54:149-53, 191-4 My-Je '23
- Pumping sand with hydraulic elevator on dam construction. il Eng N 89:899 N 23 '22
- Rapid construction of earth-fill dam in California. C. H. Richards. il diags plan Eng N 91:340-3 Ag 30 '23
- Reclamation service building highest earth dam. il plans Eng N 87:89-1 D 1 '21
- Relation between deflections and stresses in arch dams. F. A. Noetzi. Am Soc C E Pro 47:261-84 O '21; Discussion. 47:791-4; 48:75-90, 359-66, 675-81, 967-80 D '21-Apr '22
- Situate dam of Providence water supply. F. E. Winsor. il Eng & Contr (W W) 58:65-72 N 8 '22
- Sliding, saturation studies, and repairs of low earth dam. diags Eng N 88:579-80, 801 Ap 6, My 11 '22
- Stresses in multiple-arch dams. B. F. Jakobsen. diags map Am Soc C E Pro 49:1093-1131 Ag '23; Discussion. 49:1785-91, 1927-8 O-N '23
- Tentative plan for the construction of a 780-foot rock-fill dam, on the Colorado river, at Lees Ferry, Arizona. E. C. La Rue. il diag map plan Am Soc C E Pro 48:835-52 Ap '22; Discussion. 48:1605-36, 1711-15, 1909-12; 49:942-51 S-O, D '22, My '23
- To investigate arch dams. Eng N 91:755 N 8 '23
- Travaux de canalisation de la Meuse, en Hollande; le barrage de Linne (Limbourg). A. Bijls. il diags plans Génie Civil 81:29-36, pl 3 Ji 8 '22
- Travaux publics; barrage à voûtes multiples, sur le Tirsò, à San Chiara d'Ula (Sardaigne). P. Caufourier. il diags map Génie Civil 81:77-82, pl 4 Ji 22 '22
- Two small dams good examples of amateur engineering. diags Eng N 87:1018-19 D 22 '21
- Les vannes automatiques à secteurs du barrage de San Chiara d'Ula, sur le Tirsò (Sardaigne). diags plan Génie Civil 81:326-7 O 7 '22

Dams—Continued

Water supply and irrigation works, Wichita Falls, Tex., A. S. Fry, map Eng N 90:1080-1 Je 21 '23

Water-works dam at Oklahoma City, with-stands record flood, V. V. Long; S. W. Stewart, il map Eng N 91:724-6 N 1 '23

Which is the highest dam in the world? E. Wegmann, Eng N 89:758 N 2 '22

See also Barrages; Cofferdams; Dikes (engineering); Embankments; Hetch Hetchy water supply project; Hydroelectric plants; Irrigation; Reservoirs; Spillways; Weirs (dams)

Failures

Critical tests for earth dams, with or without cores, C. S. Jarvis, il Eng N 91:731-2 N 1 '23

Failure of Apishapa earth dam in southern Colorado, J. E. Field, B. M. Jones and O. N. Floyd, il diags Eng N 91:357-8, 418-24 Ag 30, S 13 '23; Discussion, 91:447, 568, 817, 900-2 S 13, O 4, N 15, 29 '23

Failure of two small dams, Eng N 90:788 My 3 '23

Small dam failure wrecks large residence section, C. A. Latimer, il Eng N 89:121-2 Jl 20 '22

Foundations

Floating concrete dam built on the Gila river; porous foundations require spread footings for low diversion dam, C. J. Blanchard, il diags plan Eng N 89:824-8 N 16 '22

Floating concrete slabs as a dam foundation, Pop Mech 39:212 F '23

Hetch Hetchy dam excavation, il Pub Works 53:43-5 Jl 15 '22

How should we figure foundation pressures in a multiple-arch dam? diag Eng N 88:623-4, 1009-10; 89:78-9, 450-1 Ap 13, Je 15, Jl 13, S 14 '22

Sealing permeable foundation of dam with grout, W. S. Lea, Eng & Contr (W W) 60: 548-50 S 12 '23

Models

Experiments with models of the Gilboa dam and spillway, R. W. Gausmann and C. M. Madden, il diags plans Am Soc C E Proc 48: 1503-28 S '22; Discussion, 48:1885-7; 49:240-50, 566-7 D '22, F-Mr '23

Protection

Tiny air bubbles and giant dams; how air jets protect a great dam against the destructive fields of ice, S. G. Roberts, il Sci Am 128:232+ Ap '23

Repair

Damaged earth dam repaired by hydraulic fill, M. E. Bunker, il plans Eng N 91:674-6 O 25 '23

Stopping suck-hole leakage in rock-filled dams, Pop Mech 38:86 Jl '22; Same abr. Eng & Contr (W W) 58:23 O 11 '22

Dams, Concrete

Amoskeag manufacturing company hydroelectric development, A. T. Safford, il plans Boston Soc C E J 10:95-128 Mr '23

Arch dam temperature changes and deflection measurements, F. A. Noetzi, Eng N 89:930-2 N 30 '22; Discussion, 89:1038; 90:131 D 14 '22, Ja 18 '23

Build dam against rising water, il Concrete 21:104 O '22

Building a gravel retaining dam by dragline, C. H. Eiffert, il diags Eng N 90:926-7 My 24 '23

Building the highest dam in Europe; features of the Camarasa hydro-electric development in Cataluna, Spain, W. Ranney, il diags maps Eng N 89:260-7 Ag 17 '22

Building the world's largest monolith; significance of Wilson dam to navigation and industry, L. McClung, il Sci Am 129:8-9 Jl '23; Same abr. N E L A Bul 10:472-4 Ag '23

Cement handled in bulk on the Hetch Hetchy dam, N. A. Eckart, il Eng N 88: 352-3 Mr 2 '22

Completion of Barrett dam wins close race with water, il Eng N 89:157-8 Jl 27 '22

Concrete barrier dam for intercepting drifting gravel and sand, diag Eng & Contr (W W) 59:605-6 Mr 14 '23

Concrete dam 22 feet high built with traveling form, diags Eng N 88:452 Mr 16 '22

Concrete dams—a controversy 20 years ago, Concrete 22:33 Ja '23

Concreting of Hetch Hetchy dam progresses, il Eng N 88:973 Je 8 '22

Constructing Mitchell dam, L. G. Warren, il Pub Works 54:247-50 Ag '23

Constructing Mitchell dam on the Coosa river, L. V. Branch, il diags plan Eng N 91:500-5 S 27 '23

Construction features of Hartbeestpoort dam of South African irrigation department, il Eng & Contr 57:125-7 F 8 '22

Construction features of Hetch Hetchy dam, il diag Eng & Contr 57:225-7 Mr 8 '22

Construction methods at Laurel Road dam, Stamford, Conn. D. Bonner, jr. il Eng & Contr (W W) 60:745-50 O 10 '23

Construction of the Loch Raven dam of the Baltimore water works, W. A. Megraw, Munic Eng 62:217-20 Je '22; Same, Pub Works 52:437-9, 460-2 Je 17 '22; Same, Eng & Contr 58:124-6 Ag 9 '22

Cooperation with river averts floods, I. E. Houk, il Pop Mech 39:680 My '23

Cordeaux and Avon reservoirs for Sydney water supply, il (supp) diags map Engineer 135:570-3 Je 1 '23

Decatur's new water works dam, E. E. Pier-son, il Pub Works 52:336-7 My 13 '22

Devil's Gate dam proves success, F. B. Howe, il Pop Mech 37:368-70 Mr '22

Don Pedro project of the Turlock irrigation district, R. W. Shoemaker, il Gen Elec R 26:736-40 N '23

Emsworth lock and dam construction, il diags plan Pub Works 53:162-4 S '22

Floating concrete dam built on the Gila river; porous foundations require spread footings for low diversion dam, C. J. Blanchard, il diags plan Eng N 89:824-8 N 16 '22

Flood-control dam replenishes underground water source; Devil's Gate dam at Pasadena, il map Eng N 88:770-1 My 11 '22

Harnessing the California river; the Don Pedro dam, il Sci Am 129:33 Jl '23

Hetch Hetchy dam, il diags maps Pub Works 53:21-3, 43-5, 58-61 Jl 8-22 '22

Hetch-Hetchy dam completed, C. W. Geiger, il Pub Works 54:302-5 S '23

Hollow dam, Cisco, Texas, with notable design features, F. W. Chappell and E. M. Urban, il diags Eng N 91:706-10 N 1 '23

International paper company completes power plant on the Hudson, il diags plans Eng N 91:470-6 S 20 '23

Manufacturing methods and concrete structures; principles of waste saving applied in the erection of Don Pedro dam, il J Elec 49: 97-8 Ag 1 '22

Muscle Shoals—the Wilson dam, L. McClung, il Concrete 21:71-4 S '22

New irrigation dam of multiple-arch type, il Pop Mech 37:102-3 Ja '22

Novel construction features on 279-ft. Don Pedro dam, R. M. Beanfield, il diags plan Eng N 88:896-900 Je 1 '22

O'Shaughnessy dam and its dedication, Munic Eng 65:109-16 S '23

O'Shaughnessy dam completed and reservoir storage begun, il Eng N 90:741-2 Ap 26 '23

O'Shaughnessy dam of San Francisco, il Eng & Contr (W W) 60:256-7 Ag 8 '23

Pine Hill dam, il Pub Works 52:397-9 Je 3 '22

Plant and program on the Hetch Hetchy dam, il diags Eng N 89:464-8 S 21 '22

Raising Loch Raven dam, Baltimore, Eng N 89:20 Jl 6 '22

Record height multiple-arch dam under way in Italy, I. Gutmann, il diags Eng N 90: 820-3 My 10 '23; Discussion, F. A. Noetzi 91:29 Jl 5 '23

Rush job in dam construction; Barrett dam, San Diego, Calif, il Sci Am 128:233 Ap '23

Semicircular concrete irrigation dam, il Pop Mech 39:86 Ja '23

South African irrigation works, F. T. Pat-terson, Eng & Contr 57:514-16 My 31 '22

Types and costs of concrete dams compared by models, il Eng N 89:114 Jl 20 '22

Dams, Concrete—Continued

- Unusual plant used in Hetch Hetchy dam construction. C: W. Geiger. *il* Concrete 21: 75-6 S '22
- Usine électrique installée dans un barrage près de Belle-Isle-en-Terre (Côtes-du-Nord). *il* diags plan Génie Civil 81:529-32, pl 12 D 9 '22; Abstract (Hydro-electric station built into a dam). Elec W 81:113 Ja 13 '23
- Wilson dam. R. C. Folger. *il* Pop Mech 38: 670-2 N '22

Repair

- Mills run while power dam is repaired. H. E. Thomas. *il* Pop Mech 39:856-7 Je '23

Dams, Movable

- Some notes on the location and construction of locks and movable dams on the Ohio river, with particular reference to Ohio river dam no. 18. W: M. Hall. *il* diags maps Am Soc C E Pro 48:3-42 Ja '22; Discussion. 48:731-6, 1003-13, 1275-96, 1705-9; 49:770-9 Mr-My, O '22, Ap '23

Danbury, Connecticut**Rapid transit**

- Storage-battery bus in Danbury fleet. *il* map Bus Transportation 2:467-8 O '23

Streets

- New pavement of Danbury, Connecticut. C. D. Pollock. *il* Pub Works 51:371-4 N 12 '21

Dancing halls

- Clover Gardens. *il* Am Arch 122:191-4 Ag 30 '22

Dangler, Henry Corwith

- Domestic architecture of Henry Corwith Dangler, architect. *il* Arch Forum 36:137-42, pl 49-62 Ap '22

Danube river

- Danube is real waterway puzzle. *il* Marine R 51:535-7 D '21
- Small tugs prove value on lower Danube. V. V. Mendl. map Marine R 53:27-9 Ja '23

Danzig

- Le port de Dantzig. B. Nagorski. *il* map plan Génie Civil 82:145-50 F 17 '23

Dardanelles

- Text of the allied powers' plan for freedom of the Straits. Comm & Fin Chr 115:2747-8 D 23 '22

- Dark rooms. See Photography—Studios and dark rooms

Darlington, Frederick, 1867-

- Portrait. Elec W 81:1448 Je 23 '23

Daroca, Spain

- Towered cities. G. G. King. *il* Am Inst Arch J 9:349-58 N '21

Daugherty, Harry Micajah, 1860-

- Congressman Keller's statement to House judiciary committee. Comm & Fin Chr 115: 2534-5 D 9 '22

- End of the Daugherty case. Comm & Fin Chr 116:453 F 3 '23

- Impeachment charges against Attorney-general Daugherty for failure to prosecute profiteers. Comm & Fin Chr 115:2336-7, 2517-18, 2858-9 N 25, D 9, 30 '22

Davenport, Iowa**Rapid transit**

- New ordinances adopted. Elec Ry J 60:988 D 23 '22

- Rerouting and paving problems in Davenport; suggested solutions. Elec Ry J 62:306, 419-20, 537, 751-2 Ag 25, S 15, 29, O 27 '23

Davenport bed makers of America

- Keeping dealers in touch with association advertising. R. Branner. *Ptr Ink* 123:61-2+ Ap 19 '23

Davenport beds**Advertising**

- Rebuilding a market that started at the wrong end; davenport bed manufacturers join in co-operative advertising. G. A. Nichols. *Ptr Ink* 119:117-18+ My 25 '22

Davis, Arthur Powell

- A. P. Davis' dismissal a blow to sound government. Mech Eng 45:562-3 S '23

- Blight of politics in government technical bureaus. Chem & Met Eng 29:783 O 29 '23

Davis, Frank E.

- Men and methods. H. Croy. System 42:423-4+ O '22

Davis, Harry Phillips, 1869-

- Sketch. *por* Elec W 79:416 Mr 4 '22

Davison, Henry Pomeroy, 1867-1922

- Sketch. Comm & Fin Chr 114:2065-6, 2080-1 My 13 '22

Davits

- Gear for round bar davits. *il* Marine R 53: 356-7 S '23

Day, Charles, 1879-

- Portrait. Elec W 80:310 Ag 12 '22

Day labor

- California day labor law. Eng & Contr (Bldgs) 60:199 Jl 25 '23

- Cost analysis of day labor construction of Wisconsin concrete roads. H. J. Kuelling. Concrete 20:81-6 F '22

- Discussion of contract vs. day labor system in the construction industry. C: A. Mullen. Munic Eng 65:189-92 O '23

- Lincoln county road work by day labor. Pub Works 54:275 Ag '23

- Mexican labor-contract, day's pay, and task. W. W. Shelby. Eng & Min J 114:587-8 S 30 '22

- Publicity for day labor on public work. Eng & Contr (R & S) 58:68-9 N 1 '22

Daylight

- Bringing daylight into your present building. W. T. Spivey. *il* diags Factory 31:312-15+ S '23

- Bringing daylight to the work. W. W. Tracey. Factory 31:672+ N '23

- Cost of daylight; compared with cost of artificial lighting. M. Luckiesh and L. L. Holladay. Illum Eng Soc 18:119-34; Discussion. 134-42 F '23

- Daylight illumination on horizontal, vertical and sloping surfaces. diags Illum Eng Soc 18:434-74 My '23

- Daylight in buildings. P. E. Nobbs. *il* Am Arch 124:1-6, 99-106 Jl 4, Ag 1 '23

- Influence of daylight illumination intensity on electric current used for lighting purposes in the District of Columbia. A. Smirnov. Illum Eng Soc 18:36-46 Ja '23

- Maintenance of daylight equipment. Textile World 63:3493+ My 26 '23

- Sky brightness and daylight illumination measurements. *il* Illum Eng Soc 16:255-75; Discussion. 275-83 no 7 '21

- Special building for illumination experiments. H. Rayner, J. W. T. Walsh and H. Buckley. *il* Illum Engr 15:126-7 Ap '22

See also Orientation (architecture)

Daylight, Artificial

- Artificial daylight; its applications in the textile and dyeing industries. J. S. Dow. *il* Electrician 88:220-1 F 24 '22

- Color matching units in the industries. *il* Am Inst E E J 42:63-4 Ja '23

- Demonstration of a new artificial daylight lamp. F. E. Lamplough. Soc Dyers & Col J 39:37-8 F '23

- Recent improvements in the Sheringham daylight. *il* Illum Engr 14:239-40 D '21

- Recent improvements in the Sheringham daylight. S. H. Groom. *il* Illum Engr 14: 215-18 N '21

- Report of committee on progress for 1921. Illum Eng Soc 16:238-41 no 7 '21

- Reproduced daylight and quality production. H. S. Busby. diags Textile World 64:1079-+ Ag 25 '23; Same. Am Dyestuff Rep 12:694-6 S 24 '23

- Standard artificial daylight. Illum Engr 15: 282 O '22

- Use of artificial daylighting in industry and commerce. G. H. Stickney. *il* J Elec 48: 57-8 Ja 15 '22

Daylight saving

- Daylight saving a cooling proposition. G. J. O'Connor. Heat & Ven 19:41 My '22

- Illuminating engineering. Illum Eng Soc 17: 425-33 S '22

Daylight saving—Continued

Rapport fait au nom de la Commission de l'enseignement et des beaux-arts. L. Marin. 151p Impr. de la Chambre des députés, Martinet, Paris '23

Dayton engineering laboratories company

Industrial relations policy that makes production cost less at the Dayton engineering laboratories co. H. Tipper. *Automotive Ind* 47:473-6 S 7 '22

Deactivation of water. See **Water—Deactivation and deaeration**

Deaf and dumb

Blind and deaf girl develops wonderful sense of touch and smell. F. L. Holmes. *il Pop Mech* 37:13-14 Ja '22
Paradise for the deaf. J. G. Gebhard, sr. *Wireless Age* 10:27+ S '23

See also **Deafness, Instruments for**

Deafness

Influence of industrial noises. D. J. Glibert. bibliog *J Ind Hygiene* 3:264-75 Ja '22

Deafness, Instruments for

Hearing through a walking stick. *il diags Sci Am* 127:266 O '22
Making the deaf hear and the dumb speak by radio. H. H. Dunn. *Pop Mech* 39:81-3 Ja '23
New vacuum-tube amplifier aid to partially deaf. *il Pop Mech* 37:704 My '22

Dealer contests. See **Sales contests, Dealer**

Dealer cooperation. See **Advertising—Dealer cooperation**

Dealer helps

Added volume that made a profit possible. J. R. Morron. *Concrete* 23:sup29-31 Ag '23; Same. *System* 44:145-9+ Ag '23

Advertising to spread light in the illuminating field; the illuminating glassware guild. A. Belden. *Ptr Ink* 124:121-2 Ag 16 '23

Beads gain in sales when retailers are shown how to sell them. A. Belden. *Ptr Ink* 124:123-4 Jl 12 '23

Better knowledge of the factory by the dealer speeds up sales. P. F. O'Shea. *Ptr Ink* 122:125-6+ Ja 25 '23

Building better dealers important job for factory sales managers. *Automotive Ind* 48:321-3 F 15 '23

Dealer helps or clerk helps? J. R. Sprague. *Ptr Ink M* 5:35-6+ N '22

Factories to play larger part in dealer education. N. G. Shidle. *Automotive Ind* 47:1266-8 D 28 '22

Fleischmann helps sell the other man's product. R. Bostick. *Ptr Ink M* 5:32-4 S '22

400 retailers join in making this dealer service book. R. K. Sewell. *Ptr Ink M* 5:44 Ag '22

Getting dealers to use your best sales arguments. C. B. Larrabee. *Ptr Ink M* 7:23-4+ S '23

Getting the dealer to put your line up front; how Armstrong has transformed the floor-covering department. R. Cole. *Ptr Ink* 119:36+ Je 8 '22

Help for saleswomen in converting shoppers into satisfied customers. J. A. Israel. *Ptr Ink* 124:145-6+ S 6 '23

Helping dealer get fast turnover on seasonable goods. *Ptr Ink* 123:111-12 Je 21 '23

Helping the retailer to analyze his own trade. *Ptr Ink* 125:94-5 O 18 '23

Helping tractor sales and service by conducting dealer schools. *Automotive Ind* 47:1130-1 D 7 '22

How Goodrich makes dealers better merchandisers. L. H. Butler. *il Ptr Ink M* 5:50+ O '22

How Hoffman made peace between gas company and plumber. *Ptr Ink* 120:141-2+ S 7 '22

How multibestos gets dealers to sell service. R. Crothers. *Ptr Ink M* 7:35-6 N '23

How the Lightolier company gives help to its advertising. J. True. *Ptr Ink* 120:85-6+ Ag 17 '22

How the manufacturer can help the retailer out of the jungle. E. M. Skinner. *Ptr Ink* 120:117-18+ S 21 '22

How the P. A. Geier company catches up the loose ends of a campaign. E. B. Weiss. *Ptr Ink* 125:145-6+ O 11 '23

How to make dealer service an actual selling force. G. A. Nichols. *Ptr Ink* 122:129-30+ Ja 18 '23

A laboratory store in the factory. R. Dickinson. *il Ptr Ink M* 5:25-6 N '22

Organizing departments for new dealers. J. True. *Ptr Ink M* 6:60+ Je '23

Our salesmen stopped selling for six months to learn how to sell. J. B. McNaughton. *Ptr Ink M* 6:41-2 Ap '23

Phonograph record helps dealers make sales; Estate stove company. *Ptr Ink M* 5:80+ S '22

Sales tips instead of sales arguments; Du Pont company markets Pontop. R. Davis. *Ptr Ink M* 7:43-4 O '23

Selling sales ideas to salesmen. V. E. Burnett. *Ptr Ink M* 7:80+ O '23

Selling that makes the dealer's order a minor objective. D. Hubbard. *Ptr Ink* 123:101-2+ Je 28 '23

Selling the retailer the aggressive spirit. H. Burwen. *Ptr Ink* 122:17-20 Mr 22 '23

Show room and advertising join to help dealers. B. Berfield. *il Ptr Ink M* 5:37-8 N '22

Sure-fire plan to help dealers. E. W. Emerson. *System* 43:38+ Ja '23

Teaching salesmen to teach dealers how to sell. C. M. Harrison. *Ptr Ink M* 5:190+ S '22

Twenty ideas that are helping dealers increase sales. E. B. Weiss. *Ptr Ink M* 7:19-20+ O '23

We make small dealers more profitable. *il System* 42:286-8+ S '22

What a manufacturer can do to push department store sales. E. H. Plummer. *Ptr Ink* 121:173-4+ N 16 '22

Yale & Towne window campaign shows the profitability of unselfishness. M. Hastings, jr. *il Ptr Ink M* 7:84+ S '23

See also **Advertisements—Dealer helps;**

Advertising—Dealer cooperation

Bibliography

These manufacturers are helping retailers to become better business men. *Ptr Ink* 120:53-4+ S 28 '22

Dealers. See **Retail trade**

Dealkylation

Entalkylierung gemischter sekundärer basen durch chlorphosphor. J. v. Braun und J. Weismantel. *Deutsche Chem Gesell Ber* 55:3165-70 O '22

Deaminization

Deamination of methyl dextro-cis-3-amino-1,2,2-trimethyl cyclopentanoate. G. S. Skinner. *Am Chem Soc J* 45:1498-1503 Je '23

Dean, Ruth

Recent work by Ruth Dean, landscape architect. R. F. Whitehead. *il Arch Rec* 52:350-2 O '22

Death, Apparent

Apparent death and resuscitation. I. Ginsberg. *Sci Am* 128:22 Ja '23

Death rate. See **Mortality**

Death Valley, California

Tap wealth of Death Valley with monorail. J. A. Ford. *il Pop Mech* 40:36-7 Jl '23

Debtor and creditor

Le droit de rétention; sa puissance pour la protection des créances. A. Giudicelli. *Génie Civil* 80:134-5 F 11 '22

Le règlement transactionnel. E. Chauvin. *Chimie & Ind* 7:387-90 F '22

Debts

Bad debts under the new tax law. N. F. Ross. *Analyst* 19:125-6 Ja 16 '22

See also **Amortization; Bankruptcy; Credit; Sinking funds**

Debts, Public

Allied and inter-government debts—the U.S. foreign debt commission. *Comm & Fin Chr* 115:2210-11 N 18 '22

Allied debts. (International conciliation no. 181) 109p Am. assn. for international conciliation. 407 W. 117th st., New York, D '22

Debts, Public—Continued

- Allies can pay at least part of their debt to America. B. M. Baruch. Comm & Fin Chr 115:1264-5 S 16 '22
- America and the balance sheet of Europe. J. F. Bass and H. G. Moulton. 361p Ronald press '21
- America and the debts of Europe. R. C. Leflingwell. Comm & Fin Chr 114:2186-8 My 20 '22
- American banker's responsibility. T. W. Lamont. Comm & Fin Chr 115:95-9 sec 2 O 21 '22
- Bill for refunding of Allied war debts signed by President Harding; text. Comm & Fin Chr 114:566-7 F 11 '22
- British public and the war debts. A. Comstock. Annalist 20:80 J1 24 '22
- Business view of Europe's debt. J. H. Barnes. Nation's Business 10:38-9 D '22
- Canadian view of Allied debt. T. B. Macaulay. Comm & Fin Chr 115:2522 D 9 '22
- Cancellation of Allied debts would create confusion and distrust. T. E. Burton. Comm & Fin Chr 115:1476-7 S 30 '22
- Cancellation of the Allied war debt. J. E. Johnsen. 16p H. W. Wilson co. '22
- Committee of Southern commercial congress proposes amortization of war debts. Comm & Fin Chr 115:2208-9 N 18 '22
- Currency inflation and public debts, by E. R. A. Seligman; comments by A. W. Krech. Comm & Fin Chr 113:2470-2 D 10 '21
- Discussion on views of Secretary Hoover and Reginald McKenna respecting inter-allied debts. B. M. Anderson, Jr. Comm & Fin Chr 115:2209-10 N 18 '22
- England's unescapable debt. J. Oakwood. Annalist 19:677+ Je 26 '22
- Former secretary McAdoo refutes Lord Balfour's statement concerning allied debt guarantees sought by U. S. Comm & Fin Chr 116:1119-20 Mr 17 '23
- Funding the foreign debt. W. B. Swindell, Jr. Annalist 19:321 Mr 13 '22
- Great Britain's note to Allied powers on war debts. Comm & Fin Chr 115:591-2 Ag 5 '22
- Insistence of U.S. on payment of war debts by Allies unable to pay inconceivable. P. M. Warburg. Comm & Fin Chr 115:596-8 Ag 5 '22
- International debt problem. R. Estcourt. Annalist 20:295-6 S 25 '22
- International debts and indemnities can be paid. R. Estcourt. Annalist 20:177-8 Ag 21 '22
- Looking ahead—the bankers' responsibility. J. McHugh. Comm & Fin Chr 115:137-40 sec 2 O 21 '22
- Meeting in Washington of world war foreign debt commission. Comm & Fin Chr 115:1477 S 30 '22
- New interallied debt proposal. G. Reache. Annalist 21:759+ Je 4 '23
- No guarantee from Great Britain was asked by United States in case of debts of other allies. Comm & Fin Chr 115:921-2 Ag 26 '22
- No guarantees sought from Great Britain in case of debts of other allies. G. Harvey. Comm & Fin Chr 116:877-9 Mr 3 '23
- Our debt policy unchanged by Balfour note. R. Bean. Annalist 20:127 Ag 7 '22
- Our eleven billion dollars; Europe's debt to the United States. R. Mountsier. 149p Thomas Seltzer, New York '22
- Our unfunded foreign balance. J. H. Williams. Comm & Fin Chr 115:338-40 Ag 19 '22
- Plain talk from McKenna. S. Bent. Nation's Business 10:13-15 N '22
- Premier Poincaré's reply to Lord Balfour's note on war debts—conference proposed. Comm & Fin Chr 115:1148-9 S 9 '22
- Present standing of our holdings of foreign government obligations. Annalist 20:592+ D 4 '22
- Problem of floating debts. L. R. Gottlieb. Annalist 20:291-2 S 25 '22
- Proposed method for settlement of allied debts. O. H. Kahn. Comm & Fin Chr 115:2843-4 D 30 '22
- Reparations and international debts. R. McKenna. Comm & Fin Chr 115:99-103 sec 2 O 21 '22

- Repayment of European debts to U.S. H. Hoover. Comm & Fin Chr 115:1780-1 O 21 '22
- Sir George Paish discussing Allied debts warns against trade barriers. Comm & Fin Chr 115:1881-7 O 28 '22
- Taxation and repayment of national debts. R. Estcourt. Annalist 20:56-7 J1 17 '22
- Those difficult war debts. J. R. Delatfield. Nation's Business 10:34+ Ap '22
- Treatment of Allied debts. J. H. Barnes. Comm & Fin Chr 115:1883-4 O 28 '22
- United States should place part of its gold supply at the disposal of Europe. F. H. Gehle. Comm & Fin Chr 114:2299 My 27 '22
- War debts and reparations questions must be settled before Europe can emerge from difficulties. C. E. Mitchell. Comm & Fin Chr 115:2320-1 N 25 '22
- Washington's attitude toward war debts. Comm & Fin Chr 115:593 Ag 5 '22
- Way is cleared to settle war debts. R. Bean. Annalist 19:219-20 F 13 '22
- See also Bonds, Government; Municipal bonds

Austria

- Suggestion as to war debts conditions in Austria. O. H. Kahn. Comm & Fin Chr 115:812-13 Ag 19 '22

Canada

- Distribution of Canadian government, provincial and municipal indebtedness. Comm & Fin Chr 117:1189-90 S 15 '23

France

- French external debt double sum owed her. Comm & Fin Chr 117:404 J1 28 '23
- Growth of the French public debt. Annalist 22:294+ S 3 '23

Great Britain

- Acceptance by Great Britain of United States debt funding proposals. Comm & Fin Chr 116:461-7 F 3 '23
- Analysis of British indebtedness to the United States. Comm & Fin Chr 115:2321-2 N 25 '22
- Bonar Law says Great Britain cannot pay United States unless European countries pay her. Comm & Fin Chr 115:2632 D 16 '22
- Conferences between U.S. and British debt missions. Comm & Fin Chr 116:125-7, 235-7, 359-60 Ja 13-27 '23
- German reparations and need of credits to Germany by United States and Great Britain. F. C. Goodenough. Comm & Fin Chr 116:1839-41 Ap 28 '23
- House concurs in Senate amendments to British debt funding bill—text of bill. Comm & Fin Chr 116:769 F 24 '23
- Outline of main features of British debt funding bill. Comm & Fin Chr 116:1492 Ap 7 '23
- Payment schedule of the proposed British debt settlement. Annalist 21:243+ F 12 '23
- President Harding's message to Congress on funding of British debt. Comm & Fin Chr 116:561-3 F 10 '23
- Text of British debt funding agreement. Comm & Fin Chr 117:146-7, 267-9 J1 14-21 '23
- United States Senate passes British debt funding bill. Comm & Fin Chr 116:665-7 F 17 '23

Honduras

- Responsibilities of international financiers. H. Withers. Annalist 21:852 Je 25 '23

Mexico

- Agreement for adjustment of Mexican debt viewed as most important financial step by Mexican chamber. Comm & Fin Chr 115:17-18 J1 1 '22
- Call for deposit of Mexican bonds under plans for readjustment of debt. Comm & Fin Chr 117:148-9 J1 14 '23
- Conferences in New York on adjustment of Mexico's indebtedness. Comm & Fin Chr 114:2416 Je 3 '22
- Plans for readjustment of Mexican debt. Comm & Fin Chr 116:2335-6 My 26 '23

Debts, Public—Mexico—Continued

- Ratification in Mexico of agreement providing for adjustment of Mexican external debt. *Comm & Fin Chr* 115:1680-1 O 14 '22
- Text of agreement providing for adjustment of Mexican debt. *Comm & Fin Chr* 115:1153-6 S 9 '22

Russia

- Russia's foreign indebtedness. *M. Nadler. Annalist* 20:533-4 N 20 '22

United States

- Growing debts of the states and their significance. *E. C. Delafield. Annalist* 20:271-2 S 18 '22
- National survey of state debts and securities. 77p Bank of America, New York '22
- Public debt statements of United States, July 31, 1921. *Comm & Fin Chr* 113:2158-9 N 19 '21
- Reduction in public debt since peak of 1919. *A. W. Mellon. Comm & Fin Chr* 115:2107-8 N 11 '22
- Reduction of \$613,674,342 effected in gross debt of United States during year—surplus of receipts over expenditures of \$309,657,460. *Comm & Fin Chr* 117:28 J1 7 '23
- Refunding of war debt. *S. P. Gilbert, jr. Comm & Fin Chr* 114:2774-5 Je 24 '22
- State and city section of the Commercial & financial chronicle; New England, Middle and Central states. *Comm & Fin Chr* 114:3-176 sec 2 Je 24 '22; 116:3-187 sec 2 Je 30 '23
- State and city section of the Commercial & financial chronicle; Western, Pacific and Southern states and island possessions. *Comm & Fin Chr* 113:3-200 sec 2 D 31 '21; 115:1-220 sec 2 D 30 '22
- State indebtedness for public works. *Pub Works* 53:202-4 O '22

Decahydro-naphthalene. See **Decalin**

Decalin

- Zur theorie der *cis-trans*-isomerie des dekahydro-naphthalins. *E. Mohr. Deutsche Chem Gesell Ber* 55:230-1 Ja '22

Decanediol. See **Sebacaldehyde**

Decarburisation. See **Steel—Decarburisation**

Decatur, Illinois**Water supply**

- Decatur's new water works dam. *E. E. Pier-son. il Pub Works* 52:336-7 My 13 '22
- Water-impounding project of vast proportions. *il Pop Mech* 38:58-9 J1 '22

Decenoic acid

- δ , ι -decylensäure, eine bisher unbekannte säure aus der butter. *A. Grün und T. Wirth. Deutsche Chem Gesell Ber* 55:2197-2205 J1 '22; Abstract. *Chem Soc J* 122 pt 1: 806 S '22
- Synthese der δ , ι -decylensäure. *A. Grün und T. Wirth. Deutsche Chem Gesell Ber* 55:2206-18 J1 '22; Abstract. *Chem Soc J* 122 pt 1: 804-5 S '22

Decimal classification. See **Classification, Decimal**

Decimal system

- When selling can be simplified by use of a standard unit. *C. W. Dipman. Ptr Ink* 123: 93-4 Ap 12 '23

Decimals

- How many decimal places? *Power* 57:152-3 Ja 23 '23

See also **Metric system**

Deciphering of charred records. See **Charred records, Deciphering of**

Decolorization

- Adsorption of color from sugar solutions by chars. *M. T. Sanders. Ind & Eng Chem* 15:784-6 Ag '23
- Color and ash absorption by boneblack and decolorizing carbons. *W. D. Horne. J Ind & Eng Chem* 14:1134-6 D '22
- Decolorizing action of bone-black. *C. H. Hall, jr. J Ind & Eng Chem* 14:18 Ja '22
- Decolorizing action of bone black. *P. M. Horton. Ind & Eng Chem* 15:519-20 My '23
- Evaluation of decolorizing carbons. *M. T. Sanders. Chem & Met Eng* 28:541-2 Mr 21 '23

Potash from kelp; the applicability of kelpchar as a bleaching and purifying agent. *J. W. Turrentine and H. G. Tanner. J Ind & Eng Chem* 14:19-24 Ja '22

Potash from kelp; the decolorization action of adsorptive charcoals. *H. G. Tanner. J Ind & Eng Chem* 14:441-3 My '22

Preparation and evaluation of a decolorizing char from bagasse. *C. E. Coates. J Ind & Eng Chem* 14:295-8 Ap '22

See also **Bleaching**

Decomposition

Energy of activation in heterogeneous gas reactions with relation to the thermal decomposition of formic acid vapour. *C. N. Hinshelwood and B. Topley. diag Chem Soc J* 123:1014-25 My '23

Spontaneous decomposition of ammonium chlorate. *F. Fairbrother. Am Chem Soc J* 44:2419-22 N '22

Spontaneous decomposition of unsaturated aliphatic iodochlorides. *L. B. Howell. Am Chem Soc J* 45:182-7 Ja '23

Decoration and ornament

Decoration in regard to typography. *A. E. Sahlin. Inland Ptr* 68:479-80 Ja '22

Historical and modern decorative processes. *F. H. Rhead. il Am Cer Soc J* 6:356-97 F '23

See also **Design, Decorative; Drapery; Enamel and enameling; Mosaics; Mural painting and decoration; Pottery—Design; Textile design**

Decoration and ornament, Architectural

Architectural sculpture by Lee Lawrie. *L. V. Solon. il Arch Rec* 54:388-90 O '23

Architecture and decorative sculpture of the late and late renaissance in Italy. *C. Ricci. 260p Brentano's, New York* '23

Clover Gardens. *il Am Arch* 122:191-4 Ag 30 '22

Hospital finish and decoration. *W. B. Stratton. il diags Arch Forum* 37:283-5 D '22

Limestone in building construction. *H. S. Brightly. il Am Arch* 124:47-55 J1 18 '23

Pershing Square building; its technique of materials. *F. S. Laurence. il Am Arch* 124: 319-24 O 10 '23

See also **Architecture—Details; Color in architecture; Concrete, Ornamental; Design, Decorative; Friezes; Graffiti decoration; House decoration; Ironwork, Architectural; Metal work, Architectural; Mural painting and decoration; Stained glass; Stucco; Terra cotta; Trellis work; Woodwork**

Decorative design. See **Design, Decorative**

Deere and company

What simplification saves us. *E. E. Parsonage. System* 40:709-12+ D '21

Defective and delinquent classes

See **Blind; Deaf and dumb; Disabled**

Defenses. See **Fortification**

Defiberization of wood. See **Wood, Defiberization of**

Definitions

Making of definitions. *Eng N* 89:91 J1 20 '22

Deflection (structures). See **Flexure**

Deformations (mechanics)

American malleable cast iron. *H. A. Schwartz. il Iron Tr R* 70:335-41, 410-11 F 2-9 '22

Avoiding deformation during machining. *A. Whitehead. diags Engineer* 134:98-9 J1 23 '22

Deformation of material by impact test. *Chem & Met Eng* 27:752-3 O 11 '22

Diminution of lag at Ar¹ through deformation. *J. H. Whiteley. il diag Engineering* 114:416 S 29 '22; Same. *Iron & Steel Inst J* 106:89-93; Discussion. 94 no 2 '22

Distortion produced in casehardening. *A. A. Blue. Am Mach* 56:915-16 Je 22 '22

Loi des déformations permanentes à la traction et à la compression. *Malaval. il diags Génie Civil* 82:303-5 Mr 31 '23

Die nutzarbeit des walzvorgangs. *G. Liss. Stahl & Eisen* 42:689-97, 735-41, 768-72, 806-16. 891-6 My 4-25, Je 8 '22

Shape assumed by a deformable body immersed in a moving fluid. *E. Karrer. il diags J Fr Inst* 192:737-56 D '21

Deformations (mechanics)—Continued

- Stresses and deformation in flat circular cylinder heads. G. D. Fish. charts diag. Mech Eng 44:165-9; Discussion. 170 Mr '22
- Study of elastic viscous deformation. P. G. Nutting. il diag. Am Soc T M Pro 21:1162-8; Discussion. 1169-71 '21

See also Extensometer; Flexure; Strains and stresses; Torsion

Degrees, Academic

- Doctorates conferred in the sciences by American universities in 1921. C. J. West and C. Hull. (Reprint & Circ. Ser. 26) 20p '22 20c National Research Council, 1701 Massachusetts av, Washington, D.C.

Degumming (textiles)

- Chemical treatment of ramie. W. C. Holmes. Color Tr J 12:213-17 My '23
- Degumming of textile fibers; patent. diag. Color Tr J 12:271-2 Je '23
- New method of degumming waste silk with oropon. Color Tr J 11:267 D '22
- New process for the degumming of silk. Color Tr J 12:182 Ap '23
- Removing sizing compounds from textile fabrics with diastase preparations. Color Tr J 11:257-8 D '22

Dehydration

- Dehydrating coal tar. diag. Chem & Met Eng 28:779 Ap 30 '23
- Dehydrating petroleum emulsions; patent. Chem & Met Eng 26:799 Ap 26 '22
- Dehydration of tar in the laboratory. W. J. Huff. J Ind & Eng Chem 13:1123 D '21
- Determination of solids (or moisture) by means of a gauze dish. A. Seidenberg. Ind & Eng Chem 15:737-41 Jl '23
- Electrical dehydration of cut oil efficient and inexpensive. F. D. Mahone. Nat Pet N 15: 83+ O 31 '23
- Maintaining dielectric strength of transformer oil. J. A. Miller, jr. il Elec Ry J 61:471-3 Mr 17 '23; Same cond. Elec W 81:698-9 Mr 24 '23
- Mechanism of the dehydration of crystalline aluminum hydroxide and of the adsorption of water by the resulting alumina. L. H. Milligan. J Phys Chem 26:247-55 Mr '22
- Selective activation of alumina for decarboxylation or for dehydration. H. Adkins. Am Chem Soc J 44:2175-86 O '22

See also Drying (food)

Dehydrogenation

- Die dehydrierung von p-kresol. R. Pummerer, D. Melamed and H. Puttfarcken. Deutsche Chem Gesell Ber 55:3116-32 O '22; Abstract. Chem Soc J 122 pt 1:1161-3 D '22

Über benzo-polymethylen-verbindungen; dehydrierungsversuche bei tetralin-, hydrinden- und tetrahydro-acenaphthen-(tetraphthen-)derivaten. J. v. Braun, E. Hahn and J. Seemann. Deutsche Chem Gesell Ber 55: 1687-1700 Je '22; Abstract. Chem Soc J 122 pt 1:728-30 Ag '22

Über die beeinflussung der wirksamkeit von katalysatoren; oxydative katalytische dehydrierung von alkoholen. K. W. Rosenmund and F. Zetzsche. Deutsche Chem Gesell Ber 54:2033-7 S '21

Dehydrothiolouline

- Preparation of pure dehydrothiolouline. R. F. Hunter. Soc Chem Ind J 42:302 Jl 13 '23
- Researches on thiazoles; 2-para-tolyl-benzothiazole, dehydrothio-para-toluidine, and some related compounds. M. T. Bogert and M. Meyer. Am Chem Soc J 44:1568-72 Jl '22

De-inking of paper. See Waste paper**De Lamater, Cornelius H.**

Engineering and civic bodies pay honor to Ericsson and De Lamater on anniversary of Monitor-Merrimac battle—four bronze tablets unveiled in New York. il Am Mach 56:329b Mr 9 '22

Delano and Aldrich, Architects

Selection from the works of Delano & Aldrich. W. L. Bottomley. il Arch Rec 54:3-71 Jl '23

De Laval separator company

Finding the prospect in a widely scattered field. R. Cole. Ptr Ink 117:17-20 N 10 '21

Delaware

See Motor bus lines—Delaware

Delaware & Hudson railroad

- Celebration of the centennial of the Delaware & Hudson company. Ry Age 74:1039-46 Ap 28 '23; Ry R 72:719-25 Ap 28 '23
- Delaware & Hudson earns 11.62 per cent on stock in 1921. Ry Age 72:1123-4 My 13 '22
- Delaware & Hudson will maintain dividend. Ry Age 74:239-40 Ja 20 '23
- 92d annual report for the year ended December 31, 1921. Comm & Fin Chr 114:1775-8 Ap 22 '22; Excerpts. Ry Age 72:1150-2 My 13 '22
- 93d annual report—for the year ended December 31, 1922. Comm & Fin Chr 116:1774-8 Ap 21 '23
- Tentative valuations of the G.N. and the D. & H. Ry Age 74:960 Ap 14 '23

Bibliography

List of references on the Delaware and Hudson company. 45p Lib. bur. of railway economics, Homer bldg., 13th & F St., N.W., Washington, D.C. '23 (typew)

History

Early history of the Delaware & Hudson co. il maps Ry Age 71:1033-8 Ap 28 '23; Coal Age 23:703-8 My 3 '23; Eng N 90:840-1 My 10 '23

Delaware, Lackawanna and Western railroad

- Economic reasons for building the Clarks Summit-Hallstead cutoff. G. J. Ray. il W Soc E J 27:65-83 Mr '22; Same cond. Ry Age 71:1243-50 D 24 '21; Excerpts. Eng & Contr 57:61-4, 90 Ja 18-25 '22
- Lackawanna success the result of supervision. C. W. Foss and J. G. Lyne. il map Ry Age 71:1027-32, 1097-1102 N 26-D 3 '21
- Pullman and caboose radio; the pioneer work of the Lackawanna railroad. S. G. Roberts. il Sci Am 127:12-13 Jl '22
- Train operation improved by grade separation. il diag. plans Ry Age 75:420-5 S 8 '23

Delaware river

Delaware river sewage treatment zones fixed by facing states. Eng N 89:243 Ag 10 '22

Delaware river bridge. See Philadelphia, Pennsylvania—Bridges**Delivery of goods**

- Cost control of delivery operations. H. B. Weissman. Administration 3:408-16 Ap '22
- Department store men discuss use of truck in delivery service. D; Beecroft. Automotive Ind 48:682-3 Mr 22 '23
- How our store holds distant customers. W. H. Allen. il map System 41:418-21+ Ap '22
- Making equipment more effective. System 44: 58-9 Jl '23
- Making extra dividends possible with trucks. C. F. Wark. il System 44:603-5+ N '23
- Motorcycle delivery truck. J. R. Koontz. il Pop Mech 37:957 Je '22
- Organising deliveries; how motor transport increases the efficiency of a London stores parcel distribution service. il Ind Management (Lond) 9:342-5 My 31 '23
- Retailer and the engineer. H. B. Wess. Soc Auto Eng J 12:465-6 My '23
- Survey of delivery operations. H. B. Wess. Administration 5:17-26, 147-55, 275-83, 407-16, 549-59, 685-94 Ja-Je '23
- See also C.O.D. delivery; Freight handling—Store door delivery; Motor trucks—Management; Shipment of goods

De Long, Carl Ray

Chief, chemical division, Department of commerce. S. D. Kirkpatrick. por Chem & Met Eng 26:1210 Je 23 '22

Delprat, G. D., 1856-

Metallurgists of note. por Eng & Min J 114: 148 Jl 22 '22

Demand meters. See Electric meters**Demolition. See Warships—Demolition; Wrecking****Demonstration work. See Salesmanship—Demonstration work**

Demurrage

Suggestion for stopping demurrage held not authority to deliver shipment. W. Gustin. Chem & Met Eng 26:989 My 24 '22

Dendro-chemistry. See Forest products**Denison university, Granville, Ohio**

Denison university, Granville, Ohio. M. Price. il diags plans Arch Rec 54:299-320 O '23

Denmark**Commerce**

See also Machinery industry and trade—Denmark

Economic conditions

Conditions in Denmark. C. Larsen. Am Mach 58:191 F 1 '23

Economic development in Denmark before and during the world war. H. L. Westergaard. 106p Oxford '22

See also Labor and laboring classes—Denmark; Unemployment—Denmark; Wages—Denmark

Population

Denmark's acute problem. Annalist 20:563-4 N 27 '22

Dennison manufacturing company

Articles of association and by-laws of the Dennison manufacturing company. Administration 3:377-9 Mr '22

Dennison's continuing preparation for changed business conditions. J. True. Ptr Ink 124:57-8+ Ag 30 '23

Dennison's giant business built on unconsidered trifles. R. W. Johnson. il Ptr Ink M 4:28-30+ Ap '22

Outstanding features of Dennison management. H. Feldman. il charts Ind Management 64:67-73, 145-50, 225-30 Ag-O '22; Excerpt (How Dennison determines what part of line shall be pushed). Ptr Ink 121:149-52 N 30; 154+ D 14 '22

Production planning at the Dennison plant. il Factory 28:159-62+ F '22

Densimeter

Kek densimeter for steam boilers. il Engineering 113:531 Ap 28 '22

Density. See Specific gravity**Dental cement.** See Cement, Dental**Dental ceramics**

See also Cement, Dental

Dental rubber. See Rubber, Dental**Dental service, Industrial**

Establishment of a dental clinic. L. E. Hastings. J Ind Hygiene 3:376-7 Ap '22

What a dental clinic can do in your factory. L. G. Grace. Factory 28:405-7 Ap '22

Dentifrices**Advertising**

Part national advertising plays in maintaining public health. R. E. Spline. Ptr Ink 123:33-4+ Ap 12 '23

Pepsodent's success won in badly crowded field. Ptr Ink 123:89-92 Je 7 '23

Dentistry

Artificial lighting in dentistry. P. Russell. Illum Eng Soc 17:29-34; Discussion. 35-43 Ja '22

Chemistry and preventive dentistry. C. C. Vogt. Sci Am 127:250 O '22

See also Dental service, Industrial; Rubber, Dental

Dentists**Advertising**

Another profession's ethics yields; dentists of Ontario. Ptr Ink 124:157-8 S 6 '23

Dentists' offices**Lighting**

Artificial lighting in dentistry. P. Russell. Illum Eng Soc 17:29-34; Discussion. 35-43 Ja '22

Denver, Colorado**Architecture**

Denver civic centre. T. M. Fisher. il plan Arch Rec 53:189-201 Mr '23

Public buildings

United States post office and court house at Denver, Colorado. E. Swartwout. il diag plan Arch Rec 54:361-75 O '23

Rapid transit

Denver tramway valued at \$31,330,568. Elec Ry J 61:953-4 Je 9 '23

Water supply

Comprehensive program for Denver waterworks system. Eng N 89:360-1 Ag 31 '22

Water problem of the city of Denver. W. W. DeBernard. Eng N 89:531 S 28 '22

Water supply of cities; general and fundamental principles. D. H. Maury. diag plan W Soc E J 28:111-15 Ap '23; Same, without map. Munic Eng 65:9-11 Jl '23

Denver & Interurban railroad

Getting the tourist business. C. W. Richards. il Aera 11:8-12 Ag '22

Denver and Rio Grande Western railroad

Guidebook of the western United States. M. R. Campbell. il diags maps U S Geol S Bul 707:1-266 '22

Needs of the Denver & Rio Grande Western. Ry Age 75:435-6 S 8 '23

Reorganization plan. Comm & Fin Chr 116:2881-3 Je 23 '23

T. H. Beacom made receiver for D. & R. G. W. Ry Age 75:251-2 Ag 11 '23

Deodorization

Abatement of industrial stenches by means of activated carbon. A. B. Ray and N. K. Chaney. il diag Chem & Met Eng 28:1114-16 Je 25 '23

Deoxidizers

Calcium silicide as a deoxidizer. Chem & Met Eng 27:311 Ag 16 '22

Deoxyindigotin

Über desoxy-indigo. W. Borsche and R. Meyer. Deutsche Chem Gesell Ber 54:2854-6 N '21

Department managers

Helping new department heads to avoid costly mistakes. E. H. Bickley. Factory 30:548-9 My '23

How shall manufacturers train department managers for their distributors? Ptr Ink 117:33-4+ N 24 '21

Selling your department to the others. B. E. Hutchinson. Management Eng 3:89-90 Ag '22

Department stores

Department store at Ware Shoals mfg. co. il Textile World 62:561-2 Jl 29 '22

Department store tradition in New Orleans; D. H. Holmes & co. celebrate eightieth anniversary. R. Spillane. Ptr Ink 119:117-18 Ap 13 '22

Department stores gain in net sales for 1921. Ptr Ink 120:44+ S 21 '22

Estimated volume of business of department stores. Ptr Ink 120:85-6 O 12 '22

Getting the advertised product into the store's right department. M. Hastings, jr. Ptr Ink 122:10+ F 1 '23

Increased volume: 48% last year. B. H. Namm. il System 41:532-5+ My '22

New addition of L. Bamberger & co.'s store. Newark, N.J. Arch & Bldg 54:112-13, pl 205-7 D '22

Sphinx club devotes evening to department stores. Ptr Ink 118:44 Mr 23 '22

Taking the shop to the shopper. F. C. Kelly. Nation's Business 11:40+ Ja '23

What a manufacturer can do to push department store sales. E. H. Plummer. Ptr Ink 121:173-4+ N 16 '22

See also Charge account (retail trade); Deposit accounts; Mail order business; Turnover; also Filene cooperative association; Lord and Taylor, New York; Macy, R. H., & company, New York

Advertising

Department store has a nationally advertised goods exposition. Ptr Ink 122:36 Ja 4 '23
R. H. Macy & company prepare a system of modern apparel budgets. Ptr Ink 123:140 Je 7 '23

Department stores—Advertising—Continued

- R. H. Macy & co. sponsor a new kind of department-store copy. J: A. Murphy. *Ptr Ink* 124:109-10+ J1 5 '23
Should department store advertising rates be increased? *Ptr Ink* 125:41-2+ O 11 '23
Staking out the advertising appropriation; a department store system that is adaptable to other fields. *Ptr Ink* 119:41-2+ Ap 27 '22

Employees

- Results of limited mercantile industrial work. D. C. Parmenter. *J Ind Hygiene* 5:81-6 J1 '23
Rush seasons don't find us with green help. T. G. Goodwin. *il System* 42:561-2+ N '22

Heating and ventilation

- Air distribution in large buildings. C: L. Hubbard. plans *Dom Eng* 98:113-15 Ja 21 '22
Study in department store ventilation. J. M. Rohb. diags plans *Heat & Ven* 19:40-3 O '22; Discussion. 19:46 N '22

Laboratories

- Department store laboratory. E. B. Millard. *J Ind & Eng Chem* 14:785-6 S '22

Management

- Advertising builds \$750,000 business in town of 1,250. F. C. Doig. *Ptr Ink* M 6:116+ My '23
Business sleuth. W: J. Manton. *Ptr Ink* M 4:102+ D '21
Costs 2% lower, 82% more sales and only 26% more employees. P. S. Straus. *System* 42:398-400+ O '22
Educational director in the retail store. B. E. Kennard. 2d ed. 219p Ronald press '23
Expense budgets for department stores. J. P. Friedman. *Administration* 4:421-8 O '22
Methods that sell \$2,000,000 a year in a town of 3,300. H. T. Holman. *il System* 42:543-6+ N '22
Policy that simplifies store management. A. E. Simmons. *il System* 43:769-72+ Je '23
Province of the controller. J: B. Guernsey. *Administration* 5:681-4 Je '23
"That isn't in this department". A. E. Simmons. *System* 44:464+ O '23
What challenging each method saves for a business. W. H. Leffingwell. *il System* 42:34-6+ J1 '22
Why we know what the public wants. L: E. Kirstein. *il System* 42:155-7+ Ag '22

Safety devices and measures

- Safety in a department store. *Nat Safety N* 8:25 S '23

Depletion

- Accounting for depletion of minerals. M. Bailey. *J Account* 33:187-95 Mr '22
How should depletion and depreciation be charged? T. O. McGrath. *Eng & Min J* 113:993 Je 10 '22
How should depletion and depreciation be charged? J. H. Vivian. *Eng & Min J* 114:444-5 S 9 '22

Deposit accounts

- This plan makes steady customers of shoppers; Macy and co. deposit account department. *il System* 41:154-5 F '22

Depreciation

- Amortization and depreciation in public service corporations. G: H. Johnson. *J Account* 36:7-14 J1 '23
Charging obsolescence into cost. D. M. Worthington. *Brick & Clay Rec* 59:810-11 N 29 '21
Cost vs. value in depreciation accounting for public utilities. H. C. Hasbrouck. *J Account* 36:276-80 O '23
Depreciation. G. C. Mathews. *N E L A Bul* 9:303-5 My '22
Depreciation; a definition. C: Hansel. *Eng N* 91:181 Ag 2 '23
Depreciation and retirement of property. W: H. Bell. *J Account* 33:253-8 Ap '22

Depreciation and wasting assets. P. D. Leake. 4th ed. 250p Pitman '23

Depreciation as factor in fixing water rates. *Eng & Contr (W W)* 59:820-2 Ap 11 '23

Depreciation—its treatment in production. *Sanitary & Heat Eng* 96:371-4, 401-2+ D 16, 30 '21

Depreciation of a lathe. *Am Mach* 58:468, 576, 667, 694, 740, 806; 59:21 Mr 29, Ap 19, My 3-17, 31, J1 5 '23

Depreciation of plant and machinery. H. G. Clayton. *Elec R (Lond)* 92:726-7 My 11 '23

Depreciation of public utility properties and its relation to fair value and changes in the level of prices. H: E. Riggs. 211p McGraw-Hill '22

Depreciation; principles and applications. E. A. Saliers. 590p Ronald press '22

Depreciation rates in pulp and paper industry. E. S. Catlin. *Paper Tr J* 76:59-60 Mr 22 '23

Depreciation—replacement. *Ptg Art* 39:172-3 Ap '22

Estimating depreciation. *Eng & Contr (Ry)* 58:2-3 O 18 '22

Evolution of depreciation accounting. L. R. Nash. *N E L A Bul* 10:595-601 O '23

Explanation of depreciation. *Elec W* 82:253 Ag 4 '23

Fixed property accounting. A. B. Manning. *Administration* 3:444-52 Ap '22

Handling depreciations. C. B. Gansen. *Factory* 27:786+ D '21

Industrial cost accounting for executives. P. M. Atkins. *Am Mach* 58:765-8 My 24 '23

Interest and depreciation. *Power* 58:392 S 4 '23

Life of industrial plant and equipment. E. A. Saliers. *Management Eng* 4:69-72 Ja '23

Necessity of reserving against obsolescence and inadequacy. E. F. DuBrul. *Administration* 3:669-71 Je '22

Obsolescence in buildings. *Am Inst Arch J* 10:105-6 Ap '22

Plant depreciation. H. S. Reid. *Am Mach* 59:471 S 27 '23

Production method of charging depreciation. E. A. Saliers. *Administration* 3:583-6 My '22

Prospective problems from present depreciation methods. E. E. Bankson. *Eng & Contr* 56:548-50 D 14 '21

Recognition of an undepreciated rate base in some recent decisions. W. H. Blood, jr. *Eng & Contr* 57:232-5 Mr 8 '22

Report on depreciation and obsolescence. *Refriger W* 57:29-34 O '22

Should obsolescence be capitalized? E. A. Saliers. *J Account* 33:12-21 Ja '22

Sound way to charge depreciation. M. G. Farrell and J. Heywood. *System* 42:148-50+ Ag '22

Studies of depreciation and obsolescence offer a promising field for chemical trade associations. *Chem & Met Eng* 26:1191 Je 21 '22

What is investment? C: W. McKay. *Ind Management* 63:282-6 My '22

When replacements effect savings. *Power Pl Eng* 27:489-90 My 1 '23

See also Depletion; Valuation

Deposides

Synthesis of the depsides and the tannins. H. Hepworth. *Soc Chem Ind J* 42:41-3 F 2 '23

De Ropp, Alfred, 1858-

Metallurgist. T. A. Rickard. *por Eng & Min J* 115:216, 227-31 F 3 '23

Desaturators, Steam. See Steam desaturators

Deschutes river, Oregon

Report to the Federal power commission on uses of Deschutes river. 90p U.S. Federal power commission, Washington '22

Design

Dynamic symmetry. A. A. Southwick. *il diags Am Arch* 121:54-7 Ja 18 '22

Greek proportions theoretically and otherwise. E. Swartwout. *il Am Arch* 120:379-83 N 23 '21

Design—Continued

Museum, a factory annex. R: F. Bach. il Nation's Business 10:22-4 Ag '22

See also Airplanes—Design; Architecture, Domestic—Designs and plans; Automobiles—Design; Bridge design; Concrete construction—Design; Locomotives—Design; Machine tools—Design; Machinery—Design; Pattern making; Pottery—Design; Printing—Design; Structures, Theory of; Textile design

Design, Decorative

Alvin silver company cashes in on ephemeral fashions; links up with King Tut-ankh-Amen vogue. C. B. Larrabee. Ptr Ink 123:53-4+ My 21 '23

Decorative designer, not long out of his teens. S. H. Horgan. Inland Ptr 68:640, pl 640a-h F '22

Decorative work of Clarence P. Hornung. Ptg Art 41:144a-h Ap '23

Development of wall-paper. il Am Arch 122:43-9 Jl 19 '22

Dollars and cents—and design. C. B. Larrabee. il Ptr Ink M 4:24-6 F '22

Great ornamentalists. F. T. Singleton. Ptg Art 38:161, 273, 365-6, 469-70, 561 O '21-F '22

Heraldry and floral forms as used in decoration. H. Cole. 243p Dutton '22

Jean Fillemont and his work. W. M. Ivins, jr. il Arch & Bldg 54:101-2 N '22

On the trail of Pompeian ornament. F. T. Singleton. Ptg Art 38:551-3; 39:68-71, 163-6, 261-4, 360-2, 453-5 F-Jl '22

Romance of design and ornament as applied to advertising. R. Highet. il Ptg Art 39:501-7; 40:25-33, 139-46, 235-41, 353-9, 457-63, 558-65; 41:49-55, 145-51, 242-50, 361-8, 463-8, 573-8; 42:51-7, 137-43 Ag '22-O '23

When customers suggest new designs for the product. Ptr Ink 123:69-70 Ap 12 '23

See also American ceramic society—Art division; Decoration and ornament; Pottery—Design; Textile design

Desizing (textiles)

Removing sizing compounds from textile fabrics with diastase preparations. Color Tr J 11:257-8 D '22

Desks

I organize my work this way. F. C. Letts. il System 44:28 Jl '23

My work tools. B. F. Affleck. il System 43:597 My '23

What I keep on my desk. J: T. Dorrance. il System 44:580 N '23

Work-benches. il System 42:412-13 O '22

Des Moines, Iowa**Rapid transit**

Des Moines grant invalid. Elec Ry J 60:24 Jl 1 '22

Franchise valid. Elec Ry J 60:986 D 23 '22

Destroyers. See Torpedo boat destroyers**Detectives**

Practical criminology at work; adventures of the scientific modern detective. N. G. Meade. il diags Sci Am 129:232-3 O '23

Detectors, Submarine. See Submarine detectors**Detergents. See Cleaning; Cleaning preparations; Soap****Determinants**

Elementary determinants for electrical engineers. H. P. Few. 98p Van Nostrand '22

Detinning. See Tin metallurgy**Detonation in engines. See Gas and oil engines—Fuel****Detonators**

Detonators. C: S. Hurter. Eng & Min J 113:322-3 F 25 '22

Testing

Lead plate test as applied to commercial detonators. B. Grotta. il diags Chem & Met Eng 26:1126-32 Je 14 '22

Modifications of the sand test for detonators. W: M. Dehn. diag Coal Age 27:784-7 O 18 '22

Detonators, Electric

Measures for prevention of ignition of gas by electric detonators. Coal Age 22:534 O 5 '22

Detours. See Roads—Detours**Detroit, Michigan**

Detroit facing a serious fuel situation. Iron Age 110:349-50 Ag 10 '22

Reclaiming land at Belle Isle. W. K. Crosson. il Pub Works 52:281-2 Ap 22 '22

Bridges

Belle Isle bridge steelwork placed by floating. diags Eng N 89:149 Jl 27 '22

Bridging the Detroit river. diags Sci Am 126:88, 89 F '22

Huge international bridge across the Detroit river. il Pop Mech 37:523 Ap '22

Public library

Italian renaissance in Detroit. W. F. Paris. il Am Arch 123:15-19+ Ja 3 '23

Public schools

Recent developments in the Detroit school system. il plans Arch Forum 37:63-4 Ag '22

Roosevelt group. il plans Am Arch 123:401-4h My 9 '23

Railroads

Pennsylvania R.R. completes its entrance into Detroit, Mich. il maps Ry R 73:561-8 O 20 '23

Pennsylvania R.R. will extend lines to Detroit. maps Eng N 88:1082-3 Je 29 '22

Pennsylvania to build into Detroit. Ry R 70:793-5 Je 3 '22

Pennsylvania to complete entrance into Detroit. map Ry Age 72:1717-18 Je 24 '22

Rapid transit

All Detroit lines now municipally owned. Elec Ry J 59:838-41 My 20 '22

Bulletins on the Detroit municipal railway; abstracts and discussion. W. Jackson. Elec Ry J 61:371-2, 508-12, 564, 647-9 Mr 3, 24-31, Ap 14 '23

Creditable progress made in Detroit. Elec Ry J 62:114-15 Jl 21 '23

Detroit electors favor purchase plan. Elec Ry J 59:687 Ap 22 '22

Detroit experiments with flat rate for eight-hour day on its municipal railroad. Elec Ry J 60:830 N 18 '22

Detroit mayor claims profit in first year's operation. Elec Ry J 61:863 My 19 '23

Detroit street railway moves administration center to new buildings. il diags plans Elec Ry J 60:901-4 D 9 '22

Detroit traffic graph made directly on street. il Elec Ry J 61:638 Ap 14 '23

Detroit trial board works well. Elec Ry J 61:881-2 My 26 '23

Detroit's future dips. map Elec Ry J 61:489 Mr 17 '23

Detroit's street railways. J: W. Colton. il Aera 11:1561-74 Jl '23

First year of municipal ownership of Detroit street railway system. L. D. Upson. Munic Eng 65:148-50 O '23

Hauling Ford workers. map Elec Ry J 62:399-402 S 15 '23

Mayor offers plan for financing Detroit street railways. il Elec Ry J 62:34 Jl 7 '23

Men who are running municipal railway. Elec Ry J 59:916 Je 3 '22

Municipal officials pleased at Detroit showing. Elec Ry J 60:180 Jl 29 '22

Net income of Detroit municipal continues to increase. Elec Ry J 60:528 S 30 '22

\$938,467 earned by Detroit Municipal. Elec Ry J 62:797-8 N 3 '23

Rapid transit body complete. Elec Ry J 61:139 Ja 20 '23

Three proposals for Detroit voters. Elec Ry J 60:611 O 7 '22

Sewerage

Detroit's intensive sewer construction program. J. R. Hendry. il plans Eng N 89:745-8 N 2 '22

Detroit, Michigan—Continued**Water supply**

Detroit 320-m.g.d. filtration plant is world's largest. T. A. Leisen. *il diags plan Eng N* 90:860-5 *My* 17 '23

Mechanical aids for distribution work in Detroit, Michigan. W. M. Mitchell. *Am Water Works Assn J* 9:172-85 *Mr* '22

Waste of water in Detroit. G. H. Fenkell. *Am Water Works Assn J* 8:583-602 *N* '21; Same cond. *Can Eng* 42:261-5 *F* 28 '22; Discussion. W. A. Jones. *Am Water Works Assn J* 8:672-84 *N* '21

Detroit air board

Strong air board is organized in Detroit. C. G. Edgar. *Aviation* 14:666-7 *Je* 18 '23

Detroit board of commerce**Library**

Commercial library of the Detroit board of commerce. R. W. Adams. *il Special Lib* 14:23-4 *F* '23

Detroit Edison company

See also Electric plants (central stations) —Marysville, Michigan

Detroit river

Water supply in its relation to sewage disposal. J. C. Keith. *Can Eng* 42:608-9 *Je* 13 '22

Detroit, Toledo & Ironton railroad

Case of the Detroit, Toledo & Ironton. H. F. Lane. *Ry Age* 71:969-71 *N* 19 '21

Ford is right—and wrong. W. D. Hines. *Nation's Business* 9:14-15 *D* '21; Same. *Ry Age* 71:1047-8 *N* 26 '21

Ford plan of employee participation. *Ry R* 73:622-3 *O* 27 '23

Ford plan of employees' participation; editorial. *Ry R* 73:619-20 *O* 27 '23

Ford's employee investment plan approved by I.C.C. *Ry Age* 75:725-6 *O* 20 '23

Ford's November net approaches vanishing point. *Ry Age* 72:167-8 *Ja* 14 '22

Ford's railroad must report statistics of employees. *Ry Age* 71:932 *N* 12 '21

Ford's railroad reports in red. *Ry Age* 72:858-9 *Ap* 8 '22

If I ran the railroads. H. Ford. *Nation's Business* 9:7-9 *N* '21; Excerpts. *Eng N* 87:698 *O* 27 '21; *Ry Age* 71:939-40 *N* 12 '21; *Ry Mech Eng* 95:689-90 *N* '21; Discussion. *Ry Age* 71:1023-4 *N* 26 '21

Mr Ford's methods of operating a railroad. C. C. Henkel. *Ry Age* 71:921 *N* 12 '21

More about Ford's railroad operating methods. H. F. Lane. *Ry Age* 71:1137-8 *D* 10 '21

Net income of Ford's railroad steadily declines. *Ry Age* 71:1238-9 *D* 24 '21

Detroit United railway

Personnel reorganized. *Elec Ry J* 59:918 *Je* 3 '22

22d annual report—year ending Dec. 31, 1922. *Comm & Fin Chr* 116:610-11 *F* 10 '23

De Vains process. See Paper making**De Vinne, Theodore Low, 1828-1914**

Golden age of authors—and of printing. W. G. Bigger. *Inland Ptr* 69:53-4 *Ap* '22

How Theodore Low De Vinne became America's most famous printer. H. L. Bullen. *por Inland Ptr* 69:504, 515-20 *Jl* '22

De Vinne press

On the closing of a famous press. *Inland Ptr* 70:674 *F* '23

Passing of a famous printing establishment. *Ptg Art* 40:396 *D* '22

Devlin, Thomas, 1838-1922

Sketch. *por Iron Age* 109:1843 *Je* 29 '22; *Foundry* 50:570 *Jl* 15 '22

Dew points

Direct determination of dew points of gas-oil-air mixtures. W. A. Gruse. *diags Ind & Eng Chem* 15:796-9 *Ag* '23

Dextrine

Manufacturing dextrin. *Chem Age* 30:469 *O* '22

Dextrose

Constitution of polysaccharides; the relationship of l-glucosan to d-glucose and to cellulose. J. C. Irvine and J. W. H. Oldham. *Chem Soc J* 119:1744-59 *N* '21

Constitution of polysaccharides; the yield of glucose from cotton cellulose. J. C. Irvine and E. L. Hirst. *Chem Soc J* 121:1585-91 *Ag* '22

Catalysis of the mutarotation of dextrose by metals. W. E. Garner and D. N. Jackman. *Chem Soc J* 119:1936-48 *D* '21

Influence of glucose on the dialysis of sucrose through a parchment membrane; the possibility of the separation of glucose from sucrose by dialysis. L. A. Congdon and H. R. Ingersoll. *Am Chem Soc J* 43:2588-97 *D* '21

Manufacture of chemically pure dextrose. C. E. G. Porst and N. V. S. Mumford. *J Ind & Eng Chem* 14:217-18 *Mr* '22

Manufacture of corn sugar. J. K. Dale. *il Chem Age* 31:295-6 *Jl* '23

Solubility of dextrose in water. R. F. Jackson and C. G. Silsbee. *diags U S Bur Stand Sci Pa* 437:715-24 '22

See also Glucose

Diabetes

Attack upon diabetes. *Sci Am* 129:251 *O* '23

Sharks may furnish cure for diabetes. *Pop Mech* 40:75 *Jl* '23

See also Inulin

Diacetoneglucose

Zur kenntnis der aceton-zucker; umwandlungen der diacetone-glucose. K. Freudenberg and F. Brauns. *Deutsche Chem Gesell Ber* 55:3233-8 *O* '22

Diacetonexylose

Zur kenntnis der aceton-zucker; diacetone-xylose. K. Freudenberg and O. Svanberg. *Deutsche Chem Gesell Ber* 55:3239-42 *O* '22

Diacyetonitrile

Über oxalsäure-derivate des diacyetonitrils. E. Benary and M. Schmidt. *Deutsche Chem Gesell Ber* 54:2157-68 *S* '21; Abstract. *Chem Soc J* 120 pt 1:776-7 *N* '21

Diacyetyl succinic ester

Lösungsgleichgewichte der desmotropisomeren diacetonsteinsäure-ester und ihre colorimetrische bestimmung. L. Knorr and H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55:232-48 *Ja* '22

Diacyetylacetone

Diacyetylacetone. J. N. Collie and A. A. B. Reilly. *Chem Soc J* 121:1984-7 *O* '22

Diacytyltartaric anhydride

Formation of derivatives of oxalacetic acid from tartaric acid. F. D. Chattaway and G. D. Parkes. *Chem Soc J* 123:663-9 *Mr* '23

Diagnosis

See Abrams' electronic reactions

Diagrammatic slides

Diagrammatic motion slides. Gabriel. *Can Chem & Met* 7:233-4 *S* '23

Diagrams in advertisements. See Advertisements, Pictorial—Diagrams

Dialkyltetrahydrodipyridyl

Über die einwirkung von jod auf N,N'-dialkyl-[tetrahydro-γ,γ'-dipyridyle]. B. Emmert and P. Parr. *Deutsche Chem Gesell Ber* 54:3168-76 *D* '21

Über N,N'-dialkyl-[tetrahydro-γ,γ'-dipyridyle]. B. Emmert and O. Varenkamp. *Deutsche Chem Gesell Ber* 55:2322-6 *S* '22

Dialysis

Effect of dialysis on direct crystallization of citric acid from lemon juice. H. D. Poore. *Ind & Eng Chem* 15:775-8 *Ag* '23

Influence of glucose on the dialysis of sucrose through a parchment membrane; the possibility of the separation of glucose from sucrose by dialysis. L. A. Congdon and H. R. Ingersoll. *Am Chem Soc J* 43:2588-97 *D* '21

Dialyzers

Dialysis of small volumes of liquid: the lily-pad dialyzer. R. W. Wood. *J Phys Chem* 27:565-6 *Je* '23

Dialyzers *Continued*

Über einen schnellialysator. A. Gutbier, J. Huber and W. Schieber. *il Deutsche Chem Gesell Ber* 55:1518-23 *Je* '22

Diamino compounds

Syntheses in the cinchona series: 5,8-diamino-dihydroquinine and 5,8-diamino-6-methoxyquinoline and their conversion into the corresponding aminohydroxy and dihydroxy bases. W. A. Jacobs and M. Heideberger. *Am Chem Soc J* 44:1073-9 *My* '22

Diamond alloy

Diamond alloy—a new cutting metal. *il Mach* 28:958-9 *Ag* '22; *Am Mach* 57:391-2 *S* 7 '22

Diamond drilling. See Drilling and boring (earth and rocks)

Diamond drills. See Rock drills

Diamond mines and mining

Arkansas

Diamond-bearing peridotite in Pike county, Arkansas. H. D. Miser and C. S. Ross. *bibliog U S Geol S Bul* 735—1:279-322, pl 8-15 '23; *Abstract, Econ Geol* 17:662-74 *D* '22
Diamond deposits in Arkansas. G. J. Mitchell. *bibliog il diag map Eng & Min J* 116:285-7 *Ag* 18 '23
Diamonds from Arkansas. *Eng & Min J* 115:1071 *Je* 16 '23

British Guiana

Diamond fields of British Guiana. L. T. Emory. *il map Eng & Min J* 115:571-5 *Mr* 31 '23

Diamonds from Guiana; how the precious sparklers are recovered from the gravel. F. Munro. *il Sci Am* 129:98 *Ag* '23

Kongo, Belgian

Experiences of a mining engineer in the Kasin diamond fields, Belgian Congo. J. E. Robinson. *il Min & Sci P* 123:646-8 *N* 5 '21

South Africa

Diamond fields of Southwest Africa. J. W. Finch. *il map Eng & Min J* 113:317-21 *F* 25 '22

Diamond tools

Details of diamond boring tools. G. T. Linting. *diags Am Mach* 57:949-50 *D* 21 '22
Diamond tools as cost reducers. *il Mach* 29:33-7 *S* '22

Manufacture and use of diamond cutting tools. E. Sheldon. *il Am Mach* 56:53-6, 140-2, 210-12 *Ja* 12, 26, *F* 9 '22

Use diamond tools carefully. E. Ferber. *Am Mach* 56:86 *Ja* 19 '22

Using diamond tools in motor building. G. T. Linting. *il Am Mach* 57:437-9 *S* 21 '22

See also Diamonds, Industrial

Diamonds

Conversion of diamonds to graphite at high temperatures. M. D. Thompson and K. Fröhlich. *diags Am Electrochem Soc Trans v* 43 (preprint 11):115-20 *My* '23; Same, without table. *Brass W* 19:256 *Ag* '23

Die energie der atombindungen im diamanten und in aliphatischen kohlenwasserstoffen. K. Fajans. *Deutsche Chem Gesell Ber* 55:2826-38; *Discussion. A. Thiel. 2844-5* *S* '22

Geology of the diamond-bearing gravels of the Somabula forest, by A. M. MacGregor. *Review by S. H. Ball. Eng & Min J* 115:369 *F* 24 '23

Search for diamonds filled with thrills. *il Pop Mech* 40:886-8 *D* '23

Unusual quartz-diamond intergrowth. R. J. Colony. *il Am J Sci* 5th ser 5:400-2 *My* '23

Coloring

Coloring of the diamond by radium radiation. S. C. Lind and D. C. Bardwell. *J Fr Inst* 196:521-8 *O* '23

Testing

To put a diamond to the test. *il Sci Am* 126:193 *Mr* '22

Diamonds, Industrial

Extend the use of commercial diamonds. C. J. Arthur. *diags Am Mach* 55:773-4 *N* 10 '21

Selection and use of diamonds for dressing grinding wheels. W. M. Robinson. *diags Mach* 30:133-6 *O* '23

Setting diamonds in drill bits. G. J. Young. *diags Eng & Min J* 115:576-7 *Mr* 31 '23; Same. *Coal Age* 23:637-8 *Ap* 19 '23

See also Diamond tools

Diamylose

Polysaccharides; the constitution of diamylose and of the anhydrosugar (cellosan) which is the building unit of cellulose. P. Karrer and A. P. Smirnoff. *Paper Tr J* 75:54-7 *O* 12 '22

Dianthraquinonylureas

Les urées de l'anthraquinone. M. Battegay and J. Bernhardt. *Chimie & Ind* 8:305-6 *Ag* '22

Dianthrone

Studies in the anthracene series. E. de B. Barnett and M. A. Matthews. *Chem Soc J* 123:380-94 *F* '23

Diarylacylhydrazyls

Zweiwertiger stickstoff; über diaryl-acyl-hydrazyle. S. Goldschmidt and K. Euler. *Deutsche Chem Gesell Ber* 55:616-28 *Mr* '22

Diarylbarbituric acids

5,5-diarylbarbituric acids. A. W. Dox and A. Thomas. *Am Chem Soc J* 45:1811-16 *Ja* '23

Diarylmethyl pyrylium compounds

Über pyranhydron; sur konstitution der methyl-diaryl-pyrylium-verbindungen. W. Schneider and A. Ross. *Deutsche Chem Gesell Ber* 55:2775-82 *S* '22

Diarylstyryl carbinols

Über diaryl-styryl-carbinole und ihre umwandlungsprodukte; über mehrfach aryl-substituierte vinyl-carbinole und ihre derivative. K. Ziegler and C. Ochs. *Deutsche Chem Gesell Ber* 55:2257-77 *S* '22; *Abstract. Chem Soc J* 122 pt 1:1047-9 *N* '22

Über halochromie erscheinungen bei diaryl-styryl-carbinolen. K. Ziegler. *Deutsche Chem Gesell Ber* 54:3003-9 *D* '21; *Abstract. Chem Soc J* 122 pt 1:151-2 *F* '22

Diaspore

Composition and properties of diaspore, bauxite and gibbsite. R. M. Howe and R. F. Ferguson. *Am Cer Soc J* 6:496-500 *Mr* '23

Diaspore clay of Arkansas and Missouri. D. C. Wysor. *diags Am Cer Soc J* 6:501-7; *Discussion. 507-9* *Mr* '23

Diastase

Amylases of the cereal grains—the insoluble amylase of barley. J. L. Baker and H. F. E. Hulton. *Chem Soc J* 121:1929-34 *S* '22

Effect of amino acids in retarding the hydrolytic decomposition of an enzyme (pancreatic amylase). H. C. Sherman and F. Walker. *Am Chem Soc J* 45:1960-4 *Ag* '23

Effect of certain antiseptics upon the activity of amylases. H. C. Sherman and M. Wayman. *Am Chem Soc J* 43:2454-61 *N* '21

Influence of amino acid in protecting amylase from inactivation by mercury. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 44:2923-6 *D* '22

Influence of lysine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 44:2926-30 *D* '22

Influence of some organic compounds upon the hydrolysis of starch by salivary and pancreatic amylases. H. C. Sherman and N. M. Naylor. *Am Chem Soc J* 44:2957-66 *D* '22

Removing sizing compounds from textile fabrics with diastase preparations. *Color Tr J* 11:257-8 *D* '22

See also Enzymes; Fermasol

Diastrophism

Critical review of Chamberlin's groundwork for the study of megadiastrophism. W. F. Jones. *Am J Sci* 5th ser 3:393-413 *Je* '22

Jones's criticism of Chamberlin's groundwork for the study of megadiastrophism. T. C. Chamberlin. *Am J Sci* 5th ser 4:253-73 *O* '22

Diatomaceous earth

Diatomaceous earth. E. E. Gardner. *Chem Age* 31:68-9 *F* '23

Diatomaceous earth and insulating brick. A. W. Knight. *Chem & Met Eng* 29:153-4 *Ja* 23 '23

Diatomaceous earth—*Continued*

- Manufacture and use of diatomaceous earth. Brick & Clay Rec 62:414 Mr 6 '23
Marketing of diatomaceous earth. N. Goodwin. Eng & Min J 115:1152-4 Je 30 '23
Say "diatomaceous earth." N. Goodwin. Ind & Eng Chem 15:97 Ja '23

Diatoms

- Diatoms. H. P. Little. Brass W 18:65 F '22

Diazo compounds

- Action of diazo-salts on aromatic sulphonamides. P. K. Dutt, H. R. Whitehead and A. Wormald. Chem Soc J 119:2088-94 D '21
Aliphatic diazo-compounds. H. Staudinger and G. Lüscher. Chem Soc J 122 pt 1:237-40 Mr '22
Deamination of methyl dextro-cis-3-amino-1,2,2-trimethyl cyclopentanoate. G. S. Skinner. Am Chem Soc J 45:1498-1509 Je '23
Mechanism of the formation of azo-compounds. T. K. Walker. Soc Dyers & Col J 39:293-7 O '23
New diazo dye. Color Tr J 9:254-5 D '21
New diazo gray dyestuffs for cotton. Color Tr J 11:164 O '22
Optically active diazo compounds. H. M. Chiles and W. A. Noyes. Am Chem Soc J 44:1798-1810 Ag '22
Über kuppelung von benzol-kohlenwasserstoffen mit diazoverbindungen. K. H. Meyer and H. Tochtermann. Deutsche Chem Gesell Ber 54:2283-5 O '21
Upper limit of diazotisability in the benzene series; diazo-derivatives of mesitylene. G. T. Morgan and G. R. Davies. Chem Soc J 123:228-37 F '23

Diazo-benzene-imide

- Isomerism of phenyl isocyanate and diazo-benzene-imide. W. H. Carothers. Am Chem Soc J 45:1734-8 Ji '23

Diazomethane

- Über die beiden modifikationen des glykokolls; zugleich ein beitrag zur technik des methylierens mit diazo-methan. H. Biltz and H. Paetzold. Deutsche Chem Gesell Ber 55:1066-73 Ap '22

Diazonium compounds

- Diazo-reaction in the carbazole series; carbazole-3-diazoimine and -3-diazonium salts. G. T. Morgan and H. N. Read. Chem Soc J 121:2709-17 D '22
Interaction of diazonium salts and phenols. F. D. Chattaway and H. R. Hill. Chem Soc J 121:2756-60 D '22

Dibenzamidoethylene

- Über das verhalten einiger aus imidazolen bereiteter bis-[benzoyl-aminol]-äthylen-derivate gegenüber säure-anhydriden. A. Windaus and W. Langenbeck. Deutsche Chem Gesell Ber 55:3706-9 D '22

Dibenzhydrazide chloride

- Über die umsetzung von benzal-benzhydrazidchlorid und dibenzhydrazidchlorid mit natriumnazid. R. Stollé and A. Netz. Deutsche Chem Gesell Ber 55:1297-1305 My '22

Dibenzofulvene

- Das dibenzofulven. A. Sieglitz and H. Jassoy. Deutsche Chem Gesell Ber 55:2032-40 Ji '22; Abstract. Chem Soc J 122 pt 1:820-1 S '22
Über biphenylen-äthylen. H. Wieland, F. Rein- del and J. Ferrer. Deutsche Chem Gesell Ber 55:3313-17 O '22

Dibenzofuran

- Studien in der reihe des diphenylen-oxydes. F. Mayer and W. Krieger. Deutsche Chem Gesell Ber 55:1659-66 Je '22; Abstract. Chem Soc J 122 pt 1:746-8 Ag '22

Dibenzothianthrendiquinone

- Dibenzothianthrendichinon und dinaphtho- thiophten-dichinon. K. Brass and L. Köhler. Deutsche Chem Gesell Ber 55:2543-68 S '22; Abstract. Chem Soc J 122 pt 1:1050-2 N '22

Dibenzoyl ethylene

- New method of preparing dibenzoyl ethylene and related compounds. J. B. Conant and R. E. Lutz. Am Chem Soc J 45:1303-7 My '23

Dibenzyl-acetic acid

- New hydroxamic acids derived from cyclo- propane carboxylic acid, isobutyric acid

and dibenzyl-acetic acid; a comparative study of the Beckmann rearrangement of their derivatives. L. W. Jones and A. W. Scott. Am Chem Soc J 44:407-23 F '22

Dibenzylpyridinium

- Über freie ammoniumradikale; weitere unter- suchungen über das N,N' -dibenzyl- γ,γ' - dipyridinium und seine homologen, sowie die sog. N,N' -disubstituierten tetrahydro- γ,γ' -dipyridyle. E. Weitz and T. König. Deutsche Chem Gesell Ber 55:2864-89 S '22; Abstract. Chem Soc J 122 pt 1:1186-8 D '22

Dibromocamphor

- New halogen derivatives of camphor. H. Burgess and T. M. Lowry. Chem Soc J 123: 1867-78 Ag '23

Dibromo-dipropyl ether

- γ,γ' -dihalogeno-dipropyl ethers. O. Kamm and W. H. Newcomb. Am Chem Soc J 43:2228-30 O '21

Dibromopropyl isothiocyanate

- Interaction of aliphatic alcohols and beta- gamma-dibromopropyl isothiocyanate. R. M. Hann. Am Chem Soc J 45:482-6 F '23

Dicarboxylic acids

- Investigations on the dependence of rotatory power on chemical constitution; the *d-d*- β - octyl esters of the saturated dicarboxylic acids. L. Hall. Chem Soc J 123:32-44 Ja '23

Dichloroacetamides

- Isomorphism of the amides and substituted amides of dichloro- and chlorobromoacetic acids. P. V. McKie. Chem Soc J 123:2213-17 S '23

Dichloroacetates

- Dichloroacetates and chlorobromoacetates from α,β -dichlorovinyl ethyl ether. H. Crompton and P. M. Triffitt. Chem Soc J 119:1874-5 N '21

Dichloro-acetic acid

- Direct conversion of derivatives of dichloro- acetic acid into derivatives of trichloro- acetic acid. A. S. Wheeler and S. C. Smith. Am Chem Soc J 45:1994-8 Ag '23

Dichlorobenzene

- Purification of anthraquinone. Color Tr J 12:190-1 My '23
Utilization of para-dichlorobenzene for syn- thesis in the diphenic acid series. E. B. Hunn. Am Chem Soc J 45:1024-30 Ap '23

Dichlorodialkyl sulfides

- The α,ω -dichlorodialkyl sulphides. F. G. Mann and W. J. Pope. Chem Soc J 123:1172-8 My '23

Dichloro-diethyl ether

- β,β' -dichloro-diethyl ether; the oxygen ana- log of mustard gas. O. Kamm and J. H. Waldo. Am Chem Soc J 43:2223-7 O '21

Dichlorodiethyl sulfide. See Mustard gas**Dichlorodimethyl sulfide**

- Über symmetrisches dichlor-dimethylsulfid (dichlormethylsulfid). I. Bloch and F. Höhn. Deutsche Chem Gesell Ber 55:53-7 Ja '22

Dichlorodiphenic acid

- Molecular configurations of polynuclear aromatic compounds; 6:6'-dichlorodiphenic acid; its synthesis and resolution into optically active components. G. H. Christie, C. W. James and J. Kenner. Chem Soc J 123:1948-51 Ag '23

Dichloro-dipropyl ether

- γ,γ' -dihalogeno-dipropyl ethers. O. Kamm and W. H. Newcomb. Am Chem Soc J 43:2228-30 O '21

Dichloroethane

- Importance of the olefine gases and their de- rivatives; ethylene dichloride. G. O. Curme, jr. Chem & Met Eng 25:999-1000 N 30 '21

Dichlorofluorene

- Zur kenntnis des 2,7-dichlor-fluorens; studien in der fluoren-reihe. A. Sieglitz and J. Schatzkes. Deutsche Chem Gesell Ber 54: 2072-8 S '21; Abstract. Chem Soc J 120 pt 1: 781-2 N '21

Dichromates

- Use of bichromates in wool dyeing as a morcant. W. C. Durfee. Am Dyestuff Rep 12:91-5 Ja 29 '23

Dictaphone

Electric dictaphone. K. Perlewitz. Elec W 80: 1459 D 30 '22

Dictionaries**Bibliography**

Business dictionaries and glossaries. Special Lib 14:1-8 Ja '23

Dicyanide

Ammono carbonic acids. E: C. Franklin. Am Chem Soc J 44:497-501 Mr '22

Dicyanine

Synthesis of dicyanine. A. S. Palkin. Ind & Eng Chem 15:379-81 Ap '23

Dicyanodiamide

Action of ammonia water on dicyandiamide. T. L. Davis. Am Chem Soc J 43:2230-3 O '21

Ammono carbonic acids. E: C. Franklin. Am Chem Soc J 44:501-4 Mr '22

Comments on formation of dicyanodiamide in fertilizers. J. E. Breckenridge. J Ind & Eng Chem 14:145 F '22

Mechanism of guanidine formation in fused mixtures of dicyanodiamide and ammonium salts. J. S. Blair and J. M. Braham. Am Chem Soc J 44:2342-52 O '22

Preparation of dicyanodiamide from calcium cyanamide. H. C. Hetherington and J. M. Braham. Ind & Eng Chem 15:1060-3 O '23

Dicyanodibenzyl diketone

Dyes derived from $\alpha\alpha'$ -dicyanodibenzyl diketone. S. Dutt and N. K. Sen. Chem Soc J 121:2663-7 D '22

Die casting

Advance made in die casting methods. A. M. Brewster. Foundry 50:544-5 Jl 1 '22; Same. Brass W 17:221 Jl '22

Cores and slides for die-casting dies. C. Pack. il diags Mach 29:956-8 Ag '23

Design of die-casting dies. C. Pack. il diags Mach 29:714-16, 804-6 My-Je '23

Developments in die-casting practice. C. Pack. il Mach 29:281-3 D '22

Die cast golf ball molds. il diags India Rubber W 69:83-4 N '23

Die casting for plumbing work. P: W. Blair. il Metal Ind 20:466 D '22

Die casting process and equipment. J: W. Harriman. il diags Am Mach 58:137-41 Ja 25 '23

Die casting rubber molds. il India Rubber W 68:767-8 S '23

Die-casting slush castings. R. E. Byrd. il Metal Ind 21:417 O '23

Die castings. S: Tour. il diags Ind & Eng Chem 15:25-8 Ja '23

Die castings and their use in industry. C. T. Roder. Iron Age 108:1409-11 D 1 '21

Die castings for Owen Sound plant; abstract. H. Chase. Mech Eng 45:591-2 O '23

Die-castings requiring two operations. C: Pack. il diags Mach 29:869-72 Jl '23

Difficult die casting. M. Wright. il Am Mach 56:777-8 My 25 '22

Dollin die casting machine. il Am Mach 59: 675 N 1 '23; Iron Age 112:1119 O 25 '23; Brass W 19:365-6 N '23

Equipment for making die-castings. A. G. Carman. il Mach 29:261-3, 369-70, 430-2, 516-18 D '22-Mr '23

Gives points on die casting. C: Pack. Foundry 51:136-7 F 15 '23

How die castings are produced. H. Chase. il diags Automotive Ind 45:21-5 Ja 5 '22

New zinc-base die-casting alloy. C: Pack. Metal Ind 21:53-4 F '23

Peculiarities of die castings. A. G. Carman. il Brass W 19:186-8 Je '23

Plating of die castings. S. Herrick. Metal Ind 20:354 S '22

Reducing costs by die-casting. il Mach 28:294-5 D '21

Solving die-casting problems. il diags Mach 30:51-2 S '23

Types of die-casting machines. C: Pack. il diags Mach 29:629-31 Ap '23

W-J automatic die-casting machine. il Mach 28:1008-9 Ag '22; Iron Age 110:368 Ag 10 '22; Am Mach 57:199-200 Ag 3 '22

Yesterday and today in the casting industry. A. M. Brewster. Brass W 18:56 F '22

Die cutting machinery

Key to many industries; the new technique of die-cutting. R. G. Skerrett. il Sci Am 128:246-7 Ap '23

Die sinking machines

Die sinking tool designed for pressed steel parts. il Automotive Ind 48:774 Ap 5 '23

Keller automatic die sinking machine. il Iron Age 110:927 O 12 '22; Am Mach 57:741-2 N 9 '22; Mach 29:236-7 N '22

Pratt & Whitney die-sinking machine. il Am Mach 56:46 Ja 5 '22; Iron Age 109:214 Ja 19 '22; Iron Tr R 70:210 Ja 19 '22; Mach 28:419-20 Ja '22

Dieckmann reaction

Formation and stability of spiro-compounds; the application of the Dieckmann reaction to esters of the glutaric series. G: A. R. Kon. Chem Soc J 121:513-26 Mr '22

Formation and stability of spiro-compounds; the Dieckmann-Komppa reaction. F. Dickens, G: A. R. Kon and J. F. Thorpe. Chem Soc J 121:1496-1506 Ag '22

Dielectric constants

Dielectric constant of mica. J. R. Weeks, jr. Phys R 19:319-22 Ap '22

Dielectric constants of some of the esters at low temperatures. L. C. Jackson. diags Philos Mag 6th ser 43:481-9 Mr '22

Electrical properties of a flint glass of density 6.01. G. L. Addenbrooke. Philos Mag 6th ser 45:516-25 Mr '23

Measurement of dielectric constants. J: F. King. 13p Eschenbach ptg. co., Easton, Pa. '22

Measurement of dielectric constants. J. F. King and W. A. Patrick. diags Am Chem Soc J 43:1835-43 Ag '21

Second undamped wave method of determining dielectric constants. A. P. Carman and G. T. Lorraine. diags Phys R 20:715-18 D '22

Dielectric losses

Action and effect of moisture in a dielectric field. D. Du Bois. diags Am Inst E E J 41:689-98 S '22; Discussion. 41:965-81 D '22

Bridge method for determining dielectric losses at wireless frequencies. M. D. Hart. diags Inst E E J 61:697-700 Je '23

Dielectric loss and breakdown. J: B. Whitehead. Elec W 80:1049 N 11 '22

Dielectric losses and stresses in relation to cable failures. D. W. Roper. Am Inst E E J 41:423-33 Je '22; Discussion. 41:965-81 D '22

Sheath losses in three core cables. N. A. Allen. diags Electrician 89:504-5 N 3 '22

Variation with frequency of the power loss in dielectrics. H. J. Macleod. il diags Phys R 21:53-73 Ja '23

See also Hysteresis

Dielectrics

Apparent dielectric strength of cables. R. J. Wiseman. Am Inst E E J 42:165-70 F '23; Discussion. 42:842-4 Ag '23

Contact electricity of solid dielectrics. H. F. Richards. Phys R 22:122-33 Ag '23

Dielectric strength of slate. D. F. Miner. il diags Elec J 19:106-11 Mr '22

Dielectric strength of solid insulating materials. W. S. Flight. diags Elec R (Lond) 90:39-41, 76-9 Ja 13-20 '22

Dielectric strength of the vacuum; electrostatic ionization gradient of metal electrodes. J. L. R. Hayden. Am Inst E E J 41:852-3 N '22

Dielectric strength ratio between alternating and direct voltages. J. L. R. Hayden and W. N. Eddy. diags Am Inst E E J 42:706-12 Jl '23; Same. Gen Elec R 26:645-52 S '23; Discussion. Am Inst E E J 42:1206-11 N '23

Dielectric stresses in static condensers for power-factor correction. R. E. Marbury and A. L. Atherton. il Elec J 20:354-7 S '23

Dielectrics in the United States. F. Fernie. Electrician 89:182-3 Ag 18 '22

Effect of transient voltages on dielectrics. F. W. Peek, jr. il diags Am Inst E E J 42:623-30 Je '23; Abstract. Elec W 82:16-17 Jl '23; Discussion. Am Inst E E J 42:1357-62 D '23

Dielectrics—Continued

Effects of the composite structure of impregnated paper insulation on its electric properties. W. A. Del Mar and C. F. Hanson. *Am Inst E E J* 41:439-45 Je '22; Discussion. 41:965-81 D '22

Extent of ionization in dielectrics still undeterminable. *Elec W* 82:78, 336 Jl 14, Ag 18 '23

Plane wave in an isotropic dielectric. S. Ray. *Phys R* 18:377-9 N '21

Pressure of radiation on transparent dielectrics. S. Ray. *Phys R* 19:467-9 My '22

Study of Franklin's experiment on the Leyden jar with movable coatings. G. L. Adenbrooke. *Philos Mag* 6th ser 43:489-93 Mr '22

See also Dielectric constants; Dielectric losses; Insulation (electric)

Dielectrometer

Dielectrometer: a new oil-testing device. *il Elec R (Lond)* 91:392 S 15 '22

Dienes

Zur spektrochemie der aliphatischen diene mit konjugierten doppelbindungen. K. v. Auwers and H. Westermann. *Deutsche Chem Gesell Ber* 54:2993-9 D '21

Dies

Advantages of built-up die construction. C. E. Stevens. *il diags Mach* 29:528-30 Mr '23

Attitude of the power pipe machine manufacturer toward die service. *il diags Sanitary & Heat Eng* 99:356-8+ Je 1 '23

Automatic piercing and blanking die for washers. G. R. Smith. *diags Mach* 29:638 Ap '23

Blanking and forming die. C. E. Fitzgerald. *il diags Mach* 29:380 Ja '23

Blanking and perforating dies for experimental purposes. D. A. Nevin. *diags Mach* 28:829-30 Je '22

Blanking and piercing tools for watch parts. L. B. Black. *diags plans Am Mach* 57:531-3 O 5 '22

Combination dies. C. E. Stevens. *diags Am Mach* 57:496-7 S 28 '22

Combination dies for finishing parts in one stroke. J. Bingham. *diags Mach* 28:306-7 D '21

Combination dies for sheet-metal parts. C. E. Stevens. *diags Am Mach* 58:533-6 Ap 12 '23

Combination follow-die. *il diags Mach* 29:538-9 Mr '23

Combination piercing, blanking and forming dies. C. J. Dorer. *il diags plans Am Mach* 57:649-51 O 26 '22

Combination piercing, shearing and forming tools. S. A. McDonald. *diags Am Mach* 57:76 Jl 13 '22

Combination shearing and forming die for high production. W. E. Hill. *diags Am Mach* 58:559-60 Ap 12 '23

Commercial standards as adopted by the Tap and die institute. *Am Mach* 57:883-90 D 7 '22

Compound combination die for light, rapid work. S. A. McDonald. *diags Am Mach* 59:632-3 O 25 '23

Core wires bent in plain wooden dies. J. Grennan. *il Foundry* 50:164-5 F 15 '22

Cores and slides for die-casting dies. C. Pack. *il diags Mach* 29:956-8 Ag '23

Design and construction of can dies. A. Mumper. *diags Mach* 30:200-1 N '23

Design and construction of dies for stamping sheet-metal products. J. R. Ewing. *diags Am Mach* 56:487-8 Mr 30 '22

Design of die-casting dies. C. Pack. *il diags Mach* 29:714-16, 804-6 My-Je '23

Design of wire-forming dies. W. B. Greenleaf. *il diags Mach* 30:96-7 O '23

Device for cutting teeth in dies for clock wheels. A. Ferber. *il Am Mach* 55:855 N 24 '21

Die casting process and equipment. J. W. Harriman. *il diags Am Mach* 58:137-41 Ja 25 '23

Die for blanking, piercing and counter-sinking. S. A. McDonald. *diags Am Mach* 57:544 O 5 '22

Die for bulging brass knobs. H. B. Clark. *Mach* 30:54 S '23

Die for clinching clips over wires. *diag plan Mach* 30:137-8 O '23

Die for cutting short lengths of coil spring. H. M. Fay. *diags Am Mach* 57:116 Jl 20 '22

Die for ornamental brass tacks. *il diags Mach* 29:518 Mr '23

Die for slotting sides of coil spring. *diags Mach* 29:392-5 Ja '23

Die for special washer. C. E. Stevens. *diags Mach* 29:485 F '23

Die-sinking under a drop-hammer. F. H. Colvin. *il Am Mach* 58:449-50 Mr 22 '23

Dies for an automobile bearing adapter. J. A. Honegger. *diags Mach* 30:194-5 N '23

Dies for die-castings. A. G. Carman. *il diags Mach* 29:369-70, 430-2 Ja-F '23

Dies for producing a square part. J. Bingham. *diags Mach* 30:22-4 S '23

Dies for producing metal spools. S. A. McDonald. *diags Mach* 29:782-3 Je '23

Dies of unit construction for gang punching. *diags Mach* 28:487-8 F '22

Drawing a deep wide-flanged shell. F. Lux. *diags Mach* 29:479-80 F '23

Drawing and perforating dies for fan bases. R. B. Hickey. *il diags Mach* 30:7-11 S '23

Evolution of the self-opening die. O. S. Marshall. *il diags Am Mach* 59:301-3 Ag 23 '23

Follow-die for piercing, bending and blanking small parts. L. B. Black. *diags Mach* 29:60-1 S '22

Follow-die for switch plates. G. W. Wilder. *diags Mach* 29:264-5 D '22

Follow-die sheet-metal keys. S. A. McDonald. *diags Mach* 28:663 Ap '22

Forming and assembling dies for roll cam. W. B. Greenleaf. *il diags Mach* 23:618-19 Ap '22

Forming die and angular shearing punch. F. Server. *diags Mach* 28:907-8 Jl '22

Good judgment is required in solving problems in pressed metal work. H. R. Simmonds. *il Iron Tr R* 69:1613-18 D 22 '21

Grinding trimming dies used in shovel manufacture. C. F. George. *diags Mach* 28:900-2 Jl '22

Hardened self-opening die-heads made by the National acme co. *il Iron Age* 111:968 Ap 5 '23; *Am Mach* 58:608 Ap 19 '23

How the blanking process is used to make a sheet metal sleeve. C. J. Dorer. *diags Am Mach* 58:609-12 Ap 26 '23

Influence of the automobile on the design of presses and dies. N. W. Dorman. *Sibley J* 36:91-3 My '22

Investigation of hot drawing on the mandril. E. Schneider. *diags Engineering* 112:678-81 N 11 '21; Discussion. C. D. Bowes. 112:693 N 18 '21

Knock-out for punch-press die. R. H. Kasper. *diags Mach* 28:905-6 Jl '22

Landis automatic die head. *il Am Mach* 56:976-7 Je 29 '22; *Mach* 28:924-5 Jl '22

Landis stationary die-head with micrometer attachment. *il Am Mach* 57:163 Jl 27 '22; *Iron Age* 110:275-6 Ag 3 '22; *Mach* 28:1012 Ag '22; *Ry Mech Eng* 96:481-2 Ag '22

Making chasers for self-opening dies. *il Am Mach* 57:169-74 Ag 3 '22

Making dies for rotor stampings. *il Am Mach* 58:36 Ja 4 '23

Making duplicate molds by hobbing. *il diags India Rubber W* 68:557-8 Je '23

Maple blocks used in die construction. *il Iron Age* 111:541-2 F 22 '23

Notching and cutting-off die. S. A. McDonald. *diags Mach* 29:726 My '23

Perforating and embossing die for fiber parts. J. A. Honegger. *diags plans Mach* 29:391-2 Ja '23

Piercing and blanking die for spacing collar. J. A. Honegger. *diags Mach* 29:223 N '22

Piercing die for experimental work. S. N. Bacon. *diag Am Mach* 58:118 Ja 18 '23

Practice of a pressed steel plant. F. R. Daniels. *il diags Mach* 29:790-3 Je '23

Problems of the die head manufacturer. C. W. Bettcher. *il Am Mach* 56:842-4 Je 8 '22

Dies—Continued

- Prolonging the life of forging dies; Reinhardt method of maintaining the dies or tools, while in use, at a temperature above that resulting from normal operation but below the temperature at which they are hardened and drawn. M. Parker. *il Mach* 29:671-4 My '23
- Punch and die design. J. H. Hemminger. *diags Am Mach* 55:773 N 10 '21
- Punching rotor and stator laminations. C. O. Herb. *il diags Mach* 29:436-8 F '23
- Relation of power presses and dies to the automobile industry. H. J. Hinde. *diag Engineering* 112:523 O 7 '21; Same. *Automotive Ind* 45:978-9 N 17 '21; Same. *Eng & Ind Management* 6:724-5 D 22 '21
- Riveting die. D. C. Oviatt. *diags Mach* 28:388 Ja '22
- Rotary blank-blank die. P. H. White. *diags Am Mach* 56:750 My 18 '22
- Sectional blanking and piercing dies. F. R. Daniels. *il diags plan Mach* 29:339-43 Ja '23
- Slotting and indenting die. J. V. Romig. *diags Mach* 29:474 F '23
- Strippers for drawing dies. N. T. Thurston. *diags Mach* 28:747-8 My '22
- Sub-press die for watch parts. *diags plans Mach* 30:219-20 N '23
- Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 57:263-6, 340-3, 453-5, 490-2, 527-30, 569-72, 645-8, 695-8, 807-9, 917-19, 951-4, 999-1002; 58:217-20, 289-91, 361-3, 437-42, 473-7 Ag 17, 31, S 21-O 12, 26-N 2, 23, D 14-28 '22, F 8, 22, Mr 8, 22-29 '23
- Transfer dies for a shallow cup. F. A. Stanley. *diags Am Mach* 55:850-1 N 24 '21
- Trimming die for metal cover. S. A. McDonald. *diags Mach* 29:980 Ag '23
- Trimming die for small forgings. C. F. George. *diag Mach* 28:738-9 My '22
- Twisting die for flat bar stock. W. Dauble. *il diags Mach* 29:139 O '22
- Two-station bridge die. S. A. McDonald. *diags Am Mach* 58:36 Ja 11 '23
- Wire drawing die. K. B. Lewis. *il Blast F & Steel Pl* 11:207-9 Mr '23
- See also Die casting; Forging; Punching machinery
- Repair**
- Repair of dies by welding. A. M. Candy. *il Iron Age* 111:1030-1 Ap 12 '23
- Dies (ceramics)**
- Auger machines and dies. Brick & Clay Rec 63:342+, 486-7 S 4, O 2 '23
- Diesel engines**
- Advantages of Diesel electric locomotives. L. G. Coleman. *Ry Mech Eng* 97:92-4 F '23
- Automotrice à moteur Diesel et à transmission électrique, construite par les établissements Sulzer frères. P. Ostertag. *il diags plan Génie Civil* 81:607-10 D 30 '22
- Bethlehem Diesel engine. *Mech Eng* 45:545 S '23
- Brooklyn firm installs Danish Diesel engine. *il Power Pl Eng* 27:1045-6 O 15 '23
- Chicago sanitary district chooses Diesel plant for stand-by. *il Power Pl Eng* 26:1149 D 1 '22
- Combustion engines; types, conditions for efficiency, methods of governing. *diags Power Pl Eng* 26:215-17 F 15 '22
- Comparison of five Diesel-engine generating plants. *Elec W* 79:1225 Fe 17 '22
- Compounding the combustion engine. E. A. Sperry. *il diags Mech Eng* 44:27-32+ Ja '22; Same abr. *Engineering* 113:149-51 F 3 '22; Excerpts. *Marine Eng* 27:60-3 Ja '22; Excerpts. *Power* 54:967-8 D 20 '21; Abstract. *Power Pl Eng* 26:164-6 F 1 '22; Discussion. *Engineering* 113:164-5, 390-1 F 10, Mr 31 '22
- Compressorless Diesel engine. *il diag Power Pl Eng* 25:1146-7 D 1 '21
- Diesel centrifugal pumping plant for the Metropolitan water board. H. E. Stilgoe. *il Engineering* 116:332-3, 336, pl 20 S 14 '22
- Diesel-electric pumping plant. *il Engineer* 135:599-600 Je 8 '23
- Diesel engine. A. Orton. 111p Pitman '23
- Diesel engine and how it operates. *diags Power* 56:688-90 O 31 '22
- Diesel engine developments in Great Britain. *il Marine Eng* 28:164-6 Mr '23
- Diesel engine for automotive use. *Automotive Ind* 48:1141 My 24 '23
- Diesel engine for autos to increase mileage. *Pop Mech* 40:336 S '23
- Diesel engine for small plants. *il diags Power* 56:163-5 Ag 1 '22
- Diesel engine in electric furnace work. *il Power* 56:240 Ag 15 '22
- Diesel engine in isolated districts of the Southwest. A. A. Tachella. *il J Elec* 49:134 Ag 15 '22
- Diesel-engine progress on the Pacific coast. H. W. Crozier, J. Stigen and C. E. Nagel. *Mech Eng* 45:421-3 Jl '23
- Diesel engines. *diags Power Pl Eng* 26:310-15, 368-70 Mr 15-Ap 1 '22
- Diesel engines in a Portland cement plant. C. M. Carman. *il plan Power Pl Eng* 27:417-20 Ap 15 '23
- Diesel engines offer means of improving economy in power production. *Elec W* 80:313 Ag 12 '22
- Diesel engines reduce operating costs. *il Power* 58:689-90 O 30 '23
- Diesel oil engine for water works service. C. E. Lucke and others. *diags N E Water Works Assn J* 37:145-83; Discussion. 183-9 Je '23
- Diesel-powered central station. *il Power* 57:856-8 My 29 '23
- Diesel pumping plant shows low operating cost. A. J. Hall. *Power Pl Eng* 27:274-6 Mr 1 '23
- Direct-drive Diesel engine. *il Sci Am* 127:310-11 N '22
- Dittlinger mills; description of Diesel engine plant in flour mill at New Braunfels, Texas. J. Pierce. *il diag Power Pl Eng* 26:652-5 Jl 1 '22
- Efficiency of the Diesel oil engine. L. H. Morrison. *diags Power* 55:340-1 F 28 '22
- Errors to avoid in indicating a Diesel engine. *diags Power* 56:798-9 N 21 '22
- État actuel de la question des moteurs à huile lourde. M. Bochet. *diags Soc Ing Civils Bul* 75:87-105, pl 20-1 Ja '22
- Evolution of the heavy oil engine. R. E. Mathot. *Engineer* 135:137-8 F 9 '23; Same cond. *Power* 57:499-500 Mr 27 '23
- Getting ready to indicate the Diesel engine. *diags Power* 56:714-15 N 7 '22; Discussion. G. Grow. 56:951 D 12 '22
- Horsepower of Diesel engines installed yearly. *Power* 57:365 Mr 6 '23
- Ice and cold storage from an oil engine. J. Pierce. *diags Power Pl Eng* 26:717-18 Jl 15 '22
- Internal combustion engines for power. D. M. Petty. *diag Iron Age* 110:1073-5 O 26 '22; Same abr. *Blast F & Steel Pl* 10:528-30 O '22
- Interpretation of Diesel engine cards. H. F. Birnie. *diags Power Pl Eng* 27:674-7 Jl 1 '23
- Knudsen improved scavenging two cycle oil engine. *il diags Marine Eng* 28:618-19 O '23; *Mech Eng* 45:593-4 O '23
- Large use of Diesel engines by Arizona mining company. C. Legrand. *il Elec W* 81:1405-7 Je 16 '23
- Life of a Diesel engine. *Power* 58:733-5 N 6 '23
- Making flour by oil power at the Quality mills, Austin, Tex. J. Pierce. *il Power Pl Eng* 26:1000-2 O 15 '22
- Marine Diesel engine builder enters stationary power-plant field; the New London ship and engine company builds a 600-hp. stationary Diesel. *il diags Power* 56:838-9 N 28 '22
- Les moteurs à combustion interne; moteurs à quatre temps Diesel-Tosi. *il diags Génie Civil* 80:561-4 Je 24 '22
- Les moteurs Diesel et les moteurs semi-Diesel. G. Vaillet. 2v Dunod, Paris '23
- New Diesel engine may be practical for automotive use. *il Automotive Ind* 48:1336-7 Je 21 '23
- New type of Diesel engine. *Sci Am* 129:357+ N '23
- North British two-stroke double-acting Diesel engine. *il Engineering* 115:794-5, pl 49-50 Je 29 '23

Diesel engines—Continued

- Oil engine hints. *il* diags Power Pl Eng 26: 565-9, 709, 752-4 Je 1, JI 15-Ag 1 '22
- Oil engine of today. C: E. Lucke. *il* Power 56:241-3 Ag 15 '22
- Oil engine operation studied by special cards. H. F. Birnie. diags Power Pl Eng 27:880-2 S 1 '23
- Oil engines gain favor of central stations according to Prime movers committee of N.E.L.A. Power Pl Eng 27:741-2 JI 15 '23
- Oil engines reduce power-plant costs. L. H. Morrison. *il* Power 58:455-7 S 18 '23
- Oil power for water, ice and electric current. *il* Power Pl Eng 26:947-8 O 1 '22
- Opposed-piston principle for high-power Diesel engines. *il* diags Power 57:56-7 Ja 9 '23
- Present-day Diesel engine. Nagel. Power 58: 476 S 18 '23
- Present status and probable development of internal combustion engines to consume heavy fuels. *il* Am Pet Inst Bul 3:128-50 D 30 '22
- Questions and answers relating to Diesel, semi-Diesel and other internal-combustion engines, air compressors, etc. J: Lamb. 209p Lippincott '22
- Recovering the waste heat of oil engines. W. P. Sillince. Power 58:435-6 S 11 '23
- Small Diesel type automotive engine now in production. *il* diags Automotive Ind 46:1320-1 Je 15 '22
- Sperry compound Diesel engine. *il* diags Automotive Ind 46:605-8 Mr 16 '22
- Steps in De La Vergne oil engine development. *il* diag Power Pl Eng 27:630-2 Je 15 '23
- Sulzer Diesel-electric rail car. *il* diags Engineer 134:692, 696-9 D 29 '22
- 300-h.p. two-cycle Diesel engine. Engineering 112:721-2, pl 41 N 25 '21
- 20th century guide for Diesel operators. J. Rostbloom and O. R. Sawley. 637p Western technical bk. co., Seattle '22
- Twenty years of Diesel engine building. L. J. Le Mesurier. diags Engineer 135:85-7 Ja 26 '23; Discussion. 135:295 Mr 16 '23
- Two-stroke-cycle Diesel's superiority for large powers. E. Lundgren. *il* Power 56:1015-16 D 26 '22
- 2,500-kva. Diesel-engine plant for stand-by service. H. I. Steffa. *il* diags plan Power 55: 804-9 My 23 '22
- Wear of oil-engine parts. Power 57:934 Je 12 '23
- What the Diesel indicator diagram shows. diags Power 56:758-60 N 14 '22
- Why a Diesel engine fails to fire. M. S. Howard. Power Pl Eng 26:1103-4 N 15 '22
- Why a Diesel engine smokes upon starting. Power 55:989 Je 20 '22
- Why an oil engine runs away. S. M. Howe. Power 57:133 Ja 23 '23
- Why the engine would not start. E. E. Long. diag Power 54:809 N 22 '21
- See also Cammellaird-Fullagar engine; Semi-Diesel engines

Care and maintenance

- Care and maintenance of Diesel engines. G: E. Windeler. diags Engineer 134:447-8, 478-9 O 27-N 3 '22
- Diesel engine maintenance schedule. G. H. Kimball. Power Pl Eng 27:1055 O 15 '23
- Maintenance of Diesel engines. H. Cooke. *il* Power Pl Eng 26:74-5 Ja 1 '22
- Maintenance schedules for oil engine plants. Power Pl Eng 27:901 S 1 '23
- Making a worn oil engine pull its load. C: Quincey. diag Power 55:371 Mr 7 '22
- Regular maintenance schedules for Diesel engines. J. L. Schneitter. Elec W 82:128-9 JI 21 '23

Cost of operation

- Diesel engines operate for year at cost of \$0.0139 a kilowatt-hour. Elec W 14:637 Ap 1 '22
- Engineer investigates the Diesel engine. Power 58:612-13 O 16 '23
- Figuring Diesel plant costs. P. M. Thayer. *il* Power Pl Eng 27:372-5 Ap 1 '23

- Fuel oil engines vs. steam engines for small combined electric and water plants. G: T. Prince. Am Water Works Assn J 10:192-8 Mr '23; Excerpt. Can Eng 43:668-9 D 26 '22
- Oil engine operating costs. *il* Power 58:140 JI 24 '23
- What does your power cost? R: Repine. *il* Brick & Clay Rec 62:1048-50 Je 12 '23

Fuel

- Burning boiler oil in Diesel engines. L: R. Ford. diags Power 56:12-14 JI 4 '22
- Characteristics of petroleum oils used in Diesel engines. H. Moore. Engineer 133: 620 Je 2 '22
- Coal tar as a source of fuel for internal combustion engines. W. J. Huff. Chem Age 31: 147-50 Ap '23; Same. Ind & Eng. Chem 15: 485-8 My '23; Same. Gas Age 52:93-7 JI 28 '23
- Le régime douanier du gas oil. J. Vaschalde. Chimie & Ind 8:926-9 O '22
- Test of Diesel fuel consumption. W. B. Gregory. *il* Power 58:285-6 Ag 21 '23

Fuel feeding

- Pressure problem of oil-engine pumps. H. F. Shepherd. diags Power 58:329-30 Ag 28 '23

Lubrication

- Effect of oiling on Diesel engine operation. M. S. Howard. Power Pl Eng 27:128-9 Ja 15 '23
- Experiences with the lubrication of Diesel engines. diag Power 55:272-3, 552 F 14, Ap 4 '22
- Lubrication of Diesel engines. W. F. Osborne. Power 56:944 D 12 '22
- Requirements of lubricating oil for Diesel engines. Power Pl Eng 26:75 Ja 1 '22

Manufacture

- Diesel engine work in a California shop. H. Crawford. *il* diag Am Mach 57:483 S 28 '22
- Harland and Wolff's Diesel engine works. Engineering 115:702, pl 41-3 Je 8 '23
- Makes difficult castings. *il* plan Foundry 50: 857-62 N 1 '22
- Manufacture of Diesel engines. *il* Engineer 133:588-90 My 26 '22
- Les usines de constructions mécaniques Carrels, a Gand; les moteurs Diesel-Carrels. Bochet. *il* diags plan Génie Civil 82:25-9 pl 2 Ja 13 '23
- Visit to Carrels' factory at Ghent. *il* (supp) diag Engineer 133:488-90, 550-2, 554 My 5, 19 '22

Repair

- Alignment of Diesel connecting rods. G. Grow. diags Power 56:317 Ag 29 '22
- Chasing oil engine troubles. M. S. Howard. diags Power 56:527-8 O 3 '22; Discussion. 56:737 N 7 '22
- Diesel-engine repair. M. Daws. diag Power 56:696 O 31 '22
- Welding oil engine frame. F. Mason. *il* Power 56:177 Ag 1 '22

Testing

- Test of horizontal compressorless Diesel engine. Power 57:615 Ap 17 '23

Valves

- Care and inspection of Diesel engines. M. S. Howard. diags Power Pl Eng 26:1204-5 D 15 '22
- Care of valves on Diesel engines. L: R. Ford. diags Power 56:204-6 Ag 8 '22
- Improvement in Diesel-engine construction; director valve. diag Power 55:929 Je 13 '22

Diesel engines, Marine

- Beardmore-Tosi marine Diesel engine. diags Engineering 113:488-9 Ap 21 '22; Engineer 132:508-10, 512 N 11 '21
- Buffalo builder enters Diesel field. diags Marine R 52:490-1 D '22
- Clyde marine oil engines. A. L. Mellanby. diags Engineering 116:95-8, 123-30 JI 20-27 '23; Abstract. Engineer 136:120-1 Ag 3 '23
- Design of new type Diesel. Marine R 53: 291-2 Ag '23

Diesel engines, Marine—Continued

- Development of Diesel engines for naval purposes. G. G. Goodwin. Engineering 113:535-7 Ap '22; Abstract. Engineer 133:528 My '22
- Diesel electric propulsion of ships. S. M. Robinson. diags Marine Eng 27:107-11 F '22
- Diesel engine revolutions and propeller efficiency. A. J. C. Robertson. Marine Eng 27:704-6 N '22
- Diesel engine wins its way. il Sci Am 126:390 Je '22
- Diesel machinery for single-screw motor ships. J. Richardson. diags plans Engineering 113:416-19 Ap '22; Same. Marine Eng 27:372-7 Je '22; Same, without diags. Engineer 133:448-9 Ap '22; Discussion. Engineering 113:449-52 Ap '22; Engineer 133:445-6 Ap '22
- Double acting marine Diesel engine. il diags Marine Eng 27:567-9 S '22
- Europe developing new types of Diesel engines. il plan Marine Eng 28:598-601 O '23
- Four cylinder two cycle Sulzer engine. il Marine Eng 27:443-4 J1 '22
- Future development of the marine Diesel engine. H. F. P. Purday. Power 56:70 J1 '22
- Large size marine oil engines. diags plan Marine R 53:171-2+ My '23
- Largest two cycle engined motorship Dalgoma. il Marine Eng 28:429-31 J1 '23
- Marine Diesel engine. Engineer 135:69 Ja 19 '23
- Les moteurs à combustion interne; moteurs marins à deux temps Diesel-Sulzer. C. Leverger. il diags Génie Civil 81:169-74 Ag '19 '22
- Nelsco marine Diesel engine. Mech Eng 43:813-14 D '21
- New British marine oil engines developed; semi-Diesel and modified Tosi. il Marine Eng 28:566-8 S '23
- New M.A.N. Diesel engine. il diag Marine Eng 27:509-10 Ag '22
- New marine Diesel engine is double-acting. il diag Pop Mech 39:509 Ap '23
- Notes and sketches on marine Diesel oil engines. J. W. M. Sothorn. 382p J. Munro & co., Glasgow '22
- Powering of motor ships. K. C. Barnaby. Engineering 115:412-14; Discussion. 391-2 Mr 30 '23; Engineer 135:366 Ap 6 '23
- Probable trend of Diesel design. R. E. Annin. il Marine R 52:273-5 J1 '22
- Propelling machinery of the cargo carrier of the future. J. Richardson. Engineering 114:374-5 S 22 '22; Same. Marine R 52:463-6 N '22; Abstract. Engineer 134:293 S 22 '22; Excerpts. Mech Eng 44:737+ N '22; Discussion. Engineering 114:356-7 S 22 '22; Engineer 134:293-4 S 22 '22
- Recent Schneider-Diesel oil engines. il diags plan Engineer 136:152, 156-8 Ag 10 '23
- Relative advantages of the four-stroke and two-stroke cycle marine Diesel engine. A. S. Watkinson. Engineering 115:28-30 Ja 5 '23
- Review of marine Diesel engines. diags Engineer 135:61 Ja 19 '23
- Rotary scavenging blowers for two-stroke marine Diesel engines. il diags Engineering 114:676-8 D 1 '22
- 1600 b.h.p. Nobel-Diesel marine engine. G. J. Steinheil. il diags Engineer 133:91-3, 102, 126-8 Ja 27-F 3 '22
- Sulzer marine Diesel engine. Soc Auto Eng J 10:112 F '22
- Sulzer two-stroke Diesel engine. il diags Engineering 114:169-73, 224-7, pl 16 Ag 11, 25 '22
- Twin-screw Diesel motorship Tennessee. il Marine Eng 28:88-92 F '23; Same. Marine R 53:130-2 Ap '23
- Use of compressed air in Diesel engined ships. W. Reavell. il diags Engineering 113:179-83 F 10 '22
- Variations in modern Diesel-engine design. T. O. Lisle. il diags Soc Auto Eng J 11:93-103; Discussion. 103-6 J1 '22
- Worthington airless-injection oil engine. diag Mech Eng 44:53-4 Ja '22
- See also Cammellaird-Fullagar engine; Motor ships

Cost of operation

Marine Diesel engine working costs. Engineer 136:177-8 Ag 17 '23

Testing

1600 b.h.p. Nobel-Diesel marine engine. G. J. Steinheil. Engineer 133:126-8 F 3 '22

Diesel engines, Submarine

Augsburg ten-cylinder four-stroke-cycle U-boat Diesel engine. J. L. Bogert. il diag Power 54:932-3 D 13 '21

Diesel-engine clutch used in the German submarine U-117. W. H. Nicholson. diags Mech Eng 45:113-15 F '23

Flexible clutch for marine Diesel engines. il diag Sci Am 129:185 S '23

German submarine engines drive English light plant. il Pop Mech 38:263 Ag '22

Submarine Diesel engines at Southend. il Elec R (Lond) 90:688-90 My 19 '22

Diet

Food for brain workers. Sci Am 128:239 Ap '23

See also Nutrition

Diethoxybenzil

Benzile der super-oxyd-form; über o,o'-diäthoxy-benzil, ein auch in lösung farbloses benzil-derivat. A. Schöenberg and W. Malchow. Deutsche Chem Gesell Ber 55:3746-52 D '22; Abstract. Chem Soc J 124 pt 1:115 F '23

Diethyl sulfate. See Ethyl sulfate**Diethylphthalate**

Modified test for phthalates. R. E. Andrew. Ind & Eng Chem 15:838 Ag '23

Differential equations

Differential equations. H: B. Phillips. 78p Wiley '22

Graphical solution of a class of differential equations occurring in wireless telegraphy. A. A. Robb. diags Philos Mag 6th ser 43:206-15 Ja '22

Solution of differential equations by a method similar to Heaviside's. J. J. Smith. J Fr Inst 195:815-50 Je '23

Solution of the representative differential equation of the triode oscillator. E. V. Appleton and W. M. H. Greaves. Philos Mag 6th ser 45:401-15 Mr '23

Differentiating machines

Measuring forces in impact. A. Elmendorf. Am Soc T M Pro 22 pt 2:117-23 '22

Diffraction

Diffraction of light by cylinders and spheres immersed in a medium of nearly equal refractive index. N. K. Sethi. diags Philos Mag 6th ser 42:669-77, pl 20 N '21

Diffraction pattern in a case of two very close point-light sources. B. E. Mourashinsky. Philos Mag 6th ser 46:29-49, pl 2 J1 '23

Extension of the principle of the diffraction evolute, and some of its structural detail. G. G. Becknell and J. Coulson. pls Phys R 20:607-12 D '22

New X-ray diffraction apparatus. W. P. Davey. il charts diags Gen Elec R 25:565-80 S '22

Quetelet's rings and other allied phenomena. C. V. Raman and G. L. Datta. diags Philos Mag 6th ser 42:826-40, pl 25 N '21

Reciprocal diffraction relations between circular and elliptical plates. J. Coulson and G. G. Becknell. pls Phys R 20:594-600 D '22

X-ray diffraction effects from liquids and liquid mixtures. R. W. G. Wyckoff. il Am J Sci 5th ser 5:455-64 Je '23

Diffusion

Chromizing. F. C. Kelley. il Am Electrochem Soc Trans v 43 (preprint 19):233-50 My '23; Same cond. Brass W 19:291-2, S '23; Abstract. Mech Eng 45:359-60 Je '23

Die diffusion der begleitende elemente des technischen eisens in festes Eisen. A. Fry. il Stahl & Eisen 43:1039-44 Ag 9 '23

Diffusion—Continued

- Diffusion of hydrogen and helium through silica glass and other glasses. G. A. Williams and J. B. Ferguson. *Am Chem Soc J* 44:2160-7 O '22
- Diffusion of oxygen through silver. L. Spencer. *diags Chem Soc J* 123:2124-8 S '23
- Diffusion process in beet-sugar industry. R. W. Shafor. *diags Chem & Met Eng* 29: 472-4 S 10 '23
- Importance of diffusion in organic electrochemistry. R. E. Wilson and M. A. Youtz. *Ind & Eng Chem* 15:603-6 Je '23
- Separation of isotopes: application of systematic fractionation to mercury in a high-speed evaporation-diffusion apparatus. R. S. Mulliken. *diags Am Chem Soc J* 45:1592-1604 JI '23
- Separation of isotopes by thermal and pressure diffusion. R. S. Mulliken. *Am Chem Soc J* 44:1033-51 My '22
- Separation of isotopes: theory of resolution of isotopic mixtures by diffusion and similar processes; experimental separation of mercury by evaporation in a vacuum. R. S. Mulliken and W. D. Harkins. *Am Chem Soc J* 44:37-65 Ja '22
- Study of distribution of combustion gases. H. Thoma. *il diags Am Gas J* 117:89-91 JI 29 '22

See also Colloids; Liesegang rings

Digesters (paper making)

- Sulphate digester linings. P. C. Austin. *Paper Tr J* 74:42 Je 8 '22; Same. *Paper* 30:14+ Je 21 '22

Digestion

- Digestibility of fats. C. F. Langworthy. *bibliog Ind & Eng Chem* 15:276-8 Mr '23

Diglycolic acid

- Beiträge zur kenntnis der diglykolsäure oder anhydroglykolsäure. R. Anschütz and S. Jaeger. *Deutsche Chem Gesell Ber* 55:670-9 Mr '22

Dihydrobenzofurans

- Structure of the compounds produced from olefins and mercury salts; mercurated dihydrobenzofurans. R. Adams, F. L. Roman and W. N. Sperry. *Am Chem Soc J* 44:1781-92 Ag '22

Dihydrocampholenic acid

- Vergleich der α -campholansäure mit Mahla-Tiemanns dihydro-campholensäure und mit isocampholsäure. P. Lipp. *Deutsche Chem Gesell Ber* 55:1883-92 Je '22; Abstract. *Chem Soc J* 122 pt 1:735-6 Ag '22

Dihydrocinchonincol

- Syntheses in the cinchona series; dihydrocinchonincol and the dihydroquinicols. M. Heidelberger and W. A. Jacobs. *Am Chem Soc J* 44:1098-1107 My '22

Dihydrocinchonine

- Syntheses in the cinchona series; the hydrogeneration of dihydrocinchonine, cinchonine and dihydroquinine. W. A. Jacobs and M. Heidelberger. *Am Chem Soc J* 44:1079-90 My '22

Dihydrocoralyne

- Reduktion des coralyns zu dihydro-coralyn und coralydine. W. Schneider and O. Beger. *Deutsche Chem Gesell Ber* 54:2021-31 S '21; Abstract. *Chem Soc J* 120 pt 1:801-2 N '21

Dihydroisoidole

- Darstellung des dihydro-isoindols. J. v. Braun and A. Nelken. *Deutsche Chem Gesell Ber* 55:2059-63 JI '22

Dihydronaphthalene

- Studies in the dihydronaphthalene series; the α -dihydro- α -naphthols and their derivatives. F. M. Rowe and E. Levin. *Chem Soc J* 119:2021-9 D '21

- Studies in the dihydronaphthalene series; the oxidation and bromination of 5:8-dihydro- α -naphthylamine. F. M. Rowe and J. S. H. Davies. *Chem Soc J* 121:1000-7 Je '22

Dihydroquinicols

- Syntheses in the cinchona series; dihydrocinchonincol and the dihydroquinicols. M. Heidelberger and W. A. Jacobs. *Am Chem Soc J* 44:1098-1107 My '22

Dihydroquinine

- Syntheses in the cinchona series; the hydrogeneration of dihydrocinchonine, cinchonine and dihydroquinine. W. A. Jacobs and M. Heidelberger. *Am Chem Soc J* 44:1079-90 My '22

Dihydrothebainone

- Morphine group; thebainone, thebainol, and dihydrothebainone. J. M. Gulland and R. Robinson. *Chem Soc J* 123:998-1011 My '23

Dihydroxybenzophenone

- Imino-aryl ethers; *N*-phenylbenzimidino-*m*-hydroxyphenyl ether and the synthesis of 2:4-dihydroxybenzophenone. A. W. Chapman. *Chem Soc J* 121:1676-82 Ag '22

Dihydroxynaphthalenes

- Über die tautomerie der phenole; dioxy-1.5- und dioxy-2.7-naphthalin. W. Fuchs and W. Stix. *Deutsche Chem Gesell Ber* 55:658-70 Mr '22

Dihydroxyphenones

- Dihydroxyphenones and derivatives. B. H. Gnagy. *Am Chem Soc J* 45:805-8 Mr '23

Diisatylmethane

- Untersuchungen über isatin und verwandte verbindungen; über 5.5'-diisatylmethan und seine umwandlung in chinolin-derivate. W. Borsche and R. Meyer. *Deutsche Chem Gesell Ber* 54:2841-3 N '21

Di-isopropyl-hydrazine

- Symmetrical di-isopropyl-hydrazine and its derivatives. H. L. Lichte, J. R. Bailey and W. A. Noyes. *Am Chem Soc J* 43:2597-2603; 44:2556-67 D '21, N '22

Dikes (engineering)

- Bamboo dikes aid land reclamation and river-channel control in China. *il Eng N* 88:862 My 25 '22

- Long dike protects channel from drifting sand. *il Pop Mech* 37:553 Ap '22

- Permanence of timber work in dikes. J. D. Myton. *il Eng & Contr (Bldgs)* 60:193 JI 25 '23

Dikes (geology)

- Camptonite dikes in the Connecticut triassic. W. L. Russell. *diags map Am J Sci* 5th ser 5:409-16 My '23

Diketones

- Action of ultraviolet light upon diketones. C. W. Porter, H. C. Ramsperger and C. Steel. *Am Chem Soc J* 45:1827-30 JI '23

- Benzile der superoxydform (pseudobenzile). A. Schöenberg and O. Kraemer. *Deutsche Chem Gesell Ber* 55:1174-94 My '22; Abstract. *Chem Soc J* 122 pt 1:663-5 JI '22

- Researches on residual affinity and coordination; interaction of tellurium tetrachloride and β -diketones. G. T. Morgan and H. D. K. Drew. *Chem Soc J* 121:922-40 My '22

- Syntheses of β -diketones in the indole group. G. Sanna. *Chem Soc J* 124 pt 1:57-60 Ja '23

- Über α -chinone und 1.2-diketone; über die konstitution des phenanthrenchinonimid-anhydrids. A. Schöenberg and E. Rosenthal. *Deutsche Chem Gesell Ber* 54:1789-1802 S '21; Abstract. *Chem Soc J* 120 pt 1:808-10 N '21

- See also Ethoxymethylenediacyetyl; Pseudobenzils

Diketopiperazines. See Piperazinedione**Dimensions, Method of. See Mathematical physics****Dimethindiazidine**

- Additive formation of four-membered rings; the synthesis and division of derivatives from 1:3-dimethindiazidine. C. K. Ingold and H. A. Piggott. *Chem Soc J* 121:2793-2804 D '22

Dimethoxy-aldehydobenzolc acid. See Opianic acid**Dimethylacrylic acids**

- γ -oxalyl derivatives of $\beta\beta$ - and $\alpha\beta$ -dimethylacrylic acids. L. Higginbotham and A. Lapworth. *Chem Soc J* 123:1325-32 Je '23

Dimethylamino hydroxydistyryl ketone

- Reactivity of doubly-conjugated unsaturated ketones; effect of substitution on the reactivity of 4'-dimethylamino-2-hydroxydistyryl ketone. I. M. Heilbron and A. B. Whitworth. *Chem Soc J* 123:238-45 F '23

Dimethylamino-2-styrylbenzopyrylium

Benzopyrylium salts of distyryl ketones; salts and metallic complexes of 4'-dimethylamino-2-styrylbenzopyrylium. J. S. Buck and I. M. Heilbron. *Chem Soc J* 123:1395-1404 Je '23

Dimethylanthraquinone

Synthesis of 4-hydroxy-1:2-dimethylanthraquinone. A. Fairbourne and J. M. Gauntlett. *Chem Soc J* 123:1137-9 My '23

Dimethylapophyllenic acid

Über apophyllensäure und α,α' -dimethylapophyllensäure. O. Mumm and E. Gottschaldt. *Deutsche Chem Gesell Ber* 55:2075-82 JI '22; *Abstract. Chem Soc J* 122 pt 1:862-3 S '22

Dimethylcinchomeronic acid

Über die halbestere der α,α' -dimethylcinchomeronsäure. O. Mumm and E. Gottschaldt. *Deutsche Chem Gesell Ber* 55:2064-75 JI '22; *Abstract. Chem Soc J* 122 pt 1:861-2 S '22

Dimethylcyclobutylmethylamine

Methylen-cyclo-butan und dimethyl-[cyclobutyl-methyl]-amin. N. J. Demjanow and M. Dojarenko. *Deutsche Chem Gesell Ber* 55:2727-30 S '22

Dimethyldithioethylene

Researches on residual affinity and coordination: interactions of metallic salts and dimethyldithioethylene. G. T. Morgan and W. Ledbury. *Chem Soc J* 121:2882-94 D '22

Dimethylglyoxalines

Orientation of the 1:4- and 1:5-dimethylglyoxalines; mode of fission of 5-amino-glyoxalines. F. L. Pyman. *Chem Soc J* 121:2616-26 N '22

Dimethylguanidine

Preparation of methylguanidine, and of $\beta\beta$ -dimethylguanidine by the interaction of dicyanodiamide, and methylammonium and dimethylammonium chlorides respectively. E. A. Werner and J. Bell. *Chem Soc J* 121:1790-4 S '22

Dimethylindigo

New dyestuff of the indigo series. *Color Tr J* 12:201 My '23

Dimethylnaphthalene

Über das 2,6-dimethylnaphthalin. F. Mayer and E. Alken. *Deutsche Chem Gesell Ber* 55:2278-85 S '22; *Abstract. Chem Soc J* 122 pt 1:999-1000 N '22

Über die hydrierung des 1,6-dimethylnaphthalins. F. Mayer and T. Schulte. *Deutsche Chem Gesell Ber* 55:2164-7 JI '22

Dimethylpyrazole

Substitution in the pyrazole series; halogen derivatives of 3:5-dimethylpyrazole. G. T. Morgan and I. Ackerman. *Chem Soc J* 123:1308-18 My '23

Dimethylvinylamine

Über dimethyl-vinyl-amin. K. H. Meyer and H. Hopff. *Deutsche Chem Gesell Ber* 54:2274-82 O '21; *Abstract. Chem Soc J* 120 pt 1:851-2 D '21

Dimethylzylan

Über methylläther des xylans. E. Heuser and W. Ruppel. *Deutsche Chem Gesell Ber* 55:2084-8 JI '22

Dimorphism

Dimorphism of potassium ethyl sulphate. D. L. Hammick and J. M. Mullaly. *Chem Soc J* 119:1802-6 N '21

Dinaphthothiophendichinone

Dibenzothianthrendichinon und dinaphthothiophen-dichinon. K. Brass and L. Köhler. *Deutsche Chem Gesell Ber* 55:2543-68 S '22; *Abstract. Chem Soc J* 122 pt 1:1050-2 N '22

Dinaphthoxanthene

Oxidation of α -dinaphthaxanthens. H. K. Sen-Gupta and S. H. Tucker. *diags Chem Soc J* 121:557-68 Ap '22

Dinaphthyl-phenyl carbinol

Di- α -naphthyl-phenyl carbinol and di- α -naphthyl-phenyl-methyl. C. S. Schoepfle. *Am Chem Soc J* 44:188-94 Ja '22

Dinaphthyl-phenyl-methyl

Di- α -naphthyl-phenyl carbinol and di- α -naphthyl-phenyl-methyl. C. S. Schoepfle. *Am Chem Soc J* 44:188-94 Ja '22

Dining cars

Colonial dining cars for Baltimore & Ohio. *il Ry Age* 75:149-50 JI 28 '23

Diner on English railroad electrically equipped. *il Pop Mech* 37:856 Je '22

Dining car profits in England. *Ry Age* 74:957-8 Ap 21 '23

Electric cooking on English dining car train. *il Ry Mech Eng* 96:151-2 Mr '22

Electric cooking on the Great Northern railway. *il Elec R (Lond)* 89:592-3 N 4 '21

Food at 50 miles an hour, costs. R. Willoughby. *Nation's Business* 11:16-17 F '23

Names of parts of railway coaches. *diags Engineer* 135:362 Ap 6 '23

Pennsylvania system dining cars built at Altoona. *il plans Ry Age* 73:889-91 N 11 '22

Same. *Ry Mech Eng* 96:699-701 D '22

Pullman cafe parlor car. *il Ry Age* 75:620 O 6 '23

Santa Fe acquires eight all steel dining cars. *il diags plan Ry Mech Eng* 96:511-14 S '22

Same. *Ry Age* 73:459-60 S 9 '22

Some details of American dining car service. *Ry Age* 74:502 Mr 3 '23

Some Pullman dining cars used in England. *il plans Ry Mech Eng* 96:261-3 My '22

Why are dining cars unprofitable? *Ry Age* 73:332 N 4 '22

Dining rooms

Desirable distribution of light and brightness for the dining-room. M. Luckiesh and M. S. Fullerton. *Illum Eng Soc* 18:687-90 S '23

Dinitro compounds

Influence of nitro-groups on the reactivity of substituents in the benzene nucleus; heteronuclear dinitro-derivatives. H. Burton and J. Kenner. *Chem Soc J* 121:489-96 Mr '22

Dinitrobenzaldehyde

Derivatives of 2,4-dinitro-benzaldehyde. T. B. Downey and A. Lowy. *Am Chem Soc J* 45:1060-5 Ap '23

Dinitrobenzaldoximes

N-oximino-ethers; N-aryl ethers of 2:4- and 2:6-dinitrobenzaldoximes. F. Barrow, E. D. Griffiths and E. Bloom. *Chem Soc J* 121:1713-17 S '22

Dinitrobenzene

Equilibrium in the system *m*-dinitrobenzene-urethane. N. A. Pushin and A. Fioletova. *Chem Soc J* 121:2822-30 D '22

Dinitrobenzidines

Isomerism of the dinitrobenzidines. O. L. Brady and G. P. McHugh. *Chem Soc J* 123:2047-53 Ag '23

Dinitrobenzil

2:4-dinitrobenzil. G. Bishop and O. L. Brady. *Chem Soc J* 121:2364-70 N '22

Dinitrobenzyl chlorides

N-oximino-ethers; N-aryl ethers of 2:4- and 2:6-dinitrobenzaldoximes. F. Barrow, E. D. Griffiths and E. Bloom. *Chem Soc J* 121:1713-17 S '22

Dinitrodichlorobenzene

Dinitro derivatives of para-dichlorobenzene. A. L. Macleod, M. C. Pfund and M. L. Kilpatrick. *Am Chem Soc J* 44:2260-71 O '22

Dinitrodiphenic acid

Molecular configurations of polynuclear aromatic compounds; resolution of γ -6:6'-dinitro and 4:6:4':6'-tetranitro-diphenic acids into optically active components. G. H. Christie and J. Kenner. *Chem Soc J* 121:614-20 Ap '22

Dinitrophenol

Solubility and volatility of 3:5-dinitrophenol. N. V. Sidgwick and T. W. J. Taylor. *Chem Soc J* 121:1853-9 S '22

Dinitrosoresorcinol

Dinitroso-resorcinol. W. R. Orndorff and M. L. Nichols. *Am Chem Soc J* 45:1536-9 Je '23

Dinitroso-resorcinol as a reagent for the quantitative determination of cobalt in the presence of nickel and other metals of the iron group. W. R. Orndorff and M. L. Nichols. *Am Chem Soc J* 45:1439-44 Je '23

Researches on residual affinity and coordination; cobaltamine and ferric lakes of dinitrosoresorcinol. G. T. Morgan and J. E. Moss. *Chem Soc J* 121:2857-66 D '22

Dinitrotoluene

Products of nitration of toluene. W: H. Gibson, R. Duckham and R. Fairbairn. Chem Soc J 121:270-83 F '22

Dinitrotoluidines

Dinitrotoluidines. O. L. Brady, J. N. E. Day, and W: J. W. Rolt. Chem Soc J 121:526-32 Mr '22

2:3- and 2:5-dinitro-*p*-toluidines. J. Scott and R. Robinson. Chem Soc J 121:844-6 My '22

Dinitroxylenes

Influence of nitro-groups on the reactivity of substituents in the benzene nucleus; reactions of 2:5- and 4:5-dinitro-*m*-xylenes. K. Ibbotson and J. Kenner. Chem Soc J 123:1260-8 My '23

Dioximes

Dioximes; abstracts. G. Ponzio and others. Chem Soc J 122 pt 1:17-18, 627-30, 1037-9; 124 pt 1:469-73, 853-8 Ja, Jl, N '22, My, Ag '23

Dip and strike. See Geology**Dip chart, Geological.** See Geological dip chart**Dip needle surveying.** See Magnetic surveying**Diphenic acid**

Utilization of para-dichlorobenzene for synthesis in the diphenic acid series. E: B. Hunn. Am Chem Soc J 45:1024-30 Ap '23

See also Dichlorodiphenic acid

Diphenic anhydride

Condensation of diphenic anhydride with resorcinol. F. Bischoff and H. Adkins. Am Chem Soc J 45:1030-3 Ap '23

Dyes derived from diphenic anhydride. S. Dutt. Chem Soc J 123:225-8 F '23

Diphensuccindene

Über das 9:12-dichlor-diphensuccindadien-9.11 und das diphensuccinden-10. K. Brand and K. O. Müller. Deutsche Chem Gesell Ber 55:601-8 Mr '22

Diphenyl

Preparation of diphenyl. C. H. Lowe and C. James. diags Am Chem Soc J 45:2666-9 N '23

Diphenylamine

Action of methyl sulphate on diphenylamine and on methylidiphenylamine. C: S. Gibson and D. C. Vining. Chem Soc J 123:831-41 Ap '23

New process of making diphenylamine; patent. diag Color Tr J 12:42 Ja '23

Über das blaue oxydationsprodukt des diphenylamins. F. Kehrmann and G. Roy. Deutsche Chem Gesell Ber 55:156-8 Ja '22

Diphenylchlorophosphine

Addition reactions of phosphorus halides; the 1,2 and 1,4 addition of diphenyl-chlorophosphine. J. B. Conant, J. B. S. Braverman and R. E. Hussey. Am Chem Soc J 45:165-71 Ja '23

Diphenyl-dicarboxylic acid. See Isodiphenic acid**Diphenylene oxide.** See Dibenzofuran**Diphenylethane**

Über die einwirkung von salpetersäure auf α,α -diphenyl-äthan und α,α -diphenyl-äthylen. R: Anschütz and A. Hilbert. Deutsche Chem Gesell Ber 54:1854-9 S '21

Diphenylethyl urethane

Über die spaltung des [1,1-diphenyläthyl-2]-urethans. A. Sieglitz. Deutsche Chem Gesell Ber 55:2040-2 Jl '22

Diphenylethylene

Über die einwirkung von salpetersäure auf α,α -diphenyl-äthan und α,α -diphenyl-äthylen. R: Anschütz and A. Hilbert. Deutsche Chem Gesell Ber 54:1854-9 S '21
Weitere studien über den nitrirungsvorgang. H: Wieland and F. Rahn. Deutsche Chem Gesell Ber 54:1770-5 S '21

Diphenylglyoxalines

Tautomerism of amidines; 2:4- and 2:5- diphenylglyoxalines. R: Burtles and F. L. Pyman. Chem Soc J 123:361-7 F '23

Diphenylguanidine

Diphenylguanidine patent upheld. India Rubber W 67:300 F '23

Disubstituted guanidines. W. Scott. Ind & Eng Chem 15:286-90 Mr '23

Symmetrical diphenyl-guanidine as a standard in acidimetry and alkalimetry. C. A. Carlton. Am Chem Soc J 44:1469-74 Jl '22
Synthesis of diphenylguanidine. J: D. Brumbaugh. diags Chem Age 31:175-6 Ap '23

Diphenylindigotin

Über N,N' -diphenyl-indigo. P. Friedländer and K. Kunz. Deutsche Chem Gesell Ber 55:1597-1607 Je '22; Abstract. Chem Soc J 122 pt 1:765-6 Ag '22

Diphenylmethanes

Action of sodium methoxide and its homologues on benzophenone chloride and benzylidene chloride. J: E. Mackenzie. Chem Soc J 121:1695-9 S '22

Diphenyl-naphthylmethyl

Triphenylmethyl; diphenyl-betanaphthylmethyl and the color of free radicals. M. Gomberg and F. W. Sullivan, Jr. Il Am Chem Soc J 44:1810-33 Ag '22

Diphenylphosphoric acid

Diphenyl-phosphorsäure, ein reagens auf aminogruppen. A. Bernton. Deutsche Chem Gesell Ber 55:3361-5 O '22

Diphenylstyrylcarbinol

Über diphenyl-styryl-carbinol und triphenyl-allen. K. H. Meyer and K. Schuster. Deutsche Chem Gesell Ber 55:815-19 Ap '22

Diphenyl-tetracarboxylic acid

Molecular configurations of polynuclear aromatic compounds; diphenyl-3:5:3':5'-tetracarboxylic acid. H. Burton and J. Kenner. Chem Soc J 123:1043-5 My '23

Diphenylthiolbenzene

Derivatives of diphenylthiolbenzene. S. Smiles and H. Graham. Chem Soc J 121:2506-10 N '22

Dipping (of confections)

Time and motion study. E. Farmer. Eng & Ind Management 7:247-50, 362-4 Mr 9, Ap 20 '22

Dipping tanks

Fire hazards at quenching tanks. Chem & Met Eng 26:1220 Je 28 '22

Dipropargyl methylene

Dipropargyl methylene ether. H. H. Guest. Am Chem Soc J 45:1804-7 Jl '23

Dipyridyl

Über die reduktion von γ,γ' -dipyridyl. O: Dimroth and F. Frister. Deutsche Chem Gesell Ber 55:3693-7 D '22

Über N,N' -dimethyl-[tetrahydro- γ,γ' -dikolidyl]. B. Emmert and O: Werb. Deutsche Chem Gesell Ber 55:1352-8 My '22

Diquinoly ketone

Über das symmetrische di-[chinolyl-2]-keton. G. Scheibe and G. Schmidt. Deutsche Chem Gesell Ber 55:3157-60 O '22

Direct advertising. See Advertising, Direct; Advertising, Mail**Direct current motors.** See Electric motors, Direct current**Direct mail advertising association**

Direct mail advertising association orders membership drive. Ptr Ink 121:28+ N 2 '22
4th annual convention, Springfield, Mass., Oct. 25-27. N. T. Praigg. Il Inland Ptr 68:350-2 D '21

5th annual convention of the direct mail advertising association. N. T. Praigg. Inland Ptr 70:401-2 D '22

6th annual convention, St. Louis. Ptr Ink 125:25-8 N 1 '23

Resolutions of the direct-mail convention. Ptr Ink 121:116 N 9 '22

Direction finding apparatus

Direction-finding wireless. J. J. Bennett. Il diags Engineering 112:333-5 S 2 '21; Excerpts. Soc Auto Eng J 9:374 D '21

Directional radio waves for guiding ships. Il Pop Mech 38:212 Ag '22

Directional transmission of electromagnetic waves for navigational purposes. J. E. Skine-Murray and J. Robinson. Inst E E J 60:352-6 Mr '22; Excerpts. Electrician 83:315-16 Mr 17 '22; Discussion. Am Inst E E J 60:356-62 Mr '22

Direction finding apparatus—Continued

- Directional wireless telegraphy in aircraft. C. K. Chandler. diags Inst E E J 61:803-11 J1 '23
- Directive radio transmission on a wavelength of 10 meters. S. R. Winters. il Wireless Age 10:55-6 Ag '23
- Directive wireless telegraphy. L. H. Walter. 124p Pitman '21
- Effect of local conditions on radio direction-finding installations. R. L. Smith-Rose and R. H. Barfield. diags plans Inst E E J 61:179-91 Ja '23; Abstracts. Elec R (Lond) 91:750-1 N 17 '22; Engineer 134:562 N 24 '22; Sci Am 128:237 Ap '23; Discussion. Inst E E J 61:191-6 Ja '23
- Field locator makes travel by air safe. Aerial Age 15:379 Je 26 '22
- Fog signaling by polarized sound; a simple arrangement for determining the exact direction from which a signal comes. A. Bull. il diags Sci Am 127:406-7 D '22
- Le pilotage par cable électrique, système Loth, des navires et des aéronefs. P. Letheule. il diags Génie Civil 79:505-10 D 10 '21
- Radio direction finder and its application to navigation. F. A. Kolster and F. W. Dunmore. il diags U S Bur Stand Sci Pa 428:529-66 '22
- Radio direction-finding in flying machines. Sci Am 127:409 D '22
- Radio direction finding; radio research board's report. Elec R (Lond) 93:387-8 S 14 '23
- Radio-telegraphic direction-finding by reception. R. S. Smith-Rose and R. H. Barfield. Engineering 116:305-7 S 7 '23
- Submarine direction finding and submarine sounding apparatus for small boats. il Marine Eng 28:693-4 N '23
- Time and position ascertained by radio. Elec W 79:83 Ja 14 '22
- Wireless direction-finding in steel ships. C. E. Horton. diags Inst E E J 61:1049-56; Discussion. 1056-60 S '23
- Wireless equipment of aircraft. il diags Engineer 135:192-6 F 23 '23
- See also Compass; Hydrophone; Loth guide cable; Radio beacons; Radio telegraph in aviation; Range finding

Directories

- Anuario Argentino de fabricantes y comerciantes nacionales y extranjeros. 14th ed. 584p Standard directory co., Tucumán 692, Buenos Aires '22
- Industrial directory and shippers' guide. 968p New York Central lines, Grand Central terminal, New York '21
- Novel automatic business directory placed in Hollywood. J Elec 51:165 S 1 '23
- Ohio industrial directory. Buckeye listing co., Cleveland, O. '22
- Tel-U-where directory; where to buy in Boston. 160p Tel-U-where co. of America, 142 Berkeley st., Boston '23

See also Directory libraries; Trade directories; also subdivision Directories under special subjects, e.g. Banks and banking—Directories, Engineers—Directories, Manufacturers—Directories; also names of places, e.g. Argentina—Directories

Bibliography

- Trade and class directories copyrighted in the United States. Special Lib 13:26-31, 43-7 F-Mr '22

Directories, Labor. See Labor directories

Directory libraries

- Directory libraries and special service. W. Gavett. Special Lib 13:131-3 O '22

Direx

- New invention gets quick distribution through advertising; Direx, a new photographic roll. Ptr Ink 117:20 D 15 '21

Dirigibles. See Airships

Disabled**Rehabilitation**

- Cripples in industry. H. M. Wolflin. Min & Met 186:29-30 Je '22
- Education for the disabled in war and industry. A. G. Crane. 83p Teachers college, Columbia univ., New York '21

Hospital aids injured workers. il Textile

World 61:3738 Je 17 '22

Industrial rehabilitation. U S Bur Labor Statistics Bul 281:123-72 '21

Industrial rehabilitation of workers. W. A. McGarry. il Pop Mech 37:33-6 Ja '22

Industrial rehabilitation services of advertisement and cooperation. Oct. '21. (Bul. no. 70) 35p U.S. Federal board for vocational education, Washington '21

New Jersey abolishes industrial scrap heap. L. T. Bryant. Safety Eng 44:185-8 D '22

On behalf of the industrial disabled. G. A. Boate. chart Ind Management 62:345-52 D '21

Le rendement professionnel des mutilés. J. J. M. L. Gourdon, H. Dijonneau and J. Thi-baudreau. 272p G. Doin, Paris '22

Report of proceedings of First National conference on vocational rehabilitation of persons disabled in industry or otherwise, St Louis. 138p Federal bd. for vocational education, Washington, D.C. '22

Restoring the injured worker to health and efficiency. H. T. Martin. Nat Safety N 8:45-6 J1 '23

Taking care of the industrial cripple. L. T. Bryant. Safety Eng 42:217-18 N '21

See also Soldiers, Disabled—Rehabilitation

Disabled, Occupations for

On behalf of the industrial disabled. G. A. Boate. chart Ind Management 62:345-52 D '21

Placing cardiac patients in regular industries. J. S. Sheppard. J Ind Hygiene 5:189-204 O '23

See also Blind

Disaccharides

Constitution of the disaccharides; the biiose of amygdalin. W. N. Haworth and G. C. Leitch. Chem Soc J 121:1921-9 S '22

Disalicin disulfide

Über salicinrhodanid und disalicindisulfid. G. Zemplén and A. Hoffmann. Deutsche Chem Gesell Ber 55:992-7 Ap '22

Disalicylaldehyde

Structure of disalicyl aldehyde. R. Adams, M. F. Fogler and C. W. Kreger. diags Am Chem Soc J 44:1126-33 My '22

Disalicylic acid

Über die disalicylsäure oder anhydro-salicylsäure und ihre umwandlung in xanthon-4-carbonsäure. R. Anschütz and W. Claasen. Deutsche Chem Gesell Ber 55:680-9 Mr '22

Disarmament

A B C's of disarmament and the Pacific problems. A. Bullard. 122p Macmillan '21

Business of the nation expresses desire for lasting peace. Ptr Ink 117:121-2 N 17 '21

Disarmament and my business. E. A. Filene. il Nation's Business 9:11-12 D '21

Limitation of armaments. H. Wehberg. 104p The Carnegie endowment for international peace, Washington '21

Selected articles on disarmament. M. K. Reely, comp. 320p H. W. Wilson co. '21

20th general meeting of the American iron and steel institute, New York, Nov. 18. Iron Tr R 69:1338-9 N 24 '21

See also Conference on the limitation of armaments, Washington, D.C., 1921; Warships—Demolition

Discount

Discount rates of the federal reserve banks, 1914-1921. 33p U.S. Federal reserve board, Washington '22

Establishment by Federal reserve board of principles for guidance of banks in use of rediscount facilities. P. M. Warburg. Comm & Fin Chr 116:370-3 Ja 27 '23

Newly enacted bill broadening discount privileges of member state banks of Federal reserve system. Comm & Fin Chr 115:932-3 Ag 26 '22

Opposed to efforts to require uniform discount rates. W. P. G. Harding. Comm & Fin Chr 114:467 F 4 '22

Discount—Continued

Reply of Federal reserve board to Senate resolution asking for information as to reserve bank interest charges. *Comm & Fin Chr* 116:572-5 F 10 '23

See also Acceptances

Discount, Trade

Advertising hold-upitis breaking out among big retailers. *Ptr Ink* 125:81-2+ O 11 '23

Cash discounts and their accounting treatment. J. P. Adams. *Administration* 5:190-8 F '23

Discount shopping severely condemned by food manufacturers. *Ptr Ink* 124:89-90 S 27 '23

Handling cash discounts. *System* 42:424+ O '22

How we got our discount terms observed. S. C. Gunn. *System* 41:44-6+ Ja '22

If you pass cash discounts. C. C. Kaskell. *il System* 43:343-4 Mr '23

Mennen files petition against Federal trade commission ruling. *Ptr Ink* 121:108 N 9 '22

Mennen wins fight for trade discounts. *Ptr Ink* 122:33-4 Mr 22 '23

Price concessions to the retailer that hurt advertising. A. H. Deute. *Ptr Ink* 119:25-8 My 18 '22

Remedy for special discounts to favored dealers. S. C. Lambert. *Ptr Ink* 124:130+ JI 26 '23

Report of N.W.D.A. committee on proprietary goods. Oil Paint & Drug Rep 104:39-42 O 17 '23

Supreme court maintains Mennen's contention on legality of trade discounts. *Ptr Ink* 123:10+ Je 21 '23

Trade commission attacks right to classify customers. *Ptr Ink* 117:17-18 D 22 '21

What is the law as to trade discounts? *Ptr Ink* 118:17-18 Mr 30 '22

Why we catch all the cash discounts. P. F. O'Shea. *System* 41:296+ Mr '22

Bibliography

Rebates and discounts. *Ptr Ink* 124:145 S 27 '23

Diseases

See Influenza; Malaria; Tuberculosis; Typhoid fever

Diseases, Industrial

Current notes on industrial hygiene. *Int Labour R* 4:351-4 N '21

Diagnosis and supervision of industrial diseases in Germany. L. Teleky. *J Ind Hygiene* 4:212-18 S '22

Disease as a compensable injury. L. D. Clark. *Monthly Labor R* 17:196-202 JI '23

Factories and workshops: annual report for 1922; notes on chemical conditions and processes. *Chem Age (Lond)* 9:142-5 Ag 11 '23

Industrial dermatoses. H. N. Cole and J. R. Driver. *bibliog J Ind Hygiene* 4:425-32 F '23

Industrial diseases; abstract. T. M. Legge. *J Ind Hygiene* 4:100-1 N '22

Industrial diseases of fur cutters and hatters. A. Hamilton. *J Ind Hygiene* 4:219-33; *Bibliography*. 234 S '22

International review of industrial diseases, by L. Teleky and E. Brenzina. Review by A. Hamilton. *J Ind Hygiene* 5:35-9 My '23

Occupational diseases under the Federal compensation law—opinion of the Attorney General. *Monthly Labor R* 16:1365-72 Je '23

Occupational dyskinesia—paresthetic type; abstract. C. Houllion. *J Ind Hygiene* 4:sup85-6 O '22

Report of A.C.S. committee on occupational diseases and hazards in the chemical trades. *Ind & Eng Chem* 15:535-7 My '23

See also Anthrax; Brass founders' ague; Caisson disease; Coal miners—Diseases and hygiene; Foot strain; Hygiene, Industrial; Lead poisoning; Lungs—Diseases; Metal workers—Diseases and hygiene; Miners' nystagmus; Miners' phthisis; Poisons, Industrial; Printers—Diseases and hygiene; Refrigerants, Physiological effects of; Skin—Diseases

Statistics

Occupational sickness; a review; with bibliography. E. A. Rusher. *J Ind Hygiene* 4:125-35 JI '22

Dishes

Comparative tests of American and foreign tableware. H. H. Sortwell. *diag Am Cer Soc J* 5:276-88 Je '22

Standardizing dishes to avoid breakage. G. H. Dacy. *il Pop Mech* 37:755-6 My '22

Dishwashing machines

Making idle floor space pay dividends; new electric dishwashing machine. *il Sheet Metal Worker* 12:887+ Ja '22

Advertising

Sells dish washer on reputation as maker of fire arms. *Ptr Ink* 122:33-4 F 22 '23

Disinfectant manufacturers' association

Disinfectant makers rename association. *Oil Paint & Drug Rep* 103:20 Je 18 '23

Disinfection and disinfectants

Bunk house sterilizer uses live steam and creosote oil. *il Eng N* 91:520-1 S 27 '23

Disinfecting railway carriages. *il diags Engineer* 135:237 Mr 2 '23

Manufacture and uses of chloramine—T. M. Briscoe. *Chem Age (Lond)* 9:168-9 Ag 18 '23

Poison-gas chambers disinfect freight. S. R. Winters. *il Pop Mech* 37:595 Ap '22

See also Antiseptics; Cresol; Dyes as antiseptics and disinfectants; Hydrocyanic acid; Lysol; Pyromucic acid

Disinfection of wool. *See* Wool disinfection

Disks

How the disk is machined. M. Wright. *il Am Mach* 57:112-13 JI 20 '22

Reaction of the air to a circular disk vibrating about a diameter. E. T. Hanson. *diag Philos Mag* 6th ser 46:434-41 S '23

See also Cylinder heads

Disperse systems. *See* Colloids; Particles; Solution

Dispersion

Experimental investigation of the dispersion of a limited wave train. I. H. Solt. *diags Phys R* 20:513-25 D '22

Magnetic and natural rotatory dispersion in absorbing media. E. O. Hulburt. *Phys R* 22:180-7 Ag '23

Magnetic rotatory dispersion in gases. T. H. Havelock. *Philos Mag* 6th ser 45:560-76 Mr '23

Magnetic rotatory dispersion of certain paramagnetic solutions. R. W. Roberts, J. H. Smith and S. S. Richardson. *Philos Mag* 6th ser 44:912-15 N '22

Rotatory and refractive dispersions and the absorption spectrum of di- γ -nonyl nitrite. R. H. Pickard and H. Hunter. *Chem Soc J* 123:434-44 Mr '23

Rotatory dispersion of the esters of lactic acid; normal esters. C. E. Wood, J. E. Such and F. Scarf. *Chem Soc J* 123:600-16 Mr '23

Rotatory dispersive power of organic compounds; the preparation and properties of pure ethyl tartrate. T. M. Lowry and J. O. Cutter. *Chem Soc J* 121:532-44 Mr '22

Displacement currents, Electric. *See* Electric displacement currents

Dissociation

Bemerkungen zu den arbeiten v. Weinbergs Verbrennungswärme und dissoziierungsarbeit. W. Hüchel. *Deutsche Chem Gesell Ber* 55:2839-43 S '22

Determination of the dissociation pressures of hydrated salts by a dynamical method. J. R. Partington and D. B. Huntingford. *Chem Soc J* 123:160-70 Ja '23

Dissociation-equilibria by the method of partitions. R. H. Fowler. *Philos Mag* 6th ser 45:1-33 Ja '23

Dissociation of complex cyanides. G. J. Burrows. *Chem Soc J* 123:2026-9 Ag '23

Dissociation—Continued

- Dissociation of ferric oxide dissolved in glass and its relation to the color of iron-bearing glasses. J. C. Hostetter and H. S. Roberts. *Am Cer Soc J* 4:927-38 N '21
- Dissociation of molecular hydrogen, from the entropies of diatomic and monatomic hydrogen. G. Edgar. *Am Chem Soc J* 45:673-6 Mr '23
- Dissociation pressures of certain salt hydrates by the gas-current saturation method. W. C. Schumb. *diag Am Chem Soc J* 45:342-54 F '23
- Die dissoziation des chlors. H. v. Wartenberg and F. A. Henglein. *Deutsche Chem Gesell Ber* 55:1003-6 Ap '22
- Formation and dissociation of some polyhalogen compounds of hydrogen in aqueous solution. P. Ray and P. V. Sarkar. *Chem Soc J* 121:1449-55 Ag '22
- New evidence regarding the interpretation of critical potentials in hydrogen. P. S. Ohmstedt. *diags Phys R* 20:613-30 D '22
- Spontaneous dissociation of triphenylmethyl disulfide with the formation of triphenylmethyl; the potassium derivative of triphenyl carbinol and its use as a synthetic agent. F. F. Blicke. *Am Chem Soc J* 45:1965-9 Ag '23

See also Hydrolysis

Distillation

- Calculations on fractionating columns from theoretical data. W. A. Peters, jr. *Ind & Eng Chem* 15:402-3 Ap '23
- Determination of arsenic in cobalt ores and cobalt nickel speiss by the distillation method. C. A. Knittel. *diag Can Chem & Met* 6:146-7 Jl '22
- Distillation and concentration of dilute nitric acid. E. Berl and O. Samtleben. *diags Chem & Met Eng* 27:1025-30 N '22
- Distillation et rectification. L. Gay. *Chimie & Ind* 6:567-78 N '21
- Distillation principles and processes. S. Young and others. 509p Macmillan '22
- Distillation studies of nitric acid and sulphuric-nitric acid mixtures. P. Pascal. *diags Chem & Met Eng* 25:1103-6, 1145-50 D 14-21 '21
- Efficiency and design of rectifying columns for binary mixtures. W. K. Lewis. *diag J Ind & Eng Chem* 14:492-7 Je '22
- Elements of fractional distillation. C. S. Robinson. 205p McGraw-Hill '22
- Fractional distillations of fuel and how to make them. P. S. Tice. *il diags Automotive Ind* 47:120-6 Jl 20 '22
- Improved method for the separation of gas mixtures by fractional distillation at low temperatures and pressures. M. Shepherd and F. Porter. *diag Ind & Eng Chem* 15:1143-6 N '23
- Method for determining hydrogen sulfide evolved by foods when cooked at various temperatures; its application to steam distillation under pressure. E. E. Kohman. *diag J Ind & Eng Chem* 14:527-9 Je '22
- Present practice of dynamite and chemically pure glycerol distillation. J. W. Bodman. *il diags J Ind & Eng Chem* 14:487-91 Je '22
- Purification of high melting-point materials by fractional distillation. *Chem & Met Eng* 29:807 O 29 '23
- Recovering values from waste products by distillation; the manufacture of yeast, alcohol, ether and other products from the waste of sugar plantations. H. Arnstein. *diags Chem & Met Eng* 29:485-7 S 10 '23
- Relation between the composition of vapor and liquor in distillation. E. Piron. *diags Chem & Met Eng* 26:317-20 F 15 '22
- Separation of miscible liquids by distillation. A. F. Dufton. *diag Chem Soc J* 119:1988-94; 121:306-8 D '21, F '22
- Simple distillation of hydrocarbon mixtures. W. K. Lewis and C. S. Robinson. *diags J Ind & Eng Chem* 14:481-4 Je '22
- Sur la distillation d'un mélange de benzène, toluène et métaxylène. L. Gay. *Chimie & Ind* 7:851-4 My '22
- Symposium on distillation. *Chem & Met Eng* 26:729-31 Ap 19 '22
- System furfural-water. G. H. Mains. *Chem & Met Eng* 26:779-84, 841-3 Ap 26-My 3 '22
- Théorie de la colonne de rectification. E. Fouché. *Soc Ing Civils Bul* 75:64-86 Ja '22
- La théorie thermique de la distillation et de la rectification de l'air. P. Mion and L. Gay. *diags Chimie & Ind* 9:463-8, 674-84 Mr-Apr '23
- See also Alcohol; Coal distillation; Coal tar; Fermentation; Petroleum distillation; Petroleum refining; Rectification; Vapor pressure; Wood distillation
- Distillation apparatus**
- Automatic fractionating columns. W. A. Peters, jr. *il diags Ind & Eng Chem* 15:734-5 Jl '23
- Design and working of ammoniacal liquor stills. P. Parrish. *Engineering* 114:63-4 Jl 21 '22
- Distilling column elements. J. A. Steffens. *diag Chem Age* 31:75-6 F '23
- Efficiency and capacity of fractionating columns. W. A. Peters, jr. *il J Ind & Eng Chem* 14:476-9 Je '22
- Efficiency and design of rectifying columns for binary mixtures. W. K. Lewis. *diag J Ind & Eng Chem* 14:492-7 Je '22
- Fractional distillation. E. J. Winter. *diags Chem & Met Eng* 29:482-4 S 10 '23
- Glass rings—a new filling material for towers. F. C. Zeisberg. *Chem & Met Eng* 28:9-10 Ja 3 '23
- How do you operate a column still? F. H. Rhodes. *diags Chem & Met Eng* 28:590-2 Mr 28 '23
- Improved still for producing pure water. C. A. Kraus and W. B. Dexter. *diag Am Chem Soc J* 44:2468-71 N '22
- Investigation of the explosion of a still. *Engineering* 115:725 Je 8 '23
- Laboratory fractionating column. H. T. Clarke and E. J. Rahrs. *diag Ind & Eng Chem* 15:349 Ap '23
- Large containers. E. E. Thum. *Chem & Met Eng* 28:679 Ap 16 '23
- Periodic still for experimental work. *il diags Engineering* 115:552-4 My 4 '23
- Plate efficiency of a continuous alcohol still. C. S. Robinson. *J Ind & Eng Chem* 14:480-1 Je '22
- Simple graphical method of calculating the number of plates required for a distilling column. W. H. Rodebush. *J Ind & Eng Chem* 14:1036-7 N '22
- Water still for storage batteries. R. Brown. *diag Power* 56:255-6 Ag 15 '22
- Distilled water.** See Water, Distilled
- Distribution.** See Jobbers; Mail order business; Marketing; Retail trade
- Distribution, Electric.** See Electric distribution
- Distribution costs.** See Marketing—Cost; Sales costs
- Distribution of gas.** See Gas distribution
- Distribution of water.** See Water distribution
- Distributors**
- Distributing granular material in drainage vaults. A. W. Allen. *Eng & Min J* 114:23 Jl 1 '22
- Distyryl ketones**
- Benzopyrylium salts of distyryl ketones. J. S. Buck and I. M. Heilbron. *Chem Soc J* 121:1198-1212 Jl '22
- Benzopyrylium salts of distyryl ketones; salts and metallic complexes of 4'-dimethylamino-2-styrylbenzopyrylium. J. S. Buck and I. M. Heilbron. *Chem Soc J* 123:1395-1404 Je '23
- Über die halochromie und solvatochromie des dibenzalacetons und einfacherer ketone, sowie ihrer ketochloride. A. Hantzsch. *Deutsche Chem Gesell Ber* 55:953-79 Ap '22; Abstract. *Chem Soc J* 122 pt 1:556-8 Je '22
- Disulfides**
- Disulphides with neighbouring single and multiple linkings; syntheses of triazoles and thiodiazoles. E. Fromm and others. *Chem Soc J* 122 pt 1:377-80 Ap '22
- Interaction of aromatic disulphides and sulphuric acid. S. Smiles and E. W. McClelland. *Chem Soc J* 121:86-90 Ja '22

Disulfur dithiocyanate. See Sulfur dithiocyanate
Ditches. See Drainage

Ditching machines. See Excavating machinery;
 Trenching machinery

Dithioacetylene

Abkömmlinge des dithio-äthylens und dithioacetylen und die additionsfähigkeit mehrfacher bindungen. E. Fromm und E. Siebert. Deutsche Chem Gesell Ber 55:1014-30 Ap '22; Abstract. Chem Soc J 122 pt 1:542-3 Je '22

Dithioanthraquinone

Investigation of *meso*-thioanthracene derivatives; observations on the production of dithioanthraquinone, dithiodianthrone and other closely related derivatives. I. M. Heilbron and J. S. Heaton. Chem Soc J 123:173-85 Ja '23

Dithiobenzoic acid

m-dithiobenzoic acid. S: Smiles and J. Stewart. Chem Soc J 119:1792-8 N '21

p-dithiobenzoic acid. S: Smiles and D. C. Harrison. Chem Soc J 121:2022-6 O '22

Dithiobenzoyl

Production and reactions of 2-dithiobenzoyl. M. McKibben and E. W. McClelland. Chem Soc J 123:170-3 Ja '23

Dithiocarbamates

Reactions of accelerators during vulcanization. C. W. Bedford and H. Gray. Ind & Eng Chem 15:720-4 Jl '23

Dithiocarbazines

Decomposition of dithiocarbazines. S. M. Losanitch. Chem Soc J 121:2542-5 N '22

Dithiodianthrone

Investigation of *meso*-thioanthracene derivatives; observations on the production of dithioanthraquinone, dithiodianthrone and other closely related derivatives. I. M. Heilbron and J. S. Heaton. Chem Soc J 123:173-85 Ja '23

Dithio-ethers

Formation and properties of dithio-ketones ($R_2C:S:S$) and dithio-ethers ($R_2S:S$). K. G. Naik and M. D. Avasare. Chem Soc J 121:2592-5 N '22

Dithioethylene

Abkömmlinge des dithio-äthylens und dithioacetylen und die additionsfähigkeit mehrfacher bindungen. E. Fromm und E. Siebert. Deutsche Chem Gesell Ber 55:1014-30 Ap '22; Abstract. Chem Soc J 122 pt 1:542-3 Je '22

Dithioketones

Formation and properties of dithio-ketones ($R_2C:S:S$) and dithio-ethers ($R_2S:S$). K. G. Naik and M. D. Avasare. Chem Soc J 121:2592-5 N '22

Dithioazole (amino-thio-diazole-thiol)

Constitution of the so-called dithio-urazole of Martin Freund. P. C. Guha. Am Chem Soc J 44:1502-10 Jl '22

Constitution of the so-called dithio-urazole of Martin Freund; new methods of synthesis, isomerism and poly-derivatives. P. C. Guha. Am Chem Soc J 44:1510-17 Jl '22

Ringschlüsse an schwefelhaltigen dicarbonhydrizinen; dithio-urazol und iminothiourazol. F. Arndt and E. Milde. Deutsche Chem Gesell Ber 54:2089-2110 S '21; Abstract. Chem Soc J 120 pt 1:813-15 N '21

Diversified farming

Advertising significance of diversified farming. E. B. Weiss. Ptr Ink 118:73-4+ Mr 9; 119:101-2+ Ap 13 '22

Business paradox in farming. E. T. Peterson. Nation's Business 11:37-8 Mr '23

Dividends

Dividends. Published in weekly numbers of Commercial and financial chronicle

Dividends in securities. W. A. Paton. Administration 4:394-402 O '22

Last year's flood of stock dividends. W. J. Matherly. Annalist 21:380 Mr 12 '23

Payment of dividends before restoring impaired capital. C. F. Schlatter. J Account 35:172-85 Mr '23; Same. Paper Tr J 77:57-60+ Jl 5 '23

Proposed taxation of stock dividends. W. J. Matherly. J Account 36:97-103 Ag '23; Same. Paper Tr J 77:54-6 Ag 23 '23

Stock dividends—are they advisable? F. E. Seidman. Annalist 20:412+ O 23 '22

Stock dividends of over two billion dollars declared in 1922—Senate resolution regarding taxation of stock dividends. Comm & Fin Chr 116:368-70 Ja 27 '23

Dividing

Development of machine tools in New England; history of the dividing engine for graduating scales and rules. G. Hubbard. Il diags Am Mach 59:311-15 Ag 30 '23

Generalized proportional dividers. V. Karapetoff. diags Sibley J 36:5-6 Ja '22

Divi-divi

Survey indicates adequate sources of supply for divi-divi. H. M. Hoar. Chem & Met Eng 29:77 Jl 9 '23

Diving

Fishing for pearls. C: H: Dorr. Il Sci Am 128:102-3 F '23

Diving, Submarine

Lusitania and the submarine salvor; schemes proposed for dealing with the war's most famous wreck. R. G. Skerrett. Il diags Sci Am 127:234-5 O '22

Simple diving helmet gives good results. Il Pop Mech 37:222 F '22

Steel-ribbed house for the deep-sea diver. Il Sci Am 128:163 Mr '23

Submarine armor. Il Sci Am 126:62 Ja '22

Division of labor

Division of labor. F: L: Ackerman. Am Inst Arch J 10:291-4, 361-2; 11:27-8 S, N '22, Ja '23

Dixie highway

Constructing Kentucky rock asphalt pavement on Dixie highway between Louisville and West Point, Kentucky. J. H. Cahill. Il Munic Eng 62:12-15 Ja '22

Dobříš, Czechoslovakia

Gardens of Dobříš near Prague, Czechoslovakia. G: Burnap. Il Arch Rec 52:510-23 D '22

Dock workers. See Longshoremen

Docks

Dock and lock machinery. W: H: Hunter. 207p Van Nostrand '22; Review. Engineering 113:206-7 F 17 '22

Dock extensions at Liverpool. Il diags Engineer 134:83-4, 92 Jl 28 '22

Enlargement of Deptford dock, Sunderland. diags plan Engineer 133:656-8 Je 16 '22

Extensions at Tilbury docks, 1912-1917. F. M. G. Du-Plat-Taylor. Engineering 114:772 D 22 '22

Harbours and waterways in 1921. Engineer 133:16-18, 32-4 Ja 6-13 '22

King George V. dock, London. A. Binns. Engineering 115:428 Ap 6 '23

Large hollow concrete blocks form dock wall. Il diags plan Eng. N 88:956-7 Je 8 '22

Maintenance of tidal berths. E. Latham. diags Engineer 133:87-8 Ja 27 '22

New York city's Staten Island docks. Il Sci Am 126:328-9 My '22

Ohio basin dock wall construction at Buffalo. Il Pub Works 52:221-4 Ap 1 '22

Oil dock on the Manchester ship canal. W: Fox. Engineer 133:309 Mr 17 '22

Petroleum spirit dock on the Manchester ship canal. Il diags plans Engineer 134:324-6, 328 S 29 '22; Same cond. Eng & Contr 58:19-21 N 29 '22

Port of London improvements. maps Engineer 136:130-1 Ag 3 '23; Engineering 116:152-3 Ag 3 '23

Pouring concrete under water; barge canal dock walls at Buffalo. Il Sci Am 126:252 Ap '22

Proposed improvements of Liverpool landing stage. diags Engineer 133:161 F 10 '22

Quayside equipment. E. Latham. diags Engineering 116:419-22 O 5 '23

Rangoon and its proposed new docks. map plan Engineer 132:560-2, 568 N 25 '21

Steamship dock and warehouse at Milwaukee. Wis. Il diags plans Eng N 89:322-3 Ag 24 '22

Docks—Continued

Types of works for berthing ships of great draught in tidal seas. Engineering 116:23-5 JI 6 '23

See also Bulkheads; Dry docks; Harbors; Ore docks; Terminals; Wharves

Docks, Floating. See Dry docks

Doctorates. See Degrees, Academic

Dodge, Grenville M.

Monuments to early engineers of the Rock Island Ry. il Eng N 90:121-3 Ja 18 '23

Dogs

Mail-order selling of dogs turns hobby into business. C. M. Harrison. il Ptr Ink M 4:39 Ap '22

Dollar, Robert, 1844-

Things seen. Nation's Business 10:11-13 My; 34-6 JI; 34+ Ag '22

Dollings, R. L., company

Two executives of the R. L. Dollings company to be prosecuted. Comm & Fin Chr 117:1417 S 29 '23

Dolomite

Caustic calcination of dolomite and its use in sorrel cements. G. A. Bole and J. E. Shaw. Am Cer Soc J 5:817-22 N '22

Dolomite for refractories. Iron Age 110:998 O 19 '22

Studies on the dolomite system. A. E. Mitchell. diag Chem Soc J 123:1055-69, 1887-1904 My, Ag '23

Technical developments in dolomite refractories. H. G. Schurecht. Am Cer Soc J 6:278-80 Ja '23

Analysis

Rapid method of analysis for dolomite and magnesian limestone. S. D. Averitt. J Ind & Eng Chem 14:1139-40 D '22

Dome mines, ltd.

11th annual report. A. Gray. Eng & Min J 114:83 JI 3 '22

Domes

Analysis of common forms of solid domes. R. H. Canfield. diags Eng & Contr (Bldgs) 59:189-93 Ja 24 '23

Comparative notes on the dome of St Peter's and the original model by Michelangelo. V. L. S. Hafner. il Am Inst Arch J 10: 384-8 D '22; Discussion. E. Swartwout. Am Arch 123:29-31 Ja 3 '23; V. L. S. Hafner. Am Inst Arch J 11:155-8 Ap '23

Massive dome roofed with copper. il diags Sheet Metal Worker 11:11-2 F 16 '23

Domestic appliances

Cheating the junk-pile. E. R. Peyser. 402p Dutton '22

Consumer resistance to labor-saving devices. R. Frothingham. Ptr Ink 121:119-20+ D 14 '22

Making bigger markets by adding rooms to homes. R. R. Updegraff. Ptr Ink 118:3-4+ Mr 9 '22

Mechanical devices in the home. E. Allen. 251p Manual arts press '22

Mechanical packaging of foodstuffs; butter, egg and vegetable slicers. il Sci Am 128:23 Ja '23

See also Dishwashing machines; Electric apparatus and appliances, Domestic; Electric cooking; Gas appliances; Washing machines

Domestic architecture. See Architecture, Domestic

Domestic engineering

See Heating; Plumbing; Sanitary engineering; Ventilation

Domestic finance

Spending the family income. S. A. Donham. 174p Little, Brown & co., Boston '21

See also Budget, Household

Dominion land surveyors, Association of. See Association of Dominion land surveyors

Don Pedro dam

Harnessing the California river. il Sci Am 129: 33 JI '23

Door knockers. See Knockers

Doors

Door at the head of the stairs, Cloister of San Lorenzo, Florence, Italy, measured and drawn by R. M. Blackall. Am Arch 121:63-4 Ja 18 '22

English renaissance details; oak doors, Christchurch gate, Canterbury. il diags plans Arch Forum 36:201-3 My '22

Interiors adapted from the Italian; floors and trim. W. F. Wheeler. il diags Arch Forum 35:199-204 N '21

See also Doorways; Knockers; Plates, Escutcheon

Doorways

Central motif, Musee Carnavalet, Paris; measured drawings. F. N. Breed. Arch Forum 38:231-3 My '23

Colonial doorways from a layman's standpoint. C. L. Smith. il Am Arch 121:203-9 Mr 15 '22

Doorway, Chapel Kerfons near Lannion. Am Arch 123:325 Ap 11 '23

Doorway, Chateau at Josselin. il diag Am Arch 122:505, 510 D 6 '22

Doorway in Bristol, Rhode Island. Am Arch 120:428-428a D 7 '21

Doorway to a house on Benefit street, Providence. Am Arch 121:12-12a Ja 4 '22

Five examples of doorways. il Bldg Age 45: 62-3 Ap '23

Stone doorway, St John's college, Oxford; details. Arch Forum 38:55-6 F '23

Student work, Beaux-Arts institute of design. Am Arch 123:328-9 Ap 11 '23

See also Doors

Dopplerte

Dopplerte; studies in the composition of coal. F: V. Tidswell and R: V. Wheeler. Chem Soc J 121:2345-62 N '22

Dormitories

Recent dormitories at Smith college. il plan Arch Forum 38:183-6, pl 33-6 Ap '23

Dorr thickener

Distributing box for Dorr thickener. C. G. Dresser. diag Eng & Min J 114:635-6 O 7 '22

Double bond

Double and triple bonds, and electron structures in unsaturated molecules. E. D. Eastman. Am Chem Soc J 44:438-51 Mr '22

Notiz über die natur der mehrfachen kohlenstoffbindung. H. J. Prins. Deutsche Chem Gesell Ber 55:3437-9 N '22

Quantitative study of the reaction between ethylenic hydrocarbons and the Grignard reagent. H: Gilman and H. M. Crawford. diag Am Chem Soc J 45:554-8 F '23

Studies of electrovalency; the polarity of double bonds. T. M. Lowry. Chem Soc J 123:822-31 Ap '23; Abstract, with discussion. Soc Chem Ind J (Chem & Ind) 42:302, 304-5 Mr 23 '23

Über den hauptbestandteil des Japanlacks: stellung der doppelbindungen in der seitenkette des urushiois und beweisführung, dass das urushiol eine mischung ist. R. Majimas. Deutsche Chem Gesell Ber 55:172-91 Ja '22; Abstract. Chem Soc J 122 pt 1:262-3 Mr '22

Ungesättigte reste in chemischer und pharmakologischer beziehung. J. v. Braun and O: Braunsdorf. Deutsche Chem Gesell Ber 54: 2081-8 S '21

Ungesättigte reste in chemischer und pharmakologischer beziehung. J. v. Braun and G: Lemke. Deutsche Chem Gesell Ber 55: 3536-59 N '22; Abstract. Chem Soc J 124 pt 1:4-8 Ja '23

Zur spektrochemie der aliphatischen diene mit konjugierten doppelbindungen. K. v. Auwers and H. Westermann. Deutsche Chem Gesell Ber 54:2993-9 D '21

Double deck bridges. See Bridge design—Double decks

Double salts. See Salts, Double

Douglas, William L.

Shoemaker who stuck to his last; interview by R. W. Johnson with W. L. Douglas. il Ptr Ink M 4:18-20 Ja '22

Douglas fir

- Douglas fir as tie timber. Elec Ry J 59:189 F 4 '22
 Douglas fir for mine timbers. C. J. Hogue. il Eng & Min J 116:316-19 Ag 25 '23
 Douglas fir invades the East. C. J. Hogue. il Elec Ry J 60:161-3 Jl 29 '22
 Douglas fir versus longleaf pine. Can Eng 45: 399-400 O 9 '23
 Identification of Douglas fir wood. Eng & Contr (Bldgs) 60:661 S 26 '23; Same cond. Eng N 91:429 S 13 '23
 Kiln drying Douglas fir common lumber. Eng & Contr (Bldgs) 59:522-3 F 28 '23

Testing

- New stresses for fir and southern pine deduced from tests. Eng N 90:1089 Je 21 '23; Discussion. G. E. Strehan. 91:74 Jl 12 '23

Dover, England**Bridges**

- New street viaduct at Dover, England. il diags Engineering 113:251-5, 264, 284-5, pl 153 R 3-10 '22; Excerpts. Eng & Contr 57: 513-14 My 31 '22

Dovetailing

- Dimensioning of dovetails on drawings. H. M. Funnell. diags Am Mach 56:221-2 F 9 '22

Dowels

- Proper location of dowels. F. W. Curtis. diags Mach 29:554-5 Mr '23

Doxford engines

- Les moteurs, système Doxford, de 3 000 chevaux, des cargo-boats Yngaren et Eknaren. il diags Génie Civil 81:553-8 D 16 '22
 3,000 horsepower single screw motor-ship. il Marine Eng 27:237-9 Ap '22
 3,000-I.H.P. single-screw motor ship Eknaren. diags Engineering 114:611-14, pl 38 N 17 '22

Draft

- Application of heat in ceramics. G. Fitz-Gerald. Am Cer Soc J 4:822-6 O '21
 Combustion control apparatus. il diags Power Pl Eng 27:8-11 Ja 1 '23
 Draft over the fire. E. M. Eliot. Power Pl Eng 27:773 Ag 1 '23
 Draft over the fire; finding and maintaining a constant low draft. E. M. Eliot. Power 56:446-8, 523-6 S 19, O 3 '22
 Mechanical draft and efficiency. R. June. il diags Gas Age 50:5-6-1 Jl 1 '22
 Stack height to supply draft power. H. Misostow. Power 56:638-40 O 24 '22

See also Chimneys; Combustion; Dampers; Fans, Mechanical; Firing; Mechanical draft; Ventilation

Draft, Mechanical. See Mechanical draft**Draft gages**

- Combine many draft gauges into one instrument. il Pop Mech 38:254 Ag '22
 Control of boilers by temperature and draught measurements. J. B. C. Kershaw. il diags Engineer 135:437-41 Ap 27 '23
 Draft gages and their proper application. il chart diag Power Pl Eng 27:6-8 Ja 1 '23
 Locating draft gages and what their readings mean. diags Elec W 82:81 Jl 14 '23
 Pender draft gage firing indicator. il Power 58:362 S 4 '23

Draft gears

- Bradford rocker type draft gear. il Ry Age 71:1478 Je 16 '23
 Hall multiplate friction draft gear. il diag Ry Age 72:1128-9 My 13 '22; Ry R 70:679-80 My 13 '22; Ry Mech Eng 96:419-20 Jl '22
 Mathematical law of impact between cars; a study of the time of partial and full draft gear closures. E. M. Richards. Ry Mech Eng 97:760-2, 817-19 N-D '23
 Protecting draft gear from solid impact. W. J. Meyer. diags Ry Mech Eng 96:695-6 D '22
 Springs, draft gears and other problems in car design. L. E. Endsley. il Ry R 70:591-4 Ap 29 '22; Discussion. Ry R 70:650-1, 711; 71:52-3 My 6, 20, Jl 8 '22
 Symons Double-Vee friction draft gear. il diags Ry Age 74:1482-3 Je 16 '23; Same. Ry Mech Eng 97:602 Ag '23

Draft tubes

- Discussion of craft tube designs; with special reference to recent forms known as the hydracone regainer and the spreading draft tube. W. K. Ramsey. diags Mech Eng 44: 171-6 Mr '22
 Draft-tube back pressure cured at Roosevelt power plant. C. C. Cragin. diags Eng N 88:79 Ja 12 '22
 Draft tubes hung by turnbuckle rods while concreted in place. H. M. Bryant. diag Eng N 88:686-7 Ap 27 '22
 Flow in conical draft tubes of varying angles. G. E. Lyon. diags Mech Eng 44:177-80 Mr '22

See also Hydracones

Testing

- Comparative tests on experimental draft-tubes. C. M. Allen and I. A. Winter. il diags plan Am Soc C E Pro 49:1813-45 N '23
 Results of tests on five types of draft tubes. diags Power 57:859-62 My 29 '23; Same. Eng N 91:182-4 Ag 2 '23
 War department's tests rank Moody draft tube high. Elec W 81:1374 Je 9 '23

Drafting room management

- Drafting room efficiency. C. Sorentrue. diags Am Mach 57:302-3 Ag 24 '22
 Drawing-room as an aid to production. J. G. Aldrich. il diags Management Eng 4:311-14 My '23
 Efficiency in the engineering department. W. P. Willet. Am Mach 59:706 N 8 '23
 Establishing a small engineering works. A. Whitehead. diags Eng & Ind Management 8:39-41, 75-7, 121-3 Ag 10-S 7 '22
 Office engineer and drafting room management. R. W. Shelmire. Ind Management 66:227-8 O '23
 Organization of a jig and tool drawing office. H. Varley. diags Eng & Ind Management 7: 123-6 F 2 '22

Drafting room practice

- Care of tracings. D. C. Howard. Am Mach 58:479-80 Mr 29 '23; Discussion. W. R. Needham. 59:453 S 20 '23
 Checking drawings. W. H. Kellogg. Mach 29: 399 Ja '23
 Checking outline for tool drawings. H. W. Cable. Am Mach 59:300 Ag 23 '23
 Dimensioning of dovetails on drawings. H. M. Funnell. diags Am Mach 56:221-2 F 9 '22
 Engineering office standards. R. W. Shelmire. Prof Eng 8:12-14 Jl '23; Same. Eng & Contr (Bldgs) 60:200 Jl 25 '23
 Factory organisation. N. G. Smith. Ind Management (Lond) 8:179-80, 211-14 O 5-19 '22
 How far should drafting cost records go? L. J. Spinner. Am Mach 56:7 Ja 5 '22
 Lists for checking drawings. Mach 28:739-40 My '22
 Numbering and indexing drawings. E. Heller. Mach 29:609-10 Ap '23
 Numbering tool drawings. J. E. Collins. Mach 28:532 Mr '22
 Putting limits on all dimensions. J. Thomas. Am Mach 56:639 Ap 27 '22; Discussion. 57: 732-3; 58:177 N 9 '22, F 1 '23
 Stereotyped drawing forms. C. B. Kearney. diags Ind Management (Lond) 9:102-5 F 22 '23
 System for locating reference prints. C. B. Johnson. Am Mach 57:996 D 28 '22
 Tool-room drawings. J. J. Borkenhagen. diags Mach 29:762 Je '23
 See also Drawing instruments; Machinery—Design

Drafting rooms**Equipment**

- Convenient folding drawing table. E. F. Dawson. il diags Pop Mech 38:615-16 O '22

Drafts

- Cost of protesting drafts in northern Africa and Egypt. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 128:1-10 '23
 Protesting drafts in Australia and New Zealand. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 120:1-7 '23

Drafts—Continued

- Protesting drafts in China. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 142:1-28 '23
- Protesting drafts in Latin America; Cuba and other West Indies. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 115:1-16 '23
- Protesting drafts in Latin America; general aspects of the subject. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 112:1-13 '23
- Protesting drafts in Latin America; Mexico and Central America. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 114:1-27 '23
- Protesting drafts in Latin America; South American countries. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 113:1-31 '23
- Protesting drafts in South, West and East Africa. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 136:1-22 '23
- Protesting drafts in southeastern Asia. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 143:1-20 '23

Draftsmen

- Draftsmen and their chances for promotion. G. M. Eaton. Am Mach 58:263-4 F 15 '23
- Mechanical education of a draftsman. D. A. Nevin. Mach 30:19-21 S '23

Drag links. See Automobiles—Steering gear**Drag nets**

- Cable net used to clear boulders from harbor entrance. C. C. Worsfold. il diags Eng N 90:657-8 Ap 12 '23

Draglines. See Excavating machinery**Drain tile**

- Big tile in deep ditch to reclaim Iowa land. il Pop Mech 39:716-17 My '23
- Comparison of sub-drainage by deep side ditches and tile drains. C. M. Upham. Good Roads 62:247-50 My 3 '22; Same. Munic Eng 62:197-200 Je '22; Same. Can Eng 43:305-7 Ag 29 '22; Same abr. Eng & Contr 58:21-2 Jl 5 '22
- Durability of cement drain tile and concrete in alkali soils: third progress report (1919-20). G. M. Williams. il map U S Bur Stand Tech Pa 214:463-94 '22; Summary. Pub Works 53:244-5 N '22
- Is the farmer buying drain tile? il Brick & Clay Rec 60:768-9 My 16 '22
- Report of committee C-6 of A.S.T.M. on drain tile. Am Soc T M Pro 22 pt 1:259-63 '22
- Stresses in concrete drain tile. J. A. Wise. diags Eng & Contr 57:441-2 My 10 '22
- Tar impregnation for concrete drain tile. E. C. E. Lord. Eng N 90:828 My 10 '23
- Use of concrete in alkaline soils. H. S. Kleinschmidt. Concrete 21:148-9 N '22

Manufacture

- Uses many plant betterment ideas. il diags Brick & Clay Rec 61:874-5 D 12 '22

Prices

- Current prices of common building brick six inch drain tile and hollow building tile. Brick & Clay Rec 61:38, 565 Jl 11, O 17 '22

Testing

- Action of alkali salt on Portland cement mortars. D. G. Miller. Eng & Contr 57:359-60 Ap 12 '22
- College and commercial laboratories equipped for testing concrete block and drain tile. Concrete 21:21-2 Jl '22
- Concrete drain tile in alkaline soil. D. G. Miller. Eng N 88:967 Je 8 '22
- Drain tile tests show concrete affected by alkali. Eng N 89:181 Ag 3 '22
- Durability of cement drain tile and concrete in alkali soils: third progress report (1919-20). G. M. Williams. il map U S Bur Stand Tech Pa 214:463-94 '22

Drainage

- Agricultural draining machinery. il Engineering 114:521-2 O 27 '22
- Correct methods of farm drainage. H. B. Roe. il diags maps Brick & Clay Rec 63:322-8, 406-12 S 4-13 '23
- Diagram for designing open ditches with 1:1 side slopes. F. T. Mewes. Eng N 90:173 Ja 25 '23
- Drainage ditches for Rio Grande irrigation project. L. M. Lawson. il Eng N 89:574-5 O 5 '22
- Drainage feature of land reclamation. E. F. Drake. il Can Eng 44:571-4 Je 12 '23
- Drainage of farm lands. A. E. Farncomb. Can Eng 44:334-7 Mr 20 '23
- Drainage of open track. R. P. Waller. il Aera 11:64-8 Ag '22; Same abr. Eng & Contr 58:156-7 Ag 16 '22
- Drainage pumping plants. L. C. Craig. Munic Eng 61:215-19 D '21; Same. Eng & Contr 57:46-8 Ja 11 '22; Same. Can Eng 42:525-7 My 23 '22
- Economics of land drainage enterprises. D. L. McLean. Can Eng 44:167-8 Ja 23 '23; Same. Eng & Contr (W W) 59:858-9 Ap 11 '23
- Farm drainage. W. L. Powers and W. Cretcher. 47p (Oregon. Agricultural exp. sta., Corvallis. Bul. 178) W. L. Powers, Corvallis '21
- Land drainage. W. L. Powers and T. A. H. Teeter. 270p Wiley '22
- Method and costs of cleaning open drains with drag line excavator; abstracts. F. E. Wilson. Eng & Contr (W W) 59:382-3 F 14 '23; Pub Works 54:95-6 Mr '23
- Need for concerted action with respect to land drainage. E. A. Rossiter. Munic Eng 64:40-1 Ja '23
- New type of track drain. L. R. Brown. il diags Elec Ry J 60:353 S 9 '22; Same. Eng & Contr (Ry) 58:17 O 18 '22
- Pumping assists reclamation of alkali lands. W. W. Weir. Eng N 90:341 F 22 '23
- Removing seepage and alkali from irrigated lands. D. W. Murphy. Eng N 90:749 Ap 26 '23
- Tests of drainage and subsoiling machines. Engineer 134:445 O 27 '22
- See also Drain tile; Dredging; Irrigation; Marshes; Mine drainage; Petroleum—Tunnel drainage; Reclamation of land; Roads—Drainage; Sewerage

Cost

- Cost of drainage construction on federal irrigation projects. Eng & Contr 58:244 S 13 '22
- Maintenance cost of drainage works. Eng N 88:782 My 11 '22
- Methods and cost of maintenance of drains on U. S. Reclamation service projects. C. E. Lounsberry. Eng & Contr 57:235-6 Mr 8 '22
- Pump performance and costs of large drainage pumping plant. D. C. McConaughy. Eng & Contr 57:352 Ap 12 '22; Excerpt. Eng N 89:1111 D 28 '22

Tables, calculations, etc.

- Principal features in design of open ditches. G. A. McCubbin. Can Eng 44:416-19 Ap 17 '23; Same. Eng & Contr (W W) 59:1077-83 My 9 '23; Excerpt. Eng N 90:552 Mr 22 '23

Arkansas

- Surveys for drainage districts in Arkansas. O. G. Baxter. Eng N 88:317-18 F 23 '22

Canada

- Land drainage developments in a Canadian province. Eng N 88:602 Ap 13 '22

Florida

- Drilled wells for draining land, Florida. R. M. Downie. Eng N 89:75 Jl 13 '22; Discussion. C. D. McFarland. 89:624 O 12 '22

Great Britain

- Land drainage and unemployment. Engineering 115:497-8 Ap 20 '23

Drainage—Continued

Illinois
Engineering and legal aspects of land drainage in Illinois. G. W. Pickels and F. B. Leonard. 322p (Bul. no. 42) Illinois. State geological survey, Urbana '22
Illinois drainage works involve river control. E. F. Mail. Eng N 89:185-7 Ag 3 '22

Louisiana

Combined irrigation and drainage plant in Louisiana. A. M. Shaw. diags Eng N 89:741-4 N 2 '22

Manitoba

Manitoba drainage commission. Can Eng 43:342-5 S 12 '22

Missouri

Enlarging old drainage ditches in Missouri. diag Eng N 89:321 Ag 24 '22
Use of drainage wells on highway construction in New Madrid county, Mo. E. S. Austin. Munic Eng 61:163-4 N '21

Netherlands

See *Zuider Zee*

North Carolina

Changes in Mattamuskeet drainage district, North Carolina. J. R. Wilbanks. il Eng N 89:1026-7 D 14 '22

Oregon

Converting Columbia slough into sewage outlet. W. P. Hardesty. il Eng N 90:397-9 Mr 1 '23
Drainage project on the Columbia adjoining Portland, Ore. W. P. Hardesty. il diags Eng N 90:395-7 Mr 1 '23

Red River valley

Report on drainage and prevention of overflow in the valley of the Red River of the North. P. T. Simons and F. V. King. maps U S Agric Bul 1017:1-89 '22

United States

Draining land with gasoline; use of machinery for marshland ditching. S. R. Winters. il Sci Am 129:34+ Jl '23
Fourteenth census of the United States; Drainage, 1920. 16p U.S. Bureau of the census. Washington '22
14th census of the United States taken in the year 1920; irrigation and drainage. (v. 7) 741p U.S. Bur. of census, Washington '22

Utah

Drainage reclamation of alkaline irrigated lands. C. F. Brown. Eng N 87:772-3 N 10 '21

Drainage, House

Cellar drainer efficiency increased. diag Power Pl Eng 26:1027-8 O 15 '22
German sewage-works for houses and public buildings. K. Haller. diags plans Eng N 88:450-1 Mr 16 '22
House sewer cleaning tools and how to use them. diags Eng & Contr (W W) 58:73 N 8 '22
Plumbing as it is done in England. J. Y. Dunlop. diags plan Dom Eng 97:490-1 D 10 '21
W. D. drainage manual. 3d ed., rev. 78p Gt. Brit. War office, London '21
See also Plumbing; Soil pipes

Drainage law

Proposed uniform law for land reclamation by drainage. J. A. Harman. Eng N 88:692-9 Ap 27 '22

Drapery

Can a standard of fastness-to-light be established in connection with furnishing fabrics? E. A. Swift. Textile Inst J 14:P144-6 Je '23
Draping. H. Frankenthal. 148p Merchants' record & show window, 5707 W. Lake st., Chicago '23
Modern drapery sketches. J. W. Stephenson. Clifford & Lawton, New York '21
Plea for the architect's interest in fabrics. H. Moran. il Arch Forum 37:155-8 S '22

Drawbacks

Benefits to the exporter of the tariff drawback. E. I. Carr. Administration 5:475-8 Ap '23

Drawbars

Design of engine and tender drawbars. H. J. Coventry. Ry Mech Eng 97:87-9 F '23

Drawbench

Sundh cable drawbench. diags Metal Ind 20:120 Mr '22

Drawbridges

Steamer wrecks drawbridge on traffic artery; swing span of Lincoln highway structure over Hackensack river reduced to scrap. il Eng N 88:1095-6 Je 29 '22

See also Bridges, Bascule; Bridges, Lift

Drawing

Drawing for art students and illustrators. A. W. Seaby. 209p Scribner; B. T. Batsford, London '21

Freehand drawing in the industrial world. R. E. Plimpton. il diag Sci Am 126:184 Mr '22

See also Architectural drawing; Architecture—Sketching; Drafting room practice; Drawings; Geometrical drawing; Mechanical drawing; Pen drawing

Drawing, Architectural. See Architectural drawing

Drawing, Geometrical. See Geometrical drawing

Drawing, Mechanical. See Mechanical drawing

Drawing instruments

Drafting device. B. R. Wicks. Mach 29:560-1 Mr '23

Simpton universal drafting machine. il diag Engineering 113:828 Je 30 '22

Drawing room practice. See Drafting room practice

Drawings

Architects' vacation sketches; exhibition of drawings by architects at Boston architectural club. il Arch Forum 37:203-8 N '22

Series of sketches by members of the Pittsburgh architectural club. il Am Arch 123:321-4 Ap 11 '23

Dreams

Dreams of the blind. E. Lenk. Sci Am 127:84 Ag '22

Dredges

Hogged fuel used instead of oil in Portland dredges. il Eng N 89:795 N 9 '22

Keeping irrigation ditches clear. il Sci Am 127:305 N '22

Launching a dredge in mid-winter. G. P. Morse. il Can Eng 44:373-4 Ap 3 '23

Levee construction with hydraulic dredge. il Eng & Contr (W W) 58:162-4 D 13 '22

Method of reinforcing dredge spuds. J. H. Polhemus. diags Eng & Contr (Ry) 58:54 O 18 '22

Modern dock appliances. D. Fife. il diags Engineering 116:61-4 Jl 13 '23

New dredge has four complete bows. Eng & Contr 58:37 N 29 '22

Oil-engine drive for dipper dredges. G. B. Massey. Eng N 89:647 O 19 '22

Remarkable dredger; four bows and six suction frames. Eng & Contr 57:524 My 31 '22

Sea-going dredge of 1250 cubic yards capacity. T. R. Vogel and L. D. Norsworthy. diags Marine Eng 27:232-6 Ap '22

See also Excavating machinery

Electric equipment

Electrical equipment of sand and gravel dredges. J. E. Borland. il diags Elec J 20:390-5 N '23

New U.S. army dredges to be completely electrified. plan Marine Eng 27:781-2 D '22

Repair

Marine railway for docking sand and gravel dredges. il Eng & Contr (Ry) 59:1133 My 16 '23

Dredging

Cable net used to clear boulders from harbor entrance. C. C. Worsfold. il diags Eng N 90:657-8 Ap 12 '23

Dragages de canaux exécutés en Cochinchine.
Benabenq. il diag. Génie Civil 81:590-3 D 23

683-4 N 8 '23
See also Locating devices; Trepanning

Drilling and boring machinery

Automatic drill head for small work. il Iron Age 110:1014 O 19 '22
 Automatic feeding device for high-speed drilling. C: E. Bernitt. il diags Mach 29:621-2 Ap '23
 Baker brothers rotary machine. il diag Mach 30:230-1 N '23
 Bausch high-speed multiple-spindle drilling machine no. 2A. il Am Mach 57:663-4 O 26 '22; Iron Age 110:1146 N 2 '22; Mach 29:234 N '22
 Boring and running-in machine for motor-omnibus engine crankcases. il diags Engineering 113:586-8, 590, pl 24 My 12 '22
 Bullard automatic machine for boring pipe couplings. il Am Mach 57:823-5 N '22; Iron Age 110:1365 N '23; Mach 29:315-17 D '22
 Colburn gang drilling machine. il Mach 29:320 D '22
 Colburn heavy-duty vertical boring and turning mills. il Am Mach 56:826-8 Je 1 '22; Iron Age 109:1519-20 Je 1 '22; Mach 28:835-2 Je '22; Ry Mech Eng 96:344-5 Je '22
 Colburn no. 6 heavy-duty drilling machine. il Mach 28:324-6 D '21
 Davis & Thompson high-production horizontal drilling machine. il Am Mach 56:58-9 Ja 11 '23; Iron Age 111:279 Ja 25 '23
 Davis & Thompson vertical boring and turning machine. il diag Am Mach 58:813-14 My 31 '23
 Decimal series for tap drills. A. J. Schwartz. Am Mach 56:861 Je 8 '22
 Developing a column clamp for the right line radial drilling machine. W. T. Sears. diags Am Mach 58:725-7 My 17 '23
 Double-equalizing rotating drilling fixture for meter cases. W. F. Sandmann. il diag Am Mach 58:632-3 Ap 26 '23
 Eight-spindle continuous drilling machine marketed by J. W. Brown, jr. il Iron Age 112:261 Ag 2 '23
 Foote-Burt improved machine. il Iron Age 112:900 O 4 '23; Iron Tr R 73:964-5 O 4 '23
 Foote-Burt machine for production drilling of miscellaneous parts. il Iron Age 111:1837 Je 28 '23; Mach 29:903-4 Jl '23
 Foote-Burt twenty-inch high-duty drilling machine. il Iron Age 109:585 Mr 2 '22; Ry Mech Eng 96:168 Mr '22
 Form-relieved adjustable boring tools. C. J. Dorer. diags Am Mach 57:421-2 S 14 '22
 Fosdick high-speed ball bearing sensitive radial drilling machine. il Iron Age 110:870 O 5 '22; Iron Tr R 71:931 O 5 '22; Mach 29:159-60 O '22
 Fox multiple drilling machine for small high-speed drills. il Iron Age 111:1774 Je 21 '23
 Gantry drilling machine for drilling plates. il Pop Mech 37:97 Ja '22
 Globe pneumatic drilling machine. il diags Engineer 135:430 Ap 20 '23
 Handy boring machine attachment. W. J. Winston. il diags Am Mach 57:620-1 O 19 '22
 Hannafin adjustable boring-bars. il Mach 28:582-3 Mr '22
 Harris heavy duty offset drilling attachment. il Iron Age 109:862 Mr 30 '22
 Henry & Wright drill for production work. il Automotive Ind 49:746 O 11 '23
 Hoefler special ball-bearing multiple-spindle drilling machine. il Am Mach 57:903 D 7 '22
 How to use the post drill press. G. H. Radebaugh. il Brick & Clay Rec 60:33-8 Ja 10 '22
 Improved type of thrust boring machine. il diag plan Engineer 136:321 S 21 '23
 Jig for reborring large motor cases. il Elec Ry J 61:335 F 21 '23
 Jigs for accurate drilling and reaming. R. Grant. il Am Mach 56:934 Je 22 '22
 K-N laying out and drilling machine. il Am Mach 57:508 S 28 '22; Iron Age 110:720 S 21 '22; Mach 29:156 O '22
 Kave and Moulton cylinder boring machine. il Automotive Ind 47:1121 D 7 '22
 Kingsbury semi-automatic sensitive drilling machines. il Am Mach 59:35-6 Jl 5 '23; Iron Age 112:208 Jl 26 '23

Landau sensitive multiple drilling and tapping machine. il Iron Age 109:1761 Je 22 '22
 Langelier drilling and tapping machines for terminal boxes. il Am Mach 58:606-7 Ap 19 '23
 Large surfacing and boring machine. il diags plan Engineer 134:360-1 O 6 '22; Mech Eng 44:839-40 D '22
 Mang-Nall-Irving thrust boring machine. diag plan Eng & Contr (Equip R) 60:908-9 O 31 '23
 Manufacturers' consulting engineers multiple-spindle cylinder boring machine. il Am Mach 57:861-2 N 30 '22; Iron Age 110:1503 D 7 '22
 Manufacturers' consulting engineers two-way boring machine. il Am Mach 56:570 Ap 13 '22
 Minster high production drilling machine. il Iron Age 112:609 S 6 '23
 Muehlhadt sensitive drilling machine. il Am Mach 57:820 N 23 '22
 Multiple spindle vertical drilling machine. diags Engineer 135:293 Mr 16 '23
 New crank case borer. il Automobile Eng 13:177 Je '23
 New 21-in. upright drilling machine by the Buffalo forge co. il Iron Age 112:901 O 4 '23
 Niles-Bement-Pond co. multiple drill for plates. il Iron Age 109:1229 My 4 '22; Engineering 113:553, 556 My 5 '22; Pop Mech 38:46-7 Jl '22
 Novel gantry plate-drilling machine. F. C. Hudson. il Am Mach 59:28 Jl 5 '23
 Old-time radial drilling machine. M. Wright. il Am Mach 55:753 N 10 '21
 Oliver electric borer for pattern shops. il Iron Age 112:601 S 6 '23
 Pawling & Harnischfeger table-type horizontal boring, drilling and milling machine. il Iron Age 109:1827 Je 29 '22; Am Mach 57:31-2 Jl 6 '22; Mach 28:917-18 Jl '22
 Prentice Conradson vertical drill with direct motor drive. il Iron Age 108:1678 D 29 '21
 Reborring fixture for the garage. J. V. Romig. diags Pop Mech 40:457-9 S '23
 Recent machine tool developments. J. Horner. diags Engineering 110:169-72; 111:66-9, 382-4; 112:33-6, 780-3, pl 4-5; 113:126-8, 219-21, pl 5 Ag 6 '20, Ja 21, Ap 1, Jl 8, D 9 '21, F 3. 24 '22
 Reed-Prentice four-way drilling machine. il Iron Age 109:594 Mr 2 '22
 Sigourney high-speed ball-bearing sensitive drilling machine. il Am Mach 57:742 N 9 '22
 6-ft. high-speed radial drilling machine. il diags Engineering 113:8-9 Ja 6 '22
 Société Gènevoise locating and jig-boring machines. il Am Mach 59:385-6 S 6 '23
 Special boring machine in the Pelton shop. il Am Mach 56:361 Mr 9 '22
 Tap drill sizes for screws with U.S. form of thread. G. C. Hanneman. Mach 29:618-20 Ap '23
 Tap drill sizes of Tap and die institute. Mach 29:617 Ap '23
 Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 56:67-71, 134-7 Ja 12, 26 '22
 Tri-way universal horizontal boring machine. il Am Mach 56:44 Ja 5 '22; Iron Age 108:1662 D 29 '21; Mach 28:413 Ja '22; Ry Mech Eng 96:44-5 Ja '22
 Twelve-spindle rail slot-drilling machine. il diags Engineering 116:46-7, 50 Jl 13 '23
 20-in. standard drilling machine brought out by Superior machine tool co. il Iron Age 111:970 Ap 5 '23
 Universal angle-plate drilling fixture. il Mach 30:27-8 S '23

See also Boring bars; Broaches; Broaching; Countersinking machines; Jigs; Machine tools; Reamers

Manufacture

How the Black & Decker drill is built. S. A. Hand. il diags Am Mach 57:557-60 O 12 '22
 Making the Latrobe high-speed twist drill. S. A. Hand. il diags Am Mach 56:246-8 F 16 '22
 Manufacturing Colburn heavy duty drill press. il Iron Age 108:1404 D 1 '21

Drilling and boring machinery—Manufacture—*Continued*Manufacturing the Slocomb center drill. *il Am Mach* 59:395-7 S 13 '23**Records**Perpetual drill performance record. H. M. Fitz. *Am Mach* 56:486 Mr 30 '22**Statistics**Exports and imports of machines for metal working or wood working with drilling (bore) machines. *Am Mach* 57:924 D 14 '22**Tables, calculations, etc.**Dimensions of reamed centers. C. D. Scrom. *diag Am Mach* 59:189 Ag 2 '23**Drilling and boring machinery, Portable**Electric drills growing in popularity in sheet metal shops. *il Sheet Metal Worker* 14:745-6 O 26 '23Pedrick portable taper boring bar. *il Am Mach* 55:903-4 D 1 '21Portable electric tool that acts at will either as drill or grinder. *il Coal Age* 21:780 My 11 '22Titan portable electric drill. *il Am Mach* 57:507 S 28 '22Way portable electric drill. *il Automotive Ind* 47:763 O 19 '22**Standards**Standards for portable electric drills. *Am Mach* 57:775-6 N 16 '22**Drinking fountains**Marble drinking fountain, Piazza del Comune, Brescia. *il diags plans Arch Forum* 38:187-90 Ap '23Water supplies and drinking devices. F. R. King and W. D. Stovall. *diags Dom Eng* 97:483-5 D 10 '21**Drinking troughs, Concrete**Making watering troughs in concrete. E. R. Haan. *diags Pop Mech* 39:294-6 F '23**Driving boxes. See Locomotives—Driving boxes****Drop forging. See Forging****Drops**Coefficients of slip in gases and the law of reflection of molecules from the surfaces of solids and liquids. R. A. Millikan. *Phys R* 21:217-38 Mr '23Raindrops and engineering. G. B. Upton. *Sibley J* 37:2-7+, 32-6, 60-3+ Ja-Mr '23**Droughts**Drouth periods and sun spots. F. E. Clements. *Sci Am* 127:25 Jl '22**Drug manufacturers' association, American. See American drug manufacturers' association****Drug trade**Bootlegger druggists take toll of advertising. J. True. *Ptr Ink* 122:3-4+ Mr 8 '23

Brown book. Drug & chemical credit assn., New York '21

Drug and chemical markets guide-book. 492p Drug & chemical markets, 3 Park Pl., New York '22

Drug jobber tells what he expects from manufacturers. G. M. Jackson. *Ptr Ink* 124:85-6+ S 20 '23Drugs and fine chemicals; market review, 1922. *Oil Paint & Drug Rep* 103:65+ Mr 29 '23Drugs, proprietaries, cosmetics, 1919-1921. *Oil Paint & Drug Rep* 103:40 Mr 26 '23Features of half century in the drug trade. *Oil Paint & Drug Rep* 101:31+ Mr 28 '22How we sell twice as much on half the stock. G. M. Gales. *il System* 43:583-7+ My '23

Markets for American pharmaceutical, medicinal, and biological preparations. U S Bur For & Dom Com Trade Information Bul 149:1-10 '23

Plight of the unprotected product in the medical field. *Ptr Ink* 118:25-6 Mr 23 '22Report of N.W.D.A. committee on proprietary goods. *Oil Paint & Drug Rep* 104:39-42 O 17 '23Retail merchant's biggest problem—his clerks. R. M. Rhodes. *Ptr Ink* 117:117-18 N 10 '21

Selling own goods. D. C. O'Connor. 168p Spatula pub. co., Boston '23

Unusual ways of earning profits. J. Morrow. *il System* 43:175-6+ F '23Why the dealer is indifferent. G. I. Shreiber. *Ptr Ink M* 5:55-6+ S '22*See also* Chemistry, Medical and pharmaceutical; Drugs—Prices; *also* National wholesale druggists' association**Accounting**

Operating costs in wholesale drug business.

Oil Paint & Drug Rep 104:35-6 O 17 '23Report of N.W.D.A. committee on uniform accounting. *Oil Paint & Drug Rep* 104:36-8 O 17 '23**Advertising**Bulk goods in packages become nationally advertised leaders of United drug company. H. Burwen. *Ptr Ink* 124:3-4+ S 27 '23How one progressive retailer sells nationally advertised goods. L. H. Butler. *Ptr Ink M* 6:53 Ja '23Wholesaler gets retailers to advertise co-operatively. *Ptr Ink* 124:89-90 Jl 5 '23**Directories**

Drug and chemical markets guide-book. Drug & chemical markets, New York '22

DrugsColloidal metals that cure human ills. *il Sci Am* 127:228 O '22

Story of drugs. H. C. Fuller. 358p Century co. '22

See also Adrenalin; Caffein; Chemistry, Medical and pharmaceutical; Drug trade; Narcotics**Laws and legislation**Les produits pharmaceutiques et la législation sur les brevets. A. Detœuf. *Chimie & Ind* 6:848-51 D '21Report of N.W.D.A. committee on legislation. *Oil Paint & Drug Rep* 104:43-7 O 17 '23Situation des produits pharmaceutiques dans la législation française. P. de la Blanchardière. *Chimie & Ind* 6:540-6 O '21*See also* Narcotics—Law**Manufacture**Synthetic medicinal chemical manufacture in America. A. S. Burdick. *Chem Age* 30:221-3 My '22**Prices**Botanical drugs; market review and record of prices. *Oil Paint & Drug Rep* 103:75-7 Mr 29 '23Drug markets. See weekly numbers of *Oil paint and drug reporter*Drugs and fine chemicals; record of prices. *Oil Paint & Drug Rep* 103:72-4 Mr 29 '23High and low price studies of oils, drugs, chemicals, 1871-1921. *Oil Paint & Drug Rep* 101:47+ Mr 28 '22Report of special committee of N.W.D.A. on price maintenance problems. *Oil Paint & Drug Rep* 104:47-8 O 17 '23**Drums**Musical drums. R. N. Ghosh. *Phys R* 20:526-7 D '22; Same. *Philos Mag* 6th ser 45:315-16 F '23**Dry cells. See Electric batteries****Dry cleaning. See Cleaning****Dry docks**Adds fifth pontoon to floating dock of Todd dry docks, inc., Seattle. *Marine R* 52:302 Jl '22Autoradoulage du dock flottant de 14 000 tonnes de Soerabaja (Java). *il diags Génie Civil* 82:90 Ja 27 '23Building a sheet pile cofferdam in a 28-ft. tide at Courtney Bay dry dock, St John. H. E. Huëstis. *il diags plan Eng N* 87:806-8 N 17 '21Controlling a floating dry dock with push buttons. J. Goldsborough. *il Marine Eng* 27:327-9 My '22Design new type of floating drydock at Charleston, S. C. *il diags Marine R* 52:300-2 Jl '22Dock flottant en béton armé, de 2 000 tonnes, du port de Trieste. *il diags plan Génie Civil* 80:489-91 Je 3 '22

Dry docks—Continued

- Floating dry dock design. J. S. Crandall. *il* diags Boston Soc C E J 10:275-97 S '23
- Floating dry dock navigated carrying 13,000-ton vessel. *il* Marine Eng 28:95 F '23
- Graving docks, floating docks and patent slips in the British Empire, 1922. 116p H. M. Stationery off., London '23
- Largest floating dry dock in the world ordered at Southampton, England. diags plan Marine Eng 28:36-7 Ja '23
- Largest railway drydock built at Norfolk. *il* plan Marine R 52:241-2 Je '22; Same cond. Marine Eng 27:380 Je '22
- Machinery of floating docks. E. H. Salmon. *il* diags plans Engineering 112:739-42, 772-5 N 25-D 2 '21; Same cond. Engineer 132:575-6, 602-3 N 25-D 2 '21; Discussion. Engineering 112:720-1 N 25 '21; Engineer 132:559-60 N 25 '21
- New Esquimalt dry dock. *il* Can Eng 43:655 D 26 '22
- New floating dry dock at Fore river shipyard. *il* Marine Eng 27:182-3 Mr '22
- New floating dry dock at Rotterdam. *il* Engineer 134:228 S 1 '22
- New floating dry dock for Southampton. diags map plan Engineer 134:420-1 O 20 '22
- New railway dry dock operating in Baltimore repair yard. *il* Marine Eng 28:163 Mr '23
- Le nouveau bassin de radoub du Havre. G. Hersent. Soc Ing Civils Bul 74:659-76, pl 18 O '21; Abstract. Génie Civil 79:447-8 N 19 '21
- Smallest floating drydock of steel is launched. *il* Pop Mech 37:223 F '22
- Sun shipbuilding company's new dry dock. *il* diags plan Marine Eng 27:36-8 Ja '22

Electric equipment

- Individual high-voltage motors operate successfully on Tietjen and Lang floating dry dock. *il* Marine Eng 27:177-9 Mr '22

Repair

- Extensive surface repairs to a concrete dry dock. *il* Eng N 88:102-3 Ja 19 '22
- Resurfacing restores concrete drydock. *il* Marine R 52:147-8 Ap '22

Dry goods

- Dry goods jobber's experiences in building trade in Mexico. J. R. Sprague. *Ptr Ink* 117:150+ N 24 '22

See also Department stores; Hosiery; Notions (merchandise); Textile fabrics; Underwear

Advertising

- Advertising drive to teach women how to sew; Marshall Field & co. help retailers. C. M. Harrison. *Ptr Ink* 122:129-30+ Mr 22 '23

Prices

- Retail prices of dry goods in the United States. Published quarterly in Monthly labor review

Drying

- Change of properties of substances on drying. H. B. Baker. Chem Soc J 121:568-74; 1223-4 Ap '22, My '23
- Change of properties of substances on drying. E. Hendrick. Chem & Met Eng 27:544-5 S 13 '22
- Control of the gelling point of glue; with specific application to drying barrel linings in hot weather. R. E. Wilson and W. B. Ross. Ind & Eng Chem 15:367-70 Ap '23
- Drying of moist fuels outside of the furnace. Z. Kogan. diags plan Power Pl Eng 27:619-22 Je 15 '23
- Economy in textile drying. B. R. Andrews. Mech Eng 44:182-3 Mr '22
- How relative drying time may be approximated. E. B. Atwater and R. A. Borkland. *il* Chem & Met Eng 29:226-30 Ag 6 '23
- Humidity system of drying terra cotta. F. B. Ortman and H. E. Davis. Am Cer Soc J 4:796-804 O '21
- Industrial drying—the apparatus and how it works. L. Buck. Chem & Met Eng 29:626-31 O 1 '23; Same. Paper Tr J 77:39-44 N 8 '23

- Short cut interpretation of drying data. A. F. Randolph. Chem & Met Eng 29:62 JI 9 '23

See also Air drying; Clay drying; Coal drying; Dehydration; Drying agents; Drying apparatus; Electric motors—Drying; Electric transformers—Drying; Lumber drying; Paper drying; Sand drying

Tables, calculations, etc.

- Volume of air required in air drying. C. T. Mitchell. Chem & Met Eng 25:1088-90 D 14 '21

Drying (food)

- Dehydration. H. W. Youngken. Sci Am 128:45 Ja '23
- Dehydration and freshening of codfish. H. W. Banks. Am Soc Heat & V E J 28:45-8 Ja '22

Drying (fruit and vegetables)

- Arrangement of a prune dehydrator. A. W. Christie and G. B. Ridley. diags Am Soc Heat & V E J 29:283-8 Ap '23
- California dehydration statistics for 1921. A. W. Christie. Am Soc Heat & V E J 28:802-4 N '22
- Control of the darkening of dehydrated potato. H. C. Gore and L. F. Rutledge. *il* Chem Age 29:457-8 N '21
- Drying fruit for all the world. N. B. Kastl. *il* Am Ind 22:27-30 D '21
- Food dehydration at home with simple apparatus. *il* Pop Mech 37:504 Ap '22
- Indoor drying of California fruits eliminates weather hazard. *il* J Elec 49:450 D 15 '22
- Recirculation system helps prune drying. *il* diags Pop Mech 39:572 Ap '23
- Vacuum dehydration and freshening of potatoes. H. W. Banks. Am Soc Heat & V E J 28:133-9 Mr '22

Drying agents

- Alumina as an absorbent for water in organic combustions. H. L. Fisher, H. L. Faust and G. W. Walden. J Ind & Eng Chem 14:1138-9 D '22
- Drying of oils. S. Coffey. Chem Age (Lond) 8:61 Ja 20 '23
- Drying oils from petroleum and other products, produced by chlorination and dechlorination. H. A. Gardner and E. Bielouss. J Ind & Eng Chem 14:619-21 JI '22
- Mechanism of the oxidation of drying oils as elucidated by a study of the true oxygen absorption; action of driers. S. Coffey. Chem Soc J 121:17-23 Ja '22
- Preparation and properties of magnesium perchlorate and its use as a drying agent. H. H. Willard and G. F. Smith. Am Chem Soc J 44:2255-9 O '22
- Use as a drying agent of phosphoric oxide treated with ozone. J. J. Manley. Chem Soc J 121:331-7 Mr '22
- Vanadium compounds as driers for linseed oil. F. H. Rhodes and K. S. Chen. J Ind & Eng Chem 14:222-4 Mr '22
- See also* Linseed oil

Drying apparatus

- Accident hazards in the operation of filter presses and centrifugal dryers. M. F. Crass. Chem Age 29:505 D '21
- Applications of drying equipment. L. R. Christie. *il* Chem & Met Eng 29:488-90 S 10 '23
- Chemical engineering in the production of coated fabrics. S. D. Kirkpatrick. Chem & Met Eng 28:1019 Je 11 '23; Excerpt. Mech Eng 45:009 O '23
- Design of hot-air drying plant. G. H. Gill. Engineering 115:511-12, 541-2 Ap 27-My 4 '23
- Drying at atmospheric pressure through use of fans. J. M. Matthews. Chem & Met Eng 29:490-2 S 10 '23
- Drying of wood refuse by means of stack gases. *il* diags Paper Tr J 75:60+ D 28 '22
- Ejector system of air circulation for use in drying work. J. E. Bolling. diags plans Heat & Ven 18:56-7 D '21
- Expediting body finish operations by use of drying equipment. J. E. Schipper. *il* plan Automotive Ind 46:718-21 Mr 30 '22

Drying apparatus—Continued

Improvement in dryer construction. diags Brick & Clay Rec 61:621-2 O 31 '22
New type of atmospheric drier. il Chem & Met Eng 29:113 J1 16 '23

Relation of atmospheric conditions to chemical processes. A. E. Stacey, jr. il diag Am Soc Heat & V E J 27:777-81 N '21

Report, discussion and cost figures on the efficiency of electric paper drying machine. J. E. Alexander. Paper Tr J 77:43-6 S 20 '23

Vacuum drying. G. Devine. il Chem & Met Eng 29:492-4 S 10 '23

See also Centrifugal machines; Evaporators; Paper drying; Sand drying

Textiles

Economy in textile drying. B. R. Andrews. Textile World 60:3721 D 31 '21

Hosiery dryer. il Textile World 62:2320 O 21 '22

Machines for drying stockings. E. O. Clemmons. il Color Tr J 11:174-5 O '22

Dublin, Ireland

Dublin of the future. E. Swartwout. il map Am Arch 123:475-9 My 23 '23

Ducks

Utah's poisoned duck marshes. il Sci Am 127:44 J1 '22

Duco finish

Duco finish, new du Pont product. Automotive Ind 48:1125 My 24 '23

Exceptional durability is claimed for new body finish. H. Chase. Automotive Ind 49:158-9 J1 26 '23

Labor costs halved by use of Duco in finishing Oakland bodies. W. L. Carver. Automotive Ind 49:524-6 S 13 '23

Ductless glands. See Glands, Ductless

Dühring's relation

New modification of Dühring's relation. D. B. Keyes. Ind & Eng Chem 15:525-6 My '23

Dulcin

Natural and artificial sweeteners. Sci Am 126:124 F '22

Duluth, Minnesota**Rapid transit**

Duluth street railway valued. Elec Ry J 61:552-3 Mr 31 '23

Water supply

Filters for Duluth water supply considered unnecessary. Eng N 89:937 N 30 '22

Duluth-Superior traction company

Slight increase in net. Elec Ry J 61:537 Mr 24 '23

Dumb-waiters

Subveyor system. F. W. Heath. il Am Arch 124:212-13 Ag 29 '23

Dummies (printing)

Dummy and layout, or visualization of the finished product. A. E. Sahlin. Inland Ptr 68:769-70 Mr '22

Dumorie

Dumorie reduces blasting costs. Munic Eng 62:sup26 Ap '22

Dump cars

Air-dump cars in the mining industry. C. P. Burton. il Eng & Min J 114:131-2 J1 15 '22

Apron attachment facilitates use of air dump cars. il Ry Age 71:1112 D 3 '21

Apron for discharging ballast. il Ry Age 74:709 Mr 15 '23

Compact air-dump car with extension side. il Pop Mech 36:836 D '21

Rolling dump that uses no power. il Sci Am 127:97 Ag '22

Self-dumping gable-bottom mine-refuse car builds its own inclined track. A. F. Brosky. il diag Coal Age 22:89-91 J1 20 '22; Same. Ind. Management (Lond) 8:198-9, 233 O 5-19 '22

Self-emptying railway wagons. diags Ind Management (Lond) 8:262-3 N 2 '22

Use of dump cars in Cleveland, Toledo and Pittsburgh. il Elec Ry J 60:943-4 D 16 '22

Dumping (commercial policy)

Dumping: a problem in international trade. J. Viner. 343p [bibliog p 331-7] Univ. of Chicago press, Chicago '23

Dumping appliances

Automatic tip-cart for use with tractors. il diags Engineering 113:485 Ap 21 '22

By twist in track cars are turned partly over, dumping contents. A. F. Brosky. il Coal Age 22:50-1 J1 13 '22

Car dumper and coal conveyors at coke oven plant. il diag plan Eng N 88:407-9 Mr 9 '22

Car dumper that operates without power. il diags Eng & Min J 113:799-800 My 6 '22

Dump that ejects empty from platform. il diags Coal Age 23:49-50 Ja 11 '23

Dumping mine cars by rotation—not a new idea. H. A. Turner. Coal Age 23:224-5 F 1 '23

Electrically-equipped railway truck tipplers. E. H. Rousham. il diags Electrician 87:822-5 D 30 '21

Gravity-type tipping gear for motor wagons. diags Engineering 113:358 Mr 24 '22

Machine for hoisting and automatically unloading rock eliminates ten men from payroll. E. D. Rinehimer. il diags Coal Age 20:715-16 N 3 '21

Motive power makes traveling car dump operate successfully. il diags Coal Age 24:135-6 J1 26 '23

New gondola car dumper. il Eng & Contr (Ry) 59:868-9 Ap 18 '23

New York's concrete municipal dump. F. W. Skinner. il diags Pub Works 54:313-14 O '23

O'Toole helical gravity dump. il Ind Management (Lond) 8:169 S 21 '22

Power car-dump for spoil heaps. diags Ind Management (Lond) 10:228 O 18 '23

Rotary and endgate dumps compared. Coal Age 23:15 Ja 4 '23

Rotary dump for railroad cars for use in industrial plants and storage yards. il Coal Age 21:48-9 Ja 12 '22

Tipping truck for gas works. diags Engineering 116:216 Ag 17 '23

Unloading with the tilting truck. il Sci Am 127:161 Ag '22

See also Dump cars; Weigh pans

Dunbar, William

Dr William Dunbar; an appreciation. G. W. Fuller. Eng N 89:554 O 5 '22

Duncan, Thomas

Sketch. por Elec W 80:2 J1 1 '22

Duncannon highway. See Roads—Pennsylvania**Dunes highway. See Roads—Indiana****Duplicating processes. See Copying processes****Du Pont, Coleman**

Sketch. A. Van Vlissingen, jr. por System 41:151-2 F '22

Du Pont de Nemours, E. I., company

Annual report—year ended Dec. 31, 1922. Comm & Fin Chr 116:715 F 17 '23

Du Pont securities on the New York stock exchange. Chem Age 30:272 Je '22

Glimpse into the works of E. I. Du Pont de Nemours and company. il Ind Eng 81:376-8 Ag '23

United States Supreme court dismisses injunction restraining collection of du Pont taxes. Comm & Fin Chr 116:2352-3 My 26 '23

Duraloy

Chromium-iron alloy resists oxidation, corrosion, abrasion and heat. Coal Age 23:174 Ja 25 '23

Cutler steel co. will make duraloy. Iron Age 110:1567 D 14 '22

Duraloy, a new heat-resisting metal. Automotive Ind 47:1165 D 14 '22

Duraloy; chrome-iron alloy. Am Mach 57:822 N 23 '22

Duralumin

Airship metal like willow, yet strong as steel. il Pop Mech 40:856 D '23

Baugh duralumin metal. Sheet Metal Worker 13:744 N 24 '22

Brittleness developed in aluminum and duralumin by stress and corrosion. H. S. Rawdon. A. I. Krynitsky and J. F. T. Berliner. il Chem & Met Eng 26:154-8 Ja 25 '22

Duralumin—Continued

- Duralumin. R. W. Daniels. Soc Auto Eng J 11:477-80+ D '22; Same. Am Mach 57:62-5 JI 13 '22; Abstracts. Iron Age 108:1020-1 O 20 '21; Mach 28:542-3 Mr '22
- Duralumin; its properties and commercial possibilities; abstracts. W. B. Stout. Aerial Age 14:105-6 O 10 '21; Automotive Ind 45: 659-60 O 6 '21; Aviation 11:455-6 O 17 '21; Metal Ind 20:58-9 F '22; Sci Am 126:196 Mr '22; Brass W 18:129-30 Ap '22
- Endurance of duralumin, electron metal and manganese bronze; abstracts. R. R. Moore. Chem & Met Eng 29:58 JI 9 '23; Eng N 91: 26-7 JI 5 '23
- Gears of a new material in place of steel. Sci Am 126:88 F '22
- Investigation of duralumin; abstract. S. Konno. Mech Eng 45:185 Mr '23
- Machining duralumin connecting-rods. F. H. Colvin. Il Am Mach 58:321-3 Mr 1 '23
- Manufacture and uses of duralumin. R. W. Daniels. Soc Auto Eng J 13:427-9 N '23
- Practical heat treatment of duralumin. J. A. Binnie. Am Mach 58:221-4 F 8 '23; Excerpt. Sci Am 129:280 O '23
- Properties and methods of using duralumin. Il diags Automotive Ind 47:370-6 Ag 24 '22
- To use duralumin in Goodyear ship. Aerial Age 15:460 S '22
- Le traitement thermique de certains alliages complexes d'aluminium. L. Guillet. Génie Civil 79:520-1 D 10 '21
- Welding duralumin—some experimental work and its results. H. C. Kner. Il diags Automotive Ind 46:964-8 My 4 '22
- Duratex corporation**
- Chemical engineering in the production of coated fabrics. S. D. Kirkpatrick. Il diags plan Chem & Met Eng 28:1017-23 Je 11 '23
- Durex**
- General Motors develops porous bearing metal; Durex. Automotive Ind 49:793 O 18 '23
- Duriron**
- Acid resisting metal unique; castings made of high-silicon iron melted and remelted in an air furnace with the addition of 50 per cent ferrosilicon. H. E. Diller. Il Foundry 51:47-52 Ja 15 '23
- By fusing iron with its silicide a metal is made resisting corrosion and erosion. Il Coal Age 20:924-5 D 8 '21
- Handling corrosive solutions. Il Paper 31:110+ Ap 13 '23
- Dust**
- Aerology for amateurs and others. E. V. Hill. Heat & Ven 20:43-5 My; 51-4 S; 50-3 O '23
- Air conditioning. J. Mackay. Il diags Dom Eng 99:573-6 Je 24 '22
- Atmospheric particulate matter. P. Drinker, R. M. Thomson and S. M. Fitchet. J Ind Hygiene 5:32-5, 62-78, 162-85 My-Je, S '23
- Collection and examination of explosive dusts in air. L. J. Trostel and H. W. Frevert. diag Ind & Eng Chem 15:232-6 Mr '23
- Comparative efficiency of the circular konimeter and the Palmer water spray apparatus for the determination of the dust content of the air. C.-E. A. Winslow and R. Jordan. J Ind Hygiene 4:375-9 Ja '23
- Dangers of dust in metal grinding. Engineering 116:104 JI 27 '23
- Development of the Anderson and Armspach dust determinator. Il diags Am Soc Heat & V E J 28:780-7 N '22
- Dust in printer's workrooms. C. B. Roos. bibliog J Ind Hygiene 3:257-63 Ja '22
- Dusted lung with special reference to the inhalation of silica dust (SiO₂) and its relation to pulmonary tuberculosis. B. S. Nicholson. Il J Ind Hygiene 5:220-41; Bibliography. 241-2 O '23
- Efficiency of the Palmer apparatus for explosive carbonaceous dusts. L. J. Trostel. Am Soc Heat & V E J 28:553-8 D '22
- Health protection against dust and fumes. R. C. Williams. Nat Safety N 7:13-15 My '23
- Jet dust counting apparatus. J. S. Owens. bibliog Il diags J Ind Hygiene 4:522-34 Ap '23

Modern views upon the development of lung fibrosis. C. K. Drinker. J Ind Hygiene 3: 295-302; Bibliography. 303 F '22

New data on air dust determination; Anderson Armspach apparatus. M. Ingels. Il diags Am Soc Heat & V E J 29:177-93, 429-34 Mr, JI '23

Problem of dust phthisis. Monthly Labor R 15:658-71 S '22

Promoting health in industry. C.-E. A. Winslow. Iron Tr R 72:440-1 F 8 '23

Sampling fine dust suspended in air. L. Greenburg and G. W. Smith. Eng & Min J 115: 60 Ja 13 '23

Silica content of some factory dusts. T. A. Webster. J Ind Hygiene 4:305-6 N '22

Studies in experimental silicosis and other pneumonokonioses; abstract. A. Mavrogordato. J Ind Hygiene 4:supl24-5 D '22

Tons of dust travel in the sky. Pop Mech 39: 922 Je '23

See also Coal dust; Dust removal; Flue dust; Rock dust; Rubber dust; Street cleaning

Bibliography

Atmospheric particulate matter. P. Drinker, R. M. Thomson and S. M. Fitchet. J Ind Hygiene 5:32-5, 162-85 My, S '23

Dust collectors. See Dust removal

Dust explosions

Description of a dust explosion. D. J. Price. Power 58:670 O 23 '23

Dry lime-sulphur and sulphur dust explosions. P. W. Edwards. Il Chem & Met Eng 27: 986-9 N 15 '22

Dust explosion and collection in grain elevators. Eng N 87:847 N 24 '21

Dust explosion wrecks St Louis flour mill. Eng N 90:89 Ja 11 '23

Dust explosions. D. J. Price and H. H. Brown. 246p National fire protection assn., Boston '22

Dust explosions in industrial plants. D. J. Price. Monthly Labor R 14:788-9 Ap '22

Dust prevention in pulverized-fuel systems; National fire protection association committee recommends regulations. Power 57:383-5 Mr 6 '23

Dust that blows things to bits. Am Ind 23:23 S '22

Lesson of Chicago grain elevator explosion; 1921. D. J. Price and H. R. Brown. Eng N 88:327 F 23 '22

Man in the plant and dust explosions. D. J. Price. Nat Safety N 7:14 F '23

Menace of dust explosions. H. R. Brown. Am Ind 22:31-2 Ja '22

Northwestern elevator explosion. D. J. Price. Il plan W Soc E J 26:401-17; Discussion. 417-19 D 21

Preventing dust fires and explosions. D. J. Price. Chem & Met Eng 28:902-3 My 21 '23; Same. Safety Eng 46:105-7 S '23

Prevention of dust explosions in grain elevators. Eng N 90:914 My 24 '23

Problem of dust explosions in industry. W. E. Gibbs. Chem Age (Lond) 8:54-6, 92-4 Ja 20-27 '23

Progress of dust-explosion prevention. D. J. Price. Chem & Met Eng 26:1203-6 Je 28 '22; Same. Safety Eng 44:26-32 JI '22

Reducing dust explosion losses. D. J. Price. Am Ind 23:34-5 Ja '23

Zur kenntnis der explosionen organischer staubarten; experimentaluntersuchung am einfachen beispiel des zuckerstaubes. P. Beyersdorfer. Il diags Deutsche Chem Gesell Ber 55:2568-96 S '22; Abstract. Chem Soc J 122 pt 2:749-51 N '22

See also Coal dust

Dust prevention

Calcium chloride for sand-clay roads. Pub Works 53:121-2 Ag '22

Dust suppression on gravel and macadam roads. H. C. Smith. Munic Eng 64:105-8 Mr '23

Tentative specifications for calcium chloride for dust prevention. Am Soc T M Pro 21: 679-80 '21

See also Railroads—Track sprinklers

Dust removal

- Blowing out motors and motor shells. diags Elec Ry J 62:66 JI 14 '23
- Dust collecting system for the cement industry. W. G. Clark. Concrete 20:sup57 Mr '22
- Dust explosion and collection in grain elevators. Eng N 87:847 N 24 '21
- Dust in milling plants. M. W. von Bernewitz. il Eng & Min J 114:1070-1 D 16 '22
- Dust removal by vacuum sweeping in grain elevator. il Eng N 89:1120 D 28 '22
- Dust-proof room for enameling work. O. Crooker. Factory 31:116 JI '23
- Electrical precipitation of cement mill dust. G. A. Witte. il Gen Elec R 25:125-8 F '22
- Engineering principles and practical data relating to dust and refuse removal from woodworking machines. 47p Bur. of research and codes. Albany '22
- Industrial ventilation as applied to dust and fume removal. H. M. Nichols and F. R. Ellis. Chem & Met Eng 27:540 S 13 '22
- Methods of dry cleaning and dust collecting at the coal-concentrating plant of the American coal co. diags Coal Age 22:875-7 N 30 '22
- Paddlewheel fan adapted for the removal of suspended particles. il Chem & Met Eng 26:560 Mr 22 '22
- Prevention of dust inhalation in grinding processes. il diags Ind Management (Lond) 9:70-2 F 8 '23
- Progress of dust-explosion prevention. D: J. Price. Chem & Met Eng 26:1203-6 Je 28 '22; Same. Safety Eng 44:26-32 JI '22
- Removing dust from water-gas blast gas. A. M. Beebe. il Am Gas J 118:523-5 Je 16 '23
- Removing the dust from the casting cleaning room. C. C. Hermann. diags Ind Management 63:171-4 Mr '22
- Some conclusions on commercial and experimental methods of collecting dust and fume in the zinc and blast furnace industries. F. G. Breyer. il Am Soc Heat & V E J 28:289-97 Ap '22

Staubbekämpfung mittels schwerkraft. K. Wiest. diags Stahl & Eisen 42:1650-3 N 2 '22; Abstract (Gravity method of dust separation). Mech Eng 45:57-8 Ja '23

Taking the menace out of dust; life and property saved and safeguarded by the use of the vacuum cleaner in industry. F. C. Allen. jr. il Sci Am 128:96 F '23

See also Air washers; Exhaust systems; Vacuum cleaning

Dustfall

Great dustfall of March 19, 1920. A. N. Winchell and E. R. Miller. Am J Sci 5th ser 3:349-64 My '22

Dutch East Indies

See Automobile industry and trade—Dutch East Indies; Iron ores—Dutch East Indies; Petroleum industry and trade—Dutch East Indies

Dutchess bleachery

Successful employee partnership plan. A. S. Myers. Ind Management 64:289-95 N '22

Dutchess manufacturing company

Things we learned from making over a business. F. L. Sweetser. il System 44:577-80+ N '23

Duty cycle factor

Method of determining resultant input from individual duty cycles and of determining temperature rating. B. Jones. diags Am Inst E E J 41:329-41 My '22; Same abr. Gen Elec R 25:405-17 JI '22

Dwarf palm. See Palm, Dwarf**Dwellings**

See Architecture, Domestic; Bungalows; Concrete houses; Cottages; Housing; Housing projects

Dwellings, Rural and urban. See City and country

Dwight, Arthur Smith, 1864-

President of the American institute of mining and metallurgical engineers. por Min & Met 183:17-18 Mr '22

Dye analysis

Analysis of triphenylmethane and azo dyes by titanous chloride. W. S. Calcott and F. L. English. diags Ind & Eng Chem 15:1042-4 O '23

Apparatus for titrating dyestuff intermediates with unstable diazo solutions. diags Color Tr J 10:117 Mr '22

Chemical control of dyestuffs. W. M. Scott. Textile World 62:2471+ O 28 '22

Detection of natural dyes on the fibre. A. G. Whittaker. Textile Col 45:648-50 O '23 (to be cont)

Electrometric titration of azo dyes. D. O. Jones and H. R. Lee. diags J Ind & Eng Chem 14:46-8 Ja '22

Estimation of erythrosine. W. C. Holmes. Color Tr J 13:4-5 JI '23

Iodine method of analyzing hydrosulfites. Color Tr J 12:222-3 My '23

Spectrophotometric identification of dyes. W. C. Holmes. Ind & Eng Chem 15:833-6 Ag '23

Spectroscope and spectrophotometer and their application to the identification and analysis of dyes. H. Wales. il Am Dyestuff Rep 12:751-5, 791-3, 855-7, 863-6 O 22-D 3 '23

Spectroscopy of dyes. W. C. Holmes. Color Tr J 13:6-9 JI '23

Use of titanous chloride in quantitative dye testing. O. R. Flynn. diags Am Dyestuff Rep 12:313-19 Ap '23

Valuation of dyestuffs by titration methods. R. B. Brown and H. Jordan. Am Dyestuff Rep 12:585-90 Ag 13 '23; Same. Soc Dyers & Col J 39:203-8 JI '23; Abstracts. Soc Chem Ind J (Chem & Ind) 42:272-3 Mr 16 '23; Chem Age (Lond) 8:284 Mr 17 '23; Discussion. Am Dyestuff Rep 12:590 Ag 13 '23; Soc Dyers & Col J 39:208-9 JI '23

Dye chemistry. See Dyes and dyeing—Chemistry

Dye factories

See also Dye manufacture

Equipment

Grinding and mixing apparatus in dyestuff manufacture. il Color Tr J 7:136-42; 8:4-8, 97-101; 9:103-5, 177-80 N '20, Ja, Mr, S, N '21

Management

Analytical control in the dyestuff industry. T. Callan. Soc Chem Ind J (Chem & Ind) 42:828-30 Ag 13 '23; Abstract. Chem Age (Lond) 8:255 Mr 10 '23

Dye houses. See Dyehouses

Dye industry

Better service for dye users. Textile World 61:851+ F 4 '22

British dyes as viewed in Germany and at home. Textile World 63:2075-6+ Mr 31 '23

Colors that please. M. L. Crossley. Oil Paint & Drug Rep 102:xiii-xiv sec 2 S 18 '22

Development of the fast dye industry. J. I. M. Jones. Soc Dyers & Col J 39:199-203 JI '23

Dye and chemical census for last year shows large decrease in production. Oil Paint & Drug Rep 102:19+ Ag 14 '22

Dye bases and dyewoods. See weekly numbers of Oil paint and drug reporter

Dye manufacturers face a merchandising problem. Textile World 61:847-8 F 4 '22

Dye situation in Great Britain and elsewhere. E. Hendrick. Chem & Met Eng 27:494-6 S 6 '22

Dyeing industry, research work and higher education. Levinstein. Chem Age (Lond) 8:256-7 Mr 10 '23

Dyes a problem here and abroad. Nation's Business 10:61+ Ag '22

Dyestuffs and tanstuffs: market review and record of prices. Oil Paint & Drug Rep 103:40-2 Mr 29 '23

German dyes immediately available; prices f.o.b., Long Island City, New York. Color Tr J 12:149-50 Ap '23

Handy graphics. C. F. Goldthwait and J. E. Hoff. Am Dyestuff Rep 12:4-8, 81-4, 120, 122-5, 149-51, 173-5, 205-7, 273-5 Ja 1-Mr 12, Ap 9 '23

Dye industry—Continued

- Industrial recovery and the dyestuff industry. L. W. Alwyn-Schmidt. *Color Tr J* 9:169-71 N '21
- Modern dyestuffs industry. H. E. Fierz. *Color Tr J* 10:108-9 Mr '22
- Steady production the key to efficient production in dye manufacture. G. A. Prochazka, jr. *Chem & Met Eng* 27:459-60 Ag 30 '22
- Textile fashions influence dye demand. L. W. Alwyn-Schmidt. *Color Tr J* 12:185-6 My '23
- See also Coal-tar products; Dye factories; Dye manufacture

Costs

- Special cost factors and their relation to the development of our organic chemical industry. G. Du Bois. *J Ind & Eng Chem* 13:1159-61 D '21

German reparation dyes

- German dye plants seized by French and Belgians for national security. *Oil Paint & Drug Rep* 103:19+ My 21 '23
- German dyes in payment of U. S. Rhine army occupation expenses. *Comm & Fin Chr* 115:1477-8 S 30 '22
- Italian dye consumers claim damages for diluted reparation colors. R. Sansone. *Am Dyestuff Rep* 12:161-2 F 12 '23
- Reparation dyes would not pay interest on debt for Rhine army. *Oil Paint & Drug Rep* 102:20 O 9 '22

History

- Le développement de l'industrie des colorants synthétiques. E. Grandmougin. *Génie Civil* 80:491-4, 517-20, 543-6 Je 3-17 '22
- Industrial revolution and its effect on the economic structure of the dyeing and allied industries. J. F. Corrigan. *Soc Dyers & Col J* 39:277-9 S '23

Laws and regulations

- La protection de l'industrie des matières colorantes en Grande-Bretagne. E. V. Evans. *Chimie & Ind* 6:669-74 N '21

See also Tariff—United States—Dyes

Canada

- Some economic considerations related to the manufacture of dyestuffs in Canada. C. R. Wright. *Can Chem & Met* 6:244-5 N '22

China

- Indigo dyeing in China. Woo Dong Chi. *Am Dyestuff Rep* 12:579-82 Ag 13 '23

France

- Le développement de l'industries des colorants synthétiques. E. Grandmougin. *Génie Civil* 80:491-4, 517-20, 543-6 Je 3-17 '22
- L'industrie des matières colorantes en France. J. M. Percade. *Chimie & Ind* 9:180-2 Ja '23
- La protection de l'industrie des matières colorantes en France. J. Frossard. *Chimie & Ind* 6:533-5 O '21

Germany

- Dye and chemical outlook in Germany indicates eventual competitive strength. *Oil Paint & Drug Rep* 104:19+ Ag 20 '23
- German coal-tar chemical industry. F. E. Breithut. *U S Bur For & Dom Com Trade Information Bul* 141:1-12 '23; Same cond. *Color Tr J* 13:120-2 O '23
- German dyestuffs and the Ruhr. *map Textile Col* 45:360-1 Je '23
- German home market prices—February, 1920, through October, 1921; reduction in prices of American dyes. *Color Tr J* 11:23-4 Jl '22
- Germany's dyestuff industry. *Textile Col* 45:654-5 O '23
- L'industrie allemande des produits colorants. Saint-Gall. *Chimie & Ind* 7:383-6 F '22
- See also Dye industry—German reparation dyes

Great Britain

- British dyestuff industry. E. A. Bearder. *Soc Dyers & Col J* 39:256-7 Ag '23

- British dyestuffs: the year's trading and results. *Chem Age (Lond)* 9:36-9 Jl 14 '23
- Dye embargo system in England. F. C. Chappell. *Annalist* 20:58 Jl 17 '22
- Future of the British colour industry; abstracts. *Chem Age (Lond)* 8:231-2 Mr 3 '23; *Soc Dyers & Col J* 39:124-5 Ap '23
- New dyestuffs industry of Great Britain. G. T. Morgan. *Soc Chem Ind J (Chem & Ind)* 42:868-74 S 14 '23
- Progress of the British dyestuffs industry since 1914. H. Levinstein. *Soc Dyers & Col J* 39:162-3 My '23
- La protection de l'industrie des matières colorantes en Grande-Bretagne. E. V. Evans. *Chimie & Ind* 6:669-74 N '21
- Situation in British dyestuffs manufacture. *Chem Age* 30:319-20 Jl '22

Italy

- Conditions in Italian dye industry. *Am Dyestuff Rep* 12:397-9 My 21 '23
- Decision on Italian dye tariff still hangs fire. *Am Dyestuff Rep* 12:531-4 Jl 16 '23
- Italian dyestuff market. *Am Dyestuff Rep* 12:757-8, 808 O 22-N 5 '23
- Italian government publishes list of colors prohibited for use in soaps and toilet preparations. *Am Dyestuff Rep* 12:280-2 Ap 9 '23
- Italy, seeking additional industrial relations, will be wary of treaty changes. *Am Dyestuff Rep* 12:471-2+ Je 18 '23
- Mussolini government appoints commission to study Italian dye import tariff. R. Sansone. *Am Dyestuff Rep* 12:222-4 Mr 12 '23
- Removal of Italian dye exports ban stimulates domestic incorporations. R. Sansone. *Am Dyestuff Rep* 12:14-6 Ja 1 '23

Japan

- Dye industry of Nippon expanded greatly in war years. *Oil Paint & Drug Rep* 101:91 Mr 28 '22
- Present condition of the colour-making and dyeing industries in Japan. H. Nishida. *Soc Dyers & Col J* 39:297-8 O '23

Latin America

- Natural dyestuff industry and reserves of Latin America. O. Wilson. *il Chem & Met Eng* 27:597-602 S 20 '22

United States

- American dyes supply 93.5% of consumption. *Textile World* 64:223-4 Jl 14 '23
- American textile industry will not want for dyes as in 1916. C. H. Herty. *Am Dyestuff Rep* 12:195-7 F 26 '23; Same cond. *Chem Age* 31:71 F '23
- Census of dyes and other synthetic organic chemicals, 1921. (Tariff information ser. no. 26) 174p U.S. Tariff comm., Washington '22; Abstract. *Chem & Met Eng* 27:377-8 Ag 23 '22
- Census of dyes and other synthetic organic chemicals, 1922. *Chem & Met Eng* 29:74-5 Jl 9 '23; Same abr. *Am Dyestuff Rep* 12:536 Jl 16 '23
- Commercial insignificance vs the national importance of coal-tar dyes. C. H. Stone. *Chem Age* 30:387-8 S '22
- Conditions revealed by the dyestuff census. *Color Tr J* 11:105-7 S '22
- Developing an American dyestuffs industry. W. R. Corwine. *Oil Paint & Drug Rep* 101:35 Mr 28 '22
- Dye industry, 1922 and 1923. *Textile World* 63:951 F 3 '23
- Dye licensing plan criticized when investigation is resumed. *Oil Paint & Drug Rep* 101:400 My 15 '22
- Dye manufacturers see prosperous times ahead. *Textile World* 63:1703+ Mr 10 '23
- Dye monopoly investigation. *Chem & Met Eng* 26:421-2, 467-8, 518-19, 564-5, 610-11, 658-9, 853 Mr 1-Ap 5, My 3 '22
- Dye probe by the Senate investigation committee. *Oil Paint & Drug Rep* 101:19+ F 27; 19+ Mr 6; 19+ Mr 13; 19+ Mr 20; 19+ Ap 3; 19+ Ap 17; 21+ Ap 24; 21 My 1; 19+ My 22 '22

Dye industry—United States—Continued

- Dye situation and its importance to the United States; with discussion. J. H. Choate, jr. Oil Paint & Drug Rep 100:57-9 N 2 '21
- Dyestuffs output dropped in 1921. Oil Paint & Drug Rep 103:67 F 26 '23
- Foreign dyes imported through the port of New York; monthly government statistics giving names of dyes and manufacturers, quantity, value and percent by country. Published monthly in second bi-weekly number of American dyestuff reporter
- Future of American dyes a Chinese puzzle. Textile World 63:945+ F 3 '23
- German home market prices—February, 1920, through October, 1921; reduction in prices of American dyes. Color Tr J 11:23-4 JI '22
- Giving a good dye a bad name. R. Buckmaster. Color Tr J 10:126-8 Mr '22
- Hearings on dye charges begin in Washington. Textile World 61:1239-41, 1399+, 1538-9+, 1659-61+, 1782-3+, 1940-1+, 2071, 2318-19+, 2445, 2960 F 25-Apr 3, 22-29, My 20 '22
- Household dyes. L. W. Alwyn-Schmidt. Color Tr J 12:231-3 Je '23
- Plan for the development of the national dye industries. L. W. Alwyn-Schmidt. Color Tr J 13:77-9 S '23
- Predicts stoppage of German chemicals as result of Ruhr occupation. C. H. Herty. Color Tr J 12:112-13 Mr '23
- Preliminary summary of census of dyes and coal-tar chemicals, 1921. (Tariff information ser. no. 25) 73p U.S. Tariff comm. '22; Abstract. Chem Age 30:325-6 JI '22
- Safeguarding American dyes and chemicals. J. D. Mothershed. Annalist 19:511-12 My 8 '22
- Special cost factors and their relation to the development of our organic chemical industry. G. Du Bois. J Ind & Eng Chem 13: 1159-61 D '21
- Status of domestic vat dye raw materials. C. J. Thatcher. Chem Age 30:187-8 Ap '22
- To protect America in sale of seized dyes. Textile World 64:1245-6 S 1 '23
- U. S. production of dyestuffs and extracts and tanning materials by decades. Oil Paint & Drug Rep 101:45 Mr 28 '22
- What the dyestuff industry means to the U.S. J. R. Johnson. Annalist 19:60 Ja 9 '22
- Yearly survey of the American dyestuffs industry. Color Tr J 13:51-2 Ag '23
- See also* Tariff—United States—Dyes; *also* Althouse chemical company
- Dye intermediates**
- Chemistry of intermediates. M. L. Crossley. J Ind & Eng Chem 14:802-5 S '22
- New dyestuff intermediates from anthraquinone. Color Tr J 12:245-6 Je '23
- Preparation of anthraquinone intermediates; patent. F. W. Attack. Color Tr J 12:250-2 Je '23
- See also* Tetrachlorotoluene
- Dye manufacture**
- Manufacture of dyes. J. C. Cain. 274p Macmillan '22
- Notes on the manufacture of the sanfranines. R. Sansone. diags Color Tr J 10: 198-201 My '22
- Present and the future in the manufacture of the auramines. R. Sansone. Color Tr J 10:53-5, 119-21 F-Mr '22
- Uses of para-toluene-sulfonyl chloride in the manufacture of dyes and intermediates. J. Bebie. Color Tr J 11:7-8 JI '22
- Dye mixers**
- New dye standardizing machine. Il diag Chem & Met Eng 26:271 F 8 '22
- Dye patents**
- Chromium compounds of azo dyestuffs. Color Tr J 10:224 My '22
- Manufacture of pigment and vat dyes giving orange to yellow colors fast to bleaching; patent. Color Tr J 12:12-3 Ja '23
- Method of dyeing two-toned piece-goods. diags Color Tr J 9:212 N '21
- New acid monochrome dyestuffs. Color Tr J 13:15 JI '23
- New azo dyes. Color Tr J 10:179-80 Ap '22
- New brown dyestuff. Color Tr J 11:102-3 S '22
- New diazo dye. Color Tr J 9:254-5 D '21
- New dyestuffs from gilsonite. Color Tr J 11: 103-4 S '22
- New fast acid dyes from nitro-aniline-sulfamides; patent. Color Tr J 12:54 F '23
- New mordant dyes. Color Tr J 10:41-2 Ja '22
- New series of compounds, which may be used as dyes or as intermediates. A. H. Davies, R. F. Thomson, and J. Thomas. Soc Dyers & Col J 39:153 My '23
- Obtaining fast colors by use of tungstic acid compounds. Color Tr J 10:245-7 Je '22
- Preparation of new dyestuff; a blue pigment derived from tetrazotized tolidine. Color Tr J 10:85 F '22
- Process for making new vegetable dyestuffs; patent. diag Color Tr J 12:19-20 Ja '23
- Process of bleaching and dyeing in a single operation. Color Tr J 12:136-7 Mr '23
- Solvent for dyestuffs; sulfite liquor. Color Tr J 10:42-3 Ja '22
- Some errors in Schultz's Farbstofftabellen, 1914 edition. M. Doyle and J. A. Ambler. Color Tr J 10:95-6 Mr '22
- Speck dye composition. Color Tr J 10:87 F '22
- Use of sulfite waste liquor in dyeing. Color Tr J 13:141 O '23
- See also* Chemical foundation
- Dye plants**
- Interesting sources of natural dyestuffs. C. D. Mell. Textile Col 45:42-4+, 235-8, 296-7, 381-4, 568-9 Ja, Ap-Je, S '23
- Dye testing**
- Attempt to measure exposure of dyed samples in actual units of measurement. Sci Am 128: 23 Ja '23
- Dangers of the titanium chloride method for determining the strength of dyes. E. H. Gamble and R. E. Rose. Color Tr J 11:238-9 D '22
- Details of a method for determining relative fastness of dyestuffs and physical and practical basis of same. H. S. Busby. Textile Col 45:151-6 Mr '23
- Detection of natural dyes on the fibre. A. G. Whittaker. Textile Col 45:303-6, 434-6, 504-7, 648-50 My, JI-Ag, O '23 (to be cont)
- Determination of the strength of dyestuffs. R. E. Rose. Textile Col 45:178-80 Mr '23
- Discussion of dye testing. L. E. Rose. Color Tr J 11:199-201 N '22
- Dyestuff testing. L. G. Hayes. Color Tr J 10:35-8, 80-3 Ja-F '22
- Fade-ometer as a substitute for daylight in testing dyed samples for fastness to light. T. A. Cassidy. Am Dyestuff Rep 12:209-10 Mr 12 '23
- Mercury arc lamp in dye testing. O. R. Flynn. Textile World 63:1405+ F 24 '23; Same. Am Dyestuff Rep 12:293-7 Ap 9 '23
- Mercury arc test of color fastness to light. L. J. Buttolph. Il Am Dyestuff Rep 12:135-7; Discussion. 137-43 F 12 '23
- Méthodes de détermination de la solidité des matières colorantes. B. Setlik. Chimie & Ind 8:541-3 S '22
- Testing of dyestuffs in the laboratory. C. M. Whittaker. 97p Van Nostrand '21
- Testing of vat colors in the dye laboratory. F. L. Young. Textile Col 45:21 Ja '23
- Valuation of dyestuffs by titration methods. R. B. Brown and H. Jordan. Am Dyestuff Rep 12:585-9 Ag 13 '23; Same. Soc Dyers & Col J 39:203-8 JI '23; Discussion. Am Dyestuff Rep 12:590 Ag 13 '23; Soc Dyers & Col J 39:208-9 JI '23
- See also* Dyes, Fastness of
- Dye workers**
- See* Aniline poisoning
- Dyehouses**
- Durham's new dyehouse and steam plant. F. A. Hayes. Il plan Textile World 60:2863+ N 12 '21
- Floor plan for convenient dye house and bleachery. H. D. Martin. plan Textile Col 45:86-8 F '23
- Make the dyehouse a comfortable work place. Color Tr J 12:241-2 Je '23

Dyehouses—Continued

Modern dyehouse of Gotham silk hosiery co. il Am Dyestuff Rep 12:789-90 O 22 '23
 11 Am Dyestuff Rep 12:789-90 O 22 '23
 Phoenix dyehouse and finishing mill. W. F. Dolke, jr. il Textile World 63:1003+ F 3 '23

Accounting

How to compute the cost of colored fabrics. H. D. Martin. Color Tr J 10:70-3 F '22

Equipment

Modern equipment for dyeing, bleaching and finishing operations. E. A. Turner. il Am Dyestuff Rep 12:165-9 F 26 '23

Lighting

Reproduced daylight and quality production. H. S. Busby. diags Textile World 64:1079+ Ag 25 '23; Same. Am Dyestuff Rep 12:694-6 S 24 '23

Management

Boss dyer. W: C. Dodson. Textile Col 45: 228-30 Ap '23
 Dye house steam. G. H. Rome. Textile World 63:3491+ My 26 '23
 Efficient steam generation in the dyeing and allied industries. D. Brownlie. diag Soc Dyers & Col J 39:93-9; Discussion. 99-100 Ap '23
 How a small plant reduced its power bill \$9,200. Factory 30:273-6 Mr '23
 Systematic handling of dyestuffs in practice and the practical application of the metric system. W: F. Deady. Am Dyestuff Rep 12:322-5 Ap 23 '23

Dyeing machines

Apparatus for dyeing chiffons and delicate fabrics. diags Color Tr J 11:69-71 Ag '22
 Apparatus for dyeing loose stock. diags Color Tr J 12:236 Je '23
 Continuous dyeing machines. diags Textile World 63:469+ Ja 27 '23
 Discussion of pressure machine dyeing, with special reference to beam dyeing. J. W. Eich. Am Dyestuff Rep 12:55-6; Discussion. 56-65 Ja 15 '22
 Dyeing and bleaching machine for knitting mills and laundries. diags Color Tr J 11:181-2 O '22
 Dyeing machine for hosiery. diags Color Tr J 11:245 D '22
 Dyeing machines I have seen and used, with special reference to dyeing wool tops. H. Clapham. diags Am Dyestuff Rep 12:354-62 My 7 '23
 Modern equipment for dyeing, bleaching and finishing operations. E. A. Turner. il Am Dyestuff Rep 12:165-9 F 26 '23
 New apparatus for dyeing skeins of yarn with especial reference to wool yarn. D. Müller. il Color Tr J 11:112-13 S '22
 New form of dyeing machine for indigo. diag Color Tr J 12:234 Je '23
 New machine for linen dyeing. diags Color Tr J 10:166 Ap '22
 Novel machine for dyeing yarn during winding. diag Color Tr J 12:141 Ap '23
 Package dyeing; Franklin system. W. H. Wingate. Am Dyestuff Rep 12:213-15; Discussion. 216 Mr 12 '23
 Skein dyeing machines. diags Color Tr J 10: 39-40; 11:11, 253-4; 12:205-6 Ja, Jl, D '22, My '23
 Some very apparent advantages of dyeing in the wound form; Franklin process. A. N. Dana. Am Dyestuff Rep 12:143-6 F 12 '23
 Textile fabric treating machines; abstract. L. Clarenbach. diags Soc Dyers & Col J 39: 18-19 Ja '23
 Use of monel metal in dyeing machinery. il Color Tr J 13:63 Ag '23
 Warp dyeing machine. diags Color Tr J 12: 206-9 My '23

Dyes, Fastness of

Alterations of indigo colors when exposed to light and subjected to laundering. H. Haller. Color Tr J 12:58-60 F '23
 Can a standard of fastness-to-light be established in connection with furnishing fabrics? E. A. Swift. Textile Inst J 14:P144-6 Je '23

Details of a method for determining relative fastness of dyestuffs and physical and practical basis of same. H. S. Busby. Textile Col 45:151-6 Mr '23

Development of the fast dye industry. J. I. M. Jones. Soc Dyers & Col J 39:199-203 Jl '23

Effect of light on fibres dyed with a mixture of chrysianiline and fuchsine. W. W. Padon. J Phys Chem 26:288-91 Mr '22; Same. Am Dyestuff Rep 12:442-3 Je 4 '23

Fade-ometer; standardised sunlight producer. il Elec R (Lond) 92:632-3 Ap 20 '23; Chem Age (Lond) 8:9 Ja 6 '23

Fastness of colors. Color Tr J 9:189-90; 10: 23, 66-7 N '21, Ja-F '22

Fastness of colors. J. M. Matthews. Color Tr J 9:213-20 D '21

Influence of metallic hydroxides on fastness to light of indigo. R. Haller. Am Dyestuff Rep 12:723-5 O 8 '23

Mercury arc lamp in dye testing. O. R. Flynn. Textile World 63:1405+ F 24 '23; Same. Am Dyestuff Rep 12:293-7 Ap 9 '23

Mercury arc test of color fastness to light. L. J. Buttolph. il Am Dyestuff Rep 12:135-7; Discussion. 137-43 F 12 '23

Méthodes de détermination de la solidité des matières colorantes. B. Setlik. Chimie & Ind 8:541-3 S '22

Need of definite ideas on color fastness. Color Tr J 10:206-8 My '22

Pigment dyes fast to light. Color Tr J 10:13 Ja '22

Possible uses for lime colors. H. Wagner. Color Tr J 10:215-19 My '22

Qualities of fastness for colored fabrics. Color Tr J 10:250-1 Je '22

Relative fastness of the vat dyes. E. Greenhalgh. Color Tr J 10:107-8 Mr '22

Standardized tests for color fastness as prescribed by German textile commission. Color Tr J 10:92-5 Mr '22

Testing colored materials for fastness-to-light. H. S. Thayer. Paper Tr J 75:56-7 S 14 '22

Testing of dyes for fastness to light. W: T. Anderson, jr. Textile Col 45:576 S '23

Week's fading in a minute. il Sci Am 127:264 O '22

Dyes, Natural. See Dyes and dyeing—Natural dyes

Dyes, Therapeutic use of

Dyestuffs as medical agents. T. H. Fairbrother and A. Renshaw. Color Tr J 10:258-61 Je '22

Dyestuffs in medicine. G: W. Raiziss. Am Dyestuff Rep 12:466 Je 18 '23

New acridine dyes useful also as therapeutic agents. Color Tr J 12:99 Mr '23

Recent contributions of chemistry to medicine. E. H. Volwiler. Ind & Eng Chem 15:906-7 S '23

Dyes and dyeing

Ancient and modern dyeing. Color Tr J 10: 160 Ap '22

Announcement of new German dyestuffs and color cards. Color Tr J 12:66-7 F '23

Application of dyes to textile fibres. J. Thorpe. Chem Age (Lond) 9:450-1 O 27 '23

Automatic temperature-time control for piece dyeing. V: Wichum. il charts Am Dyestuff Rep 12:774-9 O 22 '23

Beam dyeing. H. Jala. Am Dyestuff Rep 12: 290-2, 341-2 Ap 9-23 '23

Calculation of the colour of the azo-dyes and related coloured substances. J. Moir. Chem Soc J 121:1555-62 Ag '22

Catalysts in bleaching and dyeing. A. J. Hall. Am Dyestuff Rep 12:33-5 Ja 1 '23

Chronological list of important substantive dyes. Color Tr J 10:129-32 Mr '22

Chronological list of important vat dyes. Color Tr J 10:61-2 F '22

Chronological list of sulfur dyes. Color Tr J 10:226-8 My '22

Color in relation to dyeing. J. M. Matthews. diags Color Tr J 10:183-8, 229-35; 11:47-50, 187-91; 12:12-15, 47-9, 151-4, 237-9; 13:1-4, 80-3, 113-15, 153-6 My-Je, Ag, N '22, Ja-F, Ap, Je-Jl, S-N '23

Common acid yellows and oranges—a brief consideration of their properties and uses. G: H. Johnson. Am Dyestuff Rep 12:487-91, 513-16 Jl 2-16 '23

Dyes and dyeing—Continued

- Dependence of the intensity of the fluorescence of dyes upon the wave-length of the exciting light. S. I. Vavilov. *diag Philos Mag* 6th ser 43:307-20 F '22
- Dissolving dyes and handling solutions. *diags Textile World* 63:3485-6 My '23
- Dry-cleaning and dyeing industry. L. E. Jackson. *il Sci Am* 127:396+ D '22
- Dyeing as an art. J. M. Matthews. *Color Tr J* 11:147 O '22
- Dyeing effect stripe unions. L: G. Hayes. *Color Tr J* 12:100-1 Mr '23
- Dyeing of fast chrome colors. L: G. Hayes. *Color Tr J* 10:253-8 Je '22
- Dyeing of textile fibers for the hosiery trade. F. Asquith. *Am Dyestuff Rep* 12:500-5 Jl 2 '23
- Dyers in the making. M. W. Alling. *Am Dyestuff Rep* 12:507-10 Jl 16 '23
- Dyes. A. J. Hall. 118p Pitman '23
- Dyes classified by intermediates. R. N. Shreve, W. N. Watson and A. R. Willis. 631p Chemical catalog co. '22
- Dyestuffs available through the Textile alliance. *Color Tr J* 10:152-5 Ap '22
- Food colourings. F. W. Richardson. *Soc Dyers & Col J* 39:148-9 My '23
- From the journal of a hosiery dyer. *Am Dyestuff Rep* 12:132+ F 12 '23
- Hand processes and specialties; English developments in the decorating of fabrics by dyeing, stenciling and printing. J. A. Hunter. *Textile World* 62:577 Jl 29 '22
- Handbuch der farbenfabrikation. G. Zerr and R. Rübenkamp. 3d ed. 920p Union deutsche verlagsgesellschaft zweigniederlassung, Berlin '22
- Heather effects on hosiery. L: G. Hayes. *Color Tr J* 11:202-5 N '22
- Hydrosulfates and their technical applications. N. Chappell. *Color Tr J* 9:246-9 D '21
- Increasing brightness of colors. J. F. Springer. *Textile World* 63:1169+ F 10 '23
- Indigo dyeing in China. Woo Dong Chi. *Am Dyestuff Rep* 12:579-82 Ag 13 '23
- Influence of the temperature at which the solution of dyes is affected upon the nature of the solution. W. C. Holmes. *Color Tr J* 13:54-6 Ag '23
- Listed or shady pieces. *Textile World* 61:2967+ My 20 '22
- Making textile fibers more reactive with dyestuffs. J. Korselt. *Color Tr J* 12:133 Mr '23
- Naphthol AS, its properties and application to dyeing and color printing. J. R. Minevitch. *Color Tr J* 10:18-21, 74-6 Ja-F '22
- National brilliant green B crystals. *Color Tr J* 9:186-7 N '21
- National cleaner and dyer book of technical notes. Rev. ed. 232p Dowst bros. co., Chicago '22
- New class of dyes permits dyeing of two colors simultaneously. *Sci Am* 127:32 Ag '22
- New color card issued by the National aniline & chemical company, inc. *Color Tr J* 10:38 Ja '22
- New dyestuffs and sample cards from German dyestuff manufacturers. *Color Tr J* 11:201-2 N '22
- New method for dyeing indigo. *diags Color Tr J* 13:166-7 N '23
- New products announced by German dyestuff makers. *Color Tr J* 11:156-7 O '22
- Nitre cake for bleaching and dyeing. A. B. Norton. *Textile Col* 45:631-3 O '23 (to be cont)
- Possible uses for lime colors. H. Wagner. *Color Tr J* 10:215-19 My '22
- Potash from kelp; adsorption theory of dyeing. H. G. Tanner. *J Ind & Eng Chem* 14:442-3 My '22
- Reducing the cost of our dyes. J. L. Bullock. *Color Tr J* 9:200-2 N '21
- Research in connection with the textile industry; the theory of dyeing. A. Burton. *Can Chem & Met* 7:201 Ag '23
- Shaded side to center kerseys. D: Welsh. *Textile World* 62:1551+ S 16 '22
- Spectral transmissive properties of dyes; seven permitted food dyes, in the visible, ultra-violet, and near infra-red. K. S. Gibson and others. *il diags U S Bur Stand Sci Pa* 440:121-84 '22; *Abstract. Color Tr J* 11:239-41 D '22
- Technology of garment dyeing and cleaning. J. Loebl. *il Color Tr J* 7:119-23, 152-7, 184-9; 8:18-21, 60-2, 81-3, 124-7, 167-9, 223-5; 9:9-12, 54-7, 152-3, 196-9, 228-31; 10:68-70, 238-40 O '20-Ag, O-D '21, F, Je '22
- Temperature control in the dye house and bleachery. B. F. Wadsworth. *Textile Col* 45:103-6, 171-4+, 239-42, 307-10, 375, 511-15, 644-7 F-Je, Ag, O '23 (to be cont)
- Temperature in dyeing. *Color Tr J* 10:171-2 Ap '22
- Tests of steam consumption in dyeing. V. Wichum. *diags Textile World* 60:3101+ N 26 '21
- Traité des matières colorantes organiques et de leurs diverses applications. E: C: A. Ehrmann. 615p Dunod, Paris '22
- Use of chromium compounds for mordanting and dyeing. A. J. Hall. *Am Dyestuff Rep* 12:189-92 F 26 '23
- Uses of protectol in dyeing. *Color Tr J* 11:62-4 Ag '22
- Value of dye house vigilance; locating unevenness in goods. *Textile World* 63:465+ Ja 27 '23
- Zinc dust, its uses in the manufacture and application of dyestuffs. J. M. Matthews. *Color Tr J* 10:14-16, 58-61, 112-13, 144-5 Ja-Ap '22

See also Alizarin; Aminophenols; Aniline; Aniline black; Anthraquinone; Batik; Black; Bleaching; Calico printing; Carbazole; Catechol; Coal-tar colors; Coal-tar products; Color in the textile industries; Cutch; Dyeing (textiles); Dicyanin; Diphenylindigo; Dye analysis; Dye factories; Dye industry; Dye manufacture; Dye testing; Dyeing machines; Dyes, Fastness of; Fustic; Gambier; Hair—Dyeing and bleaching; Hydroxone blue; Indigo; Katanol; Logwood; Mad-dar; Malachite green; Methyl violet; Methylene blue; Naphthols; Paranitriline red; Phenetidine; Pyrazoleanthrone yellow; Quercetin; Red; Sanfranines; Soap dyes; Sodium hyposulfite; Sulfur black; Tartrazine; Textile printing; Tolylenediamine; Xylan

Analysis

See Dye analysis

Bibliography

Work of the Color laboratory of the Bureau of chemistry. J. A. Ambler. *Am Dyestuff Rep* 12:617-19 Ag 27 '23

Carpet yarn

Carpet yarn dyeing. L: J. Matos. *Am Dyestuff Rep* 12:49-50 Ja 15 '23; Same. *Textile Col* 45:94-5 F '23; Same. *Textile World* 63:4183+ Je 30 '23

Chemistry

Absorbed moisture and water of crystallization in certain common dyes. H. Wales and O. A. Nelson. *diag Am Chem Soc J* 45:1657-66 Jl '23

Absorption spectrum and its relationship to color. H. Wales. *Am Chem Soc J* 45:2420-30 O '23

Abstracts of papers presented at the meeting of the dye division of the American chemical society. *Color Tr J* 12:187-8 My '23

Asymmetric dyes. C. W. Porter and H. K. Ihrig. *Am Chem Soc J* 45:1990-3 Ag '23

Azo-dyes from nitro- α -naphthylamines (1.5 and 1.8). G. T. Morgan and F. R. Jones. *Soc Chem Ind J* 42:341-3 Ag 17 '23

Basic colours in the colour lake industry; abstract. H. Wagner. *Soc Dyers & Col J* 39:190-1 Je '23

Behaviour of stannic acid toward dyestuffs. A. M. Morley and J. K. Wood. *Soc Dyers & Col J* 39:105-6; Discussion, 106-7 Ap '23

Behaviour of the principal celluloses towards iodine and dyestuffs. J. Huebner and J. N. Sinha. *Soc Chem Ind J* 42:255-60 Je 15 '23

Dyes and dyeing—Chemistry—Continued

- Bromination of 2-amino-para-xylene and certain new azo dyes. A. S. Wheeler and E. W. Constable. *Am Chem Soc J* 45:1999-2001 Ag '23
- Certain triphenylmethane dyes. W. A. Jacobs and M. Heidelberger. *Am Chem Soc J* 44:2626-8 N '22
- Colouring matters from 1:2:4:5-tetra-hydroxybenzene and related substances. D. N. Mukerji. *Chem Soc J* 121:545-52 Mr '22
- Comparison of three isomeric carbocyanines. W. T. K. Brauholtz. *Chem Soc J* 121:169-73 Ja '22
- Cyanine dyes; cyanine dyes of the benzothiazole series. W. H. Mills. *Chem Soc J* 121:455-66 Mr '22
- Cyanine dyes; dyes containing a quinoline and a benzothiazole nucleus; the thioisocyanines. W. T. K. Brauholtz and W. H. Mills. *Chem Soc J* 121:2004-8 O '22
- Cyanine dyes; the virtual tautomerism of the thiocyanines. W. H. Mills and W. T. K. Brauholtz. *Chem Soc J* 121:1489-95 Ag '22
- Dye chemistry at the Pittsburgh A. C. S. meeting; abstracts of papers. *Oil Paint & Drug Rep* 102:xvii sec 2 S 11 '22
- Dyes containing the furane cycle. R. R. Renshaw and N. M. Naylor. *Am Chem Soc J* 44:862-4 Ap '22
- Dyes derived from $\alpha\alpha'$ -dicyanodibenzyl diketone. S. Dutt and N. K. Sen. *Chem Soc J* 121:2663-7 D '22
- Dyes derived from camphoric anhydride. A. C. Sircar and S. Dutt. *Chem Soc J* 121:1283-6 J1 '22
- Dyes derived from diphenic anhydride. S. Dutt. *Chem Soc J* 123:225-8 F '23
- Dyes derived from phenanthraquinone; phenanthranaphthazines. A. C. Sircar and S. Dutt. *Chem Soc J* 121:1944-51 S '22
- Dyes derived from phenanthraquinone; phenanthriminazoles. A. C. Sircar and G. C. Sircar. *Chem Soc J* 123:1559-65 Je '23
- Dyes derived from saccharin; the sulphamphthaleins. S. Dutt. *Chem Soc J* 121:2389-94 N '22
- Dyes of the aurin type. H. Baines and J. E. Driver. *Chem Soc J* 123:1214-18 My '23
- Fast green O and its related dyes. J. M. Matthews. *Color Tr J* 13:42-5 Ag '23
- Grundlegende operationen der farbenchemie. H. E. Fierz-David. 266p J. Springer, Berlin '22
- Influence of sulfur on the color of azo dyes. W. R. Waldron and E. E. Reid. *Am Chem Soc J* 45:2399-2417 O '23
- Liesegang rings; rhythmic bands of dyes on filter paper and cloth by evaporation. E. C. H. Davies. *il Am Chem Soc J* 44:2705-9 D '22
- New basic dyestuffs of the acridine series. *Color Tr J* 12:250 Je '23
- New black union dyestuff from paranitroaniline. *Color Tr J* 11:252-3 D '22
- New class of acid dyestuffs; sulphato-acids. A. G. Green and K. H. Saunders. *Soc Dyers & Col J* 39:39-41 F '23; Abstract. *Color Tr J* 12:64 F '23; Discussion. *Soc Dyers & Col J* 39:41-2 F '23
- Optically active dyes. A. W. Ingersoll and R. Adams. *Am Chem Soc J* 44:2930-7 D '22
- Photochemical activity of the triphenylmethane sulfonic acids. E. O. Holmes, Jr. *Am Chem Soc J* 44:1002-8 My '22
- Physical chemistry of dyeing, acid and basic dyes. T. R. Briggs and A. W. Bull. *diags J Phys Chem* 26:845-75 D '22; Same. *Am Dyestuff Rep* 11:447-50+; 12:36-42 D 18 '22-Ja 1 '23
- Preparation and properties of 4':4'-tetramethylaminoanthrafluchsone. F. A. Mason. *Chem Soc J* 123:1546-59 Je '23
- Researches on residual affinity and coordination; cobaltamine and chromic lakes of the azo-salicylic acids. G. T. Morgan and J. D. M. Smith. *Chem Soc J* 121:2866-74 D '22
- Researches on residual affinity and coordination; cobaltamine and ferric lakes of dinitrosoresorcinol. G. T. Morgan and J. E. Moss. *Chem Soc J* 121:2857-66 D '22
- Researches on residual affinity and coordination; cobaltamine salts of the nitro-dyes. G. T. Morgan and H. J. S. King. *Chem Soc J* 121:1723-9 S '22
- Structure and colour of the azine scarlets. J. B. Cohen and H. G. Crabtree. *Chem Soc J* 119:2055-70 D '21
- Studies in optically active dyes; camphoreins. B. K. Singh, R. Rai and R. Lal. *Chem Soc J* 121:1421-30 J1 '22
- Sulphur compounds used in bleaching and dyeing. A. J. Hall. *Textile Col* 45:163-5 Mr '23
- Synthetic colouring matters; dyestuffs derived from pyridine, quinoline, acridine and xanthene. J. T. Hewitt. 405p Longmans '22
- Synthetic dyestuffs and the intermediate products from which they are derived. J. C. Cain and J. F. Thorpe. 6th ed., rev. 423p Lippincott '23
- Über farbstoff-derivate des α -keto-tetrahydronaphthalins (α -tetralons). W. Herzog and J. Kreidl. *Deutsche Chem Gesell Ber* 55:3394-400 N '22
- Über indigoide farbstoffe der phenanthren- und inden-reihe. P. Friedländer, W. Herzog and G. v. Voss. *Deutsche Chem Gesell Ber* 55:1591-6 Je '22; Abstract. *Chem Soc J* 122 pt 1:764 Ag '22
- Über pyrylium-verbindungen; pentaphenylpyryliumsalze—mit einem anhang; zur formulierung der farbsalze. W. Dilthey. *Deutsche Chem Gesell Ber* 55:1275-9 My '22
- Zur kenntnis der nitrosophenol-farbstoffe. H. Decker and B. Solonina. *Deutsche Chem Gesell Ber* 54:2427-35 O '21
- See also Dyes and dyeing—Natural dyes; Dyes and dyeing—Vat dyes

Celluloid

- Dyeing of celluloid. J. F. Springer. *Textile Col* 45:101-2, 291-3, 372-4, 450-2, 528-9 F, My-Ag '23 (to be cont)

Cost

- Cost of dyeing yarns. *Textile World* 63:3175 My 12 '23

Cotton

- Absorption of methylene-blue by cotton; effect of bleaching. C. Birtwell, D. A. Clibbens and B. P. Ridge. *diag Textile Inst J* 14:1297-313 S '23
- Attempts to prepare red sulphide dyes. E. R. Watson and S. Dutt. *Chem Soc J* 121:1939-43, 2414-19 S, N '22
- Bleaching and dyeing in one operation. *Color Tr J* 10:168-9 Ap '22
- Can we get fast dyes for cotton? *Textile World* 62:2765+ N 11 '22
- Cotton yarn dyehouse practice. L. J. Matos. *Am Dyestuff Rep* 12:629-31 Ag 27 '23
- Development of benzo fast scarlets. O. R. Flynn. *Textile World* 61:849+ F 4 '22
- Direct cotton black X with green undertone. H. Herlinger. *Color Tr J* 11:144-5 O '22
- Dyeing black on cotton. A. G. Hall. *Color Tr J* 10:114-16 Mr '22
- Dyeing knit goods in the roll. *Textile World* 60:3609 D 24 '21
- Dyeing of cotton fabrics with logwood blue. H. Sunder. *Color Tr J* 13:92-6 S '23
- Dyeing of cotton goods. J. S. Heuthwaite. *Am Dyestuff Rep* 12:719-22 S 24 '23
- Dyeing of direct blacks on cotton piece goods. R. Sansone. *Am Dyestuff Rep* 12:95-6, 113-20, 343-8, 451-6, 546-8+, 632-6, 813-16+, 858-62 Ja 29, My 7, Je 18, J1 30, Ag 27, N 5-19 '23
- Dyeing of sewing thread. L. J. Matos. *Textile World* 64:1087+ Ag 25 '23
- Fast cotton dyeing. *Sci Am* 126:382 Je '22
- Four important cotton redds. *Textile World* 63:2087+ Mr 31 '23
- Indigo and its application. P. S. Clarkson. *Am Dyestuff Rep* 12:739-42 O 8 '23
- Lime and cotton. W. B. Nanson. *Am Dyestuff Rep* 12:241-6+ Mr 26 '23
- Manufacture of brilliant yellow. H. Herlinger. *Color Tr J* 12:142-3 Ap '23
- Mercerization by the use of alkaline chrome mordant. J. Pokorny. *Color Tr J* 12:36-8 Ja '23; Same. *Am Dyestuff Rep* 12:152-5 F 12 '23

Dyes and dyeing—Cotton—Continued

Neps in cotton fabrics and their resistance to dyeing and printing. G. G. Clegg and S. C. Harland. *il Textile Inst J* 14:125-32 My '23; Same. *Am Dyestuff Rep* 12:456, 473-7 Je 18 '23

Neps in dyed goods. *Textile World* 64:1529+ S 15 '23

New cotton dyestuffs. *Color Tr J* 13:19-20 Jl '23

New diazo gray dyestuffs for cotton. *Color Tr J* 11:164 O '22

New dye products of the Farbwerke Hoechst. *Color Tr J* 11:242 D '22

New form of dyeing machine for indigo. *diag Color Tr J* 12:234 Je '23

New thioindigo dyestuffs. *Color Tr J* 13:83-4 S '23

Padder in dyeing cotton. J. M. Kaeppler. *Textile World* 61:3789+ Je 24 '22

Para red colors on cotton goods. W. B. Nanson. *Am Dyestuff Rep* 12:583-4 Ag 13 '23

Paranitraniline red in hosiery dyeing. S. Smith. *Am Dyestuff Rep* 12:573-6 Jl 30 '23

Present art of cotton dyeing. J. M. Matthews. *Color Tr J* 10:89-91 Mr '22

Production of diamine fast red. F. H. Herlinger. *Color Tr J* 13:85-6 S '23

Progress in cotton dye manufacture during 1922. *Textile World* 63:949+ F 3 '23

Some phases of cotton piece goods dyeing. J. F. Warner. *diags Am Dyestuff Rep* 12:743-7, 794-6 O 22-N 5 '23

La teinture des tissus de coton en bleu au campêche. H. Sunder. *Chimie & Ind* 8:762-6 O '22

Three types of black hosiery. W. C. Dodson. *Textile Col* 45:355-8 Je '23

Topping. *Textile Col* 45:312-15, 432-3 My, Jl '23

Vat dyes on cotton piece goods. J. H. Hennessy, jr. *diags Textile World* 63:4185+ Je 30 '23; Same abr. *Am Dyestuff Rep* 12:517-18+ Jl 16 '23

See also Calico printing; Cutch

Cotton-silk

Dyeing and printing aniline black mixed cotton and silk piece goods. R. Sansone. *Textile Col* 45:160-2 Mr '23

Feathers

Dyeing feathers black. J. R. Wilson. *Textile Col* 45:109-12 F '23

Felt

Technology of garment dyeing and cleaning. J. Loeb. *Color Tr J* 10:68-70 F '22

Fur

Fur dyeing. L. G. Lawrie. *Soc Dyers & Col J* 39:242-7 Ag '23; Same. *Am Dyestuff Rep* 12:657-62 S 10 '23; Same. *Color Tr J* 13:130-4 O '23; Abstract. *Chem Age (Lond)* 8:483 My 5 '23

New methods of fur dyeing. *Color Tr J* 12:253-4 Je '23

Preparation for dyeing furs. *Color Tr J* 13:84 S '23

History

Dyes, dyers and dyeing fifty years ago. J. W. Eastburn. *Am Dyestuff Rep* 12:363-8 My 7 '23

History of the chemistry of the more important natural dyes. E. Lesser. *Am Dyestuff Rep* 12:1-4 Ja 1 '23

Ivory

Dyeing of ivory. W. R. McKennon. *Textile Col* 45:26-7 Ja '23

Leather

Application of colour to leather. T. E. Bradbury. *Soc Dyers & Col J* 39:107-15 Ap '23; Same. *Am Dyestuff Rep* 12:427-33, 477-8 Je 4-18 '23

Dressing and dyeing moleskins. *Color Tr J* 10:122 Mr '22

Dyeing of gloves with liquid colors; of buckskin, of shoes, furniture, leather and portmanteaux. J. Loeb. *Color Tr J* 10:238-40 Je '22

Dyeing of skivers. F. C. Staples. *Color Tr J* 9:191 N '21

Obtaining fast colors by use of tungstic acid compounds. *Color Tr J* 10:245-7 Je '22

Pelt dyeing. O. Berthold. *Sci Am* 125A:134 D '21

Linen

Dyeing and finishing of linen dress fabrics. D. Wiltern. *Color Tr J* 10:76-8 F '22

Dyeing of linen, half-linen and cotton fabrics in blue shades. J. Werner. *Color Tr J* 11:25-6 Jl '22

New machine for linen dyeing. *diags Color Tr J* 10:166 Ap '22

Mordants

Analysis of tannins and tannin mordants. I. Ginsberg. *Am Dyestuff Rep* 12:307-12 Ap 23 '23

Chronological list of mordant dyestuffs. *Color Tr J* 10:155-7 Ap '22

Contribution à l'étude des colorants à mordants. E. Noelting. *Chimie & Ind* 8:758-61 O '22

Effect of hydrogen-ion concentration on adsorption of dyes by wool and mordants. O. Reinmuth and N. E. Gordon. *Am Dyestuff Rep* 12:622 Ag 27 '23; Same. *Ind & Eng Chem* 15:818 Ag '23

Mordanting of wool with potash alum. W. W. Paddon. *J Phys Chem* 26:790-3 N '22

Mordants. W. D. Bancroft. *J Phys Chem* 26:447-70, 501-36, 736-72 My-Je, N '22

Mordants and mordanting. J. Steelman. *Textile Col* 45:246-8, 250-1, 436-9, 516-20, 563-7 Ap, Jl-S '23

Sulphur and mordant dyes. G. Emmons. *Am Dyestuff Rep* 12:599-603 Ag 13 '23

Use of bichromates in wool dyeing as a mordant. W. C. Durfee. *Am Dyestuff Rep* 12:91-5 Ja 29 '23

Natural dyes

History of the chemistry of the more important natural dyes. E. Lesser. *Am Dyestuff Rep* 12:163-4+ F 26 '23

Interesting sources of natural dyestuffs. C. D. Mell. *Textile Col* 45:42-4+, 235-8, 296-7, 381-4, 568-9 Ja, Ap-Je, S '23

Natural dyestuff industry and reserves of Latin America. O. Wilson. *il Chem & Met Eng* 27:597-602 S 20 '22

Über die farbstoffe aus purpura aperta und purpura lapillus. P. Friedländer. *il Deutsche Chem Gesell Ber* 55:1655-8 Je '22

Paper

Application of the direct dyes in coloring paper. W. C. Holmes. *J Ind & Eng Chem* 14:958-60 O '22

La coloration fixe des papiers; abstract. E. Arnould. *Chimie & Ind* 9:979-80 My '23

Coloring matters for coated paper. N. Clark. *Paper Tr J* 76:177+ Ap 12 '23; Same. *Paper* 31:57-8+ Ap 18 '23; Same. *Tech Assn Pa ser* 6:35-6 Je '23

Coloring of paper. A. Beltzer. *Paper* 32:5-7+ Ag 15 '23

Coloring of paper on the paper machine. E. Heuser. *diags Paper Tr J* 75:49-52 Jl 27 '22

Coloring of paper stock. E. Heuser. *Paper Tr J* 74:44-5 Je 29 '22

Coloring paper stuff with color lakes. *diag Paper* 31:7-12 F 21 '23

Dyeing of paper pulp. J. Huebner. *Color Tr J* 9:211-12 N '21; Same. *Paper* 29:29-30 N 16 '21

Effect of temperature and salting-out agents on the retention of dye by paper pulp. H. A. Brown and L. S. Hatch. *Paper Tr J* 75:49-53 Ag 10 '22

Handling dyes in paper mills. *Paper* 32:14 O 18 '23

Sectional meeting of Technical association on dyestuffs. *Tech Assn Pa ser* 5:136-8 Je '22

Tinting of white papers. W. C. Holmes. *Color Tr J* 11:206-9 N '22

Raffia

Dyeing raffia. C. H. Walker. *Textile Col* 45:231-4 Ap '23

Rubber

See Antimony sulfide

Dyes and dyeing—Continued**Silk**

- Apparatus for dyeing chiffons and delicate fabrics. diags Color Tr J 11:69-71 Ag '22
- Black dyeing of tussur silk. W: S. Chester. Textile Col 45:89, 92-3, 222-5, 288-91, 379-81 F, Ap-Je '23
- Dyestuffs suitable for silk goods. E. Cagliostro. Color Tr J 10:45-7 F '22
- Importance of pure water in silk dyeing. Color Tr J 13:10-12 JI '23
- Mandarin or nitric acid styles on silk. S. F. Carter. Am Dyestuff Rep 12:464-5 Je 18 '23
- Method of protecting wool and silk from injury in alkaline solutions. Color Tr J 11:266-7 D '22
- Piece dyeing of silk goods in colors fast to washing. Color Tr J 13:138-40 O '23
- Silk in its relation to dyestuffs. E. Cagliostro. Color Tr J 10:1-5 Ja '22
- Silk noil dyeing. L: G. Hayes. Textile Col 45:19-20 Ja '23
- Skein silk dyeing. H. R. Tisdale. Textile World 64:493+ JI 28 '23; Same. Am Dyestuff Rep 12:697-9+ S 24 '23
- Sulphur and mordant dyes. G: Emmons. Am Dyestuff Rep 12:599-603 Ag 13 '23
- Three types of black hosiery. W. C. Dodson. Textile Col 45:358-9 Je '23
- Use of cerium compounds for dyeing and weighting silk goods. Color Tr J 10:34 Ja '22
- Weighting of silks. J. Woodman. Textile Col 45:30-4, 95-7, 298-301, 366-70, 447-9, 491-4, 577-81 Ja-S '23

See also Silk weighting

Silk, Artificial

- Artificial silk dyeing. Textile World 62:3575+ D 23 '22
- Briggs process for dyeing acetate silk. Color Tr J 12:21-3 Ja '23
- Dyeing cellulose acetate artificial silk. Color Tr J 13:115-16 O '23
- Dyeing cellulose acetate silk. Color Tr J 9:211, 255 N-D '21
- Dyeing effect stripe unions. L: G. Hayes. Color Tr J 12:100-1 Mr '23
- Dyeing fabrics containing cellulose acetate silk. Color Tr J 11:211-12 N '22
- Dyeing of acetyl silk. Color Tr J 10:26-7 Ja '22
- Dyeing of artificial silk. I. Ginsberg. Am Dyestuff Rep 12:651-5 S 10 '23
- Ionamines: a new class of dyestuffs for acetate silk. A. G. Green and K. H. Saunders. Soc Dyers & Col J 39:10-16 Ja '23; Same. Am Dyestuff Rep 12:375-8, 387-8 My 7-21 '23; Abstract. Color Tr J 12:67-9 F '23
- Treatment of acetate silk to improve dyeing properties. Color Tr J 12:268 Je '23

Soap

- Dyeing soap and perfumery. J. R. Wilson. Textile Col 45:440-2, 501-3, 656-8 JI-Ag, O '23 (to be cont)

See also Soap dyes

Standards

- Dye standardisation in the United States. Chem Age (Lond) 9:312-13 S 22 '23
- Dye standardization work accelerated by purchase of uniform cloth abroad. Oil Paint & Drug Rep 104:20 JI 2 '23
- Dye standards for tariff purposes promulgated by Treasury department. Oil Paint & Drug Rep 104:20+ Ag 20 '23; Textile World 64:1073+ Ag 25 '23
- Dyestuff standards issued by Customs division of Treasury department. Color Tr J 12:243-4 Je '23

Terminology

- About that word shade. Color Tr J 10:65 F '22

Vat dyes

- Contribution à l'étude des colorants de cuve. M. Battegay and J. Claudin. Chimie & Ind 6:592-5 N '21
- New processes of dyeing and printing fast colors with the vat dyes; patent. Color Tr J 12:71-2 F '23

- Properties and application of vat dyes. N. Evans. Color Tr J 10:235-6 Je '22
- Über eine klasse neuer schwefel und stickstoff enthaltender küpenfarbstoffe. A. Reissert. Deutsche Chem Gesell Ber 55:858-73 Ap '22; Abstract. Chem Soc J 122 pt 1:533-4 Je '22

- Vat colour from indigo and malonic ester; abstract. T. Posner and G. Pyl. Soc Dyers & Col J 39:119 Ap '23
- Vat colours. J. F. Thorpe and C. K. Ingold. 491p Longmans '23
- Vat dyeing by the Franklin process. D. R. Kneeland. Textile Col 45:371 Je '23
- Vat dyes of the azo-series. D. N. Mukerji. Chem Soc J 121:2879-82 D '22
- Vat dyestuffs. E. Greenhalgh. Color Tr J 10:201-3 My '22
- Vat preparations for dyeing. Color Tr J 12:116 Mr '23

Wool

- British progress in the manufacture of fast wool dyes. W. E. Fearnside. Soc Dyers & Col J 39:178-9 Je '23; Same. Am Dyestuff Rep 12:642-3 Ag 27 '23
- Chrome mordants and chrome dyes. Textile World 62:573+ JI 29 '22
- Covering cellulose flecks in woolen piece goods. G: H. Mason. Textile Col 45:634-9 O '23 (to be cont)
- Covering vegetable fibers in woolen piece-goods. W. E. Sanderson. Color Tr J 10:213-15 My '22
- Defects in woolen piece goods. R. R. Stevens. Am Dyestuff Rep 12:170-2 F 26 '23
- Dyeing knitting yarns. Color Tr J 12:147-8 Ap '23; Same. Am Dyestuff Rep 12:240+ Mr 26 '23; Same. Textile Col 45:244-5 Ap '23
- Dyeing machines I have seen and used, with special reference to dyeing wool tops. H. Clapham. diags Am Dyestuff Rep 12:354-62 My 7 '23
- Dyeing of chlorinated wool. J. R. Adams. J Phys Chem 27:81-4 Ja '23
- Dyeing of deaminated wool. W. W. Paddon. J Phys Chem 26:384-9 Ap '22
- Dyeing of fast shades on wool by the chromosol method. G. Tagliani. Color Tr J 11:158-9 O '22
- Dyeing of wool. G: H. Johnson. Am Dyestuff Rep 12:199-202, 235-9 Mr 12-26 '23
- Dyeing of woolen yarn for knitted wear. E. Sekinger. Color Tr J 11:228-32 N '22; Same cond. Am Dyestuff Rep 12:8, 29-32 Ja 1 '23
- Dyeing wool in cold baths. C. Douche. Color Tr J 10:135-6 Mr '22
- Dyeing wool in fast colors. B. Wuth. Color Tr J 11:246-51 D '22; Same. Am Dyestuff Rep 12:232-4, 253-4 Mr 12-26 '23
- Dyeing worsted fabrics. L: J. Matos. Textile World 61:423+ Ja 28 '22
- Effect of hydrogen-ion concentration on adsorption of dyes by wool and mordants. O. Reinmuth and N. E. Gordon. Am Dyestuff Rep 12:622 Ag 27 '23; Same. Ind & Eng Chem 15:818 Ag '23
- Method of protecting wool and silk from injury in alkaline solutions. Color Tr J 11:266-7 D '22
- Mordanting of wool with potash alum. W. W. Paddon. J Phys Chem 26:790-3 N '22
- Mordanting wool for hematine. A. B. Craven. Color Tr J 10:263-6 Je '22
- Mordants. W. D. Bancroft. J Phys Chem 26:736-72 N '22
- Mordants and mordanting. J. Steelman. Textile Col 45:246-8, 250-1, 436-9 Ap, JI '23
- National superchrome garnet Y and national superchrome red B. Color Tr J 10:193 My '22
- New apparatus for dyeing skeins of yarn with especial reference to wool yarn. D. Müller. il Color Tr J 11:112-13 S '22
- New azo dye from retene for wool. Color Tr J 10:248-9 Je '22
- New dyestuffs from gilsonite. Color Tr J 11:103-4 S '22
- New fast acid dyes from nitro-aniline-sulfamides; patent. Color Tr J 12:54 F '23
- New metachrome dyes for wool. Color Tr J 11:103 S '22

Dyes and dyeing—Wool—Continued

New process for securing the wool effect in woolen piece-goods. R. Haynn. *Color Tr J* 12:129-30 Mr '23

New series of fast yellow dyes for wool. *Color Tr J* 13:57-8 Ag '23

Physical chemistry of dyeing, acid and basic dyes. T. R. Briggs and A. W. Bull. *diags J Phys Chem* 26:845-75 D '22; Same. *Am Dyestuff Rep* 11:447-50+; 12:36-42 D 18 '22-23

Process of dyeing wool with cobalt mordants. *Color Tr J* 12:150 Ap '23

Production of new brown mordant dyes. *Color Tr J* 13:16 Jl '23

Streaky dyeing on serge. D: Welsh. *Textile World* 62:575+ Jl 29 '22

Technical and practical faults in wool dyeing. J. Hollingsworth. *Color Tr J* 10:268-70 Je '22

Use of bichromates in wool dyeing as a mordant. W. C. Durfee. *Am Dyestuff Rep* 12:91-5 Ja 29 '23

See also Dyes and dyeing—Carpet yarn; Wool printing

Wool-cotton

Dyeing astrachan fabrics. *Textile World* 64: 959+ Ag 18 '23; Same. *Am Dyestuff Rep* 12:716-17 S 24 '23

Wool-silk

Dyeing of silk-white effects on worsted men's wear. K. R. Moore. *Am Dyestuff Rep* 12: 621 Ag 27 '23

Dyeing of wool silk. G: Emmons. *Am Dyestuff Rep* 12:423-6 Je 4 '23

Dyeing wool-silk materials different shades. G: Emmons. *Am Dyestuff Rep* 12:181-3 F 26 '23

Operations preliminary to dyeing mixtures of wool and silk. G: Emmons. *Am Dyestuff Rep* 12:348-50+ My 7 '23

Dyes and dyeing, Photographic

Brominated isocyanines. K. L. Moudgill. *Chem Soc J* 121:1509-11 Ag '22

Cyanine dyes; dyes containing a quinoline and a benzothiazole nucleus; the thioisocyanines. W. T. K. Braunholtz and W: H. Mills. *Chem Soc J* 121:2004-8 O '22

6:6'-diacetylmino-1:1'-diethylcarbocyanine iodide. F. M. Hamer. *Chem Soc J* 123:2333-6 S '23

2-p-dimethylaminostyrylpyridine methiodide, a new photographic sensitiser. W: H. Mills and W: J. Pope. *Chem Soc J* 121:946-7 My '22

Dyes used in photography. D. S. Mungillo and C. W. Gibbs. *Am Dyestuff Rep* 12: 47-8+ Ja 15 '23

Dyestuffs derived from heterocyclic bases containing reactive methyl groups. J. L. B. Smith. *Chem Soc J* 123:2288-96 S '23

Photographic sensitizing dyes of dicyanine type. *Color Tr J* 13:17 Jl '23

Photosensitizing dyestuff effective for infrared radiation. *Color Tr J* 9:209 N '21

Photo-sensitizing dyestuffs. S. Ellingworth. *Chem Age (Lond)* 9:250-3, 302-4 S 8, 22 '23

Some new sensitizers for the deep red. C. E. K. Mees and G. Gutekunst. *il J Ind & Eng Chem* 14:1060-1 N '22

See also Dicyanine

Dyes as antiseptics and disinfectants

L'action bactériostatique et sélective du violet de gentiane et d'autres colorants alcalins. J: W. Churchman. *bibliog il Chimie & Ind* 10:212-15 Ag '23

Relation between chemical constitution and antiseptic action in the coal tar dyes. T. H. Fairbrother and A. Renshaw. *Soc Dyers & Col J* 39:160-1 My '23

Utilisation of dyestuffs as antiseptics. S. Ellingworth. *Chem Age (Lond)* 9:444-5 O 27 '23

Dynamic symmetry. See Design

Dynamics

Dynamique générale. H: P. M. Bouasse. 324p Delagrave, Paris '23

Transformation of the equation of motion of the dynamics of continuous media in the restricted principle of relativity. H. T. Flint. *Philos Mag* 6th ser 42:794-9 N '21

See also Aerodynamics; Airplane engines—Stability; Force and energy; Hydrodynamics; Matter; Mechanics; Quantum theory; Stability; Top

Study and teaching

Stroud system of teaching dynamics. J. B. Henderson. *Engineering* 116:409-10 S 28 '23; Discussion. 116:388, 556-7 S 28-N 2 '23

Dynamics of a particle

Orbits in the field of a doublet. D. Wrinch. *Philos Mag* 6th ser 43:993-1014 My '22

Dynamite

How sensitive is dynamite? *il Sci Am* 126:39 Ja '22

Present practice of dynamite and chemically pure glycerol distillation. J. W. Bodman. *il diags J Ind & Eng Chem* 14:487-91 Je '22

Some ingenious uses for dynamite. J. L. Ball. *il Pop Mech* 37:954 Je '22

Using dynamite in mosquito eradication. *Munic Eng* 65:sup24 S '23

See also Blasting; Dumorite

Dynamometer

Amsler elastic-column dynamometer for hardness testing machines. *il Am Mach* 57:939-40 D 14 '22

L'application des dynamomètres aux fraiseuses. *diags Génie Civil* 82:113-14 F 3 '23

Device for determining the power of small motors. J: E. Snow. *Ind Eng* 80:499-500 O '22

Dynamometer tests of the locomotive booster. *il charts Ry Age* 73:511-14 S 16 '22; Same. *Ry Mech Eng* 96:562-5 O '22

Elastic column dynamometer for hardness testing. H. A. Holz. *il diag Chem & Met Eng* 28:269-70 F 7 '23

High speed dynamometer. G. E. Scholes. *il diags Automobile Eng* 13:54 F '23

Iowa prony brake. F. G. Higbee. *il diags Eng Educ* 13:65-7 O '22

Milling machine dynamometer. R. Poliakoff. *il diag Am Mach* 56:148 Ja 26 '22; Discussion. J: Airey. 56:339 Mr 2 '22

New British traction dynamometer. *il diags Automotive Ind* 45:360-1 N 3 '21

New fan brake dynamometer. *il Automobile Eng* 13:107-8 Ap '23

Polak hydraulic traction dynamometer. *il diags Engineering* 113:256 Mr 3 '22

Production tests of loaded chassis at the G.M.C. truck plant. *il diag Automotive Ind* 48:224-6 F 1 '23

Rear wheel dynamometer tests and their significance to the engineer. H. Chase. *il chart diags Automotive Ind* 46:859-68 Ap 20 '22

Rolling resistance of rubber tires. E. H. Lockwood. *il India Rubber W* 67:13-15 O '22

Watson dynamometer for tractors. *il diags Engineering* 113:814-16 Je 30 '22

Dynamometer cars

Dynamometer car test on the N.C. & St L. Ry. *il charts Ry R* 73:521-6 O 13 '23

Practical points on dynamometer car tonnage tests. O. O. Carr. *Ry R* 70:451-5 Ap 1 '22

Dynamos. See Electric generators

Dysmenorrhea

Observations on dysmenorrhea occurring in women employed in a large department store. M. C. Sturgis. *J Ind Hygiene* 5:53-6 Je '23

Preliminary note on dysmenorrhea as an industrial problem. S: R. Meaker. *J Ind Hygiene* 4:49-52 Je '22

Dysprosium

Wave length measurements in the arc spectra of gadolinium and dysprosium. C. C. Kiess. *U S Bur Stand Sci Pa* 466:695-706 '23

E

Eagles

Study of the vulture and golden eagle. H. J. Nordman. *Aerial Age* 15:89, 112, 184 Ap 3-10, My 1 '22

Ear

- Analysis of sound waves by the cochlea. H. E. Roaf. *diags Philos Mag* 6th ser 43:349-53 F '22
- Physical characteristics of normal and abnormal ears. J. P. Minton. *Phys R* 19:80-96 F '22
- Relative sensitivity of the ear at different levels of loudness. D. MacKenzie. *diags Phys R* 20:331-48 O '22
- Some physical characteristics of the ear; abstract. J. P. Minton. *Sci Am* 127:31 JI '22

See also Hearing

Examination

- Ear-testing apparatus. *diag Elec R (Lond)* 91:366-7 S 15 '22

Earth

- Age of the earth. *Sci Am* 126:410 Je '22
- Concerning the age of the earth. H. V. Hilker. *il Sci Am* 128:256-7 Ap '23
- Earth's crust and its stability. R. A. Daly. *Am J Sci* 5th ser 5:349-51 My '23
- Evolution of the earth-moon system. A. S. Eddington. *Sci Am* 128:400 Je '23
- Shrinkage of the earth; abstract. H. Stille. *Am J Sci* 5th ser 6:168-72 Ag '23

See also Atmosphere; Diastrophism; Earthquakes; Geochemistry; Geodesy; Geology; Geophysics; Gravity; Isostasy; Magnetism, Terrestrial; Meteorology; Microseismograms; Mines and mineral resources; Ocean; Ore deposits; Paleoclimatology; Water, Underground

Rotation

- Decrease of the earth's rotational velocity and its geological effects. R. A. Daly. *Am J Sci* 5th ser 5:372-7 My '23

Earth construction. See Pisé

Earth movements

- Movements of the earth's surface crust. J. Joly. *Philos Mag* 6th ser 45:1167-88; 46:170-6 Je-JI '23

See also Earthquakes; Landslides

Earth pressure

- Essais de résistances et d'élasticité du terrain de fondation de la nouvelle écluse maritime d'Ymuiden (Hollande). A. Bijls. *diags Génie Civil* 82:490-2 My 26 '23; Abstract (Elastic modulus of sand foundation measured in Holland). *Eng N* 90:1120 Je 28 '23

Field check on formulas for earth pressure; thrust of saturated bank measured by deflections of cofferdam wales. H. S. Schick. *il diags Eng N* 88:994-5 Je 15 '22; Discussion. M. Hirschthal. 89:247 Ag 10 '22

Lateral earth pressure: accurate experimental determination of the lateral earth pressure, together with a resumé of previous experiments. J. Feld, jr. *il diags plan Am Soc C E Pro* 49:603-60 Ap '23; Abstract. *Eng & Contr (Bldgs)* 59:1160-6 My 23 '23; Discussion. *Am Soc C E Pro* 49:1007-25 My '23

Measured retaining-wall pressure from sand and surcharge. J. Feld. *diag Eng N* 88:106-8 Ja 19 '22

La poussée des sables. *Génie Civil* 83:90 JI 28 '23

Some data on the design of steel coal bins. R. Fleming. *diags Eng N* 89:346-50 Ag 31 '22; Discussion. 89:669-70, 808, 1132; 90:270, 553 O 19, N 9, D 28 '22, F 8, Mr 22 '23

Transmission of pressure through solids and soils and the related engineering phenomena. G. Paaswell. *diags Am Soc C E Pro* 48:1075-89 My '22

See also Dams; Retaining walls

Earth slides. See Landslides

Earth temperature

- Is radium heating up the earth? R. D. Rusk. *Pop Mech* 39:227-8 F '23
- Movements of the earth's surface crust. J. Joly. *Philos Mag* 6th ser 46:173-6 JI '23
- Sub-continental temperatures. H. H. Poole. *Philos Mag* 6th ser 46:406-17 S '23

Earth tides

- Problem of the earth tides. W. D. Lambert. *Nat Research Council Bul* 3 pt 2:18-26 Mr '22

Earthquakes

Accurate forecasting of earthquakes now scientific possibility. H. H. Dunn. *il Pop Mech* 37:501-4 Ap '22

Diurnal periodicity of earthquakes. C. Davison. *Philos Mag* 6th ser 43:878-85 My '22

Earthquake detection near the White House. G. H. Dacy. *il Sci Am* 127:31 JI '22

Earthquake disaster in Japan. *Engineer* 136:258 S 7 '23

Earthquakes. L. A. Cotton. *Sci Am* 129:237 O '23

Earthquakes and volcanoes; the mechanics of these titanic subterranean forces and their destructive careers. E. W. Woolard. *il Sci Am* 129:304-5+ N '23

Earthquakes recorded photographically. *Pop Mech* 36:837 D '21

Forecasting earthquakes. H. D. Benton. *il Sci Am* 126:381-2 Je '22

Forecasting of earthquakes. T. A. Rickard. *Eng & Min J* 113:992 Je 10 '22

Manual of seismology. C. Davison. 256p Macmillan '21; Review. *Sci Am* 129:116 Ag '23

Trail of future earthquakes traced. *il Pop Mech* 40:826-9 D '23

Views on causes and effects of shocks such as plunged Japan into chaos. E. M. Newman and others. *il Pop Mech* 40:661-6 N '23

See also Japan—Earthquake, 1923; Seismologic stations

Earthquakes and building

Building to resist earthquakes. S. Hunt. *Eng & Contr* 55:186-7 Ag 23 '22

Design of earthquake-resistant buildings in Japan. *diags Eng N* 91:478 S 20 '23

How to build earthquake-proof houses. B. Willis. *Bldg Age* 45:43 O '23

Japanese engineering structures and services. *il Eng N* 91:434-6 S 13 '23

Modern steel and reinforced-concrete structures survive Japanese earthquake. J. W. Doty and W. W. Johnston. *il Eng N* 91:678-81 O 25 '23

Rebuilding of Japan; views of earthquakes. *Am Arch* 124:349-53 O 10 '23

Steel frame and reinforced concrete structures survive Japan's earthquake. W. A. Gleason. *Eng N* 91:527+ S 27 '23

Structural lessons learned from survey of steel-frame buildings after Japan's earthquake. W. S. Sample. *Eng N* 91:728-9 N 1 '23

Views on causes and effects of shocks such as plunged Japan into chaos. *il Pop Mech* 40:664-6 N '23

Earths, Rare

Chemistry of the rare earths. E. White. *Chem Age (Lond)* 8:694-5 Je 30 '23

Dichte und molekularvolumen des lanthan-, praseodym-, neodym-, samarium- und europium-oxys. W. Prandtl. *Deutsche Chem Gesell Ber* 55:692-4 Mr '22

Introduction to the analytical chemistry of the rarer elements. L. J. Curtman. 64p L. J. Curtman, College of the City of New York, New York '22

New method for the preparation of pure ceria earth compounds. R. H. F. Manske. *Can Chem & Met* 6:83 Ap '22

Observations on the rare earths; studies in the absorption spectra. L. F. Yntema. *Am Chem Soc J* 45:907-15 Ap '23

Outline of qualitative analysis of inorganic substances. H. G. Byers. 216p Van Nostrand '22

Über ein neues mineral, das seltene erden als hauptbestandteil enthält. F. Henrich and G. Hiller. *Deutsche Chem Gesell Ber* 55:3013-21 O '22

Wave-lengths longer than 5500 Å in the arc spectra of yttrium, lanthanum, and cerium and the preparation of pure rare earth elements. C. C. Kiess, B. S. Hopkins and K. C. Kremers. *U S Bur Stand Sci Pa* 421:371-51 '21; Abstract. *J Fr Inst* 192:802-5 D '21

See also Cerium; Lanthanum; Praseodymium; Samarium; Zircon

Earthwork

Earth moving methods and costs, Bronx parkway. G. D. Clarke. *il Eng N 91:186-8 Ag 2 '23*

Leveling Morro do Castello in Rio de Janeiro. *il plan Eng N 91:558-60 O 4 '23*

See also Dams; Dikes (engineering); Dredging; Drilling and boring (earth and rocks); Earth pressure; Embankments; Excavation; Filling; Foundations; Grading (earthwork); Hydraulic excavation; Hydraulic filling; Landslides; Railroads—Earthwork; Retaining walls; Tunnels and tunneling

Tables, calculations, etc.

Graphs allow rapid yardage calculation. R. C. Hardman. *diag Eng N 89:1129-30 D 28 '22*

Irregular areas in yardage problems solved by geometry. J. R. Jahn. *diags Eng N 91:609 O 11 '23*

Method of computing overhaul. *Eng & Contr (Ry) 59:1356-9 Je 20 '23*

Nomographic chart for cross-sectioning. C. P. Mowry. *Eng N 88:687-8 Ap 27 '22*

Shortcutting earthworks computations by slide rule. K. H. Gideon. *Eng N 89:508 S 28 '22*

See also Excavation—Tables, calculations, etc.

East Liverpool, Ohio**Rapid transit**

East Liverpool rides again. *Elec Ry J 61:817-18 My 12 '23*

Ordinance defeated. *Elec Ry J 60:828 N 18 '22*

East Orange, New Jersey**Railroads**

Lackawanna continues grade crossing elimination. *il diags plans Eng N 89:778-81 N 9 '22*

East St Louis & suburban company

Sale being negotiated for purchase of East St Louis properties. *Elec Ry J 60:370 S 9 '22*

Easter Island

Mysterious Easter Island. F. Dickie. *il Pop Mech 38:833-6 D '22*

Eastern and associated telegraph companies

Jubilee of the Eastern telegraph co. *Electrician 89:62-4, 104-5 Jl 21-28 '22*

Eastern ice manufacturers' association

16th annual convention, Atlantic City, Nov. 15-17. *Refrig W 57:28-30 D '22*

Eastern Massachusetts street railway, Boston

Eastern Massachusetts condition improving. *Elec Ry J 60:850 N 25 '22*

\$892,389 increase in net in 1921. *Elec Ry J 59:296-7 F 18 '22*

\$167,403 increase in net. *Elec Ry J 61:780 My 5 '23*

Readjustment planned. *Elec Ry J 58:880 N 12 '21*

Six per cent increase to Eastern Massachusetts men. *Elec Ry J 62:228-9 Ag 11 '23*

Eastern states gas conference

1st meeting, Philadelphia, April 11-13. J. R. Jennings. *Gas Age 51:463-4, 511-12 Ap 14-21 '23*

Eastman, George

Portrait. *System 43:194 F '23*

Sketch. E. Hungerford. *por Ptr Ink M 7:17-18+ N '23*

Eastman kodak company

How kodak chooses its advertising illustrations. C. B. Larrabee. *il Ptr Ink M 5:30-1 Jl '22*

When the dealer fails to render an advertised service—what then? R. Cole. *Ptr Ink 117:57-8+ N 17 '21*

Eastman savings and loan association

Showing employees how they can profit by helping each other; employees' savings and loan plan in the Eastman kodak organization. P. F. O'Shea. *Factory 29:677-8 D '22*

Eastman theater and school of music, Rochester, New York

Eastman school of music. *Arch & Bldg 55:73-4, pl 144-50 Jl '23*

Eastman theatre and school of music. *il Am Arch 123:180-4, 194a-9 F 28 '23*

Electrical and illuminating equipment of the Eastman theater and school of music. F. A. Mott and L. A. Jones. *il diags plans Am Inst E E J 42:569-82 Je '23; Same cond.*

Am Arch 123:511-15, 565-70 Je 6, 20 '23

Heating and ventilating system and sound-proofing for the Eastman theatre and school of music. A. S. Crocker. *Am Arch 123:200-2 F 28 '23*

Easton, Pennsylvania**Rapid transit**

Reorganization terms made public. *Elec Ry J 59:691 Ap 22 '22*

Eaves trough. See Gutters (roof)**Ebullioscopy. See Boiling points****Egonine**

Egonine. J. Gadamer and C. John. *Chem Soc J 122 pt 1:167-8 F '22*

Eckstein, Louis

Men and methods. L. Anson. *System 42:421-3 O '22*

Eclipses, Solar

Movies show sun's eclipse for science. *il Pop Mech 40:694-5 N '23*

Economic conditions

Advantages of the recent rise in prices. F. De St. Phalle. *Ry R 73:25-6 Jl 7 '23*

American banker's responsibility today. T. W. Lamont. 18p Foreign policy assn., 3 W. 29th st., New York '22

American prosperity depends on Europe. H. G. Moulton. *Iron Age 109:1285-8 My 11 '22*

Banker and his function to-day. T. W. Lamont. *Comm & Fin Chr 117:1409-11 S 29 '23*

Business and world conditions. E. H. Gary. *Iron Age 108:1320-3 N 24 '21*

Credit situation. J. H. Tregoe. *Oil Paint & Drug Rep 100:48-9 N 2 '21*

Economic basis of a solvent state. R. Estcourt. *Annalist 20:77-8 Jl 24 '22*

Economic imperialism and international relations during the last fifty years. A. Vialate. 180p Macmillan '23

Economic tendencies. M. C. Rorty. *Am Ind 23:10-14 Je '23*

Next step: a plan for economic world federation. S. Nearing. 175p N. S. Nearing, Ridgewood, N.J. '22

Outlines of economic history in the nineteenth century. G. Droppers. 286p Ronald press '23

Secret of America's industrial supremacy; with a survey of other countries. J. H. Barnes. *Ind Management 66:1-6 Jl '23*

Weltpolitik und weltwirtschaft im besonderen hinblick auf den Osten. M. Spahn. *maps Stahl & Eisen 42:205-15 F 9 '22*

World economic situation for 1923. H. Hoover. *Am Inst E E J 42:75 Ja '23; Same. Am Mach 58:104 Ja 18 '23; Same. Blast F & Steel Pl 11:94 Ja '23*

World in review. *Annalist 20:460-2 N 6 '22*

See also Business conditions; Economic policy; Geography, Commercial; Progress; also subdivision Economic conditions under names of countries, e.g. France—Economic conditions, Germany—Economic conditions, Russia—Economic conditions; United States—Economic conditions

Economic geologists, Society of. See Society of economic geologists**Economic history**

Introduction to economic history. N. S. B. Gras. 350p Harper '22

Economic policy

Political versus economic boundaries. R. Estcourt. *Annalist 20:223, 246 S 4-11 '22*

Stabilisation. E. M. H. Lloyd. 141p Knopf '23

See also Commercial policy; Free trade and protection; Municipal ownership; Ship subsidies; Tariff

Economic research

See American chamber of economics

Economic research, Bureau of. See Bureau of economic research

Economics

- Background of economics. M. H. Hunter and G. S. Watkins. 514p McGraw-Hill '23
- Control and distribution of production. C. H. Douglas. 175p C. Palmer, London '22
- Critique of economics, doctrinal and methodological. O. F. Boucke. 305p Macmillan '22
- Distribution of income. Eng & Contr 57:183-5 F '22 '22
- Economic motives. Z. C. Dickinson. [Harvard econ. studies v. xxiv] 304p Harvard Univ. press, Cambridge '22
- Economic science and the common welfare. H. G. Brown. 273p Missouri book company, Columbia '23
- Economics and the community. J. A. Lapp. 366p Century co. '22
- Economics for commercial students. A. Crew, J. Swain and L. Ashmore. 5th ed. 383p Jordan & sons, London '23
- Economics in business. H. W. Pitt. Eng & Ind Management 6:710-12, 752-4+ D 22-29 '21
- Economics—is it a basis for sound executive action. Chem & Met Eng 27:902-3 N 1 '22
- Elementary principles of economics. R. T. Ely and G. R. Wicker. 3d ed., rev. 532p Macmillan '23
- Elements of economics. C. J. Bullock. Rev. and enl. 406p Silver, Burdett and co., Boston '23
- Elements of economics. A. G. Fradenburgh. 364p Scribner '21
- Essentials of economics. F. R. Fairchild. 543p Am. book co., New York '23
- Getting and spending. L. Fisher. 206p W. Collins sons & co., London '22
- Human effort and human wants. L. G. McPherson. 318p Harcourt '23
- Introduction to economic problems. J. D. Magee. 363p Scribner '22
- Introduction to economics. A. S. Johnson. rev. ed. 481p Heath '22
- Introduction to economics. T. R. Williamson. 538p Heath '23
- Making goods and making money. W. C. Mitchell. Mech Eng 45:4-6 Ja '23; Same cond. Management Eng 4:47-9 Ja '23; Discussion. Mech Eng 45:10-13 Ja '23; Iron Tr R 71:1702-4 D 21 '22
- Man's wants, work & wealth. S. Cunningham. 177p Pitman '23
- Modern economic problems. F. A. Fetter. 2d ed., rev. 611p Century co. '22
- Must link engineering and economics. E. F. Dubrul. Iron Tr R 71:1702-4 D 21 '22
- Necessity of better application of economic principles. E. F. Du Brul. Am Mach 55:800-1 N 17 '21
- Order of nature in economics. D. E. Peddie. 147p R. G. Badger, Boston '23
- Outlines of economics. R. T. Ely and others. 4th ed., rev. 728p Macmillan '23
- Outlines of political economy. S. J. Chapman. 463p Longmans '21
- Practical economics. H. P. Shearman. 388p McGraw-Hill '22
- Practical training for foremen: economic laws. P. L. Burkhard. Iron Tr R 70:1329-31 My 11 '22
- Principles of economics. H. R. Seager. 3d ed., rev. & enl. 698p Holt '23
- Principles of the new economics. L. D. Edie. 525p Thomas Y. Crowell co., New York '22
- Readings in economics. T. R. Williamson. 537p Heath '23
- Social and industrial problem. A. Hook. 323p Cassell & co., London, New York '21
- Some economic fallacies, fancies, and facts for the advertising man. W. F. Gephart. Ptr Ink 122:113-15 F 15 '23
- Some problems in current economics. M. C. Rorty. 143p Shaw '22
- Substance of economics. H. A. Silverman. 350p Pitman '22
- Text-book of economics. M. Briggs. 2d ed. 527p W. B. Clive, Univ. tutorial press, London '23
- See also Agriculture—Economic aspects; Banks and banking; Business; Capital; Commerce; Communication and traffic; Competition; Consumption (economics); Co-

operation; Cost; Cost of living; Credit; Debts, Public; Depreciation; Economic conditions; Economic policy; Finance; Food supply; Free trade and protection; Government ownership; Government regulation of industry; Housing; Income; Index numbers (economics); Industrial relations; Industry; Interest; Labor and capital; Labor and laboring classes; Land; Manufactures; Money; Population; Prices; Production; Profit; Profit sharing; Rent; Saving; Socialism; Speculation; Strikes; Supply and demand; Tariff; Taxation; Trade unions; Transportation; Trusts, Industrial; Wages; Wealth, Ethics of

The American chamber of economics conducts a consultation and educational service for executives, in economic principles. Its supervising director is George E. Roberts, Vice-President of the National City Bank of New York

Bibliography

- Economic and sociological periodicals in the New York Public library. New York Pub Lib Bul 27:27-52 Ja '23
- Reading list on general economics. M. G. Lacy. Special Lib 14:25 F '23

Dictionaries

- Pitman's dictionary of economic and banking terms. W. J. Weston and A. Crew. 166p Pitman '20

History

- History of economic thought. L. H. Haney. rev. ed. 677p Macmillan '21

Study and teaching

- Economics and the American workman. P. Kreuzpointner. Management Eng 4:257-8 Ap '23
- Economics for employees. 8p National personnel assn., New York '22
- Need for education in economics. Engineering 112:763-4 D 2 '21
- Study of economics as a need in industry discussed at ninth national convention of the Society of industrial engineers. Iron Age 110:1086-9 O 26 '22; Iron Tr R 71:1139-41 O 26 '22; Chem & Met Eng 27:869-71 N 1 '22

Economizers. See Fuel economizers

Ectoplasm. See Psychical research

Ecuador

See Mines and mineral resources—Ecuador

Eddies. See Hydraulics

Eddy currents

- Bearing currents and their suppression. A. Fraenckel. diags Elec R (Lond) 93:488-9 O 5 '23

See also Stray currents

Edes, William Cushing. 1856-1922

Sketch. Eng N 89:37 Jl 6 '22

Edgewood arsenal

Special gas research at Edgewood. T. M. Knappen. il Gas Age 48:554-7 N 5 '21

Edinburgh, Scotland

Rapid transit

Liverpool, Glasgow, Edinburgh compared. D. L. Turner. Elec Ry J 61:1039-41 Je 23 '23

Edison, Thomas Alva. 1847-

Brilliant gathering honors Edison. il Elec W 80:625-7 S 16 '22

Early days with Edison. A. Williams. Elec W 80:541 S 9 '22

Interview with the father of the central-station industry. L. W. W. Morrow. Elec W 80:529-30 S 9 '22

Mr Edison visits Schenectady. J. R. Hewett. il Gen Elec R 25:714-17 D '22

Portrait. Elec W 80:518 S 9 '22; System 44:267-8 S '23

Reminiscences of a veteran mechanical engineer. W. H. Odell. por Power 58:141-2 Jl 21 '23

Edison effect. See Thermionic effect

Edison industries

Business forecasting in the Edison industries. R. H. Allen and others. Administration 4: 409-20, 553-8, 671-9; 5:1-8, 171-6, 262-6, 402-6 O '22-Apr '23

Giving employees a goal to work toward. W. Maxwell. System 40:702-3+ D '21

Re-establishing the profit margins in the Edison industries. A. S. Myers. Ind Management 63:131-5 Mr '22

Edison medal

Edison medal presented to Dr Robert A. Millikan. Am Inst E E J 42:1221-4 N '23

Edison pioneers

Edison pioneers to perpetuate its organization. Elec R 79:925 D 17 '21

Edison questionnaire

Reply to Edison's questionnaire on the issuance of money based on property. H. P. Gillette. Eng & Contr 57:228-9 Mr 8 '22

What do you know; the Edison questionnaire. Sci Am 125A:16-17 N '21; Discussion. L. G. Hall. 126:277 Ap '22

Editorials

Business and the business press. R. W. Johnson. Ptr Ink 117:25-8 D 22 '21

Editors

Cooperation between editors and printers. S. W. Wiant. Inland Ptr 68:623-4 F '22

What editors know that might help you. Ptr Ink 117:49-50 D 15 '21

Education

See also Architectural education; Business education; Chemical education; Colleges and universities; Corporation schools; Education of workers; Engineering education; Evening and continuation schools; Industrial education; Libraries; Manual training; Mining schools and education; Moving pictures in education; Professional education; Scholarships and fellowships; Teaching; Technical education; Trade schools; Vocational education; also subdivision Study and teaching under special subjects, e.g. Economics—Study and teaching

Education, Boards of. See School boards**Education, Compulsory. See Compulsory education****Education of workers**

Adult working-class education in Belgium. Monthly Labor R 16:141-3 Ja '23

Economics and the American workman. P. Kreuzpointner. Management Eng 4:257-8 Ap '23

Educational activities for workers in Finland. Monthly Labor R 15:1103-4 N '22

Educational opportunities in Great Britain. Int Labour R 7:433-7 F '23

Educational work of the German trade-unions. Monthly Labor R 14:1291-7 Je '22

International conference on workers' education held in Brussels, Belgium, Aug. 16-17, 1922; report. 48p Workers Educ. Bur.

Notes on workers' education. Int Labour R 6:639-47 O '22

Swiss workers' education movement. E. Reinhard. Int Labour R 7:959-65 Je '23

When labor goes to school. G. M. Fox. 30p Woman's Press, New York '20

Workers' education. See monthly numbers of International labour review

Workers' education in Belgium. H. de Man. Int Labour R 6:527-45 O '22

Workers' education in Great Britain. Int Labour R 4:365-82 N '21

Workers' education in Sweden. Int Labour R 7:780-5 My '23

Workers' education in the United States. 144p Workers' education bureau of America, 465 W 23d St., New York '21

Workers' education in the United States; report of proceedings, second National conference. 196p Workers' education bur. of America, 465 W. 23d st., New York '22

See also Evening and continuation schools; also Workers' educational association of Great Britain

Bibliography

Worker's education; a list of references (in English). Monthly Labor R 14:1273-90 Je '22

Educational advertising. See Advertising, Educational**Educational exhibits. See Exhibits, Educational****Educational graphic arts exposition**

Second educational graphic arts exposition. il Inland Ptr 70:102-10 O '22

Educational measurements

Harvard study of mental and physical development. Sci Am 128:326 My '23

Need for measurement in engineering education. J. C. Chapman. Eng Educ 12:348-52 Ap '22

See also Ability tests

Eelgrass

Belgrass: a New England coast sea crop. il Pop Mech 40:51-2 Jl '23

Eels

Surefooted life of the eel is an interesting story. Pop Mech 39:14 Ja '23

Efficiency

Personal and business efficiency. C. A. Henderson. 308p Doran '23

Training for power and leadership. G. Kleiser. 383p Doran '23

Efficiency, Industrial

Alcohol and industrial efficiency; abstract. E. L. Collis and T. Oliver. J Ind Hygiene 4: 131-2 D '22

Analysis of the individual differences in the output of silk-weavers. P. M. Elton. 38p Gt. Brit. Industrial research board, London '22

Common sense versus efficiency engineering. A. F. Brewer. Ind Management 65:237-9 Ap '23

Efficiency. H. F. Baillet. Sanitary & Heat Eng 98:102-3 Ag 25 '22

Efficiency in cotton weaving. Textile World 63:3150 My 12 '23

Efficiency of man. Sci Am 128:165 Mr '23

Human efficiency. Engineering 114:558-9 N 3 '22

Ideal work-curve. T. Bedford. bibliog J Ind Hygiene 4:235-45 O '22

Increased production efficiency in the industries; symposium. Chem & Met Eng 27:457-68 Ag 30 '22

Individual variations in efficiency and the analysis of the work curve. P. S. Florence. Elec R (Lond) 93:552 O 12 '23

Influence of atmospheric conditions on industrial efficiency. H. M. Vernon. Eng & Ind Management 6:749-51; 7:12-13 D 29 '21-Ja 5 '22

Labor efficiency and production. Monthly Labor R 15:339-40 Ag '22

Labor efficiency and productiveness in saw-mills. E. Stewart. Monthly Labor R 16:1-21 Ja '23

Labor's responsibility for industrial efficiency. J. J. Davis. Chem & Met Eng 27:394-5 Ag 30 '22

Motion study in metal polishing. E. Farmer and R. S. Brooke. Metal Ind 20:133-6 Ap '22

New conservation; up-to-the-minute definitions of waste, and procedure for preventing it. R. M. Hudson. Sci Am 127:400+; 128: 28+ D '22-Ja '23

Psychology of industry. J. Drever. 148p Dutton '21

Rubber heels and efficiency. D. Baker. Ptg Art 38:563-4 F '22

What underlies efficiency? J. H. Lindsay. Ind Management 63:337-40 Je '22

See also Ability tests; Business management; Employment management; Executive ability; Executives; Factory management; Factory sanitation; Fatigue; Foundry management; Industrial management; Motion study; Office management; Planning; Power plants—Management; Routing systems; Time study; also Society of industrial engineers

Egalisal

Egalisal and egalisal H; abstract. Singer and a Brassard. Soc Dyers & Col J 39:182 Je '23

Egan, Thomas P.

Sketch. W. M. Benney. Am Ind 22:23 F '22

Egg trade**Advertising**

- Reducing the butter and egg surplus by means of advertising. A. L. Gale. *Ptr Ink* 121:146+ N 9 '22
- Teaching consumers to buy eggs by government grade. *Ptr Ink* 121:169-70+ D 14 '22
- To loosen a jam in storage produce. *Ptr Ink* 121:117-18+ N 23 '22

Eggs**Preservation**

- Cold storage eggs endorsed. *Refrig W* 57:38 N '22
- Cold storage of eggs. J. Oldham. *Refrig W* 57:23-4 JI '22
- Study of methods of minimizing shrinkage in shell eggs during storage. L. H. Almy, H. I. Macomber and J. S. Hepburn. *J Ind & Eng Chem* 14:525-7 Je '22

Transportation

- Handling eggs in bulk with minimum breakage. *Sci Am* 129:263 O '23
- Seriousness of the egg claim situation. A. L. Green. *Ry Age* 71:1270 D 24 '21

Eggs, Artificial

- Manufactured egg; patent. *Chem Age* 31:43-4 Ja '23

Egypt

- Egyptian cotton from field to dock. W: R. Meadows and W: L. Pryor. *il Textile World* 61:650+ F 4 '22
- See also Moving picture industry—Egypt; Petroleum—Egypt

Antiquities

- Digging back three thousand years. A. A. Hopkins. *il Sci Am* 128:150-2 Mr '23
- Tomb of an Egyptian queen. A. A. Hopkins. *il Sci Am* 126:243-4 Ap '22
- See also Tut-ankh-amon, Tomb of

Commerce

- Trade statistics of Egypt. *Elec R (Lond)* 92: 633 Ap 20 '23
- Eidlitz, Charles L., 1866-
Contractors appoint a high commissioner; Charles L. Eidlitz will seek to reform their business methods. *por Elec W* 81:822-3 Ap 7 '23

Eight hour day. See Hours of labor**Eilers, Karl, 1865-**

- Metallurgists of note. *por Eng & Min J* 116: 94 JI 21 '23

Einstein, Albert, 1879-

- Einstein, the searcher. A. Moszkowski. 246p Dutton '21

- Introduction to Einstein and universal relativity. W: F. Hudgings. 64p Arrow bk. co., New York '22

Einstein theory

- Criticism of Einstein and his problem. W: H: V. Reade. 126p B. Blackwell, Oxford '22
- Derivation of symmetrical gravitational fields. F. D. Murnaghan. *Philos Mag* 6th ser 43:19-31 Ja '22
- Einstein and the theory of relativity. H. J. Jones. *Engineer* 132:529-30, 556-8, 588-9 N 18-D 2 '21; Discussion. 132:644 D 16 '21
- Einstein's relativity and gravitation. J: Mills. *Phys R* 19:263-4 Mr '22
- Einstein's theory of relativity. C: P. Steinmetz. *Gen Elec R* 24:1014-18 D '21
- Field of an electron on Einstein's theory. S. J. Gunningham. *Philos Mag* 6th ser 45:276-80 F '23
- Gravitational field of a particle on Einstein's theory. J. T. Combridge. *Philos Mag* 6th ser 45:726-32 Ap '23
- Identical relations in Einstein's theory. A. E. Harward. *Philos Mag* 6th ser 44:380-2 Ag '22
- Identical relations in Einstein's theory. G. B. Jeffery. *Philos Mag* 6th ser 43:600-3 Mr '22
- Moving pictures to illustrate Einstein theory. *il Pop Mech* 37:892 Je '22
- Newton and Einstein. *Engineer* 135:581-3 Je 1 '23

Le principe de la relativité et les théories d'Einstein. H. Vigneron. Génie Civil 79: 408-12 N 12 '21

- Relativity in the films. *il Sci Am* 127:92 Ag '22
- Significance of Einstein's gravitational equations in terms of the curvature of the world. A. S. Eddington. *Philos Mag* 6th ser 43:174-7 Ja '22
- Something about the methods and the results of the Einstein verification. H: N. Russell. *il Sci Am* 129:48 JI '23
- Validity of Einstein's doctrine. *Eng & Contr* 59:240-2 Ja 31 '23

See also Relativity (physics)**Ejectors**

- Gaseous fluid ejector. H: A. Hepburn. *Engineer* 134:401-2, 429-30 O 20-27 '22; Discussion. 134:505, 524 N 10-17 '22

El Paso and Southwestern railroad

- El Paso & Southwestern earnings improve. *Ry Age* 74:823-4 Mr 24 '23

Elaidic acids

- C₁₈ fatty acids; the relation of oleic and elaidic acids to their halogen addition products. B. H. Nicolet. *Am Chem Soc J* 43:2122-5 S '21

Elastic fabrics

- Elastic and non-elastic narrow fabrics. S: Brown. *il diag Textile World* 61:197+, 1041+, 1543+, 3367+; 62:319+, 879+, 1803+; Ja 14, F 11, Mr 11, Je 3, JI 15, Ag 12, S 30 '22

Manufacture

- Covering rubber thread. J: L. Alden. *il Textile World* 62:209 JI 8 '22; Same. *India Rubber W* 66:837 S '22

Elastic limit

- Changes in iron and steel below 400° C. A. Goffey and F. C. Thompson. *bibliog diags Iron & Steel Inst J* 107:465-90 no 1 '23
- Elastic limits of copper under cyclical stress variations. *diags Engineering* 114:291-3 S 8 '22
- Elastic limits of fatigued steel. L. Bairstow. *Chem & Met Eng* 28:820-1 My 7 '23
- Sur la limite élastique des solides. Mesnager. *Génie Civil* 80:369-70 Ap 22 '22

Elasticity

- Analytical discrimination of elastic stresses in an isotropic body. R. F. Gwyther. *Philos Mag* 6th ser 44:274-83 JI '22
- Approach of flat elastic plates under load when separated by a ball of similar material. J: Goodman. *diag Engineering* 116:244-6 Ag 24 '23
- Circular plates of variable thickness. G: D. Birkhoff. *diags Philos Mag* 6th ser 43:953-62 My '22
- Contact area of an elastic sphere when compressed between flat elastic plates. J: Goodman. *Engineering* 116:133 Ag 3 '23
- Elastic constants of spruce. H. Carrington. *Philos Mag* 6th ser 45:1055-7 My '23
- Elastic constants of spruce as influenced by moisture. H. Carrington. *il diags Aeronautical J* 26:462-71 D '22
- Elasticity of pipe bends. S. Crocker and S. Sanford. *Mech Eng* 45:159-64; Discussion. 164 Mr '23
- Equations of equilibrium of an elastic plate under normal pressure. J: Prescott. *diags Philos Mag* 6th ser 43:97-125 Ja '22
- Hertz's theory of the contact of elastic bodies. W. B. Morton and L. J. Close. *Philos Mag* 6th ser 43:320-9 F '22
- Longitudinal elasticity and Poisson's ratio of india-rubber. G. B. Deodhar. *Philos Mag* 6th ser 45:471-9 Mr '23
- Mathematical determination of the modulus of elasticity. *Mech Eng* 44:858-9; 45:136, 259-60, 317-18 D '22, F, Ap-My '23
- Modulus of direct elasticity of cold drawn metals as a function of annealing temperature; abstract with discussion. E. A. F. Reeve, F. C. Lea and V. A. Collins. *Engineer* 135:291-2 Mr 16 '23
- On the conditions for elastic equilibrium under surface tractions in a uniformly isotropic body. R. F. Gwyther. *Philos Mag* 6th ser 44:501-7 S '22

Elasticity—Continued

Preliminary study of a plunger type of jelly-strength tester. S. E. Sheppard and S. S. Sweet. *il diags Ind & Eng Chem* 15:571-6 Je '23

Rotation of slightly elastic bodies. D. Wrinch. *Philos Mag* 6th ser 44:30-42 Ji '22

Simple model to illustrate elastic hysteresis. S. Lees. *diags Philos Mag* 6th ser 44:511-37 S '22

Young's modulus and Poisson's ratio for spruce. H. Carrington. *Philos Mag* 6th ser 43:871-8, pl 22 My '22

See also Deformations (mechanics); Elastic limit; Flexure; Hysteresis; Photoelasticity; Strains and stresses; Strength of materials; Vibration

Elbows, Pipe. *See* Pipe elbows

Elden, Leonard Lord, 1863-

Portrait. *Elec W* 80:210 Ji 29 '22

Electragists, International association of. *See* International association of electragists

Electric alarms

See Burglar alarms; Fire alarms

Electric apparatus and appliances

Architect and the electrical engineer; a joint discussion on co-operation. J. W. Beauchamp and F. Hooper. *Elec R (Lond)* 92:470-2 Mr 23 '23; Discussion. 92:472, 516 Mr 23-30 '23

Choice and maintenance of apparatus to meet western needs. L. J. Moore. *J Elec* 48:418-19 My 15 '22

Electrical apparatus report of the N.E.L. A. Power 57:954 Je 12 '23

Electrical engineering in 1921. *Engineer* 133:62-4 Ja 20 '22

Elementary lessons in d.c. instruments and batteries. R. W. Kent. 125p Press of the Dunwoody institute, Minneapolis '21

Laboratory apparatus for technical schools and colleges. F. S. Wheeler. *il diags Elec J* 19:451-4 N '22

New electrical export classification. *Elec W* 78:1342 D 31 '21

Some developments in the electrical industry during 1921. J. Liston. *il diag Gen Elec R* 25:7-51 Ja '22

Some developments in the electrical industry during 1922. J. Liston. *il diags Gen Elec R* 26:7-51 Ja '23

Trial installation under special supervision is going to meet the complaint that the National electrical code blocks new products. D. Pierce. *Elec W* 82:256-7 Ag 4 '23

Why electric apparatus is unsatisfactory. S. Lees. *Elec R (Lond)* 91:189-91 Ag 11 '22

Wiring for electrical appliances. W. H. Whitton. *Arch Forum* 39:67-8 Ag '23; Same. *Eng & Contr (Equip R)* 60:927-9 O 31 '23

See also Armatures; Automobiles—Electric equipment; Balancer sets; Burglar alarms; Commutators; Condensers (electricity); Converters, Synchronous; Electric batteries; Electric circuit breakers; Electric controllers; Electric current converters; Electric current rectifiers; Electric equipment; Electric fans; Electric furnaces; Electric fuses; Electric generators; Electric industries; Electric instruments; Electric irons; Electric lamps; Electric machinery; Electric meters; Electric motor generators; Electric motors; Electric precipitation; Electric protective apparatus; Electric railroads—Equipment and supplies; Electric shops; Electric shovels; Electric signals; Electric standards; Electric switches; Electric toys; Electric transformers; Electricity in mining; Electricity on the farm; Electromagnets; Embalming—Electric process; Fire alarms; Galvanometers; Gas and oil engines—Ignition; Inductance coils; Induction coils; Relays; Rheostats; Ships—Electric equipment; Spark plugs; Storage batteries; Switchboards; Synchroscope; Telpheirage; *also* General electric company; Westinghouse electric and manufacturing company

Exhibitions

British industries fair. *il Elec R (Lond)* 90:281-2, 297-8, 351-2 F 24-Mr 10 '22; *Electrician* 88:262, 293-4 Mr 3-10 '22

British industries fair. *il Elec R (Lond)* 92:314-15, 353-4 F 23-Mr 2 '23

Electrical engineering at the Liège exhibition. W. Polydoroff. *Elec R (Lond)* 91:150 Ag 4 '22

New York city electrical show of 1921. *il N E L A Bul* 8:662-3 N '21

Shipping, engineering and machinery exhibition. *il Elec R (Lond)* 93:347-50, 408-9, 445-7 S 7-21 '23

Significance of electrical shows. A. Williams. *il Elec W* 82:916-17 N 3 '23

What's the matter with electric shows? E. E. Whitehorne. *il plan Elec W* 79:728-30 Ap 15 '22

Manufacture

How to make things electrical. 427p U.P.C. book co. '22

Witton engineering works of the General electric co., ltd. *il Elec R (Lond)* 90:219-21 F 17 '22

Merchandizing

Appliance selling by the central-station company. W. R. Putnam. *Elec W* 80:1332-3 D 16 '22

Bonus plan to increase appliance sales. *Elec W* 81:586-7 Mr 10 '23

Central-station costs and losses on merchandise sales. J. F. Gilchrist. *Elec W* 80:990-3 N 4 '22

Developing the foreign market for electrical specialties. R. C. Lanphier. *Elec W* 79:540 Mr 18 '22

Handling of industrial electric heating apparatus by the central station; report of power sales bureau. W. S. Scott. *N E L A Bul* 9:624-5 O '22

Merchandise sales code. W. E. Clement. *Elec W* 81:1155-6 My 19 '23

Merchandising at the customer's door. J. E. Tills. *il Elec W* 80:1339-40 D 16 '22

Merchandising on a good-will basis. W. F. Moses. *Elec W* 82:84-5 Ji 14 '23

Secret of appliance campaign selling is right methods. C. J. Litscher. *Elec W* 79:591-2 Mr 25 '22

Should motors or organization be sold? J. M. Barr. *Elec W* 82:308-9 Ag 11 '23

Successful selling. T. W. Berger. *Administration* 5:560-6 My '23

Three-in-one sales organization that cuts selling expense; the Holtzer-Cabot electric company. H. Burwen. *Ptr Ink* 123:129-32 Ap 19 '23

Views on retailing of electrical merchandise. W. L. Goodwin. *J Elec* 49:434 D 15 '22

See also Electric apparatus and appliances, Domestic—Merchandizing; Electric light fixtures—Merchandizing; Electric shops; Gas and electric shops

Patents

Marsh patents and the heating line. G. A. Hughes. *Elec W* 80:1241-2 D 2 '22

What will happen when the nickel-chromium patents expire? M. C. Turpin. *Elec W* 79:490 Mr 11 '22

Repair

Selling service with heavy electrical appliances. *J Elec* 50:24-5 Ja 1 '23

Standards

Experience in simplification. *Elec W* 82:359-60 Ag 18 '23

Statistics

Census of electrical manufactures for 1919 analyzed. *Elec W* 79:776-8 Ap 22 '22

Production of electrical equipment and supplies during years 1919, 1920 and 1921. *Elec W* 79:40 Ja 7 '22

Residential lighting and industrial power customers will spend \$1,454,000,000 for material and apparatus by 1927. *Elec W* 79:10-11 Ja 7 '22

Electric apparatus and appliances, Domestic Analysis of data on cooking, water and air heating. J. W. Wrenn. *J Elec* 50:413-16 Je 1 '23

Educational value of electric appliances in high schools. I. R. Carlson. *il Elec W* 82:768-9 O 13 '23

Electric apparatus and appliances, Domestic
—Continued

- Electric power in the home. J. W. Beauchamp. Elec R (Lond) 92:316 F 23 '23
- Electricity in the home. A. Williams. il Am Arch 121:188-91 Mr 1 '22
- Engineer's analysis of why some appliances are not in use. E. S. Lincoln. il Elec W 82:807-9 O 20 '23
- Handbook of practical information and illustrations. E. J. Volk. 131p Home book co., Cleveland '22
- Hiring of domestic electric apparatus. W. F. T. Pinkney. Electrician 88:370-1 Mr 31 '22
- Home idealised. il Electrician 88:290-1, 320-1, 348-9, 381-2 Mr 10-31 '22
- Increasing convenience of electrical appliances. D. A. Wolff. il J Elec 49:370-1 N 15 '22
- N.E.L.A. appliance department report. N E L A Bul 10:696-8 N 23
- 179 electric appliances under one roof; a survey of a large New York apartment-hotel. M. O. Whitton. Elec W 80:228 J1 29 '22
- Practicability of electrically equipped furniture. R. Neumuller. il N E L A Bul 8:640-4 N '21
- Recent electrical developments in Glasgow. R. Hardie. il Electrician 88:372-3 Mr 31 '22
- Safety, suitability and soundness of domestic appliances. C. E. Lucke. Elec W 79:890-1 My 6 '22
- Time studies and machinery. M. G. Howell. Elec R (Lond) 90:114 Ja 27 '22
- Use of electricity taught in California schools. il J Elec 50:337-8 My 1 '23

See also Electric stoves; Electricity in the home; Washing machines, Electric

Advertising

- Some fallacies concerning seasonal advertising. Ptr Ink 122:93-4+ F 8 '23

Cost of operation

- Cost of operating electric appliances. J Elec 51:245 O 1 '23

Merchandizing

- Appliance selling in small communities. P. D. Kline. il Elec W 81:1420-2 Je 16 '23
- Building an appliance load. A. W. Childs. il J Elec 49:404-5 D 1 '22
- Campaign sales of electric appliances. N E L A Bul 10:308-9 My '23
- Cost of selling appliances. J. P. Coghlin. Elec W 81:337 F 10 '23
- Development of the domestic load. Elec R (Lond) 92:233-4 F 9 '23
- Getting a new angle of approach to sell electric appliances. J. E. Bullard. il J Elec 50:292-3 Ap 15 '23
- House-to-house appliance selling. O. R. Hogue. Elec W 79:1128 Je 3 '22
- Household appliance publicity. W. P. Strandborg. Elec W 80:322 Ag 12 '22
- How central-station merchandising affects other dealers. C. E. Greenwood. Elec W 82:819-21 O 20 '23
- If 1923 appliance sales were increased 20 per cent. Elec W 81:1285 Je 2 '23
- Intensive selling by central stations. H. B. Hindon. Elec W 80:133 J1 15 '22
- Making the appliance campaign a success. M. L. Cummings, jr. il J Elec 51:170-1 S 1 '23
- Merchandising and public relations the chief issues of the Southern California Edison. Elec W 82:547-8 S 15 '23
- Merchandising practice in Chicago. J. F. Gilchrist. il Elec W 80:1002-3 N 4 '22
- Metropolitan merchandising. il Elec W 81:1208-12 My 26 '23
- Only way to sell appliances. R. J. Strittmatter. Elec W 79:1230 Je 17 '22
- Opportunity, experience and appliance campaigns. R. G. Emerson. il J Elec 48:321 Ap 15 '22
- Our appliance market—what it needs. M. L. Pierce. Elec W 81:1060-1 My 5 '23
- Policies in merchandising appliances. J. F. Gilchrist. Elec W 80:821-4 O 14 '22
- Profitable merchandising. Elec W 81:757-8 Mr 31 '23

- Sales suggestions. N E L A Bul 9:57 Ja '22
- Salesmanship in relation to electric heating and cooking. W. A. Gillot. Elec R (Lond) 90:152-3 F 3 '22
- Selling and service problems in the distribution of specialties. D. Kirkland. Ptr Ink 122:150+ Ja 25 '23

- Selling of domestic electrical motor-driven appliances; abstracts, with discussion. E. R. Morton. Elec R (Lond) 89:902-3 D 30 '21; Electrician 87:794-5 D 23 '21
- Should central stations merchandise? A. W. Krueger. Elec W 81:1283-4 Je 2 '23
- What I found out on a residence survey. C. H. Zillessen. il Elec W 80:125-7 J1 15 '22
- Where we fail in appliance merchandising. T. J. Smith, jr. Elec W 82:681-2 S 29 '23

See also Electric heaters—Merchandizing; Electric stoves—Merchandizing; Washing machines, Electric—Merchandizing

Statistics

- Electrical appliances and lamps in residences. il Am Inst E E J 42:1217-18 N '23

Testing

- Comparative tests on domestic heating and cooking apparatus. J. Rutishauser. Electrician 88:191-2 F 17 '22

Electric arc

- Carbon arc as a standard of light. N. A. Allen. diags Elec R (Lond) 93:238-9 Ag 17 '23
- Electrochemistry of the high intensity arc. P. R. Bassett. il diags Am Electrochem Soc Trans v 44 (preprint 26):319-38 S '23
- Experiments on the arc process for nitrogen fixation. E. D. McCollum and F. Daniels. diags Ind & Eng Chem 15:1173-5 N '23
- Forces acting upon the poles of the electric arc. A. M. Tyndall. Philos Mag 6th ser 42:972-81 D '21
- Investigation of the iron welding arc. H. M. Sayers and F. M. Sayers. Inst E E J 61:266-8 F '23; Same abr. Elec R (Lond) 92:35 Ja 5 '23
- Low voltage arcs in diatomic gases. O. S. Duffendack. diags Phys R 20:665-87 D '22
- Manometric observations at the poles of the electric arc. H. E. G. Beer and A. M. Tyndall. Philos Mag 6th ser 42:956-71 D '21
- Mechanism of the electric arc. W. G. Duffield. Philos Mag 6th ser 45:1139-48 Je '23; Discussion. A. M. Tyndall. 46:330-1 Ag '23
- Million-volt testing set. A. B. Hendricks, jr. il diags Am Inst E E J 41:795-805, 876-83 O-N '22; Same. Gen Elec R 25:737-45; 26:93-100 D '22, F '23
- New equation for the static characteristic of the normal electric arc. W. B. Nottingham. Am Inst E E J 42:12-19 Ja '23; Discussion. 42:847-8 Ag '23
- Relation between current, voltage and the length of carbon arcs. A. E. R. Westman. diags Am Electrochem Soc Trans v 43 (preprint 4):35-50 My; v 44 (preprint 9):87-100 S '23
- Repulsion effect between the poles of an electric arc. H. M. Barlow. Philos Mag 6th ser 46:112-14 J1 '23
- Repulsive effect upon the poles of the electric arc. A. Sellerio. Philos Mag 6th ser 44:765-77 O '22
- Soldering with the electric arc. M. Wright. il Am Mach 59:485 S 27 '23
- Some features of the high-intensity motion-picture arc. F. A. Benford. il Gen Elec R 25:555-9 S '22
- Theory of the electric arc. K. T. Compton. Phys R 21:266-91 Mr '23
- See also Electric lamps, Arc; Magnetic blowouts; Radio arc
- Electric arc welding.** See Electric welding, Arc
- Electric associations**
Directors of Society for electrical development discuss more efficient and economical basis for work of multiple associations. Elec R 79:855-7 D 3 '21

Electric associations—Continued

2d annual conference of electric local leagues and clubs, Association Island, Henderson Harbor, N.Y., Sept. 16-19. Elec W 82:619-20 S 22 '23

The year in association activities. Elec W 79:36-9 Ja 7 '22

Electric automobiles. See **Electric vehicles****Electric batteries**

Cell of claimed remarkable advantages; Féry battery. diag Brass W 18:24 Ja '22

Connecting batteries or generators. diags Power 54:886-7 D 6 '21

Effect of hydrogen pressure on the electromotive force of a hydrogen-calomel cell. W: R. Hainsworth and D. A. MacInnes. diags Am Chem Soc J 44:1021-32 My '22

Electrical characteristics and testing of dry cells. il diags U S Bur Stand Circ 79:1-62 '23; Abstract. J Fr Inst 195:697-700 My '23

Electrical characteristics of dry cells. G. W. Vinal and L. M. Ritchie. il Chem & Met Eng 27:546-51, 603-5 S 13-20 '22

Electromotive force of cells at low temperatures. G. W. Vinal and F. W. Altrup. U S Bur Stand Sci Pa 434:627-34 '22

Rechargeable B battery for the radio set. il Sci Am 127:263 O '22

Temperature coefficient of electromotive force of galvanic cells and the entropy of reactions. R. H. Gerke. diags Am Chem Soc J 44:1684-1704 Ag '22

Temperature coefficients of unsaturated Weston cells. W. C. Vosburgh and M. Eppley. diag Am Chem Soc J 45:2268-77 O '23

What you may expect of dry cells. S. R. Winters. il Wireless Age 10:65-6 Je '23

See also Concentration cells; Electrolytic cells; Storage batteries

Specifications

United States government specification for dry cells. U S Bur Stand Circ 139:1-9 '23

Standards

Dry-cell standards proposed. Chem & Met Eng 26:178-9 Ja 25 '22

Electric bells

Making signaling bells safe against ignition of gas. diags Coal Age 24:518 O 4 '23

Electric buses

Electric buses and electric taxicabs. J. A. Anglada. il Gen Elec R 25:436-8 Jl '22

Flexible control is feature of gasoline-electric bus. il diags Bus Transportation 1:186-7 Mr '22

Gasoline-electric bus with unusual features operated in England. il Bus Transportation 1:283-4 My '22

New British gasoline—electric bus. il diags Bus Transportation 2:123-5 Mr '23

Storage-battery bus in Danbury fleet. il map Bus Transportation 2:467-8 O '23

See also Trackless trolley

Electric cables

Action and effect of moisture in a dielectric field. D. Du Bois. diags Am Inst E E J 41:689-98 S '22; Discussion. 41:965-81 D '22

Aluminium overhead transmission lines. il diags Elec R (Lond) 91:220-2 Ag 18 '22

Apparent dielectric strength of cables. R. J. Wiseman. Am Inst E E J 42:165-70 F '23; Discussion. 42:842-4 Ag '23

Cable charts and cable calculations. Elec R (Lond) 90:387-8 Mr 17 '22

Cable entrances to mines require good design. W. E. Boyle. Elec W 82:919 N 3 '23

Cable geometry and the calculation of current-carrying capacity. D. M. Simons. Am Inst E E J 42:525-39 My '23; Discussion. 42:1206-11 N '23

Cable get-away planned for flexible service. T. H. Soren. il Elec W 80:231-2 Jl 29 '22

Cable in flexible tubing allows for expansion. R. S. Carroll. il diags Elec W 80:1220 D 2 '22

Cable insulation—dielectric strength; discussion at A.I.E.E. convention. Elec W 80:74-8 Jl 8 '22

Cable rack for industrial power house. J. E. Housley. il plan Elec W 81:579-80 Mr 10 '23

Cables for mining-locomotive gathering reels and cutting machines. F. A. Westbrook. Elec W 79:436-7 Mr 4 '22

Clyde valley 33,000-volt interconnector cable. il diag Elec R (Lond) 92:724-6 My 11 '23

Conference on mine cables would condition permissibility on frequent inspection. Coal Age 21:442 Mr 16 '22

Current capacity of wires and cables. G. E. Luke. diags Power Pl Eng 27:529-31 My 15 '23

Distribution by aerial cables increasing. F. A. Westbrook. Elec W 82:766-7 O 13 '23

80,000-volt cable being installed in Italy. P. Torchio. Elec W 79:76 Ja 14 '22

Electric cables, a practical treatise on the construction, properties, installation, and maintenance of electric cables. F. W. Main. 101p Pitman '22

Electric cables, 1872 to 1922. G. Sutton. Inst E E J 60:490-2 Ap '22

Experiences with aluminum wires. A. G. Ertwerk. Elec W 81:113 Ja 13 '23

Extent of ionization in dielectrics still undeterminable. W. A. Del Mar. Elec W 82:78 Jl 14 '23; Discussion. 82:336 Ag 18 '23

Factors in reducing costs in underground construction work. E. R. Cowles. J Elec 48:414-17 My 15 '22

How to make portable electric cable last. H. M. McFarland. Coal Age 22:582 O 12 '22

Importance of cable engineering. D. W. Roper. Elec W 81:578 Mr 10 '23

Installation and operation of underground systems. E. R. Northmore. J Elec 50:426 Je 1 '23

Installation of aerial cables. F. A. Westbrook. il Elec W 82:534-6 S 15 '23

Installing pit-shaft cables. Elec W 80:1207-9 D 2 '22; Same. Coal Age 23:213-14 F 1 '23

Ionisation point of high-tension cables. M. Höchstädter. Electrician 89:180-2 Ag 18 '22

Los Angeles to install 35,000-volt cable. Elec W 81:293 F 3 '23

Mechanical aging of cables advocated. Elec W 80:615 S 16 '22

Park cable laid across marshland in shallow trench at low cost. F. A. Westbrook. il Elec W 79:1174-5 Je 10 '22

Park cable simplifies street lighting. F. A. Westbrook. diag Elec W 80:1223 D 2 '22

Park cable used throughout St Louis parks. F. A. Westbrook. Elec W 81:812 Ap 7 '23

Possibilities of transmission by underground cables at 100 000/150 000 volts. A. M. Taylor. diags Inst E E J 61:220-38 F '23; Abstracts. Elec R (Lond) 91:917-18 D 15 '22; Engineer 134:664 D 22 '22; Electrician 89:683-4 D 15 '22; Discussion. Inst E E J 61:239-52, 382-92 F-Mr '23; Elec R (Lond) 91:918-19; 92:191-2, 676 D 15 '22, F 2, Ap 27 '23

Potential gradient in cables. W. I. Middleton, C. L. Dawes and E. W. Davis. diags Am Inst E E J 41:572-84 Ag '22; Discussion. 41:965-81 D '22

Protecting cable against breakdown of insulation. il diags Elec W 78:1329-30 D 31 '21

Recent and prospective developments of underground cable. D. W. Roper. il Elec W 81:7-8 Ja 6 '23

Report of A.I.E.E. committee on transmission and distribution. Am Inst E E J 41:899-912, 935 N-D '22

Report of the A.I.E.E. cable research committee. Elec W 81:437-8 F 24 '23

Requirements necessary for pit-shaft cables. W. E. Boyle. Elec W 81:1528-9 Je 30 '23

Romex not approved. Elec W 82:618, 673, 825, 869 S 22-29, O 20, N 10 '23

Rubber-covered vs. braided cable for mine work. diags Coal Age 22:583-5 O 12 '22

Safe and economical ways of hanging electric cables in mine shafts or boreholes. F. W. Cramer. diags Coal Age 23:295-7 F 15 '23

Sheath losses in three core cables. N. A. Allen. diag Electrician 89:504-5 N 3 '22

Some considerations concerning cables. B. Welbourn. Elec R (Lond) 91:714-16 N 17 '22

Electric cables—Continued

Some factors affecting bulk underground transmission. P. Dunsheath. diags Electrician 89:624-5 D 1 '22

Summary of high tension underground transmission practice and development. G. B. Shanklin. Gen Elec R 26:517-23 J1 '23

Theory of electric cables and networks. A. Russell. 2d ed. 348p Van Nostrand '20

Types of aerial cables for distribution. F. A. Westbrook. Elec W 82:29 J1 7 '23

Underground cable system. W. S. Jones. Power Pl Eng 26:712-14 J1 15 '22

Underground cables at 150,000 volts. A. M. Taylor. diags Elec R (Lond) 92:648-9, 709-10 Ap 27-My 4 '23

Underground systems. Elec W 79:1014-15 My 20 '22

Underground transmission at 44 Kv. R. E. Dennis and H. R. Searing. il diags Elec W 82:64-9 J1 14 '23

Use concentric all-rubber-covered cables. L. C. Illsley and H. B. Freeman. Coal Age 24:280-1 Ag 23 '23

Use of borehole cables for efficient power distribution. C. M. Means. diags Coal Age 24:669-70 N 1 '23

Use of single and double cables for electric gathering locomotives. Coal Age 22:594-5 O 12 '22

Use of single-core sheathed cables for alternating currents. W. Cramp and N. I. Calderwood. diags Inst E E J 61:477-85 Ap '23

Voltage limits in impregnated paper cable. W. A. Del Mar. Elec W 80:1257-8 D 9 '22

See also Cables, Submarine; Electric conductors; Electric conduits; Electric distribution; Electric lines; Electric wire; Insulation (electric); Telephone cables; Telephone lines

Bibliography

Rating of cables in relation to voltage; bibliography on dielectrics. D. M. Simons. Am Inst E E J 41:617-26 Ag '22

Failures

Corrosion of lead-covered wiring by oak. P. Dunsheath. il Elec R (Lond) 90:690-1 My 19 '22

Dielectric losses and stresses in relation to cable failures. D. W. Roper. Am Inst E E J 41:423-33 Je '22; Discussion. 41:965-81 D '22

Electrolysis of lead-covered cables. S. C. Bartholomew. Elec R (Lond) 92:432-3 Mr 16 '23

Minimum stress theory of cable breakdowns. D. M. Simons. Am Inst E E J 41:433-8 Je '22; Discussion. 41:965-81 D '22

Joints

Joining of high-pressure cables; the new Pirelli method. il Elec R (Lond) 93:201-3 Ag 10 '23

Present-day practice in making cable joints. il Elec W 80:373-6 Ag 19 '22

Requirements of joint-box for mine cables. W. E. Boyle. diags Elec W 82:713 O 6 '23

Manufacture

Cable manufacture and the cheapening of electricity. G. Sutton. Elec R (Lond) 91:694 N 17 '22

Prescot works of the British insulated and Helsby cables, limited. il map Engineering 115:675-8, 686 Je 1 '23; Engineer 135:626-7 Je 15 '23

Rating

Rating of cables for intermittent or fluctuating loads. S. W. Melsom and H. C. Booth. Inst E E J 61:363-8 Mr '23

Rating of cables in relation to voltage; summarized history of published knowledge bearing upon the performance of insulation under electric stress. Am Inst E E J 41:418-22 Je '22

Soil temperatures and cable rating. A. Smirnoff. il diags Elec W 82:438-9 S 1 '23

Standards

Trend toward standardization of trailing cables for mines. Elec W 79:239 F 4 '22

Temperature

Cable geometry and the calculation of current-carrying capacity. D. M. Simons. Am Inst E E J 42:525-39 My '23; Discussion. 42:1206-11 N '23

Determination of temperature of electrical apparatus and cables in service. E. J. Rutan. il Am Inst E E J 41:464-9 Je '22; Discussion. 41:886 N '22

Effects of moisture on the thermal conductivity of soils. G. B. Shanklin. il diags Am Inst E E J 41:92-7 F '22; Abstract. Elec W 79:383 F 25 '22

Permissible current loading of British standard impregnated paper-insulated electric cables; second report of the British electrical and allied industries research association on the research on the heating of buried cables. S. W. Melsom and E. Fawcett. bibliog il diags Inst E E J 61:517-79 My '23; Abstract. Elec R (Lond) 92:392-3 Mr 9 '23; Discussion. Inst E E J 61:579-93, 944-8 My, Ag '23; Elec R (Lond) 92:393, 596-7, 636-7 Mr 9, Ap 13-20 '23

Bibliography

Bibliography on the heating of cables. G. B. Shanklin. Am Inst E E J 41:97-8 F '22

Testing

Endurance test on impregnated paper; report of Cable research subcommittee. il N E L A Bul 10:91-2 F '23

Finding trouble in cables. J. B. Dillon. Power Pl Eng 26:375-6 Ap 1 '22

Localisation of a partial disconnection fault in a cable. H. Ohlson. diag Elec R (Lond) 90:583-4 Ap 28 '22

New method for the routine testing of alternating-current high-voltage paper-insulated cable. H. S. Phelps and E. D. Tanzer. diags Am Inst E E J 42:247-54 Mr '23; Abstract. Elec W 81:440-1 F 24 '23; Discussion. Am Inst E E J 42:971-3 S '23

Portable cable fault localizer. S. D. Sprong. il diags Elec J 19:276-7 J1 '22; Abstract. Elec W 80:828 O 14 '22

Report of the British electrical and allied industries research association upon tests on galvanized steel wires and cables for overhead transmission lines. Inst E E J 61:1026-40 S '23

Report of the British electrical and allied industries research association upon tests on hard drawn aluminium wires and cables for overhead transmission lines. Inst E E J 61:1013-25 S '23

Report of the British electrical and allied industries research association upon tests on hard drawn copper wires and cables for overhead transmission lines. Inst E E J 61:997-1012 S '23

Report of the British electrical and allied industries research association upon tests on steel-cored aluminium cables for overhead transmission lines. Inst E E J 61:1041-3 S '23

Tests on an English 33,000-volt cable. il Elec W 82:492-3 S 8 '23

Electric car. See Cars, Electric railroad; Electric motors, Railway; Electric vehicles

Electric cells. See Electric batteries; Electrolytic cells; Storage batteries

Electric charges

Electrical charge of vegetable tannin particles. A. W. Thomas and S. B. Foster. Ind & Eng Chem 15:707-8 J1 '23

Electrification at the boundary between a liquid and a gas. H. A. McTaggart. diag Philos Mag 6th ser 44:386-95 Ag '22

Electrification produced by the pulverization of aqueous solutions. J. J. Nolan and H. V. Gill. Philos Mag 6th ser 46:225-44 Ag '23

Experiments on the sign of the electric charge assumed by a metal immersed in a liquid. R. D. Kleeman and W. Fredrickson. Phys R 22:134-6 Ag '23

Lines of electric force of a moving charge on the emission theory. F. E. Hackett. Phys R 21:165-72 Ap '23

Electric charges—Continued

- Method of finding the scalar and vector potentials due to the motion of electric charges. A. Liénard. *Philos Mag* 6th ser 41:453-4 Mr '21
- Scalar and vector potentials due to moving electric charges. A. Anderson. *Philos Mag* 6th ser 43:131-8 Ja '22
- Static electrical charges detected by Neon tester. B. E. Shackelford. *Chem & Met Eng* 26:703 Ap 12 '22

Electric circuit breakers

- Air-break magnetic blow-outs for contactors and circuit breakers both a-c. and d-c. J. F. Tritle. *il diags Am Inst E E J* 41:257-65 Ap '22; Discussion. 41:749-55 O '22
- A.C. automatic reclosing switching equipment. *il diag Power* 56:174 Ag 1 '22
- Automatic substations and duty cycle of oil circuit breakers; N.E.L.A. electrical apparatus committee on the prevailing practice. *diags Elec W* 81:1363-5 Je 9 '23
- Calculation of the dimensions of oil circuit breakers. P. Charpentier. *Elec W* 81:1480 Je 23 '23
- Circuit breaker mechanisms for segregated phase bus structures. H. G. MacDonald. *Elec J* 20:231-2 Je '23
- Circuit breaker operating mechanisms. E. K. Read. *il diags Elec J* 20:221-2 Je '23
- Circuit breakers for D.C. motors. J. H. Wyatt. *il diags Ind Eng* 81:523-8+ N '23
- Considerations relating to the design of oil circuit breakers. D. R. Davies. *diags Electrician* 88:712-14; 89:6-8, 95-7, 124-5 Je 16, Jl 7, 28-Ag 4 '22
- Counter used to record opening of circuit breakers. *il Power* 58:569 O 9 '23
- Direct-current automatic reclosing circuit breaker. *il diag Power* 56:206-7 Ag 8 '22
- D.-C. automatic reclosing equipment. *diag Coal Age* 24:286 Ag 23 '23
- Direct current circuit breakers. J. C. Kahl. *diags Power Pl Eng* 26:320-3 Mr 15 '22
- Eliminating the interlocking bar for emergency operation of circuit breakers. R. A. Douglas. *diag Power* 58:659 O 23 '23
- Explosion pots reduce switch trouble. B. Price. *diags Elec W* 82:176-8 Jl 28 '23; Discussion. J. D. Hilliard. 82:540-1, 1019 S 15, N 17 '23
- Faulty network feeders quickly isolated by junction-box breakers. P. Torchio. *il diags Elec W* 80:594-7 S 16 '22
- Features of importance in circuit breaker design. E. K. Read. *il diags Elec J* 20:408-10 N '23
- Ferguson, Pailin 10,000 ampere, 525 volt, 3-phase oil circuit breaker. *il Engineer* 136:200 Ag 24 '23; *Engineering* 116:236-8 Ag 24 '23; *Elec R (Lond)* 93:337 Ag 31 '23
- Ferguson, Pailin type R circuit breaker. *il Elec R (Lond)* 92:350 Mr 2 '23
- Generators, motors and transformers. *Elec W* 79:1037 My 20 '22
- Heating of circuit breakers and cables by induction easily prevented. W. E. Seward. *Elec R* 80:243 My '22
- High-voltage circuit breakers. A. W. Copley. *Elec W* 82:804 O 20 '23
- Incorporating series trip coil inside circuit breakers. *diags Elec W* 82:660-1 S 29 '23
- Indoor oil circuit breakers of moderate capacity. *il Power Pl Eng* 26:395 Ap 1 '22
- Industrial substations; report by N.E.L.A. alternating current substations subcommittee. N E L A Bul 10:184-5 Mr '23
- Large-capacity oil circuit breakers. G. Brühlmann. *Elec W* 81:989 Ap 28 '23
- Maintenance schedules for oil circuit breakers. *Elec W* 80:1050, 1393 N 11, D 23 '22
- Motor operated mechanism for closing oil circuit breakers. *il Power Pl Eng* 26:1128 N 15 '22
- New circuit breakers replacing fuses reduce maintenance. J. Suerth. *il Elec W* 79:484 Mr 11 '22
- New Westinghouse circuit breakers. *il Power Pl Eng* 26:1077-8 N 1 '22
- Oil circuit breaker development. H. Michener. *il J Elec* 50:427-8 Je 1 '23
- Oil qualities desirable for transformers and circuit breakers. C. J. Rodman. *il Elec W* 79:1271-3 Je 24 '22

- Relation of circuit breakers to interconnection. *Elec W* 82:237 Ag 4 '23
- Residual magnetism causes circuit breaker to open. B. Jones. *Power* 54:942 D 13 '21
- Self-acting reclosing circuit breaker with arc chute and blowout coils. D. J. Baker. *il Coal Age* 23:523-4 Mr 29 '23
- Small breakers replace fuses in Holland. J. M. Van Nieuwerkerken. *il Elec W* 80:329 Ag 12 '22
- Switching apparatus. J. Liston. *il diags Gen Elec R* 26:35-42 Ja '23
- Switching equipment for the Queenston station. L. B. Chubbuck. *il diag Elec J* 19:324-8 Ag '22
- Test resistance reduces breaker maintenance. G. H. McKelway. *diag Elec Ry J* 62:148 Jl 28 '23
- Truck mounted circuit breakers. E. K. Read. *il Elec J* 19:230-4 My '22
- See also Electric contactors

Rating

- Breaker rating and automatic substation attract special attention at N.E.L.A. meeting. *il diag Elec W* 79:1028-30 My 20 '22
- Standard voltage ratings for oil breakers. *Elec W* 80:1335 D 16 '22
- Transformer and busbar standards adopted by Electric power club. *Elec Ry J* 60:917 D 9 '22

Terminology

- Standard nomenclature for oil circuit breakers. *Elec W* 81:341 F 10 '23

Testing

- Baltimore oil circuit breaker tests. H. C. Louis and A. F. Bang. *il diags Am Inst E E J* 41:399-405 Je '22; Excerpts. *Elec R (Lond)* 91:246-7 Ag 18 '22; Same cond. *Power Pl Eng* 26:808-12 Ag 15 '22; Discussion. *Am Inst E E J* 41:990-7 D '22
- Breakers and control; discussion at A.I.E.E. convention. *il Elec W* 80:73-4 Jl 8 '22
- Breakers withstand short-circuit tests; abstracts of papers presented at the A. I. E. E. convention. *Elec W* 80:21-3 Jl 1 '22
- Convenient circuit breaker testing outfit. F. J. Foote. *il Elec Ry J* 60:706 O 28 '22
- High capacity current interrupting testing station of the General electric company. C. E. Merris. *il diags Gen Elec R* 26:455-9 Je '23
- High-current tests on high-tension switchgear. P. Torchio. *il diags Am Inst E E J* 40:120-31 F '21; Abstracts. *Power* 53:526 Mr 29 '21; *Electrician* 88:68-9 Ja 20 '22
- Testing of oil circuit-breakers by large central stations. N. L. Pollard. N E L A Bul 9:62-4 Ja '22
- Tests on General electric oil circuit breakers at Baltimore. J. D. Hilliard. *il Am Inst E E J* 41:530-5 Jl '22; Discussion. 41:990-7 D '22
- Tests on Westinghouse oil circuit breakers at Baltimore. J. B. MacNeill. *il diag plan Am Inst E E J* 41:537-46 Jl '22; Discussion. 41:990-7 D '22

Electric circuits

- Calculation of power in three-phase circuits. H. G. Roberts. *Power Pl Eng* 27:175 F 1 '23
- Chains of magnetically-coupled circuits. E. Bellini. *Electrician* 88:560-1 My 12 '22
- Chains of magnetically coupled circuits. B. Van der Pol. *Electrician* 89:33 Jl 14 '22
- Condenser discharges through a general gas circuit. C. P. Steinmetz. *Am Inst E E J* 41:210-23 Mr '22; Discussion. 41:598-9 Ag '22
- Damping coefficients of the oscillations in three-coupled electric circuits. E. Takagishi. *Philos Mag* 6th ser 44:373-6 Ag '22
- Dynamic model of tuned electrical circuits; with discussion. C. F. Jenkin. *diags Inst E E J* 60:939-41 Ag '22; Same. *Electrician* 89:266-7 S 8 '22
- Electric circuits; methods of installation, operation and repair. *il diags Power Pl Eng* 26:88-94 Ja 1 '22

Electric circuits—Continued

Electrical characteristics of transmission circuits. W. Nesbit. chart diags Elec J 16: 279-87, 314-26, 385-96, 485-9, 515-19; 17:21-4, 66-77, 104-18, 146-56, 257-63, 299-311, 350-3, 527-32, 575-82; 18:365-73, 542-8; 19:24-30, 69-76 J1-S, N '19-Apr, Je-Ag, N-D '20, Ag, D '21-F '22

Energy front of electric circuits. C. P. Steinmetz. diags Am Inst E E J 41:136-7 F '22
Floating neutral n-phase systems. L. A. Doggett. bibliog diags Am Inst E E J 42:1023-32 O '23; Discussion. 42:1349-50 D '23

Forced oscillations in self-maintained oscillating circuits. W. A. Leysch. diags Philos Mag 6th ser 46:686-98 O '23

Hints on maintaining service. R. Brown. diags Power 57:260 F '23

How to find voltage-drop in electric circuits. E. P. Slack. chart Power 54:1009-11 D 27 '21

Inductive alternating-current circuits. E. K. McDowell. diags Power Pl Eng 27:1037-40, 1142-3 O 15, N 15 '23

Mechanical illustration of three magnetically coupled oscillating circuits. A. L. Narayan. Philos Mag 6th ser 43:575-80 Mr '22

Non-inductive alternating current circuits. E. K. McDowell. diags Power Pl Eng 27: 633-5 Je 15 '23

Quick calculation of line regulation. C. T. Hutchinson. chart Elec W 81:1465-7 Je 23 '23

Sensitive method of determining the frequency and amplitude of H.F. oscillations. J. J. Dowling and J. J. McHenry. Electrician 87:675 N 25 '21

Types of circuits employed in street lighting. C. H. Shepherd. il diags plans Elec R 79: 388-91, 875-8 S 10, D 10 '21

See also Electric conductors; Electric current rectifiers; Electric distribution; Electric lines; Electric transmission; Electric wave filters; Short circuits

Electric codes

Règles de l'Union des syndicats de l'électricité pour l'exécution et l'entretien des installations électriques dans les immeubles. Génie Civil 83:381-4 O 20 '23

See also National electrical code; National electrical safety code

Electric condensers. See Condensers (electricity)

Electric conductivity

Application of the electron theory to the Hall effect. J. A. Eldridge. Phys R 21:131-42 F '23

Calibration of cells for conductance measurements. C. A. Kraus and H. C. Parker. Am Chem Soc J 44:2422-8; 45:1366-79 N '22, Je '23

Changes in the electrical conductivity of varnishes during drying. H. C. P. Weber. diags Am Electrochem Soc Trans v 42 (preprint 11):89-96; Discussion. 96a-d S '22

Complex metallic amines; conductivities of diethylenediaminecobaltic bromides. J. C. Duff. Chem Soc J 121:450-4 Mr '22

Conductance of aqueous solutions of iodic acid and the limiting value of the equivalent conductance of the hydrogen ion. C. A. Kraus and H. C. Parker. diags Am Chem Soc J 44:2429-44; Discussion. 2444-9 N '22

Conductance of concentrated solutions of sodium and potassium in liquid ammonia. C. A. Kraus and W. W. Lucasse. diags Am Chem Soc J 43:2529-39 D '21

Conductance of dilute aqueous solutions of hydrogen chloride. H. C. Parker. diags Am Chem Soc J 45:2017-33 S '23

Conductance of sodium iodide in amyl alcohol at very low concentrations. C. A. Kraus and J. E. Bishop. Am Chem Soc J 44:2206-12 O '22

Conductivity of the latent image. A. G. Rabinovich. J Phys Chem 26:577-90 Je '22

Degree of ionization of ethyl alcohol; from measurements of conductivity. P. S. Danner and J. H. Hildebrand. diags Am Chem Soc J 44:2824-31 D '22

Design and use of conductance cells for non-aqueous solutions. J. L. R. Morgan and O. M. Lammert. diags Am Chem Soc J 45:1692-1705 J1 '23

Effect of absorbed gas on the conductivity of glass. V. Bush and L. H. Connell. il diags J Fr Inst 194:231-40 Ag '22

Electric conductivity and bio-physical energy. M. S. Yourievitch. Sci Am 128:177 Mr '23

Electrical conduction across minute air-gaps. J. W. Broxon. diags Phys R 20:476-85 N '22

Electrical conductivity of molybdenum. A. T. Waterman. Phys R 21:540-9 My '23

Electrical phenomena produced by metalliferous deposits. C. Schlumberger and M. Schlumberger. Eng & Min J 113:870 My 20 '22

Electricity in flames. H. A. Wilson. Am Electrochem Soc Trans v 44 (preprint 6):51-8; Bibliography. 58-60 S '23

Electron theory of metals in the light of new experimental data. P. W. Bridgman. Phys R 19:114-34 F '22

Equilibrium theory of electrical conduction. A. T. Waterman. Phys R 22:259-70 S '23

Equivalent conductance of trimethylstannyl chloride in ethyl alcohol. C. A. Kraus and C. C. Callis. Am Chem Soc J 45:2624-32 N '23

Experiments in electrical prospecting. S. F. Kelly. Eng & Min J 114:623-9, 673-6 O 7-14 '22

Further studies on the electron theory of solids: the compressibilities of a divalent metal and of the diamond; electric and thermal conductivities of metals. J. J. Thomson. Philos Mag 6th ser 44:657-79 O '22

Properties of electrically conducting systems. C. A. Kraus. 415p Chemical catalog co. '22

Study of the conduction process in ordinary soda-lime glass. C. A. Kraus and E. H. Darby. Am Chem Soc J 44:2783-97 D '22

Theory of metallic conduction. T. Bialobjecki. Philos Mag 6th ser 15:161-8 Ja '23

Thermionic work function of tungsten. C. Davison and L. H. Germer. diags Phys R 20:300-30 O '22

Variation of metallic conductivity with electrostatic charge. F. Wenner, N. L. Forman and A. R. Lindberg. Phys R 20:589-93 D '22

See also Dielectric constants; Dielectrics; Electric conductors; Electric resistance; Electrolytes—Conductivity; Hall effect

Electric conductors

Calculation of the skin effect in electrical conductors. F. F. P. Bisacre. diags Philos Mag 6th ser 45:1026-49 My '23

Causes of loss in power transmission. F. C. Sinback. diags Coal Age 20:887 D 1 '21

Conductor sizes determined by modified Kelvin's law. G. Smith. Elec W 78:1229-30 D 17 '21

Control of gaseous conduction. V. Bush and C. G. Smith. il diags Am Inst E E J 41:627-35 S '22; Discussion. 41:889 N '22

Current capacity of wires and cables. G. E. Luke. chart diags Elec J 20:127-30 Ap '23

Effect of cross-section on impedance of steel conductors. L. S. Loomie. Elec W 79:884-5 My 6 '22

Exploring coils simplify work of tracing conductors. P. Bernholz. diags Ind Eng 81:271-2 My '23

Frequency conversion by third class conductor and mechanism of the arcing ground and other cumulative surges. C. P. Steinmetz. diags Am Inst E E J 42:272-9 Mr '23; Discussion. 42:1078-81 O '23

Heat losses in stranded armature conductors. W. V. Lyon. Am Inst E E J 41:37-49 Ja '22; Discussion. 41:744-7 O '22

Identifying conductors in cables. J. M. Row. diags Power Pl Eng 26:274 Mr 1 '22

Method of obtaining most economical size of conductor. D. W. Blakeslee. Elec W 79:1124 Je 3 '22

Precise method of calculation of skin effect in isolated tubes. H. B. Dwight. Am Inst E E J 42:827-31 Ag '23

Proximity effect in wires and thin tubes. H. B. Dwight. bibliog diags Am Inst E E J 42:961-70 S '23

Skin effect and proximity effect in tubular conductors. H. B. Dwight. Am Inst E E J 41:203-9 Mr '22; Discussion. 41:671-4 S '22

Structural steel shapes used as crane runway conductors. W. S. Jones. Ind Eng 80:598 D '22

Electric conductors—Continued

Where lead-covered conductors are necessary in industrial plants. F. A. Westbrook. *Ind Eng* 81:215-16 Ap '23

See also Busbars; Electric cables; Electric distribution; Electric transmission; Electric wire; Insulation (electric)

Electric conduits

Circuits over railroad run in conduit under bridge sidewalk. W. C. Blackwood. *il diags Elec W* 79:534 Mr 18 '22

Conduit in cinders. *Am Inst Arch J* 9:367; 10:25-6 N '21, Ja '22; Same *abr. Eng & Contr* 57:94-5 Ja 25 '22

Gaining speed in laying tile conduit. T. C. Ruhling. *il Elec W* 81:281-2 F 3 '23

How rubber-covered wire and conduit saved cost in underground installation. H. B. Sherwood. *diags Elec R* 80:298-9 Je '22

How to determine size of conduit required for wires and cables. W. S. Jones. *Ind Eng* 80:548 N '22

Installation of metal conduit. W. A. Hefner. *il diags Power* 55:533-4 Ap 4 '22

Installation of metal conduit. H. W. Los. *diags Power* 56:663 O 24 '22

Installing conduit in damp places. W. A. Harris. *diags Power* 54:917 D 13 '21

Installing shallow-conduit construction in Washington. D. E. Dunn. *il diag plan Elec Ry J* 59:449-52 Mr 18 '22

Supporting fibre conduit and potheads with concrete columns. C. E. Schnell. *il diags Elec W* 82:542 S 15 '23

Terminating conduits at the switchboard. W. S. Jones. *diag Power* 55:1013 Je 27 '22

Underfloor duct system. *il diags Elec W* 82:595-8 S 22 '23

Underground construction above ground. W. C. Blackwood. *il diags Elec W* 80:944 O 23 '22

Underground construction suggestions. W. S. Jones. *diags plan Elec W* 80:481-5 S 2 '22

See also Electric cables; Electric conductors; Electric distribution; Electric wiring

Cleaning

Electric conduit and pipe clearing device. E. G. Cheuvreux, jr. *diag Electrician* 88:383 Mr 31 '22

Specifications

Electrical equipment division report; proposed revision of S. A. E. standard. *Soc Auto Eng J* 9:385-7 D '21

Electric contactors

Automatic sectionalizing contactor for trolley and feeder circuits in mines. *il diags Coal Age* 24:250 Ag 16 '23

New electric contactors. *il Power Pl Eng* 26:587 Je 1 '22

Starting direct-current motors—current-limit type controllers. C. A. Armstrong. *diags Power* 57:634-7 Ap 24 '23

See also Electric circuit breakers; Electric controllers

Electric contacts

Use of a triode valve in registering electrical contacts. G. A. Tomlinson. *diag Philos Mag* 6th ser 44:870-2 N '22

Electric contractors

Case of Jerry the curbstoner. R. Chatfield. *J Elec* 49:241-2 O 1 '22

Changes in contract procedure that will bring mutual benefits. C. L. Eidlitz. *Elec W* 82:325 Ag 18 '23

Contractor-dealer's contribution to electrical service. *il J Elec* 49:287-9 O 15 '22

Contractors appoint a high commissioner; Charles L. Eidlitz will seek to reform their business methods. *Elec W* 81:822-3 Ap 7 '23

Duties and responsibilities of the engineer and electrical contractor and their relations with the customer on contract jobs in a factory or mill. D. H. Braymer. *il plan Ind Eng* 81:16-22+ Ja '23

Failures of resident engineers and contractors. *Elec R (Lond)* 91:993 D 29 '22

Financial relations of the jobber with his customers. S. B. Anderson. *J Elec* 50:175-6 Mr 1 '23

Honesty, ethics and the electrical contractor.

J. E. Bullard. *J Elec* 49:63 JI 15 '22

New contract form prepared for electrical men. *J Elec* 50:146-7 F 15 '23

Selling electrical outlets to the home builder. D. E. Harris. *J Elec* 50:105-7 F 1 '23

Spoiled child of the industry. W. R. Herstein. *Elec W* 82:204-5, 255-6 JI 28-Ag 4 '23

Status of electrical contractors. H. R. Taunton. *Elec R (Lond)* 91:402-4 S 22 '22; Discussion. 91:440-1, 501 S 29-O 6 '22

See also Electric shops

Electric control

Automatic pulp grinder regulator. C. E. Braun. *il chart Paper Tr J* 76:50-2 Ap 26 '23

Control circuit for coal conveyor and crusher. E. L. Curtis. *diag Power* 58:541-2 O 2 '23

Control engineering. H. D. James. Sibley J 37:30-1+ F '23

Control equipment for electrically propelled Japanese fuel ship Kamoi. R. O. Dunham. *il Gen Elec R* 25:755-9 D '22

Control of gaseous conduction. V. Bush and C. G. Smith. *il diags Am Inst E E J* 41:627-35 S '22; Discussion. 41:889 N '22

Controlling a floating dry dock with push buttons. J. Goldsborough. *il Marine Eng* 27:327-9 My '22

Electric controllers for sewage pumps. *il Pub Works* 54:237-9 JI '23

Historique de la commande électrique des tourelles marines cuirassées. J. Rey. *Génie Civil* 79:545-6 D 17 '21

Novel method of control for automatic hydro-electric station. *Power Pl Eng* 26:758-9 Ag 1 '22

Operating details of low-voltage d.c. control. P. F. Clausen. *il diags Ind Eng* 81:257-61 My '23

Regulator for motor-driven pulp grinders. W. H. Artz. *il diag Paper* 29:10-13 Ja 25 '22;

Same. *Chem & Met Eng* 26:367-9 F 22 '22

Safety gates at Cresson slowly opened by rack and pinion electrically operated. *il diags Coal Age* 21:777 My 11 '22

Supervisory systems for remote control. C. E. Stewart and J. C. Field. *il diag Elec W* 82:655-9 S 29 '23

See also Electric controllers; Electric motor generators—Control; Electric motors

—Control; Electric motors, Alternating current—Control; Electric motors, Direct current—Control; Electric motors, Induction—Control; Electric plants (central stations)

—Automatic operation; Electric railroads—Control; Electric switches; Electric vehicles

—Control; Radio control; Valves—Electric control; Valves, Hydraulic—Electric control; Voltage regulation

Electric controllers

Altering controller contacts for quick renewal. R. Fokes. *diags Ind Eng* 81:461 S '23

Arcing removed from controller contacts. *diag Elec Ry J* 62:341-2 S 1 '23

Cabinet mounting of control apparatus. H. R. Meyer. *il diag Elec J* 19:439-42 O '22

Control equipments for steel mill auxiliary motors. J. D. Wright. *il diags Gen Elec R* 24:986-90 D '21

Decreasing production interruptions in sugar mills by the use of proper distribution, protection and control equipment. R. B. Stevens. *il diags Ind Eng* 80:463-74+ O '22

Economy in controller maintenance; repairs to fingers. *diags Coal Age* 23:1011 Je 21 '23

Electric crane controllers. J. F. Schnabel. *diags Am Inst E E J* 41:313-19 Ap '22

Electrically controlled bascule bridge. *il Electrician* 88:471-2 Ap 21 '22

Eliminating controller connection boards. W. B. Uffert. *il Elec Ry J* 60:83 JI 15 '22

Liquid controller reduces peak loads by providing for uniform acceleration of large mine hoist. D. J. Baker. *il diag Coal Age* 21:487-90 Mr 23 '22

Mine-hoist controller equipment for large installations. H. W. Chadbourne. *il diag Coal Age* 24:659-61 N 1 '23

Operating details of low-voltage d.c. control. P. F. Clausen. *il diags Ind Eng* 81:257-61 My '23

Electric controllers—Continued

- Operation of a drum-type, elevator-machine alternating-current motor controller. W. Zepernick. *il* diags Power 55:295-8 F 21 '22
- Operation of a slow speed elevator electric motor controller. C. A. Armstrong. *il* diags Power 57:670-3 My 1 '23
- Operation of a traction-type elevator-machine alternating-current motor controller. W. Zepernick. *il* diags Power 56:9-11 J1 4 '22
- Operation of gearless traction elevator controller. W. Zepernick. *il* diags Power 57:886-92 Je 5 '23
- Principles of direct current control. G. Fox. *diags* Power *Pl* Eng 27:732-6, 827-31 J1 15, Ag 15 '23
- Reversing switches as used in electric-motor controllers. B. A. Briggs. *diags* Power 55:967-9 Je 20 '22
- Should starting of electrical machinery be regulated by automatic devices? H. H. Johnston. *Coal* Age 23:334-5 F 22 '23
- Some developments in the electrical industry during 1921. J. Liston. *il* Gen Elec R 25:30-41 Ja '22

See also Electric motors—Control; Electric motors, Direct current—Control; Electric motors, Induction—Control; Electric resistors; Rheostats; Voltage regulators

Electric converters. *See* Converters, Synchronous; Electric current converters

Electric conveyors. *See* Telpherage

Electric cooking

- All-electric kitchen; the Witton G. E. C. club installation. *il* Elec R (Lond) 91:101-2 J1 21 '22
- B. & K. electric restaurant. *il* Elec R (Lond) 89:593-5 N 4 '21; *Electrician* 87:571-3 N 4 '21
- Commercial cooking as a desirable central station load. W. W. Weir. *J* Elec 48:158 F 15 '22
- Commercial possibilities and essentials of electric cooking rates and service. N. T. Wilcox. *charts* N E L A Bul 9:562-7 S '22
- Economies of electric ovens for baking bread. W. Scott. *il* Elec W 79:878-9 My 6 '22
- Electric cooking apparatus; discussion. *il* Elec R (Lond) 93:73-4 J1 13 '23
- Electric cooking on English dining car train. *il* Ry Mech Eng 96:151-2 Mr '22
- Electric cooking on the Great Northern railway. *il* Elec R (Lond) 89:592-3 N 4 '21
- Electricity for broiling and roasting in the modern restaurant. *il* J Elec 49:367 N 15 '22
- First electrical barbecue held in Ephrata, Wash. *il* J Elec 51:138 Ag 15 '23; *Elec* W 82:615 S 22 '23
- First-hand data on hotel cooking. S. Barnaby. *il* Gas Age 51:645-7 My 19 '23
- Heavy duty electrically heated apparatus for hotels, restaurants, bakeries, etc. J. L. Shroyer. *il* Gen Elec R 25:158-66 Mr '22
- Increasing the use of electricity for cooking and heating. F. H. Woodward. *J* Elec 48:385-8 My 15 '22
- Magnet club and electric cooking. *il* *Electrician* 88:800 Je 30 '22
- Mirage of electric cooking. L. L. Osler. *Gas* Age 50:741 N 25 '22
- Progress of electric baking in Switzerland. P. Kuhn. *il* diags *Electrician* 89:349-52 S 29 '22
- Proving the utility of the modern electric range. *il* J Elec 50:498-9 Je 15 '23
- Snares of electric heating and salient features of electric cooking. S. S. Wyer. *il* Gas Age 48:732-8 N 26 '21
- Teaching the housewife to cook electrically. R. W. Turnbull. *il* J Elec 50:171-4 Mr 1 '23
- Thoughts on commercial cookery. *Electrician* 89:69 J1 21 '22
- Use of electricity taught in California schools. *il* J Elec 50:337-8 My 1 '23

See also Electric stoves

Electric cranes. *See* Cranes—Electric equipment

Electric current converters

- Characteristics and performance of conversion apparatus for Edison systems. T. F. Barton and C. M. Fulk. *il* diags Gen Elec R 26:348-62 Je '23

Mercury-vapor converter for tramways. M. A. Odermatt. *il* diags Elec Ry J 60:752-3 N 4 '22

Recent improvements in equipment for electric railways, making for economy. R. T. Smith. *Elec R* (Lond) 91:32-3 J1 7 '22

See also Converters, Synchronous; Frequency changers

Electric current rectifiers

- Alternating-current rectifier for accumulator charging. *il* diags Engineering 115:723 Je 8 '23
- Automatic mercury-vapour rectifiers. *diags* Elec R (Lond) 92:684-6 My 4 '23
- Control of gaseous conduction. V. Bush and C. G. Smith. *il* diags Am Inst E E J 41:627-35 S '22; Discussion. 41:889 N '22
- Conversion from alternating to direct current by means of mercury-arc rectifiers. R. L. Morrison. *il* diags Engineering 116:507-10, 543-6 O 19-26 '23; Abstract. *Elec R* (Lond) 93:444-5 S 21 '23; Discussion. Engineering 116:389-90 S 28 '23; *Elec R* (Lond) 93:478 S 28 '23
- Conversion of electrical power. J. E. Cannell. *diags* Power 57:88-90 Ja 16 '23
- Developments in power station design. *il* diags Engineer 133:631-4 Je 9 '22
- High-power mercury arc rectifiers. R. L. Morrison. *Elec R* (Lond) 90:353-5, 388-90, 424-6 Mr 10-24 '22; Discussion. *Electrician* 88:500 Ap 28 '22
- High-power mercury arc rectifiers, with special reference to traction service. R. L. Morrison. *il* Engineer 135:258-60 Mr 9 '23
- High-pressure mercury arc rectifiers and rotary converters. *il* *Electrician* 89:72 J1 21 '22
- High-voltage thermionic rectifiers. A. Schmidt, Jr. *diags* Gen Elec R 26:116-19 F '23
- Hot cathode rectifier as applied to radio transmitters. D. G. Little. *il* diags Elec J 20:139-41 Ap '23
- Making electrolytic rectifiers. C. E. Mullin. *diags* Pop Mech 38:629-30 O '22
- Mercury-arc rectifiers of large capacity. *il* Pop Mech 38:10 J1 '22
- Notes on electrolytic rectifiers. M. A. Codd. *diags* Elec R (Lond) 92:324-6 Mr 2 '23
- 30-kilowatt 15,000-volt rectifier for the United States navy. A. Schmidt, Jr. *il* diags Gen Elec R 26:276-8 Mr '23
- Electric currents**
- Current distribution in multi-conductor single-phase buses. C. F. Wagner. *il* diags Elec W 79:526-9 Mr 18 '22
- Direct current; abstract. O. Pollok. *Elec* W 81:588-9 Mr 10 '23
- Effect of gases in facilitating the passage of current from an electron-emitting source in crossed electric and magnetic fields. O. W. Richardson and R. Chaudhuri. *diags* Philos Mag 6th ser 45:337-52 F '23
- Electric railway disturbances and the detection of passing electric trains by means of a galvanometer. E. S. Bieler. *J* Fr Inst 193:385-90 Mr '22
- Electrolytic effect of alternating superimposed upon direct currents. W. R. Cooper. *diags* Elec R (Lond) 91:173-4 Ag 4 '22
- Odd case of underground-current drainage. C. Hering. *Elec* W 79:335-6 F 18 '22
- On the nature of the electric current. W. F. Mikewich. *diag* Sibley J 37:24-9 F '23
- Triple frequency currents in earth return circuits. E. W. Marchant. *diags* Engineering 116:440 O 5 '23; Same. *Elec R* (Lond) 93:442 S 21 '23
- Welding current of oil switches. G. L. E. Metz. *diags* Elec R (Lond) 93:344-5 S 7 '23
- Will the direct current era return? oscillating and rectifying vacuum tubes as applied to power distribution. R. F. Yates. *il* diags Sci Am 126:242 Ap '22

See also Corbino effect; Eddy currents; Electric circuits; Electric conductivity; Electric conductors; Electric displacement currents; Electric distribution; Electric measurement; Electric meters; Electric switches; Electric testing; Electric transformers; Electric transient phenomena; Electric transmission; Electric waves; Electromotive force; Short circuits; Stray currents; Thermionic effect

Electric currents, Alternating

Alternating current cable telegraphy. L. Cohen. J Fr Inst 195:165-82 F '23
 Alternating current; theory, practice and diagrams. H. C. Horstmann and V. H. Toussley. 290p Drake '23

Balance methods in alternating current measurement. P. A. Borden. il diags Am Inst E E J 42:35-41 Ja '23; Discussion. 42:854-7 Ag '23

Course in electrical engineering. C. L. Dawes. v.2 526p McGraw-Hill '22

Delta connection made clear. Coal Age 23:717-18 My 3 '23

Effects obtained with an alternating current sent through a capillary electrometer. R. D. Kleeman and D. T. Simonds. diag Phys R 21:38-45 Ja '23

Electric power in iron and steel works; advantages of generation and transmission by alternating current emphasised. A. Davidson; J. P. Hodges. Electrician 89:594-600 N 24 '22

Experiments with alternating current in direct current electrolysis. W. B. Jones. Am Electrochem Soc Trans v 41 (preprint 24):319-47 Ap '23; Same. Brass W 18:319-23, 353-6 N-D '22

Ionic currents. M. Leblanc. diags Elec R (Lond) 91:353-4 S 8 '22

Measurement of power in polyphase circuits. C. Fortescue. diags Am Inst E E J 42:205-18 Mr '23; Abstract. Power Pl Eng 27:324-6 Mr 15 '23; Discussion. Am Inst E E J 42:973-7 S '23

Principles of alternating currents. R. R. Lawrence. 432p McGraw-Hill '22

Submarine cable telegraphy. J. W. Milnor. diags Am Inst E E J 41:118-36 F '22

Transient process of establishing a steadily alternating current on a long line. A. E. Kennelly and U. Nabeshima. (M. I. T. Bul. v. 56, no. 24) 45p '21

Use of single-core sheathed cables for alternating currents. W. Cramp and N. I. Calderwood. diags Inst E E J 61:477-85 Ap '23

Use of superimposed imaginary e. m. f. s. currents, and fluxes in the solution of alternating current problems. V. Karapetoff. Am Inst E E J 41:11-13 Ja '22; Discussion. 41:604-6 Ag '22

What alternating current has done to increase the application of electricity to mining. E. J. Gealy. Coal Age 23:787-8 My 17 '23

See also Electric generators, Alternating current; Electric motors, Alternating current

Electric cutouts

Cutouts in motor circuits and their location. E. P. Slack. diags Power 55:381-2 Mr 7 '22

Size of cutouts for protecting motor circuits. E. P. Slack. Power 55:537 Ap 4 '22

Electric cutting

Arc rivet cutting apparatus. il Iron Age 110:528 Ag 31 '22

Cutting massive copper with the electric arc. A. M. Candy. il Chem & Met Eng 27:1036 N 22 '22

Cutting metals with the electric arc. A. M. Candy. Elec Ry J 61:332 F 24 '23; Same. Elec W 81:581-2 Mr 10 '23; Same, with il. Iron Age 111:1098-9 Ap 19 '23; Same abr. Ind Eng 81:220 Ap '23

Cutting steel car and locomotive boiler rivets; alleged disadvantages of electric rivet cutting discounted by installation on Chesapeake & Ohio. E. A. Murray. il Ry Mech Eng 96:406-7 Jl '22

Electric-arc cutting tool for rivets. il Pop Mech 39:79 Ja '23

Scrapping steel cars by means of the carbon arc. E. H. Dralle. il Ry Mech Eng 97:157-60 Mr '23

Electric detonators. *See* Detonators, Electric**Electric discharges**

Address before the Schenectady research laboratory. J. J. Thomson. Gen Elec R 26:496-9 Jl '23

Cathode disintegration. diag Philos Mag 6th ser 45:98-112 Ja '23

Certain types of electric discharge. D. N. Mallik and A. B. Das. diag Philos Mag 6th ser 43:216-22 Ja '22

Characteristics of highly sensitive discharge points. J. Zeleny. diag Phys R 19:566-71 Je '22

Condenser discharges through a general gas circuit. C. P. Steinmetz. Am Inst E E J 41:210-23 Mr '22; Discussion. 41:598-9 Ag '22

Disappearance of gas in the electric discharge. Am Electrochem Soc Trans v 44 (preprint 18):183-94 S '23

Disappearance of gas in the electric discharge. Philos Mag 6th ser 43:914-37 My '22

Electrical discharges in Geissler tubes with hot cathodes. W. H. McCurdy. diag Philos Mag 6th ser 46:521-33 S '23

Electricity in gases as a branch of engineering; abstracts. W. M. Thornton. Electrician 87:565 N 4 '21; Elec R (Lond) 89:652 N 11 '21

Electrodeless discharge in certain vapors. J. K. Robertson. il diag Phys R 19:470-7 My '22

Heat losses and chemical action in the high voltage, high frequency discharge through air. F. Daniels, P. Keene and P. D. V. Manning. Am Electrochem Soc Trans v 44 (preprint 13):141-51 S '23

Interesting case of mechanical disintegration caused by positive ions. H. P. Waran. il diags Philos Mag 6th ser 43:226-9 Ja '22

Ionic oscillations in the striated glow discharge. E. V. Appleton and A. G. D. West. diag Philos Mag 6th ser 45:879-81 My '23

Ionization and activation of gases. K. T. Compton. Am Electrochem Soc Trans v 44 (preprint 11):115-23 S '23

Origin of ions in the unsustained glow discharge. K. T. Compton and T. E. Foulke. il Gen Elec R 26:755-7 N '23

Phenomena in gases excited by radio frequency currents. E. O. Hulburt. diags Phys R 20:127-33 Ag '22

Positive ion currents in the positive column of the mercury arc. I. Langmuir. Gen Elec R 26:731-5 N '23

Production of nitric oxides and ozone by high voltage electric discharges. K. B. McEachron. Am Electrochem Soc Trans v 44 (preprint 8):71-86 S '23

Relative visibility of spectra when an electric discharge is passed through the vapours of alkali amalgams. F. H. Newman. diag Philos Mag 6th ser 45:181-9, pl 1 Ja '23

Study of the luminous discharge in hydrogen and in mercury and a new method of measuring ionization potentials. G. E. Gibson and W. A. Noyes, jr. diags Am Chem Soc J 44:2091-2106 O '22

Tamed lightning; Dr. Steinmetz' small-scale duplication of nature's discharge. il Sci Am 127:26 Jl '22

Theory of the striated discharge. J. J. Thomson. Philos Mag 6th ser 42:981-1001 D '21

Two photographic methods of studying high-voltage discharges. K. B. McEachron. il diags Am Inst E E J 42:1045-50 O '23; Discussion. 42:1357-62 O '23

See also Corona; Electric spark; Ionization; Oscillations; X rays

Electric displacement currents

Illustrations of electric displacement currents. J. S. Ames. diags J Fr Inst 195:787-98 Je '23

Electric distribution

Alternating-current secondary networks. D. K. Blake. il diags Gen Elec R 26:391-406 Je '23

Alternating current transmission lines. E. K. McDowell. diags Power Pl Eng 27:320-4, 477-9 Mr 15, My 1 '23

Analyzing distribution system to prepare for expansion. P. M. Hatch. diag Elec W 78:1130-1 D 3 '21

Belt-line system solves distribution problem. il plan Elec W 81:1282 Je 2 '23

Calculation of D.C. and A.C. networks. F. T. Chapman. diags Elec R (Lond) 92:486-8 Mr 30 '23

Central control of motors. O. F. Long. il diags Elec R 80:180-4 Ap '22

Electric distribution—Continued

Changing a two-phase distribution system to three-phase. W. C. Blackwood. diags plans Elec J 20:216-19 Je '23

Changing from two-phase four-wire to three-phase four-wire distribution. A. Hussey and R. A. Paine, jr. Elec J 20:214-16 Je '23

Changing two-phase system to three-phase. J. F. Pritchard. diags Elec W 80:1045-6 N 11 '22

Commercial aspects of change overs; the replacement of direct-current with alternating-current equipment. F. S. Root. Elec W 80:1213-14 D 2 '22

Connecting resistances in series. diags Power 56:656 O 24 '22

Construction & exploitation des grands réseaux de transport d'énergie électrique à très haute tension. 1176p L'Union des syndicats de l'électricité, Paris '22

Development of the alternating-current distribution system of the United electric light & power co. W. W. Smith. il map Elec J 19:205-13 My '22

Development of unified power supply and distribution systems in Chicago. R. H. Rice. diags Elec Ry J 60:455-61 S 23 '22

Difficulty in distribution. Elec W 80:1161 N 25 '22

Dissymmetrical electrical conducting networks. A. E. Kennelly. bibliog diags Am Inst E E J 42:112-22 F '23

Distribution at 2,200 volts should be considered for industrial plants. A. S. Wells. diags Elec W 80:365-7 Ag 19 '22

Economical increase of distribution system rating. diags Elec W 79:961-3 My 13 '22

Economics of direct current railway distribution; with particular reference to the automatic substation. L. P. Creclius and V. B. Phillips. Am Inst E E J 41:363-78 My '22; Discussion. 41:952-8 D '22; Elec Ry J 60:43-4 Jl 8 '22

Economics of electrical distribution. P. O. Reyneau and H. P. Seelye. 209p McGraw-Hill '22

Economics of I. & C. re-equipment. map Elec Ry J 61:913-17 Je 2 '23

Electric filter circuits. L. Cohen. J Fr Inst 195:641-54 My '23

Factors in industrial plant distribution. R. B. Stevens. il diags plans Elec W 80:1259-62 D 9 '22

Floating neutral n-phase systems. L. A. Doggett. bibliog diags Am Inst E E J 42:1029-32 O '23; Discussion. 42:1349-50 D '23

Future distribution system. W. C. L. Eglin. diags Elec W 81:379-83 F 17 '23

Graphical chart for line problems. M. B. Covell, jr. chart Elec W 81:1039-40 My 5 '23

Indiana company changes to 60 cycles. map Elec W 81:687-9 Mr 24 '23

Layout of secondary networks. C. A. Bacon. Elec W 82:491-2 S 8 '23

Manchester overhead distribution scheme. il Elec R (Lond) 90:184-5 F 10 '22

Merits of A. C. underground distribution. M. T. Crawford. il diags plan Elec W 80:1375-80 D 23 '22; Discussion. P. Torchio. 81:161 Ja 20 '23

Miniature A-C. transmission system for the practical solution of network and transmission-system problems. O. R. Schurig. il diags Am Inst E E J 42:1033-40 O '23; Discussion. 42:1347-9 D '23

Modern generation applied to existing distribution. F. W. Purse. Elec R (Lond) 93:112-13; Discussion. 113-15 Jl 20 '23

Planning the distribution system. L. C. Peterman. Elec W 82:711 O 6 '23

Plant distribution layout combining safety and economy. I. A. Oliver. il Elec W 78:1216-18 D 17 '21

Pole-top substation that serves city distribution. E. F. Pearson. il Elec W 79:737 Ap 15 '22

Problems of distribution. W. E. Bradshaw. Elec R (Lond) 90:111-12 Ja 27 '22

Rear-line circuits as a solution of suburban distribution. L. Bell. Elec W 79:633 Ap 1 '22

Report of A.I.E.E. committee on transmission and distribution. Am Inst E E J 41:899-912, 935 N-D '22

Reports of the committees on power generation and power distribution. Elec Ry J 60:602-5 O 7 '22

Revising distribution system of industrial plant. T. H. Arnold. il Elec W 78:1180-1 D 10 '21

Selection of electrical systems for iron and steelworks. J. MacSheehy. plan Electrician 89:601-7 N 24 '22

Small supplies from overhead transmission lines. il Elec R (Lond) 93:123-4 Jl 27 '23

Some notes on changing over a network from d.c. to a.c. M. Fairer. diags Elec R (Lond) 92:246-7, 287-8 F 16-23 '23

Stations centrales. V. Neveux. 239p C. Bé-ranger, Paris & Liège '22

Supplying a constantly increasing load. R. E. Curtis. Elec W 80:1452-3 D 30 '22

System voltage raised without suspending service. A. Burt. il Elec W 78:1119-20 D 3 '21

Three-phase, four-wire distribution system. Power Pl Eng 26:423-4 Ap 15 '22

Three-phase four-wire distribution systems. H. W. Smith. diags Elec J 20:111-7 Ap '23

Three-wire power distribution. G. C. Hecker. Aera 11:449-51 N '22; Same. Eng & Contr (Ry) 58:106-8 N 15 '22

Transmission-line load-distribution factors. E. K. McDowell. Power Pl Eng 27:782-6, 936-9 Ag 1, S 15 '23

250/500-volt distribution proposed. Elec W 81:1332-3 Je 9 '23

Wiring committee of the N.E.L.A. selects solid neutral as against danger fuse. N E L A Bul 9:656-7 N '22

See also Balancer sets; Busbars; Converters, Synchronous; Electric cables; Electric conductors; Electric conduits; Electric current rectifiers; Electric currents; Electric fuses; Electric lines; Electric plants; Electric plants—Interconnection; Electric power; Electric substations; Electric transformers; Electric transmission; Electric wiring; Stray currents; Street lighting; Switchboards; Voltage regulation

Cost

High-voltage distribution costs. Elec W 82:234-6 Ag 4 '23

What it means to change from overhead to underground. H. N. Muller. Elec W 82:856-7 O 27 '23

Grounding

Alternating current transmission lines. E. K. McDowell. Power Pl Eng 27:477-9 My 1 '23

Earthed return. Elec R (Lond) 92:842-3, 999 Je 1, 22 '23

Earthing the neutral point. S. A. Stigant. Elec R (Lond) 92:796 My 18 '23

General considerations in grounding the neutral of power systems. H. H. Dewey. il diags Am Inst E E J 42:589-600 Je '23; Discussion. 42:1082-7 O '23

Grounded line not always negative. E. P. Slack. diag Power 57:802 My 22 '23

Grounding chain practice standardized. A. Herz. il Elec W 81:1097 My 12 '23

Grounding of electrical conductors for protective purposes. R. Brown. Power 56:166-7 Ag 1 '22

Grounding problems. M. Schiesser. Elec W 82:822 O 20 '23

How to ground conduits. E. P. Slack. diags Power 56:809-10 N 21 '22

How to ground motor frames. E. P. Slack. diags Power 56:937-8 D 12 '22

Importance of ground wiring. M. A. Anderson. il plan Power 54:734-5 N 8 '21

Interim report of wiring committee; the thoroughly grounded neutral. N E L A Bul 10:535-7 S '23

Present day practises in grounding of transmission systems; first report of A.I.E.E. subcommittee on grounding of protective devices. Am Inst E E J 42:928-46 S '23; Abstract. Elec W 81:1019-20 My 5 '23

Discussion. Am Inst E E J 42:1082-7 O '23

Requirements for grounding conduit. E. A. Gibbs. diags Ind Eng 81:552-3 N '23

Le retour du courant par la terre, et les dispositifs de mise à la terre. Génie Civil 83:353-4 O 13 '23

Electric distribution—Grounding—Continued

Some grounding chains are inadequate. A. Herz. Elec W 79:177-8 Ja 23 '22
 Triple frequency currents in earth return circuits. E. W. Marchant. diags Engineering 116:440 O 5 '23; Same. Elec R (Lond) 93: 442 S 21 '23
 When to ground conduits and motor frames. E. P. Slack. diags Power 56:726-7 N 7 '22
 Why ground connections should be well made. E. P. Slack. diag Power 57:132-3 Ja 23 '23
 Why motor frames are grounded. E. P. Slack. diags Power 57:24-5 Ja 2 '23

Grounds and faults

Accidental grounds located with telephone receiver. T. W. Snell. Elec W 82:542 S 15 '23
 Earthing resistance as a protection against voltage rises. K. Edgcombe. diags Elec R (Lond) 90:399-402 Mr 24 '22
 Frequency conversion by third class conductor and mechanism of the arcing ground and other cumulative surges. C. P. Steinmetz. diag Am Inst E E J 42:272-9 Mr '23; Discussion. 42:1078-81 O '23
 Ground on control wiring caused oil switch to close. R. Brown. diag Power 56:1014 D 26 '22
 Ground selector for underground three-phase distribution systems. P. Ackerman. diags Am Inst E E J 42:311-19 Ap '23; Discussion. 42:1087-92 O '23
 Measuring resistance of grounds. M. Oldacre. diag Power 56:489 S 26 '22
 Method of locating faults in buried lead-covered cables. H. S. Baker. il diag Elec W 82:815-16 O 20 '23
 Neon glim lamps used as ground detectors. A. Kastalski. Elec W 82:550 S 15 '23
 Neutral grounding reactor. W. W. Lewis. il diags Am Inst E E J 42:467-81 My '23; Discussion. 42:1082-7 O '23
 Petersen earth coil. R. N. Conwell and R. D. Evans. diags Am Inst E E J 41:140-8 F '22; Excerpts. Elec W 79:377 F 25 '22; Discussion. Am Inst E E J 41:650-7 S '22
 Relay as ground detector for D.C. control bus. J. E. Goodale. diags Elec W 81:695 Mr 24 '23
 Simple device locates electric circuit troubles. il Ry Age 74:817-18 Mr 24 '23; Pop Mech 39: 720 My '23; Sci Am 129:44 J '23
 Voltages induced by arcing grounds. J. F. Peters and J. Slepian. il diags Am Inst E E J 42:781-92 Ag '23; Discussion. 42:1078-81 O '23

Electric driving

Advanced application of electric drive in Arizona copper mill. il J Elec 50:180-1 Mr 1 '23
 Advantages and disadvantages of electric drive in a beet sugar factory. A. J. Forbess. il Gen Elec R 25:492-7 Ag '22
 Alternating-current versus direct-current motors for stoker drive. W. E. Douglas and H. H. Bates. il Power 58:8-9 J1 3 '23
 Application of electric motors for driving tube mills. F. Jeffrey. il diags Am Inst E E J 42:382-7 J1 '23
 Are you profiting by the economies of electric operation? What the Carnation milk products company is doing. R. Sibley. il J Elec 47:469-70 D 15 '21
 Automobile industry highly electrified. Elec W 82:582 S 22 '23
 Belted group drives versus direct connected motors. W. A. Furst. Iron Age 111:1438-9 My 17 '23
 Claims of the electric drive. H. Bentley. Ind Management (Lond) 10:98-9 Ag 23 '23
 Comparative advantages of unit and line drive in industry. H. P. Phillips. il J Elec 48: 445-7 Je 1 '22
 Comparison of electric and steam draglines at Miami. G. L. Teeple. il Eng N 88:96-9 Ja 19 '22
 Dollars and cents standard of industrial success. L. F. Leurey. J Elec 48:15-16 Ja 1 '22
 Driving of handling machinery. H. Blyth. il diags Electrician 89:734-7 D 29 '22
 Economies of complete electrification in large buildings. W. H. Whitton. il Elec W 81: 1139-42 My 19 '23

Electric auxiliaries on merchant ships. E. D. Dickinson. il Marine Eng 27:315-19 My '22; Discussion. 26:903-5 D '21
 Electric auxiliaries on motor ship Harper. C. H. Giroux. il Gen Elec R 25:296-300 My '22
 Electric drive for centrifugal fans, blowers and propeller fans. G. Fox. Blast F & Steel Pl 11:469-71, 530-2 S-O '23
 Electric drive in the printing of newspapers. C. F. Scott. il Gen Elec R 26:758-65 N '23
 Electrical motors for industrial service. J. L. M. Yardley. il Ind & Eng Chem 15:921-5 S '23
 Electrical power in industrial buildings. J. A. McHollan. Arch Forum 39:147-8 S '23
 Electricity in the lace industry. J. F. Crowley. il Electrician 88:225-8 F 24 '22
 Electrification of gas plants. L. Stein. il Gas Age 51:397-400 Mr 31 '23
 Electrification of the Allegheny plate glass company. G. P. Wilson. il diag plan Elec J 20:120-7 Ap '23
 Flexible source of power reduces cost of labor. diag J Elec 49:20 J1 1 '22
 Gearing electric motor drives. J. M. Hipple. Elec J 20:313 S '23
 Glass and electricity. F. A. Connor. il Gen Elec R 26:746-54 N '23
 Group drives and direct connected motors. L. W. Army. Ind Management 64:330-1 D '22
 Indiana industries 60 per cent electrified. R. M. Davis. diags Elec W 79:321-4 F 18 '22
 Industries of Mountain states highly electrified. Elec W 78:1074-5 N 26 '21
 Iron and steel works lead in total installed motor rating. diags Elec W 80:376-7 Ag 19 '22
 Modern electrical installation in plant of Nevada gypsum company. L. F. Leurey. il J Elec 50:218-19 Mr 15 '23
 Motor driven centrifugals with gas engine standby. W. B. Bushnell. Munic Eng 62:215-17 Je '22; Same. Eng & Contr 58:48-9 J1 12 '22
 Motors for chemical plants. J. L. M. Yardley. il Elec W 82:605-7 S 22 '23
 Remotoring plant raises power factor. O. H. Henschel. diags Power Pl Eng 27:883-7, 992-3 S 1. O 1 '23
 Tests made on the use of special motors to drive fluctuating loads. V. D. Green. il Ind Eng 81:363-4 J1 '23
 Troublesome drive and its remedy. J. Williams. il Am Mach 59:690 N 8 '23
 When you electrify your plant. il Brick & Clay Rec 63:30-2 J1 10 '23
 Das zweite elektrisch angetriebene konvergergebläse der Aktiengesellschaft Feiner walzwerk. F. Hartig. il diags Stahl & Eisen 42:1117-24 J1 20 '22

See also Cranes, derricks, etc.—Electric equipment; Electric hammers; Electric motors; Electric power; Electric shovels; Electricity in mining; Electricity in petroleum industry; Machine tools—Electric driving; Mine hoisting; Electric; Pumping machinery; Electric; Ship propulsion; Electric; Steel works—Electric equipment

Cement mills

Electric motor drive in the cement industry. G. Fox. il Power Pl Eng 26:951-3 O 1 '22
 Electrically-driven cement works. il Elec R (Lond) 90:148-50 F 3 '22
 Power absorbed in making a barrel of Portland cement. S. H. Harrison. Am Inst E E J 42:254-7 Mr '23
 Purchased power gaining in cement industry. Elec W 81:1285-6 Je 2 '23

Ice plants

Electric drive found best for ice plants. J. R. McCoy. Elec W 81:1461-2 Je 23 '23
 Electrically-driven ice-making plant; the Poynerhook (Aberdeen) installation. il Elec R (Lond) 93:357-8 S 7 '23
 Ice plant electrification. H. L. Lincoln. il J Elec 51:45-8 J1 15 '23

Paper mills

Application of the electric motor to paper making. G. Fox. diags Power Pl Eng 26: 1209-12 D 15 '22

Electric driving—Paper mills—Continued

- Applying the electric motor to the pulp industry. G. Fox. flowsheet il Power Pl Eng 26:1153-6 D 1 '22
- Electric drive for sectional paper machines. O. C. Cordes. il diags Elec J 20:236-41 J1 '23
- Electrical section drive in paper mills. S. A. Staeger. Paper Tr J 74:28-31 Je 8 '22; Same. Paper 30:9-11 Je 23; 9-10+ J1 5 '22
- Electricity masters paper making. R. H. Rogers. il plan Gen Elec R 26:250-7 My '23
- Individual drive in paper mill effective. A. F. Paige. il Elec W 82:185 J1 28 '23
- Motor drive and control for beaters. O. C. Cordes. il Paper 32:10-11 Ag 22 '23; Same cond Elec W 82:611-12 S 22 '23
- New all-electric paper mill; St Maurice lumber company paper mill at Three Rivers, Canada. A. H. White and R. H. Rogers. il diags plan Elec W 81:494-510 Mr 3 '23
- Possibilities of electrification in the pulp and paper industry. H. W. Rogers. il N E L A Bul 10:333-6 Je '23

Bibliography

- Electricity in pulp and paper mills. C. J. West. Paper Tr J 76:50-3 F 22 '23

Power plant auxiliaries

- Drive of power station auxiliaries. L. Breach and H. Midgley. diags Inst E E J 61:829-45 Ag '23; Abstracts. Elec R (Lond) 92:713-14 My 4 '23; Engineer 135:468 My 4 '23; Discussion. Inst E E J 61:845-62 Ag '23; Elec R (Lond) 92:714, 808-9 My 4, 25 '23
- Electric drive for steam generating station auxiliaries; abstracts. H. C. Albrecht. Power 55:400 Mr 7 '22; Elec Ry J 59:413 Mr 11 '22; Elec W 79:687 Ap 8 '22
- Electric drive for turbine auxiliaries. J. M. Drabelle. il Gen Elec R 26:52-4 Ja '23

Railroad shops

- Electric drives in railroad shops. B. S. Pero. il Mach 28:477-81 F '22
- Some revamped motor drives in the railroad shops at Portland, Maine. il Elec R 80:282 Je '22

Recording instruments

- Impulse electric motor for driving recording instruments. W. F. Joachim. il diags J Fr Inst 196:215-26 Ag '23

Rolling mills

- Adjustable speed main roll drives. A. K. Bushman. il Gen Elec R 26:681-7 O '22
- Adjustable speed motors for rolling mills. J. D. Wright. il Blast F & Steel Pl 11:89-91 Ja '23
- B.T.H. electric rolling-mill installation; speed regulation of strip and bar mills. il Elec R (Lond) 92:299-303 F 23 '23
- Calumet steel company electrify mills. L. H. Hook and F. R. Burt. il charts Blast F & Steel Pl 10:313-16 Je '22; Same. Power Pl Eng 26:659-63 J1 1 '22
- Direct-connected induction motors vs. geared motors for rolling iron and steel. H. L. Barnhardt. il diags Elec J 20:314-17 S '23
- Double-range Scherbius rolling mills. il diag Engineer 134:516-18, 526 N 17 '22
- Economic principles governing the use of electrical power in iron and steel works. C. A. Ablett. Iron & Steel Inst J 107:225-40 no 1 '23; Abstract. Elec R (Lond) 92:756-7 My 11 '23; Discussion. Iron & Steel Inst J 107:241-7 no 1 '23; Elec R (Lond) 92:794 My 18 '23; Engineering 115:613 My 18 '23; Engineer 135:547 My 25 '23
- Electric blooming mill drive. S. N. Roberts. il diags plan Elec J 19:356-62 S '22
- Electric drive for cold-rolled steel strip reels. J. Maloney and D. W. Dean. il Elec J 20:326-9 S '23
- Electric drive of reversing mill. C. B. Huston. il diags Elec W 82:577-80 S 22 '23
- Electric mill drive is efficient. H. E. Davis. Iron Tr R 72:1611-14 My 31 '23
- Electric motor drive in steel industry. G. Fox. diags plan W Soc E J 27:161-84 Je '22; Excerpts. Iron Age 110:339-41, 408-12 Ag 10-17 '22
- Electric power application in the steel mills. G. E. Stoltz. il Blast F & Steel Pl 11:159-60 F '23
- Electric strip mill drive. B. S. Beach. Iron Age 110:853 O 5 '22; Same. Iron Tr R 71:719-20 S 14 '22
- Electrical development in steel industry. Iron Age 110:1729 D 28 '22
- Electrically-driven strip mill plant. il Electrician 87:658-9 N 13 '21
- Electrically-driven wire rod mill. il Elec R (Lond) 92:941-3 Je 15 '23
- Flywheels for steel mill drives. L. A. Umansky. il diags Gen Elec R 26:688-707 O '23
- Future of the electrically-driven rolling mill. L. Rothera. Electrician 87:632-3 N 18 '21
- General effect of electrification on the operation of steel mills; abstracts. W. Sykes. il charts Blast F & Steel Pl 10:306-12 Je '22; Iron Tr R 70:1550-4 Je 1 '22; Iron Age 109:1557-60 Je 1 '22
- Hadfield's Hecla steel works. il Elec R (Lond) 91:833-5 D 1 '22
- Mill electrification progresses. R. B. Gerhardt. Iron Tr R 71:783-6 S 21 '22
- Motorizing the 33-inch structural mill at the Homestead steel works. S. S. Wales. il Gen Elec R 26:662-8 O '23
- New development in rolling mill drive. A. K. Bushman. il diag Blast F & Steel Pl 10:467-9 S '22
- New motor-driven rolling mill in the Chicago district. H. E. Davis. il Blast F & Steel Pl 11:164-6 F '23
- Les nouveaux laminoirs électriques des aciéries Hadfield, à Sheffield. il diag plan Génie Civil 81:269-73 S 23 '22
- 120-in. motor-driven plate mill. W. Kennedy. Iron Age 111:1627 Je 7 '23
- Power problems or rolling mills. A. H. Dyckerhoff. diags Iron Age 111:17-21 Ja 4 '23
- Recent interesting electrical developments. G. Fox. diags Blast F & Steel Pl 11:88-9 Ja '23
- Report of A.I.E.E. iron and steel industry committee. Am Inst E E J 41:946-51 D '22; Excerpt. Elec W 81:923-4 Ap 21 '23
- Report of the electrical development committee. W. C. Kennedy. il Ind Eng 81:474-7 O '23
- Rolling speed affects production. G. E. Stoltz. diags plans Iron Tr R 72:293-7 Ja 25 '23; Same cond. Iron Age 111:411-14 F 8 '23
- Selection of mill-type motors. R. H. Wright. il Elec W 80:379-80 Ag 19 '22
- Some methods of obtaining adjustable speed with electrically driven rolling mills. K. A. Pauly. il diags Eng Soc W Pa 37:158-78 Ap '21; Same. Gen Elec R 24:422-32 My '21; Same cond. Iron Age 108:1595-8 D 22 '21; Abstract. Sci Am M 4:87 J1 '21; Discussion. Eng Soc W Pa 37:179-88 Ap '21; Iron Age 108:1598-1600 D 22 '21
- Special drive designed for plate mill. F. D. Egan. il diags Blast F & Steel Pl 10:461-3 S '22
- Speed control of latest mills at Gary. G. L. Lacher. il plan Iron Age 111:1831-4 Je 28 '23
- Speed regulator for individual-motor reel drive. J. H. Ashbaugh. il diag Elec J 20:317-19 S '23
- Steel mill auxiliary drives. L. A. Umansky. il diags Gen Elec R 25:611-17, 699-710 O-N '22
- Steel rolled for less on electric mills than with steam drive. G. E. Stoltz. il Elec W 80:6-10 J1 '22
- Steel works electrification; the Consett iron co.'s mills. il Elec R (Lond) 93:321 Ag 31 '23
- Traces electrification of mills; abstracts. B. G. Lamme and W. Sykes. Iron Tr R 71:716-18+ S 14 '22; Iron Age 110:1497-9 D 7 '22
- Trend in rolling mill drives. G. Fox. Blast F & Steel Pl 10:386-8 J1 '22
- Where to look for things that cause trouble in reversing-roll electric drives. A. J. Whitcomb. il Elec R 80:63-6+ F '22

Rubber factories

- Electric motor drive in the rubber industry. G. Fox. il diag Power Pl Eng 26:1105-8 N 15 '22
- Electric power and the rubber industry. B. T. Mottinger. il Elec J 19:4-10 Ja '22

Electric driving—Continued

Sawmills

Motor applications in the lumber industry. G. Fox. *il Power Pl Eng* 27:130-2 Ja 15 '23

Tanneries

Electric drive in tanneries. J. A. Horne. *il Gen Elec R* 25:618-24 O '22
Tanning industry. E. L. Judkins. *il Gen Elec R* 25:441-4 J1 '22

Textile mills

Electric drive in cotton mills. G. Wrigley. *il Gen Elec R* 25:102-10 F '22
Electric driving in Scottish woollen mills. A. W. Stevenson. *il Electrician* 88:217-19 F 24 '22
Electric motor drive in the textile industry. G. Fox. *il Power Pl Eng* 27:1040-3 O 15 '23
Electric power in the jute industry. J. F. Crowley. *diag Electrician* 89:292-5 S 15 '22
Electrical equipment of a cotton mill. *il Elec R (Lond)* 32:839-902 Je 8 '23
Electrical equipment of the D. R. cotton mills; modern method in tyre manufacture. *il Electrician* 88:473-4 Ap 21 '22
Electrical layout in Bay state cotton mill. W. S. Maddocks. *il Elec W* 80:323-6 Ag 12 '22
Electrification of the Massachusetts cotton mills, Lindale, Ga. D. W. Peabody. *il Gen Elec R* 26:168-72 Mr '23
Enoree mills' power development. *il Textile World* 61:884+ F 4 '22
Flexibility of electrical service in textile mills; the new weaving building and raw-stock dyehouse of the Riverside & Dan river cotton mills. *il diag Elec R* 80:70-5+ F '22
Group vs. individual drives on wool cards. A. B. Reed. *il Textile World* 61:63+ Ja 7 '22
Improved drives for silk spinning frames. C. T. Guildford. *il Textile World* 61:1681+ Mr 18 '22
Mechanical and electrical speed control. C. T. Guildford. *il plan Textile World* 64:1255+ S 1 '23
Motor drive in old mills. H. W. Reding. *il Textile World* 64:1967+ O 6 '23
Motorization of an old mill. W. M. Pierce. *il Textile World* 63:987+ F 3 '23
New Oerlikon geared individual drive for looms. *il Electrician* 88:235-6 F 24 '22
Production vs. cost of power. C. A. Baer. *Textile World* 61:2735+ My 6 '22
Recent developments in textile drives. *il Electrician* 88:233-4 F 24 '22
Textile industry and public electricity supply. W. J. H. Wood. *Electrician* 88:214-16 F 24 '22
Textile printing; its power requirements and electric drive. C. T. Guildford. *il diag Am Inst E E J* 41:226-33 Mr '22
Textile printing machine and its drive. *il diag Textile World* 61:1787+ Mr 25 '22
Variable speed a. c. motors. R. Trautschold. *Textile World* 63:81+ Ja 6 '23

Woodworking shops

Motor applications in the woodworking industry. G. Fox. *il diag Power Pl Eng* 27:428-30 Ap 15 '23
New factors influencing the design of woodworking machinery. S. Madsen. *il Mech Eng* 45:180-2 Mr '23

Electric elevators. See Elevators, Electric

Electric-endosmose. See Osmosis

Electric engineering

Course in electrical engineering. C. L. Dawes. v.2 Alternating currents. 526p McGraw-Hill '22
Development of electrical engineering in the Far East. C. A. M. Smith. *Elec R (Lond)* 91:698, 803-5 N 17-24 '22
Electric power systems. W. T. Taylor. 107p Pitman '22
Electrical engineering. T. F. Wall. 491p Methuen & co., London '21
Electrical engineering in 1921. *Engineer* 133:62-4, 94-6 Ja 20-27 '22
Electrical engineering in 1922. *il (supp) Engineer* 135:7-8, 35-6 Ja 5-12 '23

Electrician's handy book. T. O. Sloane. 5th ed., rev. and enl. 823p Henley '20
Electricité industrielle. F. Harang. 261p Dunod, Paris '21
Electricity. S. G. Starling. 245p Longmans '22
Elements of applied electricity. H. H. Bliss. 403p Journal of electricity and western industry, San Francisco '22
Estimating office organisation. J. C. Connan. *Elec R (Lond)* 91:676-7, 928-9, 989-90 N 10. D 22-29 '22
Handbook for electrical engineers. H. Pender and others. 2d ed., rev. & enl. 2270p Wiley '22
Latin-American engineering in 1921; progress in electrical projects and wireless telegraph installations. *Elec R (Lond)* 90:4-5 Ja 6 '22
Michael Faraday, and the foundations of electrical engineering. J. A. Fleming. *Inst E E J* 60:379-88 Ap '22
Practical control of electrical energy. A. G. Collis. 160p Oxford '23
Practical electrical engineering, direct currents. H. G. Cisin. 324p Van Nostrand '22
Principles of electrical engineering. W. H. Timbie and V. Bush. 513p Wiley '22
Progress of industry handicapped by lack of engineers. L. F. Leurey. *J Elec* 47:387-8 N 15 '21
Side-lines of electrical engineering. A. S. Barnard. *Inst E E J* 61:145-8 Ja '23
Standard handbook for electrical engineers. F. F. Fowle, ed. 5th ed., rev. 2137p McGraw-Hill '22
Theoretical and practical electrical engineering. L. D. Bliss. 2d ed. 2v Bliss electrical school, Takoma Park, Washington, D.C. '22
Die wissenschaftlichen Grundlagen der elektrotechnik. G. Benischke. 682p J. Springer, Berlin '22

See also Armatures; Automobiles—Electric equipment; Commutation (electricity); Commutators; Electric apparatus and appliances; Electric contractors; Electric distribution; Electric driving; Electric generators; Electric heating; Electric lighting; Electric lines; Electric machinery; Electric measurement; Electric meters; Electric motors; Electric plants; Electric railroads; Electric transmission; Electric wiring; Electricity; Electricity in mining; Electricity on the farm; Foundries—Electric equipment; Hydroelectric plants; Radio communication and other headings beginning Radio; Railroads—Electric equipment; Railroads—Electrification; Ship propulsion, Electric; Ships—Electric equipment; Steel works—Electric equipment; Telegraph; Telephone

Laboratory manuals

Electrical engineering laboratory experiments. C. W. Ricker and C. E. Tucker. 310p McGraw-Hill '22
Experimental electrical engineering and manual for electrical testing for engineers and for students in engineering laboratories. V. Karapetoff. 3d ed., rev. 795p Wiley '22

Laws and regulations

Electrical rules covering construction work in Atlanta. *Elec W* 79:297-8 F 11 '22
Overhead wires and the law. *Elec R (Lond)* 92:926-8 Je 15 '23
Responsibility for telephone circuits; telephone company cannot recover from power company the cost of metalizing ground-return circuits against superior right based on prior occupancy. *Elec W* 80:479-80 S 2 '22
Rules covering installation of wires and electrical equipment. 77p Oregon Bureau of labor statistics and inspector of factories and workshops, Salem '21
Washington Supreme court on inductive interference. A. F. Phillippay. *N E L A Bul* 9:572-4 S '22
Wisconsin electrical code. *Elec W* 79:500 S 2 '22

See also Electric codes; National electrical code

Periodicals

Finding published electrical information. V. Karapetoff. *Elec W* 80:1380-2 D 23 '22

Electric engineering—Continued

Safety devices and measures

Accidents, their causes and remedies; notes from the report of the Accident causes and remedies committee of the National safety council. *Power* Pl Eng 27:1091-6 N 1 '23

Adequate protection for linemen. *Elec W* 80: 828 O 11 '22

Condition of safety devices checked by weekly form. P. W. Eberhardt. *Elec W* 82:341 Ag 18 '23

Desirable duplication and safeguarding in the electrical equipment of a generating station. W. F. Sims. *Am Inst E E J* 42:704-5 J1 '23; Discussion. 42:1356 D '23

Driving accident prevention home. *Elec W* 80:825-6 O 14 '22

Electrical safety orders of the Industrial accident commission of the state of California. 381p California Industrial accident commission, Sacramento '22

Making safety regulations acceptable. E. L. Milliken. *Elec W* 79:738 Ap 15 '22

Protecting men against danger in central and substations. P. W. Eberhardt. *Elec W* 82: 492-3 S 8 '23

Recent safety rule developments. R. R. Cowles. *J Elec* 50:188-91 Je 15 '23

Safeguarding repair and construction work on electrical circuits. A. L. Johnston. *Elec W* 79:685 Ap 8 '22

Safety features on high voltage transmission lines. C. O. von Dannenberg. *N E L A Bul* 9:300-2 My '22

Safety for the pole climber. *il Nat Safety* N 8:16-18 J1 '23

See also Electric codes; Electric protective apparatus; Electric plants (central stations)—Safety devices and measures; Hydroelectric plants—Safety devices and measures; National electrical code; National electrical safety code

Study and teaching

Fundamentals. H. E. Dyche. *Eng Educ* 13: 598-619 Je '23

Joint issue by the Institution of electrical engineers and the Board of education of national diplomas and certificates in electrical engineering. *Elec R (Lond)* 92:871 Je 1 '23

Method of dynamo laboratory instruction at the Pennsylvania state college. E. B. Stavelly. *Eng Educ* 12:234-43 Ja '22

Registration of new electrical students materially decreased. *Elec W* 79:275-6 F 11 '22; Discussion. 79:483 Mr 11 '22

Week of jobs. L. W. W. Morrow. *Eng Educ* 12:244-8 Ja '22

Tables, calculations, etc.

Abaque pour servir au calcul des lignes électriques. R. Auballe. *diags Génie Civil* 83:300-3, pl 4 S 29 '23

Applications of Heaviside expansion theorem. L. Cohen. *J Fr Inst* 195:319-26 Mr '23

Cable charts and cable calculations. *Elec R (Lond)* 90:387-8 Mr 17 '22

Cable geometry and the calculation of current-carrying capacity. D. M. Simons. *Am Inst E E J* 42:525-39 My '23; Discussion. 42:1206-11 N '23

Calculating currents in a mesh-connected three-phase circuit. A. Still. *diags Elec R (Lond)* 91:78 J1 21 '22; Discussion. L. W. Schuster. 91:538-9 O 13 '22

Calculating size of synchronous motor for power-factor correction. C. A. Armstrong. *diags Power* 56:200-2 Ag 8 '22

Calculating the power of a three-phase circuit. *diag Power* 56:431, 621, 857 S 12, O 17, N 28 '22

Calculation of D.C. and A.C. networks. F. T. Chapman. *diags Elec R (Lond)* 92:186-8 Mr 30 '23

Calculation of power in three-phase circuits. H. G. Roberts. *Power Pl Eng* 27:175 F 1 '23

Circle diagrams for transmission systems. R. D. Evans and H. K. Sels. *diags Elec J* 18: 530-6 D '21

The CPS'er. V. Karapetoff. *il diags Sibley J* 37:46-51 Mr '23

Current capacity of wires and cables. G. E. Luke. *chart diags Elec J* 20:127-30 Ap '23

Determining the performance of an induction motor without plotting a circle diagram. G. T. Smith. *Elec J* 19:485-9 D '22

Deux méthodes rapides pour le calcul des lignes électriques à courant continu. E. Darest. *Soc Ing Civils Bul* 75:137-47 Ap '22

Dissymmetrical electrical conducting networks. A. E. Kennelly. *bibliog diags Am Inst E E J* 42:112-22 F '23

Easily made charts assist in line calculations. I. J. Campbell. *Elec W* 80:382 Ag 19 '22

Electric line calculations; their practical application to transmission and distribution problems. W. T. J. Atkins. *Inst E E J* 61: 1041-8 S '23

Electrical characteristics of transmission circuits. W. Nesbit. *chart diags Elec J* 16: 279-87, 314-26, 385-96, 485-9, 515-19; 17:21-4, 66-77, 104-18, 146-56, 257-63, 299-311, 350-3, 527-32, 575-82; 18:365-73, 542-8; 19:24-30, 69-76 J1-S. N '19-Ap, Je-Ag, N-D '20, Ag. D '21-F '22

Electrical characteristics of transmission systems. H. B. Dwight. *Am Inst E E J* 41:727-30 O '22; Discussion. 41:1026-30 D '22

Electrical oscillations on lines. L. Cohen. *J Fr Inst* 195:45-58 Ja '23

Error due to neglecting electrical forces in calculating flywheels for reciprocating machinery driven by synchronous motors. A. R. Stevenson, jr. *il Gen Elec R* 25:690-9 N '22

Example of transmission line calculations. R. D. Evans and H. K. Sels. *diags Elec J* 19: 53-9 F '22

Exciter instability. R. E. Doherty. *bibliog diag Am Inst E E J* 41:731-44 O '22

Experimental determination of short-circuit currents in electric power networks. O. R. Schurig. *bibliog diags Am Inst E E J* 42: 605-17; Discussion. 652-4 Je '23

Forcing most economical load division by reactors. A. H. Sweetnam. *Elec W* 81:1463-5 Je 23 '23

General consideration of T- and Pi-type artificial electric lines in connection with a proposed compensated Pi-line. H. Nukiyma and K. Okabe. *bibliog diags Am Inst E E J* 42:947-54 S '23

Graphic method for the exact solution of transmission lines. C. H. Holladay. *bibliog diags Am Inst E E J* 41:807-10 N '22; Discussion. 41:1026-30 D '22

Graphic solution of a.c. load problems. J. A. Van Tilburg. *Elec R (Lond)* 90:436-7 Mr 31 '22

Graphical chart for line problems. M. B. Covell, jr. *chart Elec W* 81:1039-40 My 5 '23

Graphics of the synchronous motor. W. M. Wallace. *diags Engineering* 115:353 Mr 23 '23

Harmonic analysis by selected co-ordinates. A. E. Clayton. *Electrician* 89:176-9 Ag 18 '22

How to compute a complete motor installation. E. P. Slack. *diags Power* 55:687-9 My 2 '22; Discussion. 985 Je 20 '22

How to find voltage-drop in electric circuits. E. P. Slack. *chart Power* 54:1009-11 D 27 '21

Ionisation point of high-tension cables. M. Höchstädter. *Electrician* 89:180-2 Ag 18 '22

Laying out unequal groupings of coils in induction motors having from four to forty-eight coils two or three-phase. A. C. Roe. *Ind Eng* 81:241-50, 293-303+ My-Je '23

Line-drop charts solving 2,300-volt problems. R. C. Smith. *Elec W* 80:886-7 O 21 '22

Mathematical development of the theory of the magnetomotive force of windings. A. E. Clayton. *diags Inst E E J* 61:749-87 J1 '23

Method of calculating the ampere-turns for driving a magnetic flux through wedge-shaped teeth. B. Worohoff. *diags Am Inst E E J* 42:1171 N '23

Method of determining resultant input from individual duty cycles and of determining temperature rating. B. Jones. *diags Am Inst E E J* 41:329-41 My '22; Same abr. *Gen Elec R* 25:405-17 J1 '22; Discussion. *Am Inst E E J* 41:886-9 N '22

Electric engineering—Tables, calculations, etc.—*Continued*

On the oscillations of certain electrical or mechanical systems due to a periodic impressed force. I. Herlitz. *Gen Elec R* 25: 686-9 N '22

Operation of induction motors in cascade. H. Cotton. *diags Inst E E J* 61:284-93 F '23

La portée économique des lignes électriques. E. Baticle. *Génie Civil* 83:63-5 J1 21 '23

Potential gradient in cables. W. I. Middleton, C. L. Dawes and E. W. Davis. *diags Am Inst E E J* 41:572-84 Ag '22

Power-factor table lessens billing computations. G. B. Leland. *Elec W* 81:169-70 Ja 20 '23

Practical calculating table. E. W. Dillard. *il plans map Elec W* 81:797-800 Ap 7 '23

Precise method of calculation of skin effect in isolated tubes. H. B. Dwight. *Am Inst E E J* 42:827-31 Ag '23

Properties of the distribution factor of armature windings. B. Hague and S. Neville. *diags Inst E E J* 60:861-6 Ag '22; Discussion. 61:398-9 Mr '23

Proximity effect in wires and thin tubes. H. B. Dwight. *bibliog diags Am Inst E E J* 42: 961-70 S '23

Qualitative analysis of transmission lines. H. Goodwin, jr. *Am Inst E E J* 42:48-57 Ja '23; Discussion. 42:1068-75 O '23

Quick calculation of line regulation. C. T. Hutchinson. *chart Elec W* 81:1465-7 Je 23 '23

Regeneration characteristic curves of direct-current locomotives. C. A. Atwell. *diags Elec J* 19:113-16 Mr '22

Self-inductance of circular coils. H. B. Dwight. *Elec J* 19:268-70 Je '22

Short-circuit current calculating table. L. J. Corbett. *maps Elec W* 80:985-8 N 4 '22

Simplified method of analyzing short-circuit problems. R. E. Doherty. *il diags Am Inst E E J* 42:1021-8 O '23; Discussion. 42:1349 D '23

Simplifying line loss and drop problems. H. P. Seelye. *Elec W* 73:1266-8 D 24 '21

Solution of electric power transmission problems in the laboratory by miniature circuits. O. R. Schurig. *il diag Gen Elec R* 26:611-18 S '23

Some problems in electric furnace operation. F. V. Andrae. *diags Am Inst E E J* 42: 498-509 My '23; Discussion. 42:1202-5 N '23

Steps in laying out and checking up three-phase diagrams. A. C. Roe. *il diags Ind Eng* 81:491-8+ O '23

Structural engineering problems in transmission-line construction. J. S. Martin. *il diags plans Eng Soc W Pa* 38:309-413; Discussion. 414-20 N '22

Tables and diagrams for connecting induction motors. A. C. Roe. *il charts Ind Eng* 81:137-46+ Mr '23

Temperature rise of electric machines on intermittent duty. G. E. Luke. *Elec W* 79: 1069-71 My 27 '22

Tests at 1,000,000 volts support calculated sparkover and corona data. F. W. Peek, jr. *il Elec W* 78:1312, 1319-21 D 31 '21

Theory of electric wave filters built up of coupled circuit elements. L. J. Peters. *Am Inst E E J* 42:445-62 My '23; Discussion. 42: 657-9 Je '23

Transient conditions in electric machinery. W. V. Lyon. *bibliog diags Am Inst E E J* 42:388-407 Ap '23; Discussion. 42:1076-8 O '23

Transmission-line calculations. W. F. Dunton. *Elec W* 80:665 S 23 '22

Transmission line calculator. E. Clarke. *il diags Gen Elec R* 26:380-90 Je '23

Two-stage current transformer. H. B. Brooks and F. C. Holtz. *il diags Am Inst E E J* 41: 389-98 Je '22

Universal chart method of calculating starting rheostats for direct-current motors. A. T. Dover. *charts diags Inst E E J* 60:867-82 Ag '22

Use of superimposed imaginary e. m. fs. currents, and fluxes in the solution of alternating current problems. V. Karapetoff. *Am Inst E E J* 41:11-13 Ja '22; Discussion. 41:604-6 Ag '22

Use of the scalar product of vectors in locus diagrams of electrical machinery. V. Karapetoff. *Am Inst E E J* 42:1181-3 N '23

Voltage and phase transformations with autotransformers. E. F. Wimmer. *Elec J* 20: 162-6, 261-6 My, J1 '23

See also Electric lighting—Tables, calculations, etc.; Electric measurement; Electric wiring—Tables, calculations, etc.; Electricity—Tables, calculations, etc.

Terminology

See Electric symbols

Electric engineering societies

Factors of progress in the electrical engineering industry. C. H. Wordingham. *Elec R* (Lond) 31:705-7 N 17 '22

Electric engineers

Co-operation between the architect and the electrical engineer. F. Hooper; J. W. Beauchamp. *Inst E E J* 61:726-35; Discussion. 736-48 J1 '23

Prospects for electrical engineers in Canada. G. R. Archdeacon. *Elec R* (Lond) 92:564-5, 606-8 Ap 13-20 '23

Directories

Year-book, 1923, of the American institute of electrical engineers. 503p Am. inst. of elec. eng., 33 W. 39th st., New York '23

Electric equipment

Achievements in electrical equipment. A. M. Perry. *il Elec W* 79:12-17 Ja 7 '22

Electric power development in 1922. *il Power*

Pl Eng 27:132-5 Ja 15 '23

Electrical equipment of the London county hall. *il plans Elec R* (Lond) 91:151-3, 186-9 Ag 4-11 '22

Equipment development in 1922. A. M. Perry. *il diags Elec W* 81:22-8 Ja 6 '23

Factors influencing the selection and application of motors and control; chart. H. W. Rogers. *Elec W* 81:1472 Je 23 '23

How complications are eliminated when ordering electrical supplies. *il Elec R* 80:214-16 My '22

Importance of neatness in industrial electrical applications. L. F. Leurey. *il J Elec* 50: 294-5 Ap 15 '23

Many notable electrical developments during the last twelve months. *il Power* 57:14-16 Ja 2 '23

Need of a climate rating for cities; atmospheric conditions—an important factor in the manufacture and the purchase of outdoor equipment. J. R. Kearney. *Elec W* 81:1380-1 Je 9 '23

Proper maintenance of electrical equipment saves cost of shutdown and repair. E. H. Hubert. *Am Mach* 56:20-1 Ja 5 '22

Protection from loss by breakdown of electrical equipment and extent of coverage that is afforded by insurance policies. B. K. Spencer. *il Ind Eng* 80:486-91+ O '22

Review of the new products produced in 1922. E. H. Hubert. *il diags Ind Eng* 81:89-97+ F '23

See also Automobiles—Electric equipment; Canals—Electric equipment; Cement plants—Electric equipment; Chemical plants—Electric equipment; Cotton mills—Electric equipment; Cranes, derricks, etc.—Electric equipment; Electric apparatus and appliances; Electric control; Electric distribution; Electric driving; Electric fittings; Electric lighting; Electric plants—Equipment; Electric power; Electric railroads—Equipment and supplies; Electric transmission; Electricity in freight handling; Electricity in mining; Electricity on the farm; Factories—Electric equipment; Foundries—Electric equipment; Hotel—Electric equipment; Ice plants—Electric equipment; Iron works—Electric equipment; Paper mills—Electric equipment; Railroads—Electric equipment; Rolling mills—Electric equipment; Sawmills—Electric equipment; Ships—Electric equipment; Steel works—Electric equipment; Sugar factories—Electric equipment; Terminals—Electric equipment; Theaters—Electric equipment; also General electric company; Westinghouse electric and manufacturing company

Electric equipment—Continued**Cost of installation**

Unit labor costs on electric construction. C. Higgins. *il Elec W* 80:1093-7 N 18 '22

See also Electric plants (central stations)—Costs

Maintenance and repair

Comments on maintenance work by readers of Industrial engineer. *Ind Eng* 81:32-6 Ja '23

Details of procedure in repairing and rebuilding electrical equipment. J. D. Zook. *il plan Ind Eng* 81:383-8+ Ag '23

Practice in maintenance work. E. H. Hubert. *il Ind Eng* 81:27-31+ Ja '23

Protection

Development of concrete cell structures for oil circuit breakers, bus-bars and disconnecting switches. A. F. MacCallum. *il Elec J* 19:166-70 Ap '22

See also Electric protective apparatus

Standards

Super-standard construction deserves a credit on insurance rates. L. K. Comstock. *Elec W* 82:836-7 O 20 '23

Electric fans

Aeronautics affect electric-fan design. C. Palmblad. *il Pop Mech* 36:884-6 D '21

Building bigger business through sales of fan equipment. C. A. Eddy. *il Elec R* 79:945-8 D 24 '21

Advertising

Making the most of the hot weather appeal. R. W. Johnson. *Ptr Ink* 119:91-2 Je 22 '22

Manufacture

Drawing and perforating dies for fan bases. R. B. Hickey. *il diags Mach* 30:7-11 S '23

Electric fans, Ventilating

Belt-driven electric fan with high-speed motor. *il Pop Mech* 38:82 J1 '22

Electric ventilating. W. T. Reace and G. C. Breidert. *il diags Elec J* 19:119-23 Mr '22

Reversible window fan. *il Sci Am* 128:46 Ja '23

Ventilating fans for railway passenger cars. E. W. Denman. *diag Elec J* 20:111-12 Mr '23

Ventilation in industrial plants a field for contractors. J. H. Carbone. *il Elec R* 79:807-9 N 26 '21

Advertising

Learning where to place the advertising pressure—the *ilg* electric ventilating company. *Ptr Ink* 122:41-2+ Ja 4 '23

Electric filters. See Electric wave filters**Electric fires**

Classification of electric fires. *Elec W* 78:968 N 12 '21

Electric fires and electric fire losses during 1920. R. Trautschold. *Elec W* 80:319-21 Ag 12 '22

Electric fires due to carelessness. W. H. Blood, jr. *N E L A Bul* 9:222-3 Ap '22

Electricity and electricity. C. A. Gasser. *Safety Eng* 42:271-2 D '21

Number of fires of electrical origin decreases. *J Elec* 51:5 J1 1 '23

Electric fittings

Fittings for I-beam in electrical construction. A. L. Harvey. *diags Power Pl Eng* 25:1102-3 N 15 '21

See also Electric apparatus and appliances; Electric conduits; Electric light fixtures

Standards

Standardization of appliance plugs and prongs. *N E L A Bul* 9:290-1 My '22

Standardization of terminal plugs must be supported by general introduction of interchangeable cords for old appliances. E. B. Slade. *Elec W* 82:458-9 S 1 '23

Electric flashlights

Flashlight characteristics. T. Spooner and C. F. Royce. *diags Elec J* 19:150-2 Ap '22

Flashlights and flashlight batteries. E. H. Mathews. *illum Eng Soc* 17:135-44; Discussion. 144-6 Mr '22

Electric flatirons. See Electric irons**Electric furnaces**

Calcium carbide: its manufacture and applications. *Elec R (Lond)* 92:126-8 Ja 26 '23

Comparison of electric furnace practice with fuel-fired furnace practice. N. K. B. Patch. *Am Electrochem Soc Trans v* 40 (preprint 22):287-90 S '21; Same. *Metal Ind* 19:438 N '21

Copper pipes as conductors for electric furnaces. *il Pop Mech* 38:668 N '22

Electric cement. H. J. Harms, jr. *Concrete* 20:sup113-15 Je '22

Electric furnace for determination of coal-ash fusion temperature. O. Monnett and J. F. Kohout. *il diag Coal Age* 23:329-30 F 22 '23

Electric furnace operation. *Elec W* 82:727-8 O 6 '23

Electric heat, its generation, propagation and application to industrial processes. E. F. Collins. *Am Electrochem Soc Trans v* 42 (preprint 22):233-60 S '22; Excerpt. *Chem & Met Eng* 28:79 Ja 10 '23; Discussion. *Am Electrochem Soc Trans v* 42 (preprint 22):260a-f S '22

Electric heating advance rapid. F. A. Hansen. *Iron Tr R* 72:512-14 F 15 '23

Electromagnetic motions in electric furnaces. C. Hering. *Am Electrochem Soc Trans v* 41 (preprint 2):7-14 '22; Same. *Brass W* 18:117-19 Ap '22

La fabrication du verre au four électrique à radiation. V. M. Sauvageon. *diags Chimie & Ind* 7:452-5 Mr '22

Firing of ceramics in electric furnaces. E. L. Smalley. *Am Electrochem Soc Trans v* 42 (preprint 3):19-22; Discussion. 22a-b S '22

Le four électrique à électrode verticale. Chaplet. *diags Soc Ing Civils Bul* 76:606-9 Ap '23

Gas preferred for telescope discs. *diag Gas Age* 49:775-6+ Je 24 '22

Heavy alternating current busses for furnaces and synchronous converters. J. L. M. Yardley. *il diags Blast F & Steel Pl* 11:492-4, 624-32 S, D '23

How to build an electric furnace for heating soldering irons. A. S. Barker. *diags Ind Eng* 81:464 S '23

How to make an electric muffle furnace. C. E. Mullin. *diags Pop Mech* 38:957 D '22

Industrial applications of the electric furnace. E. W. Lewis. *Engineering* 116:257-9 Ag 31 '23

Industrial electric heat applications. J. L. M. Yardley. *il diag Elec W* 81:1087-90 My 12 '23

Principles of high temperature furnace design. E. L. Smalley. *Am Electrochem Soc Trans v* 42 (preprint 10):77-88 S '22; Same. *Can Chem & Met* 6:246-9 N '22

Recent electric furnace developments. E. T. Moore. *il Blast F & Steel Pl* 11:153-8 F '23

Recent progress in high frequency inductive heating. E. F. Northrup. *il diags Electrician* 88:565-6 My 12 '22

Sidelights on electric furnace maintenance. *Elec W* 81:927 Ap 21 '23

Small electric furnace; abstract. J. Ritz and G. Keller. *Elec W* 80:1116 N 18 '22

Small electric furnaces for experimental heats in testing alloys for munitions. *Chem & Met Eng* 27:1085 N 29 '22

Spring convention, American institute of electrical engineers, Pittsburgh. *Iron Tr R* 72:1324-5 My 3 '23

Stability of conducting electric furnace hearths. F. Hodson. *diags Chem & Met Eng* 26:178 Ja 25 '22

Status of electric furnaces. L. H. Knapp. *il diags Elec W* 80:605-9 S 16 '22

Use of electric heat in the railway shop. E. F. Collins. *il Ry R* 71:69-73 J1 15 '22

Wire and ribbon wound resistance furnaces. C. C. Bidwell. *Sibley J* 36:119-21+ Je '22

See also Electric heaters; Electrometallurgy

Control

Arc regulation in electric furnaces and pilot-light control. C. E. Sims. *diag Eng & Min J* 114:1169-70 D 30 '22; Same. *Elec W* 80:1335-6 D 16 '22; Same. *Brass W* 19:113 Ap '23

Electric furnaces—*Continued*

Cost of operation

Manufacture of synthetic cast iron in the electric furnace. W. L. Morrison. *Chem & Met Eng* 26:316 F 15 '22
 Operating costs of electric furnace for baking vitreous enamel. *il Elec W* 79:286 F 11 '22
 Pacific coast favors electrical operations. L. J. Barton. *Foundry* 51:105-7 F 1 '23;
 Same. *Iron Tr R* 72:435-7 F 8 '23
 Size of furnace affects costs. L. J. Barton. *Iron Tr R* 73:1309-10 N 8 '23
 Why electric heat treating is economical. E. F. Collins. *Elec W* 81:1402-5 Je 16 '23

Electrodes

Electric furnace electrode has undergone marked development. A. T. Hinckley. *Elec W* 78:1263-5 D 24 '21
 Die neuen elektrostahlöfen der Fiatwerke. G. Vitali. *il diags Stahl & Eisen* 42:921-4 Je 15 '22; Abstract (Furnace has sealed electrodes). *Iron Tr R* 71:585-6 Ag 31 '22; Same. *Foundry* 50:799-800 O 1 '22
 Self-baked renewable type of furnace electrode. *il Pop Mech* 39:60 Ja '23
 Söderberg electric furnace electrodes; self-baking continuous type. *diag Elec R (Lond)* 91:281-2 Ag 25 '22

Power

Furnace reactance requirements need consideration. P. B. Short. *il Elec W* 79:81-3 Ja 14 '22
 Improvements in ferro-alloy electric furnaces of high power input. B. D. Saklatwalla and A. N. Anderson. *il Am Inst E E J* 42:775-80 Ag '23; Same. *Iron Tr R* 72:1755-8 Je 14 '23;
 Discussion. *Am Inst E E J* 42:1202-5 N '23
 Some problems in electric furnace operation. F. V. Andreae. *diags Am Inst E E J* 42:498-509 My '23; Discussion. 42:1202-5 N '23

Refractories

Defines refractory requirements. C. E. Williams. *Iron Tr R* 72:734-6 Mr 8 '23; Same. *Am Cer Soc J* 6:753-60 Je '23; Same. *Foundry* 51:433-5 Je 1 '23
 Lining acid electric furnaces. J. M. Quinn. *Iron Age* 111:1101-2 Ap 19 '23
 Refractories source of troubles. W. L. Morrison. *Foundry* 50:33-5 Ja 1 '22

Transformers

Furnace transformer mounted on truck to save running heavy leads. A. L. Williams. *diag plan Elec W* 79:684-5 Ap 8 '22

Electric furnaces, Annealing

Regenerative car-type electric furnace for annealing wire. A. D. Dauch. *il diag Iron Age* 109:1217-18 My 4 '22

Electric furnaces, Brass melting

Air-electric brass furnace problems. *Iron Tr R* 73:969-70 O 1 '23

Ajax-Wyatt furnace in the brass mill casting shop. R. P. Heuer. *bibliog diags J Ind & Eng Chem* 14:1021-4 N '22

Applying the induction furnace to an industrial brass foundry. J. G. Crawford. *il diags Elec W* 82:586-8 S 22 '23

Discuss electric brass furnaces at round table session of the American electrochemical society. *Foundry* 51:813-4 O 15 '23; *Iron Age* 112:899 O 4 '23

Electric brass furnace. A. P. Child. *il Eng & Min J* 115:278 F 10 '23

Electric brass furnace practice. H. W. Gillett and E. L. Mack. *diags U S Bur Mines Bul* 202:1-334, pl 1-25 '22; Review by A. Bregman. *Metal Ind* 21:145-8 Ap '23

Electric brass melting furnace situation. T. H. A. Eastick. *Metal Ind* 20:73 F '22

Furnace characteristics determine economy. R. F. Benzinger. *Elec W* 80:435 Ag 26 '22

Operation data on electric furnaces. *Metal Ind* 20:340 S '22

Tests on electric furnaces in England. *Metal Ind* 20:102 Mr '22

See also Electric furnaces, Non-ferrous melting

Electric furnaces, Enameling

Developments in 1921 in electric vitreous enameling furnaces. J. W. Carpenter. *il Am Cer Soc J* 5:409-15; Discussion. 415-19 J1 '22
 Electric enamel furnace lowers rejections on stove parts. *il Chem & Met Eng* 28:364 F 21 '23

Electric furnace for vitreous enameling. C. Schwier. *Am Cer Soc J* 6:1030-5; Discussion. 1035-9 O '23

Electrical oven bakes enamel. E. W. Roeser. *il Foundry* 51:632-4 Ag 1 '23

Vitreous enameling in the electric furnace. J. L. M. Yardley. *il Chem & Met Eng* 29:55-8 J1 9 '23; Same abr. *Elec W* 82:327-9 Ag 18 '23

Vitreous enameling with electric heat. E. F. Collins. *il Am Cer Soc J* 6:794-8 J1 '23; Same. *Metal Ind* 21:251-3 Je '23

Electric furnaces, Foundry

Alloy castings from electric furnaces. L. J. Barton. *Iron Age* 110:784-6 S 28 '22

Choosing an electric melting furnace for the foundry. F. W. Brooke. *Iron Tr R* 70:529-31 F 23 '22

Complete electrification of foundries; abstracts. L. W. Egan. *Iron Age* 112:1043-5 O 18 '23; *Foundry* 51:840-2 O 15 '23; Discussion. *Iron Age* 112:1045-6 O 18 '23

Economy features of electric foundry. C. W. Francis. *Iron Age* 110:277-8 Ag 3 '22

Electric furnace best for conditions on the Pacific coast. L. J. Barton. *il J Elec* 47:463-4 D 15 '21

Electric furnace for the foundry. C. W. Francis. *Iron Age* 110:201-2 J1 27 '22

Electric furnace in the western high grade metal foundry. *il J Elec* 50:143 F 15 '23

L'emploi du four électrique en fonderie d'alliages et dans les traitements thermiques. Fourment. *diags Soc Ing Civils Bul* 76:446-67, pl 45 Ap '23; Abstract. *Génie Civil* 82:408-9 Ap 28 '23

Foundry electric furnace. J. Edgar. *Elec R (Lond)* 89:877 D 30 '21

Foundry employs electricity for melting and annealing. H. R. Simonds. *il diag Iron Tr R* 70:1567-70 Je 1 '22; Same. *Foundry* 50:609-12+ Ag 1 '22

Labor problems in electric melting. C. W. Francis. *Iron Age* 110:725+ S 21 '22

Ueber die entwicklung der italienischen eisenindustrie durch weitgehende anwendung elektrischer energie im schmelzbetrieb. K. Dornhecker. *il diags Stahl & Eisen* 42:845-8 Je 1 '22

Use electric and open-hearth furnaces. *il Iron Tr R* 69:1221 N 10 '21

See also Electric furnaces, Brass melting; Electric furnaces, Iron founding; Iron founding, Electric

Electric furnaces, Heat treating

Electric forging furnace. G. M. Little. *il diags Iron Tr R* 69:1689-92 D 29 '21

Electric furnace for annealing turbine castings. *il Elec W* 81:1465 Je 23 '23

Electric furnace for drill steel. T. M. Bains, jr. *il Eng & Min J* 113:537-8 Ap 1 '22

L'emploi du four électrique en fonderie d'alliages et dans les traitements thermiques. Fourment. *diags Soc Ing Civils Bul* 76:446-67, pl 45 Ap '23; Abstract. *Génie Civil* 82:408-9 Ap 28 '23

Heat treat to remove strains. P. Dwyer. *il Foundry* 51:429-32 Je 1 '23; Same. *Iron Tr R* 72:1745-8 Je 14 '23

Introduces new heating element support. *il Iron Tr R* 73:955 O 4 '23

Kilowatt-hours required by electric heat-treating furnaces to raise temperature of cold furnace and to hold at different temperatures. *Elec R* 80:281 Je '22

Methods of handling materials in the electric furnace and the best type of furnace to use. F. W. Brooke. *il diags Am Electrochem Soc Trans v* 43 (preprint 6):71-81 My '23; Same. *Iron Tr R* 73:111-13 J1 12 '23

Over-all cost of heat-treated parts. C. L. Ipsen. *il diags Iron Age* 109:459-62 F 16 '22; Same abr. *Elec W* 79:1125-6 Je 3 '22

Small parts heat treated electrically for 0.33 cent per pound. H. W. Derry. *il Elec W* 81:984 Ap 28 '23

Electric furnaces, Heat treating—Continued

Why electric heat treating is economical. E. F. Collins. *Elec W* 81:1402-5 Je 16 '23

See also Electric furnaces, Steel making; Electrometallurgy

Electric furnaces, Iron founding

Cast iron as produced in the electric furnace and some of its problems. G. K. Elliott. *Chem & Met Eng* 27:116-19 JI 19 '22; Same cond. *Iron Age* 109:1225-6 My 4 '22; Discussion. L. J. Barton. *Chem & Met Eng* 27:292 Ag 16 '22

Comparison between shaft and open top furnaces in the manufacture of pig iron electrically from iron ore. R. C. Gosrow. *Am Electrochem Soc Trans* v 41 (preprint 8):63-74 Ap '22

Electric furnaces for gray iron from the English point of view. *Foundry* 49:393-5 N 15 '21

La fabrication de la fonte au four électrique. C. de Coussergues. *diags Soc Ing Civils* Bul 76:543-56 Ap '23

Malleable cast iron and its production in the electric furnace. E. F. Collins. *N E L A* Bul 9:699-702 N '22

Manufacture of synthetic cast iron in the electric furnace. W. L. Morrison. *Chem & Met Eng* 26:312-16 F 15 '22

Melting of cast iron in the Booth rotating electric furnace. H. M. Williams and T. B. Terry. *il Am Electrochem Soc Trans* v 41 (preprint 21):285-94 Ap '22; Same. *Foundry* 50:863-5 N 1 '22

Melting of gray iron by electricity. C. B. Gibson and E. L. Crosby. *N E L A* Bul 9:569-70 S '22

Pacific coast favors electrical operations. L. J. Barton. *Foundry* 51:105-7 F 1 '23; Same. *Iron Tr R* 72:435-7 F 8 '23

Stability of conducting furnace hearth structures. F. Hodson. *il diag Elec R* 79:911-12 D 17 '21

See also Iron founding, Electric

Bibliography

Electric furnace in the iron foundry. L. C. Judson and H. P. Martin. *Am Electrochem Soc Trans* v 41 (preprint 22):295-304 Ap '22

Electric furnaces, Laboratory

Les appareils de laboratoire pour le chauffage aux hautes températures. M. Garvin. *diags Chimie & Ind* 9:647-50 Ap '23

Electric furnaces, Metallurgical

Direct reduction of iron ores in the electric furnace. W. Mason. *diags Elec R* (Lond) 93:190-1 Ag 3 '23

Electric furnace makes ferro-vanadium. B. D. Saklatwalla and A. N. Anderson. *il Elec W* 81:452-6 F 24 '23

Electric furnace situation. *Blast F & Steel Pl* 10:137-9 F '22

Electric melting furnace. *Chem & Met Eng* 26:583-4 Mr 22 '22

Electrical resistance furnaces and their uses. C. R. Darling. *Elec R* (Lond) 92:271-2 F 16 '23

Emploi de l'électricité pour le chauffage des fours métallurgiques. J. Suhr. *Soc Ing Civils* Bul 76:593-605 Ap '23

Improvements in ferro-alloy electric furnaces of high power input. B. D. Saklatwalla and A. N. Anderson. *il Am Inst E E J* 42:775-80 Ag '23; Same. *Iron Tr R* 72:1755-8 Je 14 '23; Discussion. *Am Inst E E J* 42:1202-5 N '23

Ein neuer elektrischer schmelzofen für metalle. E. F. Russ. *diags Stahl & Eisen* 43:116-18 Ja 25 '23

Present status of the electric furnace in refining iron and steel. J. A. Mathews. *Chem & Met Eng* 27:872-4 N 1 '22

Ryan high-temperature metal melting. *il Chem & Met Eng* 28:1035-6 Je 11 '23

Variable voltage installation at the Missouri school of mines. T. M. Bains, Jr. *il diag Eng & Min J* 114:234-5 Ag 5 '22

Westly electric furnace for copper smelting. C. S. Witherell and H. E. Skoug. *il diags Eng & Min J* 113:356-61 Mr 4 '22; Discussion. H. N. Thomson. 113:616 Ap 15 '22

See also Electric furnaces, Steel making; Electrometallurgy

Electric furnaces, Non-ferrous melting

Electric furnace as a metal melting machine.

il Elec R 80:17-19+ Ja '22
Electric furnace melting of nickel silver. F. C. Thompson. *Am Electrochem Soc Trans* v 40 (preprint 18):259-62 S '21; Same. *Brass W* 17:287-8 O '21; Same. *Metal Ind* 19:476 D '21

Electric modification of the Schwartz non-ferrous oil furnace. *il Iron Age* 110:1003 O 19 '22

Electric silver melting. H. A. DeFries. *diag Metal Ind* 19:473-5 D '21

Le four à induction pour obtenir un bon alliage. E. Demenge. *diag Soc Ing Civils* Bul 76:610-19 Ap '23

Les fours électriques. Allamel. *Soc Ing Civils* Bul 76:620-2 Ap '23

Hawley electric furnace. *il Metal Ind* 20:425 N '22

High temperature melting in Ryan furnace. *il Iron Age* 110:1507 D 7 '22; *Foundry* 50:956-7 D 1 '22; *Chem & Met Eng* 28:1035-6 Je 11 '23

Improvements in Heroult electric furnace. *il Iron Age* 110:342-3 Ag 10 '22

Induction type furnace developed by General electric co. for melting non-ferrous metals. *il diags Iron Age* 110:271-2 Ag 3 '22; *Iron Tr R* 71:524 Ag 24 '22; *Metal Ind* 20:312-13 Ag '22; *Am Mach* 59:156-7 JI 26 '23

Melts aluminum in electric furnace. H. E. Diller. *il Foundry* 50:345-51 My 1 '22

Metallurgical requirements of refractories for furnaces melting copper alloys. H. W. Gillett. *il diags Am Cer Soc J* 6:596-609 Ap '23

New induction furnace. J. M. Wood. *diags Am Electrochem Soc Trans* v 42 (preprint 51):27-34 S '22; Same. *Chem & Met Eng* 27:377-9 N 15 '22; Same. *Foundry* 51:227-9 Mr 15 '23; Discussion. *Am Electrochem Soc Trans* v 42 (preprint 5):34a-h S '22

Nouveau four électrique à induction pour les métaux non ferreux. E. Demenge. *il diags Génie Civil* 82:207-9 Mr 3 '23

Simple electric crucible furnace for melting aluminium. A. G. Lobley. *diag Am Electrochem Soc Trans* v 42 (preprint 17):169-72 S '22; Same. *Metal Ind* 20:386-7 O '22

See also Electric furnaces, Brass melting

Electric furnaces, Steel making

Acid electric furnace practice. C. W. Francis. *Iron Age* 110:345-6 Ag 10 '22

Acid electric steel furnace operation. J. M. Quinn. *Iron Age* 111:1177-9 Ap 26 '23

Arc furnace operation flexible. J. L. M. Yardley. *il Foundry* 51:694-8+ S 1 '23; Same cond. *Elec W* 82:479-84 S 8 '23

Basic electric furnace operation. C. W. Francis. *Iron Age* 110:421-2 Ag 17 '22

Bilanz eines elektrostahlofens bauart Röchling-Rodenhauser. O. von Kell and W. Rohland. *diags Stahl & Eisen* 43:1095-1102 Ag 23 '23

Crucible and electric tool steel. W. J. Green and S. S. Green. *Iron Age* 109:201-5 Ja 19 '22

Design and construction of electric furnaces. L. P. Barton. *il diags Blast F & Steel Pl* 11:272-6 My '23

Developing an electric furnace. R. Sylvany. *Iron Tr R* 71:33-4 JI 6 '22; Same. *Iron Age* 110:763-4 S 21 '22; Same. *Foundry* 50:962-3 D 1 '22

Development of the large electric melting furnace. F. Hodson. *diags Am Inst E E J* 42:600-4 Jc '23; Same. *Blast F & Steel Pl* 11:319-21 Je '23; Same cond. *Iron Tr R* 72:1462-4 My 17 '23; Same. *Foundry* 51:461-3 Je 1 '23; Discussion. *Am Inst E E J* 42:1202-5, 1365-6 N-D '23

Electric furnace for iron and steel. A. Stansfield. 453p McGraw-Hill '23

Electric furnace in melting and refining. J. B. C. Kershaw. *il diags Electrician* 87:636-9 N 18 '21

Electric furnace iron and steel; intermittent and alternating operations. W. E. Cahill. *Iron Age* 109:1277-8 My 11 '22

Electric furnace melting. *Chem & Met Eng* 26:869-71 My 10 '22

Electric furnaces, Steel making—Continued

- Electric furnaces extensively employed in Germany. G. L. Carden. *il Elec W* 82:179-81 J1 28 '23
- Electric reduction furnace iron for a steel making base. R. C. Gosrow. *il J Elec* 50:16-17 Ja 1 '23
- Electric steel in Italy. A. Stromboli. *Iron Age* 109:1676 Je 15 '22
- Electric tool steel melting practice. W. J. Green and S. S. Green. *Iron Age* 109:999-1001 Ap 13 '22
- Electro-metals steel furnace. *il diag Elec R* (Lond) 90:639-40 My 5 '22
- Experimental production of alloy steels. H. W. Gillett and E. L. Mack. *il U S Bur Mines Bul* 199:1-79 '22
- Fiat electric furnace. *diags Engineering* 113:421-2, 424 Ap 7 '22
- Fiat electric furnace. A. Stromboli. *il Iron Age* 110:151 J1 20 '22; Correction. 110:667 S 14 '22
- Fiat electric steel furnace. A. Stromboli. *il diags Chem & Met Eng* 27:28-30 J1 5 '22
- Greaves-Eitchell electric furnace for steel making. A. Stansfield. *bibliog il chart diags plan Blast F & Steel Pl* 11:64-8 Ja '23
- Italian firm designs an electric furnace. *il Foundry* 50:177 Mr 1 '22; Same. *Iron Tr R* 70:756 Mr 16 '22
- Die neuen elektrostahlöfen der Fiatwerke. G. Vitali. *il diags Stahl & Eisen* 42:921-4 Je 15 '22; Abstract (Furnace has sealed electrodes). *Iron Tr R* 71:585-6 Ag 31 '22; Same. *Foundry* 50:799-800 O 1 '22; Discussion. *Stahl & Eisen* 42:1843-7 D 14 '22
- New electric furnaces operated in 1921. *Iron Tr R* 70:42 Ja 5 '22
- New electric steel furnaces at the Fiat works, Turin. *diags plan Elec R* (Lond) 91:662 N 10 '22
- Le nouveau four électrique Fiat pour la fabrication de l'acier. A. Stromboli. *il diags Génie Civil* 80:333-5 Ap 15 '22; Abstract. *Elec W* 79:1232 Je 17 '22
- Operating of basic electric furnaces. M. W. Caruthers. *Iron Age* 109:17-19 Ja 5 '22
- Pacific coast favors electrical operations. L. J. Barton. *Foundry* 51:105-7 F 1 '23; Same. *Iron Tr R* 72:435-7 F 8 '23
- Present status of the electric furnace. J. A. Mathews. *Blast F & Steel Pl* 10:542-4 N '22; Same. *Iron Tr R* 71:1203-5 N 2 '22; Same. *Chem & Met Eng* 27:872-4 N 1 '22; Same abr. *Iron Age* 110:1127+ N 2 '22; Same abr. *Elec W* 80:1091-2 N 18 '22
- Les progrès de la fabrication de l'acier au four électrique. C. de Coussergues. *Soc Ing Civils Bul* 76:423-45, pl 44 Ap '23
- Progress of electric steel furnace. E. T. Moore. *Blast F & Steel Pl* 10:37-41 Ja '22
- Reducing railway maintenance costs with an electric furnace. *il Elec Ry J* 61:671-6 Ap 21 '23
- 7-ton Heroult furnace of the improved design. *diags Iron Tr R* 69:1694 D 29 '21; *Foundry* 50:85-6 Ja 15 '22; *Iron Age* 109:325 F 2 '22
- 17.4 lb. of steel annealed per kilowatt-hour. A. S. Dauch. *il Elec W* 79:579-80 Mr 25 '22
- Size of furnace affects costs. L. J. Barton. *Iron Tr R* 73:1309-10 N 8 '23
- To melt steel in a new induction furnace. H. A. Winne. *il diags Foundry* 50:8-9 Ja 1 '22; Same. *Iron Tr R* 70:138-9 Ja 12 '22
- When to use acid and basic lined furnaces. F. H. Sweet. *il Elec W* 80:998-9 N 4 '22

See also Electric furnaces, Heat treating

Testing

- Electric furnace tests. E. T. Moore. *Elec W* 82:698 O 6 '23; Abstract. *Ind Eng* 81:483 O '23

Electric fuses

- Artic fuse units. *diags Electrician* 89:190 Ag 18 '22
- Copper fuses used for transformers. G. M. Hardy. *Elec W* 79:886 My 6 '22
- Cutting down the blowing out of fuses. *Management Eng* 4:404 Je '23
- Empire high tension fuse. *il Electrician* 88:752 Je 23 '22
- Flameproof fuse box. *il Coal Age* 23:897-8 My 31 '23

- Fuse problem common to all who make or sell appliances. H. T. Bussman. *Elec W* 79:740 Ap 15 '22
- Fuse protection for motors. W. E. Seward. *il Ind Eng* 81:85-8+ F '23
- Fuse to prevent motor from running single-phase and thus burning up. *il diags Coal Age* 20:723 N 3 '21
- Fuses. *il Elec R* (Lond) 89:703-4 N 25 '21
- Fuses and conductors easily selected for motor groups. W. S. Jones. *Power* 56:44 J1 11 '22
- Fuses for alternating current circuits. H. D. Matthews. *Power Pl Eng* 25:1153 D 1 '21
- Fuses tested for 66,000-volt transformers. R. M. Freeman. *Elec W* 80:996-7 N 4 '22
- Fusing potential transformers. C. M. King. *Power* 58:283-4 Ag 21 '23
- Revision of the 660-watt rule. C. W. Mitchell. *J Elec* 51:292-3 O 15 '23
- Safe automatic control of circuit fusing. J. M. Fried. *Elec W* 80:1135-6 N 25 '22
- Simple method for selecting the size of fuses for motors. L. W. Going. *il Ind Eng* 80:416-19+ S '22
- Trouble caused by heating of ferrule-type fuses in single finger clips. H. Mulford. *Ind Eng* 81:317 Je '23
- Venting protection for renewable fuses. *il Power Pl Eng* 26:784 Ag 1 '22
- Waste and loss in the fuse-plug situation. W. W. Merrill. *Elec W* 80:1016-17 N 4 '22

Electric generators

- Brooks Sayers dynamo. *diags Elec R* (Lond) 93:338 Ag 31 '23
- Calculating generator capacity for use as condenser to correct power factor. R. W. Lloyd. *Ind Eng* 81:163 Mr '23
- Central-station generator ratings total 17,715,484 kva. *Elec W* 82:283 Ag 11 '23
- Design of structural supports for turbogenerators. E. H. Cameron. *il diags Am Soc C E Pro* 49:37-52 Ja '23; Abstract. *Power* 57:154-5 Ja 23 '23; Discussion. *Am Soc C E Pro* 49:271-8, 581-2, 782-6, 993-6 F-M'y '23
- Dynamo design and construction. A. H. Avery. 263p Funk & Wagnalls co., New York '23
- Dynamo; its theory, design, and manufacture. C. C. Hawkins. 6th ed., rev. 2v. Pitman '22 '23; Review by M. Walker. *Electrician* 89:240-1 S 1 '22
- Dynamos and motors of comparatively small outputs. J. W. Bureleigh. *Elec R* (Lond) 91:406-7, 459-60 S 22-29 '22
- Effect of transient voltages on dielectrics. F. W. Peek, jr. *il diags Am Inst E E J* 42:623-30 Je '23; Abstract. *Elec W* 81:1135-6 My 19 '23; Discussion. *Am Inst E E J* 42:1357-62 D '23
- Erector's instructions for installing engine-type generators. J. Dixon. *Elec W* 79:187-8, 437 Ja 28, Mr 4 '22
- Evolution of electric power equipment; pictorial section. *Elec W* 80:531-8 S 9 '22
- Flux distribution in air gap and teeth of dynamos. A. Still. *diags Electrician* 88:152-3, 187-8 F 10-17 '22
- Foreign and American turbo generator practice are compared. F. D. Newbury. *Power Pl Eng* 27:205 F 1 '23
- Generators: care and operation. *diags Power Pl Eng* 26:78-85 Ja 1 '22
- Generators for bus lighting. *il Bus Transportation* 1:601 N '22
- Generators for charging batteries. H. M. Phillips. *Power Pl Eng* 26:570-2 Je 1 '22
- Operating features of generating equipment. V. E. Johnson. *diags Power Pl Eng* 27:277-9, 376-80, 526-8 Mr 1, Ap 1, My 15 '23
- Operation of generators as synchronous condensers. M. Penn. *Elec J* 26:196-7 Je '23
- Overloaded generator; measure capacity by temperature, take advantage of liberal design, and unsafe conditions. H. M. Phillips. *Power* 56:642-4 O 24 '22
- Probable limits of electric generators and superpower plants for Germany; abstract. W. Reichel. *Mech Eng* 43:739 N '21; Same. *Sci Am* 126:51 Ja '22
- Recommendations of Electric power club for installation and care of motors and generators. *il Ind Eng* 81:540-4+ N '23
- Reproducing lightning with two million volts. *il diags Power Pl Eng* 27:733-40 J1 15 '23

Electric generators—Continued

Sayers dynamo. W. E. Sayers. *il Elec R (Lond)* 91:351-3 S 8 '22
 Sources for power for three-wire direct-current systems. M. S. Hancock. *diags Elec J* 20:267-9 J1 '23; Same cond. *Power Pl Eng* 27:831-3 Ag 15 '23
 Wind-power for the generation of electricity. *il Electrician* 88:509 Ap 28 '22

See also Armatures; Commutators; Electric machinery; Electric motor generators; Electric plants; Hydroelectric plants

Cooling

Closed air circuit system of ventilation. J. G. Monson. *diag Gen Elec R* 25:750-4 D '22
 Closed-circuit ventilating system for cooling turbo-generator. C. R. Beardsley. *diags Elec W* 79:735-6 Ap 15 '22
 Cooling of turbine generators. A. R. Smith. *il diags Gen Elec R* 25:724-8; 26:83-7, 298-303, 554-9 D '22, F. My. Ag '23; Same cond. *Mech Eng* 45:435 J1 '23
 Cooling of turbo-generators. G. E. Luke. *Elec W* 82:70-2 J1 14 '23
 New type of generator air cooler employs condensate. *Power* 57:408 Mr 13 '23

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Restoring flooded generators to service. *Elec W* 81:699 Mr 24 '23

Excitation

Charging transmission lines. A. W. Copley. *Elec W* 82:426-7 S 1 '23

Failures

Equipment failures in England. *Elec W* 82:487 S 8 '23
 Plant breakdowns. *Elec R (Lond)* 93:155-6, 191 J1 27-Ag 3 '23
 Plants of Ontario hydroelectric commission seriously damaged. *il J Elec* 48:460 Je 1 '22

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Protection

Experience with fire-fighting equipment for generators. *Power* 58:198 J1 31 '23
 Extinguishing generator fires with CO₂. T. H. Soren. *il diag Elec W* 80:1089-91 N 18 '22
 Extinguishing generator fires with CO₂. J. B. Wheeler. *il diags Elec W* 80:165-7 J1 22 '22
 Protection of electrical equipment. V. H. Todd. *il diags Power Pl Eng* 27:1083-7 N 1 '23
 Switch prevents electrolytic load reversing generator voltage. R. H. N. Lockyer. *diag Elec W* 78:981 N 12 '21

See also Electric generators, Alternating current—Protection

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Meeting the emergency at Logan. *il Power* 58:736 N 6 '23

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Finding way to start standby generators for power-factor correction. C. R. Reid. *Elec W* 79:686-7 Ap 8 '22

Temperature

Temperature measurement in turbogenerators. R. T. Pierce. *il diags Elec J* 19:340-1 Ag '22
 Testing installed generators to determine temperature ratings. E. C. Soares. *Elec W* 79:388 F 25 '22

See also Electric generators—Cooling; Electric generators, Alternating current—Temperature

Testing

Equipment for testing turbines and generators. C. O. Schooley. *il Elec J* 19:165-6 Ap '22
 Factory tests of turbines and generators. *il Power Pl Eng* 26:367 Ap 1 '22
 Testing motors, generators and transformers. K. C. Coggeshall. *il Pop Mech* 37:456-8 Mr '22

Electric generators, Alternating current

Alternating-current generators. W. J. Foster. *il Gen Elec R* 26:363-7 Je '23

Behavior of a.c. generator when field circuit is opened. *Power* 56:774-5, 949-50; 57:110-11, 148 N 14, D 12 '22, Ja 16-23 '23

The blondelin; a kinematic device which indicates the performance of polyphase synchronous generator or motor. V. Karapetoff. *il diags Am Inst E E J* 42:231-16 Mr '23; Abstract. *Elec W* 81:444 F 24 '23

Building Queenston generators. *il Can Chem & Met* 6:105-8 My '22

Cutting in a new alternator. W. M. Milton. *Power Pl Eng* 26:1018-19 O 15 '22

Description of the 45,000-kv-a. Queenston generators. B. L. Barns and F. Bowness. *il diags Am Inst E E J* 41:459-63 Je '22; Discussion. 41:890-3 N '22

Design of 45,000-kv-a generators. Queenston plant. R. A. McCarty and H. U. Hart. *il diags Am Inst E E J* 41:698-701 S '22; Discussion. 41:890-3 N '22

Development of an alternating-current system; incidents in the history of the United electric light & power co. F. W. Smith. *Elec W* 80:555-7 S 9 '22

40,000-kv-a. Shawinigan Falls waterwheel generator. J. R. Johnson. *il diag Gen Elec R* 26:263-8 My '23

45,000 kv-a waterwheel generators for the Queenston (Ontario) generating station. H. U. Hart. *il diag Elec J* 19:320-3 Ag '22

Gas-driven alternators for South Africa. *il diags Engineer* 136:44-7, 64-5 J1 13-20 '23

Generator voltage regulators—alternating-current type. J. H. Ashbaugh. *il diags Power* 58:488-91 S 25 '23

Improved generator connections. A. A. Fette. *diags Power* 58:146 J1 24 '23

Large turbo-alternators at Gennevilliers; the 40,600-kW alternators of the Société Alsacienne. *il diags Elec R (Lond)* 92:604-6, 646-7 Ap 20-27 '23

Largest German generator has unusual proportions. *Pop Mech* 36:827 D '21

Mechanical construction of a 60,000 kVA turbo-generator. A. Zehring. *diag Electrician* 87:709 D 2 '21

Method of improving the voltage wave shape of an alternator by external circuits. E. W. Marchant and T. H. Turney. *Engineering* 116:444-6 O 5 '23; Abstract. *Elec R (Lond)* 93:551 O 12 '23; Discussion. *Engineering* 116:557, 592 N 2-9 '23; *Elec R (Lond)* 93:551, 678-9 O 12, N 2 '23

New Queenston-Chippawa generators. *il Elec R (Lond)* 91:105 J1 21 '22

La nouvelle usine hydro-electrique du Niagara a Queenston (Canada); groupes turbo-alternateurs de 55 000 chevaux. P. Calfas. *il diags map Génie Civil* 82:49-53 Ja 20 '23

One solution of the frequency problem. C. Sutton. *diags Elec R (Lond)* 89:700-2 N 25 '21; Discussion. 89:745-6, 817 D 2, 16 '21

Operation and maintenance of alternating current generators. R. Brown. *Power* 56:605-6 O 17 '22

Periodic inspection, cleaning, and testing of alternating-current generators. *Gen Elec R* 26:652-4 S '23

Power factor and slip of an induction generator. T. W. Dann. *diags Engineering* 116:282 Ag 31 '23

Preventing burned spots on collector rings. *Power* 56:623 O 17 '22

Putting alternators into service after excitation has been lost. *Power* 57:183, 340-1, 414-15 Ja 30, F 27-Mr 13 '23

65,000-kva. generator design. R. Pohl. *il diag Elec W* 82:229-30 Ag 4 '23

Some problems in high-speed alternators and their solution. J. Rosen. *diags plans Inst E E J* 61:439-58 Ap '23; Same cond. *Elec R (Lond)* 92:312-13, 351-2 F 23-Mr 2 '23; Same cond. *Engineer* 135:210-11 F 23 '23; Discussion. *Inst E E J* 61:458-76, 869-89 Ap, Ag '23; *Elec R (Lond)* 92:551-2, 595-6, 755-6 Ap 6-13, My 11 '23

Steam turbo-alternator. L. C. Grant. 260p Pitman '21

20,000-kw. steam turbine for Shanghai. *il diags Engineering* 116:38-42, pl 4 J1 13 '23

Electric generators, Alternating current—Cont.

Voltage and load control of alternators. Coal Age 23:819 My 17 '23

Waterwheel generators and synchronous condensers for long transmission lines. M. W. Smith. *il* diags Am Inst E E J 42:894-903 S '23

Parallel operation

Automatic synchronising gear. *diag* Engineer 134:253 S 8 '22

Hunting of alternators in parallel. J. Fischer-Hinnen. *diag* Electrician 89:185-7 Ag 18 '22

Operating alternating-current generators in parallel. R. Brown. *diags* Power 57:435-7, 558-60 Mr 20, Ap 10 '23

Operating alternators in parallel. H. B. Drowne. *Power* 55:944 Je 13 '22

Phasing out alternators and parallel operation. F. C. De Weese. *diags* Power Pl Eng 27:424-7 Ap 15 '23; *Discussion*. 27:596-7, 646-7 Je 1-15 '23

Synchronous operation of alternators through capacitance; synchronizing effect of two parallel transmission lines. T. Nishi. *diags* Gen Elec R 25:146-50 Mr '22

Why cannot the generators be connected in parallel? A. Bankes. *diag* Power 55:789 My 16 '22

Protection

Protective apparatus for turbo-generators. J. A. Kuyser. *diags* Inst E E J 60:761-76 JI '22; *Same cond.* Engineer 133:563-4 My 19 '22; *Same cond.* Electrician 88:531-2 My 5 '22; *Excerpts.* Elec R (Lond) 90:678-9 My 12 '22; *Discussion.* Inst E E J 60:777-90, 899-901 JI-Ag '22; *Electrician* 88:533-4 My 5 '22; *Elec R* (Lond) 90:679-81, 749-50 My 12, 26 '22

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Changing a two-phase 2200-volt generator to operate at three-phase 220 volts. A. C. Roe. *diags* Ind Eng 80:453-4 S '22

Reconstruction of the umbrella-type generators at Niagara Falls. M. W. Smith. *il* diags Elec J 19:342-5 Ag '22

Starting

Instructions for starting turbo-generators. Elec W 82:184-5 JI 23 '23

Motorizing a three-phase 600-Kva. alternating-current engine-driven generator. *Power* 57:529-30, 649, 771, 807 Ap 3, 24, My 15-22 '23

Starting and loading an electric-ship-propulsion turbo-alternator. A. M. Charlton. *diags* Power 58:256-8 Ag 14 '23

Starting turbo-alternators and putting them in service. G. M. Mankin. *Power* 57:444-6 Mr 20 '23

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Heat losses in stranded armature conductors. W. V. Lyon. *Am Inst E E J* 41:37-49 Ja '22; *Discussion*. 41:744-7 O '22

Probable values of conventional allowance for a.-c. generator stator windings. F. D. Newbury. *diags* Am Inst E E J 41:636-45 S '22; *Discussion*. 41:958-64 D '22

Temperature indicators for turbo-generators. *Power* 58:344 Ag 28 '23

Temperature limits of large alternators. G. A. Juhlin. *diags* Eng & Ind Management 6:470-4+ O 27 '21

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Apparatus for demonstrating the magnetomotive forces produced by single-phase and polyphase windings. R. D. Archibald. *diags* Inst E E J 61:376-81 Mr '23

Short-circuit test on a 40,000-kVA turbo-alternator. *diag* Elec R (Lond) 92:686-7 My 4 '23

Trials of a turbo-generator at the Dalmarnock power station. *Engineering* 116:266-7, 467 Ag 31, O 12 '23

Electric generators, Direct current

Causes of reversed polarity in direct current generators. C. Lynn. *diags* Power 57:51-3 Ja 9 '23

Commutation in continuous current dynamos. A. Still. *diags* J Fr Inst 193:657-91 My '22

Conditions that may cause reversed polarity in d.-c. generators. C. Lynn. *diags* Power 56:755-7 N 14 '22

Continuous-current generator for high voltage. S. R. Bergman. *il* diags Am Inst E E J 42:1041-5 O '23; *Discussion*. 42:1355-6 D '23

Converting a direct-current generator into a motor. E. H. Thompson. *diags* Power 54:843 N 29 '21

Correcting reversed polarity on d.c. generators. *Elec W* 81:1281 Je 2 '23

Direct-current machinery. H. Pender. 314p Wiley '22

Interpole vs. non-interpole machines. P. G. Bernholz. *Power Pl Eng* 27:427 Ap 15 '23

New type of direct current machine. A. Rothert. *diags* Electrician 89:560-2 N 17 '22

Operating features of generating equipment. V. E. Johnson. *diags* Power Pl Eng 27:736-7 JI 15 '23

Reversing rotation of direct-current generator. E. H. Thompson. *diags* Power 55:20 Ja 3 '22

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Operating two direct-current stations in parallel. G. F. White. *diag* Power 56:84-5 JI 18 '22

Parallel operation of commutating-pole motors and generators. C. B. Hathaway. *diags* Elec J 19:263-5 Je '22; *Same.* *Power Pl Eng* 26:859-61 S 1 '22

Parallel operation of direct-current generators. S. Hancock. *diags* Elec J 20:90-4 Mr '23; *Same abr.* *Power Pl Eng* 27:684-7 JI 1 '23

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Troubles of d.c. machines—diagnosis and remedies. H. E. Stafford. *Ind Eng* 80:430-2 S '22

Electric hammers

Electric hammer. P. Trombetta. *il* diags Am Inst E E J 41:297-305 Ap '22

Electric hammer has one moving part. *il* Pop Mech 40:925 D '23

Kron portable electric hammer. *il* Am Mach 58:55 Ja 4 '23

Electric heaters

Berwick electric heater for forging. *il* Am Mach 56:869 Je 8 '22

Electric heater softens cork composition and maintains uniform temperature. A. Kochs. *diag* Elec R 80:139-40 Mr '22

Electric heater suspended from light socket. *il* Pop Mech 40:117 JI '23

Electric heating advance rapid. F. A. Hansen. *Iron Tr R* 72:512-14 F 15 '23

Energy distribution of radiant electric heaters. C. F. Wagner. *diags* Elec J 19:116-17 Mr '22

Home-made electric heater. G. F. White. *diag* Power 54:832 N 29 '21

How to heat a plating tank. A. E. Shepherd. *il* diag Brass W 18:120 Ap '22

Igranic tubular heater. *il* Electrician 88:77-8 Ja 20 '22

Large electric fires and cookers. F. H. Howell. *Elec R* (Lond) 91:656-7; *Discussion*. 657 N 10 '22

Novel applications of electric heaters. T. W. Reynolds. *il* diags Heat & Ven 19:56-7 O; 57-9 N '22

Substantial electric radiant heater. *diag* Pop Mech 38:982 D '22

See also Electric furnaces; Electric heating; Electric ovens; Electric stoves; Electric water heaters; Sand heaters

Directories

Electric radiator and heater directory. *J Elec* 51:179-80, 300-1 S 1, O 15 '23

Merchandizing

Domestic development of electric air heater sales. W. B. Eastwood. *il* Elec R 79:801-6 N 26 '21

Electric heating

Analysis of data on cooking, water and air heating. J. W. Wrenn. *J Elec* 50:413-16 Je 1 '23

Another house heated by electricity. L. Codd. *Heat & Ven* 20:73 F '23

Electric heating—Continued

- Determination of heat loss from buildings, with special reference to electrical heating. Elec R (Lond) 90:603-4 Ap 28 '22
- Electric heating. J. Frith. Elec R (Lond) 89: 831 D 16 '21
- Electric heating from the point of view of the central station. A. Strauch. J Elec 48: 238-9 Mr 15 '22
- Electric heating of houses sometimes practicable; experience at Tacoma. Can Eng 43:176 J1 25 '22
- Electric heating of residences. Am Arch 122: 340 O 11 '22
- Electric heating of residences in Tacoma. il Heat & Ven 19:41-5 Ap '22
- Electric house heating in West. Gas Age 51: 592 My 5 '23
- Electrical heating of industrial plants. J. L. M. Yardley. il diags Heat & Ven 20:39-42 My '23
- Gas and electric heating for dwelling houses. C. L. Hubbard. il diags Bldg Age 44:46-7 D '22
- Heating a cotton weave shed by electricity. C. T. Guildford. il diag charts Am Inst E E J 42:582-8 Je '23
- Increasing the use of electricity for cooking and heating. F. H. Woodward. J Elec 48: 385-8 My 15 '22
- Limits of electric house heating. E. A. Loew. il Elec W 79:623-5 Ap 1 '22
- Oregon professor holds electric house heating impractical and uneconomical. J Elec 50:46-7 Ja 15 '23
- Progress of electric heating. il diags plans Heat & Ven 19:49-52 F '22
- Rise of electricity in home heating. O. H. Bathgate. Heat & Ven 20:49-51 Ag '23
- Salient features of the use of electricity in cooking, water heating and house heating. Am Soc Heat & V E J 27:781-2 N '21
- Snares of electric heating and salient features of electric cooking. S. S. Wyer. il Gas Age 48:732-8 N 26 '21
- Successful use of electricity for house heating in Peru. A. S. Kalenborn. il J Elec 48: 156-7 F 15 '22
- 27 forward strides in electric heating. R. Trautschold. il Factory 29:147-9 Ag '22
- Warming by low-temperature electric panels. Elec R (Lond) 92:766-7 My 18 '23
- See also Boilers—Electric heating; Electric furnaces; Electric heaters; Electric stoves; Electric water heaters

Costs

- Electric heating of residences in Tacoma. il Heat & Ven 19:41-5 Ap '22
- Heating a cotton weave shed by electricity. C. T. Guildford. il diag charts Am Inst E E J 42:585-6 Je '23

Electric heating, Industrial

- Apparatus for electrically heating liquid and solid chemicals. il diags Engineering 112: 852-3 D 23 '21
- Applying electricity to the metal-melting pot. il Sci Am 126:33 Ja '22
- L'avenir de la gazéification électrique des combustibles. Génie Civil 81:372-3 O 21 '22
- Big strides made in industrial electric heating. J. L. M. Yardley. il Elec W 81:33-5 Ja 6 '23
- Development of industrial electric heating for low temperature enameling. W. S. Scott. il Am Electrochem Soc Trans v 42 (preprint 18):173-86 S '22; Same. Can Chem & Met 6:265-8 D '22
- Electric heat for the type-metal pot. il Sci Am 129:321 N '23
- Electric heat for thermal processes. E. F. Collins. il Chem Age 30:27-8 Ja '22
- Electric heat for thermal processes. E. F. Collins. il diag J Ind & Eng Chem 14:101-4 F '22
- Electric heat, its generation, propagation and application to industrial processes. E. F. Collins. Am Electrochem Soc Trans v 42 (preprint 22):233-60; Discussion. 260a-f S '22
- Electric heating by ironless induction. E. F. Northrup. diags Gen Elec R 25:656-66 N '22
- Electric tire-heating apparatus. il Sci Am 127: 310 N '22

- Electricity applied to industrial heating at Montreal convention of American electrochemical society. Iron Age 110:799-802 S 28 '22
- Electrochemists study electric heat at Montreal convention of American electrochemical society. Iron Tr R 71:863 S 28 '22
- Field of electric heat treating extending rapidly. Elec W 79:130 Ja 21 '22
- Handling of industrial electric heating apparatus by the central station; report of power sales bureau. W. S. Scott. N E L A Bul 9:624-5 O '22
- Heating cast rolls electrically. G. Fox. chart diags Iron Tr R 73:665-8 S 6 '23; Same. Engineering 116:283-4 Ag 31 '23; Same cond. Iron Age 112:974-6 O 11 '23
- Heating tires electrically for shrinking. F. P. Mann. il Am Mach 58:879-80 Je 14 '23
- Heats patterns electrically. C. A. Cremer. il Foundry 51:141-3 F 15 '23
- Industrial electric heat applications. J. L. M. Yardley. il diag Elec W 81:967-9, 1087-90 Ap 28, My 12 '23
- Industrial electric heating. J. W. Beauchamp. 118p Pitman '23
- Industrial electric heating. E. B. Criddle and F. O. Slevers. J Elec 50:416-18 Je 1 '23
- Industrial electric heating for factories. W. S. Scott. il Elec J 19:203-8 My '22
- Industrial electrical heating; its present position and future prospects; abstracts. J. G. Pearce. Elec R (Lond) 90:461-2 Mr 31 '22; Engineer 134:226 S 1 '22
- Industrial heating by electricity. Chem & Met Eng 27:679-81 O 4 '22
- Industrial heating installations show satisfactory results. E. Kramer. J Elec 48:383-5 My 15 '22
- Industrial heating of prime importance. Elec W 81:1339-40 Je 9 '23
- Marked interest in electric ovens at American electrochemical meeting. Elec W 80:769-72 O 7 '22
- Methods of making press fits on shafts that insure a good job. N. L. Rea. il diags Power 57:392-4 Mr 13 '23
- Plans for development of industrial heating. Elec W 82:32 J1 7 '23
- Possibilities of load building by industrial heating operation. C. K. Nichols. Elec J 19:175-6 My '22
- Predict future of electrical heating. Foundry 51:350 My 1 '23
- Study core oven heat loss. C. F. Mayer. il diags Foundry 50:839-43, 885-8 O 15-N 1 '22
- Swiss portable electric tire heater. il Ry Mech Eng 97:777-8 N '23
- Use of electric heat in the railway shop. E. F. Collins. il Ry R 71:69-73 J1 15 '22

See also Boilers—Electric heating; Electric furnaces; Electric furnaces, Heat treating; Electric heaters; Electric ovens; Electric water heaters; Electric welding, Arc; Foundries—Electric equipment

Study and teaching

- Industrial heating courses begin Jan. 4. Elec W 73:1339-40 D 31 '21
- Industrial heating education. C. R. Riker. Elec J 19:184-5 My '22
- Electric hoisting.** See Hoisting machinery; Mine hoisting, Electric
- Electric home exhibitions.** See Electric industries—Electric home exhibitions
- Electric ignition**
- Form of the temperature wave spreading by conduction from point and spherical sources; with a suggested application to the problem of spark ignition. E. T. Jones, J. D. Morgan and R. V. Wheeler. Philos Mag 6th ser 43:359-68 F '22
- Lighting gas by electricity. G. E. Swartz. diag Ind Eng 80:543-4 N '22
- Some observations on the ignition of combustible gases by electric sparks. J. D. Morgan. Philos Mag 6th ser 45:968-75 My '23
- See also Airplane engines—Ignition; Gas and oil engines—Ignition; Spark gap
- Electric incubators.** See Incubators, Electric

Electric industries

- All-electric age. A. G. Whyte. 242p Constable & co., 10 Orange st., Leicester sq., W.C. 4, London '22
- Analyzing the Christmas buying. R. E. Neustadt. J Elec 51:290-1 O 15 '23
- Blanketed distribution—the other side. F. M. Bernardin. Elec W 80:198-9 J 12 '22
- Breaking into the electrical industry. Elec W 81:1494-5 Je 23 '23
- Broadest distribution channels best for growth of entire industry. J Elec 49:234-5 O 1 '22
- Business conditions in the electrical industry on the upgrade. R. M. Davis. Elec W 79:939-41 My 13 '22
- Business development. H. A. Lane. Gen Elec R 25:337-40 Je '22
- Case for the electrical jobber. O. D. Street. Elec W 79:271-3 F 11 '22
- Central station vs. electrical contractor-dealer. C. C. Baines. Elec R 79:950-1 D 24 '21
- Conditions in Europe that affect American electrical exporters. J. McElroy and P. S. Smith. il map Elec W 79:1264-6 Je 24 '22
- Contractor-dealer as a credit risk. R. E. Chatfield. J Elec 51:90-2 Ag 1 '23
- Co-operation the keynote of expansion. H. C. Henrici. Elec W 81:44 Ja 6 '23
- Corporation and the workers; telling them where the company's money goes. C. M. Ripley. il diags Am Ind 23:15-17 S '22; Same cond. Elec W 79:1281-2 Je 24 '22
- Developing an export business. Elec W 82:103 J 14 '23
- Development of the electrical business; symposium. H: L. Doherty and others. Elec W 79:1005-6 My 20 '22
- Development of the "other uses" business. L. L. Robinson. il Electrician 89:342-3 S 29 '22
- Distribution in export trade. P. S. Smith and W. L. Urquhart. il Elec W 81:913-17 Ap 21 '23
- Distribution of electrical products on the Pacific coast. E. A. Kincaid. map J Elec 51:281-5 O 15 '23
- Distribution—the manufacturer's viewpoint. J. S. Tritle. Elec W 82:886-7 O 27 '23
- Effect upon credit of new lines of merchandise such as radio. A. F. Hearl. Elec W 82:459-60 S 1 '23
- Electrical dealer's problem. C. W. Fritz. J Elec 50:53-4 Ja 15 '23
- Electrical industry and the radiophone boom. H. C. Hopkins. J Elec 48:281-2 Ap 1 '22
- Electrical jobber's service. il J Elec 49:285-6 O 15 '22
- Electrical manufacturing industry. A. W. Berresford. Elec W 79:428-9 Mr 4 '22
- Electricity's service to industry. L: F. Leurey. J Elec 49:290-2 O 15 '22
- Experience in schooling dealers. G: R. Purvis. Elec W 82:511-12 S 8 '23
- Export organisation; advice to the smaller manufacturer. L. Gorini. Elec R (Lond) 92:951-2 Je 15 '23
- Facts on the value of wholesale business. O. D. Street. Elec W 81:391-4 F 17 '23
- Failures among jobbers—a warning. E. W. Rockafellow. Elec W 81:744-5 Mr 31 '23
- Fighting the high cost of small orders. J. C. Belden. Elec W 81:304-5 F 3 '23
- Finance company and the contractor-dealer. C. W. Fritz. J Elec 51:92-3 Ag 1 '23
- Financial relations of the jobber with his customers. S. B. Anderson. J Elec 50:175-6 Mr 1 '23
- Friendship of the architect as an asset. D. Whittle. Elec R 79:895-6 D 10 '21
- Functions of a merchandising department. C. E. Greenwood. Elec W 80:671-2 S 23 '22
- Future of electrical industry discussed at N.E.L.A. section meetings. S. W. Bishop. il J Elec 50:140-1 F 15 '23
- Getting a classified list of appliance prospects. J Elec 51:99-100 Ag 1 '23
- Guiding exports by past performances. S. H. Day. Elec W 81:1381-2 Je 9 '23
- High cost of list-price changes. Elec W 82:563-4 S 15 '23
- Ideas that helped this industry kill its summer slump. F. M. Cockrell. Ptr Ink 119:161-2+ Je 1 '22
- Influence of credit analysis on earnings. E. W. Shepard. Elec W 82:358-9 Ag 18 '23
- Jobber and his future. F. S. Price. Elec W 80:299-300 Ag 5 '22
- Jobber must produce volume sales of specialties as well as staples. Elec W 79:741 Ap 15 '22
- Jobber's territory—what should it be? O. F. Rost. Elec W 80:148-9 J 15 '22
- Jobbing craze among dealers. Elec W 79:1181 Je 10 '22
- Let the electrical manufacturer, jobber and dealer stick to his trade. W. C. Bryant. Elec W 79:340-1 F 18 '22
- Local co-operation. H. K. Taunton. Elec R (Lond) 91:437-9 S 29 '22
- Local interdependence of all electrical men. W: H. Atkins. Elec W 79:959-60 My 13 '22
- Make it easy for prospects to become customers. J Elec 50:298-9 Ap 15 '23
- Manufacturer, jobber and contractor-dealer. G. E. Tripp. Elec W 79:1007-8 My 20 '22
- Need for organization in the radio business. C. J. Litscher. Elec W 79:841 Ap 29 '22
- Net prices versus list and discount. Elec W 80:1358-9 D 16 '22
- New trend in our commercial thinking; interpretation of the recent conference of local electrical leagues and the Western New York state conference. E. E. Whitehorne. Elec W 80:869-72 O 21 '22
- Obtaining better credit information. J. S. Thomas. Elec W 82:408-9 Ag 25 '23
- Organisation of the electrical industry. Elec R (Lond) 92:885-6 Je 8 '23
- Our largest potential foreign customer; Great Britain. C. Brown. Elec W 81:127-8 Ja 13 '23
- Plan to finance the electrical retailer locally. H. A. Lewis. Elec W 80:225-7 J 12 '22
- Present tendencies in the electrical industry. H. D. Shute. Elec J 19:1-3 Ja '22
- Price, selling cost and the non-electrical distribution. W. R. Herstein. Elec W 81:361-2 F 10 '23
- Problems confronting electrical apparatus manufacturers. R. J. Russell. Elec W 78:1221-2 D 17 '21
- Problems confronting the industry. F. Osgood. Elec J 19:176-7 My '22
- Progress of industry handicapped by lack of engineers. L: F. Leurey. J Elec 48:195-6 Mr 1 '22
- Pruning the wiring-device line. E. E. Whitehorne. il Elec W 81:1004-5 Ap 28 '23
- Quality in product and in salesmanship. R. J. Russell. Elec W 80:1072-3 N 11 '22
- Radical changes are taking place in electrical development. T. E. Bibbins. J Elec 48:307-9 Ap 15 '22
- Radio equipment a promising line for electrical dealers. E. W. Stone. J Elec 47:429-30 D 1 '21
- Reduction of the jobbing line. W. I. Bickford. Elec W 81:1174-5 My 19 '23
- Relative possibilities of electricity in different trades and classes of consumer. H. W. Gregory. Elec R (Lond) 92:512 Mr 30 '23
- Sales force for a scattered territory. W. E. Prosser. Elec W 80:438 Ag 26 '22
- Sentiment for simplification spreading among electrical manufacturers and jobbers. Elec W 81:1438-9 Je 16 '23
- Service—the electrical manufacturer's point of view. il J Elec 49:283-4 O 15 '22
- Shall we go back to bootlegging new products? E. McCleary. Elec W 82:732-3 O 6 '23
- Shorter cuts for fixture dealers to surer sales. W: B. Eastwood. Elec R 79:943-4 D 24 '21
- Small manufacturer's pressing distribution problem. Elec W 79:1282 Je 24 '22
- Some undiscovered markets for electricity in illumination. W. L. Frost. J Elec 48:407-8 My 15 '22
- Theory and practice of salesmanship. W. Attwood. Elec R (Lond) 91:783-4. S62. 957 N 24. D 8. 22 '22
- To untangle our distribution snarl; ten things the jobber should do. E. E. Whitehorne. Elec W 80:63-5 J 18 '22
- Trade congestion cramps our retail selling. Elec W 80:1301-2 D 9 '22
- True function of distribution. G: P. Baldwin. Elec W 80:248-9 J 12 '22

Electric industries—Continued

- Way to increase jobbers' profits. C. L. Matthews. Elec W 80:1470-1 D 30 '22
 What the association can accomplish through education. L. W. Davis. J Elec 48:234-6 Mr 15 '22
 Why should we chase prices down the spiral? L. Clark. Elec W 79:1081 My 27 '22
 Will the electrical jobber endure? W. E. Robertson. Elec W 80:1073-4 N 11 '22

See also Electric apparatus and appliances; Electric contractors; Electric engineering; Electric heating; Electric lighting; Electric meters; Electric plants; Electric plants (central stations); Electric power; Electric shops (retail trade); Electric utilities; Electric welding; Electricity in mining; Electrochemical industries; Electrochemistry; Electrometallurgy; Electroplating; Farm lighting plants; Radio apparatus industry; Washing machines, Electric; also Edison industries; General electric company; Philadelphia electric company; Western electric company; Westinghouse electric and manufacturing company; also Council on industrial relations for the electrical construction industry in the United States and Canada

Accounting

- Correct knowledge of overhead cost is needed. F. V. Mitchell. J Elec 51:96 Ag 1 '23
 Standard accounting system for contractor dealers. V. G. Fullman. Elec R 79:949-50 D 24 '21
 Study of jobbers' sales and costs. E. E. Whitehorne. Elec W 79:577-9 Mr 25 '22
 Uniform classification of accounts for electrical utilities. 118p State law reporting co., New York '22
 Uniform system of accounts for electrical corporations. 3d ed. 129p National association of railway and utilities commissioners. New York '21
 University course in practical cost accounting. P. B. Kelly. J Elec 46:294-6, 348-50, 448-50; 47:271-3, 431-2 Mr 15-Apr 1, My 1, O 1, D 1 '21

Advertising

- Advertising and the electrical dealer. E. L. Andrew. il J Elec 49:324-5 N 1 '22
 Building advertising on the foundation of a common interest. il Elec W 79:1164-6 Je 10 '22
 Contractor-dealer and his advertising plan. W. D. Moriarty. J Elec 48:67, 117, 165 Ja 15-F 15 '22
 Co-operative advertising to encourage individual campaigns. E. B. Weiss. Ptr Ink 122:49-50+ Ja 18 '23
 Cooperative effort in educating the community; a summary of the duties of a cooperative league. K. A. McIntyre. J Elec 50:220-1 Mr 15 '23
 Co-operative electrical publicity. Elec R (Lond) 90:462-3 Mr 31 '22
 Effectiveness of manufacturers' literature always dependent upon method of display. il J Elec 47:436 D 1 '21
 Electrical dealers advertise their salesmen's ability to the consumer. B. A. Grimes. Ptr Ink 124:138+ Jl 5 '23
 Electrical jobber's direct-by-mail advertising. J. T. Bartlett. J Elec 50:224-5 Mr 15 '23
 Electrical selling league proves its advertising. Ptr Ink 125:157-8 O 18 '23
 Electrical society prepares Christmas sales aids. J Elec 49:368-9 N 15 '22
 Free repair week gives dealers new list of prospects. J Elec 51:25 Jl 1 '23
 Functions of the press. Elec R (Lond) 92:394 Mr 9 '23
 Helping the electrical dealer sell his merchandise. J Elec 49:408-9 D 1 '22
 Make a favorable first impression on prospects. J Elec 51:103 Ag 1 '23
 Placing electrical convenience outlets in every room. G. Young. il J Elec 50:207-12 Mr 15 '23
 Problems of good contractor-dealer advertising. W. D. Moriarty. J Elec 47:477 D 15 '21
 Relationship between advertising and merchandising. T. J. Casey. Elec R 79:939-42 D 24 '21

- Sales drive that brought a 300 per cent increase. R. Cole. Ptr Ink 120:96+ Ag 3 '22
 Sales letters are real business getting mediums. J. T. Bartlett. J Elec 48:27 Ja 1 '22
 Salesmanship conference at Newcastle. Elec R (Lond) 91:958-9 D 22 '22
 Seattle electric club presents message to city. C. A. Osier. il plan J Elec 51:221-3 S 15 '23
 Selling the cooperative organization to the trade. J Elec 50:182-4 Mr 1 '23
 Servant girl campaign of Western electric. R. Cole. Ptr Ink 121:61-2+ O 26 '22
 Store converted into big night window display. Elec R 79:951-2 D 24 '21
 Technical details made to interest the layman. Ptr Ink 121:140+ D 14 '22
 Telling the electric home story in a new way. S. W. Bishop. J Elec 49:101 Ag 1 '22
 Value of advertising as illustrated by results brought to electric companies. G. F. Oxley. N E L A Bul 10:19-21 Ja '23
 Work of associated lighting industries. H. Plaut. Elec W 82:784-5 O 13 '23
 See also Electric utilities—Advertising; Rockbestos heater cord—Advertising

Bibliography

- Where the electrical industry stands, advertisingly. Ptr Ink 120:137-8 Ag 10 '22

Dictionaries

- EMF electrical year book. 2d ed. 1502p Electrical trade pub. co., Chicago '23

Directories

- Directory of manufacturers of domestic apparatus and appliances. J Elec 51:sup34a-b, 115-16, 139, 179-80, 219-20, 297-304 Jl 15-S 15, O 15 '23
 E M F electrical year book. 2d ed. 1502p Electrical trade pub. co., Chicago '23
 See also Vacuum cleaners—Directories

Electric home exhibitions

- Alhambra's electrical home. G. C. Tenney. il J Elec 49:437-40 D 15 '22
 Denver home electric visited by 36,992 people. il J Elec 48:514-15 Je 15 '22
 Efficacy of the electrical play is demonstrated. R. G. Emerson. il J Elec 48:421 My 15 '22
 Electric home exhibitions. il J Elec 49:452-9 D 15 '22
 Electric home in Louisville is great success. il plan Elec R 79:726 N 12 '21
 Electrical home designed and built by electrical men. il Elec W 79:1279-80 Je 24 '22
 Electrical home for the electrical man. N. S. Gallison. il J Elec 49:441-2 D 15 '22
 Getting the crowds to visit the home electric. R. G. Emerson. J Elec 49:137 Ag 15 '22
 How to organize and conduct a home electric. J. E. North. il Elec W 79:475-9 Mr 11 '22
 Model electric home. il Dom Eng 104:581 S 22 '23
 New methods used in displaying electric homes. il J Elec 51:144 Ag 15 '23
 New Spanish type electrical home in El Paso. il J Elec 50:222-3 Mr 15 '23
 Review of experience in home-electric demonstrations. Elec W 79:947-9 My 13 '22
 Show exhibit versus the real electric home. J Elec 48:357 My 1 '22
 Some significant attendance data on Cleveland's electrical homes. Elec W 79:839 Ap 29 '22
 Spokane's model electrical home. R. B. McElroy. il J Elec 49:199-202 S 15 '22
 Two California electrical homes are displayed. il J Elec 50:380-3 My 15 '23

Exhibitions

- Salt Lake is scene of large electrical exposition. M. L. Cummings, jr. il J Elec 49:336-7 N 1 '22

Service

- Selling service with heavy electrical appliances. J Elec 50:24-5 Ja 1 '23
 Service that builds business. J. E. Bullard. J Elec 49:102-3 D 1 '22

Electric industries—Continued**Service stations**

Service station is a factor in merchandising.
il J Elec 51:62-3 J1 15 '23

Statistics

Business facts for electrical men; selected statistics presented graphically for the use of all interested in analyzing the trend of the electrical business. See weekly numbers of Electrical world

Consolidated summary of sales, operating expenses and statistical data by commodities for five houses for twelve months ended Dec. 31, 1921; tabulation. Elec W 79:1222 Je 17 '22

December electrical exports bring 1921 total to \$95,814,885. Elec W 79:206 Ja 28 '22

Development of electrical market. H. M. Cunningham. Elec W 80:578-80 S 9 '22

Electrical apparatus exports in 1922. Elec W 81:70 Ja 6 '23

Electrical exports for the year 1922. Elec W 81:364 F 10 '23

Electrical exports of the United States. Elec R (Lond) 91:991-2 D 29 '22

Electrical statistics at a glance. Sci Am 128:371 Je '23

Exports of electrical glassware, generators, arc lamps, flashlights, etc., from the United States during 1922. Elec W 81:1441 Je 16 '23

Exports of wiring devices, meters, motors, rheostats, fans, motor-driven household devices, etc., from the United States during 1922; tabulation. Elec W 81:1120-1 My 12 '23

First half of year in electrical exports. Am Mach 59:271 Ag 16 '23

Great additions to wealth of industry. Elec W 82:510-11 S 8 '23

Need for more electrical statistics. L. S. Horner. Elec W 80:1300-1 D 9 '22

See also Electric plants (central stations)—Statistics

Australasia

Electrical development in Australasia. G. G. Cree. il map Gen Elec R 26:602-7 S '23

Trade prospects in Australasia and Far East. P. S. Smith and R. A. Lundquist. il Elec W 80:476-8 S 2 '22

Australia

Australian market. Elec R (Lond) 90:475-7 Ap 7 '22

Electrical manufacturing position in Australia. Elec R (Lond) 91:264 Ag 25 '22

Imports of electrical and allied goods into Australia in 1921-1922. Elec R (Lond) 93:87 J1 20 '23

Belgium

Where the German exporter of electrical machinery is meeting his match. H. Obermeyer and A. L. Greene. il Am Mach 58:147-51 Ja 25 '23

Brazil

Import trade of Brazil. Elec R (Lond) 92:156-7 Ja 26 '23

California

Story of California, supreme in electrical development. Pacific coast industrial conference. Del Monte, Cal. 93p Journal of electricity and western industry, San Francisco '22

See also Electric plants (central stations)—California; Electric utilities—California; Electricity supply—California

Canada

Imports into and exports from Canada of electrical and similar materials during the year ending March 31st, 1922. Elec R (Lond) 92:109-10 Ja 19 '23

See also Electric plants (central stations)—Canada

Ceylon

Electrical goods in British India and Ceylon. R. A. Lundquist. il U S Bur For & Dom Com 213:1-121 '22

China

China is electrical machinery market. il J Elec 48:352 My 1 '22
Electrical enterprise in China. Elec R (Lond) 91:116-17 J1 28 '22

Cuba

Cuban electrical market situation. R. R. Voorhees. Elec W 80:743-4 S 30 '22

Egypt

Trade statistics of Egypt. Elec R (Lond) 92:633 Ap 20 '23

Europe

Central European electrical expansion. Elec R (Lond) 92:687-8 My 4 '23

Far East

Electrical apparatus in the Orient. S. G. Vinson. Elec W 80:1240-1 D 2 '22

Trade prospects in Australasia and Far East. P. S. Smith and R. A. Lundquist. il Elec W 80:476-8 S 2 '22

Finland

Electrical affairs in Finland. Elec R (Lond) 93:226-7 Ag 10 '23

France

See Electric plants (central stations)—France

Germany

Electrical conditions in Germany. G. L. Carden. Elec W 82:154-5 J1 21 '23

Great Britain

American tariff and British electrical engineering export trade. W. P. Digby. Elec R (Lond) 91:513-14 O 13 '22

Arbitration in the electricity supply industry. J. W. Thomas. Elec R (Lond) 92:832-4 My 25 '23

British electrical imports and exports. Electrician 88:195 F 17 '22

English electrical industry hoping to increase exports to Canada. Elec W 78:997 N 12 '21

German super-power stations for England. P. Rylands. Elec R (Lond) 89:775-6 D 9 '21; Discussion. 89:733-4, 813-14 D 2, 16 '21; Electrician 87:762-3 D 16 '21

Importation of foreign electrical lamp bulbs. Elec R (Lond) 90:103 Ja 20 '22

On the E.C.A. trading policy. D. S. Munro. Elec R (Lond) 93:152-3 J1 27 '23

Organisation of the electrical industry; the contractors evolve a new trading policy. Elec R (Lond) 92:689-90 My 4 '23

Our foreign electrical trade. Elec R (Lond) 91:692-3 N 17 '22

Placing of contracts by public bodies. Elec R (Lond) 92:253-4, 290, 330-1 F 16-Mr 2 '23

Position of the electrical industry. Engineering 114:367-8 S 22 '22

State of electrical industries. W. P. Richmond. Inst E E J 61:157-60 Ja '23

See also Electric plants (central stations)—Great Britain; Electricity supply—Great Britain; General electric company, Ltd., Witton

India

Electrical goods in British India and Ceylon. R. A. Lundquist. il U S Bur For & Dom Com 213:1-121 '22

Electrical imports of India. Elec R (Lond) 92:594 Ap 13 '23

Electrical industry in India. J. W. Meares. Elec R (Lond) 92:364-5 Mr 9 '23

Electrical trade in India. Berwhit. Elec R (Lond) 93:530-2 O 12 '23

Engineering trade of India. Elec R (Lond) 91:844-5 D 1 '22

Imports of electrical and similar goods into British India in the year ended March 31st, 1920. Elec R (Lond) 89:694 N 18 '21

India's electrical imports. Elec R (Lond) 92:1037 Je 29 '23

Italy

Electrical equipment in Italy. H. C. MacLean. U S Bur For & Dom Com Trade Information Bul 151:1-18 '23

Electric industries—Continued**Japan**

- Electrical imports and exports of Japan. Elec R (Lond) 92:349 Mr 2 '23
 Electrical industry of Japan. F. R. Rutter. U S Bur For & Dom Com Trade Information Bul 38:1-10 '22
 Electrical undertakings in Japan. Engineer 134:522 N 17 '22
 Japanese affairs. Elec R (Lond) 93:379-80 S 14 '23
 Japanese electrical exports in 1918 and 1919 principally to Far East. Elec W 79:254 F 4 '22
 Japanese 1918 and 1919 electrical imports largely from America. Elec W 79:305-6 F 11 '22
 Superpower system for Japan. C. A. Powell. Power Pl Eng 26:425 Ap 15 '22

Latin America

- Market prospects for electric apparatus in Latin America and in Spain. P. S. Smith. il Elec W 79:724-7 Ap 15 '22

Netherlands

- Trade statistics of Holland. Elec R (Lond) 92:671 Ap 27 '23

New England

- Potential customers in New England total 2,069,000. Elec W 81:969-70 Ap 23 '23

New York (city)

- New York to have Electrical board of trade; aims of the board. Elec W 81:1375, 1430, 1488 Je 9-23 '23

New Zealand

- Electrical imports of New Zealand. Elec R (Lond) 93:457 S 28 '23
 New Zealand trade; with electrical import statistics. Elec R (Lond) 92:32-3 Ja 5 '23
 Status of the electrical industry in New Zealand. Elec W 80:609 S 16 '22

Peru

- Electrical progress in Peru. P. F. Martin. Elec R (Lond) 92:327-8 Mr 2 '23

Russia

- Economic restoration of Russia. Elec R (Lond) 92:208-9 F 9 '23
 Large turbo-generators for Russian stations. Elec R (Lond) 92:365-6 Mr 9 '23
 Russian electrical notes. Elec R (Lond) 93:336 Ag 31 '23
 Russian electrical trusts. Elec R (Lond) 92:592-3 Ap 13 '23

See also Electric plants (central stations)—Russia

Siam

- Import trade of Siam. Elec R (Lond) 93:195 Ag 3 '23

South Africa

- Export trade with the continent of Africa. C. H. Snell. map Elec R (Lond) 92:993-5 Je 22 '23

See also Electricity supply—South Africa

South America

- Electrical markets of South America. P. F. Martin. Elec R (Lond) 89:631-2 N 11 '21
 Electrical markets of South America; an opening for British-made meters. P. F. Martin. Elec R (Lond) 91:641-2 N 3 '22
 Electrical supplies in South America. P. F. Martin. Elec R (Lond) 90:319-20 Je 9 '22
 Outlook for wiring supplies in Spain and South America. P. S. Smith and A. H. Keleher. il Elec W 79:831-3 Ap 29 '22

Spain

- Market prospects for electric apparatus in Latin America and in Spain. P. S. Smith. il Elec W 79:724-7 Ap 15 '22
 Outlook for wiring supplies in Spain and South America. P. S. Smith and A. H. Keleher. il Elec W 79:831-3 Ap 29 '22

Sweden

- Sweden's trade and industry. Elec R (Lond) 93:77-8 Jl 13 '23

Switzerland

- Swiss electrical trade statistics. Elec R (Lond) 92:269-70 F 16 '23
 Swiss problems and progress. Elec R (Lond) 92:751 My 11 '23
 See also Electric plants (central stations)—Switzerland

United States

- Business development—what it means to the central station. E. E. Whitehorne. il Elec W 79:921-4 My 13 '22
 Business outlook for 1922. Elec W 79:41-5 Ja 7 '22
 Developments in the electrical industry during 1921. J. Liston. il diag Gen Elec R 25:7-51 Ja '22
 Electrical exports for October, 1922, compared with corresponding period a year ago. Elec W 80:1303 D 9 '22 [continued monthly]
 Electrical exports of the United States, 1920. Elec R (Lond) 89:723-4 N 25 '21
 Electrical industry weathers hard year and now shows recovery. Elec W 79:55-6 Ja 7 '22
 Electrical machinery apparatus and supplies. U S Bur Census 15p '22
 Exports of electrical apparatus during first six months of 1923 amounted to \$34,514,924. Elec W 82:362 Ag 18 '23
 Farm electrification opening vast new markets. A. Belden. Ptr Ink 124:107-8+ S 6 '23
 Incandescent-lamp business investigated by Lockwood committee. Elec W 79:97-9 Ja 14 '22
 Practical economies the keynote. E. E. Whitehorne. Elec W 81:39-40 Ja 6 '23
 Problems of the manufacturer and the jobber. E. E. Whitehorne. Elec W 79:19-20 Ja 7 '22
 Review of the 1922 electrical market. H. M. Cunningham. Elec W 81:66-8 Ja 6 '23
 Some developments in the electrical industry during 1922. J. Liston. il diags Gen Elec R 26:7-51 Ja '23
 See also Electricity supply—United States

Uruguay

- Development works in Uruguay. Elec R (Lond) 90:898 Je 23 '22
 Electrical situation in Uruguay. Electrician 88:755 Je 23 '22

Western states

- Outlook for electrical industry in the West for 1923. J Elec 50:100-4 F 1 '23
 Thirty-seven million dollar market in the West. J Elec 50:93-5 F 1 '23

See also Electric plants (central stations)—Western states

Electric inspection

- High cost of inspection inconsistency. T. J. Kauffman. Elec W 81:420-1 F 17 '23
 Influence of the underwriters' inspection on quality. W. E. Robertson. Elec W 79:640 Ap 1 '22
 Inspection system which keeps 1,200 motors running. H. E. Wood. Ind Eng 80:546-7 N '22
 Inspections for better service. Elec W 81:526-7 Mr 3 '23
 Periodical inspections maintain service. R. D. Gillespie. Elec W 81:1457-8 Je 23 '23
 Steel and tube mill inspection and maintenance practices. A. J. Whitcomb. il chart Elec R 80:23-6 Ja '22
 Systematic inspection scheme for preventing breakdown. A. E. Bauhan. il chart Elec W 79:943-6 My 13 '22

See also Electric motors—Inspection; Electric plants (central stations)—Inspection; Elevators, Electric—Inspection; National electrical safety code

Electric instruments

- Care of electrical instruments. J. H. Miller. Elec W 79:86-7 Ja 14 '22

Electric instruments—(continued)

Electrical instrument applied to measurement of loads. E. H. Freeman. *W. Eng. Power* 31:100-4 D 3 '22

Electrical instruments and measurements. A. Stevens. *Inst. E E J* 41:463-8 Ap '22

Electrical records of rubber stress-strain data. J. J. Buckley. *W. Eng. Power* 31:100-4 D 3 '22

Indicator, a kinematic device which indicates the performance of a polyphase induction machine. V. Karapetov. *W. Eng. Power* 31:100-4 D 3 '22

New electrical recording system as used in 1922 and paper mills. L. G. Dean. *W. Eng. Power* 31:100-4 D 3 '22

Report of A. I. E. E. instruments and measurements committee. *Am. Inst. E E J* 41:463-8 D '22

Some useful additions to meter and instrument lists. E. H. Freeman. *W. Eng. Power* 31:100-4 D 3 '22

Specimens for electrical instruments. B. W. St. Clair. *W. Eng. Power* 31:100-4 D 3 '22

Switchboard instruments for electric ship propulsion. C. S. Gallette. *W. Eng. Power* 31:100-4 D 3 '22

See also Chronoscope; Electric measurement; Electric meters; Electric testing; Electromagnetic flux meter; Galvanometer; Thermometer

Exhibitions

Physical and optical societies' exhibition. *W. Eng. Power* 31:100-4 D 3 '22

Physical and optical societies' exhibition. Engineering. *W. Eng. Power* 31:100-4 D 3 '22

Royal society's science. *W. Eng. Power* 31:100-4 D 3 '22

Manufacture

Self-contained instrument works: Collindale works of Everett, Edgcombe and co. *W. Eng. Power* 31:100-4 D 3 '22

Standards

Standardization of electrical measuring instruments. H. B. Brooks. *Am. Inst. E E J* 41:463-8 D '22

Electric insulation. See **Insulation (electric)**

Electric irons**Directories**

Electric ironing directory. *W. Eng. Power* 31:100-4 D 3 '22

Merchandizing

How advance planning helps a campaign. *W. Eng. Power* 31:100-4 D 3 '22

Testing

Tests of electric irons. *W. Eng. Power* 31:100-4 D 3 '22

Electric laboratories

California institute of technology, about to install million-volt laboratory in its electrical department. *W. Eng. Power* 31:100-4 D 3 '22

Complete million-volt laboratory. J. F. Peters and E. F. Moore. *W. Eng. Power* 31:100-4 D 3 '22

Detroit Edison's water laboratory. A. S. Albrecht. *W. Eng. Power* 31:100-4 D 3 '22

New million-volt laboratory will serve as experimental station. *W. Eng. Power* 31:100-4 D 3 '22

Physicist and the electrical engineering industry. C. C. Peterson. *W. Eng. Power* 31:100-4 D 3 '22

Some electrical engineering problems. *W. Eng. Power* 31:100-4 D 3 '22

Research in industry: solving production problems in the laboratory. *W. Eng. Power* 31:100-4 D 3 '22

Research laboratories and industry. *W. Eng. Power* 31:100-4 D 3 '22

Research laboratories of the General electric co., ltd. *W. Eng. Power* 31:100-4 D 3 '22

Research laboratory of the General electric company. L. A. Hawkins. *W. Eng. Power* 31:100-4 D 3 '22

Electric lamps

Battery wagon saves one man in lamp maintenance. *W. M. Thayer. W. Eng. Power* 31:100-4 D 3 '22

Development, present status and problems of electrical illuminants. H. Lux. *W. Eng. Power* 31:100-4 D 3 '22

Electric lamp explosions and their prevention. *W. Eng. Power* 31:100-4 D 3 '22

Emergency safety lamp. *W. Eng. Power* 31:100-4 D 3 '22

First low voltage gas filament lamp. D. M. Moore. *W. Eng. Power* 31:100-4 D 3 '22

Importance of rugged lamps and proper reflectors localized in mill lighting. J. M. Keith. *W. Eng. Power* 31:100-4 D 3 '22

Lamp patents sustained by higher courts. *W. Eng. Power* 31:100-4 D 3 '22

Non-ventilated units for lighting show increase in use. C. L. Daws. *W. Eng. Power* 31:100-4 D 3 '22

Review of the report of the lamp committee of the National electric light association. G. F. Morrison. *W. Eng. Power* 31:100-4 D 3 '22

Simple equations for the lamp performance. H. E. Essensmenger. *W. Eng. Power* 31:100-4 D 3 '22

Special types of lamps improved during last year. *W. Eng. Power* 31:100-4 D 3 '22

Years progress in illumination, 1922-1923. *W. Eng. Power* 31:100-4 D 3 '22

See also Automobiles—Lighting; Electric flashlights; Electric light fixtures; Electric lighting; Locomotive headlights; Safety lamps; Electric; Searchlights; also Illuminating glassware guide

Cleaning

Kinds of dirt encountered when cleaning lamps and reflectors. N. T. Gordon. *W. Eng. Power* 31:100-4 D 3 '22

See also Electric lamps; Arc—Cleaning

Standards

Lamp-socket standardization: international agreement. *W. Eng. Power* 31:100-4 D 3 '22

Service voltage standardization. M. O. Troy. *W. Eng. Power* 31:100-4 D 3 '22

Simplification in the lamp industry. M. D. Cooper. *W. Eng. Power* 31:100-4 D 3 '22

Standardizing train lighting lamps. *W. Eng. Power* 31:100-4 D 3 '22

Ten years of voltage standardization. *W. Eng. Power* 31:100-4 D 3 '22

Statistics

Electrical appliances and lamps in residences. *W. Eng. Power* 31:100-4 D 3 '22

Testing

Sampling for test purposes. G. L. Diggles. *W. Eng. Power* 31:100-4 D 3 '22

Theft

Devices to prevent lamp theft. *W. Eng. Power* 31:100-4 D 3 '22

Keep theft-proof electric bulbs. *W. Eng. Power* 31:100-4 D 3 '22

New theft-proof electric bulbs. *W. Eng. Power* 31:100-4 D 3 '22

Electric lamps, Arc

Am. Assoc. report of committee on progress for 1921. *W. Eng. Power* 31:100-4 D 3 '22

Development of arc lighting. E. Thomson. *W. Eng. Power* 31:100-4 D 3 '22

Some facts about arc lighting. L. Bergmann. *W. Eng. Power* 31:100-4 D 3 '22

See also Electric lamps; Mercury vapor; Electric lamps; Sodium potassium vapor; Locomotive headlights

Electric lamps, Arc—Continued**Cleaning**

Tower truck cleans street lamps with vacuum.
A. J. Thels. *Elec W* 3:1110 N 12 '22

Electric lamps, Dental

Artificial lighting in dentistry. P. Russell. *Illum Eng Soc* 17:29-34; Discussion. 35-43 Ja '22

Electric lamps, Incandescent

Chronology of the incandescent lamp. H. Schroeder. *Diags N E L A Eng* 10:243-44 O '22

Development of electric lamps. J. R. Colville. *Illum W* 3:240-1 S 9 '22

Development of incandescent lamp for street lighting. A. L. Cameron. *Elec W* 3:477 O 21 '22

Gas-filled lamp patent: success of B. T.-H. appeal. *Electrician* 87:796 D 23 '21

Great electric lamps. *Il Sci Am* 124:126 F 2 '22

Incandescent lamp temperatures as related to modern lighting practice. C. L. Dows and W. G. Brown. *Illum Eng Soc* 16:244-247; Discussion. 317-18 no 7 '21

Incandescent lamps. *Illum Eng Soc* 17:362-77 S '22

Incandescent lamps: report of committee on progress for 1921. *Illum Eng Soc* 16:180-4 no 7 '21

Lockwood committee digs deeper into incandescent-lamp business. *Elec W* 79:147-9, 197-8 Ja 21-28 '22

Measurement of pressures in vacuum type electric lamps. D. MacRae. *diags Am Electrochem Soc Trans v* 41 (preprint 1):1-5 Ap '22

Motion picture projection with incandescent lamps. C. M. Doolittle. *Il diag Elec J* 20:226-5 Ja '22

New mill-type lamps in reflectors and wire guards. *Am Inst E E J* 41:225 Mr '22

Position of the metal filament lamp and fittings industry. *Illum Engr* 14:246-7; 16:246-248 D '21, N '22

Purification of gases from methane. G. R. Fonda and H. N. Van Aernem. *J Ind & Eng Chem* 14:539-40 Je '22

Quality of incandescent lamps. J. W. Howell and H. Schroeder. *Am Inst E E J* 42:809-14 Ag '23; Abstract. *Elec W* 82:19-20 Jl 7 '23; Abstract. *Power P Engr* 37:401-2 O 1 '23

Relation between candle power and voltage of gas-filled lamps. *Engineering* 116:363 S 21 '23

Review of the lamp report of the National electric light association. G. F. Morrison. *chart Gen Elec R* 26:741-5 N '23

Standardization of incandescent lamp voltages. *Elec W* 82:65 Jl 14 '23

Story of the incandescent lamp told in pictures. *Il Elec R* 59:55 F '22

Two electric lamps in one with double filament. *Il Pop Mech* 38:294 Ag '22

See also Electric lamps, Tungsten: Safety lamps, Electric

Manufacture

Art of sealing base metals through glass. W. G. Houskeeper. *Il diags Am Inst E E J* 42:954-60 S '23; Discussion. 42:1356-1 D '23

Automatic machines in the electric lamp industry. *Il diags Mach* 29:214-15 N '23

Incandescent lamp machinery. *Il Mach* 29:240-70 Ag '23

Machine used in making electric incandescent lamps. *Il diags Mach* 29:251-3 S '23

Press visit to the Edison lamp works of Messrs. Siemens brothers & co., ltd. *Il Illum Engr* 15:154-5 My '22; *Elec R (Lond)* 55:727-9 My 26 '22; *Electrician* 55:692-1 My 26 '22

Raw materials for artificial daylight. H. A. Mount. *Il Sci Am* 126:265-6 Ap '22

Testing

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Electric lamps, Mercury vapor

Mercury arc lamp in dye testing. O. R. Flynn. *Textile World* 23:1405-6 F 24 '22; Same. *Am Dyestuff Rep* 12:292-7 Ap 9 '23

Motion picture projection with mercury vapor lamps. *Il Sci Am* 126:265-6 Ap '22

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Incandescent lamp life tests. *Am Inst E E J* 42:814 Ag '23

Electric light

Artificial light and our eyes. E. A. Sperry. Illum Eng Soc 18:325-8 Ap '23
Carbon arc as a standard of light. N. A. Allen. diags Elec R (Lond) 93:238-9 Ag 17 '23
History of electric light. H. Schroeder. 95p Smithsonian inst., Washington, D.C. '23

See also Electric flashlights; Electric lighting

Electric light fixtures

Adapting standard reflectors and guards to new type of mill lamp. J. M. Ketch. Elec W 79:1077 My 27 '22
Design of lighting units affects maintenance. Elec W 80:1166 N 25 '22
Electrical fittings and the law of landlord and tenant. Elec R (Lond) 92:911-12 Je 8 '23

Equipment to improve the lighting of homes. P. C. Keller. il N E L A Bul 10:49-55 Ja '23

Lighting equipment maintenance as a central station income builder. O. R. Hogue. N E L A Bul 9:118-19 F '22

New industrial lighting unit; glassteel diffuser. il Am Inst E E J 42:660-1 Je '23

New semi-indirect luminaire. il diag N E L A Bul 10:57 Ja '23

Reducing superfluous sizes in fixture design. Elec W 80:757-8 O 7 '22

Study of wall luminaires. C. E. Weitz. il Am Arch 121:533-4 Je 21 '22

Styles and tendencies in luminaire design. S. G. Hibben. Am Inst E E J 41:385-6 My '22

See also Street lighting fixtures

Advertising

How a possibility was discovered to expand a going business; Mitchell-Vance co. E. H. Rowe. Ptr Ink 122:157-8+ Mr 15 '23

Merchandizing

Shorter cuts for fixture dealers to surer sales. W. B. Eastwood. Elec R 79:943-4 D 24 '21

Terminology

Why electrical men should say luminaire. M. Reast. Elec W 80:827 O 14 '22

Electric light fixtures, Portable**Standards**

Leading fixture manufacturers standardize on elect devices. il Am Inst E E J 41:278-9 Ap '22

Electric lighting

Architect and electrical engineer. M. M. Samuels. il diags Elec W 82:6-8 Jl 7 '23

Architect and the electrical engineer; a joint discussion on co-operation. J. W. Beauchamp and F. Hooper. Elec R (Lond) 92:470-2 Mr 23 '23; Discussion. 92:472, 516 Mr 23-30 '23

Big commercial opportunities in lighting. Elec W 81:1338-9 Je 9 '23

Building store lighting business. 94p Society for electrical development, New York '23

Business possibilities in residence lighting. R. S. Prussia. J Elec 50:409 Je 1 '23

Central-station commercial lighting customers total 10,800,000. diags Elec W 80:1270-1 D 9 '22

Developments of illuminating engineering. Elec R (Lond) 89:742-3 D 2 '21

L'éclairage des trains. H. Guérin. diag Génie Civil 81:13-15, 36-40, 59-63 Jl 1-15 '22

Economy in electric lighting on board ship. Eng & Ind Management 8:49-50+ Ag 10 '22

Edison effect and its modern applications. C. H. Sharp. il diags Am Inst E E J 41: 68-78 Ja '22

Electric light for the small town. J. M. C. Field. Elec R (Lond) 90:821 Je 9 '22

Electric lighting in the Near East. E. J. Hawkins. Elec R (Lond) 91:207-8 Ag 11 '22

Electric lighting's part in the electrical industry. G. S. Merrill. Gen Elec R 25:346-7 Je '22

Gas lighting versus electricity. Am Gas J 117: 593-4 N 18 '22

Grauman's metropolitan theatre, Los Angeles. G. C. Tenney. il chart J Elec 50:131-4 F 15 '23

Home-lighting demonstration at the Chicago convention. M. Luckiesh. il N E L A Bul 9:93-6 F '22

Illumination in 1922. S. G. Hibben. Elec J 19:298-303 Jl '22

Improved practices in exterior and interior illumination; report of the committee on progress before the illuminating engineering society. il Elec W 78:971-4 N 12 '21

J. E. H. Gordon's system of electric supply, Great Western railway, Paddington, 1884. A. H. Walton. Inst E E J 60:402-6 Ap '22

Lighting education. W. Harrison. N E L A Bul 9:618-20 O '22

Lighting service department; a new viewpoint and a new campaign. il Elec R (Lond) 93: 154-5 Jl 27 '23

Lighting statistics of representative urban and suburban homes. N. D. Macdonald. diags Illum Eng Soc 17:488-509; Discussion. 531-47 O '22

Method of getting light without glare. W. Harrison. diag Elec W 80:80 Jl 8 '22

More business through better lighting. G. B. Regar. il N E L A Bul 9:687-98 N '22; Abstract. Elec W 80:725-6 S 30 '22

More than 1,000,000 new residential customers during 1921. Elec W 79:74-5 Ja 14 '22

Nomographic chart for designing illumination. E. Kun. Elec W 81:801+ Ap 7 '23

Ornamental street lighting system at Lima, Ohio. E. McClain. il Munic Eng 63:80-2 S '22

Practical electric-light fitting. F. C. Allsop. 9th ed., rev. & enl. 288p Pitman '23

Practical lighting in store and residence. F. J. Gunther. N E L A Bul 9:50-5 Ja '22

Recent advances in lighting. M. Luckiesh. Sci Am 126:27+ Ja '22

Report of A.I.E.E. lighting and illumination committee. Am Inst E E J 41:942-4 D '22

Residential lighting and industrial power customers will spend \$1,454,000,000 for material and apparatus by 1927. Elec W 79: 10-11 Ja 7 '22

Review of lighting progress in 1921. S. E. Doane. Elec W 79:9 Ja 7 '22

Safety coils and auto current transformers for series lighting circuits. W. A. Sumner. il Elec J 19:201-2 My '22

Some developments in the electrical industry during 1921. J. Liston. il Gen Elec R 25:43-51 Ja '22

Some developments in the electrical industry during 1922. J. Liston. il Gen Elec R 26: 43-51 Ja '23

Some undiscovered markets for electricity in illumination. W. L. Frost. J Elec 48:407-8 My 15 '22

Special features of festival of light at Washington. C. D. Wagoner. il Elec R 79:871-3 D 10 '21

Survey of residence lighting. M. Luckiesh. Illum Eng Soc 17:510-31 O '22; Same abr. N E L A Bul 10:103-15, 169-74, 233-8 F-Ap '23; Abstract. Am Arch 122:467-70 N 22 '22;

Discussion. Illum Eng Soc 17:531-47 O '22

Term "subdivision of the electric light." E. Thomson. Elec W 80:539 S 9 '22

See also Art galleries and museums—

Lighting; Automobiles—Lighting; Car lighting—

Lighting; Church lighting; Clubhouses—Lighting;

Daylight, Artificial; Electric lamps; Electric light fixtures; Electric meters; Electric

plants; Electric signs; Electric substations—

Lighting; Electric wiring; Factories—

Lighting; Farm lighting plants; Foundries—

Lighting; Glare; Hotels—Lighting; Lighting; Locomotive headlights; Moving picture

studios—Lighting; Office buildings—Lighting; Photometry; Post office buildings—

Lighting; Printing offices—Lighting; Public buildings—Lighting; Reflectors; Restaurants—

Lighting; Roads—Lighting; Schoolhouses—

Lighting; Searchlights; Show windows—

Lighting; Stage lighting; Store buildings—

Lighting; Street lighting; Textile mills—

Lighting; Theaters—Lighting

Electric lighting—Continued**Bibliography**

Bibliography of lighting articles in the proceedings of the N.E.L.A. J. C. Fischer. N E L A Bul 9:621-3 O '22

Cost

Historical record of lighting cost. Am Inst E E J 41:912-13 N '22
Unit costs of industrial lighting systems. D. H. Tuck. Elec W 82:818 O 20 '23

Estimates

Estimates for lighting installations. J. C. Conman. Elec R (Lond) 91:620-1; 92:31 N 3 '22, Ja 5 '23

History

Earliest days of electric lighting. F. E. Grip- per. Inst E E J 60:465-6 Ap '22
Edison system in Europe forty years ago. E. de Fodor. Elec W 80:547-9 S 9 '22
History of electric light. H. Schroeder. 94p Smithsonian inst., Washington, D.C. '23

Rates

See Electric rates

Tables, calculations, etc.

Graphic solution of lighting problems. C. W. Kinney. Elec R 80:244 My '22
Illumination calculations for various planes. J. H. Kurlander. diags Elec R 79:885-7 D 10 '21
Influence of daylight illumination intensity on electric current used for lighting purposes in the District of Columbia. A. Smirnov. Illum Eng Soc 18:36-46 Ja '23
Simple equations for the lamp performance. H. E. Eisenmenger. Am Inst E E J 40:905-12 D '21
Studies in the projection of light; methods of computing floodlighting. F. Benford. diags chart Gen Elec R 26:575-82 Ag '23

Electric lighting, Incandescent

Incandescent lighting. S. I. Levy. 129p Pitman '22
Standard lighting with incandescent electric lamps. H. C. Cushing. 208p H. C. Cushing, jr., New York '22

Electric lighting sets

Improvement of electric lighting plants. R. G. Williams. Elec R (Lond) 90:675-6 My 12 '22
Two-cylinder paraffin lighting set. il diags Engineer 136:158 Ag 10 '23

See also Farm lighting sets

Electric lighting sets, Portable

Circus-lighting plant has large capacity. il Pop Mech 39:715 My '23
Transportable light-generating plant. il Pop Mech 36:906 D '21

Electric lines

Aspects of the most economical transmission line design. W. T. Taylor. Elec R (Lond) 91:292-4 S 1 '22
Buzzards and high-voltage transmission lines. N. C. McLoud. il Pop Mech 38:365 S '22
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Factors in reducing costs in underground construction work. E. R. Cowles. J Elec 48: 414-17 My 15 '22

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Mechanical electrical construction of modern power transmission lines—insulators for high-voltage lines. C. B. Carlson and W. R. Battey. il diags Am Inst E E J 42:1126-8 N '23; Abstract. Elec W 82:801 C 20 '23
Mechanical stresses in transmission lines. E. Maerker. diags Can Eng 42:417-20 Ap 25 '22
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Overhead systems; N.E.L.A. report. Elec W 79:1013-14 My 20 '22
Pin insulators on 90,000-volt line. P. Ackerman. il diags Elec W 80:1439-44 D 30 '22
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Questions on the economic value of the overhead grounded wire. E. E. F. Creighton. bibliog il Am Inst E E J 41:21-9 Ja '22; Abstract. Elec W 79:378-80 F 25 '22; Discussion. Am Inst E E J 41:825-7 N '22
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Reliability and cost of catenary insulators. A. O. Austin. Elec Ry J 61:209-12 F 3 '23
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Salvaging a war contract; the Gorgas steam station. R. D. Coombs. il Elec W 81:327-9 F 10 '23
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Spacing and wire stresses of catenary supporting structures, with reference to wired load effect. P. A. McGee. Elec J 20:248-52 Jl '23
Structural engineering problems in transmission-line construction. J. S. Martin. il diags plans Eng Soc W Pa 38:309-413; Discussion. 414-20 N '22
Transmission and distribution of electricity by overhead lines. J. E. Storr. diags Elec R (Lond) 92:1032-4; 93:5-7, 71-3 Je 29-Jl 13 '23; Discussion. 93:7-8 Jl 6 '23
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Electric lines—Continued

Cost of construction

Cost analysis of small electric distribution systems. D. D. Ewing. Eng & Contr (W W) 59:365 F 14 '23

Cost of 33,000-volt transmission line is \$1,757 per mile. C. W. Otis. Elec W 79:1277-8 Je 24 '22

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Costs of 22,000-volt and 13,000-volt transmission lines. Elec W 79:88 Ja 14 '22

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Trend of electrical construction costs. W: W. Handy. Elec W 81:859-64 Ap 14 '23

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Inductive interference

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Inductive co-ordination in good shape. Elec W 81:1334 Je 9 '23

Inductive effects in electric circuits; some phases of the inductive interference problem. J. G. Hemstreet. N E L A Bul 9:466-70 Ag '22

Inductive interference as a business problem. Elec W 79:676-7 Ap 8 '22

Inductive interference is basically a technical problem. Elec W 79:571-2 Mr 25 '22

Legal phases of inductive interference. Elec W 79:481-2 Mr 11 '22

Meaning of inductive co-ordination. J. C. Damon. diags Elec W 80:1037-41 N 11 '22

Progress toward inductive co-ordination. J. E. Woodbridge. J Elec 50:419 Je 1 '23

Question of inductive interference and electrolysis relating to railroad electrification. C. F. Scott. Elec J 19:146-9 Ap '22; Same. Ry Age 72:727-9 Mr 18 '22; Discussion. R. Beeuwkes. Ry Age 72:1052-3 My 6 '22

Report of joint committee on inductive interference. Elec W 79:545-6 Mr 18 '22

2d report of joint committee of the N.E.L.A. on inductive interference. N E L A Bul 9:444-7 Jl '22; Same. Elec W 79:1031-2 My 20 '22

Responsibility for telephone circuits; telephone company cannot recover from power company the cost of metallicizing ground-return circuits against superior right based on prior occupancy. Elec W 80:479-80 S 2 '22

Washington Supreme court on inductive interference. A. F. Phillippay. N E L A Bul 9:572-4 S '22

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Overhead line notes from Detroit. il Elec Ry J 61:845-6 My 19 '23

Power distribution system and its maintenance. M. B. Rosevear. il maps Elec Ry J 61:453-7 Mr 17 '23

Preventing overhead corrosion. L. E. Scott. il Elec Ry J 58:1079 D 17 '21

Spectacular repair task of line foreman. il Pop Mech 38:723 N '22

Studies in the life of equipment. E. Kurtz. Eng N 87:973 D 15 '21

Transmission power line reconstructed. il Elec W 81:1471 Je 23 '23

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Changing lines to 220,000 while hot. H. A. McIntosh. il Elec W 82:694-7 O 6 '23

Concrete pole sockets to prevent butt rotting. diags Elec W 79:276 F 11 '22

Concrete poles made by centrifugal process. F. A. Brackmann. il Power Pl Eng 27:531-2 My 15 '23

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Economical construction for distribution circuits. il Elec W 79:86 Ja 14 '22

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Increasing the life of poles in service. H. R. Wakeman. Elec W 80:941-2 O 28 '22

Increasing the rate of setting poles. C. H. Kretz. Elec W 82:546 S 15 '23

Insulation design of anchors and tower supports for 110,000-volt 4427-foot span over Carqueize Straits. L. J. Corbett. il diags plan Am Inst E E J 42:887-90 S '23

Maintaining joint-pole lines on fifty-fifty basis. F. H. Smith. il Elec W 79:954-5 My 13 '22

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Should trolley poles be raked? G. H. McKelway. Elec Ry J 61:482-3 Mr 17 '23

Special feature in the design of transmission tower lines as imposed by electrical conditions. W. Dreyer. il diags Am Inst E E J 42:1117-20 N '23; Abstract. Elec W 82:799-803 O 20 '23

Steel towers erected by unit method. H. O. Hill. il diags Elec W 80:721-2 S 30 '22

Steel towers illustrate interesting design. W. R. McCann. il diags Elec W 81:1279 Je 2 '23

Steel transmission towers raised while the line was hot. il Eng N 90:1055 Je 14 '23

Stiffness of poles for overhead transmission lines. G. B. R. Pimm. Elec R (Lond) 90:9-10 Ja 6 '22; Discussion. 90:142, 222-3 Ja 27, F 17 '22

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 Melting sleet by short-circuiting transmission lines. Elec W 79:136-7 Ja 21 '22
 New transmission line tested by frozen fog. W: D. Shannon. il Eng N 91:19 JI 5 '23

Standards

- Definite transmission-line standards recommended by the sub-committee on transmission lines of the Empire state gas and electric association. E. P. Peck. Elec W 80:1163-4 N 25 '22
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 Wave form and amplification of corona discharge. J. B. Whitehead and N. Inouye. diags Am Inst E E J 41:1-10 Ja '22

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- New world's record transmission line in northern California. il Elec W 81:6 Ja 6 '23
 Pacific gas & electric co. substation and transmission line. C: W. Geiger. il diag Power Pl Eng 26:227-30 F 15 '22
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 Southern California Edison company begins operating world's record high voltage power line. il J Elec 50:387 My 15 '23
 Superlative in power lines. C: W. Geiger. il Sci Am 127:104 Ag '22
 220 kilovolt transmission line development in California. A. W. Copley. il diags Elec J 19:90-4 Mr '22
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- Le réseau d'Etat de transport d'énergie électrique dans les régions libérées. map Génie Civil 82:427-8 My 5 '23
 Les lignes à très haute tension et les grands réseaux électriques en France. P. Bizet. diags maps Soc Ing Civils Bul 76:700-15, pl 52 Je '23
 Les lignes à très haute tension et les grands réseaux électriques en France. F. Drouin. diags map Soc Ing Civils Bul 76:716-51, pl 53-4 Je '23
 Les lignes françaises de transmission d'énergie électrique à hautes et très hautes tensions. J. T. Laspière. map Génie Civil 82:599-603, 616-19 Je 23-30 '23

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- 100,000-volt line through the streets of Berlin; abstract. E. Rühle. diag Elec W 80:135 JI 15 '22

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- Illinois traction system builds new transmission line. il Elec Ry J 58:1070-1 D 17 '21

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- Line building in Indiana co-ordinated. Elec W 80:446 Ag 26 '22

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- Some Iowa rural-line practices. il Elec W 81:625-8 Mr 17 '23

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- Power developments in Japan. W. W. Lewis. il diags map Gen Elec R 26:500-11 JI '23
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- Thirty-one hydro and steam plants joined by 140-Kv. lines in Michigan. H. J. Burton and W: W. Tefft. il map Elec W 79:770-3 Ap 22 '22

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- Interconnection progress in Ohio at 132,000 volts. G: E. Snider and E. E. Spracklen. il diag Elec W 82:484-6 S 8 '23

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- 110kv. transmission line for Oak Grove development of Portland railway, light and power company. H. R. Wakeman and W. H. Lines. Am Inst E E J 42:891-3 S '23

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- Transmission in Switzerland. A. Kuhn. il Elec W 82:382-3 Ag 25 '23

Electric lines, Artificial

- General consideration of T- and Pi-type artificial electric lines in connection with a proposed compensated Pi-line. H. Nukiyama and K. Okabe. bibliog diags Am Inst E E J 42:947-54 S '23
 Miniature A-C. transmission system for the practical solution of network and transmission-system problems. O. R. Schurig. il diags Am Inst E E J 42:1033-40 O '23; Discussion. 42:1347-9 D '23
 Solution of electric power transmission problems in the laboratory by miniature circuits. O. R. Schurig. il diag Gen Elec R 26:611-18 S '23

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- 600-kv experimental transmission line at Purdue university, Lafayette, Ind. Elec W 80:139 JI 15 '22

Electric locomotives

- Advantages of Diesel electric locomotives. L. G. Coleman. Ry Mech Eng 97:92-4 F '23
 All-electric passenger service for New Haven. W. J. Clardy. il diag Ry Age 74:767-9 Mr 17 '23; Same. Ry R 72:569-72 Mr 31 '23
 Austrian express locomotives. B. V. Nes. Elec W 82:297 Ag 11 '23
 Automotrices monophasées des Chemins de fer fédéraux suisses. diags Génie Civil 83:304-5 S 23 '23
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- Electric locomotives. W. P. Richmond. Inst E E J 61:159-60 Ja '23
- Electric locomotives for Chile freight service. F. E. Wynne. il diags Elec Ry J 59:667-72 Ap 22 '22
- Electric locomotives for Japanese government. il Elec Ry J 60:975-6 D 23 '22
- Electric locomotives for Orleans railway. Electrician 89:214 Ag 25 '22
- Electric locomotives for South African railways. il Electrician 89:566 N 17 '22; Same. Elec R (Lond) 91:751-2 N 17 '22
- Electric locomotives for the Norfolk & Western. T. C. Wurts. il diags Ry Age 74:945-7 Ap 14 '23; Same. Ry R 72:647-50 Ap 14 '23
- Electric locomotives for the Paulista railway of Brazil. S. B. Cooper. Engineering 112:854, 856 D 23 '21
- Electric locomotives rebuilt for English railroad. il Ry Age 73:198 Jl 29 '22
- Electric switching locomotive results on the New Haven. F. W. Carter. il Elec Ry J 59:512-13 Mr 25 '22; Same. Ry Age 72:778 Mr 25 '22
- Electric traction on heavy traffic lines. G. Gibbs. diags Elec Ry J 59:147-50 Ja 28 '22
- Electrification of the Italian railways; a new 3,000-h.p. three-phase locomotive. F. S. Di-Brazzi. il Elec R (Lond) 92:525-6 Ap 6 '23
- Foreign railway practice (new features in railway traction methods). M. J. Carlier. Engineering 113:651 My 26 '22
- 4,000-hp. electric locomotives for N. & W. diags Elec Ry J 60:1012-15 D 30 '22
- Gasoline electric locomotive. il Ry Age 75:633-4 O 6 '23; Same. Ry R 73:488-9 O 6 '23
- G. E. completing heavy electrification work. Elec Ry J 62:163 Jl 28 '23
- How the Virginian will double operating capacity. R. L. McClellan. il diag map Ry R 72:1040-3 Je 16 '23; Same. Ry Age 74:1451-3 Je 16 '23; Same. Aera 11:1660-3 Jl '23
- Locomotives électriques des chemins de fer fédéraux suisses, type 1B1-B1. G.-L. Meyfarth. il diags Génie Civil 81:149-55, pl 6 Ag 12 '22
- Locomotives for New Zealand electrification. il Elec Ry J 61:1085 Je 30 '23
- Locomotives monophasées du chemin de fer de la Valle Brembana (Haute-Italie). diag plan Génie Civil 82:18 Ja 6 '23
- Locomotives monophasées pour express, type 1C1. à commande individuelle des essieux, construites par les Ateliers de Sécheron pour les Chemins de fer fédéraux suisses. J. Werz. il diags Génie Civil 83:241-5, pl 3 S 15 '23
- Mechanical parts of electric locomotives; comparison with steam locomotives. H. A. Houston. il diag Ry Mech Eng 96:319-22 Je '22
- Metropolitan railway locomotive reconstruction. il Elec Ry J 61:954-5 Je 9 '23
- Narrow gauge d. c. electric locomotives for Japan. P. L. Mardis. il Ry R 72:1043-5 Je 16 '23
- New electric locomotives for the Norfolk & Western. diag Ry Age 73:664-5 O 7 '22
- North-Eastern railway electrification; a main-line express passenger locomotive. il Elec R (Lond) 91:436-7 S 29 '22; Engineer 134:274, 280 S 15 '22; Ry Age 73:212-13 Jl 29 '22
- Notes on operation of electrified line of C., M. & St P. Ry. A. W. Baker. Eng & Contr (Ry) 58:65-6 N 15 '22
- La nouvelle locomotive électrique à courant continu des chemins de fer du Midi. il plan Génie Civil 81:441-4 N 11 '22
- Nouvelle locomotive électrique de 180 tonnes à courant continu ou alternatif, du New-York, New-Haven and Hartford railway. il diags Génie Civil 82:565-9 Je 16 '23
- Observations on European traction. W. B. Potter. il diags Elec Ry J 61:292-6 F 17 '23
- 1,200-H.P. electric locomotives for the Metropolitan railway. il diags Engineering 113: 409-12, 477-81, pl 19 Ap 7, 21 '22
- Passenger locomotives for Chilean state railways. il diags map Elec Ry J 59:308-14 F 25 '22
- Railway electrification. V. L. Raven. Engineering 113:25-6, 39-43, 48, pl 2 Ja 6-13 '22; Same cond. Engineer 132:673-4, 711-13 D 23-30 '21; Same cond. Elec R (Lond) 89:906-7; 90:27-9 D 30 '21-Ja 6 '22; Abstract. Electrician 88:10-11 Ja 6 '22; Discussion. Engineer 132:700 D 30 '21
- Recent electric locomotive specifications; tabulation. J. A. F. Aspinall. Engineering 113:573 My 5 '22
- Regeneration characteristic curves of direct-current locomotives. C. A. Atwell. diags Elec J 19:113-16 Mr '22
- Report of the Mechanical division on electric rolling stock. Ry Age 74:1607-9 Je 23 '23; Same. Ry Mech Eng 97:529-31 Jl '23; Abstract. Ry R 72:1156-7 Je 30 '23; Discussion. Ry Age 74:1609-10 Je 23 '23; Ry Mech Eng 97:531-2 Jl '23
- Russian oil-engine-electric locomotive. R. H. Andrews. Power 57:1033 Je 26 '23
- Single-phase locomotives with individual shaft drive. Buchli and Couwenhoven. Elec W 80: 187 Jl 22 '22
- Some details of European electric locomotives. H. A. Kjelsberg. il Ry Age 74:1417-18 Je 16 '23
- Swiss heavy traction development. S. P. Smith. Elec Ry J 59:109 Ja 21 '22
- 3000 volt direct-current locomotives for the Paulista railways. J. A. Clarke, jr. il diags Elec J 19:17-23 Ja '22
- Unique drive for electric locomotives. il Ry Age 74:192 Ja 13 '23
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- A.-C. locomotive control. I. Döry. diags Elec Ry J 61:199-200 F 3 '23
- Control equipment of Paulista locomotives. P. W. Forsberg. il diags Gen Elec R 25:174-83 Mr '22

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- Explosion on an electric locomotive. Elec W 82:772 O 13 '23

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- Maintenance of electric locomotives. J. Miller. Ry R 73:604-5 O 27 '23
- Vérin hydraulique pour le démontage des essieux de locomotives ou d'automotrices électriques. H. Bosshard. il diag Génie Civil 82:575-6, pl 5 Je 16 '23

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- Midi locomotive tests successful. il Elec Ry J 60:879 D 2 '22

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- Un nouveau type de transmission par bielles articulées pour locomotives électriques. J. Bianchi. diag Génie Civil 82:405-6 Ap 28 '23
- Electric locomotives, Industrial**
- Battery locomotives for industrial shunting yards. il diags Engineer 133:438-40 Ap 21 '22
- Electric locomotives in steel works. il Electrician 87:642 N 18 '21
- Electrification of the steel plant railroad; abstracts. R. B. Gerhardt. Blast F & Steel Pl 9:613-17 O '21; Iron Age 108:1663-6 D 29 '21
- Steel mill yard electrification. D: C. Hershberger. il diag Elec J 19:362-8 S '22

Electric locomotives, Mine

- Advantages and reasons for increased application of storage-battery locomotives to mining. E. J. Gealy. *il Coal Age* 24:129-32 J1 26 '23
- Axle collar for keeping gear and pinion in alignment on locomotives. *diag Coal Age* 24:437 S 20 '23
- Brushes for mine locomotives. *Coal Age* 24:633-4 O 25 '23
- Building up the commutator and core on mine-locomotive armatures. *diags Coal Age* 24:361-2 S 6 '23
- Cables for mining-locomotive gathering reels and cutting machines. F. A. Westbrook. *Elec W* 79:436-7 Mr 4 '22
- Causes of burned-out mine-motor armatures. *Coal Age* 22:413 S 14 '22
- Dynamic braking of electric mine haulage locomotives at Hazleton shaft colliery. P. Broadt. *diags Coal Age* 24:324 Ag 30 '23
- Either an oversize or a ventilated motor needed for steady locomotive operation. W. A. Clark. *il Coal Age* 21:159-61 Ja 26 '22; Discussion. C. M. Schloss. 21:619 Ap 13 '22
- Electric braking on mine locomotives. *diags Coal Age* 24:287-8 Ag 23 '23
- Electric haulage systems in Butte mines. C. D. Woodward. *Min & Met* 132:43 F '22; Same. *Eng & Contr* 57:475 My 17 '22
- Electric locomotive operating with wheels of unequal diameter. *Coal Age* 22:20-1 J1 6 '22
- Electrical considerations which govern in a choice of locomotives for any given class of service. H. H. Johnston. *il diag Coal Age* 20:717-19 N 3 '21
- Flame-proof locomotive built for mine use. *il Pop Mech* 40:105 J1 '23
- How big a load can a locomotive haul? *Coal Age* 23:973 Je 14 '23
- How to keep mine locomotives in operating condition. *diag Coal Age* 21:691-3 Ap 27 '22
- Locomotive has two motors, one using battery power and one current from the trolley wire. *il Coal Age* 21:363-5 Mr 2 '22
- Reasons for interchanging the fields of locomotive motors while braking. R. D. Krape. *Coal Age* 24:517 O 4 '23
- Relative merits of mine locomotives; abstract of report presented at the meeting of the West Virginia-Kentucky association of mine, mechanical and electrical engineers. *il Coal Age* 22:400-5 S 14 '22; Same cond. *Elec W* 80:708-11 S 30 '22
- Relative value of cast grids and grids of steel plate for use as resistors in mine locomotives. *il Coal Age* 22:408-10 S 14 '22
- Removal of ball bearings from mine-locomotive motors. E. Ashworth. *il diags Coal Age* 22:51-2 J1 13 '22
- Safe methods for electric mine haulage that insure protection to motorman and equipment. J. F. MacWilliams. *il Coal Age* 24:619-22 O 25 '23
- Should starting of electrical machinery be regulated by automatic devices? H. H. Johnston. *Coal Age* 23:334-5 F 22 '23
- Storage-battery locomotive as applied to mine haulage; abstract. C. E. Stuart. *Min & Met* 181:30-1 Ja '22
- Storage-battery locomotives in metal mines. E. V. Daveler and R. E. Renz. *Min & Sci* P 123:751-2 N 26 '21
- Theory and operation of electric braking as applied to mine locomotives. E. J. Gealy. *diags Coal Age* 24:11-14 J1 5 '23
- Use of single and double cables for electric gathering locomotives. *Coal Age* 22:594-5 O 12 '22
- What precautions should be taken to keep the control devices of mine locomotives in good condition. H. H. Johnston. *il diags Coal Age* 21:957-8 Je 8 '22
- When should battery locomotives replace mules and when be preferred to trolley equipment? C. E. Stuart. *diags map Coal Age* 21:277-82 F 16 '22
- Why series haulage motors flash and how to cure that fault. *Coal Age* 24:355-6 S 6 '23

Inspection

- Every big mine should have its locomotive inspector. W. M. Johnson. *Coal Age* 22:631-2 O 19 '22
- How and how often should mine electrical equipment be inspected and what repair is necessary? H. H. Johnston. *diags Coal Age* 20:797-8 N 17 '21
- Electric locomotives, Steam turbine**
- Are we due for a radical change in locomotive construction? A. F. Stuebing. *Ry Age* 74:323-5 F 3 '23; Same. *Ry Mech Eng* 97:154-6 Mr '23
- Is this the future locomotive? F. A. Delano. *Ry Age* 72:1004 Ap 29 '22
- Ramsay condensing turbine electric locomotive. *il Engineer* 133:328-9 Mr 24 '22; *Ry R* 70:667-8 My 13 '22; *Elec R (Lond)* 91:296 S 1 '22; *Ry Age* 75:667-8 O 13 '23; *Ry Mech Eng* 97:746-8 N '23
- Electric locomotives, Storage battery**
- Advantages and reasons for increased application of storage-battery locomotives to mining. E. J. Gealy. *il Coal Age* 24:129-32 J1 26 '23
- Battery locomotives for industrial shunting yards. *il diags Engineer* 133:438-40 Ap 21 '22
- Flame-proof locomotive built for mine use. *il Pop Mech* 40:105 J1 '23
- How the life and performance of the lead storage battery may be extended by proper care. M. F. Packard. *Coal Age* 21:733-4 My 4 '22
- Keeping nickel-iron storage batteries in condition. M. F. Packard. *Coal Age* 21:779-80 My 11 '22
- Relative merits of storage-battery, combination and conductor-cable-reel gathering locomotives. *Coal Age* 22:400-5 S 14 '22
- Storage-battery locomotive as applied to mine haulage; abstract. C. E. Stuart. *Min & Met* 181:30-1 Ja '22
- Storage-battery locomotives in metal mines. E. V. Daveler and R. E. Renz. *Min & Sci* P 123:751-2 N 26 '21
- When should battery locomotives replace mules and when be preferred to trolley equipment? C. E. Stuart. *diags map Coal Age* 21:277-82 F 16 '22
- See also Motor cars (railroad)—Storage battery
- Electric losses**
- Causes of loss in power transmission. F. C. Sinback. *diags Coal Age* 20:837 D 1 '21
- La réduction des pertes à vide dans les postes de transformation statiques. J. Nègre. *diag Génie Civil* 81:279-80 S 23 '22
- Simplifying line loss and drop problems. H. P. Seelye. *Elec W* 78:1266-8 D 24 '21
- Theory of end-loss corrections and its application to uniform, electrically heated tungsten filaments in vacuo. A. G. Worthing. *J Fr Inst* 194:597-611 N '22
- See also Electric leakage; Electric machinery—Losses
- Electric machinery**
- Continuous current circuits and machinery. J. H. Morecroft and F. W. Hehre. 467p Wiley '23
- Correcting magnetic side pull in rotating electric machines. A. M. Dudley. *diags Elec J* 19:31-6 Ja '22
- Electrical machinery. T. W. Croft. 2d ed. 352p McGraw-Hill '23
- Electrical machinery and traction. S. P. Smith. *Elec R (Lond)* 91:716-18 N 17 '22
- Handbook of the Electric power club. 14th ed. 364p Electric power club, St. Louis '22
- Principles of direct-current machines. A. S. Langsdorf. 3d ed. 455p McGraw-Hill '23
- Some developments in the electrical industry during 1921. J. Liston. *il diag Gen Elec R* 25:7-51 Ja '22
- Some developments in the electrical industry during 1922. J. Liston. *il diags Gen Elec R* 26:7-51 Ja '23
- Some early recollections of dynamo-electric machinery. *Inst E E J* 60:456-8 Ap '22
- Some power plant development in 1921. *Elec Ry J* 59:97 Ja 14 '22

Electric machinery—Continued

Transient conditions in electric machinery. W. V. Lyon. bibliog diags Am Inst E E J 42:388-407 Ap '23; Discussion. 42:1076-8 O '23
 Vibration in small, direct connected units. H. M. Phillips. il diags Power 57:398-400 Mr 13 '23; Discussion. H. R. Geiger. 57:571 Ap 10 '23

See also Brushes (electric machinery); Commutators; Converters, Synchronous; Cranes, derricks, etc.—Electric equipment; Electric apparatus and appliances; Electric controllers; Electric current converters; Electric driving; Electric engineering; Electric generators; Electric locomotives; Electric machines; Electric motor generators; Electric motors; Electric plants; Electric protective apparatus; Electric shovels; Electric tractors; Electric transformers; Electricity in mining; Electricity in petroleum industry; Electricity on the farm; Elevators, Electric; Farm lighting plants; Hydroelectric plants; Pumping machinery, Electric; Sewing machines, Electric; Ship propulsion, Electric; Washing machines, Electric

Design

Progress in the design of electrical machinery during the last 20 years. R. D. Archibald. Inst E E J 61:21-3 D '22
 Proper ratio of tooth width to slot width. F. S. Dellenbaugh, jr. diag Elec W 80:1158-9 N 25 '22; Discussion. 81:221-2 Ja 27 '23

Losses

Polyphase commutator machines; losses in a frequency-changer. A. B. Field. diags Am Inst E E J 41:50-7 Ja '22

Manufacture

Present-day construction of electrical machinery. L. Fleischmann. diags Electrician 89:236-9 S 1 '22

Prices

Prices of electric machinery in 1914 and 1919. Eng & Contr 57:462 My 17 '22

Rating

New British specification for motors and generators. Elec W 81:709 Mr 24 '23
 Questions relating to standards of rating, with particular reference to large machines using class B insulation. F. D. Newbury. Am Inst E E J 41:527-9 Jl '22; Discussion. 41:958-64 D '22
 Rating and temperature allowance; discussion of recommendations of A.I.E.E. committee. Elec W 80:69-73 Jl 8 '22
 Rating of electrical apparatus. P. Torchio. Elec W 81:807-8 Ap 7 '23

Temperature

Ambient temperature observations. H. T. Lange. diags Am Inst E E J 42:1168-70 N '23
 Determination of temperature of electrical apparatus and cables in service. E. J. Rutan. il Am Inst E E J 41:464-9 Je '22; Discussion. 41:886 N '22
 Equivalent temperature tests; methods of ascertaining temperature rise. M. L. Kahn. Elec R (Lond) 92:510-11; Discussion. 511 Mr 30 '23
 Heat flow in armature coils. C. J. Fechheimer. diags Elec W 80:1145-8 N 25 '22
 Influence of temperature on insulating materials used in electrical machinery. E. Vannotti. diag Am Inst E E J 41:933-4 D '22
 Methods of measuring temperatures in electrical machinery. S. H. Mortensen. diags Power 55:414-16 Mr 14 '22
 Questions relating to standards of rating, with particular reference to large machines using class B insulation. F. D. Newbury. Am Inst E E J 41:527-9 Jl '22; Discussion. 41:958-64 D '22
 Rating and temperature allowance; discussion of recommendations of A.I.E.E. committee. Elec W 80:69-73 Jl 8 '22
 Relation of overload to the inner temperature of machines. G. Semenza. diags Am Inst E E J 41:1031-3 D '22

Some development in insulating materials and processes in Great Britain with special reference to thermal consideration. A. P. M. Fleming. Am Inst E E J 41:924-8 D '22

Some elements of air flow in electrical machinery. C. J. Fechheimer. Elec J 19:345-8, 392-4, 471-4, 511-14; 20:73-5, 104-6, 171-6, 270-2, 305-8 Ag-S, N-D '22, F-Mr, My, Jl-Ag '23

Temperature limits in large machines. P. Torchio. Am Inst E E J 41:446-51 Je '22; Discussion. 41:958-64 D '22

See also Electric generators—Cooling; Electric generators, Alternating current—Temperature; Electric motors—Temperature; Electric transformers—Temperature

Testing

Back-to-back tests of continuous-current machines. C. F. Smith. diags Elec R (Lond) 92:124-6 Ja 26 '23

Determination of mechanical performance by means of vibration tests. C. Bethel. il Elec J 20:371-3 O '23; Abstract. Mech Eng 45:711 D '23

Megohm readings most significant when tested circuits are isolated. W. Hilleary. Elec W 81:1526 Je 30 '23

Short course in the testing of electrical machinery for non-electrical students. J: H. Morecroft and F. W. Hehre. 4th ed., rev. & enl. 220p Van Nostrand '21

Testing of continuous current machines. C. F. Smith. 102p Pitman '21

Testing of transformers and alternating current machines. C. F. Smith. 91p Pitman '22

Ventilation

Some elements of air flow in electrical machinery. C. J. Fechheimer. diags Elec J 20:104-6 Mr '23

Electric machinery insurance. See Insurance, Electric machinery

Electric machines

Nature of tribo-electricity or electricity of friction and other kindred matters. E. Thomson. Am Inst E E J 41:342-5 My '22; Same. Gen Elec R 25:418-21 Jl '22

Electric measurement

Absolute measurements in electricity and magnetism. A. Gray. 2d ed., rewritten & extended. 837p Macmillan '21

Analysis of economic loss due to power factor—basic meterable factors. J. E. Doran, J. B. Hodum and R. C. Fryer. il N E L A Bul 9:311-20 My '22; Same cond. Elec W 79:877-8, 1216-19 My 6, Je 17 '22; Discussion. 80:328, 486, 774 Ag 12, S 2, O 7 '22

Approximate integration of reactive power in three-phase circuits. G. W. Stubbings. Elec R (Lond) 92:846-7 Je 1 '23

Balance methods in alternating current measurement. P. A. Borden. il diags Am Inst E E J 42:35-41 Ja '23; Discussion. 42:854-7 Ag '23

Blondelion. V. Karapetoff. il Sibley J 36:130-1 Je '22

The blondelion; a kinematic device which indicates the performance of a polyphase synchronous generator or motor. V. Karapetoff. il diags Am Inst E E J 42:234-46 Mr '23; Abstract. Elec W 81:444 F 24 '23

Le comptage des nombres de tours des bobines par mesure électrique. diags Génie Civil 83:185-6 Ag 25 '23

The CPS'er. V. Karapetoff. il diags Sibley J 37:46-51 Mr '23

Design constants and measuring units. L. E. Widmark. diags Am Inst E E J 42:1153-4 N '23

Electrical measurement of velocities of flow in pipes. I. E. Houk. il Engineering 115:644-5 My 25 '23

Electrical method for measuring the velocity of moving water. M. A. Hogan. Engineering 115:66-7 Ja 19 '23

Elektrische messtechnik. W. L. Jaeger. 528p J. A. Barth, Leipzig '22

Further experiments on the mass of the electric carrier in metals. R: C. Tolman, S. Karrer and E. W. Guernsey. diags Phys R 21:525-39 My '23

Electric measurement—Continued

- General equations of a balanced alternating-current bridge. V. Karapetoff. diags Philos Mag 6th ser 44:1024-32 N '22
- The heavisidion; a computing kinematic device for long transmission lines. V. Karapetoff. il charts diags Am Inst E E J 42: 127-38 F '23
- Indicating the total power from several generating stations. H. P. Sparkes. il diags Elec J 19:142-6 Ap '22; Same cond. Power Pl Eng 26:472-4 My 1 '22
- Measurement of a single-phase load at a low power-factor. A. Dovjikov. diags Elec J 20:258-61 J1 '23
- Measurement of power in polyphase circuits. C: Fortescue. diags Am Inst E E J 42:205-18 M '23; Abstract. Power Pl Eng 27:324-6 Mr 15 '23; Discussion. Am Inst E E J 42:973-7 S '23
- Measuring watts without a wattmeter. V: H. Todd. diags Power 55:582-3 Ap 11 '22
- Mechanical computation of root mean square values; Amsler's mechanical integrator. L. A. Umansky. diag Am Inst E E J 42:1093-5 O '23
- Paralleling current transformer leads facilitates demand metering. H. R. Thomas. diag Elec W 79:1227 Je 17 '22
- Some practical aspects of hydrogen electrode measurements. P. E. Klopsteg. diags J Ind & Eng Chem 14:399-406 My '22
- Temperature measurement in turbogenerators. R. T. Pierce. il diags Elec J 19:340-1 Ag '22
- Torques and forces between short cylindrical coils carrying alternating currents of radio frequency. W. A. Parlin. Phys R 22: 193-7 Ag '23
- Two-wattmeter method of measuring power. G. W. Stubbings. Elec R (Lond) 90:366 Mr 17 '22
- Use of condenser bushings for measuring purposes. G. Keinath. Elec W 81:113-14 Ja 13 '23
- See also Dielectric constants; Dielectric losses; Dielectrics; Electric currents; Electric engineering—Tables, calculations, etc.; Electric meters; Electric resistance; Electric testing; Electric waves; Electrometer; Galvanometers; Magnetic measurements; Oscillographs; Thermocouples; Voltmeters

Bibliography

- Balance methods in alternating current measurement. P. A. Borden. Am Inst E E J 42:41 Ja '23

Electric merchandizing. See Electric apparatus and appliances—Merchandizing; Electric industries; Electric shops (retail trade)

Electric meters

- Adapting meters to a growing power system. L. W. Wyss. diags Power Pl Eng 27:239 F 15 '23
- Arrangement of meter terminals and links that facilitates testing. H. S. Edwards. il diags Elec W 79:636-7 Ap 1 '22
- Baltimore system of leaving meters alive. R. F. Bonsall. Elec W 79:178-9 Ja 28 '22
- Causes and remedies of meter creeping. R. G. Thyse. diag Elec W 82:389-90 Ag 25 '23
- Changes in indicating meters from 1519 to the present date. il Elec R 80:264 Je '22
- Demand-meter maintenance. E. A. Le Fever. il Elec W 81:855-8 Ap 14 '23
- Development of meters since the war in Germany; abstract. K. Schmiedel. Elec W 80: 1170 N 25 '22
- Duquesne company modifies meters. il Elec W 81:1473-4 Je 23 '23
- Electric blasting-type ohmmeter-galvanometer. Eng & Min J 115:872 My 12 '23
- Great advances made in meters. P. H. Bartlett. Elec W 80:561-3 S 9 '22
- How to check instrument transformer and meter connections. V: H. Todd. diags Power 58:413-15 S 11 '23
- How to take care of portable meters. Ind Eng 80:449 S '22
- Integrating meters; their invention and development. Ind Eng 80:316 J1 '22
- Jewel inspection essential for proper meter operation. F. C. Holtz. Elec W 79:1275 Je 24 '22

- Keeping meter statistics to better performance. C: W. Emerson, jr. Elec W 80:131-2 J1 15 '22
- Meter department in a central station. Elec R (Lond) 93:51-2 J1 13 '23
- Metering three-phase power supply. G. W. Stubbings. Blast F & Steel Pl 11:454-5 Ag '23
- New development in alternating-current instruments. P. MacGahan. il Elec J 20:252-7 J1 '23
- New sequence system of polyphase meters; a proposed method of meters and metering. R. D. Evans. diag Elec W 81:333-4 F 10 '23
- Pointers on instruments needed in maintenance work. J. M. Walsh. il Ind Eng 80:479-80 O '22
- Points to consider in locating meters. W. C. Devin. Elec W 81:397-8 F 17 '23
- Preventing theft of electric service. R. Pittman. il diags Elec W 82:342-4 Ag 18 '23
- Providing for accuracy in power company meter records. W. R. Frampton. il diags J Elec 48:409-14 My 15 '22
- Reactive component meters used by Erie company. J. P. Gallagher. il Elec W 82:545-6 S 15 '23
- Report of the meter committee of N.E.L.A. Elec W 79:1015-16 My 20 '22
- Safety entrance switches with meter adapters. W. C. Devin. il Elec W 81:582 Mr 10 '23
- Some useful adjuncts in meter and instrument work. G. E. Moore. il Elec R (Lond) 91:801-3 N 24 '22
- Testing and maintenance of electric meters. W. H. Talbott. J Elec 50:446-8 Je 1 '23
- Theft of electricity and its prevention. J. A. Reynolds. diags Elec R (Lond) 92:4-5 Ja 5 '23; Same cond. Elec W 80:128 J1 15 '22
- Theft of electricity in domestic supply. J. R. Willingham. Elec R (Lond) 92:248-9 F 16 '23; Discussion. A. R. Porter. 92:290 F 23 '23
- Theory of phase meters. G. W. Stubbings. diags Electrician 88:586-8 My 19 '22
- Three-phase four-wire meters. G. W. Stubbings. diags Electrician 87:754-5 D 16 '21
- Welded strap iron rack for storing meters. W. H. Talbott. il Elec W 82:133 J1 21 '23
- See also Ammeters; Electric measurement; Electric testing; Fluxmeter; Potentiometers; Volt-ampere meters; Voltmeters; Watt-hour meters; Wattmeters; Wavemeter

Cost

- Cost of meters in 1922 for New England. Elec W 82:291 Ag 11 '23

Cost of installation

- Meter installation costs for industrial plants. Elec W 80:1337 D 16 '22

Lubrication

- Study of meter lubrication. F. C. Holtz. il Elec J 20:223-5 Je '23

Outdoor installation

- Cost of outdoor metering installations. H. R. Thomas. il diags Elec W 80:119-21 J1 15 '22
- Economy in outdoor metering on 11,000-volt lines. C. F. Gilchrist. il diags Elec W 78: 1331-2 D 31 '21
- Is high-tension outdoor metering always desirable? E. C. Ferree. Elec W 79:737 Ap 15 '22
- Outdoor meter installations facilitated by standardizing construction. M. F. Smalley. il diags Elec W 79:536-7 Mr 18 '22

Repair

- Problem of meter repairs. O. Simpson. Elec W 80:506-7 S 2 '22

Standards

- Standardization of electrical measuring instruments. H. B. Brooks. Am Inst E E J 42: 713-22 J1 '23

Testing

- Aid to meter testing. il Elec R (Lond) 89: 879-80 D 30 '21

Electric meters—Testing—Continued

- Arrangement for D.C. meter testing. J. B. Willingham. *il Elec R (Lond)* 91:114-16 J1 28 '22
- Building an inexpensive meter-test board. H. T. Powell. *diags Elec W* 82:291-2 Ag 11 '23
- Calibrating five meters simultaneously. R. S. Hinmann. *il diag Elec W* 81:458-9 F 24 '23
- Calibration of test meters. A. E. Knowlton. *il Elec W* 82:645-7 S 29 '23
- Detroit Edison's meter laboratories. A. S. Albright. *il Elec W* 81:1508-12 Je 30 '23
- Meter maintenance on scattered system. H. M. Johnson. *il Elec W* 80:923-6 O 28 '22
- Meter test record. *Elec W* 81:398-9 F 17 '23
- Meter testing aided by use of test panels. W. R. Frampton. *il diags Elec W* 81:49 Ja 6 '23
- Meter testing in Maine. H. Burgi, jr. *Elec W* 81:980-1 Ap 28 '23
- Periodic meter-testing methods. A. H. Krueel. *Elec W* 82:182-3 J1 23 '23
- Periodic-test schedules. *Elec W* 81:108 Ja 13 '23
- Phantom load easily made for testing meters. W. A. Churchill. *diags Elec W* 80:1334-5 D 16 '22
- Rotating standard combined with load resistance. H. T. Powell. *il diag Elec W* 81:1419 Je 16 '23

See also Watt-hour meters—Testing

Electric mine hoisting. *See* Mine hoisting, Electric

Electric moments of atoms

- Values of the electrical moments of the atoms and their connection with other quantities. R. D. Kleeman. *J Fr Inst* 196:479-93 O '23

Electric motor generators

- Comparison of synchronous-motor generators and rotary converters. *Power* 56:411 S 12 '22
- Conversion of electrical power. J. E. Cannell. *diags Power* 57:88-90 Ja 16 '23
- Generator flange mountings; S.A.E. recommendations. *diags Soc Auto Eng J* 11:451 N '22
- New constant potential generator furnishes ignition current. W. P. Loudon. *diags Automotive Ind* 48:562-5 Mr 8 '23
- Synchronous motor-generator sets may supplant rotary converters for coal mines. E. J. Gealy. *il Coal Age* 23:715-16 My 3 '23

See also Converters, Synchronous; Electric current converters; Frequency changers

Control

- Automatic control for synchronous industrial motor-generator sets. *il diags Power* 57:242-4 F 13 '23
- How to simplify the control of exciter units for synchronous motors. *diag Coal Age* 23:756 My 10 '23

Starting

- Increasing air gap corrects starting troubles. J. E. Housley. *Elec W* 80:182-3 J1 22 '22; Same. *Elec R* 80:305 Je '22

Electric motors

- Application of electric motors. G. Fox. *diag Power* 55:611-13 Ap 18 '22
- Choosing proper type of motor. C. N. Johnson. *Iron Tr R* 73:812-13 S 20 '23
- Design and application of motors, controllers and resistances for storage-battery-driven vehicles. J. C. Clendenin. *il diags Gen Elec R* 25:236-41 Ap '22
- Dynamos and motors of comparatively small outputs. J. W. Burleigh. *Elec R (Lond)* 91:406-7, 459-60 S 22-29 '22
- Electric motor for use in small bore holes. *diag Eng & Min J* 116:748 O 27 '23
- Electric motors in the steel plant. G. Fox. *diags Blast F & Steel Pl* 10:171-3, 211-14 Mr-Ap '22
- Electric motors; their theory and construction. H. M. Hobart. 3d ed., rev. 2v 412p; 384p Pitman '23
- Electric vehicle motor. A. L. Broomall. *il diag Elec J* 20:23-7 Ja '23
- Electrical motors for industrial service. J. L. M. Yardley. *il Ind & Eng Chem* 15:921-5 S '23

- Evolution of electric power equipment; pictorial section. *Elec W* 80:531-8 S 9 '22
- Factors affecting installation of electric motors for hoisting. G. Fox. *Elec W* 79:171-3 Ja 28 '22
- Fundamentals in selection and application of electric motors. G. Fox. *Power* 55:1007-9 Je 27 '22
- How to compute a complete motor installation. E. P. Slack. *diags Power* 55:687-9 My 2 '22; Discussion. 55:985; 56:142-3 Je 20, J1 25 '22
- Important considerations in the control, operation and repair of direct and alternating current motors. *diags Power Pl Eng* 26:85-8 Ja 1 '22
- Motor history in pictures. *il Elec R* 80:158 Ap '22
- Motors for chemical plants. J. L. M. Yardley. *il Elec W* 82:605-7 S 22 '23
- Power factor as it affects the consumer. L. J. Murphy. *Elec W* 81:97-100 Ja 13 '23
- Power-factor correction by rearrangement of motor drives. T. H. Arnold. *diags Power* 55:886-9 Je 6 '22
- Recommendations of Electric power club for installation and care of motors and generators. *il Ind Eng* 81:540-4+ N '23
- Selection of electric motors. G. Fox. *Power* 55:723-5 My 9 '22
- Selection of electrical apparatus for cranes. R. H. McLain. *Am Inst E E J* 41:249-56 Mr '22
- Some products of the electric construction co., ltd. *il Elec R (Lond)* 91:112-13 J1 28 '22
- Use of flywheels on electrical machinery. G. Fox. *Power Pl Eng* 25:1099-1101 N 15 '21
- Why series haulage motors flash and how to cure that fault. *Coal Age* 24:355-6 S 8 '23
- Wiring for motors. H. L. Cornelison. *il Elec R* 80:127-30+ Mr '22

See also Armatures; Automobiles—Electric equipment; Electric controllers; Electric driving; Electric locomotives; Electric machinery; Electric motor generators; Electric motors, Alternating current; Electric motors, Direct current; Electric motors, Induction; Electric motors, Railway; Electric motors, Synchronous; Electric power; Electric transformers; Electricity in mining; Electricity in petroleum industry; Rotors

Bearings

- Anti-friction bearings in the steel mill. A. M. MacCutcheon. *Iron Age* 110:423-4 Ag 17 '22
- Ball and roller bearings for use on electric motors. G. Fox. *Power* 56:135 J1 25 '22
- Bearing currents and their suppression. A. Franenckel. *diags Elec R (Lond)* 93:488-9 O 5 '23
- Bearing design and lubrication. W. Foot. *il diags Elec J* 19:376-82 S '22
- Comparative tests on motors equipped with plain, roller and ball bearings. *il diags Ind Eng* 80:427-9+ S '22
- Roller and ball bearing motors; report of the special bearing committee of the A.I. and S.E.E. D. M. Petty. *Elec W* 82:701-2 O 6 '23; Same cond. *Ind Eng* 81:477; Discussion. 484 O '23
- Roller bearings reduce mill motor maintenance. L. J. Hess. *Elec W* 81:224-5 Ja 27 '23
- Some pointers on bearings. A. L. Gear. *il Elec R* 80:265-70+ Je '22
- Special armature bearings to fit worn shafts. J. S. Dean. *Elec J* 20:385-6 O '23

Care

- Details of a special treatment for motors in steamy and wet places. N. B. Smith. *il Ind Eng* 80:515-18+ N '22

Cleaning

- Blowing out motors and motor shells. *diags Elec Ry J* 62:66 J1 14 '23

Control

- Central control of motors. O. F. Long. *il diags Elec R* 80:180-4 Ap '22
- Concentrated motor control increases efficiency. *il J Elec* 49:174 S 1 '22
- Control apparatus for rolling mill motors. W. R. Wickerham. *il diags Elec J* 19:372-5 S '22

Electric motors—Control—Continued

Control for power station auxiliary motors. A. L. Harvey. *il Power Pl Eng* 27:581-5 *Je* 1 '23

Control of blower motors. H. G. Issertell. *il Am Soc Heat & V E J* 28:107-18 *Mr* '22; Same. *Gen Elec R* 25:288-95 *My* '22; Same cond. *Power Pl Eng* 26:573-5 *Je* 1 '22; Discussion. *Am Soc Heat & V E J* 28:119-20 *Mr* '22

Electric motor control. *diags Power Pl Eng* 26:905-9 *S* 15 '22

Electrical control for a hot strip mill at the West Leechburg steel company. M. J. Wohlgemuth. *il diags Elec J* 20:322-5 *S* '23

Foot control for main reversing mill motors. R. H. Wright; J. C. Reed. *il Elec J* 20:320-2 *S* '23

Motor stopping device. E. H. McEuen. *diags Power Pl Eng* 26:434-5 *Ap* 15 '22

Points to be considered when installing motor control. H. Harries. *diags Ind Eng* 80:433-4 *S* '22

Recent interesting electrical developments. G. Fox. *diags Blast F & Steel Pl* 11:88-9 *Ja* '23

Remote control of motors on hoists increases safety of operation. E. C. Soares. *Elec R* 80:90 *F* '22

Simplification of paper mill drive control. *il diags Elec W* 80:1032-6 *N* 11 '22

See also Electric motors, Alternating current—Control; Electric motors, Induction—Control

Design

Design constants and measuring units. L. E. Widmark. *diags Am Inst E E J* 42:1153-4 *N* '23

Effect of insulation on design. R. E. Ferris. *diags Elec J* 20:360-5 *O* '23

Research in the design of explosion proof motors. E. J. Gleim and H. B. Brunot. *Power Pl Eng* 27:176 *F* 1 '23

Drying

Drying out an induction motor. A. A. Fredericks. *diags Power* 56:661 *O* 24 '22

Drying out motors which have stood in damp location. E. C. Soares. *diags Ind Eng* 81:57-8 *Ja* '23

Failures

Steel mill motor failures. A. J. Whitcomb. *il Ind Eng* 80:377-81+ *Ag* '22

Fractional horsepower

How to wind fractional-horsepower d. c. motors. A. C. Roe. *il diags Elec R* 80:7-12 *Ja* '22

Manufacturing small electric motors for suction sweepers. F. H. Colvin. *il Am Mach* 58:159-61 *Ja* 25 '23

Plan of fractional-horsepower motor applications. *Elec R* 79:971-3 *D* 31 '21

See also Phonograph motors

Gearing

Direct-connected induction motors vs. geared motors for rolling iron and steel. H. L. Barnhardt. *il diags Elec J* 20:314-17 *S* '23

Inspection

Attention that is required when motors must operate 24 hours a day the year around in a cement mill. *il Elec R* 80:169-71+ *Ap* '22

Results of thorough inspections. H. S. Knowlton. *il Ind Eng* 81:231-5+ *My* '23

Things that the crane inspector looks for. A. L. Gear. *il Elec R* 80:111-18+ *Mr* '22

See also Electric motors—Records

Lubrication

Bearing design and lubrication. W. Foot. *il diags Elec J* 19:376-82 *S* '22

Manufacture

Applying the assembly principle to manufacture. *Ind Management* (Lond) 9:195-8 *Ap* 5 '23

Approved methods of fitting pinions to their shafts. H. H. Johnston. *il diags Coal Age* 20:761-2 *N* 10 '21

Assembling, testing and storing motors. F. H. Colvin. *il Am Mach* 57:981-3 *D* 28 '22

Broaching stations on forcing presses. *il diags Mach* 28:981-2 *Ag* '22

Manufacturing small electric motors for suction sweepers. F. H. Colvin. *il Am Mach* 58:159-61 *Ja* 25 '23

Modern electric motor construction. J. M. Barr and H. Campbell. *il Am Mach* 58:573-5 *Ap* 19 '23; Same abr. *Elec R* (Lond) 93:209 *Ag* 10 '23

Punching rotor and stator laminations. C. O. Herb. *il diags Mach* 29:436-8 *F* '23

Standard machines increase production. L. S. Love. *il Iron Age* 110:1335-8 *N* 23 '22

Mounting

Eight good examples of motor mountings. *il Elec R* 80:20-1 *Ja* '22

How motors are located and identified. *il diags Ind Eng* 80:330-5 *Jl* '22

Mounting motors and starters on ceiling of reinforced concrete building. F. W. McGraw. *Elec R* 80:194 *Ap* '22

Simple platforms for suspending motors near ceiling. H. S. Rich. *il diags Ind Eng* 80:498-9 *O* '22

Simple rigging for suspending a thousand-pound motor near the ceiling. H. S. Rich. *diag Elec R* 80:240 *My* '22

Some ways of using structural steel in mounting motors on machines. A. S. Mill. *il Elec R* 80:119+ *Mr* '22

Protection

Fuse protection for motors. W. E. Seward. *il Ind Eng* 81:85-8+ *F* '23

Protecting motors from lint. J. M. Pettingell. *il Textile World* 62:3193+ *D* 2 '22

Protection of electric motors. G. Fox. *Power* 57:757 *My* 15 '23

Thermal protective devices for motors. G. Fox. *il Power* 57:934 *Je* 12 '23

Types of motor protection. G. Fox. *il diag Power* 57:716-18 *My* 8 '23

Where protected motor service has speeded up machine production. T. W. C. Hartmann. *il Elec R* 80:227-8+ *My* '22

Rating

How the new motor ratings were decided by the I. E. C. committee. *Elec W* 80:1404-5 *D* 23 '22

Machine rating should express a definite limitation. *Elec W* 79:519, 733, 882-3, 1036, 1122-3 *Mr* 18, *Ap* 15, *My* 6, 20, *Je* 3 '22

Method of determining resultant input from individual duty cycles and of determining temperature rating. E. Jones. *diags Am Inst E E J* 41:329-41 *My* '22; Same abr. *Gen Elec R* 25:405-17 *Jl* '22; Discussion. *Am Inst E E J* 41:886-9 *N* '22

Power club acts on temperature ratings. *Elec W* 81:1428 *Je* 16 '23

Some economic phases of 40-degree and 50-degree ratings. C. L. Collens, 2d. *Elec W* 79:1115-16 *Je* 3 '22

Records

Efficient record system for industrial electrical department. J. E. Housley. *Elec W* 78:1015-18 *N* 19 '21

Good way to file motor-drive information. E. S. Lincoln. *Elec R* 80:76-7 *F* '22

How motors are located and identified. *il diags Ind Eng* 80:330-5 *Jl* '22

Motor record card gives complete information about a motor. E. J. Ford. *Ind Eng* 81:463 *S* '23

Motor record saves time in inventory and assignments. A. E. Trudo. *Elec W* 78:980 *N* 12 '21

Motor records and motor maintenance. J. D. Eberhardt. *Power* 55:344-5 *F* 23 '22

Record forms for motor installations. E. S. Wagner. *il Ind Eng* 81:438+ *S* '23

Service and repair records for electric motors. *Power Pl Eng* 26:953-5 *O* 1 '22

Simple but flexible system of equipment and inspection records. *il Elec R* 80:211-13+ *My* '22

Repair

Analyzing electrical repair shop costs. G. P. Svendsen. *il Ind Eng* 81:23-6 *Ja* '23

Electric motors—Repair—Continued

- Details of coil-making methods. A. C. Roe. *il* diags *Ind Eng* 80:337-42+ *Jl* '22
- Few suggestions to those who repair mine motors. J. S. Dean. *il* diags *Coal Age* 22: 833-4 *N* 23 '22
- How to figure rates for industrial maintenance service. G. W. Bartholmew. *il* *Ind Eng* 81: 288-92+ *Je* '23
- How to make up diagrams for coil winders. A. C. Roe. *il* diags *Elec R* 80:283-8+ *Je* '22
- Maintenance of rotating electrical apparatus. *Elec W* 82:390 *Ag* 25 '23
- Motor-repair trouble wagon. *Elec R* 80:89 *F* '22
- Rewinding universal motors. A. C. Roe. *il* diags *Ind Eng* 80:568-70 *D* '22
- Some ways in which shutdowns have been prevented in a metal-stamping plant. E. S. Lincoln. *il* *Ind Eng* 81:283-7+ *Je* '23
- Steel mill motor failures. A. J. Whitcomb. *il* *Ind Eng* 80:377-81+ *Ag* '22
- Watching small motors that drive machines in factories where dust and dirt accumulates. H. E. Ewalt. *il* *Elec R* 80:289-93+ *Je* '22
- See also* Armatures—Repair; Electric motors, Induction—Repair; Electric motors, Railway—Repair

Starting

- Electric motor control. diags *Power Pl Eng* 26:905-9 *S* 15 '22
- High starting torque essential for motor drive. *il* *J* *Elec* 49:60 *Jl* 15 '22
- See also* Electric motor generators—Starting; Electric motors, Alternating current—Starting; Electric motors, Induction—Starting; Electric motors, Synchronous—Starting

Starting devices

- British standard specifications for motor starters. C. H. Wordingham. *Engineer* 133: 277-8 *Mr* 10 '22; Abstract. *Electrician* 88: 344 *Mr* 24 '22; Same. *Elec R* (Lond) 90:569 *Ap* 21 '22
- Brookhirst automatic motor-starting switch-gear. *il* *Elec R* (Lond) 90:584-5 *Ap* 28 '22
- Electric motor starters. J. Anderson. *Inst E* *J* 60:619-40 *Je* '22; Same cond. *Elec R* (Lond) 90:569-70, 607-8 *Ap* 21-28 '22; Excerpts. *Electrician* 88:342-3 *Mr* 24 '22; Discussion. *Inst E* *J* 60:640-54, 882-6 *Je*, *Ag* '22; *Elec R* (Lond) 90:608-9, 786-7 *Ap* 28, *Je* 2 '22
- Transformers for motor starting. J. B. Gibbs. diags *Power* 56:128-30 *Jl* 25 '22
- See also* Electric motors, Direct current—Starting devices; Electric motors, Induction—Starting devices

Temperature

- Heating of railway motors in service and on test-floor runs. G. E. Luke. bibliog *Am Inst E* *J* 61:165-73 *Mr* '22; Excerpts. *Elec Ry J* 59:284-6 *F* 18 '22
- How to reduce temperatures on over loaded motors. J. S. Dean. *il* *Elec J* 20:419-21 *N* '23
- Limiting temperatures of railway motors. G. E. Luke. *Elec Ry J* 60:255-8 *Ag* 19 '22
- Operating temperatures for electric motors. O. C. Schoenfeld. *Ind Eng* 81:547 *N* '23
- Temperature rise of electric machines on intermittent duty. G. E. Luke. *Elec W* 79: 1069-71 *My* 27 '22

Testing

- Board for testing two-phase, three-phase, or direct-current motors. E. C. Soares. *Elec R* 80:79+ *F* '22
- Compact brake for motor testing. E. Y. Rice. *il* *Elec W* 80:1274-5 *D* 9 '22
- Core loss by retardation method. D. W. Proebstel. *il* diags *Elec W* 82:289-90 *Ag* 11 '23
- Directions for making motor tests. J. E. Housley. *il* diags *Ind Eng* 81:331-4+ *Jl* '23
- Load survey shows whether proper size of motor is being used. H. J. Wolf. *Elec R* 80:195 *Ap* '22

- Switchboard which simplifies testing motors by the pump-back method. E. C. Soares. diags *Ind Eng* 81:557 *N* '23
- Testing motors, generators, and transformers. K. C. Coggeshall. diags *Pop Mech* 37: 289-92 *F* '22
- Tests made on the use of special motors to drive fluctuating loads. V. D. Green. *il* *Ind Eng* 81:363-4 *Jl* '23
- See also* Electric motors, Alternating current—Testing; Electric motors, Direct current—Testing; Electric motors, Induction—Testing; Electric motors, Synchronous—Testing

Ventilation

- Ventilation of motor increases output of plant. diags *J* *Elec* 48:512 *Je* 15 '22

Electric motors, Alternating current

- Brush-shifting polyphase series-type alternating-current motors. R. A. Jones and F. A. Annett. diags *Power* 57:588-90, 847-50 *Ap* 17, *My* 29 '23
- Design of motors for ship propulsion. L. J. Hunt. *Electrician* 89:92-4 *Jl* 28 '22
- Limiting output of single phase motors with geared drive. I. Döry. *Electrician* 89:475 *O* 27 '22
- Motor to help power-factor trouble. A. H. Timmerman. *Elec W* 82:826 *O* 20 '23
- New solution of power-factor problem. *il* *Elec W* 82:911-13 *N* 3 '23
- Operation of polyphase motors from a single-phase supply. G. Windred. diags *Elec R* (Lond) 93:527-8 *O* 12 '23
- Selection of polyphase motors. W. S. Jones. *Power Pl Eng* 26:1005-6 *O* 15 '22
- Single- and three-phase alternating current commutator motors with series and shunt characteristics. S. P. Smith. *Electrician* 88:39-41 *Ja* 13 '22; Same. *Inst E* *J* 60:308-14 *Mr* '22; Same cond. *Engineer* 133:98-100 *Ja* 27 '22; Same cond. *Elec R* (Lond) 90:68-70 *Ja* 13 '22; Discussion. *Elec R* (Lond) 90: 247-8, 503 *F* 17, *Ap* 7 '22; *Inst E* *J* 60:314-27, 655-6 *Mr*, *Je* '22
- Single-phase commutator motors. F. Creedy. *Elec R* (Lond) 91:582-3 *O* 27 '22
- Single-phase commutator motors. N. Pensabene-Perez. *il* *Elec R* (Lond) 90:582-3 *Ap* 28 '22
- Single-phase shunt commutator motors. N. Pensabene-Perez. diags *Elec R* (Lond) 92: 764-5 *My* 18 '23
- Suggestions as to the maintenance of alternating-current hoist motors. J. E. Housley. diags *Coal Age* 20:720-1 *N* 3 '21
- Systems of single-phase regeneration for use with series type commutator motors. L. J. Hibbard. diags *Am Inst E* *J* 42:223-33 *Mr* '23; Discussion. 42:970-1 *S* '23
- Variable-speed alternating-current motors for auxiliaries. H. C. Albrecht. *Elec W* 79:734 *Ap* 15 '22
- Variable-speed alternating-current motors without commutators. F. Creedy. diags *Inst E* *J* 61:309-26 *Mr* '23; Same. *Engineering* 115:87-91, 156-8 *Ja* 19, *F* 2 '23; Same cond. *Elec R* (Lond) 92:75-7 *Ja* 12 '23; Same cond. *Engineer* 135:49-50 *Ja* 12 '23; Discussion. *Inst E* *J* 61:326-37, 960-4 *Mr*, *S* '23; *Elec R* (Lond) 92:311-12 *F* 23 '23
- Watson alternating-current motor for machine drives. *il* *Iron Age* 110:74 *Jl* 13 '22
- See also* Electric motors, Induction; Electric motors, Synchronous

Control

- Alternating-current motor-control apparatus for shop service. L. N. Burhoe. *Elec W* 78:1031 *N* 19 '21
- Variable speed a. c. motors. R. Trauttschold. *Textile World* 63:81+ *Ja* 6 '23
- See also* Electric motors, Induction—Control

Protection

- Protecting alternating-current motors. B. W. Jones. *il* diags *Power* 56:283-4 *Ag* 22 '22; Same. *Gen Elec R* 26:106-8 *F* '23

Electric motors, Alternating current—Continued**Repair**

- Changing from two- to three-phase by changing coil pitch. A. C. Roe. diags Power 56: 814 N 21 '22
- Locating and repairing alternating current motor troubles. M. Phillips. diags Power Pl Eng 26:856-8 S 1 '22
- Winding small motors. A. C. Roe. il diags Ind Eng 80:481-5 O '22
- Winding split-phase motors. A. C. Roe. il diags Elec R 80:229-35+ My '22
- Wound rotor connections. A. C. Roe. il diags Ind Eng 80:533-9+ N '22

Starting

- Connection for starting motor when line voltage is often low. J. A. Vanderpoll. il diags Ind Eng 80:545-6 N '22
- Starting of polyphase squirrel-cage motors. B. F. Bailey. diags Am Inst E E J 42:1172-81 N '23
- Three-phase motor apparently starts single-phase. G. E. Miles. diags Power 54:776 N 15 '21

Starting devices

- Alternating-current motor starters; early designs and present day types. il Ind Eng 80:510 N '22
- Brookhirst A.C. motor-starting equipment. il diags Elec R (Lond) 93:372-3 S 7 '23

Testing

- Test-results obtained from a three-phase shunt commutator motor. F. J. Teago. il diags Inst E E J 60:328-38 Mr '22

Electric motors, Direct current

- Compensated direct-current motors. H. E. Stokes. il diags Elec J 20:86-9 Mr '23; Same. Power Pl Eng 27:479-82 My 1 '23
- Direct-current machinery. H. Pender. 314p Wiley '22
- Direct-current motors for pump driving. il Coal Age 21:452 Mr 16 '22
- Interpole vs. non-interpole machines. P. G. Bernholz. Power Pl Eng 27:427 Ap 15 '23
- Neutralized series conduction motor on a.c. and d.c. circuits. V. A. Fynn. diags Am Inst E E J 41:915-23 D '22
- Operating a direct-current motor on increased voltage. H. D. Matthews. diags Power 54:834 N 29 '21
- Peculiar behavior of direct-current motor. H. G. Roberts. diags Power 57:569 Ap 10 '23
- Reversing direct-current motors. E. H. Thompson. diags Power 54:716-17 N 8 '21
- Why does this motor reverse? Ind Eng 81: 360-1 J1 '23
- Winding and connecting data for some old direct current armatures. A. C. Roe. il diags Ind Eng 81:98-101 F '23

Control

- Automatic control of d.c. motors. il Electrician 88:475-6 Ap 21 '22
- Control systems for d.c. motors applied to machine tool drive. B. S. Pero. il Am Mach 58:515-19 Ap 5 '23
- Selection and control of motors. R. B. Stevens. il diags Elec W 80:1433-7 D 30 '22
- Speed adjustment of direct-current motors field or armature control. G. Fox. diags Power 57:285-7 F 20 '23
- Speed adjustment of direct-current motors—variable-voltage systems. G. Fox. diags Power 57:366-8 Mr 6 '23
- Speed regulation and stability of direct-current motors. S. Hancock. diags Elec J 19: 46-50 F '22; Same cond. Power Pl Eng 26: 324-7 Mr 15 '22

Parallel operation

- Parallel operation of commutating-pole motors and generators. C. B. Hathaway. diags Elec J 19:263-5 Je '22; Same. Power Pl Eng 26:859-61 S 1 '22

Repair

- Changing the voltage of a direct-current motor. C. A. Johnson. il diags Ind Eng 80: 401-2 Ag '22

- Cutting out coils in D. C. windings. A. C. Roe. il diags Ind Eng 80:384-9+ Ag '22
- Reconnecting direct-current machines; changes in voltage. A. C. Roe. diags Power 58:177-80, 245-8, 331-2 J1 31, Ag 14, 28 '23
- Repairing an open circuit in a series winding. B. A. Briggs. diags Power 56:336-7 N 28 '22
- Troubles of d.c. machines—diagnosis and remedies. H. E. Stafford. Ind Eng 80:430-2 S '22
- Winding stator of single-phase compensated series motor. A. C. Roe. il diags Ind Eng 81:416-18 Ag '23

Starting

- Starting direct-current motors. C. A. Armstrong. diags Power 56:564-6, 882-3; 57:395-7, 634-7 O 10, D 5 '22, Mr 13, Ap 24 '23

Starting devices

- Automatic starter guards small motors from burning out should they stall. il Coal Age 20:845 N 24 '21
- Drum-type starting panel for electric motors. il diags Engineering 112:726-8 N 25 '21
- New design of starting equipment. il Electrician 87:789-91 D 23 '21
- Starters for direct current motors; some early and present day types. il Ind Eng 80:412 S '22

Testing

- Loop test determines field polarity of d. c. machines. M. J. Rich. diags Elec W 78: 980-1 N 12 '21
- Practical method of making a load test on direct-current motors. J. M. Walsh. il diags Ind Eng 81:111-12 F '23

Electric motors, Induction

- Automatic-start polyphase induction motor. J. L. Hamilton. il diags Am Inst E E J 41: 772-83; Discussion. 784-94 O '22
- Bandy motor. il diags Elec R (Lond) 89: 666-7 N 18 '21
- Connecting induction motors with untagged leads to the line. L. G. Tubbs. diags Elec J 19:474-6 N '22; Same. Power Pl Eng 26: 1156-8 D 1 '22
- Current locus of single-phase induction motors. J. K. Kostko. Am Inst E E J 41: 30-6 Ja '22; Discussion. 41:674-5 S '22
- Distribution and chord factors and the uses that are made of them in winding stators of induction motors. A. M. Dudley. il diags Ind Eng 81:340-4+ J1 '23
- Effect of frequency changes on the characteristics of polyphase induction motors. J. K. Kostko. Electrician 89:286-7 S 15 '22
- Electric motors, their theory and construction. v 2 H: M. Hobart. 3d ed. 384p Pitman '23
- Heating of induction motor due to grounded wedges. A. C. Roe. Ind Eng 81:60 Ja '23
- High-speed motors for machine tools. W. A. Furst. charts Mach 30:41-3 S '23
- How revolving field is produced in induction motor. O. E. Kenworthy. diags Coal Age 24:317-18 Ag 30 '23
- How to group coils in windings of induction motors. A. C. Roe. diags Ind Eng 81:197-207+ Ap '23
- Induction motor core losses. P. L. Alger and R. Eksbergian. (M. I. T. Bul. v. 56, no. 31) 15p '21
- Induction motor secondary windings. C. W. Kincaid. il diags Elec J 20:410-19 N '23
- Induction motor troubles. W. B. DeMuth. Power Pl Eng 25:1152 D 1 '21
- Laying out unequal groupings of coils in induction motors having from four to forty-eight coils two or three-phase. A. C. Roe. tables Ind Eng 81:241-50, 293-303+ My-Je '23
- Loading back with an induction motor. H. M. Phillips. Power 55:623-4 Ap 18 '22
- Model to show revolving field of induction motor. H: Mulford. diags Ind Eng 81:462-3 S '23
- New line of induction motors by the Reliance electric & engineering co., Cleveland. il Iron Age 112:476 Ag 23 '23
- Notes on the air gap of induction motors. H. Waddicor. Elec R (Lond) 93:189-90 Ag 3 '23

Electric motors, Induction—Continued

- Operation of induction motors at different frequencies. H. Cotton. *Elec R* (Lond) 93: 308-9 Ag 31 '23
- Operation of induction motors in cascade. H. Cotton. *diags Inst E E J* 61:284-93 F '23
- Polyphase commutator machines; losses in a frequency-changer. A. E. Field. *Am Inst E E J* 41:50, 386-7 Ja, My '22
- Production of noise and vibration by certain squirrel-cage induction motors. F. T. Chapman. *diags Inst E E J* 61:39-48 D '22
- Squirrel-cage induction motor with high-starting torque and low-starting current in the line. T. F. Wall. *Engineering* 116: 394-5 S 28 '23; Same. *Elec R* (Lond) 93:514-17 O 5 '23; *Discussion, Engineering* 116:390 S 28 '23
- Starterless induction motors for ammonia compressors. J. Lebovici. *il A S R E J* 8: 398-402; *Discussion, 402-4 Mr '22*
- Torque components due to space harmonics in induction motors. K. L. Hansen. *Am Inst E E J* 41:928-32 D '22
- Use of slip-ring induction motors and synchronous motors in cement mills. H. W. Rogers. *Am Inst E E J* 41:360 My '22; Same. *Concrete* 21:sup3 JI '22
- What determines the speed of an induction motor? *Coal Age* 23:973 Je 14 '23

See also Electric motors, Synchronous

Control

- Automatic controller for induction motors. *il diags Engineering* 115:74-6 Ja 19 '23
- Calumet steel company electrify mills. L. H. Hook and F. R. Burt. *il chart Blast F & Steel Pl* 10:313-16 Je '22; Same. *Power Pl Eng* 26:659-63 JI 1 '22
- Speed control of polyphase motors. G. Fox. *diags Blast F & Steel Pl* 11:186-91, 226-31 Mr-Apr '23

Diagrams

- Arrangement of the circle diagram. L. E. Widmark. *diags Am Inst E E J* 41:687-8 S '22
- Checking up winding diagrams. A. C. Roe. *il diags Ind Eng* 81:439-46+ S '23
- Indumor; a kinematic device which indicates the performance of a polyphase induction machine. V. Karapetoff. *il diags Am Inst E E J* 41:107-17 F '22; *Discussion, 41:670-1 S '22*
- Steps in laying out and checking up three-phase diagrams. A. C. Roe. *il diags Ind Eng* 81:491-8+ O '23
- Tables and diagrams for connecting induction motors. A. C. Roe. *il charts Ind Eng* 81:137-46+ Mr '23

Performance

- Determining the performance of an induction motor without plotting a circle diagram. G. T. Smith. *Elec J* 19:485-9 D '22

Repair

- Changing winding of induction motor. A. C. Roe. *Ind Eng* 81:553 N '23
- Cutting coils out of induction-motor winding. A. J. Morroni. *diag Power* 57:646 Ap 24 '23
- Directions for stubbing and connecting windings of induction motors. A. C. Roe. *il diags Ind Eng* 81:534-9+ N '23
- How to check repair-shop prices for rewinding induction motors. *il Elec R* 80:67-9 F '22
- Induction-motor slip-ring and brush troubles and how to remedy them. J. Fox. *diags Power* 54:797-8 N 22 '21
- Induction motor troubles—diagnosis and remedies. H. E. Stafford. *Elec R* 80:22 Ja '22
- New induction motors for old. *Coal Age* 21: 570 Ap 6 '22
- Reconnecting a two-phase stator. A. H. Erame. *Power* 56:216 Ag 8 '22
- Rewinding motor for four speeds. A. C. Roe. *diags Ind Eng* 81:212-13 Ap '23

Starting

- Automatic start reduces surges. J. L. Hamilton. *Elec W* 81:567-8 Mr 10 '23
- Induction motor of high starting torque. *Coal Age* 21:617 Ap 13 '22

Motor and starter troubles—diagnosis and remedies. H. E. Stafford. *Ind Eng* 80:336 JI '22

Some recent developments in induction motor starting. W. C. Spencer. *diags Power Pl Eng* 26:125-7 Ja 15 '22

Squirrel-cage induction motors with high starting torque and reduced starting current. T. F. Wall. *diags Engineering* 116: 164-6 Ag 10 '23

Starting current required for induction motors. *Power* 56:69 JI 11 '22

Starting torque and current of squirrel-cage induction motors. T. F. Wall. *diags Elec R* (Lond) 93:44-6 JI 13 '23

Starting devices

- Monitor thermalload starter. *il Am Mach* 56: 386-7 Mr 9 '22; *Iron Age* 109:721 Mr 16 '22; *Textile World* 61:1959 Ap 1 '22
- New automatic auto-starter for squirrel-cage induction motors. *il Power* 57:519 Ap 3 '23; *Power Pl Eng* 27:396-7 Ap 1 '23
- Oil-immersed star-delta motor starter. *il diags Engineering* 116:80-2 JI 20 '23

Synchronous operation

Induction motors used as synchronous machines. S. V. Ganapati and R. G. Parikh. *diags Inst E E J* 61:795-9 JI '23

Testing

- Load test on induction motor without special apparatus. P. G. Bernholz. *Elec W* 78:1081 N 26 '21
- Simple and inexpensive method of testing induction motors. F. A. Cook. *Elec R* (Lond) 91:192 Ag 11 '22
- Transformer for locating motor troubles. C. A. Johnson. *diags Elec R* 80:45 Ja '22

Ventilation

Polyphase motor with unique ventilating system. *il Ry Age* 72:1186 My 20 '22

Electric motors, Railway

- A B C of the electric car. J. S. Dean. *il diags Aera* 10:622-3, 824-7; 11:699-701, 1020-3 F, Ap '22, Ja, Mr '23
- Armature practice on Chicago "L." *il diag Elec Ry* 61:841-2 My 19 '23
- Baby motor. F. W. McCloskey. *il Elec J* 19: 416-17 O '22
- Continuing old-type motors in service is costly. H. G. Morse. *Elec Ry J* 60:703-4 O 28 '22
- Determination of train make-up on Long Island. G. C. Bishop. *il diags Elec Ry J* 59: 110-13 Ja 21 '21
- Do armatures rub top pole faces? *diag Elec Ry J* 59:114 Ja 21 '22
- Economy of new car equipment. R. S. Pilcher. *Elec R* (Lond) 93:370-1; *Discussion, 371-2 S 7 '23*
- Effect of peak loads on railway motors. G. M. Woods. *Elec Ry J* 60:289-90 Ag 26 '22
- Give your motors a chance to make good. J. M. Yount. *il Elec Ry J* 59:439-40 Mr 18 '22
- Good motor record through hard winter. *Elec Ry J* 61:775 My 5 '23
- Life of axle bearings of railway motors. J. S. Dean. *Elec J* 19:482 N '22
- Maintaining electric railway motors. J. S. Dean. *il diags Elec Ry J* 61:111-16 Ja 20 '23
- Mechanical and electrical equipment keeps pace. *il diags Elec Ry J* 62:511-15 S 29 '23
- Modern railway motor. J. K. Stotz. *Elec Ry J* 59:1006-7 Je 24 '22; *Discussion, 59:935-6 Je 10 '22*
- Railway motor shafts and their maintenance. J. S. Dean. *Elec J* 19:521-2 D '22
- Selecting a railway motor for a given cycle of duty. W. G. Gordon. *Elec Ry J* 61:62-4 JI 14 '23
- Soldering railway armature coils to commutator. H. L. Signor. *il diag Elec Ry J* 61: 815-16 My 12 '23
- Tramcar electrical equipments. J. A. Baker. *Elec R* (Lond) 93:381-3 S 14 '23
- Why modern motors should supersede older types. J. M. Hipple. *il Elec Ry J* 59:107-9 Ja 21 '22

Electric motors, Railway—Continued**Bearings**

- Broaching armature bearings. O. A. Norene. il Elec Ry J 62:456 S 22 '23
 Comparative tests on tramcars; roller versus plain bearings. Elec R (Lond) 91:214 Ag 11 '22
 Life of armature bearings of railway motors. J. S. Dean. Elec J 19:171 Ap '22
 Maintenance and lubrication of railway bearings. H. Cordell. Elec Ry J 60:298-300; Discussion. J. H. Kouny. 300-1 Ag 26 '22
 Revamping loose armature bearings. J. S. Dean. Elec J 20:80 F '23
 Some service results of ball bearings. C. T. Perry. Elec Ry J 58:905-6 N 19 '21
See also Cars, Electric railroad—Bearings

Control

- Traction motor control. A. T. Dover. 114p Pitman '23

Gearing

- Development of the modern gear. W. H. Phillips. diags Elec Ry J 62:413-14 S 15 '23
 Gear cases. J. S. Dean. il Elec J 19:447-8 O '22
 Putting pinions on mine type locomotive armatures. diag Coal Age 24:251-2 Ag 16 '23
 Stress distribution in electric railway motor pinions as determined by the photo-elastic method. P. Heymans and A. L. Kimball, jr. il diags Gen Elec R 26:143-53 Mr '23; Same abr. Mech Eng 45:93-5+ F '23

Lubrication

- Lubricating railway motors. L. M. Clark. Elec Ry J 61:175-6 Ja 27 '23
 Reducing lubrication costs on street cars. H. M. Robinson. il Elec Ry J 51:119-22 Ja 20 '23

Manufacture

- Manufacture of railway motors. J. K. Stotz. il Elec J 19:429-35 O '22

Rating

- Heating of railway motors in service and on test-floor runs. G. E. Luke. bibliog Am Inst E E J 41:165-73 Mr '22; Excerpts. Elec Ry J 59:284-6 F 18 '22; Discussion. Am Inst E E J 41:667-70 S '22
 Limiting temperatures of railway motors. G. E. Luke. Elec Ry J 60:255-8 Ag 19 '22

Repair

- Practical kinks in truck and motor maintenance. H. Cordell. Elec Ry J 60:785-6 N 11 '22
 Reclaiming old railway motors at a cost that pays. W. H. Hayes. il diags Elec Ry J 59:317-20 My 20 '22
 Rehabilitation of electrical equipments on street railway cars. H. R. Meyer. il Elec J 20:375-9 O '23
 Repairing railway motors in Denver. F. H. Colvin. il diags Am Mach 58:873-4 Je 14 '23
 Restoring worn railway motor frames and axle bearing caps. B. E. James. diags Elec J 19:415-16 O '22
 Revamping old railway motors. J. S. Dean. il diags Elec Ry J 59:625-9 Ap 15 '22

Ventilation

- Ventilated railway motors. diags Elec J 20:41-2 Ja '23

Electric motors, Synchronous

- The blondellon; a kinematic device which indicates the performance of a polyphase synchronous generator or motor. V. Karapetoff. il diags Am Inst E E J 42:234-46 Mr '23; Abstract. Elec W 81:444 F 24 '23
 Calculating size of synchronous motor for power-factor correction. C. A. Armstrong. diags Power 56:202-2 Ag 8 '22
 Determining synchronous motor efficiencies. G. E. Wiles. Power 57:601 Ap 17 '23
 Error due to neglecting electrical forces in calculating flywheels for reciprocating machinery driven by synchronous motors. A. R. Stevenson, jr. il Gen Elec R 25:690-9 N '22

- Graphics of the synchronous motor. W. M. Wallace. diags Engineering 115:353 Mr 23 '23

- Improvement of power factor. G. Kapp. diags Inst E E J 61:93-100 Ja '23; Same. Engineering 114:660-2 N 24 '22; Excerpts. Engineer 134:561 N 24 '22

- Impulse electric motor for driving recording instruments. W. F. Joachim. il diags J Fr Inst 196:215-26 Ag '23

- Induction-type synchronous motors. L. H. A. Carr. diags Inst E E J 60:165-74 F '22; Excerpts. Engineer 132:713-14 D 30 '21; Same cond. Electrician 88:12-13 Ja 6 '22; Same cond. Elec R (Lond) 90:32-3 Ja 6 '22; Discussion. Inst E E J 60:174-95, 342-6, 545-51, 827-34 F-Mr, My, Jl '22; Electrician 88:13-14 Ja 6 '22; Elec R (Lond) 90:33-4, 176-7, 248-9, 572-3, 677 Ja 6, F 3, 17, Ap 21, My 12 '22

- Inexpensive compound winding for synchronous motor exciter field. diag Elec Ry J 59:824 My 20 '22

- Notes on synchronous motor pull-out. E. B. Shand. Elec J 19:454-5 N '22; Same. Power Pl Eng 26:1213-14 D 15 '22

- Polyphase reaction synchronous motors. J. K. Kostko. bibliog diags Am Inst E E J 42:1162-8 N '23

- Power-factor correction with loaded synchronous motors. C. W. Bates. Elec W 82:323-5 Ag 18 '23

- Present status of the synchronous motor for direct connection to compressors. T. Schou. diags Refrig Eng 9:53-9; Discussion. 59-61+ Ag '22

- Pulling into step of an induction-type synchronous motor. L. H. A. Carr. diags Inst E E J 61:692-6 Je '23

- Resynchronizing characteristics of synchronous motors. O. E. Shirley. il Gen Elec R 26:412-18 Je '23

- Self-starting synchronous motor and its application for power factor correction and industrial drives. S. H. Mortensen. il diags W Soc E J 28:319-38 Ag '23; Abstract. Refrig Eng 10:72-5 Ag '23

- Specifications for a synchronous motor for direct connection to an ammonia compressor. Refrig Eng 9:194-6 D '22

- Standardization in the design and application of synchronous motors driving refrigerating machinery. R. A. McCarty. il Refrig Eng 9:4-6+ Jl '22

- Super-synchronous motor for high starting duty. W. L. Merrill. il Power 57:179-80 Ja 30 '23; Excerpts. Blast F & Steel Pl 11:244 Ap '23

- Synchronous motor and how it operates. G. Fox. il diags Power 57:515-19 Ap 3 '23

- Synchronous motor for heavy duty. C. W. Drake. il Elec W 80:777-8 O 7 '22

- Synchronous motors. E. Friedlander. Blast F & Steel Pl 11:111-12 Ja '23

- Synchronous motors reduce mine-fan power bills. F. W. Cramer and A. A. MacDonald. diags plan Coal Age 21:571-5 Ap 6 '22

- Use of slip-ring induction motors and synchronous motors in cement mills. H. W. Rogers. Am Inst E E J 41:360 My '22; Same. Concrete 21:sup8 Jl '22

Repair

- Synchronous motor troubles—diagnosis and remedies; table. H. E. Stafford. Elec R 80:217+ My '22

- Welding reduces cost of repairing motor generators. il Elec W 79:885 My 6 '22

Starting

- Automatic starters for synchronous motors; frequency-relay type. il diags Power 58:605-8 O 16 '23

- Starting equipment for slow-speed direct-connected synchronous motors. T. Schou. il diag Power 56:184-5 Ag 1 '22

- Starting synchronous motors. Coal Age 23:755 My 10 '23

- Starting synchronous motors. G. Fox. il Power 57:977-80 Je 19 '23

- Starting synchronous motors; driving ammonia compressors. A. R. Stevenson, jr. Power 55:764-7 My 16 '22; Same. Refrig Eng 9:16-19 Jl '22

Electric motors, Synchronous—Starting—*Cont.*
Synchronous motor starting torque characteristics. O. E. Shirley. Gen Elec R 24: 873-6 O '21; Same. Power Pl Eng 26:225-7 F 15 '22

Testing

Self-starting synchronous motors get service test. S. H. Mortensen. il diags Elec W 82: 219-21 Ag 4 '23

Electric ovens

Applications of the electrical oven in the automobile industry. L. F. Leurey. il J Elec 50:295 Ap 15 '23

Economies of electric ovens for baking bread. W. Scott. il Elec W 79:878-9 My 6 '22

Electric baking oven; the automatic reel type. il Elec R (Lond) 91:429 S 22 '22

Electric enameling oven shows economies in S. F. factory. il J Elec 48:114 F 1 '22

Electric heat suitable for drying film emulsions. W. S. Booth. il Elec W 80:1275-6 D 9 '22

Electric jappanning ovens for optical company. E. H. Fetz. il Elec W 81:339 F 10 '23

Electric ovens are a good investment. W. S. Scott. il Elec R 80:275-81 Je '22

Electric ovens dry paint on light metal ware satisfactorily. J. W. Carpenter. Elec W 79: 1076 My 27 '22

Electrical bake ovens made in sections. il Pop Mech 38:848 D '22

Gas trims electricity in bakeries. H. S. Babb. Gas Age 50:793-4 D 9 '22

Industrial electric heat applications. J. L. M. Yardley. il diags Elec W 81:1087-90 My 12 '23

Ovens for baking railway motor armatures. J. S. Dean. il Elec Ry J 61:684-6 Ap 21 '23

Rejection reduced to 3 per cent in electric jappanning ovens. il Elec W 82:28-9 JI 7 '23

Simple enameling bake oven. D. A. Hampson. diags Am Mach 57:779 N 16 '22

Status of electric furnaces. L. H. Knapp. il diags Elec W 80:605-9 S 16 '22

See also Electric stoves

Electric patents

Electric patents. *See* weekly numbers of Electrical world

Electric plants

Automatic oil-engine light plant. C. K. Lee. diags Power 58:252-3 Ag 14 '23

Data on recent industrial plants. Power 57: supp My 29 '23

Electric power plant engineering. J. Weingreen. 3d ed. 511p McGraw-Hill '22

Electric power systems. W. T. Taylor. 107p Pitman '22

Electrically-driven cement works. il Elec R (Lond) 90:148-50 F 3 '22

Gas engine power station of Palmers' shipbuilding and iron company. il diags Engineering 116:195-8, 208, 288-92, 364-6, 368, 454-7, pl 14, 21 Ag 17, S 7, 21, O 12 '23

Gas works electricity scheme; its fuel cost. W. T. Wardale. Elec R (Lond) 93:512-13 O 5 '23

Messrs Lyons's Greenford factory. il Elec R (Lond) 93:322-5 Ag 31 '23

Mixed-pressure turbine installation with regenerator appreciably decreases power costs at Nokomis. C. W. Smith. il Coal Age 20:753-7 N 10 '21

Modern street railway power plant. il diags plan Power Pl Eng 26:789-95 Ag 15 '22

New plant of the H. H. Franklin mfg. co. il diags plans Power Pl Eng 26:297-304 Mr 15 '22

12,000-kw. industrial power plant; Kokomo plant of the Pittsburgh plate glass company. il diags Power 56:674-9 O 31 '22

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References on the power plant as a factory problem will be found under Power plants; references on central stations will be found under Electric plants (central stations) and under Electric utilities

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Costs

Analysis of costs in gas-engine plants. Elec W 80:885 O 21 '22

Analyzing power costs in small plants. L. V. H. Armstrong. Elec W 81:1512-16 Je 30 '23

Employees

Plant operator's job. A. T. Hunt. Power Pl Eng 26:76-7 Ja 1 '22

Excitation equipment

Exciter instability. R. E. Doherty. bibliog diags Am Inst E E J 41:731-44 O '22; Discussion. 41:1025-6 D '22

Features that increase reliability in hydroelectric plants. R. C. Denny. il Power 55: 408-10 Mr 14 '22

Operating instruction for handling excitation troubles. Elec W 79:487 Mr 11 '22

Interconnection

Advisability of limiting to super-power stations the public supply of electricity. Engineering 115:148-9 F 2 '23; Engineering 135:115-16 F 2 '23; Discussion. Elec R (Lond) 92: 274-6 F 16 '23

Atlas of U. S. A. electric power industry. F. G. Baum. 34 pls McGraw-Hill '23

Benefits of consolidation of central stations. map Elec W 80:946 O 28 '22

California-Oregon power company to extend lines; construction of extension closes last gap in interconnected system from Columbia river to Mexican border. J Elec 48:120 F 1 '22

Central-station utilization of by-product power from steel plants. L. B. Breedlove. Elec W 82:761-2 O 13 '23; Discussion. 82:969 N 10 '23

Co-ordinating steam and hydro operation; "U" transmission lines of the Consumers' power company. F. W. Pollock. il map Elec W 81: 1085-6 My 12 '23

Economies of interconnection. il Elec W 81: 19-21 Ja 6 '23

Engineering of superpower. R. F. Schuchardt. Am Inst E E J 42:846-8 Je '23

Factors that will affect the economy of superpower. J. R. Belknap. Power 56:695-6 O 31 '22

Financial, engineering and commercial aspects of interconnection. S. C. Moore. Elec W 79:191 Ja 28 '22

Frequency converter ties between large power systems. J. W. Dodge. il diags Gen Elec R 26:435-44 Je '23

From Mexico to Puget Sound. map Elec W 81:353 F 10 '23

Further interconnection in Massachusetts. Am Inst E E J 42:57 Ja '23

German super-power stations for England. P. Rylands. Elec R (Lond) 89:775-6 D 9 '21; Discussion. 89:733-4, 813-14 D 2, 16 '21; Electrician 87:762-3 D 16 '21

Great Lakes geographic division claims first super-power zone. H. J. Burton. N E L A Bul 8:684-5 N '21

Group operation of systems having different frequencies. E. R. Stauffacher and H. J. Briggs. il Am Inst E E J 42:1129-32 N '23; Abstract. Elec W 82:863 O 27 '23

Guiding principles in seeking interconnections. Elec W 82:872-3 O 27 '23

Interconnection a national problem. Elec W 81:741-2 Mr 31 '23

Interconnection economics; Fall River district executives give valuable testimony. Elec W 82:249 Ag 4 '23

Electric plants—Interconnection—Continued

Interconnection of alternating-current power stations. L. Romero and J. B. Palmer. *Inst E E J* 60:287-98 Mr '22; Abstracts. *Engineer* 133:193-4 F 17 '22; *Elec R (Lond)* 90:315-16, 787-8, 837-9 Mr 3, Je 2, 16 '22; *Electrician* 88:157-8 F 10 '22; Discussion. *Inst E E J* 60:293-303, 803-25; 61:496-500 Mr, Jl '22, Ap '23; *Elec R (Lond)* 91:784 N 24 '22

Interconnection of transmission lines in Ohio. C. E. Reese. *il Power Pl Eng* 27:282-3 Mr 1 '23

Interconnection progress in Ohio at 132,000 volts. G. E. Snider and E. E. Spracklen. *il diag Elec W* 82:484-6 S 8 '23

Interconnection study of New York state. *Elec W* 82:775-6 O 13 '23

Les lignes françaises de transmission d'énergie électrique à hautes et très hautes tensions. J. T. Laspière. *map Génie Civil* 82:599-603, 616-19 Je 23-30 '23

Mapping a great electrical network. *chart Elec W* 82:879 O 27 '23

Meilleure utilisation des petites chutes d'eau par la liaison entre leurs usines électriques. A. Soulier. *diag Génie Civil* 79:570 D 24 '21

Michigan a leader in interconnection of hydro and steam plants. H. J. Burton and W. W. Tefft. *il diag Elec W* 79:329-31, 770-3 F 18, Ap 22 '22

National superpower scheme. F. G. Baum. *map Elec W* 81:1273-5 Je 2 '23

Network in Pennsylvania would greatly benefit industries. *Elec W* 78:969-70 N 12 '21

Operating interconnected hydro plants for best system economy. J. W. Andree. *il map Elec W* 79:933-6 My 13 '22

Pacific coast superpower zone. *map J Elec* 50:98-9 F 1 '23

Physical interconnection of electric light and power systems, and its effect upon utility regulation. M. H. Aylesworth. *N E L A Bul* 9:77-82 F '22; Excerpts. *Elec W* 79:325-7 F 18 '22

Power and social progress. P. T. Brady. *Am Inst E E J* 42:645-6 Je 23

Problems and developments in the control and interconnection of power systems. H. R. Summerhayes. *il diags Gen Elec R* 26:327-37 Je '23

Programme de grands réseaux électriques pour la transmission de l'énergie à haute tension dans toute la France. *map Génie Civil* 79:444-6 N 19 '21

Recent developments in superpower for Indiana. F. L. Ray. *Power Pl Eng* 26:366 Ap 1 '22

Recommends parallel operation of industrial plants and central stations. S. J. H. White. *Power* 57:1031-2 Je 26 '23

Relaying of interconnected systems. C. A. Powel. *diags N E L A Bul* 10:602-5 O '23

Steam-electric central stations retained for the superpower system. A. R. Wellwood. *Power* 54:969-72 D 20 '21

Suggested super-power for North America. G. E. Tripp. *map Power Pl Eng* 27:753 Jl 15 '23

Superpower as a national policy. M. H. Aylesworth. *Am Inst E E J* 42:648-52 Je '23; Same. *N E L A Bul* 10:338-41 Je '23; Same cond. *Elec W* 81:1275-7 Je 2 '23

Super-power conference; address. H. Hoover. *N E L A Bul* 10:644-7 N '23; Same. *Power* 58:667-8 O 23 '23; Same cond. *Elec W* 82:827 O 20 '23; Excerpts. *Ry R* 73:571-2 O 20 '23

Super-power electric systems. *map Pub Works* 54:166 My '23

Super-power plant for Paris region. *il Elec Ry J* 60:231 Ag 12 '22

Superpower plants justify themselves in coal emergency. *Elec W* 79:645 Ap 1 '22

Superpower study in Pittsburgh district. W. W. Handy. *Elec W* 80:1263-7 D 9 '22

Superpower system in France. *maps Elec W* 80:118 Jl 15 '22

Supersystems for New York. *Elec W* 81:1293 Je 2 '23

System and operating methods of Consumers power co., Jackson, Mich. hydroelectric plants and steam plant auxiliaries. W. W. Tefft. *il diag Power* 55:526-30 Ap 4 '22

Tacoma-Seattle power exchange line. R. E.

Towne. *il diags Elec J* 20:206-10 Je '23

Triumph of superpower seen. *Elec W* 81:992-3 Ap 23 '23

Unstable operation of generating stations in parallel. D. D. Higgins. *diags Elec W* 78:414-16; 79:285 Ag 27 '21, F 11 '22

Utilisation of scattered water power. I. M. E. Aitken. *Elec R (Lond)* 92:10 Ja 5 '23

Water, coal, and man power of the western slope of the Southern Appalachian mountains. J. A. Switzer and W. R. Woolrich. *maps Mech Eng* 45:637-42 N '23; Abstract. *Power* 58:747-9 N 6 '23

See also Superpower surveys

Isolated plants vs. central stations

Electric power industry; the relation of the electric power industry to the industrial corporation. C. P. Steinmetz. *Gen Elec R* 25:729-36 D '22

Selection of power service for non-industrial buildings. J. O. Batzer. *Power Pl Eng* 26:160-2 F 1 '22

Service in federal buildings. N. H. Thompson. *Power* 56:108-9 Jl 18 '22

Load factor

Effect of load factor on power station costs. *Engineering* 114:557-8 N 3 '22; Discussion. 114:648 N 24 '22

Relation connected loads should bear to generator capacity. C. Lee. *il Coal Age* 21:1037-40 Je 22 '22

See also Electric plants (central stations)—Load

Electric plants (central stations)

Central station developments. C. W. Stone. *Gen Elec R* 26:325-7 Je '23

Central station engineers discuss power plant problems; report of the Prime movers' committee of the National electric light association. *Power* 55:835-6 My 23 '22

Data on some large central stations recently completed and under construction. *Power* 57:supp My 29 '23

Development in power production. O. Junggren. *Gen Elec R* 26:452-5 Je '23

Obsolescence a factor in power plant design. P. Junkersfeld. *Power* 57:951-2 Je 12 '23

Performance of equipment and trends in station practice. *il Elec W* 79:1033-5 My 20 '22

Possibilities in radio for the central station company. J. C. Martin. *il map Elec W* 79:673-6 Ap 8 '22

Power-station design. C. W. E. Clarke. *Eng Soc W Pa* 38:109-27 My '22; Abstract. *Mech Eng* 45:52-3 Ja '23; Discussion. *Eng Soc W Pa* 38:128-67 My '22

Some economic engineering problems to think about. L. R. Lee. *Elec W* 79:957-9 My 13 '22

Utilization of exhaust steam from electric generating stations, and coal economy. C. I. Haden; F. H. Whysall. *Inst E E J* 60:265-72 Mr '22; Abstracts. *Electrician* 88:94-5 Ja 27 '22; *Elec R (Lond)* 90:139-40 Ja 27 '22; Discussion. *Inst E E J* 60:273-86, 552-61 Mr, My '22; *Electrician* 88:97 Ja 27 '22; *Elec R (Lond)* 90:140-1, 157, 223, 464 Ja 27- F 3, 17, Mr 31 '22; *Engineer* 133:109-10 Ja 27 '22

Utilisation of waste. *Eng & Ind Management* 7:102-5 Ja 26 '22

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Development of automatic control. H. C. Hoyt.
il Gen Elec R 26:445-50 Je '23

Construction

Foundation and framing design of Colfax power station. M. E. Thomas. il diags Eng N 89:1102-5 D 23 '22

See also Electric switches—Isolated phase construction

Control

Problems and developments in the control and interconnection of power systems. H. R. Summerhayes. il diags Gen Elec R 26:327-37 Je '23

Cost of construction

Cost of outdoor metering installations. H. R. Thomas. il diags Elec W 80:119-21 Jl 15 '22
Estimated cost of 20,000-kw. plant addition. Elec W 80:280-1 Ag 5 '22

Unit costs of New Bedford generating station. il Elec W 78:1072-3 N 26 '21

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Comparison of operating costs of Diesel plants with particular reference to maintenance. Elec W 79:1225 Je 17 '22

Comparison of production expenses at Connors Creek. Elec W 79:635-6; 80:487-8 Ap 1, S 2 '22

Diesel-powered central station. il Power 57: 856-8 My 29 '23

Fuel cost 72 per cent of production expense. Elec W 81:810 Ap 7 '23

Fuel economy and production expenses. A. M. Perry. Elec W 80:115-18; 81:1259-62 Jl 15 '22, Je 2 '23

General trend of generating station costs. A. D. Bailey. Elec J 20:201-2 Je '23

Oil engines reduce power-plant costs. L. H. Morrison. il Power 58:455-7 S 18 '23

Operating expenses of six plants. Elec W 79: 131-2 Ja 21 '22

Production expenses at Connors Creek. diags Elec W 81:635-6 Mr 17 '23

Running cost calculations. J. C. Connan. Elec R (Lond) 93:564-6 O 19 '23

Costs

Analyzing power costs in small plants. L. V. H. Armstrong. Elec W 81:1512-16 Je 30 '23

Cash value of power-factor correction. F. C. De Weese. Elec W 80:980-2 N 4 '22

Central-station equipment costs. Elec W 79: 1227 Je 17 '22

Coal cost in New York power statistics. Elec Ry J 58:1115 D 24 '21

Cost of electric service. W. J. Greene; C. F. Schoonmaker and C. B. Gorton. Elec W 80:878-80 O 21 '22

Cost of equipment for generating plant. Elec W 80:1397 D 23 '22

Cost of oil-engined central stations. Power 58:537 O 2 '23

Energy costs 0.9972 cent in 7,000-kw. plant. Elec W 82:661 S 29 '23

Financial aspect of small power stations. E. J. Hawkins. Elec R (Lond) 92:727-9 My 11 '23; Discussion. J. E. Stewart. 92:878 Je 1 '23

Paradox of hydro-steam. G. H. Moore. Eng N 91:354-6 Ag 30 '23

Recent unit costs of central-station distribution material. Elec W 79:1126 Je 3 '22

Relative cost of 25 and 60-cycle generation at Washington. W. R. McCann. diag Elec W 82:615-4 S 29 '23

Residence consumer—what he costs and what he is worth. Elec W 81:1269-72 Je 2 '23

Some notes on Dalmarnock power station. R. B. Mitchell. Electrician 88:687-9 Je 9 '22; Same. Engineer 133:646-7 Je 9 '22; Same. Engineering 113:632-3 Je 2 '22; Same. Power Pl Eng 26:1099-1103 N 15 '22; Excerpts. Elec R (Lond) 90:761-2 Je 2 '22; Discussion. Engineering 113:692 Je 2 '22

Street lighting—an undeveloped source of revenue. G. E. Miller. il Elec W 82:859-62 O 27 '23

See also Electric service, Rural—Cost; Power cost

Demand

Effect of time interval and type of load upon integrated kilowatt-hour demand. Elec W 82:443+ S 1 '23

Employees

Central station wage problem. Elec W 79:26-7, 488 Ja 7, Mr 11 '22

Central stations and technical schools. M. S. Sloan. Elec W 81:971-2 Ap 28 '23

Educational courses for central-station men. Elec W 80:1399-1400 D 23 '22

Selling the sales department to the organization. C. Barnes. Elec W 80:938-9 O 28 '22

Training student engineers at the Newcastle-upon-Tyne electric supply co. Elec R (Lond) 92:430-1 Mr 16 '23

Equipment

Alternating current in New York; additions to the Hell Gate station. F. W. Smith. il plan Elec W 81:1196-9 My 26 '23

Auxiliary power supplied from three sources in new Hudson avenue station. plans Power Pl Eng 27:788-9 Ag 1 '23

Calumet station, Commonwealth Edison co. il diags plan Power 55:842-51 My 30 '22; Excerpts. Elec Ry J 59:897-901 Je 3 '22; Elec W 79:1110-14 Je 3 '22

Desirable duplication and safeguarding in the electrical equipment of a generating station. W: F. Sims. Inst E E J 42:704-5 Jl '23; Same. Power Pl Eng 27:786-7 Ag 1 '23; Discussion. Am Inst E E J 42:1356 D '23

Drive of power station auxiliaries. L. Breach and H. Midgley. diags Inst E E J 61:829-45 Ag '23; Abstracts. Elec R (Lond) 92: 713-14 My 4 '23; Engineer 135:468 My 4 '23; Discussion. Inst E E J 61:845-62 Ag '23; Elec R (Lond) 92:714, 808-9 My 4, 25 '23

Electrical features, Northeast station, Kansas City. il Power 58:318-21 Ag 28 '23

Electricity supply at Nelson; inauguration of new plant. il Elec R (Lond) 91:594-5 O 27 '22

Electricity supply in Birmingham; details of the new Nechells generating station. il plans Electrician 88:744-50 Je 23 '22

Generator and prime-mover equipment of the central stations of the United States as of Oct. 1, 1921. Elec W 80:168-9 Jl 22 '22

Heat balance and electrical equipment in the Gennevilliers station. R. H. Andrews. il diags Power 56:232-6, 296-7 Ag 15-22 '22

Operating methods at Hell Gate. il charts diags Power Pl Eng 27:555-64 Je 1 '23

Phase isolation—a feature of Hell Gate. il diags plan Elec W 79:870-6 My 6 '22

Some economic phases of engineering. G. F. Marsteller. chart Elec W 81:217-19, 559-62 Ja 27, Mr 10 '23

Some views on power-station auxiliaries. Electrician 88:69-70 Ja 20 '22

Steam plant auxiliaries. C. D. Gray and M. M. Samuels. il diags Elec W 82:749-53 O 13 '23

Still greater reliability the aim in station design. B. G. Jamieson. il Elec W 79:32 Ja 7 '22

Up-to-date practice in electric stations; notes from the report of the electrical apparatus committee of the N.E.L.A. il diag Power Pl Eng 27:941-3 S 15 '23

Wabash river station of the Indiana electric corporation. F. S. Clark. il diag plan Power 57:1008-13 Je 26 '23

See also Electric plants (central stations)—Telephone

Fuel

Electric utilities' daily fuel consumption increases. Elec W 80:392 Ag 19 '22

Electricity and the coal supply. J. W. Lieb. Am Ind 23:36, 38-40 My '23

Heating and ventilation

Ventilation of central station buildings and equipment. 46p Nat. elec. light. assn., 29 W. 39th st., New York '23

Electric plants (central stations)—Continued**History**

Birth of an industry at the Pearl Street station. J: W. Lieb. il Elec W 80:522-8 S 9 '22
 First central station and its history: Pearl Street plant opened, September 4, 1882, New York city. il map N E L A Bul 9:515-25 S '22

Inspection

Individual responsibility in plant inspection. W. D. Packard. Elec W 80:1219 D 2 '22

Interconnection

See Electric plants—Interconnection

Layout

Station electrical layout for supplying local and regional service; South Meadow station of the Hartford electric light company. il diags Elec W 78:1269-73 D 24 '21

Load

Analysis of consumption and revenue on domestic and commercial lighting customers. A. H. Heitzler and S. R. Finley. map N E L A Bul 10:466-70 Ag '23

Characteristics of rural load fed by 6,600-volt line. Elec W 79:835-6 Ap 29 '22

Dividing load between units. G: R. Davison. Elec W 80:1385-7 D 23 '22

Domestic load building: a few suggestions upon propaganda work. W. A. Gillott. Inst E E J 61:197-202 F '23; Same cond. Engineer 134:614 D 8 '22; Same cond. Elec R (Lond) 91:882-3 D 8 '22; Discussion. Inst E E J 61:202-19, 392-7, 390-2 F-Mr. Ag '23; Elec R (Lond) 91:883-4; 92:91-2, 273-4 D 8 '22, Ja 19, F 16 '23

Effect of load variation on power station efficiency. Engineering 115:467-8 Ap 13 '23; Same cond. Power Pl Eng 27:694-5 Jl 1 '23

Energy consumption by various types of consumers. A. C. Hall. Elec W 79:1116-17 Je 3 '22

Extension of the use of electricity for domestic purposes; abstracts. W. A. Vignoles. Elec R (Lond) 90:905-7 Je 30 '22; Electrician 88:789-91; Discussion. 791-2 Je 30 '22

Forcing most economical load division by reactors. A. H. Sweetnam. Elec W 81:1463-5 Je 23 '23

Graphic solution of a.c. load problems. J. A. Van Tilburg. Elec R (Lond) 90:436-7 Mr 31 '22

Household electric refrigeration. T. I. Jones. Elec W 80:1000-1 N 4 '22

Importance of the lighting load. D. Ray. N E L A Bul 10:175 Ja 16 '23

Income from range and heater loads. Elec W 80:491-2 S 2 '22

Indicating station load in the boiler room. F. F. Leilich. il Power 55:579-80 Ap 11 '22

Indicating the total power from several generating stations. H. P. Sparkes. il diags Elec J 19:142-6 Ap '22; Same cond. Power Pl Eng 26:472-4 My 1 '22

Maintaining day-service standards in the small community. C: M. Adams. Elec W 79:438 Mr 4 '22

Operating characteristics of rural transmission lines. V. L. Hein. (Bul. no. 53, Eng. ext. dept.) 10p Iowa state college of agriculture and mechanic arts, Ames '22; Abstract. Elec W 81:795-6 Ap 7 '23

Power needs of 6227 major industrial plants of the West. map J Elec 48:498-502 Je 15 '22

Power requirements for radio broadcasting. il Power Pl Eng 26:756-8 Ag 1 '22

Refrigeration and ice making as a central station load. C. K. Chapin. il J Elec 47:461-2 D 15 '21

Relation of appliance and lighting loads among residential customers. Elec W 82:708-10 O 6 '23

Selling ranges to develop an electric power load. J Elec 51:21 Jl 1 '23

Servicing industrial loads. il diags Elec W 82:589-94 S 22 '23

Survey of the appliance load. H. B. Gear. Elec W 81:985-6 Ap 28 '23

Textile mills lead in industrial energy consumption in Massachusetts. R. M. Davis. diags Elec W 79:1267-70 Je 24 '22

Transmission-line load-distribution factors. E. K. McDowell. Power Pl Eng 27:782-6, 936-9 Ag 1, S 15 '23

Value of industrial lighting to the central station. J. C. Fisher. N E L A Bul 9:47-9 Ja '22

What is residence load factor? J. A. Rockwood. Elec W 80:422 Ag 26 '22

Load dispatching

Dispatcher's board using plug and tag signals. T. H. Soren. Elec W 80:132 Jl 15 '22

Easily manipulated system diagram saves time and uncertainty. R. E. Watrous. diag Elec W 82:30 Jl 7 '23

Load dispatcher's control board. A. O. Evans. Elec W 82:441 S 1 '23

Load-dispatching system for working correct number of boilers. C. E. Hague. Elec W 79:88-9 Ja 14 '22

Operating pilot board and load dispatching system of the New York Edison company. W. H. Lawrence. il diag Gen Elec R 26:128-36 Mr '23

Supervisory systems for remote control. C. E. Stewart and J. C. Field. il diag Elec W 82:655-9 S 29 '23

See also Electric plants (central stations)—Telephone

Location

See Electric plants (central stations)—Mine-mouth plants

Maintenance and repair

Why do the lights flicker? Power 54:943; 55:73, 235 D 13 '21, Ja 10, F 7 '22

See also Electric plants (central stations)—Cost of operation

Management

Analysis of a building program; graphs used to make concise and readable masses of figures needed in power company's building program. C. P. Dunn. Elec W 81:219-21 Ja 27 '23

Central station vs. electrical contractor-dealer. C. C. Baines. Elec R 79:950-1 D 24 '21

Comparing central station economics. G: C. Cook. Power Pl Eng 25:1091-2 N 15 '21

Increasing the reliability of service. F. D. Gordon. Elec W 80:1098 N 18 '22

Operating results of Blackburn East power station. il Engineering 116:515-17, pl 26-9 O 26 '23

Possible economies in large electric generating stations. E. Rauber. Engineer 132:699 D 30 '21

Power generation costs reduced 35 per cent. D. E. Druen. il Elec Ry J 61:439-43 Mr 17 '23; Same cond. Power 57:470-4 Mr 27 '23

Putting system operation on a higher plane. W: H. Atkins. Elec W 79:1219-21 Je 17 '22

Selling the sales department to the organization. C. Barnes. Elec W 80:338-9 O 28 '22

Station operating handbook. 230p Philadelphia electric co., Philadelphia '21

See also Electric utilities—Management

Mine-mouth plants

Golpa plant dry dredges lignite and operates central power station. G: F: Zimmer. il diags map plans Coal Age 21:913-19 Je 1 '22; Same cond. Ind Management (Lond) 8:291-6 N 16 '22

Million-volt current tests point to mines as possible electrification centers. il Coal Age 20:760-1 N 10 '21

To build mouth-of-mine plant on Ohio river. map Elec W 82:194 Jl 28 '23

See also Electricity in mining; also Electric plants (central stations)—Pittsburgh

Parallel operation with industrial plants

Recommends parallel operation of industrial plants and central stations. S. J. H. White. Power 57:1031-2 Je 26 '23

Rates

See Electric rates

Electric plants (central stations)—Continued**Records**

- Complete daily log sheet. Power 55:890 Je 6 '22
 Graphical analysis of operating results. J. Taylor. Power 57:1026 Je 26 '23
 Improving the operating log of a system. F. Gillooly. Elec W 80:1108-9 N 18 '22
 Operating results of a modern power station; Glasgow corporation station at Dalmarnock. Engineering 114:270-2 S 1 '22; Excerpt. Power 56:705 O 31 '22
 Power plant log sheet used at Hot Springs, Ark. Elec Ry J 60:6 J1 1 '22

Safety devices and measures

- Desirable duplication and safeguarding in the electrical equipment of a generating station. W. F. Sims. Am Inst E E J 42:704-5 J1 '23; Same. Power Pl Eng 27:786-7 Ag 1 '23; Discussion. Am Inst E E J 42:1356 D '23
 Safety as applied to operating equipment of large electric power stations. E. W. Gorry. Safety Eng 43:261-8 Je '22
 Safety is built into the design of the new Hell Gate electric power station. E. M. Van Norden. Safety Eng 43:257-60 Je '22

Statistics

- Additions and extensions during 1923 estimated at \$602,143,000. Elec W 81:569-70 Mr 10 '23
 Additions to systems during 1922 will total \$324,016,000. Elec W 79:925-6 My 13 '22
 Business trend from energy consumed. T. Dwight. diags Elec W 80:705-7 S 30 '22
 Central-station commercial lighting customers total 10,800,000. diags Elec W 80:1270-1 D 9 '22
 Central-station development at Providence. Elec W 81:928 Ap 21 '23
 Central-station output a barometer of local industry. G. E. Miller. Elec W 79:936-7 My 13 '22
 Central station returns for 1921. Elec W 78:1123-5 D 3 '21
 Eight systems with output of 1,000,000,000 kw. in 1922. tables Elec W 81:802-5 Ap 7 '23
 Eighty-one generating systems of over 50,000 kva. rating. diags Elec W 82:810-11 O 20 '23
 Electric public-utility power plants increase production. Am Inst E E J 42:798 Ag '23
 Energy output for 1921 estimated at 43,100,000 kw.-hr. Elec W 79:21-3 Ja 7 '22
 Energy output more than 52,000,000,000 kw.-hr. in 1922. Elec W 81:35-6 Ja 6 '23
 Five systems with an output over 1,000,000,000 kw.-hr.: statistics of U.S. and Canada. Elec W 79:827-30 Ap 29 '22
 42,000 new power customers in 1921. diags Elec W 80:654-5 S 23 '22
 Fuel consumption in central electricity stations. Engineer 133:159 F 10 '22
 Government report shows increased power plant efficiency. Power Pl Eng 26:333 Ag 15 '22
 Growth of the electrical industry must continue. Elec W 80:563 S 9 '22
 Increased production of electricity in 1922. Power 58:119 J1 17 '23
 Industrial energy consumption in Illinois. Elec W 81:1522-5 Je 30 '23; Power 58:14-16 J1 3 '23
 Manufacturing load shows industrial market for West: comprehensive listing of industrial plants in the western states using 100 hp. and over, from an extensive survey conducted by the Journal of electricity and western industry. J Elec 48:107-9, 131-8 F 1 '22
 More than 1,000,000 new residential customers during 1921. Elec W 79:74-5 Ja 14 '22
 Output and revenue statistics. Published in Electrical world in the first number of each month
 Output of the largest electric systems showing relative position taken by the larger Canadian systems. H. E. M. Kensit. Can Eng 45:176 J1 24 '23
 Power development in New York city. il Elec W 81:1214-17 My 26 '23

Power production in the United States. Power

- Pl Eng 26:376 Ap 1 '22
 Production of electricity continues at record breaking pace. Power Pl Eng 27:501-2 My 1 '23
 Progress in the electrification of industry. diags map Elec W 82:599-604 S 22 '23
 Rapid growth of industrial load. map Elec W 81:389-90 F 17 '23
 Rating of generators in central stations totals 14,466,915 kw. Elec W 79:678-9 Ap 8 '22
 Residential lighting and industrial power customers will spend \$1,454,000,000 for material and apparatus by 1927. Elec W 79:10-11 Ja 7 '22
 Seasonal curtailment in energy consumption. Elec W 82:706-7 O 6 '23
 Six months' output shows gain of 25.4 per cent over 1922. Elec W 82:430 S 1 '23
 Survey reports marked gain in central-station efficiency. Power 55:348 F 28 '22
 Three-quarters of total growth in amount of electrical energy generated has occurred during the last ten years; chart. Elec W 80:546 S 9 '22
 See also Electric industries—Statistics; Electric power—Statistics

Tables, calculations, etc.

- Determining pounds of coal and B.t.u. per kilowatt-hour. E. L. MacDonald. Power 55:974 Je 20 '22

Telephone

- Baltimore-Holtwood carrier current giving excellent service. il diags Elec W 81:1076-81 My 12 '23
 Carrier current communication over high-voltage transmission lines. E. Austin. il diags Gen Elec R 26:424-35 Je '23
 Experience with the radiophone; report of the San Joaquin light & power corporation's experience. R. C. Denny. il diag map Elec W 81:973-7 Ap 28 '23; Discussion. E. P. Peck. 81:1092-3 My 12 '23
 Interstation communication developments. Elec W 81:1415-16 Je 16 '23
 Power company communication developments. il diags J Elec 50:358-69 My 15 '23
 Radio telephone for power station intercommunication. R. C. Denny. il J Elec 49:244-5 O 1 '22
 Radiophone insures service to customers. E. F. Pearson. il diags Elec W 80:1395-6 D 23 '22
 Use of radio telephones by western power companies. R. C. Denny. il J Elec 49:317-19 N 1 '22
 World's longest guided radio line on Plt river system. C. W. Geiger. il Power Pl Eng 27:636 Je 15 '23

Abilene, Texas

- Abilene (Tex.) gas and electric co. complete model plant. Munic Eng 64:101-3 Mr '23

Africa, East

- Electrical affairs in East Africa; impressions of Kenya Colony. R. T. Mawdesley. Elec R (Lond) 90:404-5 Mr 24 '22

Albuquerque, New Mexico

- Albuquerque electric company serves rapidly growing territory. il J Elec 50:212-14 Mr 15 '23

Australia

- Morwell brown coal and electrical scheme, Victoria, Australia. Engineer 135:163-4 F 16 '23
 Morwell power scheme. H. R. Harper. Elec R (Lond) 91:782 N 24 '22

Bavaria

- Power supply of Bavaria, Germany. A. Menge. Elec W 80:236 J1 29 '22

Birmingham, England

- Birmingham corporation electricity undertaking; the new Nchells generating station. il Elec R (Lond) 92:819-21, 859-61 My 25-Je 1 '23

Electric plants (central stations)—Birmingham, England—Continued

Electricity supply in Birmingham; details of the new Nechells generating station. *il plans Electrician* 88:744-50 Je 23 '22

Nechells power station of the Birmingham corporation. W. N. Twelvetrees. *il diags Engineering* 115:99-102, 136-7, 193-6, 208, 227-9, 238, 291-4, 353-6, 368, 385-8, 453-6, pl 6-8 Ja 26-F 2, 16-23, Mr 9, 23-30, Ap 13 '23

New 105,000-kw. generating station at Birmingham, England. *Elec W* 80:868 O 21 '22

Blackburn, England

Operating results of Blackburn East power station. *il Engineering* 116:515-17, pl 26-9 O 26 '23

Boston, Massachusetts

Some engineering features of the Weymouth station of the Edison electric illuminating co. of Boston. I. E. Moulthrop and J. Pope. *il diags plan Am Inst E E J* 42:799-808 Ag '23; Same cond. *Power* 58:42-6 Jl 10 '23; Same cond. *Elec W* 82:9-13 Jl 7 '23; Excerpts. *Power Pl Eng* 27:726-9 Jl 15 '23; Discussion. *Am Inst E E J* 42:1211-16 N '23

Brooklyn, New York

Innovations in new Brooklyn power house. *il Elec W* 80:1066-7 N 11 '22

Work on new Brooklyn station progressing. *il diags Power Pl Eng* 27:177-8 F 1 '23

California

Pioneering in the central station industry. J. A. Britton. *il J Elec* 50:85-90 F 1 '23

Canada

Central-station power in Canada. *Power* 57:463 Mr 20 '23

Five systems with an output over 1,000,000,-000 kw.-hr.; statistics of U.S. and Canada. *Elec W* 79:827-30 Ap 29 '22

See also Hydroelectric plants—Canada

Carlisle, England

Carlisle electricity undertaking; inauguration of new plant. *il Elec R (Lond)* 93:180 Ag 3 '23

Chicago, Illinois

Calumet station, Commonwealth Edison co. *il diags plan Power* 55:842-51 My 30 '22; Excerpts. *Elec Ry J* 59:897-901 Je 3 '22; *Elec W* 79:1110-14 Je 3 '22

Calumet station; details of construction of the latest addition to Chicago's vast electrical system. *il diags plans Power Pl Eng* 26:497-508 My 15 '22

Calumet station of the Commonwealth Edison co. A. D. Bailey. *il W Soc E J* 26:420-5; Discussion. 425-7 D '21

Chicago central station development, 1892-1922, and thereafter. S. Insull. *W Soc E J* 28:156-64 Ap '23; Abstracts. *Power* 57:267-8 F 13 '23; *Power Pl Eng* 27:248-9 F 15 '23

Connecticut

Operating features of the Montville power station. *il diags Power Pl Eng* 26:1187-92 D 15 '22

Czechoslovakia

Czechoslovak republic's plans for electrification. *map Elec W* 79:677 Ap 8 '22

Detroit, Michigan

Detroit goes to pulverized fuel. *map Elec W* 81:712 Mr 24 '23

Edinburgh, Scotland

Electricity supply at Edinburgh; Portobello generating station. *il Elec R (Lond)* 93:59-62, 101-3 Jl 13-20 '23

England

Aylesbury electricity works; opening of extensions. *il diags Elec R (Lond)* 93:467-9 S 28 '23

Blackpool electricity works; recent extensions. *il Elec R (Lond)* 93:465-6 S 28 '23

Bolton electricity undertaking; inauguration of new plant. *il Elec R (Lond)* 93:540-3 O 12 '23

Croydon electricity undertaking; recent reconstruction. *il plan Elec R (Lond)* 91:377-81 S 15 '22

Derby electricity undertaking. *il Elec R (Lond)* 91:618-19 N 3 '22

Electricity supply at Chester. *il diags map Elec R (Lond)* 89:843-6 D 23 '21

Extensions at Stoke-on-Trent electricity works. *il plan Elec R (Lond)* 90:543-4 Ap 21 '22

Hastings electricity undertaking; recent extensions. *il Elec R (Lond)* 91:777-9 N 24 '22

Lancashire electric power company; Radcliffe generating station. *il Elec R (Lond)* 92:938-41 Je 15 '23

Leicester electricity undertaking. *il plan Elec R (Lond)* 91:977-9 D 29 '22; *Engineering* 114:752 D 15 '22; *Electrician* 89:686-7 D 15 '22

Mersey power co., ltd.; new Runcorn power station. *il Elec R (Lond)* 90:235-6, 271-2, 292-4 F 17-Mr 3 '22

Messrs. C. A. Parsons's works revisited; some notes on present-day practice. *Elec R (Lond)* 92:130-1 Ja 26 '23

New electric power station at Runcorn. *il diags plans Engineer* 132:584-8, 596 D 2 '21

Power house extensions at Stoke-on-Trent. *Engineer* 133:393 Ap 7 '22

Queensferry-Chester transmission scheme. *il Electrician* 87:788-9 D 23 '21

Recent electrical developments at Walsall; some results from a Ljungstrom turbine. *Electrician* 89:716 D 22 '22

Rotherham electricity undertaking. *il Elec R (Lond)* 92:862-3 Je 1 '23; *Engineering* 115:683 Je 1 '23; *Engineer* 135:578 Je 1 '23

Undertaking of the Lancashire electric power company. *il Engineering* 114:762-4, 774, 792-5 pl 45-7 D 22-29 '22

Walsall electricity undertaking. *il map Elec R (Lond)* 91:979-81 D 29 '22; *Engineer* 134:632-3 D 15 '22

See also Hydroelectric plants—England

Europe

European power-plant engineering shows influence of manufacturers. C. W. E. Clarke. *Elec W* 80:240-1 Jl 29 '22

European practices tend toward greater economy. A. Dyckerhoff. *il diags Elec W* 79:421-4 Mr 4 '22

France

Central electric generating station at Comines. *il diags map plans Engineer* 135:249-51, 262, 277-9 Mr 9-16 '23; Abstract. *Power* 57:915 Je 5 '23

La centrale électrique de Gennevilliers (Seine). C. Dantin. *il diags map plans Génie Civil* 81:1-13, pl 1-2 Jl 1 '22

Electrical Review French tour. *il Elec R (Lond)* 91:544-7, 580-2, 615-17, 654-6 O 20-N 10 '22

Electricity works of Gennevilliers. *il diags Elec R (Lond)* 90:514-17 Ap 14 '22

French super-station; the Gennevilliers central station. *il map plan Electrician* 89:382-8 O 6 '22

Gennevilliers central power station. *Engineer* 134:31-2 Jl 14 '22

Gennevilliers electric power station. *diag Engineer* 134:242-3, 267, 270-2, 294 S 8-22 '22

Gennevilliers super-power station of the city of Paris. R. H. Andrews. *il diag (supp) Power* 56:156-62 Ag 1 '22; Excerpts. *Mech Eng* 44:829-31 D '22

Heat balance and electrical equipment in the Gennevilliers station. R. H. Andrews. *il diags Power* 56:232-6 Ag 15 '22

New superpower plant near Paris approaching completion. *il diags plan Elec W* 80:265-70 Ag 5 '22

Note sur la centrale électrique de Gennevilliers. *Soc Ing Civils Bul* 76:800-6 Je '23

Programme de grands réseaux électriques pour la transmission de l'énergie à haute tension dans toute la France. *map Génie Civil* 79:444-6 N 19 '21

Electric plants (central stations)—France

Supply of electricity to Paris; the Union d'électricité and the power station of Gennevilliers. il diags plan Elec R (Lond) 91: 89-93 J1 21 '22

See also Hydroelectric plants—France

Georgia

Further growth in Georgia. Elec W 81:649 Mr 17 '23; Power Pl Eng 27:350 Mr 15 '23

Glasgow, Scotland

Operating results of a modern power station; Glasgow corporation station at Dalmarnock. Engineering 114:270-2 S 1 '22; Excerpt. Power 56:705 O 31 '22; Abstract. Elec W 90: 762 O 7 '22

Some notes on Dalmarnock power station. R. B. Mitchell. Electrician 88:687-9 Je 9 '22; Same. Engineer 133:646-7 Je 9 '22; Same. Engineering 113:682-3 Je 2 '22; Same. Power Pl Eng 26:1099-1103 N 15 '22; Excerpt. Elec R (Lond) 90:761-2 Je 2 '22; Discussion. Engineering 113:692 Je 2 '22

Great Britain

Generation of electricity in Great Britain; abstracts. Elec R (Lond) 92:597 Ap 13 '23; Engineer 135:401 Ap 13 '23

Generation of electricity in Great Britain; fuel consumption and kWh generated during 1922-23. Elec R (Lond) 93:350-1 S 7 '23

Power station economy in Great Britain. Engineering 113:176 F 10 '22

Power station fuel consumptions. Engineering 115:469 Ap 13 '23

Size and load-factor of British power stations. Engineering 116:85-6 J1 20 '23

Hartford, Connecticut

Hartford electric light company's South Meadow station. il diags plan Power 54:872-82 D 6 '22

Improved station design shown at South Meadows. C. H. Reeder. il diags plan Elec R 79:905-10 D 17 '21

New Hartford station has superpower characteristics. il diags Elec W 78:1163-6 D 10 '21

South Meadow station. il diags plans Power Pl Eng 25:1177-84, 1210-17 D 15 '21

Honolulu, Hawaii

Power plant of the Hawaiian electric company, Ltd., Honolulu. H. W. Marvin. il Power 57:360-2 Mr 6 '23

Illinois

Industrial energy consumption in Illinois. Elec W 81:1522-5 Je 30 '23; Power 58:14-16 J1 3 '23

Potential customers in Ohio and Illinois total 3,123,000. Elec W 82:173-5 J1 28 '23

India

Electricity supply in India. il Elec R (Lond) 93:141-3 J1 27 '23

Indiana

Consolidation trend persists in Indiana. Elec W 80:1235 D 2 '22

Indiana industries 60 per cent electrified. R. M. Davis. diags Elec W 79:321-4 F 18 '22

Present and potential central-station customers in Indiana by counties. Elec W 82:757 O 13 '23

Ireland

Dundalk electricity undertaking; a large Diesel-electric station. il Elec R (Lond) 93: 581-3 O 19 '23

Harbour power station, Belfast; inauguration of new plant. il plan Elec R (Lond) 93: 285-9 Ag 24 '23; Engineer 136:415-18 O 19 '23

Japan

Japanese high voltage power transmission systems. S. Q. Hayes. il diags maps Elec J 19:515-21, 20:36-9, 62-8, 134-8 D '22-F. Ap '23; Abstract. Power Pl Eng 27:986-8 O 1 '23

Kearny, New Jersey

New 410,000-kva. station at Kearny. Elec W 82:148 J1 21 '23

Leeds, England

Electricity supply at Leeds; some recent extensions. il plan Elec R (Lond) 92:739-43 My 11 '23

Liverpool, England

Electrical developments at Liverpool. il Electrician 89:714-15 D 22 '22

Liverpool electricity and tramway undertakings; recent developments; automatic substations. il map Elec R (Lond) 91:906-9 D 15 '22

London, England

Hackney electricity undertaking; inauguration of new plant. il Elec R (Lond) 93:619-20 O 26 '23

New plant at West Ham. il Elec R (Lond) 91: 40-2 J1 14 '22; Electrician 89:40-1 J1 14 '22

Manchester, England

Barton electric power station, Manchester. il Engineer 135:102 Ja 26 '23

Manchester electricity undertaking; the new Barton generating station. il Elec R (Lond) 92:979-83 Je 22 '23

New Barton power station of the Manchester corporation. il plan Engineer 136:391-4, 396 O 12 '23; Elec R (Lond) 93:579 O 19 '23

Manchester, New Hampshire

Central station service for Manchester, N. H. il diags plans Power Pl Eng 25:1079-87 N 15 '21

Mansfield, England

Mansfield electricity supply undertaking. il Elec R (Lond) 91:256-7 Ag 25 '22

Marysville, Michigan

New Marysville plant, Detroit Edison co. C. H. Berry. il diags plan Power 57:824-30 My 29 '23

New Marysville plant handles increasing demand. P. W. Thompson. il diags plan Power Pl Eng 27:573-80 Je 1 '23

Massachusetts

Steam engine is the favorite prime mover in Massachusetts industries. Power 55:1018-19 Je 27 '22

Textile mills lead in industrial energy consumption in Massachusetts. R. M. Davis. diags Elec W 79:1267-70 Je 24 '22

Mexico

Tepelex plant in Mexico is completed. C. W. Geiger. il Power Pl Eng 27:1098-9 N 1 '23

Michigan

Michigan industries highly electrified. Elec W 82:648-51 S 29 '23

Power utilized in Michigan's industries. Power 58:533-5 O 2 '23

Present and potential central-station customers in Michigan by counties. Elec W 82: 758 O 13 '23

Middle Atlantic states

Almost six million potential customers in Middle Atlantic states. Elec W 81:1407-9 Je 16 '23

Milwaukee, Wisconsin

First large plant using pulverized coal exclusively; Lakeside generating station of Milwaukee electric railway and light co. (folding chart) il diags Elec W 79:720-4 Ap 15 '22

Lakeside electric power station at Milwaukee. il diags plan Engineer 135:383-6, 409-11, 422, 437, 448, 480-1 Ap 13-My 4 '23

Lakeside power station at Milwaukee; mechanical, electrical and construction features of world's largest pulverized fuel burning power plant. il diags plans Power Pl Eng 26:397-406 Ap 15 '22

Electric plants (central stations)—Milwaukee, Wisconsin—Continued

Largest station using pulverized coal; Lake-side station at Milwaukee. il diags folding chart Power 55:604-10 Ap 13 '22; Excerpts. Coal Age 21:878-9 My 25 '22

Milwaukee's powdered coal station. folding chart il diags plans Elec Ry J 59:633-40 Ap 15 '22

Pulverized fuel plant with high efficiency. Elec W 80:27 J1 1 '22

La station centrale thermo-électrique de la Milwaukee electric railway and light company, chauffée au charbon pulvérisé. il plans Génie Civil 81:333-6, pl 9 O 14 '22

Minnesota

Minnesota to have \$80,000,000 power development. Power Pl Eng 27:152-3 Ja 15 '23

New Jersey

Diversified service in New Jersey. F. Osgood. il maps Elec W 81:1203-7 My 26 '23

New York (city)

Birth of an industry at the Pearl Street station. J: W. Lieb. il Elec W 80:523-8 S 9 '22

Changing from 7,800 to 13,200 volts; United electric light & power company's Hell Gate station. il diags Elec W 81:755-6 Mr 31 '23

Development of an alternating-current system; incidents in the history of the United electric light & power co. F. W. Smith. Elec W 80:555-7 S 9 '22

Development of the alternating-current distribution system of the United electric light & power co. F. W. Smith. il map Elec J 19:209-13 My '22

Diary of the first central station; chronology of construction and early operations of Pearl Street plant. il map N E L A Bul 9:526-36 S '22

Edison and United companies' system. J: W. Lieb. il Elec W 81:1192-5 My 26 '23

First central station and its history; Pearl Street plant opened, September 4, 1882, New York city. il map N E L A Bul 9:515-25 S '22

First of New York's central plants to use sea-borne coal; to store 100,000 tons. il map Coal Age 21:959 Je 8 '22

Heat balance at Gennevilliers and Hell Gate. R. H. Andrews. Power 56:296-7 Ag 22 '22

Hell Gate—a station of many features. il diags Elec W 79:820-7 Ap 29 '22

Hell Gate station of the United electric light & power company. H. W. Leitch. il diags plans Elec J 19:214-20 My '22

Interview with the father of the central-station industry. L. W. W. Morrow. Elec W 80:529-30 S 9 '22

New Hell Gate power station of the United electric light and power company. il diags Power 55:678-86, 716-22, 760-3 My 2-16 '22

New York's Hell Gate station. diag Sci Am 129:161 S '23

Operating methods at Hell Gate. il charts diags Power Pl Eng 27:555-64 Je 1 '23

Phase isolation—a feature of Hell Gate. il diags plan Elec W 79:870-6 My 6 '22

Switching equipment for the Hell Gate station. C. M. Moss and J. B. MacNeill. il diags Elec J 19:221-6 My '22

New York (state)

New steam plant at Amsterdam. il diags plans Power Pl Eng 26:639-45 J1 1 '22

Ohio

Industrial energy consumption in Ohio. R. M. Davis. Elec W 80:931-4 O 28 '22

Ohio industries are nearly half engine driven, as compared with motor drive. Power 56:840-2 N 28 '22

Potential customers in Ohio and Illinois total 3,123,000. Elec W 82:173-5 J1 28 '23

Pennsylvania

Barbadoes Island plant illustrates modern central station design. il diags Power Pl Eng 27:965-73 O 1 '23

Industrial load in Pennsylvania. il diag Elec W 78:1313-17 D 31 '21

Industrial power in Pennsylvania. Power 55:65-6 Ja 10 '22

See also Electric plants (central stations)—Pittsburgh

Peterborough, England

Electricity supply at Peterborough; inauguration of reconstructed station. il plan Elec R (Lond) 93:395-7 S 14 '23

Pittsburgh, Pennsylvania

American 300,000-Kw. power station at a coal mine; the Colfax plant. diags plan Engineer 133:231-4 Mr 3 '22

Colfax generating station, Pittsburgh. D. L. Galusha and C. W. E. Clarke. Elec R (Lond) 91:425-6 S 22 '22

Development at the Colfax station of the Duquesne light company. J. M. Graves. il plan Elec J 20:198-201 Je '23

Extensive equipment to be added to Colfax station by Duquesne light company. Elec W 82:402 Ag 25 '23

Pueblo, Colorado

New plant for Pueblo, Colorado. il diags plan Power 57:922-6 Je 12 '23

Rhodesia

La station centrale à moteurs à gaz pauvre et à gazogènes au bois de la mine Lonely (Rhodésie méridionale). il diag plan Génie Civil 82:376-9 Ap 21 '23

Russia

Big electrification scheme for Russia. Elec R (Lond) 90:163 F 3 '22

Electricity in Russia. Elec R (Lond) 92:110-12 Ja 19 '23

Electrification of Russia. Elec R (Lond) 93:227 Ag 10 '23

Russia's first regional power station at Kashira. C: P. Steinmetz. diags plans Elec W 80:1155-8 N 25 '22; Excerpts. Elec R (Lond) 91:898 D 15 '22

Soviet plan to electrify Russia. C: P. Steinmetz. map Elec W 80:715-19 S 30 '22

St Louis, Missouri

Cahokia station. il diag plan Power 57:20-2 Ja 2 '23

Foundation and scour protection of Cahokia power station on Mississippi river. il diags plans Eng N 90:219-21 F 1 '23

Scotland

Kilmarnock electricity undertaking; recent developments. il Elec R (Lond) 91:831-3 D 1 '22

Sheffield

Electricity supply at Sheffield; the Blackburn Meadows generating station. il Elec R (Lond) 89:605-8, 628-30 N 4-11 '21; Electrician 87:566-70 N 4 '21

Southeastern states

Power development in the southeast. C: G. Adsit. maps Mech Eng 44:291-4+ My '22

Water, coal, and man power of the western slope of the Southern Appalachian mountains. J. A. Switzer and W. R. Woolrich. maps Mech Eng 45:637-42 N '23; Abstract. Power 58:747-9 N 6 '23

Stafford, England

Extensions at Stafford electricity works. il Elec R (Lond) 91:559-61 O 20 '22

Sweden

Power progress in Sweden. Elec W 81:90 Ja 13 '23

Switzerland

Recent electric developments in Switzerland. S. P. Smith. il Electrician 87:782-5 D 23 '21

See also Hydroelectric plants—Switzerland

Tennessee

Electrical progress in Tennessee. map Elec W 81:469 F 24 '23

Venezuela

Electrical developments in Venezuela. il Engineer 134:585 D 1 '22

Electric plants (central stations)—Continued**Wales**

See Hydroelectric plants—Wales

Washington, D. C.

Greater centralization for federal power plants. Power 56:587 O 10 '22

West Reading, Pennsylvania

West Reading development and operation. il Power Pl Eng 27:757-67 Ag 1 '23

Western states

Manufacturing load shows industrial market for West; comprehensive listing of industrial plants in the western states using 100 hp. and over, from an extensive survey conducted by the Journal of electricity and western industry. J Elec 48:107-9, 131-8 F 1 '22

Power needs of 6227 major industrial plants of the West. map J Elec 48:498-502 Je 15 '22

Electric plants, Municipal

Detroit to have municipal power plant. Power 57:616 Ap 17 '23

Diesel engines reduce operating costs. il Power 58:689-90 O 30 '23

Electric power industry; the municipal electrician. C. P. Steinmetz. Gen Elec R 26:101-5 F '23

How the electric rate in Springfield, Ill., was reduced from 13c to 6c. W. J. Spaulding. Munic Eng 62:25-9 Ja '22

Large power station project in Detroit. Elec Ry J 61:796 My 12 '23

Municipal power plant, Lansing, Michigan. O. E. Bulkeley. il diags plans Power 57:968-76 Je 19 '23

Municipally owned lighting and pumping plant at Kansas City, Kansas. W. C. Looney. il Power Pl Eng 26:1008-10 O 15 '22

Solving municipal power problems in Paris, Missouri. F. H. Frauens, jr. Munic Eng 63:122-4 O '22

Successful community heating at Arcade, New York, with exhaust steam from lighting plant. il Munic Eng 62:51-6 F '22

See also Electric utilities—Municipal ownership; Hydroelectric plants, Municipal; Skagit River power project

Electric plows. See Plows, Electric

Electric potential. See Electromotive force

Electric power

Development of America's future power supply. G. E. Tripp. Blast F & Steel Pl 11:450-1 Ag '23

Electric light and power in India. Elec W 79:175-6 Ja 28 '22

Electric power industry. C. P. Steinmetz. Gen Elec R 25:651-5, 729-36; 26:101-5 N-D '22, F '23; Abstract (pt.1). Iron Age 110:1487-9 D 7 '22

Electricity in British Columbia reclamation work. J. Lightbody. il J Elec 51:168-9 S 1 '23

From Franklin forward. D. N. Lewis. N E L A Bul 10:418-22 J1 '23

Future power demand of California. A. H. Markwart. Gen Elec R 25:135-40 Mr '22

New developments in electric power. Can Eng 42:211-13 F 7 '22

Notes on competition between electricity and other forms of light, heat and power. J. W. Beauchamp. Elec R (Lond) 92:117-18 Ja 19 '23

Oil engines and electricity supply. G. Porter. Elec R (Lond) 89:798-9 D 9 '21

Power and its potentialities. T. O. Kennedy. N E L A Bul 8:709-11 D '21

Source of power for large industrial plant; Ludlow manufacturing association. il map Power 56:716-17 N 7 '22; Same abr. Mech Eng 44:725-6 N '22; Discussion. Power 57:70-1 Ja 9 '23

See also Coal mines and mining—Power; Electric currents; Electric distribution; Electric driving; Electric furnaces—Power; Electric plants; Electric plants (central stations); Electric railroads—Power; Electric transmission; Electricity supply; Hydroelec-

tric power; Paper mills—Power; Power factor; Rolling mills—Power; Sawmills—Electric equipment; Steel works—Power; Super-power surveys; Textile mills—Power

Rates

See Electric rates

Statistics

Almost six million potential customers in Middle Atlantic states. Elec W 81:1407-9 Je 16 '23

Census data on 1919 industrial power requirements. Elec W 79:848 Ap 29 '22

Industrial energy consumption in Illinois. Elec W 81:1522-5 Je 30 '23; Power 58:14-16 J1 3 '23

Industrial energy consumption in Ohio. R. M. Davis. Elec W 80:931-4 O 28 '22

Industrial load in Pennsylvania. il diag Elec W 78:1313-17 D 31 '21

Industrial load of the United States. R. M. Davis. Elec W 81:9-13 Ja 6 '23

Industrial power in Pennsylvania. Power 55:65-6 Ja 10 '22

Michigan industries highly electrified. Elec W 82:648-51 S 29 '23

Ohio industries are nearly half engine driven, as compared with motor drive. Power 56:840-2 N 28 '22

1,500,000 potential customers in Indiana and Michigan. Elec W 82:756 O 13 '23

Potential customers in New England total 2,069,000. Elec W 81:969-70 Ap 28 '23

Potential customers in Ohio and Illinois total 3,123,000. Elec W 82:173-5 J1 28 '23

Power needs of 6227 major industrial plants of the West. map J Elec 48:498-502 Je 15 '22

Power utilized in Michigan's industries. Power 58:533-5 O 2 '23

Steam engine is the favorite prime mover in Massachusetts industries. Power 55:1018-19 Je 27 '22

Textile mills lead in industrial energy consumption in Massachusetts. R. M. Davis. diags Elec W 79:1267-70 Je 24 '22

World's consumption of electrical energy. map Elec W 81:29-31 Ja 6 '23

Electric power club

Annual meeting. Hot Springs, Va., June 5-7. Elec W 79:1189-90 Je 10 '22

Fall meeting. Cleveland, Nov. 14. Elec W 78:1039-40 N 19 '21

Meetings. Asheville, N.C., Oct. 20-Nov. 2. Elec W 80:1007 N 4 '22

Electric precipitation

Adapting electrical cleaning to blast furnace gases. N. H. Gellert. il diags Gen Elec R 25:428-35 J1 '22

Application of electrical precipitation to chemical engineering process. P. E. Landolt. il Chem & Met Eng 29:588-9 S 24 '23

Application of electrical precipitation to the wood-distillation process. L. F. Hawley and H. M. Pier. il diags Chem & Met Eng 26:1031-3 My 31 '22

Application of the Cottrell electrical precipitation process to the pulp and paper industry. P. E. Landolt and N. W. Sultz. Paper Tr J 77:48-9 S 20 '23; Same. Oil Paint & Drug Rep 104:xi+ sec 2 S 24 '23; Same. Paper 32:7-8+ S 26 '23

Condensation électrique des fumées. M. Biver. diags Soc Ing Civils Bul 74:542-6 O '21

Cottrell electric precipitation installation at the Duquesne reduction company, Pittsburgh, Pa.; recovery of fume losses from furnaces treating tire ore and drosses. N. J. Hansen. il diags plans Gen Elec R 24:1004-10 D '21

Electrical engineering features of the electrical precipitation process. G. H. Horne. il diags Am Inst E E J 41:552-8 J1 '22; Discussion. 41:1011-14 D '22

Electrical precipitation in the chemical industry. P. E. Landolt. bibliog il J Ind & Eng Chem 14:1018-20 N '22

Electrical precipitation of cement mill dust. G. A. Witte. il Gen Elec R 25:125-8 F '22

Electrical precipitation of colloids. C. H. Hall, jr. Am Chem Soc J 44:1246-9 Je '22

Electrical precipitation of flocculent material. Chem & Met Eng 28:646-7 Ap 9 '23

Electric precipitation—Continued

- Electrical precipitation of solids from smelter gases. R. B. Rathbun. *il Am Inst E E J* 41:676-87 S '22; Abstract. *Chem & Met Eng* 27:753 O 11 '22; Discussion. *Am Inst E E J* 41:1011-14 D '22
- Manufacture of phosphoric acid in the electric furnace by the condensation and electric precipitation method. T. Swann. *J Ind & Eng Chem* 14:630-1 J1 '22
- Possibilities of electrical precipitation in the chloride volatilization process. T. Varley and H. W. Clark. *il diag Gen Elec R* 25:766-73 D '22
- Purification des liquides par l'action simultanée de la force centrifuge et du champ électrique. A. Marx and J. Rozières. *diags Chimie & Ind* 10:218-20 Ag '23
- Recent conclusions pertaining to electrical precipitation. W. A. Schmidt. *bibliog il diags Am Inst E E J* 41:547-52 J1 '22; Discussion. 41:1011-14 D '22
- Recent progress in electrical precipitation. E. Anderson. *Chem & Met Eng* 26:151-3 Ja 25 '22
- Removing dust from water-gas blast gas. A. M. Beebe. *il Am Gas J* 118:523-5 Je 16 '23
- Symposium on electrical precipitation. *Elec W* 80:428-31 Ag 26 '22

Electric propulsion of ships. See Ship propulsion, Electric**Electric protective apparatus**

- A.I.E.E. protective devices committee report. *Am Inst E E J* 41:894-8 N '22
- Automatic alternating-current network protector. G. G. Grissinger. *il diags Elec J* 20:285-8 Ag '23
- Automatic reclosing equipment. *il diags Power Pl Eng* 26:979-80 O 1 '22; Same abr. *Coal Age* 22:591 O 12 '22
- Automatic synchronous condenser station to insure good voltage regulation. R. J. Wensley and W. L. Newmeyer. *il diags map Elec W* 82:373-6 Ag 25 '23
- Cable protection system. W. Estorff. *diag Elec W* 80:835 O 14 '22
- Decreasing production interruptions in sugar mills by the use of proper distribution, protection and control equipment. R. B. Stevens. *il diags Ind Eng* 80:463-74+ O '22
- Deformation of travelling electric waves. S. A. Stigant. *diags Elec R (Lond)* 93:418-21 S 21 '23
- Developments in power station design. *diags Engineer* 133:718-20 Je 30 '22
- Merz-Hunter 66,000-v protective gear with Beard-Hunter compensated pilot at the new power station at Gennevilliers. *il Elec R (Lond)* 91:210-11 Ag 11 '22; *Elec W* 80:778 O 7 '22
- Méthodes différentielles de sectionnement des circuits à haute tension, en cas de surintensité. *Génie Civil* 80:259 Mr 18 '22
- New B.T.H. feeder protective gear. *diags Elec R (Lond)* 90:928-30 Je 30 '22
- Overvoltage problems. F. Schrottke. *diag Elec W* 81:172 Ja 20 '23
- Petersen earth coil. R. N. Conwell and R. D. Evans. *diags Am Inst E E J* 41:140-8 F '22; Excerpts. *Elec W* 79:377 F 25 '22; Discussion. *Am Inst E E J* 41:650-7 S '22
- Present status of overvoltage protection. G. Benischke. *Elec W* 81:761 Mr 31 '23
- Problems and developments in the control and interconnection of power systems. H. R. Summerhayes. *il diags Gen Elec R* 26:327-37 Je '23
- Protecting mine trolley wires to prevent accidents. *J Elec* 48:23 Ja 1 '22
- La protection des réseaux de câbles électriques par le système allemand Lypro. *diags Génie Civil* 82:404-5 Ap 28 '23
- Protection of electrical equipment. H. W. Smith. *il Power Pl Eng* 25:1201-5; 26:121-5 D 15 '21, Ja 15 '22
- Protection of electrical equipment. V. H. Todd. *il diags Power Pl Eng* 27:1083-7 N 1 '23
- Protection that safety switches can provide. D. H. Braymer. *il diags Ind Eng* 81:389-401 Ag '23

- Protective apparatus for turbo-generators. J. A. Kuyser. *diags Inst E E J* 60:761-76 J1 '22; Same cond. *Engineer* 133:563-4 My 19 '22; Same cond. *Electrician* 88:531-2 My 5 '22; Excerpts. *Elec R (Lond)* 90:678-9 My 12 '22; Discussion. *Inst E E J* 60:777-90, 899-901 J1-Ag '22; *Electrician* 88:533-4 My 5 '22; *Elec R (Lond)* 90:679-81, 749-50 My 12, 26 '22
- Protective features of current limiting reactors. C. L. Knotts. *il diag Power Pl Eng* 27:989-91 O 1 '23
- Protectors for isolating lines in network. *diag Elec W* 82:922 N 3 '23
- Safety features on high voltage transmission lines. C. O. VonDannenberg. *diags Power Pl Eng* 26:973-5 Ap 1 '22
- Safety in farm power service. A. P. Child. *Sci Am* 126:124-F '22
- Selective overload protection. E. Vedovelli. *Elec W* 82:326 Ag 18 '23
- Sensitive tripping mechanism for oil switches. *il diags Engineering* 116:522-4 O 26 '23
- La surintensité dans les grands réseaux électriques. E. Vedovelli. *diags Soc Ing Civils Bul* 76:7-29, pl 39 Ja '23
- Transmission line relay protection. E. A. Hester and others. *diags Am Inst E E J* 41:839-52, 997-1011 N-D '22; Discussion. 41:984-90 D '22

See also Electric circuit breakers; Electric cutouts; Electric distribution—Grounding; Electric fuses; Electric generators—Protection; Electric motors—Protection; Electric switches; Ground selectors; Lightning arresters; Reactors; Relays; Telephone lines—Protection

Electric railroad bridges. See Bridges, Electric railroad**Electric railroads**

- C.E.R.A. summer convention on board the S.S. South American. *Elec Ry J* 60:45-7 J1 8 '22
- Electric railway disturbances and the detection of passing electric trains by means of a galvanometer. E. S. Bieler. *J Fr Inst* 193:355-90 Mr '22
- Joint congressional commission of agricultural inquiry's report. *Aera* 11:38-40 Ag '22
- Observations on electric railway practice. W. B. Potter. *il diags Gen Elec R* 26:211-21 Ap '23; Same. *Elec Ry J* 61:292-6 F 17 '23; Same. *Am Inst E E J* 42:490-7 My '23; Same cond. *Ry Age* 74:423-6 F 17 '23; Discussion. *Am Inst E E J* 42:657 Je '23
- Railway electric traction. F. W. Carter. 412p Longmans '22
- Tramways as a municipal asset. Clark. *Elec R (Lond)* 93:277-8 Ag 24 '23; Discussion. 93:370 S 7 '23
- See also* Cars, Electric railroad; Electric locomotives; Electric motors, Railway; Elevated railroads; Interurban railroads; Railroads—Electrification; Stray currents; Street cars; Street railroads; Subways; Third rails; Trackless trolley; also names of electric railroads, e.g. Boston Elevated railway; Chicago, North Shore & Milwaukee railroad

Accidents

See also Street railroads—Accidents

Accounting

- Freight accounting on the North Shore. T. B. MacRae. *Elec Ry J* 62:329-32 S 1 '23
- Monthly freight journal entries. A. W. Heath. *Elec Ry J* 61:522 Mr 24 '23
- Report of joint committee on engineering accounting. *Elec Ry J* 62:652-3 O 13 '23

See also Street railroads—Accounting

Advertising

- Electric railways get advertising results. *Ptr Ink* 125:48 O 18 '23
- Getting the tourist business. C. W. Richards. *il Aera* 11:8-12 Ag '22
- Put life into guide books. L. St Clair. *Aera* 10:611-12 F '22
- Sell it to Sweeney. L. St Clair. *Aera* 11:677-82 Ja '23
- Trend of electric railways is toward more advertising. *Ptr Ink* 120:105-6 O 12 '22

Electric railroads—Advertising—Continued

Work of advertising section. Aera 11:277-83 O '22

See also Elevated railroads—Advertising;
Street railroads—Advertising

Automatic operation

London's rapid transit mail distribution system. map Eng N 87:1054 D 29 '21

Never-stop train system. il Engineer 136:94-5 J1 27 '23; Elec R (Lond) 93:422-3 S 21 '23

Brakes

See Air brakes; Brakes

Braking

Emergency stop tests; C. E. R. A. special committee reports. Elec Ry J 62:145-6 J1 28 '23

Buildings and structures

Report of the A.E.R.E.A. committee on buildings and structures. Elec Ry J 62:650 O 13 '23

See also Bridges, Electric railroad; Electric railroads—Stations

Cars

See Cars, Electric railroad; Cars, Subway; Freight cars, Electric railroad; Street cars

Construction

Advantages of trolley wire versus feeder. G. H. McKelway. Elec Ry J 62:67-8 J1 14 '23

Attractive overhead construction in Edinburgh. il Elec Ry J 59:752 My 6 '22

Collecting 5,400 amp. at 58 m.p.h. il Elec Ry J 62:125-7 J1 28 '23

Electric railway construction and operation in Cuba. L. Geenens. il map Elec Ry J 62:127-32 J1 28 '23

Erie replaces steel contact wire with bronze. il Ry Age 74:1693-6 Je 30 '23

Getting rid of hard spots. G. H. McKelway. il Elec Ry J 59:823-4 My 20 '22

Handling heaviest future traffic electrically. il Ry R 73:94-6 J1 21 '23

High-speed railroad on Erie canal site. il diag plans Elec Ry J 61:197-9 F 3 '23

Northern Texas has new interurban. S. R. Fowler. il map Elec Ry J 61:591-6 Ap 7 '23

Some practical experience with troughwork construction. G. H. McKelway. il Elec Ry J 60:941-2 D 16 '22

Supporting an extensive overhead network. il Elec Ry J 61:922-3 Je 2 '23

Track and wiring on large bridge across the Housatonic river. il diag plans Elec Ry J 59:587-91 Ap 8 '22

Trolley construction for heavy electric traction. il diag Ry Age 75:113-14 J1 21 '23; Same. Eng & Contr (Ry) 60:333-5 Ag 15 '23

See also Bridges, Electric railroad; Electric railroads—Track; Railroads—Electrification

Contact plow

Novel conduit plow used in Nice. diag Elec Ry J 62:9 J1 7 '23

Contact shoes

See Electric railroads—Trolley shoes

Contact system

See Electric railroads—Trolley wheels; Pantograph, Current collecting; Third rails

Control

Battery control for the cars of the Frankford Elevated railway. J. N. Dodd. il Elec J 19:261-3 Je '22

Cabinet mounting of control apparatus. H. R. Meyer. il diag Elec J 19:439-42 O '22

Control equipments for Pacific electric railway. W. M. Hutchison. il diag Elec Ry J 59:991-5 Je 24 '22

Development of railway control apparatus. B. O. Austin. il Elec J 19:442-5 O '22

Low floor car control for the Pacific electric railways. W. M. Hutchison. il diag Elec J 19:436-9 O '22

Magnetic blow-out as applied to railway control. L. G. Riley. il diag Elec J 19:421-4 O '22

Unit switch control on the Frankford elevated at Philadelphia. S. B. Schenck. il diag map Elec J 19:138-42 Ap '22; Same abr. Elec Ry J 59:676-8 Ap 22 '22

Control jumpers

Testing multiple-unit control jumpers. il Elec Ry J 62:262-3 Ag 18 '23

Cost of operation

Labor costs in Boston and Philadelphia. E. Dana. Elec Ry J 61:480 Mr 17 '23

Recent improvements in railway electric traction equipment. R. T. Smith. Electrician 88:591-2 My 19 '22

Costs

Economics of direct current railway distribution; with particular reference to the automatic substation. L. P. Creelius and V. B. Phillips. Am Inst E E J 41:363-78 My '22; Discussion. 41:952-8 D '22; Elec Ry J 60:43-4 J1 8 '22

Current collecting devices

See Electric railroads—Contact plow; Electric railroads—Trolley shoes; Electric railroads—Trolley wheels; Pantograph, Current collecting; Third rails

Employees

Chances for young engineers in utility work. B. I. Budd. Eng & Contr (Ry) 59:913 Ap 18 '23

Industry's greatest problem. W. Von Phul. Aera 11:41-7 Ag '22

Legal phases of electric railway work. D. A. Nelson. Aera 11:633-4 Ja '23

Training engineering executives. W. H. Timbie. Aera 10:1065-9 J1 '22; Same. Eng & Contr (Ry) 58:43-6 O 18 '22

Training men for better jobs. M. B. Lambert and others. Aera 11:150-4 S '22

Why we prefer to keep maximum rate employees in service. W. H. Boyce. Aera 11:811-13 F '23

Winter school for track men. F. B. Walker. Aera 10:1080-3 J1 '22; Same. Eng & Contr (Ry) 58:82-3 N 15 '22

See also Electric railroads—Wages; Street railroads—Employees

Equipment and supplies

Les chemins de fer suisse—les redresseurs à vapeur de mercure dans les réseaux de tramways. Génie Civil 81:418-19 N 4 '22

L'emploi des commutateurs pour la transformation du courant alternatif en courant continu dans les exploitations de chemins de fer. Génie Civil 82:209-10 Mr 3 '23

Gears and pinions for electric railway service. diag Mech Eng 44:332-4 My '22

Non-interfering trolley-wire connection for arc welders. il Elec Ry J 60:315 S 2 '22

Railway renewal parts. J. S. Dean. il Elec J 19:418-21 O '22

Report of the A.E.R.E.A. equipment committee. Elec Ry J 60:597-8; 62:648-9 O 7 '22, O 13 '23

Welding as practiced by electric railways; a symposium. Elec Ry J 60:567-8 O 7 '22

See also Cars, Electric railroad; Electric motors, Railway; Electric protective apparatus; Electric railroads—Control jumpers; Electric railroads—Headway recorders; Electric railroads—Scrap material; Electric railroads—Shops; Pantograph, Current collecting; Street cars

Fare collection

Collecting five and ten-cent fares. map Elec Ry J 61:204-5 F 3 '23

Zone passes for Beaver Valley. Elec Ry J 59:673-5 Ap 22 '22

See also Turnstiles, Fare collecting

Fares

Hollywood rehearsing held. Elec Ry J 59:615-16 Ap 8 '22

Electric railroads—Fares—Continued

Interchangeable mileage or strip coupon tickets for electric railways, discussed before the Interstate commerce commission. Elec Ry J 60:858 N 25 '22
 Making electric railway rates. R. E. Heilman. Aera 11:79-87 Ag '22
 Zone passes for Beaver Valley. Elec Ry J 59:673-5 Ap 22 '22

See also Street railroads—Fares

Finance

Boston transit conditions analyzed. Elec Ry J 61:201-2 F 3 '23
 Changes proposed in financial structure. Elec Ry J 61:262 F 10 '23
 Course of electric railway earnings in 1921. Comm & Fin Chr 115:241-5 JI 15 '22
 Course of electric railway earnings in 1922. Comm & Fin Chr 116:2702-7 Je 16 '23
 Electric railway credit returning. J. A. Prescott. Elec Ry J 59:941-2 Je 10 '22
 Electric railway section of the Commercial & financial chronicle, maps Comm & Fin Chr 114:1-156 sec 2 Ap 29 '22 [issued twice a year on the last Saturday in April and October]
 Electric railways made good gains in 1922. E. J. Murphy. Aera 11:1078-84 Ap '23
 European electric railway financial conditions. M. A. Mariage. Elec Ry J 60:754-6 N 4 '22
 Gross earnings. See weekly numbers of Commercial and financial chronicle
 Operating conditions improving. E. J. Murphy. Aera 10:888-94 My '22
 Revamping an interurban line; Connecticut lines between Torrington and Winsted. Elec Ry J 60:740 N 4 '22

See also Electric railroads—Accounting; Electric railroads—Costs; Electric railroads—Fares; Electric railroads—Securities; Electric utilities—Finance; Street railroads—Finance; also Boston Elevated railway

Fire protection

Fire insurance rate adjustment through elimination of existing hazards. J. T. Staub. Aera 11:1410-13 Je '23

Franchises

See Street railroads—Franchises

Freight

D.U.R. will install new system for expediting freight. Elec Ry J 62:467-8 S 22 '23
 Develop the freight business! B. Weedon. Elec Ry J 60:48-9 JI 8 '22
 Electric-railway freight tonnage. B. Weedon. il Elec J 20:373-4 O '23
 Electric railway used for freight container service, map Eng N 88:323-5 F 23 '22
 Freight accounting on the North Shore. T. B. MacRae. Elec Ry J 62:329-32 S 1 '23
 Freight business built up by making special schedules. il map Elec Ry J 61:807-8 My 12 '23
 Freight operation on electric railways. R. S. Drew. Elec Ry J 60:360-2 S 9 '22
 Hints on freight office routine. N. L. Dragonetti. Elec Ry J 59:749-51 My 6 '22
 Interurban possibilities from freight business. T. H. Stoffel. Aera 12:62-7 Ag '23; Same cond. Elec Ry J 62:142-4 JI 28 '23
 Is freight operation on electric railways a paying proposition? L. T. Hixson. Elec Ry J 60:357-9 S 9 '22
 Joint service widens interurban freight field on Ohio and Michigan lines. Elec Ry J 61:728-9 Ap 28 '23
 Monthly freight journal entries. A. W. Heath. Elec Ry J 61:522 Mr 24 '23
 Stone hauling produces large profits. R. R. Hayes. il map Elec Ry J 59:965-6 Je 17 '22
 Wonderful freight record of the Northern Ohio traction and light company. E. B. Atchley. il Aera 11:1405-9 Je '23
 See also Freight cars, Electric railroad

Headway recorders

Constant check on headway. il Aera 11:155-8 S '22

Direct-reading headway recorder. il Elec Ry J 61:733-4 Ap 28 '23

Headway recorders assist in checking schedules. il Elec Ry J 60:268-9 Ag 19 '22

Inspection

Better inspection will bring lower maintenance costs. H. S. Day. Elec Ry J 62:255-6 Ag 18 '23
 Setting standards for pull-ins. Elec Ry J 62:445-6 S 22 '23

Interchangeable mileage tickets

See Electric railroads—Tickets

Maintenance and repair

Graphic records improve maintenance of high-tension, trolley, telephone and signal lines. il map Elec Ry J 58:1139-43 D 31 '21
 New rolling stock reduces maintenance costs. R. S. Pilcher. Elec Ry J 62:415 S 15 '23
 Self-propelled line car made from Ford truck useful on interurban. il Elec Ry J 62:96-7 JI 21 '23
 Tabulating line troubles. Elec Ry J 59:472-3 Mr 18 '22

See also Electric railroads—Equipment and supplies; Electric railroads—Shops; Electric railroads—Track; Street railroads—Track

Management

Coffin prize awarded to Chicago, North Shore & Milwaukee R.R. il Elec Ry J 62:591-3, 671-81 O 13-20 '23; Same. Aera 12:555-85 N '23
 Creating new business. F. W. Shappert. Aera 11:1136-9 Ap '23
 Extensive use of charts. Elec Ry J 62:324-5 S 1 '23
 \$1.09 revenue for \$1.47 investment; how the Chicago, North Shore & Milwaukee railroad has been built up. C. E. Thompson. il map Elec Ry J 60:463-9 S 23 '22

Motor bus auxiliaries

See Motor bus lines—Street railroad auxiliaries

Motor bus competition

See Street railroads—Motor vehicle competition

Power

Advantages of trolley wire versus feeder. G. H. McKelway. Elec Ry J 62:67-8 JI 14 '23
 Allocating energy consumption in Dayton. map Elec Ry J 60:41-2 JI 8 '22
 Bonus given in Racine for saving energy. Elec Ry J 61:927-8 Je 2 '23
 C. E. R. A. report of power supply and transmission committee. Elec Ry J 62:146-7 JI 28 '23
 Development of unified power supply and distribution systems in Chicago. R. H. Rice. diags Elec Ry J 60:455-61 S 23 '22; Excerpt. Elec W 80:779-80 O 7 '22
 Economics of direct current railway distribution; with particular reference to the automatic substation. L. P. Creclius and V. B. Phillips. Am Inst E E J 41:363-78 My '22; Discussion. 41:952-8 D '22; Elec Ry J 60:43-4 JI 8 '22
 Economics of I. & C. re-equipment. map Elec Ry J 61:913-17 Je 2 '23
 Energy consumption reduced in St. Louis. B. F. Thomas, jr. Elec Ry J 62:321-4 S 1 '23
 How to get the most out of energy-saving work. W. Arthur. Elec Ry J 60:74-5 JI 15 '22
 Idea for off-the-car peak power load. J. A. Horton. Elec Ry J 62:438-9 S 22 '23
 Modernizing Cincinnati traction power system. il diags map plans Elec Ry J 58:1099-1103 D 24 '21
 New power distribution center for Montreal. il diags plan Elec Ry J 59:861-6 My 27 '22
 Power distribution system and its maintenance. M. B. Rosevear. il maps Elec Ry J 61:453-7 Mr 17 '23
 Power saving on electric railways. H. J. Meyer. Aera 11:817-21 F '23
 Pulverized fuel plant at Providence. diags plan Elec Ry J 61:725-7 Ap 28 '23

Electric railroads—Power—Continued

- Relation between temperature and power used by electric cars. A. W. Baumgarten. Elec Ry J 60:77-8 J1 15 '22
- Remodeling electric railway plant at Batavia, Illinois. H. W. Brooks. il diag Power 58: 678-82 O 30 '23
- Report of the A.E.R.E.A. committee on power distribution. Elec Ry J 62:657-8 O 13 '23
- Reports of the committees on power generation and power distribution. Elec Ry J 60: 602-5 O 7 '22
- Saving energy on the Long Island. L. S. Wells. chart map Elec Ry J 59:926-9 Je 10 '22
- Securing the maximum benefit from energy-saving devices. F. H. Miller. Elec Ry J 60: 87-9 J1 15 '22
- Significant things in regard to power distribution. diag Elec Ry J 61:17-19 Ja 6 '23
- Using direct suspension trolley in high-speed train service. C. Huttleston. il Elec Ry J 60: 473-6 S 23 '22

See also Electric railroads—Trolley shoes; Electric substations, Automatic

Public relations

- Electric railway situation as seen by commissioner. D. N. Lewis. Aera 11:926-34 Mr '23; Same cond. Eng & Contr (Ry) 59:667-71 Mr 21 '23
- Electric railways keep faith. C. D. Emmons. Aera 11:891-7 Mr '23; Same. Eng & Contr (Ry) 59:653-7 Mr 21 '23
- Manufacturers' cooperation. Aera 11:267-71 O '22
- Railway and motor bus regulation. C. C. Elwell. Elec Ry J 61:275-6 F 17 '23
- Some pointers on soliciting traffic. F. W. Shappert. Elec Ry J 61:569-70 Mr 31 '23

See also Electric railroads—Service; Street railroads—Municipal ownership; Street railroads—Public relations

Records

- Checking idle time of locomotives and service cars. il chart Elec Ry J 59:596 Ap 8 '22
- Graphic records improve maintenance of high-tension, trolley, telephone and signal lines. il map Elec Ry J 58:1139-43 D 31 '21

Rolling stock

- Electric railway statistics for 1921. map Elec Ry J 59:41-3 Ja 7 '22
- New electric rolling stock ordered. Elec Ry J 59:34-6 Ja 7 '22
- New multiple-unit equipment for Long Island R.R. R. H. Freeland. il Ry R 71:81-3 J1 15 '22
- New rolling stock reduces maintenance costs. R. S. Pilcher. Elec Ry J 62:415 S 15 '23

See also Cars, Electric railroad; Electric locomotives; Freight cars, Electric railroad; Street cars

Safety devices and measures

- First aid on Chicago elevated railroads. B. I. Budd. il Elec Ry J 59:364-5 Mr 4 '22; Same. Aera 10:675-7 Mr '22
- New safety devices developed in Tri-cities. il diag Elec Ry J 61:369-71 Mr 3 '23
- New York state railways organized for safety. A. W. Koehler. Elec Ry J 59:707-8 Ap 29 '22
- Safety campaign of Long Island railroad. Elec Ry J 59:1001 Je 24 '22

See also Street railroads—Safety devices and measures

Bibliography

- Accident prevention on electric railways; bibliography. M. B. Day. Elec Ry J 59:325-6 F 25 '22

Scrap material

- Reclamation work reduced maintenance expense. J. T. Porter. Elec Ry J 61:931-2 Je 23 '23
- Typical welding reclamation jobs. il Elec Ry J 62:225-6 Ag 11 '23

Securities

- Table showing electric railway securities in default. Elec Ry J 58:922 N 19 '21

Service

- Service obligations of railways. R. Heilman. Aera 11:552-63 D '22

Shops

- Arc welding in railway shops. S. E. Mason. il diag Elec Ry J 59:446-8 Mr 18 '22
- Battery tractor switches passenger trailers about shops. il Elec Ry J 60:815 N 18 '22
- Economics of car maintenance through modern shop practice. W. Silvus. Elec Ry J 59: 833-4 My 20 '22
- Efficiently arranged wood-working shop increases output. il plan Elec Ry J 58:1075-6 D 17 '21
- Electric-railway repair shops. H: S. Day. Elec J 20:369-71 O '23
- Handling cars inside shops. il diag Elec Ry J 59:474 Mr 18 '22
- How we keep up equipment. T. H. Minary. il Aera 10:712-16 Mr '22
- Individual motor drive improves shop efficiency. H. J. Rice. il Elec Ry J 61:474-6 Mr 17 '23
- Labor-saving methods from Fort Worth. J. T. Porter. il Elec Ry J 59:456-7 Mr 18 '22
- Lift truck produces substantial savings in railway shop. il Elec Ry J 59:458-60 Mr 18 '22
- Methods and equipment for removing wheels. C. W. Squier. il diag Elec Ry J 61:447-52 Mr 17 '23
- N. & W. electric shop practices. il diag Elec Ry J 62:257-60 Ag 18 '23
- New repair shops at Boston. plans Elec Ry J 61:239-42 F 10 '23
- New shops for Toronto. plan Elec Ry J 61: 723-4 Ap 28 '23
- Oil and waste reclaimed with profit in Milwaukee. il Elec Ry J 60:805-8 N 18 '22
- \$125,000 paint shop for Detroit. diag plan Elec Ry J 61:923-4 Je 2 '23
- Pick the foremen carefully. A. T. Clark. Aera 10:782-4 Ap '22
- Piece-work system in car maintenance. il Elec Ry J 61:443-6 Mr 17 '23
- Planning a car repair shop. H: S. Day. plans Elec Ry J 62:773-5 N 3 '23
- Practical kinks from Hampton. il diag Elec Ry J 59:645-6 Ap 15 '22
- Providing a repair shop with little money. C. P. Westlake. il Elec Ry J 58:897-8 N 19 '21
- Putting overhaul on a production basis. H: S. Day. Elec Ry J 62:737-9 O 27 '23
- Rearranging wheel and axle shop for lower cost and higher production. H. E. Hoehette. plan Elec Ry J 61:215-16 F 3 '23
- Reducing railway maintenance costs with an electric furnace. il Elec Ry J 61:671-6 Ap 21 '23
- Shop notes from Quebec. il Elec Ry J 60:385 S 16 '22
- Truck overhauling methods. il Elec Ry J 61: 833-40 My 19 '23
- Wheel, gear and axle practice. il Elec Ry J 62:245-50, 729-36, 849-54 Ag 18, O 27, N 17 '23

See also Transfer tables

Signals

- All-electric automatic power signalling on the Metropolitan railway. W: Wilcox. Engineering 113:360 Mr 24 '22; Engineer 133:354 Mr 31 '22; Elec Ry J 59:721-2 Ap 29 '22; Electrician 88:440-1 Ap 14 '22
- Automatic signalling on the Mersey railway. Elec R (Lond) 92:462 Mr 23 '23
- Chattanooga signal failures show further decrease. Elec Ry J 61:254 F 10 '23
- Crossing protection on high-speed railway. il Elec Ry J 61:1047 Je 23 '23
- Crossing signal for infrequently used spur track. il Elec Ry J 61:84 Ja 13 '23
- Does it pay to use home-made repair parts in signals. C. P. Nachod. Elec Ry J 60:867 N 25 '22
- Interlocking practice of the Interborough rapid transit Ry. W. A. Bartley. Ry R 70: 113-15 Ja 28 '22
- Lights only indication in new signal. il Elec Ry J 61:1053-4 Je 23 '23
- New developments in color light signals. il Elec Ry J 60:817 N 18 '22

Electric railroads—Signals—Continued

- Pipe staff for flag and lantern signal. C. A. Elliott. *il* Elec Ry J 62:745 O 27 '23
- Power signalling on the Melbourne suburban railways. Engineer 134:120-1 Ag 4 '22
- Remote control of outlying switches for high-speed railways. *il* Elec Ry J 60:398 S 16 '22
- Repeater signals aid safety car operators. *il* *diag* Elec Ry J 61:637-8 Ap 14 '23
- Report of the committee on traffic regulations. Elec Ry J 60:585 O 7 '22
- Signal maintenance on an Oregon railway. H. J. Charters. *il* *diag* Elec Ry J 61:468-71 Mr 17 '23
- Three simple signal systems. G. H. McKelway. *diags* Elec Ry J 61:852-3 My 19 '23
- Unusual block signal installation. H. J. Charters. *diags* Elec Ry J 61:652 Ap 14 '23
- See also* Elevated railroads—Signals

Snow protection

- See* Snow melters, Electric; Street railroads—Snow protection and removal

Standards

- Discussion of standardization. Aera 10:567-92 F '22

Stations

- Central station for interurban lines at Kansas City. plan Elec Ry J 61:599-600 Ap 7 '23
- Design of passenger stations for electrified railways. F. Bushrod and J. F. S. Tyler. Elec Ry J 61:693 Ap 21 '23

Statistics

- Electric railway construction in 1922. Eng & Contr (Ry) 59:180-1 Ja 17 '23
- Electric railway section of the Commercial & financial chronicle. maps Comm & Fin Chr 114:1-156 sec 2 Ap 29 '22 [issued twice a year on the last Saturday in April and October]
- Operating conditions improving. E. J. Murphy. Aera 10:606-10 F '22
- Survey for 1921. Elec Ry J 59:729 Ap 29 '22
- Track extended and reconstructed in 1921. Elec Ry J 59:43-5 Ja 7 '22
- Track extensions and reconstruction work increased. Elec Ry J 61:51-3 Ja 6 '23

See also Electric railroads—Traffic

Stores systems

- Control and handling of materials and supplies. P. F. McCall. Elec Ry J 62:604 O 13 '23
- How stores are accounted for on the Chicago elevated railroads. E. E. Kretschmer. chart Elec Ry J 60:510-14 S 30 '22
- Report of the A.E.R.E.A. committee on purchases and stores. Elec Ry J 62:659 O 13 '23
- Stores and inventory methods. S. P. Farwell. Elec Ry J 61:519-21 Mr 24 '23

Substations

See Electric substations

Taxation

- How and why railways are taxed. R. Heilman. Aera 11:822-31 F '23
- New York electric roads pay high taxes. F. C. Mills. Elec Ry J 59:186-8 F 4 '22
- Tax net income only. A. T. Davison. Aera 11:922-5 Mr '23
- Taxation and regulation. A. Forward. Elec Ry J 61:279 F 17 '23
- Taxation problem. F. M. Davenport. Aera 11:911-18 Mr '23; Same cond. Elec Ry J 61:277-9 F 17 '23

Terminals

- New terminal in Baltimore. *il* plan Elec Ry J 61:549-51 Mr 31 '23

Tickets

- Interchangeable scrip coupons; brief filed with Interstate commerce commission by American electric railway association and Central electric railway association sets forth attitude of industry. Aera 11:547-9 D '22; Elec Ry J 60:858 N 25 '22

Track

- Bonding and joint welding. R. C. Warring. Aera 10:1083-6 Jl '22

- Building track and right-of-way to create traffic. J. S. Hyatt. *il* Elec Ry J 60:477-9 S 23 '22

- Hints on engineering field work. J. E. Rapuano. *diags* Elec Ry J 60:321-3 S 2 '22
- Interurban track maintenance notes. A. A. Oldfield. Elec Ry J 61:567-8 Mr 31 '23; Same cond. Eng & Contr (Ry) 59:915-16 Ap 18 '23
- Report of the A.E.R.E.A. committee on way matters. Elec Ry J 62:653-4 O 13 '23
- Track extension and reconstruction by electric railways in 1921. Eng & Contr 57:75 Ja 18 '22

- Welding practice of the Pacific electric. C. A. Elliott. *il* Elec Ry J 60:701-3 O 28 '22

See also Elevated railroads—Track; Rails; Street railroads—Curves and turnouts; Street railroads—Track

Traffic

- Electric railway passengers increased 12 per cent in five years. Elec Ry J 62:777-8 N 3 '23
- Study of traffic ratios. E. H. Lamberger. Aera 11:1296-8 My '23

See also Street railroads—Traffic

Trains

- Effect of peak loads on railway motors. G. M. Woods. Elec Ry J 60:289-90 Ag 26 '22
- Two-car train weighs 490 lb. per seat. *il* plan Elec Ry J 60:317-19 S 2 '22

Trolley bases

- Nuttall improved trolley base. *il* *diag* Elec Ry J 60:292-3 Ag 26 '22

Trolley pull-overs

- Drop-forged pull-overs used in Detroit. *diags* Elec Ry J 62:411 S 15 '23

Trolley shoes

- Contact shoe vs. trolley wheel. H. Savage and others. Elec Ry J 59:197-9 F 4 '22
- Shoe vs. wheel at Bradford, England. *il* *diags* Bus Transportation 1:381 Jl '22
- Trolley shoe or slide at low speed. Elec Ry J 59:641, 681 Ap 15-22 '22

Trolley wheels

- Contact shoe vs. trolley wheel. H. Savage and others. Elec Ry J 59:197-9 F 4 '22
- Mechanical and electrical equipment keeps pace. *il* *diags* Elec Ry J 62:551-2 O 6 '23
- Overhead and car current collecting devices. L. E. Delf. Elec Ry J 59:903-4 Je 3 '22
- Sliding type trolley wheel. *il* Elec Ry J 60:269 Ag 19 '22
- Steel plate roller bearing trolley. *il* Elec Ry J 61:692 Ap 21 '23
- Trolley shoe or slide at low speed. Elec Ry J 59:641, 681 Ap 15-22 '22
- Trolley wheel which passes electricity through side bearings. *il* *diags* Coal Age 23:480-1 Mr 22 '23; Same. Ind Management (Lond) 10:54 Jl 26 '23
- Why current-collecting devices should be improved. C. M. Feist. Elec Ry J 60:786-7 N 11 '22

Valuation

- Certificates of valuation issued to two Pennsylvania companies. Elec Ry J 60:762-3 N 4 '22
- Preliminary valuation report of New York city traction and rapid transit properties. Comm & Fin Chr 114:1250-2 Mr 25 '22; Same. Eng & Contr 57:380-2 Ap 19 '22
- Valuation of New York city traction properties by transit commission generally rejected by company and security interests. Comm & Fin Chr 114:1244-50 Mr 25 '22; Abstract. Eng & Contr 57:481-3 My 17 '22

See also Street railroads—Valuation

Wages

- New schedule accepted. Elec Ry J 59:837 My 20 '22

Wiring

- Principles of three-wire distribution for electric railways. W. N. Smith. *il* Sibley J 37:131-5 Je '23

Electric railroads—Wiring—Continued

Tramcar electrical equipments. J. A. Baker.
Elec R (Lond) 93:381-3 S 14 '23

See also Electric railroads—Control jumpers

Yards

Planning a carhouse and storage yard. H: S.
Day. il diags Elec Ry J 62:293-4 Ag 25 '23

California

East Bay electric service of the Southern
Pacific railroad. il Elec Ry J 61:633-7 Ap
14 '23

Hollywood rehearsing held. Elec Ry J 59:615-
16 Ap 8 '22

Napa Valley route. il diag map Elec Ry J
60:7-8 Jl 1 '22

Canada

Electric railway section of the Commercial &
financial chronicle. maps Comm & Fin Chr
114:1-156 sec 2 Ap 29 '22 [issued twice a
year on the last Saturday in April and Oc-
tober]

Chile

Chile inaugurates electric operation. il Elec
Ry J 62:132-3 Jl 28 '23

Electric traction in Chile. Electrician 88:626
My 26 '22

Cuba

Electric railway construction and operation
in Cuba. L. Geenens. il map Elec Ry J 62:
127-32, 211-15 Jl 28, Ag 11 '23

Europe

European electric railway financial conditions.
M. A. Mariage. Elec Ry J 60:754-6 N 4 '22

Heavy electric traction abroad; papers pre-
pared for ninth congress of International
railway association. Elec Ry J 59:322-4 F
25 '22

France

Joining railway lines in French Vosges
region. map Elec Ry J 59:319 F 25 '22

Great Britain

Twelve years' operation of electric traction
on the London, Brighton and South coast
railway. H: W. H. Richards. Engineering
115:14 Ja 5 '23

Illinois

Illinois travels de luxe. il Elec Ry J 59:682
Ap 22 '22

Japan

Japanese railways report. Elec Ry J 59:559-
60 Ap 1 '22

Massachusetts

See Boston elevated railway

Michigan

Through routes and joint rates. Elec Ry J
61:145 Ja 20 '23

New Jersey

See Public service railway of New Jersey

New York (state)

New York electric roads pay high taxes. F:
C. Mills. Elec Ry J 59:186-8 F 4 '22

New York state railways organized for safety.
A. W. Koehler. Elec Ry J 59:707-8 Ap 29
'22

Ontario

Reports of commission appointed to inquire
into hydro-electric railways containing
majority and minority reports and ap-
pendices. 234p Ontario Commission on
hydro-electric railways, Toronto '22

Pennsylvania

Financing plan announced. Elec Ry J 60:26
Jl 1 '22

Southwestern states

Examiners against proposed electric line in
Arizona, New Mexico, Colorado and Cali-
fornia. Ry Age 75:392 S 1 '23

Sweden

Electric railway within the Arctic circle. il
diag Engineer 132:676-7, 680 D 23 '21

United States

Electric railway conditions in 1922. C. D.
Emmons. Eng & Contr (Ry) 59:176-7 Ja 17
'23; Same. Aera 11:613-14 Ja '23

Electric railway section of the Commercial &
financial chronicle. maps Comm & Fin Chr
114:1-156 sec 2 Ap 29 '22 [issued twice a
year on the last Saturday in April and Oc-
tober]

Electric railroads, Industrial

Electrification of the steel plant railroad; ab-
stracts. R. B. Gerhardt. Blast F & Steel Pl
9:613-17 O '21; Iron Age 108:1663-6 D 29 '21;
Eng N 87:652-3 O 20 '21

Steel mill yard electrification. D: C. Hersh-
berger. il diags Elec J 19:362-8 S '22

Tramways for China clay pits. Chem Age
(Lond) 8:sup20 Ja 20 '23

See also Electric locomotives, Industrial

Electric ranges. See Electric stoves

Electric rates

Abrogation of contract power rates. A. L.
H. Street. Power 57:557 Ap 10 '23

Allocating service cost in rates. H. B.
Dwight. Elec W 81:462-4 F 24 '23

Analysis of effect of coal clause in contracts.
F. P. Wood and E. Weber. Elec W 78:1317-
18 D 31 '21

Analysis of present rate schedules. E. B.
Criddle. J Elec 50:448-54 Je 1 '23

Baltimore rates reduced. Elec W 81:1484 Je 23
'23

California railroad commission lowers power
company rates. J Elec 48:427 My 15 '22

California railroad commission orders emer-
gency rate reductions. Elec W 79:894-5 My 6
'22

Commercial possibilities and essentials of
electric cooking rates and service. N. T.

Wilcox. charts N E L A Bul 9:562-7 S '22
Commonwealth Edison reduces rates. Elec W
82:247 Ag 4 '23

Comparison of utility rates with commodity
prices. Elec W 81:110 Ja 13 '23

Conditions which customer seeking to change
rate must fulfill. Elec W 80:145 Jl 15 '22

Control over power rates. A. L. H. Street.
Power 58:198 Jl 31 '23

Cost study must be made in giving rural ser-
vice. Elec W 80:332 Ag 12 '22

Costs of electric energy in California com-
pared with Ontario. R. Sibley. diags J Elec
48:269-71 Ap 1 '22

Development of rates for electric service. E.
W. Lloyd. Elec W 80:558-9 S 9 '22

Electric power rates to refrigerating plants.
Power 57:94-5 Ja 16 '23

Electric service conditions in Boston and
Cleveland, compared in Massachusetts rate

case. L. L. Elden. Elec W 81:61 Ja 6 '23

Formula for determining rural charge; re-
port of the rural lines committee of the
Empire state gas and electric association.
Elec W 82:665-6 S 29 '23

Grouping of communities on transmission
systems for rate making approved by com-
missioners. N E L A Bul 9:722-5 D '22

Handling cost elements in fixing rates. W. J.
Greene, C. F. Schoonmaker and C. B. Gor-
ton. Elec W 80:1431-2 D 30 '22

Hartford's combination residence rate. Elec
W 81:917-21 Ap 21 '23

Homecoming of electricity. J. W. Beauchamp
Elec R (Lond) 91:779-81 N 24 '22

How electric rates are fixed under commis-
sion regulation. L. S. Ready. J Elec 49:50-2
Jl 15 '22

How much should consumers be charged for
electric service? E. B. Criddle. J Elec 48:
392-6 My 15 '22

How the electric rate in Springfield, Ill.,
was reduced from 13c to 6c. W. J. Spauld-
ing. Munic Eng 62:25-9 Ja '22

Importance of demand charge on power bill.
Coal Age 24:144 Jl 26 '23

Investment charge as applied to electric power
rates. R. E. Richardson. Elec W 80:171-3
Jl 22 '22

Electric rates—Continued

- Multiple plant method for the equitable apportionment of fixed charges. G. H. Moore. *Am Inst E E J* 42:408-11 Ap '23
- New Washington (state) rate schedule has been filed. *J Elec W* 80:28 Ja 1 '23
- Rate decision in Wisconsin affecting transmission. *map Elec W* 80:219-20 J1 29 '22
- Rate forms should be minimized. A. Dow. *Elec W* 80:815-16 O 14 '22
- Rate situation; what constitutes a fair return. F. A. Newton. *N E L A Bul* 9:219-21 Ap '22
- Rates and finance. E. T. Goslin. *Inst E E J* 60:21-5 D '21
- Retail prices of electricity in the United States. *Monthly Labor R* 15:382-5, 1002-7; 16:320-3, 955-61; 17:367-72 Ag, N '22, F, My, Ag '23
- Should distance from plant fix rates? *Elec W* 80:1279-80 D 9 '22
- Simplified rates a good-will asset. A. S. Pratt. *Elec W* 81:343-4 F 10 '23
- Straight lines as rate curves. H. E. Eisenmenger. *Elec W* 81:1263-8 Je 2 '23
- Tariffs for electricity supply. H. M. Sayers. *Elec R (Lond)* 93:416-18 S 21 '23
- Tariffs for the sale of electrical energy. J. Frith. *Electrician* 88:624 My 26 '22
- Uniformity in demand rates. W. M. Carpenter. *Elec W* 81:1459-61 Je 23 '23
- With the decreased cost of living, the public will now expect lower utility rates. J. F. Greenawalt. *J Elec* 49:45 J1 15 '22

Electric refrigerators. See Refrigerators, Electric

Electric research

- Applying the results of high-voltage research to practice. F. W. Peek, jr. *il diag Gen Elec R* 26:407-11 Je '23
- Electrical research viewed as a career. W. Spraragen. *Elec W* 80:1102-3 N 18 '22
- Industrial research. C. E. Skinner. *W Soc E J* 28:279-92 J1 '23; Same. *Elec J* 20:241-7, 300-4 J1-Ag '23
- Science and industry in America. W. Rosenhain. *Engineer* 136:358-9, 384-5 O 5-12 '23
- Scientific and industrial research. *Elec W* 82: 824 O 20 '23 [Printed in the third issue of each month]

See also Electric laboratories

Electric resistance

- Alternating-current resistance and inductance of single-layer coils. C. N. Hickman. *diags U S Bur Stand Sci Pa* 472:73-104 '23
- Changes in iron and steel below 400°. C. A. Goffey and F. C. Thompson. *bibliog diags Iron & Steel Inst J* 107:465-90 no 1 '23
- Effect of field direction on magneto-resistance. C. W. Heaps. *Phys R* 19:7-19 Ja '22
- Effect of tension on change of resistance and thermoelectromotive force by transverse magnetization. A. W. Smith. *Phys R* 22: 58-65 J1 '23
- Electrical resistance of a rotating coil. A. P. Carman. *Phys R* 19:385-7 Ap '22
- Hall effect and specific resistance of evaporated films of silver, copper and iron. J. C. Steinberg. *diags Phys R* 21:22-9 Ja '23
- Hall effect and specific resistance of silver films. G. R. Wait. *diag Phys R* 19:615-22 Je '22
- High frequency resistance of inductance coils. G. Breit. *U S Bur Stand Sci Pa* 430:569-87 '22
- How resistance is used in railway automatic substations. *Elec Ry J* 59:997-9; 60:199-201, 227-30 Je 24, Ag 5-12 '22
- Investigation of transmitting aerial resistances. T. L. Eckersley. *diags Inst E E J* 60:581-94; Discussion. 594-604 My '22
- Lead resistance for current transformers. F. B. Silsbee. *Elec W* 81:1082-3 My 12 '23
- Measurement of insulation resistance. T. R. Warren. *diags Elec R (Lond)* 93:151-2 J1 27 '23
- Measuring resistance of grounds. M. Oldacre. *diag Power* 56:489 S 26 '22
- Resistance and thermo-electric power of metallic germanium. C. C. Bidwell. *diag Phys R* 19:447-55 My '22

- Resistance of a hot wire in an alternating air current. R. C. Richards. *Philos Mag* 6th ser 45:926-34 My '23
- Resistance of electrolytes at high frequencies. J. J. Dowling and K. M. Preston. *diags Philos Mag* 6th ser 43:537-45 Mr '22
- Resistance-temperature coefficient of concentrated solutions of potassium in liquid ammonia and the specific conductance of solutions of potassium in liquid ammonia at intermediate concentrations. C. A. Krause and W. W. Lucasse. *Am Chem Soc J* 45: 2551-5 N '23
- Resistivities of some granular resistor carbons. C. E. Williams and G. R. Shuck. *diag plan Am Electrochem Soc Trans v* 42 (preprint 13):109-21; Discussion. 121a-b S '22
- Resistivity of vitreous materials. L. L. Holladay. *J Fr Inst* 195:229-35 F '23
- Skin effect and proximity effect in tubular conductors. H. B. Dwight. *Am Inst E E J* 41:203-9 Mr '22
- Solution to Wheatstone bridge problem. J. M. Row. *diag Power. Pl Eng* 27:1051 O 15 '23
- Some electrical properties of alloys at high temperatures. M. A. Hunter and A. Jones. *Am Electrochem Soc Trans v* 42 (preprint 15):139-58; Discussion. 158a-c S '22
- Study of the effect of adsorbed gas on the high-frequency resistance of copper wire. A. Bailey. *diags Phys R* 20:154-65 Ag '22
- See also Electric conductivity; Electric measurement; Insulation (electric); Rheostats

Electric resistors

- Application of control resistors. H. D. James. *il Elec J* 20:57-62 F '23
- Development of current limiting reactors and their shunting resistors. F. H. Kierstead. *il diag Gen Elec R* 26:560-4 Ag '23
- General considerations in grounding the neutral of power systems. H. H. Dewey. *il diags Am Inst E E J* 42:589-600 Je '23; Discussion. 42:1082-7 O '23

See also Rheostats

Electric service, Rural

- Les avances de l'état facilitant la distribution de l'énergie électrique dans les campagnes; loi du 2 août 1923. P. Razous. *Génie Civil* 83:160-2 Ag 18 '23
- Building a rural load. W. M. Shepard. *il map J Elec* 49:397-402 D 1 '22
- Characteristics of rural load fed by 6,600-volt line. *Elec W* 79:835-6 Ap 29 '22
- Considerations for the construction of rural distribution lines. *Elec W* 79:1276-7 Je 24 '22
- Co-operation needed in rural service. *Elec W* 80:1215-16 D 2 '22
- Departments of commerce, interior and agriculture pledge cooperation in farm electrification program. *N E L A Bul* 10:651-2 N '23
- Les distributions rurales d'électricité en France. P. Razous. *Génie Civil* 82:552-6 Je 9 '23
- Electric power and the farmer. G. C. Neff. *N E L A Bul* 10:195-6 Ap '23
- Electric service from rural transmission lines. A. B. Campbell. (Eng. Ext. Dept. Bul. 47) 24p Iowa state col. agric. & mech. arts, Ames '20
- Electrical development of outlying districts. R. A. Chattock. *Elec R (Lond)* 90:173 F 3 '22
- Electricity in rural Iowa. H. J. Metcalf. *N E L A Bul* 10:464-5 Ag '23
- Installment bonds used to finance rural lines. *Elec W* 81:585 Mr 10 '23
- Longer spans proposed for rural lines. *Elec W* 78:1168-70 D 10 '21
- Minnesota to pioneer in first trial rural electric line. C. F. Stuart. *N E L A Bul* 10: 670-1 N '23
- Nebraska rural lines practice. *Elec W* 82: 241-2 Ag 4 '23
- New England company's rural lines are made self-supporting. H. M. Parsons. *Elec W* 78: 1333-4 D 31 '21
- New interest and activity apparent in rural business. *Elec W* 79:290 F 11 '22
- New plan for supplying electric service to outlying municipalities. G. E. Miller. *Elec W* 80:326-7 Ag 12 '22

Electric service, Rural—Continued

- Operating characteristics of rural transmission lines. V. L. Hein. (Bul. no. 53, Eng. ext. dept.) 10p Iowa state college of agriculture and mechanic arts, Ames '22; Abstract. Elec W 81:795-6 Ap 7 '23
- Oregon commission's rules for rural electric service. Elec W 82:936 N 3 '23
- Plan for studying rural territory. B. H. Shepard. Elec W 82:136-7 Jl 21 '23
- Power possibilities in rural lines. Power Pl Eng 26:614-16 Je 15 '22
- Present status of rural service. J. C. Martin. Elec W 81:168-9 Ja 20 '23
- Promotion of rural business. R. B. King. Elec W 80:1111-12 N 18 '22
- Proposes farm power at \$5 per hp.-yr. Elec W 82:197 Jl 23 '23
- Review of some rural-line fundamentals. J. C. Martin. Elec W 78:1274-5 D 24 '21
- Rural electrification increasing in Finland. Elec W 79:232 F 4 '22
- Rural line development. J. C. Martin. N E L A Bul 10:606-9 O '23
- Rural service as a help to stem cityward migration. W. M. Carpenter. map Elec W 82:293-4 Ag 11 '23
- Rural-service charges. Elec W 81:880 Ap 14 '23
- Rural service opportunity. G. C. Neff. Elec W 79:949-50 My 13 '22
- Some hints about rural service. J. M. Hepp. Elec W 81:1038 My 5 '23
- Some Iowa rural-line practices. il Elec W 81:625-8 Mr 17 '23
- Transmission line service. R. F. Pack. Elec J 19:178 My '22
- Wisconsin farm-owned lines show a deficit. Elec W 79:790 Ap 22 '22
- See also Electricity on the farm; Farm lighting plants

Bibliography

- Electricity on the farm—a bibliography. Elec W 82:333-5 Ag 18 '23

Cost

- Cost study must be made in giving rural service. Elec W 80:332 Ag 12 '22
- Economics of rural line extensions. R. M. Boykin. Elec W 81:214-15 Ja 27 '23
- Formula for determining rural charge; report of the rural lines committee of the Empire state gas and electric association. Elec W 82:665-6 S 29 '23
- Rural electric service costs analyzed. W. J. Greene. Elec W 80:656-8 S 23 '22
- Rural extensions on revenue basis. Elec W 80:1103-4 N 18 '22
- Rural line costs prorated on mileage basis. Elec W 80:775 O 7 '22
- Rural 6,600-volt line costs \$1.393 per mile. D. G. Wallace. Elec W 82:611 S 22 '23

Electric ship propulsion. See Ship propulsion, Electric

Electric shock. See Electricity, Injuries from

Electric shops (repair)

- Details of procedure in repairing and rebuilding electrical equipment. J. D. Zook. il plan Ind Eng 81:383-8+ Ag '23
- Equipment and materials needed for a small repair shop. J. P. Collopy. il Ind Eng 81:167 Mr '23
- Industrial plant repair shop. E. J. Ford. il Ind Eng 81:124-30 Mr '23
- Some problems faced when analyzing electrical repair shop costs. G. P. Svendsen. il Ind Eng 81:23-6 Ja '23

See also Electric railroads—Shops

Electric shops (retail trade)

- Better holiday windows this year than ever. il Elec R 79:800 N 26 '21
- Better merchandising suggestions. A. L. Spring. il J Elec 51:83-7 Ag 1 '23
- Choosing the most advantageous store location. I. B. Lincoln. il J Elec 49:23 Jl 1 '22
- Increasing sales twenty-seven per cent by use of window displays. J. W. Ottersen. il J Elec 50:136-9 F 15 '23
- Installing the display in the shallow show window. il J Elec 50:497 Je 15 '23

- Leading the way to better stores and business. il J Elec 51:142-3 Ag 15 '23
- Putting novelty into the dealer's window display. il J Elec 51:141 Ag 15 '23
- Salesmanship in relation to showroom displays and demonstrations. A. C. Bostel. il Electrician 88:357-8 Mr 31 '22; Same. Elec R (Lond) 90:428-9 Mr 24 '22
- Showroom and sales department in a small town. T. Hall. Elec R (Lond) 92:967-8 Je 22 '23; Discussion. 92:1031-2 Je 29 '23
- Simulating home conditions on the sales floor. il J Elec 51:178 S 1 '23
- Start your Christmas selling early. T. F. Chantler. il J Elec 49:357-60 N 15 '22
- Then and now; store of the J. C. Hobrecht company, Sacramento, California. K. L. Graham and R. S. Prussia. il J Elec 49:163-6 S 1 '22
- Well-planned merchandise salesroom. il Elec W 81:1099-1102 My 12 '23

See also Electric railroads—Shops; Gas and electric shops

Electric shovels

- Electric shovels now used at Chuquicamata. Eng & Min J 114:634 O 7 '22
- New types of small electric shovels. il Eng & Contr 57:163-4 F 15 '22; Same cond. Eng & Min J 113:559-60 Ap 1 '22
- Petrol-electric revolving shovels. il diags Engineering 113:462-4 Ap 14 '22

Electric signals

- Automatic and semi-automatic railway signalling. H. S. Petch. diags Inst E E J 61:81-8 D '22
- Electric signal installations in Butte mines; abstract. C. D. Woodward. diag Min & Met 182:43-4 F '22
- Reliable operation of an extensive signal service. il diags Elec R 80:107-10+ Mr '22
- Signal systems for power stations. C. D. Gray and M. M. Samuels. il diags Elec W 82:225-8 Ag 4 '23

See also Electric railroads—Signals; Fire alarms; Railroads—Signals

Electric signs

- Better signs. C. A. Atherton. il Illum Eng Soc 17:211-32; Discussion. 232-44 My '22
- Brilliant electric sign has few lights. il diag Pop Mech 36:828 D '21
- Development of electrical advertising. H. H. Magdick. Elec W 81:228-9 Ja 27 '23
- Electric sign lighting. il Am Inst E E J 41:150-1 F '22
- Electric sign statistics. Am Inst E E J 41:1033 D '22
- Electric sign survey. C. A. Atherton. N E L A Bul 9:139 Mr '22
- Electric signs and billboard illumination. P. D. Howse and T. W. Simpson. J Elec 50:407-8 Je 1 '23
- Electricity as an advertising medium. O. R. Horue. N E L A Bul 10:55-6 Ja '23
- Factors that determine sign legibility. C. A. Atherton. il Elec W 79:1061-4 My 27 '22
- Flasher signs made in a sheet metal shop. il Sheet Metal Worker 13:383-+ Jl 7 '22
- Flutter in lighted signboards. Elec W 82:461 S 1 '23
- Hippodrome electric sign. il Elec R (Lond) 90:786 Je 2 '22
- Illuminated electric signs. il diag Elec R (Lond) 90:472-4 Ap 7 '22
- Illuminating engineering factors in electric sign design. C. A. Atherton. il Illum Eng Soc 16:397-416; Discussion. 416-18 no 8 '21
- Neon glim lamp; most obvious use is for sign lighting. A. Palme. il Elec W 81:216 Ja 27 '23
- Notes on electrical advertising. Am Inst E E J 42:659-60 Je '23
- Opportunity in the electrical advertising field as revealed by surveys in 143 cities. N E L A Bul 10:101-2 F '23
- Posterlite. il Electrician 88:661 Je 2 '22
- Selling electric lights as an advertising medium. J Elec 48:283 Ap 1 '22
- Successful plan for electrical advertising maintenance. E. A. Mills. N E L A Bul 10:178 Mr '23

Electric signs—Continued

- Survey, comparison and classification of indoor electric signs. P. S. Van Bloem. *Illum Eng Soc* 18:382-6 Ap '23
- Theatrical electrician plans lights for busy night station. W. K. Halbert. *il Nat Pet* N 15:35+ O 3 '23
- Use picture and color for effective electric signs. H. H. Magdsick. *il N E L A Bul* 10:176-7 Mr '23

Safety devices and measures

- Electric sign-hanging regulations. H: C. Horstman and V. H. Tousley. *diags Elec W* 81:743-5 Mr 31 '23

Electric snow melters. See Smelting, Electric**Electric snow melters. See Snow melters, Electric****Electric sparks**

- Some observations on the ignition of combustible gases by electric sparks. J. D. Morgan. *Philos Mag* 6th ser 45:968-75 My '23
- Sparking potential in argon at reduced pressures. E. R. Stoekle. *Phys R* 19:258-9 Mr '22

See also Electric arc; Electric ignition; Spark gap

Electric standards

- Standardization. E. W. Rice, jr. *Gen Elec* R 25:264-6 My '22; Same cond. *Elec W* 79:479-80 Mr 11 '22

See also subdivision Standards under various electrical subjects, e.g. Electric batteries—Standards; Electric lines—Standards

Electric steam generators. See Boilers—Electric heating**Electric steel. See Steel metallurgy—Electrometallurgy****Electric stores. See Electric shops (retail trade)****Electric stoves**

- Advance! electrical cooker. A. F. Berry. *Electrician* 89:317-8 S 29 '22
- Electric range. F. H. McCormick. *il diag Gen Elec* R 25:484-91 Ag '22
- Electric range and water heater survey of Pacific Northwest. *J Elec* 51:246-7 O 1 '23
- Electric range handbook. 4th ed. 222p. Society for electrical development, New York '21
- Heavy duty electrically heated apparatus for hotels, restaurants, bakeries, etc. J. L. Shroyer. *il Gen Elec* R 25:158-66 Mr '22
- Large electric fires and cookers. F. H. Howell. *Elec R (Lond)* 91:656-7; Discussion. 657 N 10 '22
- New line of Hotpoint-Hughes electric ranges. *il Elec* R 79:959-60 D 24 '21
- Servicing electric ranges. A. H. Krueel. *il Elec W* 81:287 F 3 '23
- Stove cuts off the heat when food is cooked. *il Pop Mech* 40:173 Ag '23
- Why not develop a true electric range? *Elec W* 80:741-2 S 30 '22

See also Electric ovens

Directories

- Electric range directory. *J Elec* 51:219-20, 303-4 S 15, O 15 '23

Merchandizing

- Merchandizing electric ranges. A. H. Nicoll and H. Cram. *il J Elec* 50:403-6 Je 1 '23
- Prices or profits on electric ranges? L. D. Smith. *Elec W* 81:541-2 Mr 3 '23
- Sales possibilities of light wire electric ranges. *il Elec* R 79:797-9 N 26 '21
- Sales promotion vs. merchandizing of electric ranges. B. Y. Gibson. *J Elec* 48:153-4 F 15 '22
- Second successful range sale held in Spokane. *J Elec* 51:182-3 S 1 '23
- Selling electric ranges in southern California. *J Elec* 51:251-3 O 1 '23
- Selling ranges to develop an electric power load. *J Elec* 51:21 J 1 '23
- Spokane's record-breaking range sale. *Elec W* 81:1532-3 Je 30 '23
- Western power companies push electric range campaigns. *J Elec* 48:192-3 Mr 1 '22

Electric substations

- Alternating-current substation design. R. A. Hentz. *il diags plans Elec W* 81:513-16 Mr 3 '23
- Arrangement of static transformer substations; E.H.P. switchgear with inverted busbars. *diags Elec R (Lond)* 92:884 Je 8 '23
- Artistic substation built for San Diego company. *J Elec* 51:162, 187 S 1 '23
- Automatic and semi-automatic substations for electric railways. C. A. Butcher. *Elec Ry J* 61:173-4 Ja 27 '23
- Changing railway substations from 25 to 60 cycles. G. C. Hecker. *Elec J* 18:539-41 D '21
- Double-deck outdoor switching station in the Orient. *Elec W* 79:220 F 4 '22
- Economy in sub-station construction. W. J. Howard. *il diags Electrician* 89:290-1 S 15 '22
- L'électrification des Chemins de fer du Midi. H. Ledoux. *il diags plans Génie Civil* 83:193-8 S 1 '23
- Entire electric bay of El Paso station built outdoors. *il Elec W* 79:670 Ap 8 '22
- Features of the Vaca substation. C. W. Geiger. *Power Pl Eng* 27:587 Je 1 '23
- Full and semi-automatic versus manually operated substations for electric railways. C. M. Davis. *Gen Elec* R 26:235-8 Ap '23; Abstract. *Elec Ry J* 61:171-2 Ja 27 '23
- Hasty station operation often results in accidents. F. Gillooly. *diags Elec W* 79:336 F 13 '22
- High-pressure open-air sub-stations; the 25,000-v Kilmarnock installation. *il Elec R (Lond)* 92:902 Je 8 '23
- High voltage switchgear design. W. A. Coates. *diags Electrician* 88:526-30, 556-9 My 5-12 '22
- Industrial substations; report by N.E.L.A. alternating current substations subcommittee. N E L A Bul 10:184-5 Mr '23
- Laguna Bell substation. *il Elec W* 81:766 Mr 31 '23
- Means taken to make safe and efficient the direct and alternating current at a southern Illinois mine. A. S. White. *diags plan Coal Age* 21:359-61 Mr 2 '22
- New electricity distributing station at Colwyn Bay. J. B. C. Kershaw. *il plan Engineer* 135:550 My 25 '23
- New outdoor substation of the Chee Hsin cement company, Ltd., Tongshan. G. Kearney. *il Gen Elec* R 25:272-4 My '22
- New power distribution center for Montreal. *il diags plan Elec Ry J* 59:861-6 My 27 '22
- Outdoor substation construction. W. S. Jones. *diag Elec J* 19:457-9 N '22
- Outdoor substation for 2,400 volts. E. D. Searing. *il diags Elec W* 81:330-2 F 10 '23
- Outdoor switchgear. J. B. Rudkin. *il Elec R (Lond)* 90:567-8 Ap 21 '22
- Pacific gas & electric co. substation and transmission line. C. W. Geiger. *il diag Power Pl Eng* 26:227-30 F 15 '22
- Pole-top substation that serves city distribution. E. F. Pearson. *il Elec W* 79:737 Ap 15 '22
- Portable substation with outdoor switching equipment. *il plan Elec Ry J* 62:409 S 15 '23
- Rebuilding a transmission system; the Pacific gas & electric company. J. P. Jollyman. *il diags map Elec W* 80:599-603 S 16 '22
- Recent developments of alternating current substations. R. C. Powell. *il J Elec* 50:442-3 Je 1 '23
- Remodeling of an industrial substation. E. C. Soares. *il diags Ind Eng* 81:545-7 N '23
- Requisition form hastens station construction. E. R. Stauffacher. *Elec W* 80:25 J 1 '22
- Safe, simple and compact construction. M. M. Samuels. *il diags plan Elec W* 79:680-2 Ap 8 '22
- Seattle's north substation is under construction. *il J Elec* 51:188 S 1 '23; Same. *Munic Eng* 65:sup19 Ag '23; Same. *Elec W* 82:452 S 1 '23
- Semi-automatic substation serves coal-mine load. *il Elec W* 79:327 F 18 '22

Electric substations—Continued

- Service quickly restored by portable substation. *il diags Elec W 81:1221-2 My 26 '23*
- Simple substations are a necessity. *il diags Elec W 78:1325-7 D 31 '21*
- Standard design for several sizes of industrial substations. J. E. Housley. *il diags Elec W 80:614 S 16 '22*
- Substation of the Chemins de fer du Midi. H. Raemy. *Elec W 82:498 S 8 '23*
- West 97th street substation; the United electric light & power company. A. H. Kehoe. *il diags Elec J 19:226-30 My '22*
- See also* Converters, Synchronous; Electric distribution; Electric transformers; Electric transmission

Cost of construction

- Cost of building 3,000-kva. transformer substation. *Elec W 81:1154 My 19 '23*

Cost of equipment

See Electric substations—Equipment

Equipment

- Air-break switches reduce maintenance. H. E. Hoadley. *il diags Elec W 80:703-4 S 30 '22*
- Cost data again available for eastern utility. *Elec W 80:1278 D 9 '22*
- Cost of substation equipment. *Elec W 80:999; 82:868 N 4 '22, O 27 '23*
- Estimating the cost of new substation facilities. *Elec W 82:920 N 3 '23*
- Flexible oil and water system for transformer substation. W. H. Millan. *diag Elec W 79:287 F 11 '22*
- Reducing substation cost and insulator hazard by steel buses. *il diags Elec W 82:116, 131-2 J1 21 '23*
- Sub-station equipment including automatic control; abstracts, with discussion. R. A. Chattock. *Elec R (Lond) 91:63-4, 78-9 J1 14-21 '22; Electrician 88:794-6 Je 30 '22*
- Unusual bus structure utilized for industrial substation. T. H. Arnold. *il Elec W 79:287-8 F 11 '22*

Lighting

- Two-intensity substation lighting system. E. D. Tillson. *il diags Elec W 82:866-7 O 27 '23*

Electric substations, Automatic

- Automatic and semi-automatic substations for electric railways. C. A. Butcher. *Elec Ry J 61:173-4 Ja 27 '23*
- Automatic balancer substation for elevator service. M. A. Whiting. *il diag Power 57: 475-8 Mr 27 '23*
- Automatic control of a.-c. distribution. A. E. Bettis and C. W. Place. *il diags Elec W 80: 1151-4 N 25 '22*
- Automatic control of synchronous condensers. D. W. Ellyson. *il diags Elec R 79:843-6 D 3 '21*
- Automatic outdoor station for small power installations. *il Power 57:854 My 29 '23*
- Automatic station represents distinct advance in distribution. C. Lichtenberg. *Elec W 79: 683 Ap 8 '22*
- Automatic station with an adaptation of printing telegraph apparatus as supervisory control system. *Elec W 79:435 Mr 4 '22*
- Automatic substation at Christchurch, New Zealand. N. Jones. *il plan Gen Elec R 24: 1010-13 D '21*
- Automatic substation experience in Cleveland. L. D. Bale. *il diags map Elec Ry J 61: 359-64, 405-8, 477-80 Mr 3-17 '23*
- Automatic substation in American coal mine. *il Pop Mech 37:264-5 F '22*
- Automatic substation in the railway industry. C. M. Davis. *il Aera 12:419-26 O '23*
- Automatic substation must be justified by reduced distribution costs. L. T. Crecelius. *Elec W 80:81 J1 8 '22*
- Automatic substation practice at Concord, New Hampshire. *il Elec Ry J 59:184-5 F 4 '22*
- Automatic sub-stations. L. C. Grant. *Electrician 89:471-2 O 27 '22*

- Automatic substations and duty cycle of oil circuit breakers; N.E.L.A. electrical apparatus committee on the prevailing practice. *diags Elec W 81:1363-5 Je 9 '23*
- Automatic substations in mine service. C. E. H. Von Sothen. *il diag Elec W 81:1453-6 Je 23 '23*
- Breaker rating and automatic substation attract special attention at N.E.L.A. meeting. *il diag Elec W 79:1028-30 My 20 '22*
- Canadian automatic converter sub-station. *il diags Engineering 112:747-50 D 2 '21*
- Demonstration of an automatic coal-mine substation. *il Elec R 79:913-15 D 17 '21*
- Direct-current automatic substation as a labor-saving device for steel mills. G. P. Wilson. *il diag Elec J 20:337-9 S '23*
- Discussion of application and economics of automatic railways substations. L. D. Bale. *Am Inst E E J 42:439-44 My '23*
- Distant-controlled, non-overloadable, semi-automatic substation. *il diags Elec Ry J 61:873-8 My 26 '23*
- Economics of direct current railway distribution; with particular reference to the automatic substation. L. P. Crecelius and V. B. Phillips. *Am Inst E E J 41:363-78 My '22; Discussion. 41:952-8 D '22; Elec Ry J 60:43-4 J1 8 '22*
- Features of St Louis automatic substation. W. H. Millan. *il diags Elec W 80:817-20 O 14 '22*
- Full and semi-automatic versus manually operated substations for electric railways. C. M. Davis. *Gen Elec R 26:235-8 Ap '23; Abstract. Elec Ry J 61:171-2 Ja 27 '23*
- General adoption of automatic substations at the mines. J. E. Borland. *il diag Coal Age 24:71-6 J1 12 '23*
- Hoists that accelerate, slow themselves down or work unattended and substations needing no attendant. C. E. H. von Sothen. *il Coal Age 22:537-40 O 5 '22*
- How resistance is used in railway automatic substations. *Elec Ry J 59:997-9; 60:199-201, 227-30 Je 24, Ag 5-12 '22*
- Liverpool electricity and tramway undertakings; recent developments; automatic substations. *il map Elec R (Lond) 91:906-9 D 15 '22*
- Maintenance of voltage on a d.c. distribution system by means of a fully automatic substation. P. J. Robinson. *diag Inst E E J 61:417-24 Ap '23; Same cond. Elec R (Lond) 92:237-8 F 9 '23; Discussion. Inst E E J 61: 425-38, 704-12 Ap, Je '23; Elec R (Lond) 92: 238-9, 555-6 F 9, Ap 6 '23*
- Manner of operating electrical apparatus in the automatic substation at Van Lear, Ky. *il diags Coal Age 22:441-6 S 21 '22*
- Modernizing Cincinnati traction power system. *il diags map plans Elec Ry J 58:1099-1103 D 24 '21*
- Noiseless automatic substation for Los Angeles railway. C. E. Baker. *il diags plan Gen Elec R 25:607-10 O '22*
- Noiseless substation for Los Angeles railway. G. E. Campbell. *il diags plan Elec Ry J 60:37-8 J1 8 '22*
- Out-door sub-station Hauteville; a Swiss installation. *il diag Elec R (Lond) 92:84-6 Ja 19 '23*
- Peoria's automatic substations. C. R. Bush. *il diags Elec W 82:279-83 Ag 11 '23*
- Pneumatically-operated automatic substations. C. Levy. *il diags Elec J 20:380-4 O '23*
- Protective devices so safeguard coal-mine substation at Drifton that it needs no attendant. E. B. Wagner. *il Coal Age 21:6-8 Ja 5 '22*
- Remote control station for auxiliary service. P. M. Hatch. *il diag Elec W 80:490 S 2 '22*
- Remote supervisory control. J. L. McCoy. *il diag Elec J 20:69-72 F '23*
- Remotely-controlled sub-stations; the Maidstone example. *il Elec R (Lond) 91:333-4 S 8 '22*
- Report of the A.E.R.E.A. committee on automatic substations. *Elec Ry J 62:654-6 O 13 '23*
- Size of automatic stations. C. Lichtenburg. *Elec W 81:44 Ja 6 '23*

Electric substations, Automatic—Continued

Some developments in the electrical industry during 1922. J. Liston. *il Gen Elec R* 26:15-19 Ja '23

Sub-station equipment including automatic control; abstracts, with discussion. R. A. Chattock. *Elec R (Lond)* 91:63-4, 78-9 J1 14-21 '22; *Electrician* 88:794-6 Je 30 '22

Substation layout of an Ohio railway. R. P. Meily. *il plan Elec Ry J* 60:153-5 J1 29 '22

Two-unit automatic mine substation erected to improve service and reduce mining cost. H. F. Randolph and C. E. H. von Sothen. *il Coal Age* 22:244-6 Ag 17 '22

Cost of operation

Comparative cost data for a.-c. substations. *Elec W* 81:46 Ja 6 '23

Testing

Favorable test results on automatic substation. *Elec W* 81:460 F 24 '23

Electric switches

Air-break switches reduce service expense. *Elec W* 82:339-40 Ag 18 '23

Armoured draw-out mining switchgear. *il Elec R (Lond)* 90:368-9 Mr 17 '22

Auto reclosing switches at remote substations. *il diag Elec W* 81:923 Ap 21 '23

Automatic primary change-over oil switch. F. B. Kiniskern. *il diags Elec J* 20:142-4 Ap '23

Automatic switch-reclosing apparatus. G. H. Middleton. *il diags Elec W* 81:1150-2 My 19 '23

B.T.H. compound-filled switchgear. *il Elec R (Lond)* 93:139-41 J1 27 '23

Commentary on power station switchgear. W. A. Coates. *Electrician* 88:782-3 Je 30 '22

Concrete switch boxes cheaper and more efficient than brick-and-mortar boxes. A. F. Brosky. *il diags Coal Age* 21:369-70 Mr 2 '22

Crabtree quick-made and quick-break switches. *il Elec R (Lond)* 90:355-6 Mr 10 '22

Enclosed switches. O. S. Jennings. *Elec J* 19:496-8 D '22

Evolution of disconnecting switches from 1884 to the present. *il Ind Eng* 80:364 Ag '22

Federal pressure switches use mercury. *il diags Power* 55:506 Mr 28 '22

Ferguson-Paillin armourclad switchgear. *il Elec R (Lond)* 91:301-2 S 1 '22

Fetish of the quick-make and quick-break switch. C. W. Denny. *Elec R (Lond)* 90:286-301, 357-8, 394-5, 430 F 24-Mr 4 '22

Fool-proof disconnecting switch. L. C. Peterman. *diags Elec W* 81:227 Ja 27 '23

Gang operation of reclosing equipment. *Elec W* 82:134 J1 21 '23

High-tension disconnecting switches. H. J. Crabbs. *il diags Elec J* 20:276-81 Ag '23

High-voltage outdoor oil switches; abstract. V. Candie. *Elec W* 78:985-6 N 12 '21

High voltage switchgear developments. W. A. Coates. *diags Engineer* 134:198-200 Ag 25 '22

Industrial and mining-type switchgear. *il Elec R (Lond)* 91:138-9 J1 28 '22

Installation and use of electricity in coal mines. F. G. Travis. *Elec R (Lond)* 89:746-7 D 2 '21

Magnetically self-locking, disconnecting switch. *diag Sibley J* 37:9 Ja '23

Mercoid electrical control switches. *il diags Power Pl Eng* 26:586 Je 1 '22

New automatic time switch. *il Elec Ry J* 59:122 Ja 21 '22

New limit switch for crane operation. *il Power Pl Eng* 26:246-7 F 15 '22

New type T of air break switch developed by Westinghouse electric and manufacturing co. *il Power Pl Eng* 26:543-4 My 15 '22

Old defective tie switch gives peculiar trouble on 66,000-volt line. L. A. Fitts. *Elec W* 79:836-7 Ap 29 '22

Protection that safety switches can provide. D. H. Braymer. *il diags Ind Eng* 81:389-401 Ag '23

Quick make, quick-break switch-gear. J. Anderson. *Elec R (Lond)* 90:437-8 Mr 31 '22

Recent tendencies in switchgear design and manufacture. J. R. Cowie. *il diag Electrician* 88:778-82 Je 30 '22

Remote control of switches with few wires. *diag Elec W* 82:288-9 Ag 11 '23

Reversing switches as used in electric-motor controllers. B. A. Briggs. *diags Power* 55:967-9 Je 20 '22

Rotary switch operates satisfactorily on 17,000-volt line. P. P. Ashworth. *il diags Elec W* 79:1277 Je 24 '22

Safe procedure to follow in opening disconnector switches. R. Brown. *il Power* 56:415-16 S 12 '22

Safety cabinets reduce fire hazards. J. C. Langdell. *il Elec W* 80:887-8 O 21 '22

Safety entrance switches with meter adapters. W. C. Devin. *il Elec W* 81:582 Mr 10 '23

Safety, minimum space and reduced cost are combined in this 220,000-volt switching installation. *il Elec W* 82:372 Ag 25 '23

Sensitive tripping mechanism for oil switches. *il diags Engineering* 116:522-4 O 26 '23

Simpler disconnecting-switch practice desired. J. A. Johnson. *il Elec W* 79:125-6 Ja 21 '22

Solenoid type motor starting panel. *il Engineer* 133:422 Ap 14 '22

Special-type disconnecting switch developed for 220,000 volts. F. P. Lawler. *il plan Elec W* 82:388-9 Ag 25 '23

Standard pipe and fittings for outdoor switching frames. L. J. Moore. *il diags plans Elec W* 78:1020-3 N 19 '21

Standardized entrance switches. *il J Elec* 50:492-3 Je 15 '23

Super-safety electric switch. *Safety Eng* 42:250 N '21

Switching apparatus for high voltage. A. Roth. *Elec W* 81:643 Mr 17 '23

Switching apparatus in steel mills. G. H. Jump. *diag Gen Elec R* 26:677-80 O '23

Switching equipment for large power stations. C. M. Moss. *diags Elec J* 20:228-30 Je '23

Switching equipment for power control. S. Q. Hayes. 463p McGraw-Hill '21

Switching equipment in Germany. *il Elec W* 82:644 S 29 '23

Tennessee company's new disconnect. E. C. Williamson. *diags Elec W* 81:983 Ap 28 '23

Totally enclosed ironclad switchgear. *il Elec R (Lond)* 92:711-12 My 4 '23

Totally enclosed switch gear for steel works. *il diag Engineering* 113:532 Ap 28 '22

Training workmen in the proper operation of enclosed safety switches. J. E. Housley. *Ind Eng* 80:500 O '22

Two good clean-out installations. *il Ind Eng* 81:121 Mr '23

Unit switch control on the Frankford elevated at Philadelphia. S. B. Schenck. *il diags map Elec J* 19:138-42 Ap '22; Same

abr. *Elec Ry J* 59:676-8 Ap 22 '22

Use and maintenance of safety switches. R. B. Anderson. *il Ind Eng* 80:527-32 N '22

Welding current of oil switches. G. L. E. Metz. *diags Elec R (Lond)* 93:344-5 S 7 '23

See also Magnetic blowouts; Switchboards

Explosion pots

Explosion pots reduce switch trouble. B. Price. *diags Elec W* 82:176-8 J1 28 '23; Discussion.

J. D. Hilliard. 82:540-1, 1019 S 15, N 17 '23

Isolated phase construction

Isolated phase arrangement of switching equipment. P. M. Currier and W. T. O'Connell. *diags Gen Elec R* 26:368-80 Je '23

Operation of oil switches on isolated-phase system. *il Elec W* 78:1077 N 26 '21

Phase isolation—a feature of Hell Gate. *il diags plans Elec W* 79:870-6 My 6 '22

Manufacture

Armourclad switchgear; a visit to the works of Messrs. A. Reyrolle & co., Ltd., Hepburn-on-Tyne. *il Elec R (Lond)* 92:59-63 Ja 12 '23; *Engineer* 135:38-9 Ja 12 '23; *Engineering* 115:434, 438-9, pl 27 Ap 6 '23

Ferguson, Paillin works and products. *il Elec R (Lond)* 92:1019-21 Je 29 '23

Follow-die for switch plates. G. W. Wilder. *diags Mach* 29:264-5 D '22

Manufacture of time switches. *il diag Elec R (Lond)* 92:569-71 Ap 13 '23

Electric switches—Continued**Repair**

Facilitating oil-switch maintenance. R. Brown. *il Power* 58:106 J1 17 '23

Testing

Effect of high currents on disconnecting switches; with special reference to the mechanical stresses resulting. H. C. Louis and C. T. Sinclair. *il diag Am Inst E E J* 41:267-77 Ap '22; Discussion. 41:749-55 O '22

High-current tests on high-tension switchgear. P. Torchio. *il diags Am Inst E E J* 40:120-31 F '21; Abstracts. *Power* 53:526 Mr 29 '21; Electrician 88:68-9 Ja 20 '22; Discussion. Electrician 88:193 F 17 '22

Mechanical and electrical effects of large currents on high-tension switchgear. C. C. Garrard. *diags Inst E E J* 60:887-8 Ag '22

Tests on oil switches: abstract. G. Brühlmann. *Elec W* 81:1103-4 My 12 '23

Electric symbols

British standard graphical symbols for electrical purposes. (Rep. no. 103) 91p British eng. standards assn., London '22

Electric taxicabs

Electric buses and electric taxicabs. J. A. Anglada. *il Gen Elec R* 25:436-8 J1 '22

Electric testing

Compact test board makes tests easy and economical. J. G. Moojen. *il diags Elec W* 79:1176-7 Je 10 '22

Direct and alternating current testing. 105p Bliss electrical school, Takoma Park, Washington, D.C. '22

Electrical and magnetic weld testing. T. Spooner and I. F. Kinnard. *diags Iron Age* 110:139-41 J1 20 '22; Same. *Am Soc T M Pro* 22 pt 2:177-86 '22; Abstract. *Eng & Contr* 58:80 J1 26 '22; Discussion. *Am Soc T M Pro* 22 pt 2:191-2 '22

Electrical engineering testing. G. D. A. Parr. 4th ed., rev. & enl. 691p Dutton '22

Everett, Edgcombe & co. alternating current-testing set. *il diag Electrician* 89:717 D 22 '22

High capacity current interrupting testing station of the General electric company. C. E. Merris. *il diags Gen Elec R* 26:455-9 Je '23

Million-volt testing set. A. B. Hendricks, jr. *il diags Am Inst E E J* 41:795-805, 876-83 O-N '22; Same. *Gen Elec R* 25:737-45; 26:93-100 D '22, F '23

Neat design of compact polyphase test table. J. P. Gallagher. *il diag Elec W* 82:869 O 27 '23

Practical tests for the electrical laboratory. C. H. Johnson and R. P. Earle. 347p Van Nostrand '23

Relative air density in high-voltage testing. E. D. Doyle. *diag Elec W* 82:329-30 Ag 18 '23

See also Dynamometer; Electric apparatus and appliances, Domestic—Testing; Electric cables—Testing; Electric furnaces—Testing; Electric generators—Testing; Electric inspection; Electric lines—Testing; Electric locomotives—Testing; Electric measurement; Electric meters; Electric motors—Testing; Electric resistance; Electric transformers—Testing; Electric welding—Testing; Electric wire—Testing; Insulation (electric)—Testing; Relays—Testing; Watt-hour meters—Testing

Electric torch

Broken section of 36-in. pipe line burned out by electric torch under 50 ft. of water. W. W. Brush. *il Eng N* 88:346-8 Mr 2 '22

Submarine cutting torch used in bridgework. C. P. Howes. *il diags plan Eng N* 90:454-5 Mr 8 '23

See also Electric cutting

Electric toys

Electric toy making for amateurs. T. O. Sloane. 21st ed., rev. & enl. 254p Henley '23

Electric traction. *See* Electric locomotives; Electric railroads; Railroads—Electrification

Electric tractors

Battery tractor switches passenger trailers about shops. *il Elec Ry J* 60:815 N 18 '22

Diminutive electric tractor. *il Sci Am* 129:175 S '23

Electric plowing in Europe. *il Elec W* 81:692-3 Mr 24 '23

Electric tractor does fourteen men's work in circus. *il Elec W* 82:394 Ag 25 '23

Elwell-Parker co. develops heavier storage-battery tractor. *il Iron Age* 109:721 Mr 16 '22

Handling freight in the country's largest terminal. *il Ry Age* 72:225-6 Ja 21 '22

Heavy loads hauled by battery-driven electric tractors. *il Elec R* 80:149 Mr '22

Modern methods of handling package freight. G. Marks. *Ry Age* 72:469-70 F 25 '22

New gasoline-electric freight train. *il Sci Am* 129:25 J1 '23

Trackless train for local freight haulage. J. C. Hinshaw. *il Elec J* 20:31-2 Ja '23

See also Electric locomotives; Electric trucks; Electric vehicles

Electric transformers

Brush discharges in air and in oil; abstract. W. Kehse. *Elec W* 73:1034 N 19 '21

Care and operation of power transformers. *il diag Ind Eng* 81:348-55 J1 '23

Care of power transformers. R. Brown. *il Power* 58:522-4 O '23

Causes and prevention of harmonics. F. S. Dellenbaugh, jr. *Elec W* 80:1276-7 D 9 '22

Charging transmission lines. A. W. Copley. *Elec W* 82:426-7 S 1 '23

Christmas-tree lighting transformer. E. E. Scott. *il diags Pop Mech* 39:153-4 Ja '23

Compensation of current transformers a distinct advance. *Elec W* 80:163 J1 22 '22

Complete million-volt laboratory. J. F. Peters and D. F. Miner. *il diag Elec W* 81:790-4, 849-53 Ap 7-14 '23

Concrete columns inclose connections with underground circuits. W. C. Blackwood. *il Elec W* 79:180 J1 22 '22

Constant current regulating transformers. J. B. Gibbs. *il diags Elec J* 19:199-201 My '22

Construction and care of distribution transformers. L. G. Mason. *il Coal Age* 24:623-7 O 25 '23

Construction details of transformer for high-voltage tests on small motors. A. C. Roe. *il diag Ind Eng* 81:559 N '23

Design of current transformers. G. L. E. Metz. *Elec R (Lond)* 92:804-5 My 25 '23

Design of large transformers; abstract. I. R. Marchand. *Elec W* 82:345 Ag 18 '23

Design of small transformer. *Power Pl Eng* 26:776 Ag 1 '22

Developments in power station design. *il diags Engineer* 133:631-4 Je 9 '22

Developments of steam turbo-generators, water turbines and transformers during the last ten years. A. Rossow, H. Baudisch and K. Thien. *Elec W* 81:643 Mr 17 '23

Easily constructed types of current transformers. W. R. Frampton. *il diags Elec W* 80:232-3 J1 29 '22

Economic loading of line transformers. *Elec W* 81:1474-5; 82:387 Je '23, Ag 25 '23

Economies possible in discarding distribution transformers of high core loss. M. M. Koch. *N E L A Bul* 10:678-9 N '23

Economy of open-delta operation. M. De Merit. *il Elec W* 79:774-6 Ap 22 '22

Electric arc transformer rivet cutter. *il Am Mach* 57:277 Ag 17 '22

Electrical apparatus for high-tension power transmission. S. Q. Hayes. *il Elec J* 20:401-7, 466-74 N-D '23

Elementary theory of the current transformer. E. G. Reed. *diags Elec J* 20:182-6 My '23

Essentials of transformer practice. E. G. Reed. 265p Van Nostrand '23

Features of main power house transformers for Queenston plant. C. A. Price and M. E. Skinner. *il diags Am Inst E E J* 41:452-9 Je '22; Discussion. 41:890-3 N '22

Features of 220,000-volt transformers available for first time. W. M. Dann. *il diags Elec W* 73:1063-6 N 26 '21

Electric transformers—Continued

Furnace transformer mounted on truck to save running heavy leads. A. L. Williams. diag plan Elec W 79:684-5 Ap 8 '22

Fusing potential transformers. C. M. King. Power 58:283-4 Ag 21 '23

High voltage power transformers. W: T. Taylor. 117p Pitman '22

Hints on transformer operation. Power 58:251 Ag 14 '23

How to check instrument transformer and meter connections. V: H. Todd. diags Power 58:413-15 S 11 '23

Inert gas over oil in new transformer. L. H. Hill. diag Elec W 81:747-9 Mr 31 '23

Instrument transformers. diags Elec R (Lond) 91:652-4 N 10 '22; Discussion. F. E. J. Ockenden. 91:787 N 24 '22

Instrument transformers for power circuits. J. B. Gibbs. il Power Pl Eng 27:86-8, 172-4 Ja 1, F 1 '23

Large-capacity transformers. G. Stern. Elec W 82:822 O 20 '23

Large electric transformers. il Engineer 134:584-5 D 1 '22

Large power transformers. W. S. Moody. il diags Gen Elec R 26:338-47 Je '23

Lead resistance for current transformers. F. B. Silsbee. Elec W 81:1032-3 My 12 '23

Magnetic flux distribution in transformers. K. B. McEachron. il diags Am Inst E E J 41:281-7 Ap '22; Discussion. 41:757-63, 952 O, D '22

Magnetizing current of transformers; abstract. M. Vidmar. Elec W 82:396 Ag 25 '23

Mangahao transformers; a Ferranti 110,000-volt installation. il map Elec R (Lond) 91:557-9 O 20 '22

Measurements of oil flow in transformers; abstract. F. Müllner. Elec W 81:1287 Je 2 '23

Million-volt single transformer. il Can Eng 42:420 Ap 25 '22; Pop Mech 37:497-8 Ap '22

Million-volt testing set. A. B. Hendricks, jr. il diags Am Inst E E J 41:795-805, 876-83 O-N '22; Same. Gen Elec R 25:737-45; 26:93-100 D '22, F '23; Excerpts. Engineer 134:557 N 24 '22

Million volt testing transformer. J. F. Peters. il diag Elec J 19:97-9 Mr '22

New type of transformer. W. M. Dann. il diags Elec J 20:53-6 F '23

Observations on operation of power transformers. G. M. Wills. J Elec 50:425-6 Je 1 '23

Obsolescence in distribution transformers. R. E. Curtis. Elec W 80:1160-1 N 25 '22

Oil-insulated transformer with forced oil circulation. H. L. Cole. il diag Elec J 20:167-71 My '23

Omni-range and other portable current transformers. Elec R (Lond) 92:197-8 F 2 '23

110,000-volt transformers. il Engineer 134:422 O 20 '22

Operation of static transformers. B. A. Briggs. diags Power 58:570-2 O 9 '23

Papers on current transformers. H. W. Price and C. K. Duff. (Bul. 2, sec. 4) p. 165-231 Univ. of Toronto '21

Parallel and series connections of transformers. B. A. Briggs. diags Power 58:728-9 N 6 '23

Polarity of instrument transformers. R. Brown. diags Power 57:338 F 27 '23

Polyphase transformer connections. R. F. Gooding. diags Power 58:134-6 Jl 24 '23

Polyphase wattmeter connections. L. P. Stau-bitz. diags Power Pl Eng 26:1003-5 O 15 '22

Present status of high voltage transmission of power. W. W. Lewis. il diags Gen Elec R 25:679-83 N '22

Prevention of transient voltage in windings. J. M. Weed. diags Am Inst E E J 41:14-20 Ja '22; Discussion. 41:663-7 S '22

Recent notable transformers of General electric make. diag Elec W 82:39 Jl 7 '23

La réduction des pertes à vide dans les postes de transformation statiques. J. Nègre. diag Génie Civil 81:279-80 S 23 '22

Rigid transformer supports insure reliable service. il Elec W 81:285 F 3 '23

Safety coils and auto current transformers for series lighting circuits. W: A. Sumner. il Elec J 19:201-2 My '22

Small single phase transformers. E. T. Painton. 95p Pitman '21

Small single-phase transformers. H. H. Parker. diags Pop Mech 38:293-8 Ag '22

Special transformers reconnected with increased capacity. A. L. Williams. diag Elec W 79:1175-6 Je 10 '22

Three-phase vs. single phase transformers for distribution power service. E. Y. Porter. diags J Elec 50:455-8 Je 1 '23

Le transformateur Berry à réglage de tension. diag Génie Civil 83:186-7 Ag 25 '23

Transformer designed to prevent oil explosions. Power 57:61 Ja 9 '23

Transformer development is recalled by anniversary. W. S. Moody. il diags Elec W 78:1018-20 N 19 '21

Transformer for locating motor troubles. C. A. Johnson. diags Elec R 80:45 Ja '22

Transformer load indicator. il Elec Ry J 60:86 Jl 15 '22

Transformer signal lamps to indicate units in service. il Power 58:466 S 18 '23

Transformers for motor starting. J. B. Gibbs. diags Power 56:128-30 Jl 25 '22

Transformers; important features in regard to operation, testing and connecting. Power Pl Eng 26:96-8 Ja 1 '22

Triple harmonics in transformers. G. Faccioli. diags Am Inst E E J 41:351-9 My '22

Two high ampere power transformers. il Power Pl Eng 26:446 Ap 15 '22

Two methods of checking transformer-bank connections. diags Elec W 79:334, 1173 F 18, Je 10 '22

Two-stage current transformer. H. B. Brooks and F. C. Holtz. il diags Am Inst E E J 41:389-98 Je '22; Discussion. 41:982-4 D '22

Two voltages obtained from single bank of delta-connected transformers. E. C. Soares. diags Elec W 79:1075 My 27 '22

Using potential transformers inverted causes error. V: H. Todd. diag Power 55:473 Mr 21 '22

Voltage taps on power transformers. P. Bunet. Elec W 82:616 S 22 '23

See also Compensators; Converters, Synchronous; Electric current converters; Electric current rectifiers; Electric distribution; Electric motor generators; Electric substations; Electric transmission; Hydroelectric plants; Induction coils

Autotransformers

Auto-transformers. F. C. Vogan. il diags Power Pl Eng 26:710-12, 755-6, 805-8 Jl 15-Ag 15 '22

Auto-transformers with tertiary windings. J. Mini, jr., L. J. Moore and R. Wilkins. diags Elec W 82:864 O 27 '23

Connecting auto-transformers in parallel with one secondary switch. E. C. Soares. il diag Elec R 80:141 Mr '22

Largest auto-transformers ever built. il Power 57:602 Ap 17 '23

Operation of auto-transformers. diags Power 55:979-80 Je 20 '22

Voltage and phase transformations with auto-transformers. E. P. Wimmer. Elec J 20:162-6, 261-6 My, Jl '23

Cleaning

Cleaning transformers. Elec W 82:442 S 1 '23

Cooling

Emergency operation of self-cooled transformers. il Power Pl Eng 26:422-3 Ap 15 '22

New type of water flow indicator for transformers. A. M. Rossman. il diag Am Inst E E J 41:805-6 O '22; Same. Power Pl Eng 26:1108-9 N 15 '22

Cost

Standardized transformer installations cost \$125. P. M. Hatch. il diags Elec W 79:786 Ap 22 '22

Transformer installation costs in 1922. Elec W 82:392 Ag 25 '23

Drying

Drying out high-tension transformers. C. A. Mullen. Elec W 82:135 Jl 21 '23

Electric transformers—Drying—Continued

Drying out large power transformers. Power 55:1031 Je 27 '22
Drying transformers. M. E. Skinner. il Elec W 82:901-3, 965-8 N 3-10 '23

Explosions

Causes and prevention of explosions in power transformers. O. H. Eschholz. il diag Elec W 82:423-5 S 1 '23

Failures

Causes of transformer failures. S. A. Stigant. Elec R (Lond) 91:816-17, 879-81 D 1-8 '22

Oil

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Parallel operation

Paralleling a new transformer. R. Fokes. diag Coal Age 24:517-18 O 4 '23
Paralleling three-phase transformers. J. Dixon. diags Elec W 80:667-8 S 23 '22

Prices

Cost of transformers. Elec W 81:1279 Je 2 '23
Mass production important factor in future transformer prices. M. O. Troy. Elec W 79:1082 My 27 '22

Rating

Electric power club preferred standards of transformer ratings. Elec W 79:1236 Je 17 '22
Loading of a current transformer. Elec R (Lond) 91:295-6 S 1 '22
Operating distribution transformers on a temperature basis. L. L. Elden. diag Elec W 79:626-30 Ap 1 '22
Single-phase transformer ratings standardized. Elec W 81:164 Ja 20 '23
Tests for rating current transformers. il Elec W 82:169-73 J1 28 '23
Three-phase transformer rating standardized. Elec W 81:284 F 3 '23
Transformer and busbar standards adopted by Electric power club. Elec Ry J 60:917 D 9 '22

Records

Keeping transformer records. Elec W 82:816-17 O 20 '23

Repair

Factory methods applied to transformer repair work. G. E. Decker. il diag Elec W 79:121-5 Ja 21 '22
Some symptoms of transformer troubles. H. E. Stafford. Ind Eng 81:402 Ag '23
Transformer case repaired by welding. il Power Pl Eng 26:323 Mr 15 '22
Winding for bell ringing transformer. D. F. Hine. Ind Eng 80:446 S '22

Standards

1922 issue of transformer standards; review. J. D. Bowles. N E L A Bul 10:39-40 Ja '23

Tanks

Ten years of progress in the design of safe tanks for large transformers. W. S. Moody. il Gen Elec R 26:190, 228-9 Ap '23

Temperature

Effects of various colored cases on the oil temperature of distribution transformers. E. J. Moore and J. H. Moulton. J Elec 50:433-4 Je 1 '23; Abstract. Power 58:395 S 4 '23
Obtaining an indication of transformer temperatures. J. B. Gibbs. il diags Power 57:371-2 Mr 6 '23
Operating distribution transformers on a temperature basis. L. L. Elden. diag Elec W 79:626-30 Ap 1 '22
Temperature and mechanical stresses in current transformers. J. B. Gibbs and L. Dorfman. il diags Elec W 79:221-3 F 4 '22
Temperature stresses under short-circuit currents. H. S. Holbrook. Elec R (Lond) 90:512-13 Ap 14 '22

Testing

Accuracy test for transformers. Elec W 82:284 Ag 11 '23

Distribution-transformer tests with ammeter are satisfactory. A. B. Cayo. Elec W 79:139 Ja 21 '22

Temperature and mechanical stresses in current transformers. J. B. Gibbs and L. Dorfman. il diags Elec W 79:221-3 F 4 '22

Test for rating current transformers. il Elec W 82:169-73 J1 28 '23

Testing motors, generators and transformers. K. C. Coggeshall. il Pop Mech 37:456-8 Mr '22

Testing transformer polarities. Elec W 81:1278 Je 2 '23

Testing transformers for central stations. A. B. Hendricks, jr. il Gen Elec R 26:462, 477-95 J1 '23

Testing transformers for characteristics. R. F. Gooding. diags Elec W 80:935-8, 982-4 O 28-N 4 '22

Transformer dielectric tests amplified. Elec W 81:461 F 24 '23

Transformer testing apparatus. C. S. Wendell. il plan Elec W 81:812-13 Ap 7 '23

Transportation

Heavy load transported more safely when suspended from truss. il diags Eng N 90:681 Ap 12 '23

Electric transient phenomena

Deformation of travelling electric waves. S. A. Stigant. diags Elec R (Lond) 93:418-21 S 21 '23

Electric transients. C. E. Magnusson, A. Kalin and J. R. Tolmie. 196p McGraw-Hill '22

Electrical oscillations on lines. L. Cohen. J Fr Inst 195:45-58 Ja '23

Measurement of transients. F. E. Terman. il diags Am Inst E E J 42:462-6 My '23; Discussion. 42:854, 970 Ag-S '23

Prevention of transient voltage in windings. J. M. Weed. diags Am Inst E E J 41:14-20 Ja '22; Discussion. 41:663-7 S '22

Transient conditions in electric machinery. W. V. Lyon. bibliog diags Am Inst E E J 42:388-407 Ap '23; Discussion. 42:1076-8 O '23

Transmission line transients. V. Bush. diags Am Inst E E J 42:1155-8 N '23; Discussion. 42:1341-3 D '23

Electric transmission

Active year in power transmission. P. H. Thomas. il Elec W 81:14-16 Ja 6 '23

Applying the results of high-voltage research to practice. F. W. Peek, jr. il diag Gen Elec R 26:407-11 Je '23

Charging transmission lines. A. W. Copley. Elec W 82:426-7 S 1 '23

Circle diagrams for transmission systems. R. D. Evans and H. K. Sels. diags Elec J 18:530-6 D '21

Economical ways of transmitting power underground. il Coal Age 22:389-94 S 14 '22

Electric line calculations; their practical application to transmission and distribution problems. W. T. J. Atkins. Inst E E J 61:1044-8 S '23

Electrical characteristics of transmission systems. H. B. Dwight. Am Inst E E J 41:727-30 O '22; Discussion. 41:1026-30 D '22

Electrical transmission at 1,000,000 v. il Electrician 88:67-8 Ja 20 '22

Example of transmission line calculations. R. D. Evans and H. K. Sels. diags Elec J 19:53-9 F '22

Experimenting with electrical transmission at 224,000 volts. H. Michener. il J Elec 48:380-3 My 15 '22

Extra-high-pressure transmission lines conference. Paris. R. B. Matthews. Elec R (Lond) 89:739-40, 796-7, 814-15 D 2-16 '21

First principles of the electrical transmission of energy. W. M. Thornton. 116p Pitman '21

Graphic method for the exact solution of transmission lines. C. H. Holladay. bibliog diags Am Inst E E J 41:807-10 N '22; Discussion. 41:1026-30 D '22

High-pressure developments in America. E. V. Pannell. diags Elec R (Lond) 92:848-9 Je 1 '23

High-voltage phenomena encountered in power transmission. H. J. Ryan. Am Soc C E Pro 48:1859-64 D '22; Discussion. 49:574-80 Mr '23

electric transmission—Continued

High-voltage power transmission. F. W. Peek, Jr. Am Soc E E Pro 48:1766-80 N '22

Higher voltage transmission in the West. S. Barfoed. Elec W 79:31 Ja 7 '22

Hydraulic power plant practice in northern Europe. C. N. Anderson. il diags Elec W 81:86, 91-6 Ja 13 '23

Increasing the reliability of energy supply. W. A. Forbush. map Elec W 78:1178-9 D 10 '21

Increasing transmission-line loading by power-factor correction. F. L. Hunt. Elec W 82:440 S 1 '23

International conference on the French superpower transmission systems. Elec W 79:199-200 Ja 23 '22

International status of superpower systems discussed by technical congress. Elec W 80:814 O 14 '22; Discussion. D. M. Simons. 80:1217-18 D 2 '22

Japanese high voltage power transmission systems. S. Q. Hayes. il diags maps Elec J 19:515-21; 20:36-9, 62-8, 134-8 D '22-F, Ap '23

Les lignes à très haute tension et les grands réseaux électriques en France. P. Bizet; F. Drouin. diags map Soc Ing Civils Bul 76:700-51, pl 52-4 Je '23

Les lignes françaises de transmission d'énergie électrique à hautes et très hautes tensions. J. T. Laspière. map Génie Civil 82:599-603, 616-19 Je 23-30 '23

Line-drop charts solving 2,300-volt problems. R. C. Smith. Elec W 80:886-7 O 21 '22

Meaning of inductive co-ordination. J. C. Damon. diags Elec W 80:1037-41 N 11 '22

Merits of electrical v. mechanical power transmission. R. G. Williams. il Eng & Ind Management 7:319-22 Ap 6 '22

Million-volt current tests point to mines as possible electrification centers. il Coal Age 20:760-1 N 10 '21

Million-volt testing set. A. B. Hendricks, jr. il diags Am Inst E E J 41:795-805, 876-83 O-N '22; Same. Gen Elec R 25:737-45; 26:93-100 D '22, F '23; Excerpts. Engineer 134:557 N 24 '22

Miniature A-C transmission system for the practical solution of network and transmission-system problems. O. R. Schurig. il diags Am Inst E E J 42:1033-40 O '23; Discussion. 42:1347-9 D '23

Overhead electric power transmission. W. T. Taylor. Elec R (Lond) 91:732-4 N 17 '22

Overhead electric transmission between Scandinavia and Denmark. Engineering 114:767-8 D 22 '22

Pit river power and 220,000-volt transmission problem. F. G. Baum. il diags maps plans Elec W 81:205-12 Ja 27 '23

Possibilities of transmission by underground cables at 100 000/150 000 volts. A. M. Taylor. diags Inst E E J 61:220-38 F '23; Abstracts. Elec R (Lond) 91:917-18 D 15 '22; Engineer 134:664 D 22 '22; Electrician 49:683-4 D 15 '22; Discussion. Inst E E J 61:239-52, 382-92 F-Mr '23; Elec R (Lond) 91:918-19, 972; 92:91-2, 676 D 15, 29 '22, F 2, Ap 27 '23

Possibility and practicability of million-volt transmission. C. C. Chesney. N E L A Bul 9:246-7 Ap '22

Power loops assure reliable service to industries. P. O. Reyneau. Elec W 80:1329 D 16 '22

Power transmission at high voltage. F. C. Harker. Elec J 20:398-400 N '23

Practical design of short transmission lines. E. K. McDowell. Power Pl Eng 27:229-31 F 15 '23

Present status of high voltage transmission of power. W. W. Lewis. il diags Gen Elec R 25:628-43, 674-86 O-N '22

Purpose and problems of 220,000-volt transmission. J. P. Jollyman. il chart J Elec 49:131-3 Ag 15 '22

Qualitative analysis of transmission lines. H. Goodwin, jr. Am Inst E E J 42:48-57 Ja '23; Excerpt. Elec W 81:439-46 F 24 '23; Discussion. Am Inst E E J 42:1068-75 O '23

Radiation from transmission lines. C. Manneback. diags Am Inst E E J 42:95-105 F '23; Discussion. 42:981-2, 1362-5 S, D '23

Report of A.I.E.E. committee on transmission and distribution. Am Inst E E J 41:899-912, 935 N-D '22

Sea return impedance of a submarine cable. J. R. Carson and J. J. Gilbert. Electrician 88:499-500 Ap 25 '22; Discussion. A. Press. 88:657 Je 2 '22

600,000 volts of electricity. C. F. Harding. il Sibley J 36:136-40 O '22

Solution of electric power transmission problems in the laboratory by miniature circuits. O. R. Schurig. il diag Gen Elec R 26:611-18 S '23

Some factors affecting bulk underground transmission. P. Dunsheath. diags Electrician 89:624-5 D 1 '22

Southern California Edison company system, and some 220-kv. researches. R. J. C. Wood. il diags Am Inst E E J 41:471-88 J1 '22; Abstract. Elec W 80:423-5 Ag 26 '22; Discussion. Am Inst E E J 41:1022-5 D '22

Status of 220,000-volt transmission. G. F. Brown. il Gen Elec R 26:419-23 Je '23

La surintensité dans les grands réseaux électriques. E. Vedovelli. diags Soc Ing Civils Bul 76:7-29, pl 39 Ja '23

Synchronous operation of alternators through capacitance; synchronizing effect of two parallel transmission lines. T. Nishi. diags Gen Elec R 25:146-50 Mr '22

Tests at 1,000,000 volts support calculated sparkover and corona data. F. W. Peek, jr. il Elec W 78:1312, 1319-21 D 31 '21

Transmission characteristics of the submarine cable. J. R. Carson and J. J. Gilbert. diags J Fr Inst 192:705-35 D '21

Transmission in Switzerland. A. Kuhn. il Elec W 82:382-3 Ag 25 '23

Transmission-line calculations. W. F. Dunton. Elec W 80:665 S 23 '22

Transmission line calculator. E. Clarke. il diags Gen Elec R 26:380-90 Je '23

Les transmissions d'énergie à très hautes tensions. Génie Civil 82:449-50 My 12 '23

Trunk lines at 120,000 volts in France; abstract. P. Meyer. Elec W 78:1335 D 31 '21

Underground transmission at 150,000 volts. W. A. Del Mar. Elec W 81:1093 My 12 '23; Discussion. A. M. Taylor. 82:287 Ag 11 '23

Unstable operation of generating stations in parallel. D. D. Higgins. diags Elec W 78:414-16; 79:285 Ag 27 '21, F 11 '22

Vue d'ensemble sur les propriétés fondamentales des réseaux à haute tension. P. Janet. Soc Ing Civils Bul 76:684-99 Je '23

Why artificial lightning is produced. il Coal Age 24:279-80 Ag 23 '23

World's record transmission line operating at 220,000 volts. N E L A Bul 10:353-4 Je '23

See also Corona (electricity); Electric cables; Electric conductors; Electric conduits; Electric distribution; Electric driving; Electric lines; Electric plants; Electric plants—Interconnection; Electric power; Electric switches; Electric waves; Hydroelectric plants; Voltage regulation

Electric trucks

Advantages of gasoline and electric trucks with interchangeable parts. M. Walter. il Gen Elec R 25:251-3 Ap '22

Autocar adds an electric truck to present line. il Automotive Ind 48:1235-6 Je 7 '23

Battery wagon saves one man in lamp maintenance. W. M. Thayer. il Elec W 78:1127-8 D 3 '21

Case against the gasoline truck. E. W. Roesch. N E L A Bul 9:56 Ja '22

Central station attitude. E. W. Roesch. N E L A Bul 9:241-3 Ap '22

Central station's experience with electric trucks. L. T. Carpenter. il Elec J 20:39-41 Ja '23

Commercial-campaigning for the electric motor truck. A. Williams. plan N E L A Bul 9:743-5 D '22

Decisive victory for the electric truck. Elec W 81:346 F 10 '23

Development and present position of the electric truck in the automotive field. H. S. Baldwin. il Gen Elec R 25:217-23 Ap '22

Electric truck proves its utility. il J Elec 49:366 N 15 '22

Electric trucks—Continued

- Electric truck—why it is what it is. E. R. Whitney. *il Gen Elec R* 25:275-9 My '22
- Electric trucks. A. Canac. *Elec W* 81:1425 Je 16 '23
- Electric trucks for line repairs. G. H. McKelway. *il Elec Ry J* 58:944 N 26 '21
- Electric trucks halve pie delivery cost. O. J. Lange. *il Elec W* 82:239-41 Ag 4 '23
- Electric trucks in express service. E. E. La Schum. *Gen Elec R* 25:209-13 Ap '22
- Electric trucks in Greater New York. *il Elec W* 81:1212-13 My 26 '23
- Electric trucks in New York city. E. K. Scott. *il Elec R (Lond)* 89:667-8 N 18 '21
- Electric trucks in severe weather. B. J. Martin. *il Elec J* 20:219-20 Je '23
- Electric trucks most desirable for ice-cream deliveries. L. T. Carpenter. *Elec W* 79:533 Mr 18 '22
- Electric vehicle in business. C. S. Morris and W. Van C. Brandt. *N E L A Bul* 10:546-9 S '23
- Experience of users of electric trucks in New York city. C. R. Skinner, jr. *il Gen Elec R* 25:227-32 Ap '22
- Features of design of electric trucks. J. C. Carroll. *il Elec J* 20:16-20 Ja '23
- Field for electric trucks. G. A. Freeman. *il Elec J* 20:12-15 Ja '23
- Future of the electric commercial truck. A. E. Friedgen. *diags Elec J* 20:10-12 Ja '23
- More team play on electric trucks. J. M. Eaton. *Elec W* 80:686 S 23 '22
- New make of electric truck brought out by O. B. electric vehicles, inc. *il Automotive Ind* 45:1161-2 D 15 '21
- Place of the electric truck in the world's work. D. Baker. *il Gen Elec R* 25:545-7 S '22
- Possibilities of the electric motor truck. C. R. Skinner, jr. *Elec J* 20:7-9 Ja '23
- Steinmetz double reduction spur gear axle. *Automotive Ind* 46:565 Mr 9 '22
- Strong indorsement at N.E.L.A. convention for electric truck. *Elec W* 81:1335-7 Je 9 '23

See also Motor trucks

Advertising

- News value of inventor's name capitalized in copy. *Ptr Ink* 122:28 Mr 1 '23

See also Storage batteries—Advertising

Cost of operation

- Difference in operating cost between an electric and a gasoline truck; compiled after a thirty-day test. *Gen Elec R* 25:228 Ap '22
- Economy of electric trucks for delivery use. *il Elec W* 79:529-30 Mr 18 '22
- Electric vehicle operation cheaper than gasoline truck. W. R. Metz. *il Elec W* 78:1173-4 D 10 '21
- Long life and low upkeep makes the electric truck good investment. *il J Elec* 49:450-1 D 15 '22

- Opportunities for the central station in electric vehicles. A. M. Frost and H. E. Sandoval. *J Elec* 50:420-5 Je 1 '23

Exhibitions

- Electric trucks at New York electrical exposition of 1921. E. W. Roesch. *il N E L A Bul* 8:664-5 N '21

Specifications

- American electric truck specifications for 1923; tabulation. *Automotive Ind* 48:434-5 F 22 '23
- Battery trays for electric trucks; proposed. S.A.E. recommended practice. *diags Soc Auto Eng J* 12:571-3 Je '23
- Specifications of American electric trucks, 1922; tabulation. *Automotive Ind* 46:360-1 F 16 '22

Electric trucks, Industrial

- Atlas 5-ton elevating platform truck. *il Am Mach* 57:277 Ag 17 '22; *Iron Age* 110:205 Jl 27 '22; *Iron Tr R* 71:313 Ag 3 '22
- Baker hy-lift electric platform truck. *il Am Mach* 58:93 Ja 11 '23
- Central station opportunities in harbor development. E. W. Roesch. *il N E L A Bul* 9:681-5 N '22

- Crescent truck co. adds to line of industrial trucks. *il Iron Age* 112:961 O 11 '23
- Dump body on electric storage battery truck cuts cost by half. *il Ind Eng* 80:457 S '22
- Electric industrial truck in business. E. J. Power. *il J Elec* 51:288-90 O 15 '23
- Electric transporter for barrels. *il Elec R (Lond)* 90:406-7 Mr 24 '22
- Electric truck and portable elevator. *il Iron Age* 110:1489 D 7 '22
- Electric truck with high wheels which is adapted for inside haulage and also for street industrial use. *il Ind Eng* 81:560 N '23
- Elevating industrial truck. *il Iron Age* 111:422 F 8 '23; *Am Mach* 58:461-2 Mr 22 '23; *Textile World* 63:3821 Je 9 '23
- Elwell-Parker electric fork lift truck. *il Am Mach* 59:348 Ag 30 '23
- Elwell-Parker low type of electric lift truck. *il Iron Age* 112:970 O 11 '23; *Textile World* 64:1987+ O 6 '23
- Evolution in shop material handling. L. S. Love. *il Iron Age* 111:205-8 Ja 18 '23
- Hauling 15-ton loads with an industrial truck operated as a tractor. *il Ind Eng* 80:604 D '22
- Installing electric trucks in an old plant. D. Wright. *Am Mach* 57:227-9 Ag 10 '22; *Summary. Ind Eng* 80:455-6 S '22
- Intra-plant transportation of materials. J. E. Housley. *il Ind Eng* 80:325-9+ Jl '22
- Lakewood fork tier-lift truck. *il Ry Age* 75:820 N 3 '22
- Material-handling at Mt. Hope finishing co. J. W. Synan. *il Textile World* 61:66+ Ja 7 '22
- New tiering truck. *il Chem & Met Eng* 27:367 Ag 23 '22
- Recent developments in accumulator electric trucks. R. J. Mitchell. *il Electrician* 87:836-8 D 30 '21
- Saving \$21,000 a year with a special electric truck for handling paper rolls. *il Ind Eng* 81:64 Ja '23
- Special industrial truck. W. A. Meddick. *il Gen Elec R* 25:254-6 Ap '22
- Treat it right and your industrial truck will always be ready for service. J. Causland. *il Elec R* 80:27-30 Ja '22
- Truck for dumping parcels at Chicago post office. *il Pop Mech* 38:338 S '22
- Use of mechanical equipment on modern waterfront terminals with particular regard to industrial trucks, tractors and trailers. W. Lansing, jr. *Gen Elec R* 25:257-9 Ap '22
- Yale model K-20 industrial truck. *il Textile World* 64:837 Ag 11 '23; *Iron Age* 112:330 Ag 9 '23

Electric units

- Work of the third Lord Rayleigh on electrical units. R. T. Glazebrook. *Inst E E J* 60:459-62 Ap '22

See also Kilowatt

Electric utilities

- La conférence internationale des grands réseaux de transport d'énergie électrique à très haute tension (Paris, 21-26 novembre 1921). *Génie Civil* 79:492-4 D 3 '21

- Electric light and power companies in high favor with people. *N E L A Bul* 9:359-64 Je '22

- Industry seeking financial aid and good will. *Elec W* 79:1001-2 My 20 '22

- Service companies should not generate. S. Ferguson. *Elec W* 80:1057-8 N 11 '22

See also Electric industries; Electric plants (central stations); Electric rates; Electric service, Rural; also names of companies, e.g. General electric company, Northern states power company, Southern California Edison company, Western electric company

Accounting

- Accounting for electric-light and power industries. F. L. Wilkinson. *J Account* 33:167-77 Mr '22

- Accounting for merchandise sales. K. Jorgensen. *N E L A Bul* 9:635-6 O '22

- Accounting for utility construction projects. W. P. Little. *Elec W* 79:1211-15 Je 17 '22

- Electric utilities**—Accounting—*Continued*
 Accounting sessions of the N.E.L.A. convention. *il Elec W 79:1022-4; 81:1312-6 My 20 '22, Je 9 '23*
 Allocation of electric service costs. W. J. Greene, C. F. Schoonmaker and C. B. Gorton. *Elec W 80:928-30 O 28 '22*
 Concessions by both federal power board and state commissioners may end long controversy. *Elec W 80:784 O 7 '22*
 Consumers' accounting. E. H. Adams. *il N E L A Bul 9:632-4 O '22*
 Cost accounting for small companies. E. J. Burt. *Elec W 78:1219-20 D 17 '21*
 Handling cost elements in fixing rates. W. J. Greene, C. F. Schoonmaker and C. B. Gorton. *Elec W 80:1431-2 D 30 '22*
 Method of accounting for customer-ownership stock sales. R. Davey. *N E L A Bul 9:169-73 Mr '22*
 Multiple plant method for the equitable apportionment of fixed charges. G. H. Moore. *Am Inst E E J 42:408-11 Ap '23*
 Uniform accounting systems for all utilities. E. O. Edgerton. *Elec W 78:1321-2 D 31 '21*
 Uniform classification of accounts for electric utilities (classes A and B) prescribed by the Railroad commission of Wisconsin. 130p Railroad commission, Madison '22
 Uniform classification of accounts for electrical utilities. 118p State law reporting co., New York '22

See also Electric rates

Bibliography

- Accounting reports, articles and papers in N.E.L.A. proceedings. F. W. Herbert. *N E L A Bul 9:637-9 O '22*

Advertising

- Advertising a complete unit awakens sleeping demand. *Ptr Ink 124:149 Ag 23 '23*
 Advertising for more revenue in smaller units. R. Dickinson. *Ptr Ink 118:17-19 Mr 2 '22*
 Advertising—its value to central stations. W. J. Reagan. *Elec W 80:271-2 Ag 5 '22*
 Advertising that gets customers to increase purchases. R. G. Zindle. *Ptr Ink 123:141-2+ Je 21 '23*
 Central stations using an electrical pictorial for the home. *Elec W 81:929 Ap 21 '23*
 Making the electrical sticker most productive. *il J Elec 50:260-1 Ap 1 '23*
 Much and good business plus advertising means more and better business. W. H. Evans. *N E L A Bul 9:549-52 S '22*
 Policies in central station advertising. *Elec W 82:33 Jl 7 '23*
 Public service company turns the knocker into a booster. J. M. Mosely. *Ptr Ink 120: 93-4+ S 7 '22*
 Recent good will advertising by western power companies. *J Elec 47:423-5 D 1 '21*
 Results of central-station publicity. C. L. Edgar. *Elec W 81:759-60 Mr 31 '23*
 Selling electric service to large users. W. H. Whitton. *il Elec W 82:381-6 Ag 25 '23*
 Supplementary campaign as a builder of goodwill. R. Cole. *Ptr Ink 121:133-4+ N 2 '22*
 Utility advertising and good-will. T. O. Kennedy. *N E L A Bul 9:186-8 Mr '22*
 What shall we invest in advertising? bibliog *Ptr Ink 121:73-4+ N 9 '22*

See also Electric industries—Advertising

Complaints

- Lack of knowledge cause of most power company complaints. C. B. Merrick. *J Elec 49: 157-9 S 1 '22*

See also Electric utilities—Public relations

Employees

- How to pay appliance salesmen. H. A. Lewis. *Elec W 81:1476-8 Je 23 '23*
 35,000 public servants. R. Sibley. *il J Elec 49: 273-6 O 15 '22*

Finance

- Adding customers to finance line extensions. *Elec W 78:1182 D 10 '21*
 Cost of money to utilities. C. T. Chenery. *Elec W 82:538-40 S 15 '23*

- Economic factors which determine power expenditures. L. J. Moore. *J Elec 49:91-2 Ag 1 '22*
 Economics of the public utility business. S. Insull. *Elec W 79:581-3 Mr 25 '22*
 Electricity supply prices and profits. H. M. Sayers. *Elec R (Lond) 93:272-4, 333-4 Ag 24-31 '23*
 Financing of electricity supply undertakings. C. W. Charlesworth. *Elec R (Lond) 90:747-8 My 26 '22*
 Financing the biggest job facing California. E. J. Beckett. *Gen Elec R 25:141-6 Mr '22*
 Hydro revenue increases. *Can Eng 43:273-4 Ag 22 '22*
 Income from range and heater loads. *Elec W 80:491-2 S 2 '22*
 Installment bonds used to finance rural lines. *Elec W 81:585 Mr 10 '23*
 Investment charge as applied to electric power rates. R. E. Richardson. *Elec W 80:171-3 Jl 22 '22*
 Manchester electricity undertaking; annual report and accounts. *Elec R (Lond) 90: 870 Je 23 '22*
 Municipal hydro electric plant at Fort Dodge. Ia., earns 12% net. R. E. McDonnell. *il Munic Eng 61:240+ D '21*
 Some aspects of the income account as an index of proper rate levels and financial stability of electric service companies. C. B. Cooke, jr. *N E L A Bul 9:354-6 Je '22*
 Sound financing the aim of utilities. W. S. Barstow. *Elec W 79:7-8 Ja 7 '22*
 Utility management and finance. G. N. Tidd and others. *Elec W 79:24-7 Ja 7 '22*

See also Electric utilities—Securities; Electric utilities—Valuation; Public utilities—Finance

Government ownership

- California should profit by the experience of Ontario. R. Sibley. *il chart map J Elec 48: 229-33 Mr 15 '22*
 Lower rates and better service under private ownership with regulation. *N E L A Bul 9:131-6 Mr '22*
 Municipal ownership exhausted, state ownership next. R. F. Pack. *Elec J 20:190-1 Je '23*
 Public ownership a vital national issue. J. D. Barnhill. *J Elec 51:206-8 S 15 '23*
See also Electric utilities—Municipal ownership; Manitoba—Power commission; Ontario—Hydroelectric power commission

Law

- Hydro-electric power bill introduced in New York legislature. *Power 57:539-40 Ap 3 '23*
 Postmaster-general and electrical power and lighting undertakings. W. H. Stoker. *Elec R (Lond) 93:452-3 S 28 '23; Discussion 93: 529-30, 568-9, 673-4, 678, 718, 733-4, 775 O 12-19, N 2-23 '23*

See also Electric utilities—Regulation

Management

- Administration and control of electricity departments; abstracts, with discussion. E. Calvert. *Elec R (Lond) 91:64-5 Jl 14 '22; Electrician 88:792-4 Je 30 '22*
 Aspects of the central station sales effort. H. T. Edgar. *Elec W 81:335-6 F 10 '23*
 Baltimore system of leaving meters alive. R. F. Bonsall. *Elec W 79:178-9 Ja 28 '22*
 Building up the lighting load; how the central station's sales force can be organized. *Elec W 80:334 Ag 12 '22*
 Central-station commercial plans. *Elec W 79:333-5 Ja 7 '22*
 Central-station company as merchandiser is an asset to the industry. C. E. Greenwood. *Elec W 79:240 F 4 '22*
 Central-station sales policy and methods. *Elec W 80:1224-5 D 2 '22*
 Central station separates salesroom from general office. *il Elec W 82:925 N 3 '23*
 Commercial problems for 1923. *il Elec W 81: 50-2 Ja 6 '23*
 Commercial trends of the year. *il Elec W 81: 41-3 Ja 6 '23*

Electric utilities—Management—Continued

- Customer management for superpower projects and state-owned power monopolies. A. G. McGregor. Elec W 80:81-2 J1 3 '22
- Does residence business pay? G. H. Davis. Elec W 80:1398-9 D 23 '22
- Extension of electricity supply. G. H. Nisbett. Inst E E J 60:43-8 D '21
- Future policies of smaller utilities. H. H. Hunt. il Elec W 81:17-19 Ja 6 '23
- Lighting service department; a new viewpoint and a new campaign. il Elec R (Lond) 93:154-5 J1 27 '23
- Linking public relations and sales. D. C. Ray. Elec W 82:923-4 N 3 '23
- Management of suburban districts. H. Silvester. il Elec W 81:1468-70 Je 23 '23
- Marketing central-station service. G. R. Trumbull. Elec W 81:401-2 F 17 '23
- New business policies. M. C. Huse. Elec W 82:716-17 O 6 '23
- Pacific gas & electric gives vice-president charge of public relations and sales. Elec W 82:294 Ag 11 '23
- Pacific gas & electric increases free allowance on extension. Elec W 81:930 Ap 21 '23
- Prices, turnover and expansion. W. W. Freeman. Elec W 79:371-2 F 25 '22
- Servicing industrial loads. il diags Elec W 82:589-94 S 22 '23
- Supply of electricity in new districts; sales point of view. R. E. Gamlen. Elec R (Lond) 93:10-11 J1 6 '23; Discussion. O. R. Skidmore. 93:49 J1 13 '23
- Two views of the central-station merchandising policy. C. S. Michel. Elec W 79:90 Ja 14 '22
- Utility management and finance. G. N. Tidd and others. Elec W 79:24-7 Ja 7 '22
- See also* Billing; Electric service, Rural; Electric utilities—Accounting; Electric utilities—Employees; Electric utilities—Finance; Electric utilities—Service

Municipal ownership

- Bradford rejects municipal ownership. G. Marston. N E L A Bul 8:731-2 D '21
- Is Hetch Hetchy to be another municipal fiasco? J Elec 51:198-9 S 15 '23
- Municipal ownership on the Pacific coast. J Elec 51:240-1 O 1 '23
- San Francisco adopts municipal ownership plan. J Elec 51:227 S 15 '23
- Some highlights regarding public ownership. J Elec 51:278-9 O 15 '23
- Unbiased criticism of municipal ownership. Elec W 81:585-6 Mr 10 '23

See also Electric plants, Municipal

Public relations

- Acquainting the public with utility personnel. chart Elec W 81:702-3 Mr 24 '23
- How greater service develops public relations into friendship. S. M. Kennedy. Elec W 78:1013-15 N 19 '21
- Linking public relations and sales. D. C. Ray. Elec W 82:923-4 N 3 '23
- Merchandising and public relations the chief issues of the Southern California Edison. Elec W 82:547-8 S 15 '23
- Personal contact with customers reduces complaint of high bills. Elec W 78:1232 D 17 '21
- Public interest. M. Insull. N E L A Bul 10:346-50 Je '23
- Public relations then and now. W. H. Atkins. Elec W 80:549-50 S 9 '22
- Reducing customer contracts to figures. chart Elec W 79:621-2 Ap 1 '22
- Simplified rates a good-will asset. A. S. Pratt. Elec W 81:343-4 F 10 '23

See also Electric utilities—Regulation

Purchasing

- Requisition form hastens station construction. E. R. Stauffacher. Elec W 80:25 J1 1 '22

Rates

See Electric rates

Regulation

- Analysis of proposed power act of California. Elec W 79:280-1 F 11 '22
- Grading utilities on service rules. C. B. Hayden. Elec W 81:814-15 Ap 7 '23

National electrical development and its effect upon utility regulation. M. H. Aylesworth. Gen Elec R 25:340-5 Je '22

Physical interconnection of electric light and power systems, and its effect upon utility regulation. M. H. Aylesworth. N E L A Bul 9:77-82 F '22; Excerpts. Elec W 79:325-7 F 18 '22

Public development of power. C. K. Mohler. Can Eng 45:363-4 O 2 '23

Regulation of overhead lines. G. C. Hecker. Aera 11:18-21 Ag '22

Safety measures

- Cutting telephone company plant accidents by education in safety. J. H. Martin. Safety Eng 44:120-2+ S '22

Salesmen

- Salesmanship in relation to electric lighting. H. T. Harrison. Elec R (Lond) 90:283-4 F 24 '22

Securities

- Analysis of customer ownership of western power companies. J Elec 49:320-3 N 1 '22
- Banker's analysis of central station securities as an investment. Elec W 78:1333 D 31 '21
- Central Maine company's ten points for employee stock salesmen. Elec W 79:839-40 Ap 29 '22
- Consumer ownership idea shows rapid growth. J Elec 48:331 Ap 15 '22
- How to put on a stock campaign. P. H. Whiting. Elec W 79:779-82 Ap 22 '22
- How to sustain security selling. P. H. Whiting. Elec W 80:11-14 J1 1 '22
- Light and power stocks take upward turn. Elec W 79:184 Ja 28 '22
- Local selling of holding company stock. H. E. Weeks. Elec W 79:521-4 Mr 18 '22
- Maintaining marketability on customer-owned securities. Elec W 79:955-6 My 13 '22
- Making partners of customers. R. Dickinson. Ptr Ink 122:126+ F 15 '23
- Preference of preferred stocks. V. H. Cartmell. Elec W 81:629-31 Mr 17 '23
- Progress of customer-ownership in last eight years. Elec W 82:295 Ag 11 '23
- Security issues of electric service companies in November. Elec W 80:1233 D 2 '22 [continued monthly]
- Security prices advance during 1922. Elec W 81:31-2 Ja 6 '23
- Security yields show material decrease during 1921. Elec W 79:133 Ja 21 '22
- Selling \$2,000,000 of stock in one day. Elec W 80:1055-6 N 11 '22
- Selling utility securities in Alabama. F. D. Mahoney. Elec W 78:1067-8 N 26 '21
- Seven steps in making a customer a shareholder in the utility. Elec W 80:283 Ag 5 '22

Service

- Conditions which delay prompt service connection. J. B. Redus. Elec W 82:31-2 J1 7 '23
- Connecting service in 2 hours 48 minutes. il Elec W 81:871-3 Ap 14 '23
- Department of greater service. S. M. Kennedy. N E L A Bul 8:706-8 D '21
- Do the power companies give adequate service? il J Elec 49:277-82 O 15 '22
- Grading utilities on service. J. H. Mathews. Elec W 81:1034-7 My 5 '23
- Inspections build business and good will. H. A. Fee. Elec W 81:816-17 Ap 7 '23
- Inspections for better service. Elec W 81:526-7 Mr 3 '23
- Maintaining day-service standards in the small community. C. M. Adams. Elec W 79:428 Mr 4 '22
- Suggestions to improve a utility's service. Elec W 80:83 J1 8 '22

See also Electric service, Rural

Valuation

- Condemnation of present value theory of rate base. Elec W 80:195 J1 22 '22
- Depreciation provisions of water-power act. Elec W 80:238 J1 29 '22

Electric utilities—Valuation—Continued

Depreciation reserve in its relation to continuous efficient service. Elec W 79:102 Ja 14 '22

Federal power commission hears protest on accounting rules and regulations. N E L A Bul 8:699-705 D '21

Going value and the Galveston case. J. A. Whitlow. Elec W 80:179 Jl 22 '22

Recommends acceptance of Federal power commission depreciation proposals. O. C. Merrill. Elec W 78:1140-1, 1192 D 3-10 '21

California

Analysis of proposed power act. Elec W 79:280-1 F 11 '22

Financing the biggest job facing California. E. J. Beckett. Gen Elec R 25:141-6 Mr '22

Chile

Electrical progress in Chile. P. F. Martin. Elec R (Lond) 90:459-60 Mr 31 '22

France

Les avances de l'état facilitant la distribution de l'énergie électrique dans les campagnes; loi du 2 août 1923. P. Razouls. Génie Civil 83:160-2 Ag 18 '23

Le congrès de l'aménagement hydraulique du Sud-Ouest (Bordeaux, 17-22 juin 1922). A. Pawlowski. Génie Civil 81:69-70 Jl 15 '22

Manitoba

See Manitoba—Power commission

Texas

Utility's part in business building. Elec W 82:495-6 S 8 '23

United States

What some companies did in 1922. Elec W 81:52-3 Ja 6 '23

Electric vehicles

Les automobiles électriques, à l'étranger et en France. Génie Civil 83:208-9 S 1 '23

Battery vehicle in England. R. H. Simpson. Gen Elec R 25:205-8 Ap '22

Design and application of motors, controllers and resistances for storage-battery-driven vehicles. J. C. Clendenin. il diags Gen Elec R 25:236-41 Ap '22

Electric passenger car. K. Probst. il Gen Elec R 25:214-16 Ap '22

Electric vehicle. F. M. Kimball. il Gen Elec R 25:200-4 Ap '22

Electric vehicle hand-book. H. C. Cushing, 364p H. C. Cushing, jr., 8 W 40th St., New York '21

Electric vehicle in Boston. E. S. Mansfield. il Gen Elec R 25:233-5 Ap '22

Electric vehicle operation. R. MacRae. il Gen Elec R 25:224-6 Ap '22

Electric vehicles for municipal work. R. B. Mitchell. Elec R (Lond) 91:282-3 Ag 25 '22

Electric vehicles in Glasgow. C. W. Marshall. il diag Elec R (Lond) 92:404-6 Mr 16 '23

Electric vehicles in the United States. il diag Elec R (Lond) 90:619-22 My 5 '22

Electrically driven street-cleaning vehicles; abstract. R. Wernecke. Elec W 81:1536 Je 30 '23

Modern electric passenger vehicle. H. Chase. il diags Automotive Ind 46:265-8 F 9 '22

Present and the future of the electric vehicle. F. Ayton. Elec R (Lond) 91:740-1 N 17 '22

Small automobile driven by storage battery. Sci Am 128:89 F '23

Status of the electric vehicle. S. W. Tra-
wick. Elec W 82:205-6 Jl 28 '23

Thomson wagonette of 1897. H. Lemp. il Gen Elec R 25:505-7 Ag '22

Training for electric vehicle operators. R. Macrae. il diags Elec J 20:32-4 Ja '23

Use of electric vehicles for municipal purposes; abstracts, with discussion. F. Ayton. Elec R (Lond) 89:764-5 D 2 '21; Electrician 87:705-6 D 2 '21

Wind-power automobile. A. I. Root. il Sci Am 129:171 S '23

See also Electric buses; Electric tractors; Electric trucks; Motor cars (railroad)—Storage battery; Storage batteries

Advertising

Sidetracks price-cutting talk to clear the sales road. D. M. Hubbard. Ptr Ink 119:33-4+ My 11 '22

Control

Control equipment for electric vehicles. A. Robinson. il diags Elec J 20:34-6 Ja '23

Exhibitions

New taxicab model features electric vehicle exhibit. il Automotive Ind 47:704-5 O 12 '22

Specifications

Electric passenger car specifications; tabulation. Automotive Ind 48:384-5 F 22 '23

Electric vehicles and the central station

Central station and the electric vehicle. E. S. Mansfield. Elec J 20:4-7 Ja '23

Central station attitude. E. W. Roesch. N E L A Bul 9:241-3 Ap '22

Central station opportunities in harbor development. E. W. Roesch. il N E L A Bul 9:681-5 N '22

Central station's experience with electric trucks. L. T. Carpenter. il Elec J 20:39-41 Ja '23

Electric vehicle as a load builder. E. S. Mansfield. N E L A Bul 10:47-8 Ja '23

Opportunities for the central station in electric vehicles. A. M. Frost and H. E. Sandoval. J Elec 50:420-5 Je 1 '23

Possibilities of the electric motor truck. C. R. Skinner, jr. Elec J 20:7-9 Ja '23

Why central stations should investigate the electric truck. E. J. Power. il J Elec 51:163-5 S 1 '23

Electric water heaters

Electric range and water heater survey of Pacific Northwest. J Elec 51:246-7 O 1 '23

Electric water-heating for domestic purposes. G. H. Wood. Elec R (Lond) 91:27-8 Jl 7 '22

Hot water by electrical methods. il chart diag Electrician 89:357-8 S 29 '22

Low demand high load factor water heater favored in Pacific Northwest. A. C. Crowell. J Elec 48:302-3 Ap 15 '22

Electric wave filters

Electric filter circuits. L. Cohen. J Fr Inst 195:641-54 My '23

Theory of electric wave filters built up of coupled circuit elements. L. J. Peters. Am Inst E E J 42:445-62 My '23; Discussion. 42:657-9 Je '23

Electric waves

Analogy between electrical waves and X-rays. N. Kapzov. J Fr Inst 195:120 Ja '23; Same. Sci Am 128:391 Je '23

Causes and prevention of harmonics. F. S. Dellenbaugh, jr. Elec W 80:1276-7 D 9 '22

Deformation of travelling electric waves. S. A. Stigant. diags Elec R (Lond) 93:418-21 S 21 '23

L'état actuel des applications des ondes hertziennes. Ferrié. Soc Ing Civils Bul 76:755-66 Je '23

Field radiated from two horizontal coils. G. Breit. diags U S Bur Stand Sci Pa 431:589-606 '22

Isolating single frequency from irregular waves. K. W. Wagner. Elec W 78:1172 D 10 '21

Method of improving the voltage wave shape of an alternator by external circuits. E. W. Marchant and T. H. Turney. Engineering 116:444-6 O 5 '23; Abstract. Elec R (Lond) 93:551 O 12 '23; Discussion. Engineering 116:557, 592 N 2-9 '23; Elec R (Lond) 93:551, 678-9 O 12, N 2 '23

Notes from the laboratory of pure science. Nela research laboratories. E. F. Nichols and J. D. Tear. J Fr Inst 194:683-5 N '22

Optical constants of certain liquids for short electric waves. J. D. Tear. Phys R 21:611-22 Je '23; Abstract. J Fr Inst 194:685-6 N '22

Short electric waves. E. F. Nichols and J. D. Tear. il diags Phys R 21:587-610 Je '23

Short electric waves obtained by valves. E. W. B. Gill and J. H. Morrell. diags Philos Mag 6th ser 44:161-78 Jl '22

Electric waves--Continued

Surges on power systems. J. Slepian. diags
Elec J 20:176-81 My '23

See also Electric currents, Alternating;
Electromagnetic waves; Oscillations; Radio
measurement; Radio telegraph; Radio waves

Electric welding

Acme spot welding machine. il Iron Age 112:
1036 O 18 '23

Automatic welding machine known as the
Gewe. il Iron Age 110:206 JI 27 '22

Butt-weld process of rail joinery. il Elec Ry
J 60:285-7 Ag 26 '22

Butt welding. A. L. DeLeeuw. il diags Am
Mach 58:61-4 Ja 11 '23

Combined electric welder and grinder. il
Elec Ry J 61:1005-6 Je 16 '23; Excerpt. Eng
& Contr (Ry) 60:118-19 JI 18 '23

Electric resistance welded rail joints. E. B.
Entwisle. diags Elec Ry J 59:940-1 Je 10
'22

Electric spot and seam welding tin plate.
W. H. Gibb. il Sheet Metal Worker 12:850-
1 Ja 6 '22

Electric welder which one man can carry af-
fords wide current and voltage range. Coal
Age 20:720 N 3 '21

Electric welding. H. S. Marquand. 204p Benn
bros., London '20

Electric welding. H. W. Wolton. il Eng & Ind
Management 7:159-63 F 9 '22

Electric welding applied to steel construction,
with special reference to ships. A. T. Wall.
diags Engineering 113:241-4 F 24 '22; Same,
Eng & Ind Management 7:397-9, 469-72; 8:
54-5 My 4, Je 1, Ag 10 '22; Excerpt. Engineer
133:218 F 24 '22; Discussion, Engineering
113:236-7, 257-9 F 24-Mr 3 '22; Engineer
133:246-7 F 24 '22

Electric welding car in St. John, N.B. C. L.
Baxter. il Elec Ry J 62:85-7 JI 21 '23

Electric welding used widely in metal work-
ing industry. P. P. Pipes. il Iron Tr R 73:
379-84 Ag 9 '23

Electrically safe ending boiler tubes. J. J.
Sullivan. il plan Ry Mech Eng 96:154-5 Mr
'22

L'emploi de la soudure dans les exploitations
de tramways; la soudure électrique. C.
Dantin. Génie Civil 81:491-4 N 25 '22

Energy requirements in butt-welding steel and
iron pipe. G. T. Jacobs. Elec R 80:89 F '22

High-speed tool steel electrically welded to
machine steel. Elec W 82:551 S 15 '23

High-speed welding of small parts. E. H.
Hubert. il diags Ind Eng 80:413-15 S '22

How flanges are welded on Winona interur-
ban. C. Sigler. Elec Ry J 59:196-7 F 4 '22

Installing and maintaining charcoal iron
locomotive boiler tubes. G. H. Woodroffe
and C. E. Lester. il diags Ry Mech Eng 96:
274-8 My '22

Making welded pressed-steel automobile
wheels. il Mach 29:757-61 Je '23

Matching the wire with the work. E. Wana-
maker. Am Mach 57:325 Ag 31 '22

Methods of welding safe ends on locomotive
boiler tubes; report of Master boiler
makers' association. Ry Mech Eng 95:711-
12 N '21

Ness electric spot welder. il Am Mach 59:345
Ag 30 '23; Iron Age 112:551 Ag 30 '23; Iron
Tr R 73:609-10 Ag 30 '23; Mach 30:68 S '23

New type of electric welded tubular steel bed-
stead. il Sci Am 128:395 Je '23

Patches welded on 30-yr.-old steel pipe with-
out reducing water pressure. J. A. Foulks.
il Eng N 89:898 N 23 '22

Progress report of Railway electrical engi-
neers' committee on electric welding. Ry R
71:15-16 JI 1 '22

Reducing costs by electric welding. il Mach
28:405 Ja '22

Repair of mammoth vertical compressor en-
gine cast iron cylinder. A. M. Candy. il
Power 58:242-4 Ag 14 '23

Resistance welding. A. L. De Leeuw. diags
Am Mach 57:721-4 N 9 '22

Rusted steel chimney repaired by welding.
Eng N 89:58 JI 13 '22

Salvaging cracked saws by welding. E. Shel-
don. il Am Mach 57:734 N 9 '22

Science of electric welding. W. E. Ruder. il
J Fr Inst 192:561-83 N '21

Some recent developments and uses for resist-
ance welding. H. A. Woofter. Am Mach 58:
627-8 Ap 26 '23

La soudure électrique. M. Varinois. 423p
Dunod, Paris '23

Thermit and electric welding; some of the
dangers that must be avoided. Am Gas J
117:51-2 JI 15 '22

Thomson automatic spot welder. il Auto-
motive Ind 48:531 Mr 1 '23; Am Mach 58:532 Ap
5 '23

Thomson type SP butt welding machine. Am
Mach 57:939 D 14 '22

U. S. electric welding machine. il Am Mach
57:821 N 23 '22

Welded radio towers 150 ft. high built at Pe-
king. H. S. Bear. il diags Eng N 88:650-1
Ap 20 '22

Welded steel tower built in a cave. H. L.
McLean. il Eng N 90:265 F 8 '23

Welded tank joints. il Eng N 91:522 S 27 '23

Welding as practiced by electric railways; a
symposium. Elec Ry J 60:567-8 O 7 '22

Welding high-speed tool steel to ordinary
shanks. W. J. Seibert. Am Mach 59:254 Ag
16 '23; Discussion, F. A. Hurst. 59:786 N 29
'23

Welding postponed rail renewal. R. J. Custer.
Elec Ry J 59:202-3 F 4 '22

Welding practice of the Pacific electric. C. A.
Elliott. il Elec Ry J 60:701-3 O 28 '22

Welding saves traction company time and
money. il J Elec 48:202 Mr 1 '22

Welding underground steam mains. Power 56:
49 JI 11 '22

Welds galvanized steel storage tanks. il Iron
Tr R 71:1409 N 23 '22

Westinghouse engine-driven welding equip-
ment. il Am Mach 57:160 JI 27 '22

Wide range of use characterizes Thomson spot
welder. il Automotive Ind 49:739 O 11 '23

See also Welding

Bibliography

Bibliography of electric welding. Inst E E J
61:265-6 F '23

Safety devices and measures

Daysohms safety attachment for electric
welding. il diag Electrician 89:100 JI 28 '22

Safety in electric welding and cutting. D. H.
De Yoe. Nat Safety N 8:39 JI '23; Same,
Coal Age 24:15-16 JI 5 '23

See also Electric welding, Arc—Safety de-
vices and measures

Testing

Strength of mechanically welded pressure
containers. R. J. Roark. il diags Mech Eng
44:225-30 Ap '22; Excerpt. Chem & Met Eng
26:796-7 Ap 26 '22; Abstract. Power 55:870-1
My 30 '22; Summary. Ry Mech Eng 96:449
Ag '22; Discussion. Mech Eng 44:521-2 Ag
'22

Tests of structural steel welds. E. S. Hum-
phrey, jr. diags Eng & Contr (Elids) 58:41-
5 O 25 '22

See also Electric welding, Arc—Testing

Electric welding, Arc

Applications of arc welding to ship con-
struction. E. W. Ewertz. il diags Marine
Eng 23:420-4, 480-91, 549-56, 625-30 JI-O '23

Arc welding a mine pipe line. A. M. Candy.
il Eng & Min J 113:1074-5 Je 17 '22

Arc welding as a manufacturing asset. J. F.
Lincoln. diags Elec W 81:1147-8 My 19 '23

Arc-welding cast iron without preheating. J.
P. Kryza and H. E. Bradford. diags Mach
30:199-200 N '23

Arc welding for steel structures. F. P.
McKibben. il diags Eng N 90:492-3 Mr 15 '23

Arc welding in railway shops. S. E. Mason.
il diag Elec Ry J 59:446-8 Mr 18 '22

Arc-welding of cast iron. A. R. Allard. il
diag Mach 28:461-4 F '22

Arc welding of cast iron. W. H. Namack. il
diags Gen Elec R 26:221-7, 304-19 Ap-My '23

Arc-welding outfit has novel current control.
il Pop Mech 37:74 Ja '22

Electric welding, Arc—Continued

Automatic arc welding. A. K. West. *il Am Mach* 57:753-4 N 16 '22

Building up shafts by welding. H. J. Vander Eb. *il Locomotive* 34:143-6 Ja '23

Choice of an efficient electric arc welding system. D. T. Smout. *Elec R (Lond)* 93:535-6; Discussion. 596 O 19 '23

Cutting heavy copper billets with the electric arc. A. M. Candy. *il Ind Eng* 80:448 S '22

Cyc-ar process of automatic electric welding. L. J. Steele and H. Martin. *il diags Inst E E J* 60:136-57 Ja '22; Abstracts. *Elec R (Lond)* 89:800-3 D 9 '21; *Electrician* 87:734-5 D 9 '21; Discussion. *Inst E E J* 60:158-62, 236-41, 575-8 Ja-F, My '22; *Elec R (Lond)* 90:104-6, 251, 536-7 Ja 20, F 17, Ap 14 '22; *Electrician* 87:736 D 9 '21

Cyc-ar process of automatic electric welding in ship work. L. J. Steele and H. Martin. *il Electrician* 89:98-9 JI 23 '22

Cyc arc welding. *il diags Automobile Eng* 13:245-9 Ag '23

Daysohns utility arc welder. *il Elec R (Lond)* 90:498-9 Ap 7 '22; *Electrician* 88:416-17 Ap 7 '22

Development of the cyc-ar welding process. *il diags Engineer* 135:306-9 Mr 23 '23

Electric-arc welder is equipped with automatic feed. *il Pop Mech* 38:373 S '22

Electric arc welding. E. Wanamaker and H. R. Pennington. 254p. Simmons-Boardman pub. co., New York '21

Electric arc welding apparatus and equipment. J. Caldwell. *Inst E E J* 61:253-68 F '23; Abstracts. *Engineering* 114:776 D 22 '22; *Engineer* 134:689-90 D 29 '22; *Elec R (Lond)* 92:34-5 Ja 5 '23; *Electrician* 89:711-12 D 22 '22; Discussion. *Inst E E J* 61:268-77 F '23; *Engineer* 134:690 D 29 '22; *Elec R (Lond)* 92:35-6 Ja 5 '23

Electric arc welding in steel structures. J. Caldwell. *il diags Engineering* 113:88-90 Ja 20 '22; Excerpts. *Engineer* 133:79-80 Ja 20 '22

Electric welder vs. riveter. *il diags Sci Am* 129:236+ O '23

Electric welding. H. W. Wolton. *il Eng & Ind Management* 7:159-63 F 9 '22

Electric welding used in constructing and repairing large storage tanks. *il Nat Pet N* 15:85 JI 25 '23

Electric welding used widely in metal working industry. P. P. Pipes. *il Iron Tr R* 73:379-81 Ag 9 '23

Die elektrische lichtbogen-schweissung. H. Neese. *Stahl & Eisen* 42:664-7 Ap 27 '22

Erection of steel structures by arc welding. H. L. Unland. *il diags Eng Soc W Pa* 37:417-31 D '21; Same. *Eng & Contr* 58:183-5 Ag 23 '22; Discussion. *Eng Soc W Pa* 37:432-47 D '21

Flash welding. A. L. De Leeuw. *il diags Am Mach* 58:433-6 Mr 22 '23; Discussion. 58:576, 867 Ap 19, Je 14 '23

Foundry flasks repaired by arc welding. A. M. Candy. *Elec W* 81:1278 Je 2 '23; Same. *Ind Eng* 81:511-12 O '23

Fusion welding in steel plants. S. W. Miller. *il Blast F & Steel Pl* 9:690-7 D '21; Same cond. *Iron Tr R* 69:1346-9, 1422-6 N 24-D 1 '21; Abstract. *Iron Age* 108:1374-6 N 24 '21; Discussion. W. E. Ruder. *Iron Tr R* 69:1426 D 1 '21; Discussion. H. S. Rawdon. *Iron Tr R* 70:274-6 Ja 26 '22; Same. *Foundry* 50:245-6 Mr 15 '22

G. E. portable semi-automatic arc welding set. *il Am Mach* 56:888 Je 8 '22; *Ry Mech Eng* 96:354 Je '22

Gasoline engine driven welding set. *il Power Pl Eng* 26:929-30 S 15 '22

Increasing welding speed. H. R. Pennington. *Ry Mech Eng* 96:165-6 Mr '22

Industrial applications of electric arc welding apparatus. *il J Elec* 50:18-19 Ja 1 '23

Manganese centers; welding of special work in Syracuse. H. E. Bean. *il Elec Ry J* 59:830-1 My 20 '22; Same. *Eng & Contr* 58:65 JI 19 '22

New D.C. welder breaks are automatically. *diag Elec Ry J* 61:692 Ap 21 '23

Notes on the welding arc. W. Langdon-Davies. *diags Elec R (Lond)* 92:44-7 Ja 12 '23

Practical points in arc welding. J. A. Wilson. *il Am Mach* 56:357-9 Mr 9 '22

Recent developments in the arc welding field. W. L. Warner. *Power* 57:695 My 1 '23

Repair of dies by welding. A. M. Candy. *il Iron Age* 111:1030-1 Ap 12 '23

Repair of railroad equipment and reclaiming of scrap material with the electric arc in railroad shops. J. J. Liles. *il Gen Elec R* 25:502-5 Ag '22

Salvage of worn steel car wheels. W. J. Merten. *il Elec Ry J* 61:679-82 Ap 21 '23

Semi-automatic arc welding lead developed by the General electric company. *il Ry Age* 71:1111-12 D 3 '21; *Automotive Ind* 45:1162 D 15 '21; *Foundry* 50:39-40 Ja 1 '22

Some of the reasons for the success of electric welding in the shops of the Rock Island lines. E. Wanamaker. *il Elec R* 80:172-7 Ap '22

Steel rails embrittled by welding bonds. *il diags Eng N* 88:524-5 Mr 30 '22; Discussion. *Elec Ry J* 59:715 Ap 29 '22

Steel tower sections are joined by electric welding outfit. *il J Elec* 50:19 Ja 1 '23

Stripper ram repaired by arc welding. A. M. Candy. *Elec W* 81:1471 Je 23 '23; Same. *Iron Tr R* 73:741 S 13 '23

Suspended ceiling carried by welded steel work. *il Eng & Contr (Bldgs)* 59:749 Mr 23 '23

Taking the arc welder and rail grinder to the job. *il Elec Ry J* 60:388 S 16 '22

Thickness of metal welded determines current. D. N. Louis. *Elec W* 80:231 JI 29 '22

Things operators should know when welding iron and steel. E. Wanamaker. *il diags Elec R* 80:218-26+ My '22

Three years' experience in welding worn flanges. E. B. Gunn. *Elec Ry J* 59:196 F 4 '22

Utility arc welding. *il diags Engineer* 133:378-81 Ap 7 '22

Versuche über elektrische lichtbogen-schweissung von flusseisen und grauguss. H. Neese. *il diags Stahl & Eisen* 42:1001-13, 1192-8 Je 29, Ag 3 '22

Weld monel metal using deoxidizers. P. D. Merica and J. G. Schoener. *Foundry* 50:796-7 O 1 '22

Welders for rail bonding and repairs. *il Coal Age* 23:180 Ja 25 '23

Welding frogs and crossings with manganese steel. H. R. Pennington. *il diags Ry* 70:153-6 F 4 '22; Same. *Eng & Contr* 57:152-4 F 15 '22; Discussion. *Ry R* 70:156-7 F 4 '22

Welding gasholders by quasi arc in Australia. J. N. Reeson. *il Gas Age* 52:270-2 S 1 '23; Same. *Am Gas J* 119:221-24 S 15 '23; Same. *Gas J (Lond)* 164:260 O 24 '23; Abstract. *Can Eng* 45:337 S 13 '23

Welding iron electrically. M. Lebrun. *Iron Age* 112:267 Ag 2 '23

Welding manganese special work. *Aera* 12:244-53 S '23

Welding oil engine frame. F. Mason. *il Power* 56:177 Ag 1 '22

Welding practice on the Southern Pacific. H. J. McCracken and F. J. Hickey. *il Ry Mech Eng* 97:122-5 F '23

Welding sets for medium and heavy duty. *il Ry Mech Eng* 95:779-80 D '21

Welding squirrel-cage rotors with the electric arc. A. M. Candy. *Ind Eng* 80:400 Ag '22

Welding tubes into the tube sheets of boilers. F. H. Williams. *il diags Power* 56:588-9 O 10 '22; Discussion. 56:663, 816-17, 894; 57:186-7, 339 O 24, N 21, D 5 '22, Ja 30, F 27 '23

Welding with the electric arc. J. F. Springer. *il Textile World* 62:741+ Ag 5 '22

Welds chilled iron roll electrically. C. J. Holslag. *Iron Tr R* 71:998 O 12 '22; Same cond. *Foundry* 50:756 S 15 '22

What benefits can be expected from laminated-frame arc-welding generators. K. L. Hansen. *Elec W* 80:564, 773-4, 940, 1333, 1391-2; 81:103, 222 S 9, O 7, 28, D 16-24 '22, Ja 13, 27 '23

Workmanship and wire affect welds. C. L. Jones. *Iron Tr R* 70:1479-80 My 25 '22

Electric welding, Arc—Continued**Cost**

Applications of arc welding to ship construction; comparison of cost of welded and riveted joints. E. H. Ewertz. *il diags plans Marine Eng* 28:625-30 O '23

Safety devices and measures

Nine safety rules for operating arc-welding sets. D. N. Louis. *Elec R* 80:245 My '22

Safety device for arc welding. *il diags Engineering* 114:120 JI 28 '22; *Elec R* (Lond) 91:70-1 JI 14 '22

Safety rules for electric welding. *Elec W* 79: 185, 1172-3 Mr 11, Je 10 '22

Testing

Arc welding of structural steel. E. S. Humphry, jr. *il diags Iron Age* 109:1422-5 My 25 '22

Properties of arc deposited steel. O. H. Eschholz. *il Iron Age* 109:1803-5 Je 29 '22

Rail joint tests on the Detroit municipal railway. *il Elec Ry J* 62:89-95 JI 21 '23

Schweißen von stahlformguss. L. Treuhelt. *diags Stahl & Eisen* 41:1361-6 S 29 '21; Discussion. 42:496-8 Mr 30 '22

Tests of welded joints by the Boston Elevated railway. *diags Elec Ry J* 61:555-60 Mr 31 '23

Electric wire

Copper-cadmium wire for electrical transmission. W. C. Smith. *Chem & Met Eng* 25:1178-9 D 28 '21; Same cond. *Elec W* 79: 223 F 4 '22

Copper-clad steel wire advocated for transmission circuits. B. C. Dennison. *il Elec W* 80:174-6 JI 22 '22

Corona-proof wire used by Long Island company. *Elec W* 82:290-1 Ag 11 '23

Current capacity of wires and cables. G. E. Luke. *diags Power Pl Eng* 27:529-31 My 15 '23

Double galvanized steel strand and iron wire for electrical transmission and distribution. 61p Indiana steel and wire co., Muncie '21

Durability of lead-covered wiring. *Elec R* (Lond) 89:497, 529, 566, 597, 638, 672, 745, 817, 884; 90:70-1, 157-8 O 14-N 18, D 2, 16, 30 '21, Ja 13, F 3 '22

Electrical characteristics of steel and iron wire. *Elec W* 80:872-4 O 21 '22

Enamelled wire and enamelled wire. *Electrician* 88:95-6 Ja 27 '22

Iron wire versus copper as an electrical conductor. W. E. Rice. *Elec W* 79:331-2 F 18 '22; Discussion. F. M. Gillespie. *79:883 My 6 '22*

Lead-covered wire most satisfactory for use in wet, salty atmosphere. F. A. Westbrook. *Ind Eng* 80:397-8 Ag '22

Methods of making splices in electric wires. M. Phillips. *diags Power* 55:550 Ap 4 '22; Discussion. H. W. Los. 55:945 Je 13 '22

Size of wire to use for protective ground connections. W. S. Jones. *Ind Eng* 80:449 S '22

Why use weatherproof line wire? S. C. Lindsay. *Elec W* 82:609-10 S 22 '23

Wire sizes for motor circuits as required by the National electrical code. E. P. Slack. *diag Power* 55:129-30 Ja 24 '22

See also Electric cables; Electric conductors; Electric lines; Electric wiring; Trolley wire

Manufacture

How a production manager, single-handed, promotes simplification. T. W. Howard. *Factory* 29:519-22+ N '22

Patents

Leading-in wires. *Engineer* 133:644-5 Je 9 '22

Specifications

Report of committee B-1 of A.S.T.M. on copper wire. *Am Soc T M Pro* 21:195-7 '21

Standards

British standard specification for dimensions and resistances of bare annealed copper wire for electrical machinery and apparatus. (Rep. no. 128) 34p British eng. standards assn., London '22

Projets de normalisation du platine, du zinc, des barres et des fils de cuivre ou d'aluminium, élaborés par la commission permanente de standardisation. Génie Civil 81:221-2 S 2 '22

Testing

Report of the British electrical and allied industries research association upon tests on galvanized steel wires and cables for overhead transmission lines. *Inst E E J* 61: 1026-40 S '23

Report of the British electrical and allied industries research association upon tests on hard drawn aluminum wires and cables for overhead transmission lines. *Inst E E J* 61:1013-25 S '23

Report of the British electrical and allied industries research association upon tests on hard drawn copper wires and cables for overhead transmission lines. *Inst E E J* 61: 997-1012 S '23

Electric wiring

Alternating and direct current carried temporarily on same wire. F. H. Gage. *diags Elec W* 78:1080-1 N 26 '21

Careful inspection avoided trouble in cable transformer connections. T. M. Roberts. *diags Elec W* 80:830 O 14 '22

Connections for electrical firing in blasting. N. S. Greensfelder. *Eng & Contr* (Ry) 58: 158-60 D 20 '22

Considerations in laying out motor circuits. M. Phillips. *plan Power* 56:320-2 Ag 29 '22

Determining sizes of motor circuits for peak-load duty. E. P. Slack. *Power* 55:853 My 30 '22

Duties and responsibilities of the engineer and electrical contractor and their relations with the customer on contract jobs in a factory or mill. D. H. Braymer. *il plan Ind Eng* 51:16-22-- Ja '23

Electrical specifications and contracts: a joint discussion. W. E. Highfield, A. Kirk, and A. E. Penn. *Elec R* (Lond) 92:429-30 Mr 16 '23

How to check instrument transformer and meter connections. V. H. Todd. *diags Power* 58:413-15 S 11 '23

Need of educating the public on quality wiring. T. E. Bibbins. *Elec W* 79:791-2 Ap '22

One reason for faults in wiring work. K. F. Bishop. *diags Elec R* (Lond) 92:589 Ap 13 '23

Practical electric wiring. J. M. Sharp. Rev. ed. 256p Appleton '21

Standard wiring for electric light and power. H. C. Cushing. 28th ed. 400p H. C. Cushing, jr., New York '22

Wiring data for direct and alternating current motor circuits. *Elec R* 80:178-9 Ap '22

Wiring for motors. H. L. Cornelison. *il Elec R* 80:127-30+ Mr '22

See also Electric codes; Electric conduits; Electric distribution; Electric fittings; Electric fuses; Electric engineering—Laws and regulations; Electric inspection; Electric lighting; Electric lines; Electric railroads—Wiring; Electric transmission; Insulation (electric); National electrical code; National electrical safety code; Telegraph; Telephone; Trolley cars

Estimates

Estimating without loss. 100p Gage pub. co., New York '23

See also Electric wiring, Interior—Estimates

Safety measures

Code requirement that courts danger; the fused neutral. *Elec W* 80:592-3, 773, 884, 1105, 1273 S 16, O 7, 21, N 18, D 9 '22

Electrical hazards. *Min & Sci P* 124:258 F 25 '22

Reducing electrical hazards in the industrial plant. *il Nat Safety* N 7:21-3 Ja '23

Station wiring adequately protected by fire-proofing liquid. S. C. Lindsay. *Elec W* 79: 835 Ap 29 '22

Tables, calculations, etc.

Mechanical stresses in transmission lines. E. Maerker. *diags Can Eng* 42:417-20 Ap 25 '22

Electric wiring—Tables, calculations, etc.—*Cont.*
Simple method for selecting the size of fuses
for motors. L. W. Going. *il Ind Eng* 80:416-
19+ S '22

Electric wiring, Interior

Brief review of residence wiring experience.

Elec W 79:931-2 My 13 '22

Completing the wiring job; interim report of
N.E.L.A. wiring committee. N E L A Bul 10:
137-48 Mr '23

Dundee system of heavy duty wiring. H.

Richardson. *il Electrician* 87:791-2 D 23 '21;

Same cond. Elec R (Lond) 89:905 D 30 '21

Electrical construction. E. E. Browne. diags

J Elec 50:332-4, 378-9, 460-1, 494-5; 51:18-

19, 56-7, 94-5, 134-5, 174-6, 214-15, 254-5,

294-5 My 1-O 15 '23

Electrical equipment for modern hotels. O. E.

Goldschmidt. *il plans Am Arch* 124:187-94

Ag 29 '23

Electrical provisions of the modern home. R.

Trauttschold. *plans Bldg Age* 45:74-5 Ap '23

Electrical wiring and equipment for hospitals.

N. C. Ross. *plans Arch Forum* 37:297-300

D '22

Electrical wiring layouts for modern buildings.

N. C. Ross. *Arch Forum* 36:11-14, 53-6, 109-

12, 151-4, 185-6, 237-40; 37:31-4 Ja-Jl '22

Electrical wiring layouts for schools. N. C.

Ross. *il plans Arch Forum* 37:105-10, 141-4,

191-4, 227-30 Ag-N '22

Electricity in the home. A. Williams. *il Am*

Arch 121:188-91 Mr 1 '22

Electricity in the house. M. O. Whitton. *diag*

Am Arch 121:234-5, 276-8, 324-6, 405-7, 490-

2; 122:37-9 Mr 15-Ap 12, My 10, Je 7, Jl 5

'22

From billions to a convenience outlet. A.

K. Baylor. N E L A Bul 10:284-5 My '23

Helsby twin wiring system. *il Elec R (Lond)*

89:776-7 D 9 '21

Huse wiring problem. *Am Arch* 121:371-2 Ap

26 '22

How 2,214 old houses were wired. R. G.

Webber. *Elec W* 81:517-19 Mr 3 '23

Identifying control wires. *plan Elec W* 81:

1416 Je 16 '23

Impetus to electric cooking and heating; code

changes. R. J. Patterson. *Elec W* 82:785 O 13

'23

Interior electric wiring. A. L. Nelson. 258p

American technical society, Chicago '21

Interior wiring and systems for electric light

and power service. A. L. Cook. 2d ed., rev.

458p Wiley '23

Lighting circuits and switches. T. Croft.

465p McGraw-Hill '23

Making convenient new homes from old. L.

Cassels. *diags plans Bldg Age* 44:44-6 N '22

Minimum American standard of house wiring

out-lets. N E L A Bul 10:18 Ja '23

Modern wiring—the Surflex safety system. L.

M. Waterhouse. *diags Electrician* 88:380 Mr

31 '22

Must the service switch be near a door or

window? N E L A Bul 10:82 F '23

Notes on wiring; abstracts. A. K. Baylor.

Gen Elec R 26:87-9 F '23; N E L A Bul

10:240-2 Ap '23

Perspective wiring diagram helps designer

and installer. C. W. Kinney. *diag Elec W*

78:982 N 12 '21

Practical plan for wiring old houses. R. F.

McGuinness. *Elec W* 81:639-40 Mr 17 '23

Public hearing on a new under-floor duct

system. *Elec W* 82:37-8 Jl 7 '23

Residence lighting. M. Luckiesh. *il plans*

N E L A Bul 10:233-8 Ap '23

Safety and economy are important considera-

tions when wiring the industrial plant.

H. S. Rich. *il Ind Eng* 80:352 Jl '22

Salesmanship in wiring and installation

work. E. H. Freeman. *Elec R (Lond)* 89:

730-1 N 25 '21

Story of the Cincinnati house-wiring cam-

paign. S. D. Heed. *Elec W* 79:1068-9 My

27 '22

Underfloor duct system. *il diags Elec W* 82:

505-8 S 22 '23

Wal-Kall wiring system. *il Elec R (Lond)*

90:788-90 Je 2 '22

Waste elimination possible in electric wiring

devices. H. R. Sargent. *Elec W* 79:1180 Je

10 '22

Wire distribution in industrial buildings. *plan*

Am Arch 123:163-4 F 14 '23

Wired furniture will aid in the sale of con-

venience outlets. R. E. Chatfield. *J Elec*

48:459 Je 1 '22

Wiring a home for convenience. G. T. Had-

ley. *plan Bldg Age* 44:32 Ja '22

Wiring for electrical appliances. W. H.

Whitton. *Arch Forum* 39:67-8 Ag '23; Same.

Eng & Contr (Equip R) 60:927-9 O 31 '23

Wiring systems for lighting of hotels and

clubs. C. P. Trueax. *plans Elec R* 79:731-4

N 12 '21

See also Electricity in the home

Cost

Convenience outlet installation costs com-

pared. *J Elec* 48:115 F 1 '22

Cost of enclosed and open wiring. *J Elec* 51:

87 Ag 1 '23

Estimates

Estimates for wiring installations. *Elec R*

(Lond) 91:338-9 S 8 '22

Estimating for internal wiring contracts. A.

Kirk. *Elec R (Lond)* 91:294-5 S 1 '22

Specifications

Condensed wiring specifications aid contrac-

tors. *diags J Elec* 51:136 Ag 15 '23

Specification for electric wiring. *Bldg Age* 44:

43 D '22

Standards

Standards of wiring. N E L A Bul 9:162-3 Mr

'22

Electric workers

Electrical construction industry—Pittsburgh;

new agreement. *Monthly Labor R* 16:110-12

Ja '23

Electric yarns. See Insulating yarn

Electrical credit association

26th annual meeting, Chicago, Nov. 17-18.

Elec R 79:821 N 26 '21

Electrical manufacturers' council

Manufacturers' council reorganizes and

broadens its scope. *Elec W* 79:245 F 4 '22

Electrical review (periodical)

History of the Electrical review. *Elec R* 79:

977-82 D 31 '21

Electrician (periodical)

Diamond jubilee of the Electrician. *Electri-*

cian 87:613-15 N 11 '21

Electricians

The electrician. G. Walter. *Am Mach* 59:14

Jl 5 '23

Electricians' gloves. See Gloves, Rubber

Electricity

Aide-mémoire et schémas de l'entrepreneur-

électricien. P. Maurer. 620p Dunod, Paris '23

Contact electricity. O. W. Richardson. *J Fr*

Inst 192:697-8 N '21

Contact electricity of solid dielectrics. H. F.

Richards. *Phys R* 22:122-33 Ag '23

L'électricité, ses hypothèses et ses théories

successives. *Génie Civil* 81:161-2 Ag 12 '22

Electricity. S. G. Starling. 245p Longmans

'22

Electricity and magnetism. R. Beach and E.

J. Streubel. 2v F. F. Collier & son co., New

York '22

Electricity and matter. E. Rutherford. *Inst E*

E J 60:613-18 Je '22; Same. *Elec R (Lond)*

90:893-6 Je 23 '22; Abstracts. *Engineering*

113:646-8 My 26 '22; *Electrician* 88:742-3 Je

23 '22

Electricity's great future. G. E. Tripp. *Aera*

11:446-8 N '22

Elementary electricity. S. G. Starling. 248p

Longmans '23

Elements of electricity. W. Robinson. 3d ed.,

rev. 596p Wiley '22

Gas versus electricity. W. H. Becket and C.

S. Buyers. *Elec R (Lond)* 90:66-7 Ja 13 '22

Homecoming of electricity. J. W. Beauchamp.

Elec R (Lond) 91:735-7, 779-81 N 17-24 '22

Electricity—Continued

Nature of tribo-electricity or electricity of friction and other kindred matters. E. Thomson. *Am Inst E E J* 41:342-5 My '22; Same. *Gen Elec R* 25:418-21 Jl '22

See also Armatures; Atmospheric electricity; Commutation (electricity); Corona (electricity); Dielectrics; Electrolysis; Electrons; Embalming—Electric process; Hall effect; Induction (electricity); Induction coils; Insulation (electric); Ionization; Lightning; Magnetism; Photoelectric effect; Piezoelectricity; Radio telegraph; Radio-activity; Stray currents; Telegraph; Telephone; Thermionic effect; Thermoelectricity; X rays; also headings beginning Electric and Electro; also the subdivision Electric equipment under various headings, e.g. Foundries—Electric equipment. Ships—Electric equipment

Bibliography

Bibliographical history of electricity and magnetism, chronologically arranged. P. F. Mottelay. 673p C. Griffin & co., London '22

Dictionaries

Glossary of electrical terms and instructions to exporters. U S Bur For & Dom Com misc ser 117:1-14 '23

History

Electric science and industry in 1861. G. L. Addenbrooke. *Electrician* 87:598-9 N 11 '21
Fifty years of electricity. J. A. Fleming. 371p Wireless press, London, New York '21
Milestones in the early development of electricity. *Elec W* 80:559 S 9 '22

Laboratory manuals

Advanced laboratory practice in electricity and magnetism. E. M. Terry. 261p McGraw-Hill '22

Tables, calculations, etc.

Condenser discharges through a general gas circuit. C. P. Steinmetz. *Am Inst E E J* 41:210-23 Mr '22
Effective capacity of multilayer coils with square and circular section. G. Breit. *diags Philo Mag* 6th ser 43:963-92 My '22
Elementary discussion of vector analysis. C. L. Knott and C. R. Riker. *diags Elec J* 19:76-83 F '22
Heat losses in stranded armature conductors. W. V. Lyon. *Am Inst E E J* 41:37-49 Ja '22; Discussion. 41:744-7 O '22
New equation for the static characteristic of the normal electric arc. W. B. Nottingham. *Am Inst E E J* 42:12-19 Ja '23; Discussion. 42:847-8 Ag '23
Relation between magnetic hysteresis loss and coercivity. N. L. Anderson and T. M. C. Lance. *Engineering* 114:351-2 S 22 '22; Discussion. T. Spooner. 111:710 D 8 '22
Scaler and vector potentials due to moving electric charges. A. Anderson. *Philo Mag* 6th ser 43:131-8 Ja '22

See also Electric engineering—Tables, calculations, etc.; Electric wiring—Tables, calculations, etc.; Heaviside expansion theorem

Electricity, Accidents from

Electrical hazards in industry. J. S. Pillans. *Elec R (Lond)* 92:86-8 Ja 19 '23
Electricity and its attendant hazards of fire and accident. *Safety Eng* 43:111 Mr '22
Hazards in hydroelectric plants. A. E. Bauhan. *il Elec W* 78:973 N 12 '21
Many accidents prevented. *Elec W* 80:629 S 16 '22

See also Electric engineering—Safety devices and measures; Electricity, Injuries from; Linemen

Electricity, Atmospheric. See Atmospheric electricity**Electricity, Frictional. See Electricity, Static****Electricity, Injuries from**

Accident at the Greendale substation of New England power company. *diags Elec W* 78:976-7 N 12 '21; Same. *Elec R* 79:849-50 D 3 '21

Accidents from high-tension lines. *Elec W* 79:151 Ja 21 '22

Electrical hazards are more dangerous than mechanical ones. W. J. Pefferly. *Safety Eng* 42:265-8 D '21

Electricity in factories; abstract of report. *Elec R (Lond)* 91:102-3 Jl 21 '22; *Electrician* 89:42-3 Jl 14 '22; *Engineer* 134:93-4 Jl 28 '22

Electricity in factories and workshops; H. M. inspector's annual report. *Elec R (Lond)* 93:230-1, 264 Ag 10-17 '23

Fatal electrical shock from peculiar cause. *Pop Mech* 38:664 N '22

How electricity causes death. *Sci Am* 128:111 F '23

Lessons learned from forty electrical fatalities. S. E. Whiting. *Elec W* 78:1228-9 D 17 '21

Low-voltage electrical hazards. S. E. Whiting. *Safety Eng* 43:63-6 F '22

McLaglan system of resuscitation from electric shock. J. A. Brown. *il Elec R (Lond)* 92:572 Ap 13 '23

Present status of the problem of resuscitation in cases of electric shock and of carbon monoxide poisoning. C. K. Drinker. *J Ind Hygiene* 5:255-63 N '23

Report of N.E.L.A. accident prevention committee. N E L A Bul 10:691-5 N '23

Resuscitation from electric shock. C. B. Auel. N E L A Bul 10:61-2 Ja '23

Scrubwoman standing with bare feet on a wet floor touched the glass of an electric lamp bulb and was killed. S. Jelinek. *Elec W* 80:337 Ag 12 '22

What determines the deadline of a shock. G. M. Ogle. *il Elec W* 80:273-6 Ag 5 '22

When and why does electricity kill? *il Blast F & Steel Pl* 11:358 Je '23

Electricity, Static

Curing static electricity in an oil engine plant. W. L. Holden. *Power Pl Eng* 26:612 Je 15 '22

Eliminating static by means of the resonance coil. *il Sci Am* 127:331+ N '22

Humidity prevents static in dry cleaning. *Nat Safety N* 7:39 F '23

See also Atmospheric electricity; Electrostatics

Practical method for preventing explosions due to accumulations of static electricity. H. I. Jones. *Chem & Met Eng* 27:924 N 8 '22

Precautionary measures protect against static electricity. *J Elec* 49:136 Ag 15 '22

Static. *Sci Am* 129:261 O '23

Static electricity. *diags Paper Tr J* 76:36-7 Ja 4 '23

Electricity in bleaching

Electricity in bleaching cotton. R. Sansone. *diags Textile World* 64:497+, 1081+ Jl 28, Ag 25 '23

Electricity in dentistry

Electro-radiographic diagnosis. H. R. Raper. 160p C. V. Mosby co., St Louis '21

Electricity in freight handling

Electrical installation at the Claremont terminal ore dock. M. J. Wohlgenuth. *il diag Elec J* 20:340-2 S '23

Electrically-operated apparatus for handling railway general goods. G. Bulkeley. *il Electrician* 87:819-21 D 30 '21

Electrically-operated coal pier of the Western Maryland railway company. R. W. McNeill. *il Elec J* 20:329-33 S '23

Electrically operated equipment for car handling; emptying grain cars. R. M. Kintzing. *il Elec R* 79:773-5 N 19 '21

Electrification of Seattle port terminals. O. P. Schim. *il diags plan Elec W* 81:155-8 Ja 20 '23

Handling materials. *il Elec R* 80:51-4, 202-4 Ja, Ap '22

Yard handles lumber with electric machinery. *il Pop Mech* 37:228-30 F '22

See also Electric trucks

Electricity in lumbering

Increased logging speeds with electric donkey engines. *il Elec W* 81:1142 My 19 '23

Electricity in mining

- At Clifford mine a flexible storage and reclamation plant counteracts fluctuations in demand. R. P. Lewis. flow sheet il Coal Age 21:399-402 Mr 9 '22
- Automatic substations in mine service. C. E. H. Von Sothen. il diag Elec W 81:1453-6 Je 23 '23
- Cable cut by rock from bottom shot fires crevice gas. Coal Age 22:669-71 O 26 '22; Discussion. 22:1001-2 D 21 '22
- Census figures prove that output per man advances with increase in use of mining machinery. F. H. Kneeland. Coal Age 21:829-32 My 18 '22
- Coal mining in China: the Kailan mining administration. il Elec R (Lond) 93:393-4 S 14 '23
- Concrete switch boxes cheaper and more efficient than brick-and-mortar boxes. A. F. Brosky. il diags Coal Age 21:369-70 Mr 2 '22
- Construction and care of distribution transformers. L. G. Mason. il Coal Age 24:623-7 O 25 '23
- Dead-ending the trolley wire in mines. O. Bullock. il Coal Age 22:879 N 30 '22
- Demand factor of coal mining loads. C. Lee. il W Soc E J 26:350-9 O '21; Abstract. Elec W 79:233-4 F 4 '22
- Demand for a knowledge of electricity and its application to mining. diag Coal Age 23:857 My 24 '23
- Detection of waste of time and current at an anthracite colliery. D. C. Ashmead. il chart diag Coal Age 22:661-3 O 26 '22
- Economical ways of transmitting power underground. il Coal Age 22:389-94 S 14 '22
- Electrical equipment at coal mines. J. L. Ball. il Power Pl Eng 26:524 My 15 '22
- Electrical equipment of Rosario mill and mine. F. Krug. il Eng & Min J 115:1147-51 Je 30 '23
- Electrical ore-locating device developed in Arizona. G. M. Butler. Elec W 79:185 Ja 28 '22
- Electrically driven winder. il Elec R (Lond) 90:112-13 Ja 27 '22
- Electricity as applied to mines. J. C. Stewart. diags Inst E E J 61:167-73 Ja '23
- Electricity in mines. il diags Engineer 136:88-91, 116-19, 126, 142-3, 166-7, 198-9, 234-5, 259-61, 286-7, 316-17, 359-61, 368 J1 27-S 21, O 5 '23
- Electricity in mines: first annual report of the secretary for mines, 1921. Elec R (Lond) 91:675-6 N 10 '22
- Electricity in mines: report of the chief inspector of mines. Elec R (Lond) 89:847-9 D 23 '21
- Electricity in the development of the mining industry. G. B. Rosenblatt and G. Bright. Min & Sci P 123:785-8 D 3 '21
- Electrified copper mine. J. B. Johnson and C. L. Gerhardt. il diags plan Elec W 82:903-9 N 3 '23
- Electro-pneumatic decking plant for colliery shafts. il diags Engineering 113:93-6, 157-9, pl 4 Ja 27, F 10 '22
- Engineers detail experience with machine cable, resistors and insulating oils. diags Coal Age 22:585-6 O 12 '22
- Experiences in connection with electricity in mines. H. W. Ravenshaw. Inst E E J 60:480-1 Ap '22
- Experiments in electrical prospecting. S. F. Kelly. Eng & Min J 114:623-9, 673-6 O 7-14 '22
- Explosion-proof electrical equipment approved by the Bureau of mines. Elec W 80:997-8 N 4 '22
- Few suggestions to those who repair mine motors. J. S. Dean. il diags Coal Age 22:833-4 N 23 '22
- General adoption of automatic substations at the mines. J. E. Borland. il diag Coal Age 24:71-6 J1 12 '23
- Glo-clad wiring system for mines. il diag Elec R (Lond) 92:752-3 My 11 '23
- High-tension line in mine shaft reduces loss. C. M. Burton. il Elec W 80:1106 N 18 '22
- High vs. low voltage in coal-mining practice. Coal Age 21:1093 Je 29 '22
- Hoists that accelerate, slow themselves down or work unattended and substations needing no attendant. C. E. H. von Sothen. il Coal Age 22:537-40 O 5 '22
- How to make portable electric cable last. H. M. McFarland. Coal Age 22:582 O 12 '22
- How to string trolley wire below the steel cross beams in gangways. A. F. Brosky. il Coal Age 23:411 Mr 8 '23
- Installation and use of electricity in coal mines. F. G. Travis. Elec R (Lond) 89:746-7 D 2 '21
- Installing pit-shaft cables. Elec W 80:1207-9 D 2 '22; Same. Coal Age 23:213-14 F 1 '23
- Insulation resistance can be measured by use of ordinary direct-current voltmeter. E. J. Gealy. diag Coal Age 23:757-8 My 10 '23
- Large sump and night pumping lower peak load when electric power displaces steam at Isabella. A. F. Brosky. il diags Coal Age 23:627-30 Ap 19 '23
- Locating minerals by electrical methods. Am Inst E E J 42:1144 N '23
- Low voltage in mine not only impedes operation but by wasting electric energy increases costs. E. D. Knight. Coal Age 21:823-5 My 18 '22
- Manner of operating electrical apparatus in the automatic substation at Van Lear, Ky. il diags Coal Age 22:441-6 S 21 '22
- Means taken to make safe and efficient the direct and alternating current at a southern Illinois mine. A. S. White. diags plan Coal Age 21:359-61 Mr 2 '22
- Mixed-pressure turbine installation with regenerator appreciably decreases power costs at Nokomis. C. W. Smith. il Coal Age 20:753-7 N 10 '21
- New plant in anthracite field; East Penn electric company's power house at Pine Grove, Pa. il Elec W 81:60 Ja 6 '23
- North Wales coalfield: an electrification proposal. W. G. Pickvance. Elec R (Lond) 92:875-6 Je 1 '23
- Old anthracite mine electrified without replacing any part of equipment adaptable to new power. W. H. Lesser. il diag Coal Age 21:567-9 Ap 6 '22
- Ore finding by electrical methods. H. Louis. diag Electrician 89:608-10 N 24 '22
- Philadelphia & Reading plans mine system. Elec W 81:59 Ja 6 '23
- Problems when selecting type of motor drive for large mine hoisting plants. G. Bright. il diags Coal Age 23:933-6 Je 7 '23
- Protecting mine trolley wires to prevent accidents. J Elec 48:23 Ja 1 '22
- Public versus private supply from a colliery standpoint. R. Nelson. Electrician 87:708-9 D 2 '21
- Relation connected loads should bear to generator capacity. C. Lee. il Coal Age 21:1037-40 Je 22 '22
- Rubber-covered vs. braided cable for mine work. diags Coal Age 22:583-5 O 12 '22
- Safe and economical ways of hanging electric cables in mine shafts or boreholes. F. W. Cramer. diags Coal Age 23:295-7 F 15 '23
- Synchronous motor-generator sets may supplant rotary converters for coal mines. E. J. Gealy. il Coal Age 23:715-16 My 3 '23
- Synchronous motors reduce mine-fan power bills. F. W. Cramer and A. A. MacDonald. diags plan Coal Age 21:571-5 Ap 6 '22
- Two-unit automatic mine substation erected to improve service and reduce mining cost. H. F. Randolph and C. E. H. von Sothen. il Coal Age 22:244-6 Ag 17 '22
- Underground transmission with substations designed to keep voltage drop low in Lynch mines. il Coal Age 24:553-7 O 11 '23
- Use concentric all-rubber-covered cables. L. C. Hilsley and H. B. Freeman. Coal Age 24:280-1 Ag 23 '23
- Use of borehole cables for efficient power distribution. C. M. Means. diags Coal Age 24:669-70 N 1 '23
- Use of converter in mining service. J. L. M. Yardley. il Elec W 80:1148-50 N 25 '22
- What alternating current has done to increase the application of electricity to mining. E. J. Gealy. Coal Age 23:787-8 My 17 '23

Electricity in mining—Continued

What can be done to prevent electrical mine fires. Coal Age 22:994-6 D 21 '22

Wiring a mine for locomotive haulage. C: M. Schloss. diag Coal Age 20:926-7 D 8 '21

See also Coal mines and mining—Power; Electric locomotives, Mine; Mine hoisting, Electric; Mine lighting; Mine signals; Mining engineering—Power

Electricity in petroleum industry

Advantages of electric power for oil well pumping. il J Elec 47:394 N 15 '21

Automatic bailer for oil recovery. E. Huguenin. diags Eng & Min J 14:333-4 Ag 19 '22

Electric motors drill gas wells. W. S. Taylor. il Gas Age 49:363-4 Mr 25 '22; Same. Elec W 79:1226-7 Je 17 '22; Same. Nat Pet N 14:61-2 Je 14 '22

Electric power for casing head process. il Elec W 80:155-6 D 30 '22

Electric power found more efficient than gas engines in gasoline plants. J. C. Chatfield. il Nat Pet N 14:50-1+ D 13 '22

Electric power provides economical method for pumping wells. W. F. Barnes. Nat Pet N 14:55+ Ap 12 '22

Electricity saves expense in oil fields. Elec W 80:942-3 O 28 '22

Electrification of the Yenangyoung oil field. il Elec R (Lond) 91:328-31 S 8 '22

Eliminating the waste in industry. L: F. Leurey. il J Elec 49:211-12 S 15 '22

Extensions in 1921 of electrical drilling and pumping equipment. Nat Pet N 14:65 Ja 25 '22

Roxana petroleum corp. abandons deep electrically-drilled well. Nat Pet N 14:54 My 10 '22

Electricity in printing

Application of electricity in processes leading up to surface and subsurface printing. C. F. Scott. il Am Inst E E J 40:912-18 D '21

Electricity in refrigeration

Advantages to be gained by electrification of ice plants. W. H. Feldmann. N E L A Bul 9:475-9 Ag '22; Same. Refrig W 57:13-16 F '22

Electric power contracts. H. L. Seamans. Refrig W 57:18-20 N '22

Electric power rates to refrigerating plants. Power 57:94-5 Ja 16 '23

Electrically operated refrigerating plant. H. J. MacIntire. Power 55:708 My 2 '22

Few facts about steam- and electric-driven refrigerating plants. G. E. Porce. Power 55: 855-6 My 30 '22; Discussion. R. C. Stevens. 55:986 Je 30 '22

Refrigerating plant. il Elec R (Lond) 89:760 D 2 '21

Refrigeration and ice making as a central station load. C. K. Chapin. il J Elec 47: 461-2 D 15 '21

300-ton electric ice factory at Grimsby. il (supp) diag plan Engineer 133:171-3 F 17 '22

See also Ice plants—Electric equipment; Refrigerators, Electric

Electricity in the home

All-electric home. P. F. Apfel. Elec W 79:235 F 4 '22

Analysis of residential load conditions. J. A. Rockwood. Elec W 81:230 Ja 27 '23

Apartment electrical. O. R. Doerr. il J Elec 50:283-6 Ap 15 '23

Building the home for future comfort. R. E. Chatfield. plans J Elec 51:16-17 J1 1 '23

Domestic load building: a few suggestions upon propaganda work. W. A. Gillett. Inst E E J 61:197-202 F '23; Same cond. Engineer 134:614 D 8 '22; Same cond. Elec R (Lond) 91:882-3 D 8 '22; Discussion. Inst E E J 61:202-19, 392-7, 890-2 F-Mr, Ag '23; Elec R (Lond) 91:883-4; 92:91-2, 273-4 D 8 '22, Ja 19, F 16 '23

Electrical home for the electrical man. N. S. Gallison. il J Elec 49:441-2 D 15 '22

Electricity in the home. J. W. Beauchamp. Elec R (Lond) 92:591-2 Ap 13 '23

Exhibiting electric home. il J Elec 49:452-9 D 15 '22

Extension of the use of electricity for domestic purposes; abstracts. W. A. Vignoles. Elec R (Lond) 90:905-7 Je 30 '22; Electrician 88: 789-91; Discussion. 791-2 Je 30 '22

Glazgow's labour-saving houses; the Corporation's all-electric experiment. il Elec R (Lond) 90:295-6 Mr 3 '22

Model electric home has radio equipment. J. T. Bartlett. il Pop Mech 39:547-8 Ap '23

Operating costs of an electrical home. H. L. Garbutt. J Elec 50:330 My 1 '23

Simplify the electrical home. C: M. Adams. Elec W 80:597-8 S 16 '22

Use and future of electrically equipped furniture. E. E. Whitehorne. il diags Elec W 79: 224-7 F 4 '22; Same cond. Electrician 88: 377-9 Mr 31 '22

What I found out on a residence survey. C. H. Zillesen. il Elec W 80:125-7 J1 15 '22

See also Electric apparatus and appliances, Domestic; Electric cooking; Electric heating; Electric industries—Electric home exhibitions; Electric lighting; Electric water heaters; Electric wiring, Interior

Electricity on ships. *See* Ship propulsion, Electric; Ships—Electric equipment

Electricity on the farm

Application of electricity to agriculture. R. B. Matthews. Elec R (Lond) 91:859-61 D 8 '22

Application of electricity to farming. R. B. Matthews. Elec R (Lond) 89:680 N 18 '21; Same. Electrician 87:684 N 25 '21

Conserving fodder by electricity. il Elec W 80: 417 Ag 26 '22

Electrical hay curing in Germany and Austria. Elec R (Lond) 92:503 Mr 30 '23

Electricity in agriculture. A. H. Allen. 117p Pitman '22

Electricity in German agriculture. A. Petri. il Elec W 82:123-7 J1 21 '23

Electricity on the farm. Engineering 113:425-6 Ap 7 '22

Electricity on the farm; a modest example. F. R. Cripps. il Elec R (Lond) 90:654-5 My 12 '22

Electro-farming and its future. R. B. Matthews. il diag Elec R (Lond) 91:619-20, 737-9, 818-19, 932; 92:566, 807-8; 93:454-5 N 3, 17, D 1, 22 '22, Ap 13, My 25, S 28 '23

Electro-farming, or the applications of electricity to agriculture. R. B. Matthews. diags Inst E E J 60:725-41 J1 '22; Same cond. Elec R (Lond) 90:496-7, 532-4 Ap 7-14 '22; Same cond. Engineer 133:386 Ap 7 '22; Abstract. Electrician 88:439-40 Ap 14 '22; Abstract. Elec W 81:268-70 F 3 '23; Discussion. Inst E E J 60:741-60 J1 '22; Elec R (Lond) 90: 534-5 Ap 14 '22; Electrician 88:444-5 Ap 14 '22; Elec W 81:633, 922 Mr 17, Ap 21 '23

Farm electrification in Sweden. Am Inst E E J 42:287 Mr '23

Farm electrification opening vast new markets. A: Belden. Ptr Ink 124:107-8+ S 6 '23

Making hay without sunshine. R. B. Matthews. il Electrician 89:241 S 1 '22; Same Elec R (Lond) 91:287 Ag 25 '22

Potential power load on the farm. Elec W 81: 1045 My 5 '23

Power and light plants remove many of the hardships of rural life. L. A. House. il Sanitary & Heat Eng 98:339-41+, 404-6 D 15-29 '22

Promoting rural service in France. Elec W 81:987 Ap 28 '23

Running the farm by electricity. C: H. Huntley. il Am Ind 22:33-6+ F '22

Significance of electricity to the farmer. O. E. Bradfute. N E L A Bul 10:408-9 J1 '23

See also Electric service, Rural; Electro-horticulture; Farm lighting plants; Plows, Electric

Bibliography

Electricity on the farm—a bibliography. Elec W 82:333-5 Ag 18 '23

Electricity supply

Advisability of limiting to super-power stations the public supply of electricity. Engineering 115:148-9 F 2 '23; Engineer 135: 115-16 F 2 '23; Discussion. Elec R (Lond) 92:274-6 F 16 '23

See also Electric lines; Electric plants

Belgium

Concours pour un projet d'électrification de la province de Liège, en Belgique. H: Marchand. Génie Civil 79:566-8 D 24 '21

Brighton, England

Early days of the Brighton electricity supply. A. Wright. Inst E E J 60:497-9 Ap '22

California

Future power demand of California. A. H. Markwart. Gen Elec R 25:135-40 Mr '22
Power supply in California. H. A. Barre and 'L. H. Lecklider. maps Electrician 89:314-19 S 22 '22

Canada

Electrical progress in the United States and Canada. B. Welbourn. Inst E E J 61:31-4 D '22; Abstract. Engineer 134:583-4 D 1 '22
Future of electricity in Canada. P. T. Davies and others. Elec R (Lond) 91:699-700 N 17 '22

France

Les distributions rurales d'électricité en France. P. Razous. Génie Civil 82:552-6 Je 9 '23

Electrical power supply in the north and north-east of France; the present state of development. Elec R (Lond) 93:237 Ag 17 '23

See also Electric lines—France

Great Britain

Application of electricity supply to municipal service; abstracts, with discussion. S. J. Watson. Elec R (Lond) 89:765-6 D 2 '21; Electrician 87:706-7 D 2 '21
Cannock U.D.C. electricity undertaking. il Elec R (Lond) 91:595-7 O 27 '22
Development of the public supply of electrical energy in Great Britain. Engineer 135:226 Mr 2 '23

Early experiences in the electric supply industry. G. W. Partridge. diag Inst E E J 60:431-5 Ap '22

East Midlands electricity scheme. Elec R (Lond) 92:170-2 F 2 '23

Electricity districts; decisions of the electricity commissioners. Elec R (Lond) 91:245-6 Ag 18 '22

Electricity (supply) act; digest of its provisions. Electrician 89:244-5 S 1 '22; Elec R (Lond) 91:299-300 S 1 '22

Electricity (supply) acts, 1919 & 1922. H: M. Sayers. Elec R (Lond) 91:472-4, 531-2 O 6-13 '22

Electricity supply at Leicester. il Engineer 134:627-8 D 15 '22

Electricity supply at Stoke-on-Trent. Elec R (Lond) 92:158 Ja 26 '23; Engineering 115:104 Ja 26 '23

Inaugural address, Institution of electrical engineers, Nov. 4, 1921; abstracts. J. S. Highfield. Elec R (Lond) 89:658-9, 689-90 N 11-18 '21; Electrician 87:611-12 N 11 '21

Mersey and West Lancashire electricity district. Elec R (Lond) 92:834-6 My 25 '23

Mid-Lancashire electricity district. Elec R (Lond) 92:329-30, 391-2 Mr 2-9 '23

North-East Midlands electricity district. Elec R (Lond) 91:607-9 O 27 '22

North Lancashire and South Cumberland electricity district. Elec R (Lond) 90:187-9 F 10 '22

North-West Midlands electricity district. Engineer 134:164 Ag 18 '22

Post-war legislation and its effect on the electricity supply industry. G: Balfour. Inst E E J 60:446-8 Ap '22

Power supply for the South-Eastern & Chatham railway. Elec R (Lond) 90:799-801, 861-3, 896-7, 930-1; 91:496-7 Je 9-30, O 6 '22

Sheffield electricity supply undertaking; annual report, 1921-22. Elec R (Lond) 91:430 S 22 '22

S.E. and C. railway companies and the West Kent electric company proposals for power supply. Electrician 88:722-3, 753-4 Je 16-23 '22

South-east Lancashire electricity district. Elec R (Lond) 90:116-17 Ja 27 '22; Electrician 88:104 Ja 27 '22

Work of the electricity commissioners; annual reports. Elec R (Lond) 92:38-9, 71-2, 113-14, 149; 93:555-6, 597-8, 606-8 Ja 5-26, O 12-26 '23

See also Electricity supply—London

London, England

Commissioners' report on London electricity supply. Electrician 87:762 D 16 '21

Electricity commissioners' decisions. Elec R (Lond) 89:866-7 D 23 '21

Electricity supply in Greater London. Engineering 114:17-18 J1 7 '22

Electricity supply in London. Elec R (Lond) 91:45-6 J1 14 '22

Electricity supply in London and the home counties. Engineering 112:857-8 D 23 '21

London and home counties electricity district. Elec R (Lond) 92:251-2 F 16 '23

London and home counties electricity district; the electricity commissioners' second inquiry. Elec R (Lond) 92:412 Mr 16 '23

London's electricity supply: 1920-21. Elec R (Lond) 92:112-13 Ja 19 '23

London's electricity supply: 1920-21-22. Elec R (Lond) 93:227-8 Ag 10 '23

Unification of electricity supply in London. Engineering 115:209-10 F 16 '23

New England

Power resources of New England. C: Penrose. Textile World 61:2684+ My 6 '22

See also Superpower surveys

New South Wales

Electricity supply in New South Wales. Electrician 89:204-5 Ag 25 '22

New York (city)

Possibilities of water power for New York city; discussion by New York engineers. il Power Pl Eng 27:448-9 Ap 15 '23; Mech Eng 45:222-3 My '23

New York metropolitan district

Available water power and cost of delivery in the Metropolitan area. W. S. Murray. Power 57:509-10 Ap 3 '23

Character of metropolitan service. il map Elec W 81:1188-1217 My 26 '23

Co-ordinated statement of the problem of hydro-electric power in the Metropolitan district. F. W. Scheidenhelm. Power 57:508-9 Ap 3 '23

New Zealand

New Zealand electricity scheme. Electrician 88:584-5 My 19 '22

Paris

Lighting and tramway administration in Paris. Elec R (Lond) 90:207-8 F 10 '22

Supply of electricity to Paris: the Union d'électricité and the power station of Gennevilliers. il diag plan Elec R (Lond) 91:89-93 J1 21 '22

St John, New Brunswick

Hydroelectric power situation at St John. Can Eng 42:364-9 Ap 4 '22

Shanghai

Electricity supply at Shanghai. Elec R (Lond) 90:859 Je 16 '22

South Africa

Electricity supply in South Africa. Elec R (Lond) 91:260-2 Ag 25 '22; Electrician 89: 174-5 Ag 18 '22

South African electricity supply commission. Engineer 136:158-9, Ag 10 '23; Engineering 116:175-6 Ag 10 '23

Southern states

Electrical development in the South. J. H. Pratt. N E L A Bul 10:151-4 Ag '23

Electricity supply—Continued

United States

Electrical progress in the United States and Canada. B. Welbourn. *Inst E E J* 61:31-4 D '22; *Abstract. Engineer* 134:583-4 D 1 '22

Electricity supply, Municipal

Electric power industry; the municipal electrician. C. P. Steinmetz. *Gen Elec R* 26: 101-5 F '23

Electrification of railroads. See Railroads—Electrification; Railroads, Industrial—Electrification

Electrochemical analysis

Electro-analyse rapide. A. Kling and A. Las-sieur. *il Chimie & Ind* 7:44-6 Ja '22

Electro-volumetric method for lead. D. A. MacInnes and E. B. Townsend. *J Ind & Eng Chem* 14:420-1 My '22

Rapid electrolysis without rotating electrodes. G. Edgar and R. B. Purdum. *diags Am Chem Soc J* 44:1267-70 Je '22

Rays of positive electricity and their application to chemical analyses. J. J. Thomson. 2d ed. 237p Longmans '21

Electrochemical industries

Opportunities for the American electrochemist abroad. C. G. Schluederberg. *Chem Age* 31: 227-9 My '23; *Excerpts. Iron Tr R* 72:1453-4+ My 17 '23; *Same abr. Iron Age* 111:1323-30 My 10 '23

See also Electrometallurgy

Power

Auxiliary electrochemical developments for hydro-electric plants. H. K. Benson. *Chem & Met Eng* 25:1004 N 30 '21

Geographical aspects of the electro-chemical industry. W. S. Landis. *Chem Age* 30:207-9 My '22; *Excerpts. J Ind & Eng Chem* 14: 554-5 Je '22

Statistics

Chemicals produced by the aid of electricity. *Elec W* 81:977 Ap 28 '23

Electrochemistry

Electrochemical study of the reversible reduction of organic compounds. J. B. Conant and others. *Am Chem Soc J* 44:1382-96 Je '22

Electro-chemistry in new fields. *Sci Am* 128: 229 Ap '23

Electrochemistry of gases. S. C. Lind. *Am Electrochem Soc Trans v* 44 (preprint 7): 61-9 S '23

Electrochemistry of organic compounds. A. Lowy. *Ind & Eng Chem* 15:15-16 Ja '23

Electrochemistry of the high intensity arc. P. R. Bassett. *il diags Am Electrochem Soc Trans v* 44 (preprint 24):335-38 S '23

Electrometric method of following certain inorganic hydrolytic reactions. G. S. Tilley and O. C. Ralston. *Am Electrochem Soc Trans v* 44 (preprint 1):1-11 S '23

L'electro-osmose. P. Bary. *diags Chimie & Ind* 7:640-9; *Bibliography. 650 Ap* '22

Electro-synthesis of azelaic and thapsic acids. M. Carmichael. *Chem Soc J* 121:2545-9 N '22

Importance of diffusion in organic electro-chemistry. R. E. Wilson and M. A. Youtz. *Ind & Eng Chem* 15:603-6 Je '23

Progress in inorganic electrochemistry. W. G. Horsch. *bibliog J Ind & Eng Chem* 14:908-9 O '22

Progress in organic electrochemistry. E. K. Strachan. *J Ind & Eng Chem* 14:910-12 O '22

Recent advances in applied electrochemistry. M. de K. Thompson. *il diags J Fr Inst* 193: 775-94 Je '22

Synthesis of ammonia from its elements in the low-voltage arc. H. H. Storch and A. R. Olson. *diags Am Chem Soc J* 45:1605-14 JI '23

Waterproofing by electricity. I. Ginsberg. *il Color Tr J* 11:1-6 JI '22

See also Chemistry, Physical and theoretical; Electric batteries; Electric precipitation; Electrochemical analysis; Electrochemical industries; Electrodeposition of metals; Electrodes; Electrolysis; Electrolytes; Electrolytic cells; Electrometallurgy; Electromotive force; Electroplating; Electrotyping; Overvoltage; Reduction, Electrolytic

Terminology

Electrosmosis and electrophoresis, two definitions. O. C. Ralston. *Am Electrochem Soc Trans v* 42 (preprint 4):23-6 S '22; *Same. Chem & Met Eng* 27:778 O 18 '22

Electrodeposition of metals

Building up worn metal parts by electrodeposition. W. E. Hughes. *Chem & Met Eng* 26:267-9 F 8 '22; *Same. Brass W* 18:43-4 F '22

Crystalline form of electrodeposited metals. W. Blum and H. S. Rawdon. *il Am Electrochem Soc Trans v* 44 (preprint 22):245-67 S '23

Current distribution and throwing power in electrodeposition. H. E. Haring and W. Blum. *diags Am Electrochem Soc Trans v* 43 (preprint 28):365-97 My '23

Discussion on electrodeposition of metals at A.E.S. meeting. *Chem & Met Eng* 28:856-8 My 14 '23

Effect of heat treatment on the hardness and microstructure of electrolytically deposited iron. N. B. Pilling. *il Am Electrochem Soc Trans v* 42 (preprint 6):35-43 S '22

Electrodeposition of iron. H. D. Hineine. *Am Electrochem Soc Trans v* 43 (preprint 2): 21-7 My '23; *Same. Brass W* 19:89-91 Mr '23

Electrodeposition of metals—copper. W. E. Hughes. *Brass W* 19:110-12, 144-8 Ap-May '23

Electrodeposition of metals; discussion. *Chem & Met Eng* 26:877-8 My 10 '22

Electrolysis with a dropping mercury cathode; deposition of alkali and alkaline earth metals. J. Heyrovsky. *diags Philos Mag* 6th ser 45:303-15 F '23

Experiments on the ferrous-calcium chloride solution for the electrodeposition of iron. W. E. Hughes. *Brass W* 18:261-5, 283-9 S-O '22

Hydrogen overvoltage and current density in the electrodeposition of zinc. U. S. Tainton. *il Am Electrochem Soc Trans v* 41 (preprint 15):189-210 Ap '22; *Same abr. Chem & Met Eng* 26:874 My 10 '22

Idiomorphic and hyp-idiomorphic structures in electro-deposited metal. W. E. Hughes. *il Am Electrochem Soc Trans v* 41 (preprint 5):35-48 Ap '22; *Same. Brass W* 19:13-17 Ja '23

Influence of the base metal on the structure of electrodeposits. W. Blum and H. S. Rawdon. *il Am Electrochem Soc Trans v* 43 (preprint 9):103-6 My '23; *Same. Brass W* 19: 156-2 Je '23

La métallisation des grandes surfaces par projection cathodique. P. Lambert and A. Andant. *diag Génie Civil* 81:117 JI 29 '22

New method for revising copper map plates. *Sci Am* 128:41 Ja '23

Progress in the commercial application of electrolysis. W. E. Hughes. *Electrician* 87: 466-2 N 18 '21

Properties of arc deposited steel. O. H. Eschholz. *il Iron Age* 109:1803-5 Je 29 '22

Researches on the electrodeposition of iron. W. E. Hughes. *Am Electrochem Soc Trans v* 40 (preprint 2):15-53 O '21; *Same. Brass W* 18:50-5, 182-7 Mr, Je '22

Saving worn parts by electro-deposition. J. D. Alley. *il Mach* 30:202-4 N '23; *Same cond. Brass W* 19:373-5 N '23

Some relations between the microstructure of metal surfaces and electrodeposits made thereon. A. K. Graham. *il Am Electrochem Soc Trans v* 44 (preprint 10):161-14 S '22

Structure and properties of alternately electrodeposited metals. W. Blum. *il Am Electrochem Soc Trans v* 40 (preprint 10):137-46 S '21; *Same. Chem & Met Eng* 25:961-3 N 23 '21

Studies on the electro-deposition of lead from Mathers' perchlorate bath; the structure of the deposit. W. E. Hughes. *J Phys Chem* 26:316-23 Ap '22

Successful putting on tool for steel parts. D. R. Kellogg. *Elec J* 19:249-51 Je '22; *Abstracts. Min & Met* 182:61 F '22; *Metal Ind* 20:148 Ap '22; *Mech Eng* 44:603-4 S '22; *Am Mach* 57:611-12 O 19 '22

See also Electroplating

Electrodes

Bimetallic electrode systems in electrometric analysis. H. H. Willard and F. Fenwick. *diag Am Chem Soc J* 44:2504-29 N '22

Electrodes—Continued

- Comparative test of bare and coated welding electrodes. Ry Mech Eng 96:166 Mr '22
- Determination of absolute single electrode potentials. A. Garrison. diag Am Chem Soc J 45:37-44 Ja '23
- Discussion of electrode potentials at A.E.S. meeting. il Chem & Met Eng 28:854-6 My 14 '23
- Effect of changing hydrogen-ion concentration on the potential of the zinc electrode. T. W. Richards and T. Dunham, jr. Am Chem Soc J 44:678-84 Ap '22
- Electrolytic preparation of ortho-amidophenol. O. W. Brown and J. C. Warner. J Phys Chem 27:455-65 My '23
- Electrotitration with the aid of the air electrode. N. H. Furman. Am Electrochem Soc Trans v 43 (preprint 10):107-14 My '23
- Fabrication et emploi des électrodes de carbone. F. Gall. diag Soc Ing Civils Bul 76: 468-85, pl 46 Ap '23
- Hydrogen electrode in alkaline solutions. A. H. W. Aten. Am Electrochem Soc Trans v 43 (preprint 21):261-70 My '23
- Matching the wire with the work. E. Wana-maker. Am Mach 57:325 Ag 31 '22
- Quick-acting hydrogen electrode. F. J. Moloney. diags J Phys Chem 25:758-61 D '21
- Quinhydrone electrode as a comparison electrode. S. Veibel. Chem Soc J 123:2203-7 S '23
- Study of the sodium amalgam electrode for the determination of sodium ion. B. S. Neuhausen. Am Chem Soc J 44:1411-16 Jl '22
- Water-jacketed hydrogen electrode. H. S. Simms. il diags Am Chem Soc J 45:2503-7 N '23
- See also Cathodes; Electric furnaces—Electrodes

Manufacture

- Manufacture of carbon electrodes. Elec R (Lond) 90:63-4 Ja 13 '22
- Production of shrunk coke in electrode manufacture. J. L. M. Yardley. diags Chem & Met Eng 26:321-2 F 15 '22
- Söderberg self-baking continuous electrodes. C. W. Söderberg and M. Sem. il Chem & Met Eng 26:1178-82 Je 21 '22
- Technology of the carbon-electrode industry. C. L. Mantell. Chem & Met Eng 27:109-12, 161-5, 205-10, 258-64, 312-18, 353-9 Jl 19-Ag 23 '22

Electrodynamics

- Electrodynamics potentials of moving charges. S. C. Kar. Philos Mag 6th ser 44:376-9 Ag '22
- Electrodynamics of moving media. W. F. G. Swann and others. Nat Research Council Bul v 4, pt 6:1-172 D '22
- Electromagnetic motions in electric furnaces. C. Hering. Brass W 18:117-19 Ap '22
- Introduction to electrodynamics from the standpoint of the electron theory. L. Page. 134p Ginn '22

See also Self inductance

Electrohorticulture

- Electro-culture work in 1922 and 1923. Elec R (Lond) 93:193 Ag 3 '23

Electrolysis

- Electrolysis of acetone solutions of potassium chloro- and tri-chromates. E. F. Morris. Chem Age (Lond) 8:333-4 Ja 13 '23
- Electrolysis; patent. diag Chem & Met Eng 27:946 N 5 '22
- Electrolysis with a dropping mercury cathode; deposition of alkali and alkaline earth metals. J. Heyrovsky. diags Philos Mag 6th ser 45:303-15 F '23
- Electrolytic and chemical chlorination of benzene. A. Lowy and H. S. Frank. diag Am Electrochem Soc Trans v 43 (preprint 24): 301-11 My '23
- Electrolytic chlorine and its future. J. G. A. Rhodin. Engineer 125:598-9 Je 5 '23
- Electrolytic concentration of aqueous solutions of nitric acid. H. J. M. Creighton. J Fr Inst 193:89-95 Ja '22
- Electrolytic effect of alternating superimposed upon direct currents. W. R. Cooper. diags Elec R (Lond) 91:173-4 Ag 4 '22

- Electrolytic generation of hydrogen and oxygen with special reference to the utilization of off-peak power. W. G. Allan. il Am Electrochem Soc Trans v 41 (preprint 10): 89-123 Ap '22

- Electrolytic method for the preparation of mercury dimethyl. J. L. Maynard and H. C. Howard, jr. Chem Soc J 123:960-4 My '23

- Electrolytic methods of hydrogen gas production. J. B. C. Kershaw. il diags Engineer 134:315-18 S 29 '22

- Electrolytic oxidation and reduction in presence of metallic salts; abstract. M. Schlöter. Chem Soc J 120 pt 2:620-1 N '21

- Electrolytic oxidation of hydrochloric acid to perchloric acid. H. M. Goodwin and E. C. Walker. bibliog Am Electrochem Soc Trans v 40 (preprint 30):377-86 S '21; Same. Chem & Met Eng 25:1093-5 D 14 '21

- Electrolytic oxidation of isoeugenol. A. Lowy and C. M. Moore. Am Electrochem Soc Trans v 42 (preprint 9):65-76 S '22

- Electrolytic oxygen-hydrogen production. E. A. Lof. il diag Chem Age 31:109-14 Mr '23

- Electrolytic preparation of arsenate of lead. H. V. Tartar and G. G. Grant. J Ind & Eng Chem 14:311-13 Ap '22

- Electrolytic preparation of calcium amalgam. B. S. Neuhausen. Am Chem Soc J 44:1445-7 Jl '22

- Electrolytic preparation of para-amido-phenol. J. C. Warner and O. W. Brown. J Phys Chem 27:652-73 O '23

- Electrolytic production of acid and alkali from sodium sulfate solutions. H. V. Atwell and T. Fuwa. diags Ind & Eng Chem 15:617-20 Je '23

- Electrolytic production of sodium perborate. P. C. Alsgaard. J Phys Chem 26:137-55 F '22

- Electrolytic solution and deposition of copper. T. R. Briggs. Brass W 18:45-8 F '22

- Experiments with alternating current in direct current electrolysis. W. B. Jones. Am Electrochem Soc Trans v 41 (preprint 24):319-47 Ap '22; Same. Brass W 18:319-23, 353-6 N-D '22

- La fabrication électrolytique de l'oxygène et de l'hydrogène, par le procédé Zorzi. il diags plan Génie Civil 79:416-17 N 12 '21

- Intermittent current electrolysis; the influence of intermittent current on overvoltage. S. Glasstone. Chem Soc J 123:1745-50 Jl '23

- Les nouveaux électrolyseurs à diaphragmes employés dans l'industrie de la soude électrolytique. P. Fabre. diags Chimie & Ind 8:524-7 S '22

- Oxygen overvoltage of artificial magnetite in chlorate solutions. H. C. Howard. Am Electrochem Soc Trans v 43 (preprint 12): 121-3 My '23; Same, without table. Brass W 19:267 Ag '23

- Production of sulphuric acid and caustic soda by electrolysis of sodium sulphate. F. R. Watson. Soc Chem Ind J 42:251-2 Je 8 '23

- Pyruvic acid from lactic acid; significance of this problem in electrolytic oxidation. J. G. Smull and P. Subkow. Chem & Met Eng 28: 357-8 F 21 '23

- Stimulation of free settling by electrolysis. diags Min & Met 181:53 Ja '22

- Studies on metal hydrides; the electrolytic formation of stibine in sulphuric acid and in sodium hydroxide solution. H. J. S. Sand. E. J. Weeks and S. W. Worrell. Chem Soc J 123:456-70 Mr '23

See also Electrochemical analysis; Electrolytes; Electrolytic cells; Electrolytic corrosion; Electrometallurgy; Ions; Overvoltage; Reduction, Electrolytic; Sewage disposal—Electrolytic treatment

- Electrolysis (corrosion).** See Electrolytic corrosion

Electrolytes

- Action of silica on electrolytes. A. F. Joseph and J. S. Hancock. Chem Soc J 123:2022-5 Ag '23

- Activity coefficient of hydrochloric acid in aqueous salt solutions. H. S. Harned and N. J. Brumbaugh. Am Chem Soc J 44: 2729-48 D '22

Electrolytes—Continued

- Activity coefficients and colligative properties of electrolytes. H. S. Harned. *Am Chem Soc J* 44:252-67 F '22
- Adsorption during the precipitation of colloids by mixtures of electrolytes. H. B. Weiser. *J Phys Chem* 25:665-83 N '21
- Anomalous osmotic solutions of electrolytes with colloidal membranes. F. E. Bartell and D. C. Carpenter. *J Phys Chem* 27:101-16, 252-69, 346-55 F-Ap '23
- Anomaly of strong electrolytes with special reference to the theories of J. C. Ghosh. H. J. S. Sand. *Philos Mag* 6th ser 45:129-44, 281-92 Ja-F '23
- Application of the law of mass action to strong electrolytes, and the derivation of the general equation of the ionization isotherm. W. Hughes. *Philos Mag* 6th ser 42: 428-31, 776 S, N '21
- Coagulation of colloidal solutions of arsenious sulphide by electrolytes. E. F. Burton and E. D. MacInnes. *J Phys Chem* 25:517-25 O '21
- Coagulation of manganese dioxide sol by different electrolytes. P. B. Ganguly and N. R. Dhar. *J Phys Chem* 26:701-14 N '22
- Colloidal electrolyte extracted from carrageen (*chondrus crispus*). F. C. Harwood. *Chem Soc J* 123:2254-8 S '23
- Data on viscosity of Indiana clay slip with electrolytes in regard to the casting of terra cotta. H. E. Davis. *Am Cer Soc J* 5:702-9; Discussion. 709-12 O '22
- Effect of an electrolyte on solutions of pure soap; phase-rule equilibria in the system sodium laurate-sodium chloride-water. J. W. McBain and A. J. Burnett. *diags Chem Soc J* 121:1320-33 J1 '22
- Effect of electrolytes on the constitution of soap solutions, as deduced from electromotive force. C. S. Salmon. *Chem Soc J* 121:711-15 Ap '22
- Electrolytes' effect on plastic clay. J. D. Brumbaugh. *Brick & Clay Rec* 62:221-5+ F '23
- Equilibrium in mixtures of binary electrolytes. C. A. Kraus. *Am Chem Soc J* 43:2507-14 D '21
- Equilibrium of the reaction between metallic silver, cupric chloride in aqueous solution, and solid cuprous and silver chlorides. G. Edgar and L. S. Cannon. *Am Chem Soc J* 44:2842-9 D '22
- Free energy of dilution and the activities of the ions of potassium bromide in aqueous solutions. J. N. Pearce and H. B. Hart. *Am Chem Soc J* 43:2483-92 D '21
- Ghosh's theory of electrolytic solutions. C. A. Kraus. *Am Chem Soc J* 43:2514-28 D '21
- Influence of electrolytes on the solubility of non-electrolytes. A. McKeown. *Am Chem Soc J* 44:1203-9 Je '23
- Influence of the concentration of colloids on their precipitation by electrolytes. H. P. Weiser and H. O. Nicholas. *J Phys Chem* 25:742-57 D '21
- Ionic equilibria of strong electrolytes. A. E. Stearn. *Am Chem Soc J* 44:670-8 Ap '22
- Low temperature electrolyte. W. H. Rodebush and T. O. Yntema. *diags Am Chem Soc J* 45:332-7 F '23
- New method for determining the rate of sulphation of storage-battery plates. G. W. Vinal and L. M. Ritchie. *U S Bur Stand Tech Pa* 225:117-21 '22; Same. *Chem & Met Eng* 27:1116-18 D '22; Same. *Elec W* 80:1383-5 D '23 '22
- Potential difference between glass and electrolytes in contact with the glass. W. S. Hughes. *diags Am Chem Soc J* 44:2860-7 D '22
- Studies in emulsions; further investigations on the reversal of type by electrolytes. S. S. Bhatnagar. *Chem Soc J* 119:1760-9 N '21
- Use of electrolytes in the purification and preparation of clays. H. G. Schurecht. *U S Bur Mines Tech Pa* 281:1-47 '22

Use of phthalate solutions for hydrogen electrode standards. E. T. Oakes and H. M. Salisbury. *Am Chem Soc J* 44:948-51 My '22

See also Electric batteries; Electrochemistry; Electrodes; Electrolysis; Electrolytic cells

Conductivity

- Conductance of solutions of salts in phenol at 50°. C. A. Kraus and H. F. Kurtz. *Am Chem Soc J* 44:2463-8 N '22
- Conductivity of copper refining electrolytes. E. F. Kern and M. Y. Chang. *Am Electrochem Soc Trans v* 41 (preprint 11):125-42 Ap '22; Excerpt. *Chem & Met Eng* 26:873-4 My 10 '22
- Electrical conductivity of solutions of zinc sulfate in the presence of sulfuric acid. H. V. Tartar and H. E. Keyes. *J Ind & Eng Chem* 13:1127-9 D '21
- Resistance of electrolytes at high frequencies. J. J. Dowling and K. M. Preston. *diags Philos Mag* 6th ser 43:537-45 Mr '22
- Electrolytic cells**
- Ball-mill electrolytic cell. A. Lowy and A. R. Ebberts. *diag Ind & Eng Chem* 15:1021 O '23
- Calibration of cells for conductance measurements. C. A. Kraus and H. C. Parker. *Am Chem Soc J* 44:2422-8; 45:1366-79 N '22, Je '23
- Cell for resistance and capacity measurements. *diag Am Inst E E J* 41:445 Je '22
- Chemical efficiency and concentration of NaOH and NaCl from Townsend cells. A. H. Hooker. *charts Am Inst Chem Eng Trans v* 13 pt 1:61-75; Discussion. 76 '20
- Cylindrical electrolytic cell. L. D. Vorce. *diag Am Inst Chem Eng Trans v* 13 pt 1:47-54 '20
- Description and views of the Townsend cells and the Niagara Falls plant of the Hooker electrochemical co. A. H. Hooker. *il Am Inst Chem Eng Trans v* 13 pt 1:55-60 '20
- Design and use of conductance cells for non-aqueous solutions. J. L. R. Morgan and O. M. Lammert. *diags Am Chem Soc J* 45:1692-1705 J1 '23
- Early commercial electrolytic cells. C. B. Barton. *Am Inst Chem Eng Trans v* 13 pt 1:1-7; Discussion. 8-10 '20
- Effect of the age and the concentration of a solution of rhodamine-B upon the photoelectric current developed. R. Y. Jenkins. *diags Phys R* 18:402-12 N '21
- Electrolytic concentration cells as accelerators of corrosion. P. D. Merica. *Chem & Met Eng* 26:773 Ap '22
- Fundamentals of electrolytic diaphragm cell. H. K. Moore. *Am Inst Chem Eng Trans v* 13 pt 1:11-44; Discussion. 45-6 '20
- Mineral sulphides as a source of electric energy. G. N. Libby. *diags Eng & Min J* 113: 678-9 Ap '22; Same. *Elec R (Lond)* 91:208 Ag 11 '22
- Multiple electrode systems, with an application to the study of current distribution in electroplating baths. A. H. Heatley. *diags Am Electrochem Soc Trans v* 44 (preprint 21):227-44 S '23
- Notes on electrolytic rectifiers. M. A. Codd. *diags Elec R (Lond)* 92:324-6 Mr 2 '23
- Les nouveaux électrolyseurs à diaphragmes employés dans l'industrie de la soude électrolytique. P. Fabre. *diags Chimie & Ind* 8: 524-7 S '22
- Polarization capacity and resistance at radio frequencies. C. B. Jolliffe. *diags Phys R* 22:293-302 S '23
- Electrolytic corrosion**
- Auto-electrolysis as a possible cause of mechanical failures. R. C. Cherry. *il diag J Elec* 48:356 My 1 '22
- Corrosion by electrolyte concentration cells. R. J. McKay. *il diag Am Electrochem Soc Trans v* 41 (preprint 14):177-87 Ap '22
- Electro-chemical corrosion of pipe. W. N. Smith. *Gas Age* 48:665-7 N 19 '21
- Electrolysis of lead-covered cables. S. C. Bartholomew. *Elec R (Lond)* 92:432-3 Mr 16 '23
- Electrolysis research under way in the South. H. S. Warren. *Elec W* 79:784 Ap 22 '22

Electrolytic corrosion—Continued

- Electrolytic corrosion of lead-thallium alloys. C. G. Fink and C. H. Eldridge. *Am Electrochem Soc Trans* v 40 (preprint 26):335-44 S '21; Same. *Brass W* 18:19-21 Ja '22
- Electrolytic protection of steam boilers against scale and corrosion. W. Philippi. *Elec W* 79:47 Ja '22
- Investigation of electrolysis on steel force main at Akron, Ohio. V. B. Phillips. *diag N E Water Works Assn J* 36:170-80; Discussion. 181-8 Je '22
- Legal aspect of the question of electrolysis; abstracts. P. M. Heath. *Elec R* (Lond) 91: 409-10 S '22; *Electrician* 89:321-2 S '22 '22
- Nature of corrosive action, and the function of colloids in corrosion. G. D. Bengough and J. M. Stuart. *Metal Ind* 20:382-3 O '22
- Prevention of electrolysis troubles in underground pipe structures. E. B. Stewart. *Am Water Works Assn J* 9:274-83 Mr '22; Same. *Can Eng* 42:503-5 My 16 '22; Same abr. *Eng & Contr* 57:362-4 Ap 12 '22; *Abstract. Eng N* 87:821 N 17 '21
- Question of inductive interference and electrolysis relating to railroad electrification. C. F. Scott. *Elec J* 19:146-9 Ap '22; Same. *Ry Age* 72:727-9 Mr 18 '22; Discussion. R. Beeuwkes. *Ry Age* 72:1052-3 My 6 '22
- Rail bases are destroyed through electrolytic action. *il J Elec* 50:217 Mr 15 '23
- Relation of quality of water to operation of piping and fixtures. D. A. Heffernan. *Can Eng* 43:383-4 S 26 '22; Same. *Eng & Contr* (W W) 58:104-6 N 8 '22
- Report of the American committee on electrolysis, 1921. V. B. Phillips. *Am Water Works Assn J* 9:449-54 My '22
- Report of the American committee on electrolysis, 1921. 204p American inst. of elec eng., 29 W. 39th st., New York '21; Reviews. *Elec Ry J* 58:913; 60:857-8 N 19 '21, N 25 '22
- St Paul utilities co-operate on stray current control. O. J. Lenmark. *plans Elec Ry J* 60:381-4 S 16 '22
- Service pipes and plumbing appliances: some experiences, experiments and recommendations. D. A. Heffernan. *N E Water Works Assn J* 37:47-53; Discussion. 53-61 Mr '23
- Some new light on electrolysis. E. R. Shepard. *diags Elec Ry J* 61:596-9 Ap 7 '23
- Stray current electrolysis. E. R. Shepard. *Am Water Works Assn J* 10:603-11 Ji '23
- See also Corrosion and anti-corrosives
- Electrolytic reduction.** See Reduction, Electrolytic
- Electromagnetic theory**
- Experiment on electromagnetic induction and relative motion. W. F. G. Swann. *il diags Phys R* 19:38-51 Ja '22
- Stress-energy tensor in electromagnetic theory and a new law of force. H. Bateman. *Phys R* 20:243-8 S '22
- See also Electric waves; Electrons; Hall effect; Light
- Electromagnetic waves**
- Electromagnetic waves in absorbing media. L. Page. *Phys R* 20:166-73 Ag '22
- Experimental investigation of the dispersion of a limited wave train. I. H. Solt. *diags Phys R* 20:513-25 D '22
- Propagation of certain types of electromagnetic waves. D. R. Hartree. *Philos Mag* 6th ser 46:454-60 S '23
- Radiation from transmission lines. C. Manneback. *diags Am Inst E E J* 42:95-105 F '23; Discussion. 42:981-2, 1362-5 S, D '23
- Electromagnetism**
- Contributions of H. F. E. Lenz to electromagnetism. W. M. Stine. 157p [bibliog p 138-147] Acorn press, Philadelphia '23
- Duplication of electromagnetic attraction. H. A. Lane. *il diag Pop Mech* 39:5 Ja '23
- Electric field of a magnetized spheroid rotating about the axis of magnetization. O. Rognley. *Phys R* 19:609-14 Je '22
- Electric fields due to the motion of constant electromagnetic systems. S. J. Barnett. *diags Philos Mag* 6th ser 44:1112-28 D '22

- Electromagnetic forces; a search for more rational fundamentals; a proposed revision of the laws. C. Hering. *bibliog diags Am Inst E E J* 42:139-54 F '23; Same cond. *Elec R* (Lond) 92:754-5, 791-2 My 11-18 '23; Discussion. *Am Inst E E J* 42:1184-98 N '23
- Electromagnetic lines and tubes. S. R. Milner. *Philos Mag* 6th ser 44:705-20 O '22
- Electromagnetic motions in electric furnaces. C. Hering. *Brass W* 18:117-19 Ap '22
- Faraday-tube theory of electromagnetism. W. G. Brown. *Philos Mag* 6th ser 44:594-609 S '22
- Intrinsic magnetic fields. L. Page. *diag Phys R* 22:188-92 Ag '23
- Lines of electric force of a moving charge on the emission theory. F. E. Hackett. *Phys R* 21:465-72 Ap '23
- Mechanical forces indicated by relativity in an electromagnetic field; can their existence be demonstrated? A. McAulay. *Philos Mag* 6th ser 46:156-62 Ji '23
- Neglected electromagnetic force. C. Hering. *diag Chem & Met Eng* 26:513 Mr 15 '22
- New system of electromagnetic forces needed. C. Hering. *Am Inst E E J* 41:305-7 Ap '22
- Recent studies of alternating magnetism. W. M. Mordey. *il Engineering* 115:671-3 Je 1 '23
- Revision of some of the electromagnetic laws. C. Hering. *diags J Fr Inst* 192:599-622 N '22; Same abr. *Brass W* 18:301-3 O '22
- Short-circuit forces on reactor supports. R. E. Doherty and F. H. Kierstead. *bibliog Am Inst E E J* 42:832-41 Ag '23; Discussion. 42:1334-8 D '23
- Stress system of the four-dimensional electromagnetic field. S. R. Milner. *Philos Mag* 6th ser 46:125-8 Ji '23
- See also Corbino effect; Faraday effect; Hall effect; Magnetic field; Magnetic induction; Self inductance
- Electromagnets**
- Characteristics of enameled magnet wire. W. D. A. Peaslee. *Elec W* 82:377-9 Ag 25 '23
- Design of electromagnet for operating valve. V. H. Todd. *diag Power Pl Eng* 27:698-9 Ji 1 '23
- Design of electromagnets. D. D. Miller. 121p Western electric co., New York '22
- Electro-magnet at the throttle. C. W. Burrows. *il diag Sci Am* 127:242 O '22
- Electromagnets and how they operate. B. A. Briggs. *diags Power* 55:494-5 Mr 28 '22
- Magnetic brake designed to stop airplanes. *il Pop Mech* 39:1-2 Ja '23
- See also Armatures; Chucks; Magnetic; Commutators; Induction coils; Lifting magnets; Solenoids; Telegraph—Recorders

Specifications

- S.A.E. proposed specifications for magnet wire. *Soc Auto Eng J* 12:568-70 Je '23
- Electrometallurgy**
- Circulation of molten metal by means of electrodynamic forces. O. Brophy. *diag Chem & Met Eng* 27:439 S 6 '22
- Electricity gaining ground in metallurgy. *Eng & Min J* 116:575 O 6 '23
- Electrolytic equipment for determining copper and lead in brass, and nickel in steel. *il Foundry* 50:459 Je 1 '22
- Electro-preparation of solid alkali amalgams in quantity. P. M. Giesy and J. R. Withrow. *diags Ind & Eng Chem* 15:57-60 Ja '23
- Das elektrolytischenwerk in Porjus. R. Durrer. *diags plans Stahl & Eisen* 43:662-5 My 17 '23
- Elektrolytische metall-abscheidungen, angewandte elektrochemie. G. J. A. Buchner. 2d ed., enl. 304p M. Krayn, Berlin '23
- Improvement in electrolytic silver refining. A. H. W. Cleave. *il Eng & Min J* 116:21-2 Ji 7 '23
- Métallurgie des métaux non ferreux par l'électrolyse. Altmayer. *map Soc Ing Civils Bul* 76:508-42 Ap '23; *Abstract. Génie Civil* 82:455 My 12 '23
- Les métallurgies électrolytiques et leurs applications. A. Levasseur. 256p Dunod, Paris '21

Electrometallurgy—Continued

Some applications of electrical equipment in the metallurgy of nickel. J. L. McK. Yardley, flow sheet il Eng & Min J 114:810-12 N 4 '22

Some effects of current in metallurgical operations. B. D. Saklatwalla, Elec W 81: 1113-14 Je '23

Some properties of electrolytic manganese. A. N. Campbell, Chem Soc J 123:2323-7 S '23

See also Copper metallurgy—Electrometallurgy; Cyanide process; Electric furnaces; Electric furnaces, Metallurgical; Electroplating; Electrotyping; Iron founding; Electric; Iron metallurgy—Electrometallurgy; Magnetic separation of ores; Smelting; Electric; Steel metallurgy—Electrometallurgy; Zinc metallurgy—Electrometallurgy

Electrometer

Effects obtained with an alternating current sent through a capillary electrometer. R. D. Kleeman and D. T. Simonds, diag Phys R 21:38-45 Ja '23

Electrometric titration. *See* Volumetric analysis

Electromotive force

Activities of the ions of potassium hydroxide in aqueous solution. M. Knobel, diags Am Chem Soc J 45:70-6 Ja '23

Condition of bismuth salts in aqueous solutions and the molal electrode-potential of bismuth. D. F. Smith, Am Chem Soc J 45: 360-70 F '23

Contact difference of potential and thermionic emission. O. W. Richardson and F. S. Robertson, Philos Mag 6th ser 43:557-9 Mr '22

Degree of ionization of ethyl alcohol; from measurements of electromotive force. P. S. Danner, diags Am Chem Soc J 44:2832-41 D '22

Determination of absolute single electrode potentials. A. Garrison, diag Am Chem Soc J 45:37-44 Ja '23

Effect of electrolytes on the constitution of soap solutions, as deduced from electromotive force. C. S. Salmon, Chem Soc J 121: 711-15 Ap '22

Effect of gases on the contact difference of potential between metals at different temperatures. O. W. Richardson and F. S. Robertson, diags Philos Mag 6th ser 43:162-74 Ja '22

Effect of hydrogen pressure on the electromotive force of a hydrogen-calomel cell. W. R. Hainsworth and D. A. MacInnes, diags Am Chem Soc J 44:1021-32 My '22

Electrochemical behavior of liquid sodium amalgams. T. W. Richards and J. B. Conant, diags Am Chem Soc J 44:601-11 Mr '22

Electrode potential of bismuth determined by equilibrium measurements. E. H. Swift, Am Chem Soc J 45:371-7 F '23

Electromotive-force measurements with a saturated potassium chloride bridge or with concentration cells with a liquid junction. G. Scatchard, Am Chem Soc J 45:1716-23 Ji '23

Electromotive force of cells at low temperatures. G. W. Vinal and F. W. Altrup, U S Bur Stand Sci Pa 434:627-34 '22

Further experiments on the mass of the electric carrier in metals. R. C. Tolman, S. Karrer and E. W. Guernsey, diags Phys R 21:525-39 My '23

Membrane potentials considered as diffusion potentials. E. B. R. Prideaux and W. E. Crooks, Soc Chem Ind J (Chem & Ind) 42: 955 O 5 '23

On the single potential of arsenic and its power to replace other metals in solutions. L. Kahlenberg and J. V. Steinic, Am Electrochem Soc Trans v 11 (preprint 20): 203-26 S '23

Potentials at the junctions of monovalent chloride solutions. D. A. MacInnes and Yu Liang Yeh, diag Am Chem Soc J 43:2563-73 D '21

Solid thallium amalgams and the electrode potential of pure thallium. T. W. Richards and C. P. Smyth, diag Am Chem Soc J 44:524-45 Mr '22

Temperature coefficient of electromotive force of galvanic cells and the entropy of reactions. R. H. Gerke, diags Am Chem Soc J 44:1684-1704 Ag '22

Temperature coefficients of unsaturated Weston cells. W. C. Vosburgh and M. Eppley, diag Am Chem Soc J 45:2268-77 O '23

Transition or adsorption-layer theory of the e.m.f. of the voltaic cell. R. D. Kleeman, Phys R 20:174-85 Ag '22

Zur kenntnis der sauerstoff-wasserstoff-katalyse durch platinmetalle und über die potenziale der kontakte bei gegenwart wässriger elektrolyte. K. A. Hofmann, diags Deutsche Chem Gesell Ber 55:573-88 F '22

See also Oscillations; Overvoltage; Resonance potential

Electron metal. *See* Elektron metal

Electron theory of valency. *See* Valence

Electronic reactions. *See* Abrams' electronic reactions

Electrons

Abnormally long free paths of electrons in argon. J. S. Townsend and V. A. Bailey, Philos Mag 6th ser 43:1127-8 Je '22

Application of the electron theory of chemistry to solids. J. J. Thomson, Philos Mag 6th ser 43:721-57 Ap '22

Application of the electron theory to the Hall effect. J. A. Eldridge, Phys R 21:131-42 F '23

Atomic projectiles and their properties. E. Rutherford, il diag Engineering 115:242-3, 264-6, 306-8, 338-40, 358-9, 798-800 F 23-Mr 23, Je 29 '23

Atomic systems based on free electrons, positive and negative, and their stability. R. Hargreaves, diags Philos Mag 6th ser 44: 1065-1105 D '22

Behavior of free electrons toward gas molecules. H. B. Wahlin, Phys R 19:173-86 F '22

Binding of electrons by atoms. J. W. Nicholson, Philos Mag 6th ser 44:193-203 Ji '22

Bombardment of metal surfaces by slow-moving electrons. H. E. Farnsworth, Phys R 20:358-74 O '22

Calculation of the electric moment of the molecule of a substance. C. P. Smyth, Philos Mag 6th ser 45:849-64 My '23

Co-ordination and the electron. T. M. Lowry, Soc Chem Ind J (Chem & Ind) 42:1004-7 O 19 '23

Deflection of a stream of electrons by electromagnetic radiation. E. O. Hulburt, Phys R 21:650-2 Je '23

Distribution of electrons around the nucleus in the sodium and chlorine atoms. W. L. Bragg, R. W. James and C. H. Bosanquet, Philos Mag 6th ser 44:433-49 S '22

Does an accelerated electron necessarily radiate energy on the classical theory? G. H. Livens, Philos Mag 6th ser 42:807-8 N '21

Does an accelerated electron necessarily radiate energy on the classical theory? G. A. Schott, Philos Mag 6th ser 45:769-77 Ap '23

Double and triple bonds, and electron structures in unsaturated molecules. E. D. Eastman, Am Chem Soc J 44:438-51 Mr '22

Effect of gases in facilitating the passage of current from an electron-emitting source in crossed electric and magnetic fields. O. W. Richardson and R. Chaudhuri, diags Philos Mag 6th ser 45:337-52 F '23

Effect of oxygen and hydrogen on the emission of electrons from hot platinum. L. L. Lockrow, diags Phys R 19:97-113 F '22

Effect of space charge and initial velocities on the potential distribution and thermionic current between parallel plane electrodes. I. Langmuir, Phys R 21:419-35 Ap '23

Electrical structure of matter. E. Rutherford, Soc Chem Ind J (Chem & Ind) 42: 874-82 S 14 '23; Same cond. Engineer 136: 284-5 S 14 '23; Abstracts, Elec R (Lond) 93:384-6 S 14 '23; Power 58:627-3 O 16 '23

Electrodynamic potentials of moving charges. S. C. Kar, Philos Mag 6th ser 44:376-9 Ag '22

Electron emission from metals as a function of temperature. S. Dushman, Phys R 21: 623-36 Je '23

Electrons—Continued

- Electron in chemistry. J. J. Thomson. 144p Franklin inst., Philadelphia '23
- Electron in chemistry. J. J. Thomson. diags J Fr Inst 195:593-620, 737-85; 196:1-29, 145-84 My-Ag '23; Same abr. Gen Elec R 26: 528-41, 632-44, 708-18, 766-79, 841-53 Ag-D '23
- Electron theory of chemistry. J. J. Thomson. diags Philos Mag 6th ser 46:497-514 S '23
- Electron theory of metals in the light of new experimental data. P. W. Bridgman. Phys R 19:114-34 F '22
- Electron theory of solids. J. J. Thomson. J Fr Inst 194:281-9 S '22
- Electronic structure of the spinels. M. L. Huggins. diags Phys R 21:509-16 My '23
- Electronic structures of atoms. M. L. Huggins. J Phys Chem 26:601-25 O '22
- Electronic structures of crystals. M. L. Huggins. Am Chem Soc J 44:1841-50 S '22
- Electrons and ether waves. W. H. Bragg. 14p Oxford '21
- Emission of electricity from hot bodies. O. W. Richardson. Review. Engineering 113: 790-1 Je 23 '22
- Emission of electrons by X-rays. G. Shearer. diag Philos Mag 6th ser 44:793-808 N '22
- Emission of secondary electrons from metals under electronic bombardment. F. Horton and A. C. Davies. Philos Mag 6th ser 46: 129-31 JI '23
- Emission of secondary electrons from nickel. E. W. B. Gill. Philos Mag 6th ser 45:864-78 My '23
- Equilibrium theory of electrical conduction. A. T. Waterman. Phys R 22:259-70 S '23
- Field of an electron on Einstein's theory. S. J. Gunningham. Philos Mag 6th ser 45:276-80 F '23
- Frequency of the electrons in the neon atom. L. St. C. Broughall. diag Philos Mag 6th ser 43:339-44 F '22
- Further experiments on the mass of the electric carrier in metals. R. C. Tolman, S. Karrer and E. W. Guernsey. diags Phys R 21:525-39 My '23
- Further studies on the electron theory of solids; the compressibilities of a divalent metal and of the diamond; electric and thermal conductivities of metals. J. J. Thomson. Philos Mag 6th ser 44:657-79 O '22
- Graphs for calculation of electron emission from tungsten, thoriated tungsten, molybdenum and tantalum. S. Dushman and J. W. Ewald. Gen Elec R 26:154-60 Mr '23
- Interaction between radiation and electrons. C. F. Bickerdike. Philos Mag 6th ser 43: 1064-70 Je '22
- Lorentzian electron. I. Maizlish. Phys R 20:34-8 JI '22
- Low-velocity X-ray electrons. L. Simons. Philos Mag 6th ser 46:473-80 S '23
- Method for the neutralization of electron space charge by positive ionization at very low gas pressures. K. H. Kingdon. Phys R 21:408-18 Ap '23
- Mobilities of electrons in hydrogen. L. B. Loeb. diags Phys R 20:397-404 N '22
- Mobility of electrons in pure nitrogen. L. B. Loeb. diag Phys R 19:24-37 Ja '22
- Motion of electrons in argon. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 43: 593-600 Mr '22
- Motion of electrons in argon and in hydrogen. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 44:1033-52 N '22
- Motion of electrons in carbon dioxide. M. F. Skinner. Philos Mag 6th ser 44:994-9 N '22
- Motion of electrons in carbon monoxide. H. B. Wahlin. Phys R 21:517-24 My '23
- Motion of electrons in carbon monoxide, nitrous oxide, and nitric oxide. M. F. Skinner and J. V. White. Philos Mag 6th ser 46: 630-7 O '23
- Motion of electrons in gases. V. A. Bailey. Philos Mag 6th ser 46:213-18 JI '23
- Motion of electrons in gases. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 42: 873-91 D '21
- Motion of electrons in gases under crossed electric and magnetic fields. R. N. Chaudhuri. Philos Mag 6th ser 46:461-72 S '23

- Motion of electrons in helium. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 46:657-64 O '23
- Motion of electrons in hydrogen under the action of crossed electric and magnetic fields. R. N. Chaudhuri. Philos Mag 6th ser 46:553-64 S '23
- Path of a rigid electron moving in a magnetic field of constant strength rotating with constant angular velocity. E. O. Hulburt. diag Phys R 19:329-32 Ap '22
- Path of an electron in the neighbourhood of an atom. E. B. Baker. Philos Mag 6th ser 44:777-86 O '22
- Physics of the three-electrode bulb. K. T. Compton. J Fr Inst 194:29-48 JI '22
- Problem of two moving charges in its connexion with the atomic theory. S. Boguslawski. Philos Mag 6th ser 45:115-60 Ja '23
- Production of radiation and ionization by electron bombardment in pure and in impure helium. F. Horton and A. C. Davies. diag Philos Mag 6th ser 42:746-73 N '21
- Radiation from a group of electrons. L. Page. Phys R 20:18-25 JI '22
- Rate of evaporation of electrons from hot filaments. W. H. Rodebush. Am Chem Soc J 45:997-8 Ap '23
- Ratio of the two elementary charges. F. W. Loomis. Phys R 20:15-17 JI '22
- Relative affinity of some gas molecules for electrons. L. B. Loeb. Philos Mag 6th ser 43:229-36 Ja '22
- Scattering of electrons by a positive nucleus of limited field. C. Davisson. Phys R 21: 637-49 Je '23
- Scattering of electrons by nickel. C. Davisson and C. H. Kunsman. Phys R 19:253-5 Mr '22
- Scattering of low speed electrons by platinum and magnesium. C. Davisson and C. H. Kunsman. diags Phys R 22:242-58 S '23
- Secondary electron emission from copper and copper oxide surfaces. L. E. McAllister. diag Phys R 21:122-30 F '23
- Some factors influencing co-ordination. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:412-15 Ap 27 '23
- Testing the expressions for the longitudinal and transverse masses of the electron. L. T. Jones and W. C. Pomeroy. diags Philos Mag 6th ser 45:760-8 Ap '23
- Theory of electron emission. S. Dushman. Am Electrochem Soc Trans v 44 (preprint 12):125-40 S '23
- Thermionic work function of tungsten. C. Davisson and L. H. Germer. diags Phys R 20:300-30 O '22
- Thermo-electric force, the entropy of electrons, and the specific heat of metals at high temperatures. W. M. Latimer. Am Chem Soc J 44:2136-48 O '22
- Velocity of electrons in gases. J. S. Townsend. Philos Mag 6th ser 44:384-6 Ag '22
- Within the atom. O. Lodge. Sci Am 129:308-9+ N '23
- Within the atom. J. Mills. 215p Van Nostrand '21
- X-ray electrons. R. Whiddington. diag Philos Mag 6th ser 43:1116-26, pl 24 Je '22

See also Electric discharges; Electromagnetic theory; Ions; Radioactivity; Vacuum tubes

Bibliography

- List of books on the electron. H. W. Craver, comp. Am Inst E E J 41:sup10-12 Ja '22
- Electro-osmosis. See Osmosis
- Electrophoresis
- Cataphoresis of proteins. T. Svedberg and E. R. Jette. il diag Am Chem Soc J 45:954-7 Ap '23
- Electroosmosis and electrophoresis, two definitions. O. C. Ralston. Am Electrochem Soc Trans v 42 (preprint 4):23-6 S '22; Same. Chem & Met Eng 27:778 O 18 '22
- Electrophoresis of chromic solutions. F. L. Seymour-Jones. Ind & Eng Chem 15:265-6 Mr '23

Electrophysiology

Conductivity and permeability in living matter. W. J. V. Osterhout. *Sci Am* 127:41 J1 '22

Electrical theory of memory. G. W. Crile. *Sci Am* 126:249 Ap '22

Electrochemical interpretation of shock and exhaustion; man—an electrochemical mechanism? *Elec R (Lond)* 93:265 Ag 17 '23

See also Electricity, Injuries from; X rays

Electroplating

Ampères per square foot; Faraday's law. G. B. Hogaboom. *Brass W* 18:90-1; Discussion. 91-2 Mr '22; Same. *Metal Ind* 20:106-8 Mr '22

Chromium plating. E. Liebreich. *Metal Ind* 21:109-11 Mr '23

Chromium plating steel using chromium anodes. K. W. Schwartz. *il Am Electrochem Soc Trans v 44* (preprint 2):13-25 S '23

Cleaning and electro-plating of metals. H. H. Reama. 116p Oakley chemical co. for members of the American electroplaters society and the plating trade, 22 Thames st., New York '21

Early days in the electroplating industry. C. H. Buchanan. *Metal Ind* 21:228-9, 271-2 Je-J1 '23

Effect of iron on the electrodeposition of nickel. M. R. Thompson. *il Am Electrochem Soc Trans v 43* (preprint 16):175-208 My '23; Same. *Brass W* 19:183-5, 227-30, 247-52 Je-Ag '23

Electrodeposition of nickel on zinc. A. K. Graham. *Am Electrochem Soc Trans v 43* (preprint 26):345-56 My '23; Same. *Brass W* 19:323-6 O '23

Electroplated zinc and the diffusion of electrodeposits into zinc. W. G. Traub. *Am Electrochem Soc Trans v 42* (preprint 2):13-17 S '22; Same. *Brass W* 18:318 N '22; Same. *Metal Ind* 19:20-1 Ja '23; Discussion. *Am Electrochem Soc Trans v 42* (preprint 2):17a-d S '22

Electro-plating—its past, present and future. J. Haas, jr. *Metal Ind* 20:392-3 O '22; Discussion. 20:476; 21:27-8 D '22-Ja '23

Electro-plating research; work of the Bureau of standards upon electrodeposition. W. Blum. *Metal Ind* 21:363 S '23

Ionic theory and its application to plating. O. P. Watts. *Brass W* 19:153-5 My '23

Metal percentage of common electroplating salts; tabulation. A. Odero. *Brass W* 18:238 Ag '22

Multiple electrode systems with an application to the study of current distribution in electroplating baths. A. H. Heatley. *diags Am Electrochem Soc Trans v 44* (preprint 21):227-44 S '23

Organic substances in electroplating solutions. F. G. Mathers. *Brass W* 17:325-7 N '21

Plating non-metals. S. Wein. *Metal Ind* 21:324-5 Ag '23

Practical electro-plating. W. L. D. Bedell. 5th ed., rev. & enl. 407p W. L. D. Bedell, Springfield, Mass. '23

Relations of anode and cathode efficiencies. Dr Wells. *Brass W* 18:235-7 Ag '22

Twenty years in the electro-plating industry. C. H. Proctor. *Metal Ind* 21:8 Ja '23

Udylite process; a controversy about the merits of cadmium and zinc as rust preventives. C. H. Proctor; C. H. Humphries. *Metal Ind* 20:469-71 D '22

Zinc electroplating unit made by the Cutler-Hammer mfg. co., Milwaukee, Wis. *il Mach* 28:312 D '21

See also Electrodeposition of metals; Electrometallurgy; Nickel plating; Silver plating

Costs

Plating costs. W. G. Knox. *Metal Ind* 20:13-14 Ja '22

Electropneumatic control

Chicago L interlocking plant speeds train movements. *il plan Elec Ry J* 62:435-8 S 22 '23

Multiple unit control, for self-propelled cars. *il diags plan Ry R* 73:610-17 O 27 '23

Pneumatically-operated automatic substations. C. Levy. *il diags Elec J* 20:380-4 O '23

Electropure process. See Milk—Sterilization

Electroscope

Balanced vane electroscope as a means of detecting high tension potentials on underground cables. W. J. McIlvane. *il N E L A Bul* 9:37-8 Ja '22

Electrosmosis. See Osmosis

Electrostatic adhesion

Physical phenomenon and its applications to telegraphy, telephony, etc. A. Johnsen and K. Rahbek. *diags Inst E E J* 61:713-25 J1 '23

Practical application of the Johnsen-Rahbek effect. *diags Elec R (Lond)* 91:318-19 S 1 '22

Electrostatics

Study of Franklin's experiment on the Leyden jar with movable coatings. G. L. Adenbrooke. *Philos Mag* 6th ser 43:489-93 Mr '22

Surface-tension phenomena and electrostatics. R. H. Jarvis and D. W. Leeke. *diags Eng & Min J* 114:17-18 J1 '22

See also Condensers (electricity); Electric charges; Electric discharges; Electric machines; Induction (electricity)

Electrotherapeutics

Electricity in medicine: its progress during the last twenty-five years. E. P. Cumberbatch. *Elec R (Lond)* 91:711-13 N 17 '22

Rehabilitating the injured workman by the aid of electronic medicine. R. F. Wear. *il Safety Eng* 43:205-6 My '22

Electrotypers

Electrotypers—New York city. *Monthly Labor R* 15:351-2 Ag '22

Printing industry—electrotypers, Cincinnati. *Monthly Labor R* 14:1195-7 Je '22

Renewed and revised agreement between the Chicago employing electrotypers' association and Chicago electrotypers' union. *Monthly Labor R* 16:773-5 Ap '23

Electrotyping

Electrotyping in its relation to the graphic arts. E. S. Pilsworth. 131p Macmillan '23

From xylographs to lead molds. 63p Rapid electrotype co., Cincinnati, O. '21

Hand book for electrotypers. J. F. Locke. 35p Printing trade school, Cincinnati '22

Handbook of electrotyping and stereotyping. R. F. Salade. 120p Oswald pub. co., New York '23

Review of electrotyping industry for forty years. A. D. Robrahn. *Inland Ptr* 72:115-16 O '23

See also Electrometallurgy

Electrovalency. See Valence

Elektron metal

American company to import and manufacture elektronmetal. *Iron Age* 111:1487 My 24 '23

Elektron. C. Grard. *Chem & Met Eng* 26:798 Ap 26 '22

Elektron metal; a new alloy of magnesium. A. Bregman. *il diags Metal Ind* 20:1-5 Ja '22

Endurance of duralumin, electron metal and manganese bronze; abstracts. R. R. Moore. *Chem & Met Eng* 29:58 J1 9 '23; *Eng N* 91:26-7 J1 5 '23

Magnesium alloy electron. S. Beckinsale. *Engineering* 112:641 N 4 '21; Same. *Metal Ind* 19:433 N '21

Le métal electron, alliage de magnésium. *Génie Civil* 79:593-4 D 31 '21

Elements, Chemical. See Chemical elements

Eleutriator

Eleutriator for the rapid grading of powders. *il Eng & Ind Management* 8:93 Ag 24 '22

Elevated railroads

Attractive elevated stations. *il Elec Ry J* 58:1146 D 31 '21

Chicago "L's" would consolidate. *Elec Ry J* 59:805 My 13 '22

Fire ties up Chicago L. *il Elec Ry J* 59:533 Mr 25 '22

Frankford "L" opened. *il Elec Ry J* 60:792 N 11 '22

Elevated railroads—Continued

- Inter-operation problems of Frankford Elevated. J. N. Dodd. *il Elec Ry J* 60:389-90 S 16 '22
- "L" roads in Chicago to consolidate. *Elec Ry J* 62:114 J1 21 '23
- Maintaining the Chicago L structure. G. M. Anderson. *Elec Ry J* 60:430-1 S 23 '22
- Methods of reinforcing Phoenix columns for elevated railway. J. Harris. *diags Eng & Contr* 57:175 F 22 '22
- Noiseless elevated; Philadelphia's plans. W. A. McGarry. *il Sci Am* 126:46-7 Ja '22
- Philadelphia's build silent elevated line. W. A. McGarry. *il Pop Mech* 39:877-8 Je '23
- Philadelphia's rapid transit greatly augmented. *il diags map Elec Ry J* 60:841-8 N 25 '22
- Ten years of the Hamburg elevated railway. W. Mattersdorff. *il map plan Elec Ry J* 58:979-85 D 3 '21

See also Boston Elevated railway

Accidents

- Eight killed in Brooklyn elevated accident. *il Elec Ry J* 61:1097-8 Je 30 '23
- Engineers report on Brooklyn elevated accident. *Elec Ry J* 62:69-70 J1 14 '23
- Two-car elevated train plunges 30 ft. to street in Brooklyn. *Eng N* 90:1138+ J 28 '23

Advertising

- Merchandising transportation on the Chicago Elevated railroads. *il Elec Ry J* 62:217-19 Ag 11 '23
- Selling New York open air rides. *Aera* 11:1482-8 Je '23

Control

See Electric railroads—Control

Cost of construction

- Double-track or three-track elevated structure costs about a million a mile. *Elec Ry J* 61:3 Ja 6 '23
- Economical elevated railway construction in Brooklyn. R. C. Cram. *Elec Ry J* 61:513 Mr 24 '23

Rolling stock

- How car design has progressed on Chicago's rapid transit lines. H. A. Johnson. *Elec Ry J* 60:427-30 S 23 '22
- Steel versus wooden cars on elevated railways. *Elec Ry J* 59:128 Ja 21 '22

Safety devices and measures

- How accidents to employees are being reduced on Chicago L. B. J. Fallon. *Elec Ry J* 60:155-6 J1 29 '22

Signals

- Chicago L interlocking plant speeds train movement. *il plan Elec Ry J* 62:435-8 S 22 '23
- Re-signalling of the Liverpool overhead railway. *il Engineer* 132:484, 488-9 N 4 '21
- Signaling on the Frankford Elevated. J. N. Dodd. *il map Elec Ry J* 61:711-15, 761-5 Ap 28-My 5 '23
- Signaling trains on Chicago Elevated railroads. J. W. Stephenson. *Elec Ry J* 60:431 S 23 '22

Switching

- Chicago L interlocking plant speeds train movement. *il plan Elec Ry J* 62:435-8 S 22 '23

Track

- How L track is built to handle 900,000 cars a year. H. P. Savage. *il Elec Ry J* 60:432 S 23 '22

Elevators

- Accident-proof sidewalk elevator. *il Sci Am* 129:259 O '23
- Bulk materials handling, and the common labor shortage. M. W. Poits. *il diags Ind Management* 65:338-45 Je '23
- Care and operation of worm gears on elevator machines. *Power* 56:186-7 Ag 1 '22
- Electric and hydraulic elevators in modern buildings. J. A. McHollan. *diags Arch Forum* 39:169-74 O '23
- Elevator installation. H. M. Garriott. *diags Arch Forum* 36:181-4, 241-2 My-Je '22

- Hoisting-rope compensation on elevators. A. A. Gazda. *il Power* 58:58-60 J1 10 '23
- Hotel elevators. *Am Arch* 124:198 Ag 29 '23
- How an automatic door sill speeds up handling trucks on and off elevators by eliminating bumps. *il Ind Eng* 80:357 J1 '22
- Life of cables on traction elevators. C. W. Naylor. *Power* 54:1017-18 D 27 '21
- Limited installation space leads to special elevating equipment. M. W. Hibbard. *il Eng N* 88:575-6 Ap 6 '22
- More information is needed on wire rope for elevators. H. B. Cook. *Power* 56:1016-17 D 26 '22
- Probable number of stops made by an elevator. B. Jones. *Gen Elec R* 26:583-7 Ag '23
- Records of elevator cable operation show wide differences in life of cables. G. B. Garrison. *Power* 58:124-7 J1 24 '23
- Replacing cables on a one-to-one traction elevator machine. F. A. Annett. *diags Power* 56:575-6 O 10 '22
- Replacing cables on a two to one traction elevator machine. F. A. Annett. *il diags Power* 56:372-5 S 5 '22
- Slack-cable device for elevator. M. E. Kurtz. *diags Power* 55:549-50 Ap 4 '22
- Strength of used elevator cables. C. W. Willits. *il Power* 58:451-4 S 18 '23; Discussion. C. W. Naylor. 58:712 N 6 '23
- Vertical transportation. H. D. James. *Eng Soc W Pa* 39:79-89; Discussion. 90-8 Ap '23

See also Hoisting machinery

Control

- Elevator control in the Pershing Square building. *Arch & Bldg* 55:69-70 Je '23
- Factors that influence stopping an elevator. *Power* 58:527 O 2 '23
- Why elevator brakes should be kept clean. W. Zepernick. *Power* 57:127 Ja 23 '23

Safety devices and measures

- Electro-mechanical interlocks. C. W. Bassett. *il diag Safety Eng* 45:122-5 Ap '23
- Elevator codes. M. H. Christopherson. *Safety Eng* 45:79-82 Mr '23; Same. *Nat Safety N* 7:27-8 Mr '23
- Interlocking device for elevator doors. *il Pop Mech* 38:592 O '22
- Mechanical interlocks—their effectiveness. C. W. Old. *Safety Eng* 45:72-9 Mr '23; Same. *Monthly Labor R* 16:693-702 Ap '23
- Passenger elevator protection. J. J. Lamb. *diags Power Pl Eng* 26:231-4 F 15 '22
- Safety interlocks for elevators. *il Nat Safety N* 7:37 Ap '23
- Survey of elevator interlocks and an analysis of elevator accident statistics. C. E. Oakes and J. A. Dickinson. *U S Bur Stand Tech Pa* 202:1-30 '21

Elevators, Builders'

- Construction elevators. L. S. Keir. *il diags plans Bldg Age* 44:46-7 Mr '22

Elevators, Electric

- Automatic balancer substation for elevator service. M. A. Whiting. *il diag Power* 57:475-8 Mr 27 '23
- Cleveland hand or electric tramrail elevator. *il Am Mach* 56:493-4 Mr 30 '22
- Economic value of elevator electrification. W. H. Whitton. *il diags Elec W* 80:1325-8 D 16 '22
- Economies of complete electrification in large buildings. W. H. Whitton. *il Elec W* 81:1139-42 My 19 '23
- Electric elevator drive. G. Fox. *diags Power Pl Eng* 26:173-5, 271-4 F 1, Mr 1 '22
- Electric elevators such as serve office buildings are suitable for some kinds of mine hoisting. C. M. Means. *Coal Age* 21:1045-6 Je 22 '22
- Electric power application to passenger and freight elevators. H. P. Reed. *il diags Am Inst E E J* 41:57-67, 152-64 Ja-F '22; Abstract. *Power* 55:280 F 14 '22; Discussion. *Am Inst E E J* 41:827-38 N '22
- Elevator control. T. Sheehan. *diag Power Pl Eng* 27:110 Ap 15 '23
- Elevator maintenance plan and preventing troubles in exposed locations. J. E. Housley. *diag Power* 55:106 Ja 17 '22

Elevators, Electric—Continued

- Experiences of an elevator maintenance man. C: A. Armstrong. diags Power 54:973-4 D 20 '21
- Hemp-fiber-packed sheave used on traction elevator machine. il diags Power 57:216-17 F 6 '23
- Locating electrical trouble on elevators. W: Zepernick. diags Power 54:755-7 N 15 '21
- Operation of a drum-type, elevator-machine alternating-current motor controller. W: Zepernick. il diags Power 55:295-8 F 21 '22
- Operation of a slow speed elevator electric motor controller. C: A. Armstrong. il diags Power 57:670-3 My 1 '23
- Operation of a traction-type elevator-machine alternating-current motor controller. W: Zepernick. il diags Power 56:9-11 J1 4 '22
- Operation of gearless traction elevator controller. W: Zepernick. il diags Power 57:886-92 Je 5 '23
- Operation of over-speed governors on electric elevators. H. B. Cook. il diag Power 58:651-2 O 23 '23

Inspection

- Electric elevator inspection. J. M. Walsh. il Ind Eng 81:72-80 F '23
- Elevators, Grain.** See Grain elevators
- Elgin national watch company**
- Results of employees' advisory council of the Elgin national watch company. H. E. Fleming. Management Eng 3:81-6 Ag '22
- Elk district highway.** See Roads—West Virginia
- Elks, Benevolent and protective order of**

National memorial headquarters

- Competition for the Elks national memorial headquarters building, Chicago, Ill. il plans Am Arch 122:145-55 Ag '22
- Elks memorial. E. Swartwout. il diags plans Am Arch 124:275-83 S 26 '23

Ellipses

- Laying out an approximate ellipse. D: C. Coyle. diag Am Arch 121:329 Ap 12 '22

Elisman, Ralph

- Vice president and general manager of the King's county lighting co. R. P. Lowry. por System 41:548-9 My '22

Ely, William Caryl, 1856-1921

- Sketch. por Aera 10:492-4 Ja '22

Embalming**Electric process**

- Electric mummification. R. C. Folger. il Pop Mech 39:669 My '23

Embankments

- Methods employed on difficult road construction on Ozark trail highway in eastern Arkansas. A. S. Fry. il Munic Eng 63:203-8 D '22
- Restoration of Bigelow boulevard, Pittsburgh. il Pub Works 53:26-7 J1 8 '22
- Use of grout in cut-off trenches, and concrete core walls for earthen embankments. H. J. F. Gourley. diags Engineering 114:812-15 D 29 '22

See also Causeways; Dams; Dikes (engineering); Earthwork; Levees; Railroads—Earthwork; Rivers—Bank protection; Sea walls

Embargo

- Dye embargo system in England. F. C. Chapell. Annalist 20:58 J1 17 '22

Embassy buildings

- United States government building, Rio de Janeiro. il Am Arch 122:183-4; 124:325-8 Ag 30 '22, O 10 '23

Embossing

- Inexpensive embossing for the small shop. F: M. Huddleston. Inland Ptr 70:717 F '23

Embroidery

- Development of embroidery in America. C. Wheeler. 151p Harper '21

Embroidery machines

- Embroiders seamless (closed) hose by means of patented spanning frames mounted on Swiss embroidery machines. il Textile World 62:2309+ O 21 '22

Emery

- Contribution to the geology of the Virginia emery deposits. T: L. Watson. il diags map plan Econ Geol 18:53-76 Ja '23

Emigration commission, International. See International emigration commission**Eminent domain**

- Court denies city's right to condemn power source of another city. Eng N 89:937 N 30 '22
- Mine owners should know rights under law of eminent domain. L. Childs. Eng & Min J 116:546 S 29 '23

Emotions

- Emotions tested by machine and accurately recorded. il Pop Mech 40:341 S '23

Empire state gas and electric association

- 18th annual convention, Lake Placid, New York, Oct. 3-5. Elec W 80:841 O 14 '22
- 19th annual meeting, Lake Placid, Oct. 8-9. Elec W 82:775-6 O 13 '23

Employee tests. See Ability tests**Employees**

- Advertising that puts workers on the honor roll. A. L. Townsend. Ptr Ink 124:112+ S 20 '23
- Business man and his employees. E: A. Filene. Ptr Ink 119:169-70 My 18 '22
- Does it pay to work for a concern too long? discussion. W: L. Hughes, jr. Management Eng 3:250-1 O '22
- Factory life. W: H. Parry. Metal Ind 20:100-2 Mr '22
- Get together spirit. O. C. Richards. Ind Management 64:295+ N '22
- Guarding the segments of good-will. R. Dickinson. Ptr Ink M 5:31-2+ Ag '22
- How long with one firm? A. G. Suttill. Management Eng 3:132 S '22
- Keeping legal tangles out of the factory; acts that will justify summary discharge. L. Childs. Factory 28:586+ My '22
- Number of workers. Eng & Contr 56:600 D 28 '21
- Other shops than ours. O. E. Perrigo. Management Eng 3:101-3 Ag '22
- Reliability of employees. O. E. Perrigo. Management Eng 2:93-5 F '22
- Three classes of labor to avoid; prejudices and habits displayed by men in certain occupations. H. A. Haring. Ind Management 62:370-3 D '21
- Viewpoint of the employee. E. T. Trigg. Administration 4:385-8 O '22
- What about loans to employees? W. G. Walling. System 41:701-2+ Je '22
- Workmen I have met. B. Haley. Management Eng 3:363-5 D '22

See also Ability tests; Age; Apprentices; Arbitration, Industrial; Bonus system; Cotton mills—Employees; Dental service, Industrial; Disabled—Rehabilitation; Efficiency, Industrial; Electric railroads—Employees; Employees' associations; Employees' representation in management; Employment management; Employment systems; Eye—Examination; Foremen; Government employees; Hygiene, Industrial; Industrial betterment; Job analysis; Labor and laboring classes; Labor contracts; Labor turnover; Medical service, Industrial; Mental hygiene, Industrial; Municipal employees; Office workers; Pensions, Industrial; Petroleum refineries—Employees; Physical examinations; Railroads—Employees; Saving; Steel workers; Street railroads—Employees; Suggestion systems; Textile workers; Wages; Welfare work in industry; Woman—Employment

Promotion

- Fitness basis for promotion. Management Eng 3:357-8 D '22
- Promoting men for executive jobs. Ptr Ink 123:73-4+ My 3 '23
- Promotion by careful educational methods. H. Tipper. Automotive Ind 45:932-3 N 10 '21
- Who was to blame for this injustice? A. DePalante. Am Mach 58:555-6 Ap 12 '23
- See also Employment management

Employees—Continued**Rating**

- Are rating scales justified? E. J. Bengé. *Ind Management* 65:199-202 Ap '23
- Business references and recommendations. H. D. Fryer. *Administration* 5:27-30 Ja '23
- Efficiency marking of employees. G. H. Rock. *Ind Management* 65:243-6 Ap '23
- Eliminating the mystery of promotion by mathematics. K. Gunning. *Ind Management* 63:237-8+ Ap '22
- Facts as basis of employee rating. *Management Eng* 2:254 Ap '22
- Giving employees a goal to work toward. W. Maxwell. *System* 40:702-3+ D '21
- Grading the office job. F. A. Kingsbury. *Administration* 5:267-74, 393-401, 537-48, 669-80 Mr-Je '23; [cont. as] *Management & Adm* 6:73-8 Jl '23
- Labor performance sheet that serves a four-fold purpose. *Factory* 29:251-2 S '22
- Making employee ratings comparable. E. J. Bengé. *Management Eng* 3:231-2 O '22
- Merit system for establishing wage rates. K. H. Crumrine. *Am Mach* 58:301-2 F 22 '23
- Methods of establishing wage rates and determining promotions. H. P. Carruth. *Paper Tr J* 76:49-58 My 24 '23; Same. *Tech Assn Pa ser* 6:81-90 Je '23
- Scientific plan for sizing up employees. E. O. Bregman. *il System* 41:696-8+ Je '22
- Value of ratings. E. J. Bengé and L. L. McTague. *Ind Management* 64:239-42 O '22

See also Ability tests

References and recommendations

- Business references and recommendations. H. D. Fryer. *Administration* 5:27-30 Ja '23
- Constitutionality of status requiring service letters. *Monthly Labor R* 15:413-14 Ag '22
- Employee references. E. B. Morgan. *Management Eng* 4:189-94 Mr '23
- It's your job to keep him honest. W. Bishop. *Nation's Business* 11:38-9 Ag '23

Selection

See Employment systems

Employees, Disabled. *See* Disabled

Employees, Government. *See* Government employees

Employees, Municipal. *See* Municipal employees

Employees, Selection of. *See* Employment systems

Employees, Selling to

- How one company cut its tool crib costs. J. H. Delany. *Factory* 29:258-9+, 408-9+ S-O '22

Employees, Training of

- Arousing and developing workmen's interest. A. G. Suttill. *diags Management Eng* 3:224-5 O '22
- Building workers from within the plant. A. W. Forbes. *Factory* 31:404+ S '23
- Business library that goes out to its readers; Retail credit company of Atlanta. E. Hanner. *Special Lib* 13:188-9 D '22
- Dignifying the flannel shirt. C. B. Bartlett. *Ind Management* 64:270-1 N '22
- Discussion of vocational education at T.A.P. P.I. fall meeting. *Paper Tr J* 75:45-8 N 2 '22
- Educating workers in fundamental economics. C. F. Dietz. *Ry Age* 75:617-20 O 6 '23
- Education and industry. H: C. Link. 265p Macmillan '23
- Education and training on railroads. D. C. Buell. *Mech Eng* 44:91-2 F '22
- Educational courses for central-station men. *Elec W* 80:1399-1400 D 23 '22
- El Paso foremen profit by vocational training. W: Rouse. *Elec Ry J* 61:849-50 My 19 '23

Executives who are trained to stay with the business. T: E. Wilson. *Ptr Ink M* 4:35-6+ F '22

Foreman as a teacher. J. W. Dietz. *Administration* 3:565-74 My '22

Helping new department heads to avoid costly mistakes. E. H. Bickley. *Factory* 30:548-9 My '23

- How labor can be made more productive. H. C. Smith. *Am Mach* 58:793-6 My 31 '23; Excerpt. *Am Ind* 23:14 Je '23; Excerpt. *Iron Tr R* 72:1749-50+ Je 14 '23; Discussion. H. D. Harper. *Am Mach* 59:398 S 13 '23
- Keeping up attendance at training classes. E. J. Bengé. *Ind Management* 62:361-2 D '21
- Making industrial improvements permanent. P. M. Atkins. *il diag Management Eng* 2: 153-8 Mr '22
- Management problem in seasonal industries. D. W. Rockey. *Ind Management* 63:77-9 F '22
- Meetings of an educational nature to help the workmen. J: S. Dean. *Elec J* 26:114-15 Mr '23
- Methods of training railway shop foremen. H. Diemer. *Ry Mech Eng* 96:469-71 Ag '22
- Need for mechanical training. *il Mach* 29:525 Mr '23
- Now we have 14% less spoilage; Westinghouse lamp company. F. A. Potter. *Factory* 31: 615+ N '23
- Other shops than ours. O. E. Perrigo. *Management Eng* 3:101-3 Ag '22
- Practical education in the car department. C. G. Juneau. *Ry Age* 72:223-4 Ja 21 '22; Same. *Ry Mech Eng* 96:213-14 Ap '22; Discussion. C. E. Parkes. *Ry Age* 72:512 Mr 4 '22
- Practical training for young workers. W. Webb. *Ind Management* 63:76-7 F '22
- Reducing journeymen training time to one-third. T: H. Brown. *il System* 43:612-13 My '23
- Savings made by training workers. S. R. Gerber. *Management Eng* 3:305-6 N '22
- Shop training; committee report at the convention of the National personnel association. *Am Mach* 58:178 F 1 '23
- Systematic instruction in the factory, and the problem of juvenile employment. H. L. Dilks. *Textile Inst J* 14:P132-6 Je '23
- Taking university training to the factory. P. M. Atkins. *il Ind Management* 63:239-42 Ap '22
- Train your men on the job. K. M. Coolbaugh. *il Nation's Business* 11:51-3 Je '23
- Training leaders for foremanship classes. D. J. MacDonald. *Am Mach* 55:249-51 Ag 18 '21; Discussion. J. T. Towilson. 56:620 Ap 27 '22
- Training men to run the plant. W. D. Stearns. *Factory* 30:168-9 F '23
- Training of employees. E: J. Blair. *Elec Ry J* 61:565-6 Mr 31 '23
- Training of men to act in supervisory capacities. F. W. Brazier. *Ry R* 71:759-60 N 25 '22; Same abr. *Ind Management (Lond)* 9: 369-70, 393-5 Je 14-28 '23
- Training of student engineers which has been initiated at the Newcastle-upon-Tyne electric supply co., ltd. *Elec R (Lond)* 92:430-1 Mr 16 '23
- Training of workers in manufacture. J. V. L. Morris. *Am Mach* 56:85-6, 249-51, 320-2, 400-2 Ja 19, F 16, Mr 2, 16 '22
- Training railway employes. M. McCants. *il Aera* 11:1473-81 Je '23
- Training time-study men; avoiding the hit-or-miss in rate setting by educational methods. S. M. Lowry. *Ind Management* 64:365-71 D '22; Same. *Ind Management (Lond)* 9:369-70, 393-5; 10:8-10 Je 14-Jl 12 '23
- Wabash railway engineers operate model instruction cars. S. E. Cotter. *il Ry R* 70: 445-7 Ap 1 '22
- What does a successful executive require? D. C. Sheffield. *Ry Mech Eng* 97:737-8 N '23
- Winter school for track men. F. B. Walker. *Aera* 10:1080-3 Jl '22; Same. *Eng & Contr (Ry)* 58:82-3 N 15 '22

See also Apprentices; Corporation schools; Foremen, Training of; Industrial education; Salesmen, Training of

Employees, Transportation of

- Hauling Ford workers. *map Elec Ry J* 62: 399-402 S 15 '23

Employees as stockholders

- Central Maine company's ten points for employee stock salesmen. *Elec W* 79:839-40 Ap 29 '22

Employees as stockholders—Continued.

- Employee stock ownership has limited value in securing labor interest. H. Tipper. *Automotive Ind* 46:979 My 4 '22
- Financial incentives for employees and executives. D. Bloomfield. v 2, p 128-75 H. W. Wilson co. '23
- Ford plan of employee participation. Ry R 73:622-3 O 27 '23
- Ford plan of employees' participation; editorial. Ry R 73:619-20 O 27 '23
- Ford's employee investment plan approved by I.C.C. Ry Age 75:725-6 O 20 '23
- General motors corporation to make partners of executives. *Comm & Fin Chr* 117:1998-9 N 3 '23
- How Standard oil company of Indiana got 40,000 new stockholders; interview with R. W. Stewart. C. M. Harrison. *Ptr Ink M* 7:21-2+ S '23
- Pacific stock for employes at Pacific mills, Lawrence, Mass. *Textile World* 63:3004 My 5 '23
- Providence gas company plant to aid employees to become stockholders. *Am Gas Assn General Sessions* sec v 3:125-9 '21
- Psychosis of industry. F. M. Harris. *Ind Management* 64:18-23 J1 '22
- Selling securities to employees. J. E. Rhodes. *J Account* 36:104-11 Ag '23
- Stock ownership plans for employees. *Monthly Labor R* 14:1109-11 Je '22
- Stock participation plans for employees. 18 numb. 1. Bloomfield & Bloomfield, Boston '22
- Employees' associations**
- Company employee organizations on eastern interurban, the Olean, Bradford & Salamanca railway. *Elec Ry J* 61:645-6 Ap 14 '23
- Making happiness a by-product of industry. G. W. Hanley. *il Ind Management* 63:287-91 My '22
- Model constitution for an employees' organization. N E L A Bul 10:253-4 Ap '23
- See also Benefit societies; Employees' representation in management; Trade unions
- Employees' clubhouses.** See Clubhouses, Employees'
- Employees' compensation commission.** See United States—Employees' compensation commission
- Employees' funds**
- Employees' funds total nearly \$2,000,000. *Elec Ry J* 61:560-1 Mr 4 '23
- Employees' magazines**
- Employees' house-organs, by R. E. Saberson. *Review. Administration* 3:376-7 Mr '22
- Employees' magazine and its treatment of safety. *Safety Eng* 42:228 N '21
- Employees' magazines in Canada. (Bul. no. 4, Industrial relations ser.) 23p Canada Dept. of labour, Ottawa '21
- Employees' publications. 16p; Supplement 13p National personnel association, 20 Vesey st., New York '22
- House-organ discords—plant publications. H. Botsford. *Inland Ptr* 71:205-7 My '23
- House publications. C. Sloan. *Ptg Art* 41:282-6 My '23
- How workers react to propaganda. V. E. Burnett. *Ind Management* 65:250-3 Ap '23
- Industrial morale and employees' magazines. D: Bloomfield. *Min & Met* 189:25-8 S '22
- Keeping plant paper from going stale. E. Augustus. *Paper Tr J* 75:30+ Ag 31 '22
- List of employees' publications received regularly in the National safety council library and information bureau. *Nat Safety N* 8:46-7 S '23
- Making the employee publication really pay. *Factory* 31:613-15+ N '23
- Merits of the company publication. A. R. Baxter. *Elec Ry J* 61:525-6 Mr 24 '23
- 1922 list of employees' magazines. *Ptr Ink* 118:69-70+ Ja 12; 141+ Ja 26; 149+ F 9; 112+ Mr 2 '22
- One value of employees' magazines. S. C. Chipman. *Administration* 3:729-31 Je '22
- Pennsylvania system newspapers. L. B. Sisson. *Ry Age* 73:754 O 21 '22
- Shop paper as an aid to management. *Factory* 28:352+; 30:230+ Mr '22, F '23

- Use of company publications. B. I. Budd. *Elec Ry J* 60:551-2 O 7 '22
- Vitalizing the plant magazine. G: W. Townsend. *Ind Management* 64:12-14 J1 '22
- What may be accomplished by plant papers. E. Augustus. *Paper* 31:16+ N 8 '22
- Why plant publications fail. H. Botsford. *Ptg Art* 41:262-6 My '23

Employees' representation in management

- Concerning employee representation. *Ry Age* 75:279 Ag 18 '23
- Co-operation a fact on Louisville railway. *Elec Ry J* 59:84 Ja 14 '22
- Democracy and dollars at Champlain silk mills. *il Textile World* 61:658+ F 4 '22
- Employee representation and discipline. E. Lee. *Ry Age* 75:855-7 N 10 '23
- Employee representation at Pacific. H. G. Francke. *Textile World* 64:2663+ N 3 '23
- Employee representation in industry; some plans in operation in Cleveland. 110p Chamber of commerce, Cleveland '23; Abstract. *Monthly Labor R* 17:47-50 J1 '23
- Employee representation is investigated. *Iron Age* 109:1347-8 My 18 '22
- Employee representation on the Pennsylvania. *Ry Age* 73:691-8 O 14 '22
- Employee representation on the Pennsylvania railroad system. 63p Pennsylvania system, Philadelphia '22
- Employee representation plans at work. *Iron Age* 111:1295-6 My 3 '23
- Employee representation the next step. J: Calder. *Textile World* 63:738-9 F 3 '23
- Employees' participation in management; report of special committee of the National economic league. *Ry Age* 75:333-4 Ag 25 '23
- Employees representation in Standard oil co. C. J. Hicks. *Min & Met* 188:25-6 Ag '22
- Experience with work councils in the United States. (National industrial conference bd. Research rep. no. 50) 191p Century co. '22
- Experiences of Swift & co. with employee representation plans during a period of business depression; abstracts. J: Calder. *Iron Age* 109:1212-15 My 4 '22; *Ind Management* 64:112-17 Ag '22
- Experimenting with the human mechanics of industry. J. Davis. *Ind Management* 65:23-6 Ja '23
- Factory in a garden. P. B. Redmayne. *Ind Management* 65:285-9 My '23
- Five years of employee representation under the Bethlehem plan. J: Calder. *Iron Age* 111:1689-97 Je 14 '23
- Frontier of control; a study in British workshop politics. C. L. Goodrich. 277p Harcourt, Brace & co., New York '21
- Guide for our organization. *Review. Administration* 3:643-5 My '22
- He profits most who serves best; the principle underlying the employee representation plan. W. W. Atterbury. *Ry Age* 75:573-4 S 29 '23
- Holding to welfare work made our increased volume possible. H. C. Osborn. *il System* 42:433-5+ O '22
- Industrial representation and the fair deal. G: H. Shepard. *Ind Management* 63:81-5, 185-8 F-Mr '22
- Lynn plan of representation. E. H. Morrow. 48p General electric co., Lynn, Mass.
- Misunderstanding about employee representation. *Ry Age* 75:560-1 S 29 '23
- Pacific coast coal co. excludes union men and forms its own bargaining council. *chart Coal Age* 21:534-5 Mr 30 '22
- Pacific mills plan of employee representation. *Textile World* 64:1781-2 S 29 '23
- Piece work on the Pennsylvania system; employee representation methods. *Ry Age* 75:344-6 Ag 25 '23
- Pulling together. J: T. Broderick. 141p Robson & Adee, Schenectady, N.Y. '22
- Pulling together through representation. J: T. Broderick. *Management Eng* 2:31-6 Ja '22
- La question du contrôle ouvrier en Italie. G: G. Assan. 177p M. Giard, Paris '22
- Recreating loyalty at Whittall plant. *il Textile World* 63:3001-2 My 5 '23
- Representation plan highly successful in Kansas City, Mo. *Elec Ry J* 60:518 S 30 '22

Employees' representation in management*—Continued*

- Representation plan on the Pennsylvania railroad. E. Lee. Aera 12:613-19 N '23; Same cond. Elec Ry J 62:593-4 O 13 '23
- Results of employees' advisory council of the Elgin national watch company. H. E. Fleming. Management Eng 3:81-6 Ag '22
- Results of the Bethlehem plan of employee representation. E. G. Grace. Iron Tr R 73:303 Ag 2 '23
- Shop congress that works; American multi-graph company. A. S. Gregg. Nation's Business 11:14-16 F '23
- Showing the men that the manager works. Factory 29:541 N '22
- Six definite things that workers want. J. H. Collins. Il Dom Eng 97:495-6 D 10 '21
- Successful employee partnership plan. A. S. Myers. Ind Management 64:289-95 N '22
- Survival of the fittest in employee service plans. Textile World 61:656+ F 4 '22
- Technique of employee representation. W. L. Stoddard. Administration 4:575-82 N '22
- Telling workers all about business. G. Smart. Iron Age 110:917-19 O 12 '22
- Union Pacific plan of employee representation. G. H. Sines. Ry R 72:760-4 My 5 '23
- Whitley system in the civil service. J. H. Macrae-Gibson. 46p Fabian soc., London '22
- Why McCallum plants discarded democracy. Il Textile World 63:2457-8 Ap 14 '23
- Will profit-sharing bring management-sharing? J. Mayer. Management & Adm 6:353-7 S '23
- Workers' control series. G. D. H. Cole. Published for the National guilds league by the Labour pub. co., London '21
- Works councils as investigated by National industrial conference board. Eng & Contr 58:302-3 S 27 '22
- Workshop organization. G. D. H. Cole. 186p Oxford '23

See also Industrial councils; Plumb plan; Safety committees; Shop committees

Bibliography

- University debaters' annual. E. M. Phelps, ed. p. 332-6 H. W. Wilson co. '21

Employers' associations

- Employers' associations in the United States. Int Labour R 8:367-79 S '23
- Employers' associations in the United States. C. E. Bonnett. 594p Macmillan '22
- Employers' organisations. See monthly numbers of the International labour review
- Employers' organizations in Germany, 1921. Monthly Labor R 16:33-40 Ja '23
- Employers' organisations in the northern countries. H. C. Oersted. Int Labour R 8:333-44 S '23
- Trend in policies of employers' associations in various countries. Monthly Labor R 16:284-6 F '23

Employers' liability

- Employers' liability in interstate or intrastate commerce. Monthly Labor R 16:473-5 F '23
- Lawful requirement provision of the Ohio constitution. Monthly Labor R 16:181-6 Ja '23
- Report of N.W.D.A. committee on employers' liability and workmen's compensation. Oil Paint & Drug Rep 104:15 O 17 '23
- Rights and status of employees injured in commerce. L. D. Clark. Monthly Labor R 15:399-409 Ag '22

See also Accidents, Industrial; Workmen's compensation

Employment**Statistics**

- Employment and unemployment. See monthly numbers of the International labour review
- See also Unemployment

Employment agencies

- Employment exchanges and their organisation. Int Labour R 6:19-37 JI '22
- Engineering societies employment service; the new cooperative plan. Am Inst E E J 42:872-4 Ag '23
- Good free employment service. C. J. Boyd. Am Ind 22:31-2 JI '22
- Law creating employment exchanges in Japan. Monthly Labor R 15:417 Ag '22

- New employment plan worked out by the secretaries of the four major engineering bodies. Elec W 82:303 Ag 11 '23
- New German law on public employment offices. Monthly Labor R 15:897-903 O '22
- Placement. Int Labour R 7:912-25 Je '23
- Proceedings of the 9th annual meeting of the International association of public employment services meeting held at Buffalo, New York, Sept. 7-9, 1921. U S Bur Labor Statistics Bul 311:1-78 '22
- Report of employment exchanges in the United Kingdom. Monthly Labor R 14:763 Ap '22
- State legislation upon private employment agencies. M. G. Dill and E. E. Witte. Monthly Labor R 15:713-34 O '22
- Suggestions for an engineering employment service. M. L. Cooke. Eng N 90:830-1 My 10 '23; Discussion. W. L. Benham. 90:1097-8 Je 21 '23

See also International association of public employment services

Employment contracts. See Labor contracts**Employment departments**

- Enlarging the use of service record cards. L. M. Stowell. Management Eng 2:11-12 Ja '22
- Small employment department for a small factory. Il Factory 29:392-4 O '22

Employment guarantees

- Experience under employment guaranty in Cleveland garment industry. Monthly Labor R 15:365-8 Ag '22
- Stable employment benefits industry. H. Tipper. Automotive Ind 49:389-91 Ag 23 '23

Employment management

- Advantages of a labour department. E. N. Simons. Ind Management (Lond) 9:326-8 My 31 '23
- Analyzing human frictions. D. S. Cole. Ind Management 65:146-8 Mr '23
- Applied personnel procedure. F. E. Weakly. 192p McGraw-Hill '23
- Are you afraid to meet your men? P. M. Conley. Ind Management 66:230 O '23
- Basic principles of sound employment practice. S. R. Rectanus. Administration 3:70-3 Ja '22
- Blocking economics for workmen. Il Iron Tr R 73:801-2+ S 20 '23
- Budgeting expenditures for personnel work. E. Morgan. Factory 28:176-7 F '22
- Capital's duty to the wage-earner. J. Calder. Textile World 63:208 Ja 13 '23
- Constructive experiments in industrial co-operation between employers and employees. S. A. Lewisohn and P. T. Moon. 256p Academy of political science, Columbia univ., New York '22
- Creation of interest and good-will through general education in industry; the responsibility of the industry. H. C. Link. Administration 3:335-47 Mr '22
- Detroit trial board works well. Elec Ry J 61:881-2 My 26 '23
- Developing machinery and neglecting men. Ry Age 73:495-6 S 16 '22
- Development of skilled workers at Berkshire. Il Textile World 63:3669-70 Je 2 '23
- Dignifying the flannel shirt. C. B. Bartlett. Ind Management 64:104+, 179-80, 270-1, 335; 65:26-7, 116-17 Ag-S, N '22-F '23
- Do we make a problem of labor? S. M. Vaulchain. Factory 29:517-19 N '22
- Do you devote as much time to your men as your machinery? J. D. Houser. Il J Elec 49:47-9 JI 15 '22
- Dollars and sense of service work. E. C. Gould. Textile World 64:1248+ S 1 '23
- Duties of a personnel department in an industrial plant. B. F. Brown. J Elec 48:443-4 Je 1 '22
- Eliminating the waste of human effort. L. R. Hopkins. Ind Management (Lond) 10:150-2 S 20 '23
- Employment administration in the United States post office department. E. J. Cantwell. Int Labour R 8:51-5 JI '23
- Five tested ways to better payroll results. System 43:312-13 Mr '23

Employment management—Continued

- Forms, records and reports in personnel administration. C. N. Hitchcock. 128p Univ. of Chicago press, Chicago '22
- Framing works rules. E. N. Simons. Ind Management (Lond) 9:233-5 Ap 19 '23
- Function of a labor policy. E. C. Gould. Ind Management 64:153-4+ S '22
- Good industrial relations in the office. W. W. McClench. Administration 3:273-8 Mr '22
- Handling men; the Mitten way. R. Spillane. Nation's Business 11:29-31 F '23
- High wages, increased production, decreased costs. W. Baum. Paper Tr J 77:109-13 O 18 '23
- How a change in policy saved our business. O. H. Falk. il System 41:135-9+ F '22
- How Carnegie dealt with his men. System 41:679-82+; 42:41-3+ Je-Jl '22
- How Patterson met the labor problem. S. Crowther. il System 44:287-92+ S '23
- How Patterson speeded-up his managers. S. Crowther. System 44:445-9+ O '23
- How to secure co-operation. Am Mach 57:1012 D 28 '22
- How we developed the "my company" spirit in the ranks. W. W. Kincaid. il System 41:263-7 Mr '22
- Human element in industry. W. Rose. Ind Management (Lond) 9:227-8 Ap 19 '23
- Human factors in industry. H. Tipper. 280p Ronald press '22
- Human nature in industry. E. C. Gould. Ind Management 65:221-4 Ap '23
- Human problem in industry. E. M. Herr. Mech Eng 45:6-10 Ja '23; Same cond. Ry Mech Eng 97:95-6 F '23; Abstract. Ry Age 73:1097-8 D 9 '22; Same. Eng & Contr (Ry) 58:153-6 D 20 '22; Discussion. Mech Eng 45:10-13 Ja '23
- Human side of business. A. W. Douglas. Administration 3:431-2 Ap '22
- Human side of organization. W. J. Hiscox. Elec R (Lond) 91:441-2 S 29 '22
- Human side of production management. C. R. Hook. Ptr Ink 122:80+ Mr 23 '23
- Human side of time study. O. C. Richards. Ind Management 65:352-3 Je '23
- Increasing man power through management. L. W. Olson. Ind Management 63:88-91 F '22
- Industrial efficiency depends on workers' understanding. H. Tipper. Automotive Ind 48:290-1 F 8 '23
- Industrial stability; complete report of the proceedings of the seventh national convention. 237p Society of industrial engineers, Detroit '22
- Industrial welfare work in Great Britain. E. D. Newcomb. Int Labour R 5:553-71 Ap '22
- Is there enough leadership in management today? A. B. Farquhar. Factory 30:535-7 My '23
- Job, the man, the boss. K. M. H. Blackford and A. Newcomb. rev. ed. 272p Doubleday '21
- Leadership—an opportunity and a challenge to industrial employers. G. P. Hutchins. Ind Management 66:76-7 Ag '23
- Loyalty and appreciation. A. Bradbury. Ptr Ink M 6:46 My '23
- Making work fascinating as a factor in reduction of waste. W. N. Polakov. Power Pl Eng 26:184-7 F 1 '22; Abstracts. Power 54:960-1 D 20 '21; Ind Management (Lond) 8:246 N 2 '22
- Making workers almost welcome criticism. Factory 31:610-11 N '23
- Management and the worker. G. F. Johnson and others. A. W. Shaw co., Chicago '22
- Men who speak for you. J. R. Meader. Ind Management 63:21 Ja '22
- Methods of maintaining production. M. R. Watson. Brick & Clay Rec 63:472-5 O 2 '23
- Modern methods adopted by Cleveland manufacturers. Iron Age 111:1781 Je 21 '23
- New England at the crossroads. H. R. Simonds. Iron Tr R 70:464-7 F 16 '22
- New spirit guides management; mutual benefit system combined with shop committee plan. W. Baum. Iron Tr R 71:996-8 O 12 '22
- Now each payroll dollar gets more done. il System 43:169+ Ap '23
- Open door policy. C. H. Morrison. Am Mach 55:988-9 D 22 '21
- Organization in industrial service. S. W. Ashe. N E L A Bul 9:730-3 D '22
- Organization of knitting mills; solving the problem of labor control. C. M. Bigelow. Management Eng 2:37-42 Ja '22
- Organization of the personnel. W. M. Jackson. chart Administration 3:689-92 Je '22
- Out of my experience in handling night crews. il Factory 31:307-8 S '23
- Outstanding features of Dennison management. H. Feldman. Ind Management 64:229-30 O '22
- Page from a foreman's notebook. W. Haley. Ind Management 65:41-2 Ja '23
- Personal experiences in directing men. J. W. Barnett, jr. Management Eng 4:25 Ja '23
- Personal relations in scientific management. M. O. Truesdale. Administration 4:47-52 Jl '22
- Personnel administration today. W. L. Albrow. Management Eng 3:17-22 Jl '22
- Personnel management; principles, practices, and point of view. W. D. Scott and R. C. Clothier. 643p Shaw '23
- Personnel research agencies. J. D. Thompson. U S Bur Labor Statistics Bul 299:1-207 '21
- Plain talk for executives. Ind Management 62:157-9, 251-2, 309-13; 63:22-4 S-N '21, Ja '22
- Pointing the way to industrial peace. Chem & Met Eng 25:945 N 23 '21
- Policies that make management methods a success. F. W. Parsons. Gas Age 52:369-70+ S 29 '23
- Practical psychology for business executives. L. D. Edie. 387p H. W. Wilson co. '22
- Present tendencies in personnel practice. R. F. Lovett. charts Ind Management 65:327-33 Je '23
- Problems in personnel management. D. Bloomfield. 557p H. W. Wilson co. '23
- Qualifications of employees must be developed. H. Tipper. Automotive Ind 45:1232-3 D 22 '21
- Qualities of the successful employment manager. W. E. Richmond. Am Mach 59:540 O 11 '23
- Rational works management in factories. J. A. Davenport and J. I. Emery. Ind Management (Lond) 9:291-4 My 17 '23
- Receiver finds the main difficulty; lack of sentiment in business. R. W. Johnson. Ptr Ink 120:109-10+ Ag 17 '22
- Relation of health and happiness of employees to production in industry. J. S. Shaw. Chem & Met Eng 27:444-6 Ag 30 '22
- Relations of management and employees. C. A. Lippincott. Elec Ry J 62:613-14 O 13 '23
- Reorganizing the factory to meet sales competition. Factory 28:654+ Je '22
- Road to industrial peace. F. T. Carlton. Administration 5:709-12 Je '23
- Saving wastes by making them vivid. il System 44:282-3+ S '23
- Science and common sense in working with men. W. D. Scott and M. H. S. Hayes. 154p Ronald press '21
- Securing effective work from labor, by J. L. McVicker. Review. Administration 3:253-7 F '22
- Selling the institution to its own personnel as well as to the public. C. P. Bulkley. Ind Management 64:278-9 N '22
- Service work as a phase of production. S. H. Greene. Management Eng 2:7-11 Ja '22
- Simplification lowers production costs \$1,000,000 for eight plants. A. H. Landwehr. il Factory 31:19-21+ Jl '23
- Six better ways to handle men. System 42:740+ D '22
- Six definite things that workers want. J. H. Collins. il Dom Eng 97:245-6, 495-6; 98:125-6, 312-13, 451+; 99:62-3 N 5, D 10 '21, Ja 21, F 18, Mr 11, Ap 8 '22
- Six ways of securing co-operation and interest from your men. E. O. Kuendig. Am Mach 57:680 N 2 '22; Discussion. E. O. Perry. 57:950 D 21 '22
- Some homely ideas on managing men. il System 42:165-6 Ag '22

Employment management—Continued

- Stimulating the organization. O. D. Foster. 414p Harper '23
- Successful operation of an engineering department. W. E. Irish. Ind Management 65: 19-22, 93-7 Ja-F '23
- Teaching the new ways to handle men. F. H. Rindge, jr. Il Nation's Business 11:49-50+ N '23
- Throw down your bucket; paying common labor daily. K. M. Coolbaugh. Ind Management 66:208-10 O '23
- Training and inspiring organization personnel. B. A. Franklin. Ind Management 64:84-7 Ag '22
- Treat men justly and kindly. C. A. Lippincott. Aera 12:620-5 N '23
- Two factors in industry. P. M. Conley. Ind Management 65:86-7 F '23
- Unemployment score as a test of management. M. L. Cooke. Il System 41:397-400+ Ap '22
- Waste of human force in industry. C. E. Carpenter. Administration 3:1-6 Ja '22
- What happens to industrial democracy in hard times. L. H. Butler. Ptr Ink 118:130+ F '23 '22
- What human organization means to industry. S. A. Lewisohn. Ptr Ink M 7:25-6+ Ag '23
- What is personnel research? R. M. Yerkes. Monthly Labor R 14:11-18 Ja '22
- What I've learned about business since 1920. G. F. Johnson. System 40:679-83 D '21
- What made four payrolls more productive. Il System 43:193+ F '23
- What the men who work for me have taught me. G. H. Chauls. System 41:454-8+ O '23
- What to do to-day about to-morrow's labor problems. J. Logan. Factory 29:123-5+ Ag '22
- Where time-clock minutes mean working minutes. Il Factory 28:538-9 My '22
- White company revises shop management. F. L. Prentiss. Iron Age 112:953-5 O 11 '23
- Why some good ideas don't work. J. E. Bullard. Am Mach 55:1033-4 D 29 '21
- Why Thomas E. Mitten succeeds in Philadelphia. E. A. Muschamp. Ptr Ink 118:41-2+ Mr 30 '22
- Without hope of promotion but contented with the job. Ind Management 64:160-1 S '22
- Worker's idea of job-hunting and holding; cooperative employment office suggested. B. Haley. Management & Adm 6:312 S '23
- Works production. G. H. Nelson. plan Inst E E J 61:338-52 Mr '23; Same (without appendix). Ind Management (Lond) 9:39-41, 75-7, 106-8, 131-3, 166-8 Ja 25-Mr 22 '23; Discussion. Inst E E J 61:352-62, 893-6 Mr, Ag '23
- Workshop efficiency. G. E. Bailey. Ind Management (Lond) 10:67-9 Ag '23

See also Absenteeism (labor); Bonus system; Bulletin boards; Bulletins; Dental service, Industrial; Employees; Employees—Promotion; Employees, Training of; Employees, Transportation of; Employees as stockholders; Employees' magazines; Employees' representation in management; Employment departments; Employment systems; Factory management; Foremen; Industrial management; Industrial relations; Job analysis; Labor turnover; Lunch rooms and cafeterias, Employees'; Lunches; Medical service, Industrial; Organization in industry; Psychology—Industrial applications; Saving; Savings banks, Company; Suggestion systems; Tardiness (employees); Unemployment—Relief measures; Vacations; Welfare work in industry; Woman—Employment

Advertising aids

- Hardest job in business. E. M. Statler. Il System 41:270-2+ Mr '22
- Hotels advertise to public over employees' shoulders. Ptr Ink 118:25-6 F 9 '22
- How Baltimore & Ohio railroad is developing ticket salesmanship. M. McDonald. Ptr Ink 124:65-6+ S 20 '23

Keeping a growing business friendly; unusual personal touch copy of Moxie company. J. M. Mosely. Ptr Ink 122:124+ Ja 4 '23

Incentives

- Company finances brought home to employees. C. M. Ripley. chart Management Eng 4: 153-6 Mr '23
- Co-operation may be stimulated. G. E. Pellissier. Elec Ry J 61:251-2 F 10 '23
- Financial incentives for employees and executives. D. Bloomfield. 2v H. W. Wilson co. '23
- How contests have helped us curb costs. R. Scott. Factory 29:17-20 Jl '22
- Human element in production. W. F. Jameson. Soc Auto Eng J 13:366-9 N '23; Same cond. Automotive Ind 49:882-4 N 1 '23; Discussion. Soc Auto Eng J 13:478-9 D '23
- Incentives and rate-setting applied to the smaller plant and varied product. E. W. Stone. Management Eng 2:205-8 Ap '22
- Increasing the efficiency of laborers on construction work. R. C. Starr. Il J Elec 48: 305-6 Ap 15 '22
- Personal aspirations more important to worker than economic laws. H. Tipper. Automotive Ind 47:682-3 O 5 '22
- Practical training for foremen. P. L. Burkhard. Iron Tr R 71:169-72+ Jl 20 '22
- Putting production incentive into pay envelopes. S. Theaker. Ind Management 64:216-20 O '22
- Work as a substitute for alcohol. E. H. Fish. Management Eng 3:71-2 Ag '22

See also Bonus system; Profit sharing

Employment of children. *See* Child labor

Employment of women. *See* Woman—Employment

Employment statistics. *See* Employment—Statistics; Labor and laboring classes—Statistics; Unemployment—Statistics

Employment systems

- Analyzing the employee and his job. E. J. Terge. Factory 30:121-6+ Ap '23
- Angling for industrial workers. K. M. Coolbaugh. Am Ind 23:27-9 Ag '22
- Dignifying the flannel shirt; points of contact—the act of hiring. C. B. Bartlett. Ind Management 64:179-80 S '22
- Eliminating the hit and miss method of hiring men. F. T. MacFeely. Am Mach 56: 520 Ap 6 '22
- Experiment in picking employees. H. A. Wambridge. Am Ind 24:18-20 S '23
- First step in the choice of salesmen. Ptr Ink 124:3-4+ Jl 12 '23
- Grading of General electric employees. J. O'Connor. Iron Age 112:1195-6 N 1 '23
- Hire-and-keep employment plans. Factory 30: 500 - Ap '23
- How Goodyear has reduced the turnover in its sales force; method of selecting candidates. R. W. Johnson. Ptr Ink 120:3-4+ S 7 '22
- How shall we select our executives? E. H. Fish. Management & Adm 6:183-4 Ag '23
- Indexes valuable to keep tab on labor. H. R. Spencer. Foundry 50:249-50 Mr 15 '22
- Judging human character. H. L. Hollingworth. 268p Appleton '22
- Labour records for small factories. H. W. Ross. Ind Management (Lond) 8:181-3 O 5 '22
- Labour records in factories. G. M. Broughton. bibliog J Ind Hygiene 4:275-80 O '22
- Men are where you find them. K. M. Coolbaugh. Ind Management 65:114-16 F '23
- Method of selecting men. R. J. Russell. Elec W 81:945-6 Ap 21 '23
- Performance test questions in hiring employees. R. Grimshaw. Mach 29:141-2 O '22
- Personnel problems and the business cycle. P. H. Douglas. Administration 4:15-27 Jl '22
- Picking them out. Am Mach 57:576 O 12 '22
- Re-establishing the profits of the small factory. E. Cordeal. Ind Management 63:251-3 Ap '22
- Report on personnel and training of transportation department employees; with suggested questions for use by employment officers. Elec Ry J 60:589-92 O 7 '22

Employment systems—Continued

- Selecting and placing technical graduates in the Westinghouse organization. E. B. Roberts. *Management & Adm* 6:207-11 Ag '23
- La sélection psycho-physiologique des travailleurs. J. Lahy. *Génie Civil* 79:498-9 D 3 '21
- Sources from which labor may be recruited. G. H. DeKay. *J Elec* 49:209-10 S 15 '22
- Standardized methods of employment. C. S. Yoakum. *Elec Ry J* 59:679-81 Ap 22 '22
- Systematic selection of employees. J. Willits. *Elec W* 81:601-2 Mr 10 '23
- Visualizing potential occupations. R. W. Immel. *Management Eng* 3:143-6 S '22
- What are your methods in hiring men for business? G. H. DeKay, jr. *il J Elec* 49:12-14 Jl 1 '22
- Worker's idea of job-hunting and holding; cooperative employment office suggested. B. Haley. *Management & Adm* 6:312 S '23

See also Ability tests; Applications for position; Employees; Employees—Rating; Employees—References and recommendations; Employment agencies; Employment guarantees; Labor turnover; Physical examinations; also Personnel research federations

Advertising

- Better copy in the want ads. L. J. Boughner. *Ptr Ink M* 4:29-30 Ja; 27-8 F '22
- Daring the salesman to take the job. J. J. Witherspoon. *Ptr Ink M* 5:19+ D '22
- Hospital recruits nursing staff by advertising. *Ptr Ink* 118:122+ Mr 16 '22
- How to get high grade canvassers. B. J. Muchweiler. *Gas Age* 51:825 Je 30 '23
- Uses advertising to recruit young blood for an industry: John Hancock life insurance company's campaign. J. M. Mosely. *Ptr Ink* 121:10+ O 19 '22
- Western Electric shows college men importance of their course. A. R. King. *il Ptr Ink* 119:33-4+ Je 29 '22

Bibliography

- How sales executives pick their men. *Ptr Ink* 122:128 Mr 1 '23

Employment tests. See Ability tests**Emulsification**

- Cellulose nitrate as an emulsifying agent. H. N. Holmes and D. H. Cameron. *Am Chem Soc J* 44:66-70 Ja '22
- Gum dammar as an emulsifying agent; patent. *Chem Age* 30:560-1 D '22
- Premier mill in chemical industry. F. J. E. China. *diag Chem Age* (Lond) 8:329-30 Mr 31 '23
- Report of sub-committee XI of A.S.T.M. on emulsification. *Am Soc T M Pro* 22 pt 1: 431-6 '22
- Testing resistance to emulsification. *il Power* 58:493-4 S 25 '23

Emulsions

- Aspects of the physical chemistry of interfaces. F. G. Donnan. *Soc Chem Ind J* (Chem & Ind) 42:892-901 S 21 '23; Same cond. *Chem Age* (Lond) 9:282-4 S 15 '23; Abstract. *Engineering* 116:487-8 O 19 '23
- Cause of emulsions in lubricating oils. W. F. Osborne. *Power* 55:502-3 Mr 28 '22
- Chromatic emulsions. H. N. Holmes and D. H. Cameron. *Am Chem Soc J* 44:71-4 Ja '22
- Electrical dehydration of cut oil efficient and inexpensive. F. D. Mahone. *Nat Pet N* 15: 83+ O 31 '23
- Emulsions of mineral oil with soap and water: the interfacial film. E. L. Griffin. *Am Chem Soc J* 45:1648-57 Jl '23
- Factors affecting the stability and inversion of oil-water emulsions. L. W. Parsons and O. G. Wilson, jr. *J Ind & Eng Chem* 13: 1116-23 D '21
- Formation of a water-in-oil type emulsion by the concentration of the oil phase. R. P. Sanyal and S. S. Joshi. *J Phys Chem* 26: 481-6 My '22
- Prevention of emulsions. *Chem Age* 31:286 Je '23
- Progress on emulsions. L. W. Parsons. *J Ind & Eng Chem* 14:797-8 S '22

- Pure aniline and water emulsions. S. S. Bhatnagar. *J Phys Chem* 25:735-41 D '21
- Resolution of petroleum emulsions. H. V. Dodd. *Chem & Met Eng* 28:249-53 F 7 '23
- Size-frequency distribution of particles of silver halide in photographic emulsions and its relation to sensitometric characteristics. E. P. Wightman, S. E. Sheppard and A. P. H. Trivelli. *diags J Phys Chem* 25:561-94; 27:1-51, 466-80 O '21, Ja, My '23
- Studies in emulsions; further investigations on the reversal of type by electrolytes. S. S. Bhatnagar. *il Chem Soc J* 119:1760-9 N '21
- Theory of emulsions and emulsification. W. Clayton. 160p Blakiston '23
- Treatment of oil emulsions. *Engineering* 112:771 D 2 '21
- Use and development of centrifuge for petroleum refinery emulsions. E. E. Ayers, jr. *Nat Pet N* 15:32c-e O 10 '23; Same cond. *Oil Paint & Drug Rep* 104:20-1 O 22 '23
- Water-gas tar emulsions. W. W. Odell. *U S Bur Mines Tech Pa* 304:1-49 '23; Excerpts. *Gas Age* 49:561-2+ My 6 '22; *Am Gas J* 119: 228 S 15 '23
- See also Colloids; Petroleum—Water problem

Emulsoids. See Colloids**Enamel and enameling**

- Air cooled vs. water quenched enamels. S. Wiester. *il Am Cer Soc J* 6:372-5 S '23
- Baking enamel. *il Iron Age* 111:406 F 8 '23
- Characteristics of enameled magnet wire. W. D. A. Peaslee. *Elec W* 82:377-9 Ag 25 '23
- Coat-finishing exhaust-manifolds. *Soc Auto Eng J* 12:21 Ja '23
- Defects in baked enamels. G. W. Walker. *Chem & Met Eng* 27:1268 D 27 '22
- Development of industrial electric heating for low temperature enameling. W. S. Scott. *il Am Electrochem Soc Trans v* 42 (preprint 18):173-86 S '22; Same. *Can Chem & Met* 6:265-8 D '22
- Developments in enameling technology during the past twenty-five years. H. F. Staley. *Am Cer Soc J* 6:240-4 Ja '23
- Early history of enameling in the Vollrath company. C. A. W. Vollrath. *Am Cer Soc J* 6:237-40 Ja '23
- Effect of some substitutes for tin oxide on the opacity of white enamels for sheet steel. R. R. Danielson and M. K. Frehafer. *Am Cer Soc J* 6:634-44 My '23
- Effect of sources of pig iron upon the enameling of cast iron. M. E. Manson. *il Am Cer Soc J* 5:806-10 N '22; Discussion. (Bul) 5: 360-5 D '22
- Electric enameling oven shows economies in S. F. factory. *il J Elec* 48:114 F 1 '22
- Electrical oven bakes enamel. E. W. Roeser. *il Foundry* 51:632-4 Ag 1 '23
- Enameled products research laboratory. E. P. Poste. *il plan Chem & Met Eng* 25:974-7 N 23 '21
- Enameling cast iron and steel materials. F. L. Prentiss. *il Iron Age* 109:13-16 Ja 5 '22
- Enamelling on conveyors while under way. *diag Ind Management* (Lond) 10:47-8 Jl 26 '23
- Enameling sheets and castings. *il Iron Tr R* 72:223-6 Ja 18 '23
- Enamels for tinware. H. G. Schurecht. *Am Cer Soc J* 5 (Cer A 1):167-8 Je '22
- Experiment in electric smelting glass enamel. E. E. Geisinger. *il diags Am Cer Soc J* 5: 248-53 My '22
- Gas range and porcelain enamel. W. E. Derwent. *Gas Age* 48:610 N 5 '21
- How to enamel stove parts. *il Foundry* 51: 93-6 F 1 '23
- Impregnation of enameled wire coils. W. D. A. Peaslee. *Elec W* 80:926-7 O 28 '22
- Italian majolica process and painting over tin enamels. F. H. Rhead. *Am Cer Soc J* (Bul) 5:177-80 S '22
- Low temperature baking enamels. *Automotive Ind* 48:274 F 8 '23
- Mediaeval craftsmanship and the modern amateur. N. Wethered. 150p Longmans '23

Enamel and enameling—Continued

- Microscopic study of ground coat and cover coat enamel reactions. E. E. Geisinger. *il Am Cer Soc J* 5:322-37 Je '22; Discussion. (Bul) 5:112-13, 161-2 Jl-Ag '22
- Modification of the empirical formula in glaze and enamel calculations. J. E. Hansen. *Am Cer Soc J* 5:338-45 Je '22; Discussion. (Bul) 5:235-7 O '22
- New conveyor and oven installation cuts enameling costs. *il diag Automotive Ind* 48: 756-8 Ap 5 '23
- Notions exactes sur les émaux fluorés. C. Musiol. *Chimie & Ind* 9:872-87 My '23
- Observations of fishscaling of ground coat enamels. B. T. Sweely. *Am Cer Soc J* 5:618-22 S '22
- Observations on the factory control of fishscaling. J. S. Grainer. *Am Cer Soc J* 5:95-101 F '22
- Operating costs of electric furnace for baking vitreous enamel. *il Elec W* 79:286 F 11 '22
- Preventive methods eliminate rust in fender enameling process. J. E. Schipper. *il Automotive Ind* 48:1026-7 My 10 '23
- Production of some white enamels for copper. R. R. Danielson and H. P. Reinecker. *Am Cer Soc J* 4:827-34 O '21
- Relation of fineness of grinding to opacity in white enamels. B. T. Sweely and E. S. Prince. *Am Cer Soc J* 5:855-7 D '22
- Relations between composition and properties of enamels for sheet steel. R. R. Danielson and B. T. Sweely. *il diags Am Cer Soc J* 6:1012-29 O '23
- Relative action of acids on enamel. E. P. Poste. *Am Cer Soc J* 6:689-97 Je '23
- Relative merit of heat resisting alloys for enamel burning racks. E. P. Poste. *Am Cer Soc J* 5:811-16 N '22
- Sandblast castings to be enameled. F. G. Jaeger. *il Am Cer Soc J* 6:976-9 S '23
- Simple enameling bake oven. D. A. Hampson. *diag Am Mach* 57:779 N 16 '22
- Some early experiences in enameling cast iron. E. S. Dawes. *Am Cer Soc J* 6:234-7 Ja '23
- Use of bentonite for suspending enamels. M. E. Manson. *Am Cer Soc J* 6:790-3 Jl '23
- Vitreous enameling in the electric furnace. J. L. M. Yardley. *il Chem & Met Eng* 29:55-8 Jl 9 '23; Same abr. *Elec W* 82:327-9 Ag 18 '23
- Wet process enamels for cast iron; with discussion. R. R. Danielson and H. P. Reinecker. *Am Cer Soc J* 5:647-69 O '22; Discussion. (Bul) 5:305-10 N '22
- Zirconia in sheet iron enamels. W. F. Wenning. *Am Cer Soc J* (Bul) 6:102-4 My '23; Discussion. (Bul) 6:301-3 S '23
- See also Electric furnaces, Enameling; Furnaces, Enameling
- Enameled ware**
- Enamel-lined apparatus. *il plan Chem & Met Eng* 25:927-32 N 16 '21
- Enamel-lined apparatus. E. G. Miner. *Chem & Met Eng* 28:687 Ap 16 '23
- Enameled apparatus from a chemical engineering standpoint. E. P. Poste and M. Donauer. *Ind & Eng Chem* 15:469-71 My '23
- How and how not to treat enameled sanitary ware. *diags Sanitary & Heat Eng* 96:294-5 N 4 '21
- How sanitary ware is made. P. Dwyer. *il diag Foundry* 50:935-41, 997-1002 D 1-15 '22
- Manufacture of single coat gray enameled ware. H. C. Arnold. *Am Cer Soc J* 5:858-64 D '22
- Non-metals and enameled ware. *Eng & Min J* 112:936 D 10 '21
- Some causes of blistering of sheet steel metal enamels. G. F. Comstock. *il Am Cer Soc J* 6:873-85 Ag '23
- Standardization of enameled wares for chemical purposes. E. P. Poste. *il Chem Age* 30: 435-8 O '22; Same. *Oil Paint & Drug Rep* 102:xvi-xvii sec 2 S 18 '22; Same. *Chem & Met Eng* 27:1016-19 N '22
- Uses for industrial enameled equipment. M. Donauer. *il Chem & Met Eng* 25:1015-20 N 30 '21

Advertising

Overcoming the seasonal demand by creating more seasons; the Associated manufacturers of enameled ware show dealers how to advertise. J. Henle. *Ptr Ink* 120:81-2+ Ag 10 '22

Testing

Relation of composition to thermal shock in steel enamels. B. T. Sweely. *Am Cer Soc J* 5:263-5 My '22

Enameling furnaces. See Electric furnaces, Enameling; Furnaces, Enameling

Enantiotropy

Physical chemistry of the oxides of lead; the supposed enantiotropy of lead monoxide. S. Glasstone. *Chem Soc J* 119:1914-27 D '21

Encyclopedias

Americana annual—an encyclopedia of current events, 1923. 927p Encyclopedia of Americana corp., Chicago, New York '23

Endosmosis. See Osmosis

Endurance test. See Testing

Energy. See Force and energy

Engine houses. See Roundhouses

Engine stops. See Steam engines—Safety devices

Engineer (term)

Some engineers I have known. *Eng N* 90:701-2 Ap 19 '23

Engineering

The architect and the engineer. W: L. Steele. *Am Inst Arch J* 10:62-6 Mr '22

Engineering and its relation to the community. W: R. Conard. *il Munic Eng* 65:135-6 S '23

Engineering as a human activity. H. E. Riggs. *Eng N* 88:435 Mr 16 '22

Engineering as a profession. *Engineering* 112:692-3, 756, 785-6, 851, 886; 113:46, 73, 135, 165 N 18, D 2-9, 23-30 '21, Ja 13-20, F 3-10 '22

"Hütte," des ingenieurs taschenbuch. W. Ernst & Sohn, Berlin '23

Interdependence of abstract science and engineering. R: T. Glazebrook. *Engineering* 115:599-602, 633-6 My 11-18 '23; Same cond. *Engineer* 135:502-4 My 11 '23

Must link engineering and economics. E. F. Dubrul. *Iron Tr R* 71:1702-4 D 21 '22

Our engineering age. J. K. Finch. *Refrig W* 58:25-6 Je '23

Outline of the engineering possibilities of the future. C. P. Steinmetz. *Sibley J* 37:70-2 Ap '23

Physics and engineering science; abstracts. J. Barr. *Engineering* 113:559-61 My 5 '22; *Elec R* (Lond) 90:719 My 19 '22; *Electrician* 88:535 My 5 '22

Principles of warfare, business, and engineering. R. Rainsford. *Eng Soc W Pa* 39:117-27; Discussion. 128-33 My '23

Recent progress in engineering. W: H. Maw. *Can Eng* 44:344-5 Mr 20 '23

Rise of the engineer. C. R. Young. *il Can Eng* 45:423-6 O 23 '23

Science and engineering. J. H. Hunt. *Soc Auto Eng J* 13:51-4+ Jl '23

Some observations on the technical professions. L. L. Thurstone. *Chem Age* 31:87 F '23

Some problems confronting the engineer of tomorrow. C. S. Coler. *Sibley J* 37:52-5 Mr '23

Specialisation or team work. *Engineer* 134: 559-60 N 4 '22

See also Aeronautics; Aqueducts; Arches; Architecture; Automobile engineering; Blasting; Breakwaters; Bridges; Building; Building materials; Canals; Chemical engineering; Civil engineering; Construction equipment; Curves; Dams; Dikes; Docks; Drainage; Dredging; Drilling and boring (earth and rocks); Earthwork; Efficiency; Industrial; Electric engineering; Embankments; Engineers; Engines; Foundations; Girders; Grouting; Harbors; Haulage; Highway engineering; Hydraulic engineering; Irrigation; Lighting; Machinery; Marine engineering; Masonry; Mechanical drawing; Mechanical engineering; Mechanical handling; Mechanics; Mensuration; Mining engineering; Models; Muni-

Engineering—Continued

Cipal engineering; Pavements; Public works; Pumping; Railroad engineering; Railroads—Construction; Reclamation of land; Reservoirs; Rivers; Roads; Sanitary engineering; Sea walls; Sewerage; Specifications; Standards, Engineering; Steam engineering; Steam engines; Strains and stresses; Strength of materials; Subways; Surveying; Tunnels and tunneling; Water supply engineering; *also* headings beginning Engineering

Accounting

Cost accounting for practicing engineers. A. L. Mullergren. *Munic Eng* 63:107-9 S '22; Same *abr. Eng & Contr* 57:223-4 Mr 8 '22

Bibliography

Engineering index. See monthly numbers of Mechanical engineering
Engineering index, 1922. 675p *Am. soc. of mech. eng.*, 29 W. 39th st., New York '23
See also Engineering handbooks

Definitions

Definition of engineering. *Min & Sci P* 123: 847-8; 124:185-6, 285-6 D 17 '21, F 11, Mr 4 '22
Licensing the mining industry. *Eng & Min J* 113:153-4 Ja 28 '22

Estimates

Handbook of construction cost. H. P. Gillette. 1734p McGraw-Hill '22

Finance

Economics in engineering. F. Gill. *Inst E E J* 61:788-94 J1 '23
Finance and engineering. H. M. Byllesby. *W Soc E J* 28:339-44 Ag '23; Same. *Refrig Eng* 10:75-8 Ag '23; Same *cond. Eng & Contr (Ry)* 60:812-16 O 17 '23
Financing an engineering project. A. S. Kleeman. *Prof Eng* 8:8-9+ Ap '23
Relation of engineer and banker. H. D. Thrall. *Eng & Contr (Ry)* 59:1121-5 My 16 '23

Management

Construction cost keeping and management. H. P. Gillette and R. T. Dana. 572p McGraw-Hill '22
Engineering administration. F. P. Woy. *Rev. ed.* 621p Democrat pbg. co., Madison, Wis. '23
Lost time in construction. C. S. Hill. *Eng N* 89:548-51, 600-2, 645-7, 696-8 O 5-26 '22

Study and teaching

Design of jobs for engineering laboratory courses. E. B. Staveland. *Eng Educ* 12:476-82 Je '22
Instruction of students in the use of technical literature; an unexploited phase of engineering education. E. H. McClelland. *Eng Educ* 12:407-20 My '22; Same. *Eng & Contr* 57:598-600 Je 21 '22
Labor-saving method of duplicating problems for engineering students. H. L. Whittemore. *diag. Eng Educ* 13:315-55 F '23
Laboratory instruction in engineering. R. Kegerreis. *Eng Educ* 13:620-5 Je '23
Practical engineering course as given to freshmen by the civil engineering department at the University of Nebraska. W. H. Pahl. *Eng Educ* 12:358-64 Ap '22
Specifications for a teacher of engineering. F. H. Neff. *Eng Educ* 12:403-6 My '22
Teaching engineering subjects to freshmen in college, with special reference to mechanical drawing and descriptive geometry. M. Wenk. *Eng Educ* 13:514-26 Ap '23
Training of engineering instructors. G. C. Shoad. *Eng Educ* 13:538-41 Ap '23
See also Engineering colleges; Engineering education

Tables, calculations, etc.

How to use engineering formulas. *Power* 57: 266 F 13 '23
Pocket-book of useful formulæ & memoranda for civil, mechanical and electrical engineers. G. L. Molesworth and H. B. Molesworth. 28th ed., rev. & enl. 942p Spon '22

Theoretical frequency curves and their application to engineering problems. H. A. Foster. *Am Soc C E Pro* 49:825-55 My '23; Discussion. 49:1292-5, 1751-61, 1860-73 Ag, O-N '23

See also subdivision Tables, calculations, etc., under special subjects, e.g. Earthwork; Electric engineering; Hydraulics; Lighting

Terminology

Code on definitions and values proposed by the A.S.M.E. committee on power test codes. *Mech Eng* 43:805-10+ D '21

Asia

Legal aspects of construction enterprises in Asiatic countries. U S Bur For & Dom Com Trade Information Bul 121:1-9 '23

Australasia

Australasian engineering notes. *Engineer* 134: 477 N 3 '22

Canada

Inaugural address of chairman, Toronto branch, E. I. C. W: Storrie. *Can Eng* 43: 470-2 O 24 '22

China

Chinese engineering notes. *Engineer* 133:319, 431, 514, 547-8, 571, 724; 134:42, 68-9, 146-7, 196-7, 264-5, 358-9, 438-9, 583; 135:2, 70-1, 178 Mr 24, Ap 21, My 12-26, Je 30, J1 14-21, Ag 11, 25, S 15, O 6, 27, 11 '22, Ja 5, 19, F 16 '23

France

Legal aspects of construction enterprises in France. C. L. Jones. U S Bur For & Dom Com Trade Information Bul 124:1-8 '23

Great Britain

Iron, steel, coal and engineering trades in 1921. *Engineer* 133:2-5, 31-2, 59-60 Ja 6-20 '22

Latin America

Legal aspects of construction enterprises in Latin America. U S Bur For & Dom Com Trade Information Bul 118:1-48 '23

Tropics

Engineer in the tropics. T. H. Barnes. *il Boston Soc C E J* 9:83-100 My '22
Outfitting for the tropics. A. V. Eulich. *il Eng & Min J* 116:150-1 J1 28 '23

United States

Importance of engineering in national progress. C: F. Scott. *Elec J* 19:135-7 Ap '22
Pictorial review of engineering construction in the United States. *Eng N* 90:17-20 Ja 4 '23

Engineering, Agricultural. See Agricultural engineering

Engineering and industry building, San Francisco (proposed)

Proposed western home for Engineering and industry. R. Sibley. *il J Elec* 47:426-7 D 1 '21

Engineering and mining journal

Journal's editorial dinner. *Eng & Min J* 113: 58-60 Ja 14 '22

Engineering colleges

Analysis of attendance at engineering schools, 1921-22 and 1922-23. W. St John. *Eng N* 91:227 Ag 9 '23; Abstract. *Elec W* 82:401 Ag 25 '23

Attendance at engineering schools. F. L. Bishop. *Eng Educ* 13:249-50 Ja '23

Attendance in engineering and mining schools in the United States. W. C. John. *Eng Educ* 12:459-60 Je '22

Cooperation between the engineering colleges and the Board of investigation and coordination. J. R. Nelson. *Eng Educ* 14:89-100 O '23

Engineering education in the smaller colleges. L. P. Dickinson. *Eng Educ* 12:470-5 Je '22

Engineering students in American universities. M. A. Durand. *Power* 57:337 F 27 '23

Fluctuations in student enrollment in engineering courses in American universities and colleges. A. Bright and W. F. Rittman. *Eng Educ* 13:632-42 Je '23; Abstract. *Mech Eng* 45:449 J1 '23

Engineering colleges—Continued

- From the notebook of an engineer. R. Fleming. Eng Educ 12:302-6 F '22
- Helpful relations between the college and the industries. R. L. Wales. Eng Educ 13:136-46 N '22
- More abstracts from letters received from deans and presidents of engineering schools. Eng Educ 13:207-16 D '22
- Outlook for the engineering schools of the Middle West. W. G. Raymond. Am Soc C E Pro 49:498-505 Mr '23
- Registration of new electrical students materially decreased. Elec W 79:275-6 F 11 '22; Discussion 79:483 Mr 11 '22
- Report of Committee no. 8 admissions. Eng Educ 12:486-7 Je '22
- See also Engineering laboratories; also California institute of technology; Harvard engineering school, Cambridge, Massachusetts; Illinois, University—College of engineering; Massachusetts institute of technology; Newark technical school; Purdue university—Engineering schools; Rose polytechnic institute, Terre Haute

Curriculum

- Additions to our curriculums. O. J. Ferguson. Eng Educ 13:541-6 Ap '23
- Changes in engineering courses of instruction. F. B. Sanborn. Eng Educ 12:170-4 D '21
- Development of special courses in English for engineering students. J. R. Nelson. Eng Educ 12:104-13 N '21
- Engineering course should stress scientific training. M. S. Ketchum. Eng N 90:529 Mr 22 '23
- Five-year courses at Missouri. E. J. McCausland. Eng N 88:1092 Je 29 '22
- Remodelled curriculum in engineering at University of Toronto. L. J. Robinson. Can Eng 43:217 Ag 1 '22

Shop management

- Bonus system of college shop management. F. H. Sibley and A. W. Preston. Eng Educ 13:354-7 F '23

Engineering contracts

- Elements of an engineer's employment contract. J. E. Hughes. Eng & Contr 57:69-70 Ja 18 '22
- Law and engineering. Can Eng 42:351-2 Mr 23 '22
- Progress report of the committee on standard form of contract. Am Water Works Assn J 9:931-42; 10:695-705 N '22, J1 '23
- See also Building contracts; Contracts; Contracts, Letting of; Pavements—Contracts; Roads—Contracts; Sewerage—Contracts; Waterworks—Contracts

Engineering departments

- Organization of an engineering department. W. E. Irish. Ind Management 62:357-61 D '21
- Organizing the small plant's engineering department. T. W. Howard. Factory 30:692-5 Je '23
- Purchasing agent and the plant engineer. W. E. Irish. Ind Management 65:347-52 Je '23
- Successful operation of an engineering department. W. E. Irish. Ind Management 64:265-70, 329-34; 65:19-22, 93-7, 136-41, 225-31, 292-9 N '22-MY '23

Engineering education

- Co-operation of national engineering societies in engineering education. J. L. Harrington. Am Soc C E Pro 49:506-9 Mr '23
- Developing engineering education. H. C. Woods. Eng Educ 13:626-9 Je '23
- Educating and training the engineer. H. Sloan. Refrig Eng 9:180-4 D '22
- Education. S. E. Doane. Am Inst E E J 41:409-12 Je '22
- Education and industry. J. B. Whitehead. Elec W 80:1437-8 D 30 '22
- Education for the functional divisions of engineering. E. Bennett. Am Inst E E J 42:1145-52 N '23
- Education of engineering students. P. Gillespie. Can Eng 43:134-5 J1 11 '22
- Education of engineers. E. A. Allcut. Eng & Ind Management 6:633-7 D 1 '21
- Education of engineers. E. G. Beck. Engineering 115:6-7 Ja 5 '23
- Education of engineers in France. A. E. Kennelly. bibliog chart Eng Educ 13:89-118 N '22
- Education of the intuitions. A. E. Morgan. Eng Educ 13:254-62 Ja '23
- Engineering education. C. R. Mann. Prof Eng 8:10-4 Ja '23
- Engineering education after the war. A. M. Greene. U S Bur Educ Bul 1921,no 50:1-27 '22
- Engineering education and American industry. 25p Nat. ind. conference board, New York '23
- Engineering education and American industry and the economic status of the chemist. Chem Age 31:468-70 O '23
- Engineering education as viewed by the industrialist. J. E. Otterson. Mech Eng 44:5-6 Ja '22; Same. Eng N 88:275-7 F 16 '22
- Engineering education at the A.I.E.E. convention. W. I. Slichter. Gen Elec R 25:585-7 O '22
- Engineering education; discussion. Am Soc C E Pro 49:729-45 Ap '23
- Engineering education question. W. R. Macklind. Mech Eng 44:613 S '22
- Engineering education—the development of the resourceful mind. J. G. Hibben. Mech Eng 44:204-5 Mr '22
- Engineering school and the industries. A. J. Wood. Refrig Eng 9:109-10 S '22
- Engineering schools fall short of modern needs. J. H. Dunlap. Eng N 89:224-6 Ag 10 '22
- Engineering societies and education. C. F. Scott. Eng Educ 12:328-30 Ap '22
- English and engineering. F. Aydelotte. 2d ed., rev. & enl. 415p McGraw-Hill '23
- Executive training and the engineering school. J. S. Keir. chart Administration 3:605-12 My '22
- Fundamentals. H. E. Dyche. Eng Educ 13:598-619 Je '23
- Future of engineering education. C. F. Scott. Eng Educ 13:2-9 S '22
- History of science: a cultural course for engineering students. P. B. McDonald. Eng & Contr 56:481-2 N 23 '21
- Intelligence tests for engineering students. L. L. Thurstone. Eng Educ 13:263-318 Ja '23
- Later work, not education, raises professional status. C. A. Holden. Eng N 87:949 D 8 '21
- Longer college course for engineers. F. E. Turneaure. Chem & Met Eng 28:18-19 Ja 3 '23
- Mann report on engineering education; with discussion. A. W. Smith. Am Inst Chem Eng Trans v 13 pt 1:413-22 '20
- National policy on engineering education. A. G. Christie. Mech Eng 44:3-5 Ja '22
- Need for measurement in engineering education. J. C. Chapman. Eng Educ 12:348-52 Ap '22
- Objective in engineering education. M. W. Alexander. Am Soc C E Pro 49:698-701 Ap '23
- Opportunity in engineering education. W. E. Bullock. Eng Educ 13:566-70 My '23; Same. Can Eng 45:312-13 S 11 '23
- Preparing the engineer for the new era. J. H. Dunlap. Eng Educ 13:43-64 O '22
- Present trends in engineering education. A. W. Greene, jr. Eng & Contr (Bldgs) 58:7-8 O 25 '22
- Principles of engineering education. P. Torchio. Am Inst E E J 41:412-13 Je '22
- Professional engineering education for the industries. F. C. Pratt. Mech Eng 44:1-3 Ja '22; Same. Eng Educ 12:227-33 Ja '22; Same. Gen Elec R 25:4-6 Ja '22; Excerpt. Eng N 88:275 F 16 '22
- Professional engineering education for the industries. C. F. Scott. Can Eng 42:44 Ja 3 '22
- Some suggestions concerning the college education of an engineer. C. Hering. Am Inst E E J 41:415-17 Je '22
- Some suggestions for possible improvements in methods of engineering education. B. G. Lamme. Am Inst E E J 41:406-9 Je '22

Engineering education—Continued

- Student in the factory. Engineer 134:415, 473 O 20, N 3 '22
- Too much specialization in engineering education. P. B. McDonald. Chem & Met Eng 26:964-5 My 24 '22
- Trained or educated? A. A. Potter. Prof Eng 8:6-7 Ap '23
- Training of engineers. G: Goodwin. Can Eng 43:627-8 D 12 '22
- Training of engineers. C: R. Richards. W Soc E J 27:191-9 J1 '22
- Training the engineer for industrial and social service. F: Bass. Eng N 87:979-80 D 15 '21
- Training to think versus gathering information. T. Milton. Am Inst E E J 41:606-8 Ag '22
- Visioning the opportunity of the engineer. H. Sutherland. Eng N 87:980-1 D 15 '21
- What are the universities and technical schools doing to train their undergraduates in industrial relations? D. S. Kimball. Sibley J 35:162-4+ D '21
- What is wrong with engineering graduates? H. E. Dyche. Eng Educ 12:421-4 My '22
- Who should instruct engineering students in non-engineering subjects? Eng Educ 12: 261-71 F '22

See also Apprentices; Electric engineering—Study and teaching; Engineering—Study and teaching; Engineering colleges; Engineering laboratories; Industrial engineering—Study and teaching; Industrial management—Study and teaching; Mechanical drawing—Study and teaching; Military engineering—Study and teaching; Mining engineering—Study and teaching; Mining schools and education; Technical education; *also* Society for the promotion of engineering education

Cooperative plan

- Co-operative plan of engineering education. J. W. Roe. Management Eng 2:269-74 My '22
- Developments in co-operative engineering courses. R. L. Sackett. Eng N 90:1050-1 Je 14 '23

Engineering education, Society for the promotion of. *See* Society for the promotion of engineering education

Engineering equipment

- Equipment review; quarterly issue of Engineering and contracting (beginning May 30, 1923)

Engineering ethics

- A.S.M.E. adopts code of ethics. Elec Ry J 60:1018 D 30 '22; Eng & Contr (Bldgs) 58: 128 D 27 '22; Eng & Min J 114:1172 D 30 '22; Power 56:1039-40 D 26 '22; Am Mach 58:42 Ja 4 '23; Can Eng 44:126 Ja 9 '23; Chem & Met Eng 28:34 Ja 3 '23; Coal Age 23:6 Ja 4 '23; Elec W 81:240 Ja 27 '23
- Another A.L.C.E. ethics committee case. Eng N 91:681 O 25 '23
- Engineering ethics. Prof Eng 8:11-12 O '23
- Ethical standards proposed for engineers prepared by the national practice committee of the American association of engineers. Eng & Min J 115:1029 Je 9 '23
- Ethics and the engineering profession. M. L. Cooke and others. (Annals v.101: no.190 My '22) p. 68-104, 271-7 Am. Acad. of Pol. and Soc. Sci.
- Practice cases. E. E. Carpenter. Prof Eng 8:17 Ja '23
- Report of committee on code of ethics. Am Soc Heat & V E J 28:61-4 Ja '22; Same abr. Min & Met 183:46 Mr '22
- Sidelines for the engineer in public service. Munic Eng 64:133-4 Ap '23
- Specific principles of good professional conduct for engineers. Munic Eng 64:179-81 My '23; Same. Eng & Contr (W W) 59:1071-3 My 9 '23; Same. Eng N 90:915-16 My 24 '23; Same. Prof Eng 8:9-10 Je '23

See also Engineers—Public relations

Engineering experiment stations

See Illinois. University—Engineering experiment station; United States—Mines, Bureau of—Experiment stations

Engineering foundation

- Engineering foundation; Division of engineering, of National research council: their origin, work, plans, needs. A. D. Flinn. Am Soc C E Pro 49:518-23 Mr '23
- Report for the year ended February 8, 1923. 118p Engineering foundation, New York '23

Engineering handbooks

- Wanted: a metallurgical handbook. M. W. von Bernewitz. Eng & Min J 115:218-19 F 3 '23

Engineering inspection

- Engineering inspection. E. A. Allcut and C: J. King. 187p Van Nostrand '22

Engineering institute of Canada

- Inaugural address of chairman, Toronto branch. W: Storrie. Can Eng 43:470-2 O 24 '22
- Meeting, Vancouver, June 16-17. Can Eng 42: 675 J1 4 '22
- Meeting, Winnipeg, September 5-7. Can Eng 43:352-4 S 12 '22
- 36th annual meeting, Montreal. Can Eng 42: 186-8 Ja 31 '22

Engineering instruments

- Engineering instruments & meters. E. A. Griffiths. 360p Van Nostrand '21

See also Aeronautic instruments; Electric instruments; Eötvös balance; Surveying instruments

Engineering laboratories

- Admiralty engineering laboratory at West Drayton. il (supp) Engineer 135:489-90 My 11 '23

Engineering works laboratory. il Engineering 113:34-6 Ja 13 '22

See also Aerodynamic laboratories; Electric laboratories; Hydraulic laboratories; Metallurgical laboratories; Testing laboratories; *also* Michigan. University—Chemical engineering laboratory

Engineering law

- Engineering profession act, Province of Ontario. Can Eng 42:621-5 Je 20 '22
- Pros and cons re amendment to engineering institute by-law. Can Eng 42:433 Mr 21 '22
- Réglementation de la qualification d'ingénieur. Génie Civil 80:157-9 F 18 '22
- State reciprocity for licensed engineers. C. S. Hammatt. Eng & Contr 57:455-6 My 10 '22

See also Boilers—Laws and regulations; Building laws and regulations; Engineering contracts; Engineers—Licenses; Plumbing laws and regulations

Engineering libraries

See Technical libraries; *also* Engineering societies library, New York

Engineering periodicals

- Finding published electrical information. V. Karapetoff. Elec W 80:1380-2 D 23 '22
- From the notebook of an engineer. R. Fleming. Eng & Contr 57:92-3 Ja 25 '22
- Inquiries from correspondents. R. Fleming. Eng Educ 12:184-90 D '21

See also Electric engineering—Periodicals

Engineering reports

- Daily report system for asphalt paving inspection. Eng & Contr 57:415-16 My 3 '22
- Preparation of engineering reports. N. C. Grover. Eng & Contr (Ry) 59:1135-7 My 16 '23; Same. Pub Works 54:194-5 Je '23; Same. Can Eng 45:175-6 J1 24 '23

Engineering research

- Co-operation and research among engineers. A. D. Flinn. W Soc E J 27:213-22 J1 '22; Discussion. 27:253-4 Ag '22

Engineering foundation; Division of engineering, of National research council: their origin, work, plans, needs. A. D. Flinn. Am Soc C E Pro 49:518-23 Mr '23

Engineering research. *See* monthly numbers of Mechanical engineering

Engineering research; discussion. Am Soc C E Pro 49:746-52 Ap '23

Post office engineering research station. Engineering 115:451-3, pl 28-9 Ap 13 '23

Engineering research—Continued

Research activities of the American society of civil engineers. A. N. Talbot. Am Soc C E Pro 49:512-17 Mr '23

Research in civil engineering as a career. A. D. Flinn. Eng N 88:163-4 Ja 26 '22

See also Aeronautic research; Automobile research; Electric research; Engineering laboratories; Gas research; Highway research; Industrial research; Laboratories; Mining research; Railroad research; Scientific research; also Illinois. University—Engineering experiment station; Toronto. University—School of engineering research; United States—Mines, Bureau of—Experiment stations

Engineering societies

A.S.M.E. discusses future of engineering societies. Iron Age 111:1625-7 Je 7 '23

British engineering societies federate. Power 56:434 S 12 '22

By-laws of the Association of professional engineers of the province of Ontario. Can Eng 43:519-21 N 7 '22

Co-operation and research among engineers. A. D. Flinn. W Soc E J 27:213-22 Ji '22; Discussion. 27:253-4 Ag '22

Date of the founding of national engineering and architectural societies in various countries. C. B. Loweth. Am Soc C E Pro 49:1363-75 S '23; Excerpt (Cooperation). Eng N 91:147 Ji 26 '23

Engineering societies extend their activities. Power 57:18-19 Ja 2 '23

Founder societies move toward co-operation. Eng N 91:735 N 1 '23

How local engineering societies and chapters can serve the public. Eng & Contr 57:167, 269-71, 391-2 F '22, Mr 22, Ap 26 '22

How Rochester engineers have solved problems of making luncheon meetings interesting. W. G. Wildes. Eng N 88:909-11 Je 1 '22

Strength of engineering societies. Arch Forum 35:233 D '21

Unification of engineering societies. H. C. Ferry. Prof Eng 8:7-8 Ji '23

Value of association membership. E. H. Lee. Prof Eng 8:14-15 S '23

See also Electric engineering societies; Mining engineering societies; also names of societies, e.g. American society of civil engineers; Boston society of civil engineers; Engineering institute of Canada; Federated American engineering societies; Western society of engineers

Proceedings

Inaccuracies in society papers; discussion. Refriger Eng 9:344-8 My '23

Engineering societies' library, New York

Annual report for 1922; extracts. Am Inst E E J 42:294 Mr '23

Cataloging and recataloging the Engineering societies library. H. W. Craver. Min & Met 184:41-2 Ap '22

Engineering standards. See Standards, Engineering

Engineering standards committee, American. See American engineering standards committee

Engineers

Appreciation of the engineer. Chem & Met Eng 27:1061 N 29 '22

Canadian report on classification and remuneration of engineers. Eng & Contr (R & S) 56:159-63 D 6 '22

City planning for engineers. P. Green. Eng & Contr 56:564 D 21 '21

Civilization and the engineer. M. E. Cooley. Eng Educ 13:10-13 S '22

Classification of engineering positions. Eng & Contr (Ry) 59:422-3 F 21 '23

Co-operation between engineer and architect. R. D. Kohn. Eng & Contr (Bldgs) 59:743-4 Mr 28 '23; Same. Can Eng 44:624 Je 26 '23

Co-operation between engineer and contractor. A. S. Bent. Eng & Contr (Ry) 58:27-30 O 18 '22; Excerpts. Eng N 89:752-3 N 2 '22

Co-operation between engineer and contractor. W. R. Neel. Eng & Contr (R & S) 58:115-17 N 1 '22; Same. Can Eng 43:566 N 21 '22; Same. Munic Eng 63:180-1 N '22; Same.

Good Roads 63:158 N 1 '22

Culture and the engineer. T. A. Rickard. Eng & Min J 115:835 My 12 '23

Defense for engineer as manager. C. E. Drayer. Eng N 87:950 D 8 '21

Defines professional attitude toward contracting. Eng N 88:350-1 Mr 2 '22

Demand for engineers with commercial or executive ability. G. H. Stickney. Elec W 79:533 Mr 13 '22

Disputes in engineering and shipbuilding industries in Great Britain; lockouts of engineers. Monthly Labor R 15:434-8 Ag '22

Engineer and labor problems. E. Lee. Eng & Contr (Ry) 59:165-7 Ja 17 '23

Engineer and the chemist. Engineering 115:271-2 Mr 2 '23

Engineer as a leader of business. W. E. Wickenden. Eng Educ 14:15-31 S '23

Engineer as a professional man. C. H. Roe. Munic Eng 65:6-8 Ji '23

Engineer in textile industry. J. E. Judson. Textile World 60:3254+ D 3 '21

Engineer on the witness stand. W. D. Sell. Prof Eng 8:17-18 F '23; Same. Eng & Contr (Ry) 59:147-50 F 21 '23

Engineer or architect. T. R. Kimball. Eng & Contr (Bldgs) 59:1195-7 My 23 '23

Engineering expert witness and technical adviser. P. E. Green. Munic Eng 63:11-12 Ji '22

Engineering graduates in business. L. A. Ferguson. Am Inst E E J 41:570-1 Ag '22

Engineering societies employment service; the new cooperative plan. Am Inst E E J 42:872-4 Ag '23

Engineers and production managers. C. S. Dahlquist. Soc Auto Eng J 13:310-12 O '23

Engineer's incomplete mastery of power. T. T. Read. Prof Eng 8:6-8 Je '23; Same. Eng & Contr (Ry) 59:1386-9 Je 20 '23

Engineers lead in army intelligence tests. Soc Auto Eng J 13:86 Ji '23

Engineer's shortcomings as a financial manager. P. Cabot. Mech Eng 43:833 D '21

English literature for the engineer. P. B. McDonald. Eng & Contr (Ry) 59:467-70 F 21 '23

Finance and engineering. H. M. Byllesby. W Soc E J 28:339-44 Ag '23; Same. Refriger Eng 10:75-8 Ag '23; Same cond. Eng & Contr (Ry) 60:812-16 O 17 '23

Fourth factor in production. P. Kreuzpointner. Management & Adm 6:211-12 Ag '23

How the engineer can help business. R. H. Grant. Soc Auto Eng J 10:149-52 Mr '22

International affiliation of engineers. H. L. Horning. Soc Auto Eng J 10:83-4 F '22

Keeping up with the procession. Eng & Contr 57:501-3 My 24 '22

Labour & capital in the engineering trades. 47p Labour pub. co., London '22

Necessity for an engineer to be democratic. W. J. Towne. Eng & Contr 57:161 F 15 '22

New employment plan worked out by the secretaries of the four major engineering bodies. Elec W 82:303 Ag 11 '23

One man in thousand is Oregon engineer ratio. Eng N 89:624 O 12 '22

Opportunities for engineers in the U. S. civil service. Eng N 90:623 Ap 5 '23

Preventing mis-fits by applied psychology. B. V. Moore. Ind Management 66:59-62 Ji '23

Problems confronting the engineering profession. L. W. Wallace. Sibley J 37:77-9 Ap '23

Professional status of engineering. J. L. Harrington. Eng & Contr (Bldgs) 60:187-9 Ji 25 '23

Professional work and internal problems before American association of engineers. Eng N 90:838-91 My 17 '23

Progress in the classification of engineering positions. A. B. McDaniel. Eng N 90:744-5 Ap 26 '23

Progress of industry handicapped by lack of engineers. L. F. Leurey. J Elec 48:195-6 Mr 1 '22

Proper status of the engineering profession. R. A. Hart, H. W. Clark and S. A. Roberts. Chem & Met Eng 27:245-8 Ag 9 '22

Engineers—Continued

- Publicity only will not raise engineers' status. W. J. Schlick. Eng N 90:751 Ap 26 '23
 Railroad president's advice to young engineers. E. J. Pearson. Eng & Contr (Ry) 59:1116-19 My 16 '23
 Rise of the engineer. C. R. Young. Il Can Eng 45:423-6 O 23 '23
 Scope of the engineer in forest industries. S. L. de Carteret. Can Eng 42:245-6 F 21 '22
 Selling engineering service. P. E. Green. Eng & Contr 57:180-2 F 22 '22; Excerpts. Eng N 88:523 Mr 30 '22; Discussion. A. M. Shaw. Eng & Contr 57:256-7 Mr 15 '22
 Some engineering practices and ideals. R. S. Weston. Boston Soc C E J 9:75-82 Ap '22
 Suggestions for an engineering employment service. M. L. Cooke. Eng N 90:830-1 My 10 '23; Discussion. W. L. Benham. 90:1097-8 Je 21 '23
 Training men for industry. V. Karapetoff. Eng Educ 13:547-9 Ap '23
 Training the engineer. Min & Sci P 124:375 Mr 18 '22

See also Chemical engineers; Civil engineers; Engineer (term); Engineering education; Engineering ethics; Engineering societies; Highway engineers; Industrial engineers; Marine engineers; Mining engineers; Municipal engineers; Railroad engineers; Technical writing; Women as engineers

Advertising

- Advertising for the practising engineer. M. W. Lee. Eng N 88:523-4 Mr 30 '22

Biography

- Who's who in engineering, 1922-23. J. W. Leonard. 1509p John W. Leonard corp., New York '22

Directories

- List of members of Illuminating engineering society. Illum Eng Soc 18:supl-61 Jl '23
 List of members, Society for the promotion of engineering education. Eng Educ 13:373-496 Mr '23
 Who's who in engineering. John W. Leonard corporation, 375 Fulton St, New York '22
 Year book of the Society for the promotion of engineering education. Eng Educ 12:1-116 Mr '22

See also Civil engineers—Directories; Electrical engineers—Directories; Hydraulic engineers—Directories; Mechanical engineers—Directories; Refrigerating engineers—Directories

Fees

- Engineering fees. W. L. Benham. Prof Eng 8:8 Ag '23

See also Engineers—Salaries

Licenses

- Administering engineers' license laws. Munic Eng 62:46 F '22
 Advantages and disadvantages of licensing engineers. B. B. Gottsberger. Min & Met 183:47-50 Mr '22
 American engineering council adopts report on registration. Eng N 88:993 Je 15 '22
 Civil engineers' attitude toward licensing engineers. J. M. Goodell. Min & Met 184:15-17 Ap '22
 Declares Pennsylvania licensing law unconstitutional. Eng N 91:180 Ag 2 '23
 Defeated bill for licensing engineers to be fought over in Massachusetts. Min & Met 180:25-6 D '21
 Defends licensing of engineers. H. Tucker. Eng N 89:10-11 Jl 6 '22
 Discussion on licensing engineers. Min & Met 182:35-6 F '22
 Engineers in many fields discuss licensing. Eng N 89:356-8, 470-2, 616-17 Ag 31, S 21, O 12 '22
 Important decision. Prof Eng 8:12-13 F '23
 Interpretation of the New York engineers license law. Power 57:960-1 Je 12 '23; Same. Chem & Met Eng 29:52 Jl 9 '23
 Licensing a farce in Colorado. R. A. Parker. Min & Met 183:53-4 Mr '22
 Licensing laws for engineers. Chem & Met Eng 28:588-9 Mr 28 '23

- Licensing the mining engineer. H. G. Moulton. Eng & Min J 113:114-16 Ja 21 '22
 Propose interstate agreement on reciprocal licensing. Eng N 89:156 Jl 27 '22
 Rational approach to the licensing problem. Eng N 89:8-10 Jl 6 '22
 Reciprocal registration operates in 12 states. Eng N 91:614 O 11 '23
 Reciprocity in state licensing laws. Eng N 88:529 Mr 30 '22
 Reciprocity in the practice of professional engineering. Eng & Contr (W W) 58:5-7 O 11 '22
 Referendum shows Ohio engineers against registration. E. D. Gilman. Eng N 90:341 F 22 '23
 Registration of engineers in Canada. B. B. Gottsberger. Min & Met 180:19-20 D '21
 Should engineers be licensed? J. M. Goodell. Chem & Met Eng 27:244 Ag 9 '22
 State boards of engineering examiners agree on reciprocal registration between states. Eng N 89:629 O 12 '22
 State licensing of engineers. Pub Works 52:208-9, 231-2 Mr 25-Apr 1 '22
 State reciprocity for licensed engineers. C. S. Hammatt. Eng & Contr 57:455-6 My 10 '22
 Why one engineers' registration law was not enacted; some comments on the proposed law in Ohio. A. Richards. Eng N 90:992-3 Je 7 '23

Public relations

- Engineer and public service. J. H. Dunlap. Eng & Contr 57:182 F 22 '22
 Engineer as a citizen. H. Tucker. Eng & Contr 57:281 Mr 22 '22
 Engineer as a leading citizen. J. W. O'Leary. W Soc E J 27:[current news] 65-6 Ap '22
 Engineer as a political economist. H. P. Gillette. W Soc E J 27:[current news] 92-4 My '22; Same. Eng & Contr 58:12-13 Jl 5 '22
 Engineer in public life. Mech Eng 45:208 Mr '23
 Engineer student and public service. A. N. Johnson. Good Roads 61:218+- N 9 '21; Same. Eng & Contr 56:482-3 N 23 '21
 Engineer the new industrial leader. D. S. Kimball. Min & Met 189:39-40 S '22; Same. Sibley J 36:94-5+ My '22; Same cond. Am Inst E E J 41:387-8 My '22
 Engineer's civic responsibility. J. L. Harrington. W Soc E J 28:226-8 My '23; Same. Eng & Contr (Ry) 59:1391-4 Je 20 '23
 Engineers' participation in public affairs. J. H. Mullen. Eng & Contr (R & S) 60:739 O 3 '23
 The higher instincts; the dependence of our economic success upon them. W. L. Beck. Prof Eng 8:14-15 O '23
 Minnesota engineers in public affairs. J. H. Mullen. Munic Eng 65:137-8 S '23
 National leadership. D. S. Kimball. Mech Eng 45:1-3 Ja '23; Same. Sibley J 36:171-4 D '22; Same cond. Iron Tr R 71:1631-2 D 14 '22; Excerpts. Eng N 89:1013 D 14 '22; Discussion. Mech Eng 45:10-13 Ja '23
 Public affairs and the engineer. B. H. Case. Prof Eng 8:24 S '23
 Public service possibilities for the engineer. A. T. Smith. Prof Eng 8:9-10+ Jl '23; Abstract. Eng N 90:916 My 24 '23
 Relation of the engineer to the community. E. J. Lake. Eng & Contr 57:73-4 Ja 18 '22
 Some public matters for engineering study. C. Piez. W Soc E J 28:249-52 Je '23
 Technical man as a citizen. A. Smith. Chem & Met Eng 26:936-7 My 17 '22

Salaries

- Canadian institute committee reports on salaries. Eng N 90:592-4 Mr 29 '23
 Canadian report on classification and remuneration of engineers. Eng & Contr (R & S) 56:159-63 D 6 '22
 Classification and remuneration of engineers. Can Eng 43:661-2 D 26 '22
 Compensation of engineers in the employ of Philadelphia. J. W. Follen. Eng N 88:735-6 My 4 '22
 Engineers in public service. S. C. Hadden. Prof Eng 8:19-20 My '23
 Higher pay for government engineers. Eng N 89:1055 D 21 '22

Engineers—Salaries—Continued

How to secure increased salaries for city engineers. Eng & Contr (R & S) 58:66-8 N 1 '22

Pay of engineers. Eng & Min J 115:390-1 Mr 3 '23

Report of committee on salaries of engineers in public service. Munic Eng 64:229-31 Je '23

Salaries of city engineers a disgrace to the civil engineering profession. Eng & Contr (R & S) 58:2-3 O 4 '22

Successful operation of an engineering department. W. E. Irish. Ind Management 65: 292-9 My '23

See also Highway engineers—Salaries; Sanitary engineers—Salaries

Engineers, Industrial. See Industrial engineers

Engineers, Municipal. See Municipal engineers

Engines

Powell leverage cycle, in four parts. A. L. Powell. 152p Press of the Sudwarth co., Washington '22

Twisting moments of reciprocating engines. J. Hecking. Marine Eng 27:245-6 Ap '22

See also Air engines; Airplane engines; Airship engines; Automobile engines; Blowers; Crankcases; Crankshafts; Diesel engines; Farm engines; Fire engines; Fuel; Gas and oil engines; Governors (machinery); Hydraulic motors; Locomotives; Marine engines; Pistons; Pumping machinery; Steam engines; Steam turbines; Turbines

England

See also Canals—England; Hydroelectric plants—England; Railroads—England; Retail trade—England; Roads—England

Sanitary affairs

British sanitary engineering practice. H. C. H. Shenton. Eng N 91:637 O 18 '23

Present status of sewage treatment in England. G. W. Fuller. Eng N 90:266-8 F 1 '23; Abstract. Engineering 115:240 F 23 '23

English channel tunnel

Again the English Channel tunnel. Eng N 91:645 O 18 '23

English language

Concerning defective English. T. A. Rickard. Eng & Min J 115:348 F 21 '23

Diverse notions of English language. F. H. Teall. Inland Ptr 68:478 Ja '22

English and engineering. F. Aydelotte. 2d ed., rev. & enl. 415p McGraw-Hill '23

English for engineers. S. A. Harbarger. 260p McGraw-Hill '23

House-organ discords—choice of language. H. Botsford. Inland Ptr 71:517-18 Jl '23

How radio affects the language. F. H. Vizetelly. Wireless Age 10:30 N '22

Recipe for unscrambled words. A. H. Little. Ptr Ink 124:81-2+ Ag 16 '23

That American language. by H. L. Mencken Review, by E. N. Teall. Inland Ptr 71:710-11 Ag '23

This English language. R. E. Mooney. Ptg Art 39:587-9 Ag '23

See also Commercial correspondence Compound words; Infinitives; Spelling reform; Technical writing; Words

Business English

Business English from the viewpoint of the business executive. Administration 4:248-50 Ag '22

English manual for business. R. Winternitz and P. T. Cherington. 96p Shaw '23

Errors

Errors in recent books. E. N. Teall. Inland Ptr 71:709-10 Ag '23

Study and teaching

Development of special courses in English for engineering students. J. R. Nelson. Eng Educ 12:104-13 N '21

English now firmly established in engineering courses. C. W. Park. Eng N 89:403 S 7 '22

Place of English studies in commercial education. J. D. Spaeth. Administration 4: 41-4 Jl '22

English literature**Study and teaching**

English literature for the engineer. P. B. McDonald. Eng & Contr (Ry) 59:467-70 F 21 '23

Engraving

Correcting engraved plates by novel method. Sci Am 129:241 O '23

Process engraving. S. H. Horgan. See monthly numbers of Inland printer

See also Ben Day process; Color printing; Etching; Lithography; Map plates; Microscopic engraving; Photoengraving; Roto-gravure

Bibliography

Etching and engraving; list of books in the Enoch Pratt free library and in the library of the Peabody Institute. 13p Enoch Pratt free library, Baltimore '23

History

History of engraving and etching, from the 15th century to the year 1914. A. M. Hind. 3d ed., rev. 487p Houghton '23

Engraving machines

Gorton no. 1-S engraving machine. il Am Mach 56:191-2 F 2 '22; Iron Age 109:352 F 2 '22; Mach 28:499-500 F '22

Engravings

See also Wood engravings

Printing

Application of electricity in processes leading up to surface and subsurface printing. C. F. Scott. Am Inst E E J 40:916-18 D '21

Overcoming the last hazards of newspaper art reproduction. Ptr Ink 120:41-2+ S 23 '22

See also Advertisements, Pictorial—Printing

Enolic compounds

Influence of hydrogen chloride on the enolis-ing action of Grignard's reagent. V. K. Bhagwat. Chem Soc J 123:1803-7 Jl '23

Mechanism underlying the reaction between aldehydes or ketones and tautomeric substances of the keto-enol type. E. P. Kohler and B. B. Corson. Am Chem Soc J 45:1975-86 Ag '23

Über die azo-ester-reaktion der amine und enole. O. Diels. Deutsche Chem Gesell Ber 55:1524-8 Je '22

Über die bestimmung von enolen nach der kupferacetat-methode. W. Hiebers. W. Dieckmann. Deutsche Chem Gesell Ber 54: 2251-4 O '21

Über keto-enol-gleichgewichte und die Claisensche regel. W. Dieckmann. Deutsche Chem Gesell Ber 55:2470-91 S '22; Abstract. Chem Soc J 122 pt 1:1020-2 N '22

Entropy

Correlation of entropy and probability. G. A. Linhart. Am Chem Soc J 44:1881-6 S '22

Entropy as a tangible conception. S. G. Wheeler. 76p Van Nostrand '22

Entropy of diatomic gases and rotational specific heat. R. C. Tolman and R. M. Badger. Am Chem Soc J 45:2277-85 O '23

Entropy of saturated steam; its relation to specific volume. H. E. Longwell. Mech Eng 45:136-7 F '23

Heat capacities and entropies of diatomic and polyatomic gases. H. C. Urey. Am Chem Soc J 45:1445-55 Je '23

Mass effect in the entropy of substances. E. D. Eastman. Am Chem Soc J 45:80-3 Ja '23

La mesure de l'énergie en travail; l'entropie. L. Grenet. Génie Civil 81:233-7 S 9 '22

Relation between entropy and probability; the integration of the entropy equation. G. A. Linhart. Am Chem Soc J 44:140-2 Ja '22

Revision of the entropies of the elements. G. N. Lewis, G. E. Gibson and W. M. Latimer. Am Chem Soc J 44:1008-17 My '22

Entropy—Continued

Temperature coefficient of electromotive force of galvanic cells and the entropy of reactions. R. H. Gerke. diags Am Chem Soc J 44:1684-1704 Ag '22

What expansion without loss of heat means. diags Power 56:169-72 Ag 1 '22

Enzymes

British association discusses enzymes. Soc Chem Ind J (Chem & Ind) 42:950-3 O 5 '23

Enzymes of the abdominal adipose tissue of the common turkey, *meleagris gallopavo*. J. S. Hepburn. Am Chem Soc J 43:1963-5 Ag '21

Ergebnisse und ziele der allgemeinen enzym-chemie. H. v. Euler. Deutsche Chem Gesell Ber 55:3583-3600 D '22

Industrial model enzymes. K. Oshima and M. E. Church. bibliog il Ind & Eng Chem 15: 67-70 Ja '23

Influence of certain amino-acids upon the enzymic hydrolysis of starch. H. C. Sherman and F. Walker. Am Chem Soc J 43: 2461-9 N '21

Nature of enzymes. E. F. Armstrong. Chem Age (Lond) 9:308-9 S 22 '23

Properties and action of enzymes in relation to leather manufacture. J. T. Wood. J Ind & Eng Chem 13:1135-7 D '21

Studies of enzyme action: the spontaneous increase in sucrase activity of banana extracts. G. McGuire and K. G. Falk. Am Chem Soc J 45:1539-51 Je '23

Studies on enzyme action; the relationship between the chemical structure of certain compounds and their effect upon the activity of urease. E. W. Rockwood and W. J. Husa. Am Chem Soc J 45:2678-89 N '23

Study of the influence of arginine, histidine, tryptophane and cystine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. Am Chem Soc J 43:2469-76 N '21

Über isolierung von enzymen. K. Willstätter. Deutsche Chem Gesell Ber 55:3601-23 D '22

See also Diastase; Fermentation; Invertase; Lipase; Lipodiastase; Oropon; Pancreatin; Urease

Eolotropy

Conditions for elastic equilibrium under surface tractions in a uniformly eolotropic body. R. F. Gwyther. Philos Mag 6th ser 44:501-7 S '22

Eötvös balance

Eötvös torsion balance and its application to the finding of mineral deposits. S. Rybar. bibliog Econ Geol 18:639-62 O '23

Prospecting with the Eötvös balance. E. Wagner. diags Eng & Min J 116:583-9 O 6 '23

Epinephrin hydrochloride test. See Thyroid gland**Equation of state**

Equation of state for methane gas phase. F. G. Keyes, L. B. Smith and D. B. Joubert. diags Refrig Eng 9:312-18 Ap '23

Equation of state for pure nitrogen, gas phase. L. B. Smith and R. S. Taylor. diags Am Chem Soc J 45:2107-24 S '23

Meaning of "a" and "b" in the equation of state. A. F. Core. Philos Mag 6th ser 45: 622-4 Mr '23

Revised equation of state. A. W. Porter. Philos Mag 6th ser 44:1020-4 N '22

Equations, Differential. See Differential equations**Equations, Integral.** See Integral equations**Equations, Theory of**

First course in the theory of equations. L. E. Dickson. 168p Wiley '22

Equilibrium

Equations of equilibrium of an elastic plate under normal pressure. J. Prescott. diags Philos Mag 6th ser 43:97-125 Ja '22

See also Chemical equilibrium; Stability

Equilibrium, Chemical. See Chemical equilibrium**Equipment associations**

Relation of plant equipment manufacture to chemical industry. R. Everett. Chem Age 31:5-6 Ja '23; Same. Chem & Met Eng 28: 173-5 Ja 24 '23

Equipment industries

See also National association of ice-cream supply men; Railroad supplies industry

Equipment records

Why not an equipment register? M. G. Farrell and J. Heywood. Factory 29:662-4+ D '22

Erasers, Rubber

Manufacture of rubber erasers. W. Roberts. il India Rubber W 68:651-2 Jl '23

Erdmann's salt

Inorganic complex salts; Erdmann's salt and its derivatives. W. Thomas. Chem Soc J 123:617-19 Mr '23

Ericsson, John

Engineering and civic bodies pay honor to Ericsson and De Lamater on anniversary of Monitor-Merrimac battle—four bronze tablets unveiled in New York. il Am Mach 56:329b Mr 9 '22

Erie, Pennsylvania**Water supply**

Erie water works plant. J. N. Chester and J. S. Dunwoody. il diags Am Water Works Assn J 9:26-38 Ja '22

Erie canal

Reminiscences of a veteran mechanical engineer. W. D. Odell. il Power 58:97-8 Jl 17 '23

Erie railroad

27th report for the year ended December 31 1921. Comm & Fin Chr 114:2489-92 Je 3 '22
28th annual report—year ended Dec. 31, 1922. Comm & Fin Chr 116:1642 Ap 14 '23

Erosion

Erosion and sedimentation in the Papago country, Arizona; with a sketch of the geology. K. Bryan. il diags maps (supp) U S Geol S Bul 730—B:19-90 '22

Pen plains of the Front Range and Rocky Mountain national park, Colorado. W. T. Lee. U S Geol S Bul 730—A:1-17, pl 1-8 '22

Wind erosion near Lees Ferry, Arizona. K. Bryan. il Am J Sci 5th ser 6:291-307 O '23

Erythritol. See Erythrol**Erythrol**

Equilibrium in systems composed of water and alcohols: methyl alcohol, pinacone, glycerol, and erythritol. N. A. Pushin and A. A. Glagoleva. Chem Soc J 121:2813-22 D '22

Erythrosin

Composition of erythrosin. M. Gomberg and D. L. Tabern. J Ind & Eng Chem 14:1115-17 D '22; Same. Textile Col 45:38+ Ja '23
Estimation of erythrosine. W. Holmes. Color Tr J 13:4-5 Jl '23

Escutcheon plates. See Plates, Escutcheon**Eserine.** See Physostigmine**Eseroline**

Physostigmine; alkylation products of eseroline. G. Barger and E. Stedman. Chem Soc J 123:758-69 Ap '23

Eskimo pie campaign. See Ice cream—Advertising**Eskimos**

Ecological relations of the Eskimo. W. E. Ekblaw. Sci Am 126:403 Je '22

Esnauld-Pelterie patents. See Airplanes—Patents**Esparto**

Pulping by fractional boiling. J. E. Aitken. Paper 23:17-19+ N 2 '21

Esperanto

Esperanto for the radio language. J. D. Sayers. Wireless Age 9:41-2 S '22
International language. R. W. Powell. Chem Age 29:467-8 N '21

Essences

Les essences dérivées des plantes spontanées en Calahre. F. La Face. Chimie & Ind 8: 1289 D '22

La rôle du parfum chez la plante. R. Cerighelli. Chimie & Ind 8:531-9 S '22

See also Flavoring extracts

Essential oils

- Chemistry of essential oils and artificial perfumes. E. J. Parry. 4th ed., rev. & enl. Van Nostrand '21
- Congelation of essential oils. W. J. Sanderson and W. J. Jones. Soc Chem Ind J 42:1-2 Ja 5 '23
- Constitution of the terpene present in the essential oil from *Andropogon Jwarancusa*. Jones, J.; L. Simonsen. Chem Soc J 121: 2292-9 O '22
- Essential oil from *Blumea Malcomii*. J. L. Simonsen and M. G. Rau. Chem Soc J 121: 876-83 My '22
- Essential oil in the leaves of *dacrydium biforme*. B. H. Goudie. Soc Chem Ind J 42: 357-8 Ag 31 '23
- Essential oils; abstract. R.-B. Fils. Chem Soc J 122 pt 1:845-6 S '22
- Essential oils in the leaves of *librocedrus Bidwillii*. B. H. Goudie. Soc Chem Ind J 42:350-1 Ag 24 '23
- Essential oils; market review and record of prices. Oil Paint & Drug Rep 103:81+ Mr 29 '23
- Extraction of piperitone from essential oils. J. Read and H. G. Smith. Soc Chem Ind J 42:339-40 Ag 10 '23
- Manufacture of essential oils in 1921. Chem & Met Eng 27:1158 D 13 '22
- Perfumes, essential oils, & fruit essences used for soap and other toilet articles. G. Martin. (Manuals of chemical technology X) 138p Appleton '21
- Russian essential oils. G. V. Pigulevski and others. Chem Soc J 124 pt 1:815-18 Ag '23
- Value of products decreased 42.6 per cent in comparison with 1919. Oil Paint & Drug Rep 102:33 O 30 '22
- Volatile oils. E. Glidemeister and F. Hoffmann. 777p Wiley '22
- See also Flavoring extracts; Perfumery; Piperitone

Estates, Private

- Estate development at Rye, New York. il diags Arch Forum 36:231-4 Je '22
- Restoration of a southern colonial estate, York Hall, the residence of captain George P. Blow, Yorktown, Va. il Arch Forum 35: 211-20, pl 77-84 D '21

Esters

- Determination of esters in imitation flavoring extracts. G. F. Beyer. J Ind & Eng Chem 14:324-5 Ap '22
- Dielectric constants of some of the esters at low temperatures. L. C. Jackson. diags Philos Mag 6th ser 43:481-9 Mr '22
- Investigations on the dependence of rotatory power on chemical constitution; the di- α - β -octyl esters of the saturated dicarboxylic acids. L. Hall. Chem Soc J 123:32-44 Ja '23
- Investigations on the dependence of rotatory power on chemical constitution; the di-menthyl esters of the saturated dicarboxylic acids. L. Hall. Chem Soc J 123:105-13 Ja '23
- Modern methods for producing esters. S. P. Schotz. Chem Age (Lond) 9:446-8 O 27 '23
- Preliminary note on the interchange of alcohol radicals in esters. A. Shimomura and J. B. Cohen. Chem Soc J 121:883-7, 2051-9 My, O '22
- Some properties of $\alpha\alpha$ -disubstituted esters. J. Leroide. Chem Soc J 122 pt 1:215-18 Mr '22

Esthetics

See Art: Sculpture

Estonia

- Position of the agricultural labourer in Estonia. W. Martna. Int Labour R 5:731-8 My '22
- See also Oil shales—Estonia

Estimates

- Accuracy and vision required. A. D. Thrall. Elec W 81:573-4 Mr 10 '23
- Estimating office organisation. J. C. Connan. Elec R (Lond) 91:676-7, 928-9, 989-90 N 10, D 22-29 '22

How to get reliable cost estimates. T. W. Howard. Factory 30:410-12+ Ap '23

See also Bridges—Estimates; Building—Estimates; Collecting of accounts—Estimates; Concrete construction—Estimates; Engineering—Estimates; Labor cost; Masonry—Estimates; Painting, Industrial—Estimates; Plumbing—Estimates; Printing, Practical—Estimates; Quantity system of estimating; Roads—Estimates

Estuaries. See Rivers—Regulation

Etching

- Application of decoration to art metal ware. A. F. Saunders. il Metal Ind 20:11-12 Ja '22
- Architect—etcher and the renderer. F. Weintenkamp. Arch Rec 52:534-5 D '22
- Choosing reagents for etching steels. Iron Tr R 73:32 J 5 '23
- Contrast etching for metallographic specimens. il Brass W 18:25-6 Ja '22
- Electrolytic etching for microstructure of nickel alloys. W. Velguth. Brass W 17:317 N '21
- Etching aluminum bronze. J. Strauss. il Chem & Met Eng 28:852-3 My 14 '23
- Etching and other graphic arts. G. T. Plowman. Rev. & enl. 158p Dodd '22
- Etching of names and figures on tools. Brass W 19:51 F '23
- Etching reagents for carbides in alloy steels. Iron Age 110:1683 D 28 '22
- Etching; some methods of etching various materials. C. H. Proctor. Metal Ind 21:405-6 O '23
- Metallographic etching reagents for copper alloys, nickel, and the alpha alloys of nickel. H. S. Rawdon and M. G. Lorentz. il U S Bur Stand Sci Pa 435:635-76 '22
- Strain lines in low carbon steel; new German etching method revealing effects on metal which has been stressed. il Iron Age 108: 1401-3 D 1 '21
- Study of etching reagents. Brass W 18:243 Ag '22
- Tool for etching steel. il diag Pop Mech 39: 795 My '23

Etchings

- Etching craft. W. P. Robins. 243p [bibliog. p. 223-38] Dodd '23
- Five etchings by William Walcot. Am Inst Arch J 9:380-7 D '21

Ethanetetracarboxylic acid

Über die darstellung von äthan-tetracarbon-säure. C. Mannich and E. Ganz. Deutsche Chem Gesell Ber 55:3509-10 N '22

Ethanol. See Alcohol

Ethenylcarbinols

Synthetische versuche mit äthinyl-carbinolen; überführung von 3-methyl-butinol in 3-methyl-butenin, 3-methyl-butanolon und dessen kondensatsprodukte. H. Scheibler and A. Fischer. Deutsche Chem Gesell Ber 55:2903-23 S '22; Abstract. Chem Soc J 122 pt 1:1108-10 D '22

Ether (anesthetic). See Ethyl ether

Ether (of space)

- Another ether-drift experiment. R. J. Kennedy. diags Phys R 20:26-33 J 1 '22
- Is the ether mythical? H. P. Gillette. Eng & Contr 58:29-30 J 12 '22
- Magnetism and the ether. O. Lodge. Engineering 113:368-9 Mr 24 '22
- Suggestions regarding an alternative theory. C. H. Bickerdike. Philos Mag 6th ser 45: 456-63 Mr '23

Ethers

- Investigations on the dependence of rotatory power on chemical constitution; some *n*-alkyl ethers of *d*-benzylmethylcarbinol. H. Phillips. Chem Soc J 123:22-31 Ja '23
- Investigations on the dependence of rotatory power on chemical constitution; the normal aliphatic ethers of *d*- β -octanol. J. Kenyon and R. A. McNicol. Chem Soc J 123:14-22 Ja '23

See also Ethyl ether

Ethics, Business. See Business ethics

Ethics, Engineering. See Engineering ethics

- Ethics, Newspaper.** See Newspaper ethics
- Ethics, Social.** See Social ethics
- Ethoxymethylenediacytyl**
Über [äthoxymethylen]-diacytyl und ϵ -äthoxy- β , γ -pentandion. O. Diels and J. Petersen. Deutsche Chem Gesell Ber 55:3449-57 N '22; Abstract. Chem Soc J 124 pt 1:14-16 Ja '23
- Ethyl acetate**
Organization for chemical production. M. C. Whitaker. Chem Age 31:14-15 Ja '23; Same. Chem & Met Eng 28:108-9 Ja 17 '23
Solvents for cellulose esters. H. F. Willkie. Chem & Met Eng 25:1186-8 D 28 '21
Study of the velocity of hydrolysis of ethyl acetate. H. S. Harned and R. Pfanstiel. Am Chem Soc J 44:2193-2205 O '22
Über die bildung von kohlenwasserstoffen bei der einwirkung von kalium auf essigester. H. Scheibler, H. Ziegner and E. Pfeffer. Deutsche Chem Gesell Ber 55:3921-31 D '22
- Ethyl acetylmalonate**
Action of hydroxylamine and of hydrazine on the aryl monothio-amides of ethyl acetylmalonate. D. E. Worrall. Am Chem Soc J 44:1551-7 J1 '22
- Ethylbenzene**
Über präparate verschiedener herkunft von cymol und äthyl-benzol. K. v. Auwers and H. Kolligs. Deutsche Chem Gesell Ber 55:3872-9 D '22
- Ethylcellulose**
Die depolymerisation der äthyl-cellulose; (über cellulose). K. Hess and W. Wittelsbach. Deutsche Chem Gesell Ber 54:3232-41 D '21
- Ethyl chloride**
Ethyl chloride. C. H. Herter. Refrig W 57:11-15 Ag '22
Ethyl chloride refrigeration. C. H. Herter. Refrig W 57:13-16+ S '22
- Ethyl esters**
Velocity of reaction in mixed solvents; the velocity of saponification of the ethyl esters of some monosubstituted benzoic acids. A. E. Cashmore, H. McCombie and H. A. Scarborough. Chem Soc J 121:243-53 F '22
- Ethyl ether**
Autooxidation of ethyl ether. A. M. Clover. Am Chem Soc J 44:1107-18 My '22
Mutual solubility of liquids; the mutual solubility of ethyl ether and water. A. E. Hill. Am Chem Soc J 45:1143-51 My '23
Nature of secondary valence; partition coefficients in the system water:ether. H. W. Smith. J Phys Chem 25:605-15 N '21
Properties of mixtures of ethyl ether, sulphuric acid, and water. J. R. Pound. diag Chem Soc J 121:941-5 My '22
Recovering values from waste products by distillation; the manufacture of yeast, alcohol, ether and other products from the waste of sugar plantations. H. Arnstein. diags Chem & Met Eng 29:485-7 S 10 '23
Vapor pressures, densities and some derived quantities for ether at low temperatures. R. S. Taylor and L. B. Smith. diags Am Chem Soc J 44:2450-63 N '22; Same. Refrig Eng 9:335-40 My '23
- Ethyl ethylenemalonate**
Reduction of ethyl ethylenemalonate as affected by choice of reducing agent. L. Higginbotham and A. Lapworth. Chem Soc J 123:1618-24 Je '23
- Ethyl formate**
Ethyl formate from oxalic acid, glycerol and ethyl alcohol. W. B. S. Bishop. diag Soc Chem Ind J 42:401-2 O 5 '23
Influence of neutral salts on the hydrolysis of ethyl formate. A. B. Manning. Chem Soc J 119:2079-87 D '21
- Ethyl gas.** See Gasoline
- Ethyl glycoloside**
Äthyl-glykolosid als typ der 1,2-glucoside. M. Bergmann and A. Miekeley. Deutsche Chem Gesell Ber 54:2150-7 S '21
- Ethylmagnesium iodide**
Quantitative study of the reaction between ethylenic hydrocarbons and the Grignard reagent. H. Gilman and H. M. Crawford. diag Am Chem Soc J 45:554-8 F '23
Study of the optimum condition for the preparation of ethylmagnesium iodide. H. Gilman and C. H. Meyers. diag Am Chem Soc J 45:159-65 Ja '23
- Ethyl muconate**
Addition of ethyl sodiocyanoacetate and ethyl sodiomalonate to ethyl muconate. E. H. Farmer. Chem Soc J 121:2015-22 O '22
- Ethyl selenourea**
Über äthyl- und all-yl-selenharnstoff und ihre halogenalkylate. H. Schmidt. Deutsche Chem Gesell Ber 54:2067-70 S '21
- Ethyl sodiocyanoacetate**
Addition of ethyl sodiocyanoacetate and ethyl sodiomalonate to ethyl muconate. E. H. Farmer. Chem Soc J 121:2015-22 O '22
- Ethyl sodiomalonate**
Addition of ethyl sodiocyanoacetate and ethyl sodiomalonate to ethyl muconate. E. H. Farmer. Chem Soc J 121:2015-22 O '22
- Ethyl sulfate**
Commercial ethylations with diethyl sulphate. A. R. Cade. Chem & Met Eng 29:319-23 Ag 20 '23
Importance of the olefine gases and their derivatives; diethyl sulphate. G. O. Curme, jr. and H. R. Curme. Chem & Met Eng 25:957-9 N 23 '21
New method for the introduction of an ethyl group; the reaction between organo-magnesium halides and diethyl sulfate. H. Gilman and R. E. Hoyle. Am Chem Soc J 44:2621-6 N '22
- Ethyl tartrate**
Property of ethyl tartrate. T. S. Patterson. Chem Soc J 121:1042-4 Je '22
Rotary dispersive power of organic compounds; the preparation and properties of pure ethyl tartrate. T. M. Lowry and J. O. Cutter. Chem Soc J 121:532-44 Mr '22
- Ethyl thioacetate**
Über die zersetzung des thiol-essigsäureesters durch quecksilbersalze, ein beitrage zur chemie der mercapide des quecksilbers. G. Sachs. Deutsche Chem Gesell Ber 54:1849-54 S '21
- Ethyl thiosuccinic acids**
Über einige oxydationsprodukte der inaktiven äthylmercapto-bernsteinsäure. P. Fitger. Deutsche Chem Gesell Ber 54:2952-63 D '21; Abstract. Chem Soc J 122 pt 1:108 F '22
Über stereoisomere äthylmercapto-bernsteinsäuren. P. Fitger. Deutsche Chem Gesell Ber 54:2943-51 D '21
- Ethylation**
Commercial ethylations with diethyl sulphate. A. R. Cade. Chem & Met Eng 29:319-23 Ag 20 '23
Ethylation of benzene and naphthalene. C. H. Milligan and E. E. Reid. Am Chem Soc J 44:206-10 Ja '22
- Ethylene**
Action of oxygen on mixtures of methane and ethylene and their oxidation products. T. S. Wheeler and E. W. Blair. Soc Chem Ind J 42:260-2 Je 15 '23
Action of ozone on hydrocarbons with special reference to the production of formaldehyde. E. W. Blair and T. S. Wheeler. Soc Chem Ind J 42:343-6, 347-50 Ag 17-24 '23
Catalytic combination of ethylene and hydrogen in the presence of metallic copper. R. N. Pease. diags Am Chem Soc J 45:1196-1210, 2235-42, My, O '23
Ethylene from Trent amalgams as a source of alcohol. J. D. Davis. Chem & Met Eng 27:1087-8 N 29 '22; Same. Am Gas J 117:653-4+ D 9 '22
Formation of butadiene from ethylene. J. E. Zanetti, J. R. Suydam, jr. and M. Offner. diag Am Chem Soc J 44:2036-41 S '22
Hydrogenation of ethylene in contact with nickel. E. K. Rideal. Chem Soc J 121:309-18 F '22

Ethylene—Continued

Importance of the olefine gases and their derivatives; sources and uses of ethylene and propylene. G. O. Curme, jr. *Chem & Met Eng* 25:907-9 N 16 '21

Oxidation of hydrocarbons with special reference to the production of formaldehyde; some further experiments on the action of oxygen on ethylene. E. W. Blair and T. S. Wheeler. *Soc Chem Ind J* 42:415-17 O 26 '23

Rate of reaction between ethylene and bromine. T. D. Stewart and K. R. Edlund. *diags Am Chem Soc J* 45:1014-24 Ap '23

Ethylene chlorohydrin

Importance of the olefine gases and their derivatives; ethylene chlorohydrin and ethylene oxide. G. O. Curme, jr., and C. O. Young. *Chem & Met Eng* 25:1091-2 D 14 '21

Inventive ingenuity in applied chemistry. *Chem Age* 31:331-2 J1 '23

Ethylene compounds. See Olefines

Ethylene dichloride. See Dichloroethane

Ethylene glycol

Ethylene glycol: its uses and properties. G. O. Curme, jr. and C. O. Young. *Chem & Met Eng* 28:169-70 Ja 24 '23

Ethylene oxide

Vapor densities at low pressures and over an extended temperature range; the properties of ethylene oxide compared to oxygen compounds of similar molecular weight. O. Maass and E. H. Boomer. *Am Chem Soc J* 44:1709-28 Ag '22

Ethynic linkage. See Double bond

Etruscan art. See Art, Etruscan

Etymology

Curies found in the dictionary. F. H. Teall. *Inland Ptr* 68:774-5; 69:686 Mr, Ag '22

Eucalyptus oils

Critical examination of the aromatic aldehydes occurring in certain eucalyptus oils. A. R. Penfold. *Chem Soc J* 121:266-9 F '22

Researches on phellandrenes. H. G. Smith, E. Hurst and J. Read. *Chem Soc J* 123:1657-70 J1 '23

See also Piperitone

Eudalene

Higher terpene compounds: the naphthalene hydrocarbons cadalene and eudalene, two aromatic fundamental compounds of the sesquiterpene series; abstract. L. Ruzicka, J. Meyer and M. Mingazzini. *Chem Soc J* 122 pt 1:560-2 Je '22

Eugenol

Ultra-violet absorption spectra of eugenol and isoeugenol. G. Thompson. *Chem Soc J* 123:1594-7 Je '23

Eulachan

Fish that takes cow's place. F. Dickie. *il Pop Mech* 38:433-4 S '22

Europe

See also Agriculture—Europe; Electric industries—Europe; Electric railroads—Europe; Railroads—Europe; Street railroads—Europe

Description and travel

Architectural sketching tour in Europe and how I did it for less than six hundred dollars. R. W. Sexton. *il Am Arch* 124:94-8 Ag 1 '23

Economic conditions

Across the Atlantic. F. I. Kent. *Comm & Fin Chr* 117:76-81 sec 2 O 13 '23

America, and European industry's new Magna charta. J. H. Barnes. *Annalist* 21:635-+ Mr 7 '23

American co-operation in Europe's rehabilitation. J. Speyer. *Comm & Fin Chr* 114:2185-6 Mr 26 '22

American prosperity inseparably bound up with that of Europe. E. Prizer. *Nat Pet N* 13:31, 32A-C D 14 '21

American speculation in Europe. R. Estcourt. *Annalist* 21:223+ F 5 '23

Analysis of the economic progress in Europe today. A. G. Goldsmith. *Annalist* 21:822-3 Je 18 '23

Business economics holds Europe in pawn. G. E. Tripp. *Elec Ry J* 59:566-7 Ap 1 '22

Le chômage, la baisse des salaires et les grands conflits économiques en Europe. R. Roure. *diag Génie Civil* 81:158-60 Ag 12 '22

Deluge of paper money leaves trail of ruin, famine and death in Europe. *il Pop Mech* 40:576-9 O '23

Economic and financial chaos in Europe which can only be relieved by the United States. J. Simpson. *Comm & Fin Chr* 113:2240 N 26 '21

Economic conditions in Europe. H. G. Moulton and J. F. Bass. *Administration* 2:577-90 N '21

Economic situation in Europe. F. M. Williams. (Syllabus no. 13) 73p Institute of international education, New York '22

Europe is on the mend! A. Balfour. *Nation's Business* 10:16-19 Je 5 '22

Europe making progress with economic and political problems. *Am Mach* 55:1058e D 29 '21

European conditions as I saw them. J. S. Negru. *Chem & Met Eng* 27:1068-70 N 29 '22

European problems affecting American business; statement of the committee appointed by the United States chamber of commerce to study conditions of continental Europe. *Nation's Business* 9:1-8 O 5 '21

Europe's views of the new year's promise. *Annalist* 19:31 Ja 9 '22

From the notes of an American selling in Europe. S. M. Vaulchain. *System* 41:669-72+; 42:167-70+ Je, Ag '22

Gamble in doing business with Europe. I. T. Bush. *System* 41:529-31+ My '22

Industrial conditions in southeastern Europe. O. Ericsson. *Mach* 29:526-7 Mr '23

Interview with Samuel M. Vaulchain. *il Ry Age* 72:911-12 Ap 15 '22

Observations of industrial conditions in Europe. W. S. Landis. *Ind & Eng Chem* 15:410-12 Ap '23

What next in Europe? F. A. Vanderlip. 308p Harcourt, Brace & co., New York '22

World activities and their effect upon the engineer. F. A. Vanderlip. *Am Soc C E* Pro 48:[Soc aff] 140-9 F '22

See also Finance—Europe; also International economic conference

European war

British railways and the great war, by E. A. Pratt. *Review. Engineering* 112:845-6 D 23 '21

See also United States—Army—Expeditionary force

Aerial operations

War in the air; story of the part played in the great war by the Royal air force, by Walter Raleigh. *Review. Engineering* 115:258-9 Mr 2 '23

Claims

Bill to provide for payment of American claims against Germany. *Comm & Fin Chr* 115:499-500 J1 29 '22

Secretary of state Hughes in opposition to Senator Underwood's bill for all-American commission to adjust American claims against Germany. *Comm & Fin Chr* 115:818-21 Ag '22

Signing of agreement by United States and Germany for adjustment of U. S. claims. *Comm & Fin Chr* 115:817-18 Ag 19 '22

Cost

Total cost of war aviation—\$382,111,063.50. *Aviation* 14:338-9 Mr 26 '23

Economic aspects

U. S. was not enriched by war. B. M. Anderson, jr. *Comm & Fin Chr* 115:1265-6 S 16 '22

Finance

War and national finance. R. H. Brand. 287p Longmans '21

Indemnities

See German indemnities

European war—Continued**Labor problems**

Labour supply and regulation. H. Wolfe. 422p Oxford '23
See also United States—National war labor board

Naval operations

History of the great war, based on official documents, by J. S. Corbett. Naval operations v 2. Review. Engineering 112:767-8 D 2 '21; Engineer 133:244-5 Mr 3 '22

United States

Industrial America embattled: the strategy behind the line, 1917-1918. G. B. Clarkson. Am Ind 24:5-9 O '23
Industrial America in the world war. G. B. Clarkson. 573p Houghton '23
War problems in minerals. Eng & Min J 112:500-2, 570-5, 651-6, 730-6, 892-4 S 24, O 8, 22, N 5, D 3 '21

Evaporation

Evaporation by compression. W. Gensecke. il diags Chem & Met Eng 28:448-56 Mr 7 '23
Evaporation, characteristics of tungsten. G. R. Fonda. Phys R 21:343-7 Mr '23
Evaporation of a liquid into a gas. W. K. Lewis. Mech Eng 44:445-6 Jl '22; Same. Chem & Met Eng 27:112-14 Jl 19 '22
Heat transmission and evaporation. W. L. Badger. J Ind & Eng Chem 14:808-9 S '22
Reaction consequent upon the evaporation of a liquid and upon the emission of vapours from small orifices. W. G. Duffield. diags Philos Mag 6th ser 45:641-88 Ap '23
Solving the evaporation problems of the soap industry. W. E. Sanger. diags Chem & Met Eng 29:478-81 S 10 '23
Winds and barometric effects on the Great Lakes. J. F. Hayford. Eng N 90:665-8 Ap 12 '23

See also Crystallization; Distillation; Drying; Drying apparatus; Vaporization

Tables, calculations, etc.

Evaporation—a study of the various operating cycles in triple effect units. A. L. Webre. diags Chem & Met Eng 27:1073-8 N 29 '22
Graphic determination of steam data and factors of evaporation. H. C. Linderman. chart Blast F & Steel Pl 11:291-3 My '23; Same. Am Gas J 119:472-5 O 20 '23
Rate of evaporation from a water surface. Power Pl Eng 27:747 Jl 15 '23

Evaporators

Calculation of vapor recompression evaporators. L. A. Pridgeon. diags Chem & Met Eng 28:1109-11 Je 25 '23
Comparison of some of the features of the film and submerged tube types of vacuum evaporators. M. L. Griffin. Paper Tr J 76: 231+ Ap 12 '23; Same. Paper 31:55+ Ap 18 '23; Same. Tech Assn Pa ser 6:90 Je '23
Developments in power station design. il diags Engineer 133:529-32 My 12 '22
Does an annual saving of \$40,000 interest you; evaporators can save half of fuel bill. L. B. Chapman. Marine Eng 28:197-9 Ap '23
Evaporating apparatus that dispenses with fuel. il Sci Am 126:263 Ap '22
Evaporating cellulose liquors; new method evolved by Swedish scientist. K. L. Thunholm. diag Paper 31:149-50+ Ap 18 '23
Evaporation of spent liquor in the soda and sulphate pulp processes. G. K. Spence. Paper Tr J 76:209+ Ap 12 '23; Same. Tech Assn Pa ser 6:54-6 Je '23; Excerpts. Paper 31:120-1+ Ap 18 '23; Discussion. Tech Assn Pa ser 6:175-7 Je '23
Evaporator design; influence of the properties of aluminium sulfate solutions. W. L. Badger and J. S. France. Ind & Eng Chem 15:364 Ap '23
Evaporator experiment station at the University of Michigan. W. L. Badger and P. W. Shepard. il diags Am Inst Chem Eng Trans v 13 pt 1:77-99 '20
Evaporator tubes arranged in diagonal lines. il Pop Mech 37:886 Je '22
Evaporators for power-houses. R. O. Kapp. Elec R (Lond) 90:855-6 Je 16 '22

Evaporators in small boiler plants. Power 55: 470, 590-1, 791, 985-6 Mr 21, Ap 11, My 16, Je 20 '22
Evaporators in the stationary power plant. il diags Power 56:449-54 S 19 '22
Evaporators—what they are and how they operate. diags Power 55:292-4 F 21 '22
Experiences on evaporators with heat pumps. E. Wirth. Mech Eng 44:49-51 Ja '22
Flash evaporator. il diags Power 56:534-5 N 28 '22
Flash evaporator furnishes pure make-up water to boiler. il Power Pl Eng 26:1078-9 N 1 '22
How a Lillie evaporator operates. diags Power 56:802-4 N 21 '22
Improvement in evaporator design. R. V. Cook. il Chem Age 29:409-10, 479-80 O-N '21
Instructions for operating evaporators. Elec W 81:1220 My 26 '23
Latest navy evaporator practice. C. A. Jones and A. M. Charlton. Power 58:197 Jl 31 '23
Mechanical analogy of an evaporator. R. N. Harrison. diags Power 55:396 Mr 7 '22
Modern types of evaporators. W. L. Badger. il diags Chem & Met Eng 29:475-8 S 10 '23
Operating characteristics of flash evaporators. J. Forbes. diags Power Pl Eng 27: 311-13 Mr 15 '23
Savings effected by evaporator. J. Forbes. il Power Pl Eng 27:269-70 Mr 1 '23
Scott evaporator as used in the pulp mill. H. Austin. Paper Tr J 75:65-7 S 14 '22
Standard evaporator. il Power Pl Eng 26:1130 N 15 '22
Studies in evaporator design. W. L. Badger, P. W. Shepard and E. M. Baker. diags Am Inst Chem Eng Trans v 13 pt 1:101-67; pt 2:139-53 '20-'21; Bibliography. pt 1:167-8 '20-'21
Vacuum evaporators used at Saxton plant. il chart diags Power Pl Eng 27:904-6 S 1 '23
Vapor recompression systems for evaporators. W. L. Badger. diags Chem & Met Eng 28: 26-31, 73-8 Ja 3-10 '23

Bibliography

Vapor recompression system for evaporators. W. L. Badger. Chem & Met Eng 28:77-8 Ja 10 '23

Evening and continuation schools

What should a boy study outside the shop? A. W. Forbes. Am Mach 59:137-8 Jl 26 '23
Young industrial worker. M. Phillips. 142p Oxford '22

See also Corporation schools

Everest, Mount

Can Mount Everest be ascended? S. Hedin. il Pop Mech 40:203-10 Ag '23
Conquering the dome of the world. Sci Am 127:110 Ag '22
Mount Everest reconnaissance. Sci Am 126: 37, 176 Ja, Mr '22
Mount Everest summit still untrod by man. H: S. White. il diag Pop Mech 38:374-5 S '22
Mount Everest: the reconnaissance of 1921. Sci Am 127:187 S '22

Everett, Washington**Rapid transit**

Buses replace electric railway system. il Bus Transportation 2:459-61 O '23
Motorizing Everett trolley lines. G: Newell. Aera 11:749-51 F '23

Eversharp pencils

How we've made a specialty into a staple: distribution of the Eversharp pencil. A. G. Frost. System 42:541-3+ N '22

Evidence

See also Cardiopneumo psychograph

Evolution

L'état actuel du problème de l'évolution. L. Guénot. Génie Civil 83:234-5 S 8 '23
Fact, the course, and the causes of organic evolution. W. C. Curtis. Sci Am 129:252 O '23

See also Heredity

Examinations

Purposes and methods of quizzes and examinations. I. O. Baker. Eng Educ 12:289-92 F '22

Excavating machinery

Basement excavator. D. R. Van Horn. il diags Bldg Age 44:50-1 Je '22
Clere mechanical rotary excavator. il Engineering 134:611 D 8 '22

Comparison of electric and steam draglines at Miami. G. L. Teeple. il Eng N 88:96-9 Ja 19 '22

Convertible crane profitably used at all stages from construction onward. il Coal Age 20:722-3 N 3 '21

Development of the single-bucket excavator. W. Barnes. il Engineering 116:473-7 O 12 '23

Developments in earth excavation. G. B. Massey. il Pub Works 54:75-8 Mr '23

Dragline excavator handles earth on Los Angeles stadium. L. A. Palmer. il diag Eng N 89:196-7 Ag 3 '22

Drag-line gathers tough clay. il Brick & Clay Rec 59:808-9 N 29 '21

Draglines in Dayton. Pub Works 54:82-3 Mr '23

Draining land with gasoline; use of machinery for marshland ditching. S. R. Winters. il Sci Am 129:34+ JI '23

Engineering of excavation. G. B. Massey. 376p Wiley '23

Excavating machinery used in land drainage. D. L. Yarnell. U S Agric Bul 300:1-59 '22

Grab ditching machine. il Engineering 112:722-3 N 25 '21

Home-made railway ditching car. il Eng N 90:1052 Je 14 '23

Mining operations at Flint brick co. il Brick & Clay Rec 59:979-80 D 27 '21

Nouvelle pelle mécanique, système Clère, sur chariot à chenilles. il Génie Civil 82:39-40 Ja 13 '23

One man excavator proves successful. il Brick & Clay Rec 61:108-11 JI 25 '22

Pelle mécanique rotative, système Clère, pour les travaux de manutention et de terrassement. E. Weiss. il diags Génie Civil 80:477-9 My 27 '22

Progress in excavator construction. il Ind Management (Lond) 10:13-14 JI 12 '23

Rock excavating machinery for road work. H. P. Gillette. Eng & Contr (R & S) 59:1250-1 Je 6 '23

Sewer trenching with dragline excavator. il Eng & Contr (W W) 60:77-8 JI 11 '23

60-ton self-propelling drag-line excavator. il diags (supp) Engineer 135:534 My 18 '23

Some considerations in selecting excavating equipment. Pub Works 54:85-6 Mr '23

Steam crane excavator. il diag Engineer 135:284-5 Mr 16 '23

See also Dredges; Electric shovels; Mining machinery; Rock drills; Scrapers; Shale planer; Shoveling machines; Steam shovels; Trenching machinery; Tunneling machines

Excavation

Blasting frozen ground in excavating for dam foundation. Eng & Contr (W W) 60:578 S 12 '23

Constructing Scituate reservoir. il diags plan Pub Works 53:137-43 S '22

Crane excavates and builds cofferdam for filtered water basin. il diags Eng N 91:315 Ag 23 '23

Deepest rock excavation for New York store. T. B. Faucett. il Pop Mech 38:384-5 S '22

Ditching with dynamite. J. Alexander. il Pop Mech 40:99 JI '23

Excavating track in chunks with a derrick. R. C. Cram. il diags Elec Ry J 60:735-8 N 4 '22

Excavation methods at Monee cut of Illinois Central R. R. Eng & Contr (Ry) 59:147-8 Ja 17 '23

Foundation excavation removed by tunnels at Chicago; shafts on building site chute material to cars of narrow-gauge underground railway for disposal on lake front. il Eng N 89:877-8 N 23 '22

Fresnos deliver direct to skips in traps under lined covers. il diag plan Eng N 90:757 Ap 26 '23

Hetch Hetchy dam excavation. il Pub Works 53:43-5 JI 15 '22

Skip on portable incline supplements steam shovel in excavation. il diags Eng N 90:358 F 22 '23; Same. Ind Management (Lond) 9:410 Je 28 '23

Steel shield pulled by excavator keeps trench from caving. P. H. Knight. il Eng N 89:804 N 9 '22

Wrongly devised details that cut the contractor's profit. F. B. Lee. diags Eng N 89:805 N 9 '22

See also Blasting; Dredging; Earthwork; Excavating machinery; Hydraulic excavation; Shaft sinking; Steam shovels; Street openings; Subways; Tunnels and tunneling

Contracts

Department of specifications. Am Arch 120:443-6 D 7 '21

Cost

Comparison of electric and steam draglines at Miami. G. L. Teeple. il Eng N 88:96-9 Ja 19 '22

Cost of sandstone excavation on a road job. J. S. Walton. Eng & Contr (R & S) 59:972 My 2 '23

Drag-line excavation operation on irrigation project. L. G. Cairns. Eng & Contr (W W) 60:260 Ag 8 '23

Earth moving methods and costs. Bronx parkway. G. D. Clarke. il Eng N 91:186-8 Ag 2 '23

Estimating building excavation costs. C. F. Dingman. Concrete 21:88-90 S '22

Excavation costs by draglines. Eng N 91:69-70 JI 12 '23

Safety devices and measures

Safety in building construction. W. E. Welch. il Safety Eng 46:159-63, 217-22 O-N '23

Tables, calculations, etc.

Finding yardage in circular excavations. W. F. Schaphorst. chart Eng N 91:523 S 27 '23

Hydraulic and excavation tables. 5th ed., rev. and enl. p.48-168 U. S. Reclamation service, Washington '21

Excavation, Hydraulic. See Hydraulic excavation

Excavation, Subaqueous

Deepening power canal with a dragline cableway excavator at Cohoes, N.Y. il Eng & Contr (Ry) 58:165-6 D 20 '22; Eng N 90:267 F S '23

Remove subaqueous ledge above rapid transit tunnel. E. Burr. diags Eng N 89:1021-3 D 14 '22

See also Bridges—Foundations and piers

Cost

Submarine rock drilling records and unit costs. E. Low. Eng N 90:750 Ap 26 '23

Excavations (archeology)

Digging in sacred soil; research with the spade in Palestine since the war. il map Sci Am 129:38-9 JI '23

Second Pompeii; remains of an ancient metropolis discovered beneath the cellars of Mexico City. F. G. Jopp. il Sci Am 126:114 F '22

Excess profits tax

Decrease in revenue from income and excess profits taxes. Comm & Fin Chr 115:2421-2 D 2 '22

Excess profits taxes and the balance sheet. M. Rindler. Annalist 20:220+ S 4 '22

Income and excess profits taxes. 72p Alexander Hamilton institute, New York '22

University debaters' annual, 1922-1923. p.237-82 H. W. Wilson co. '23

War excess profits' tax decision—tangible property paid in. Comm & Fin Chr 115:403-4 JI 22 '22

Your taxes will not be lowered. J. W. Good. Brick & Clay Rec 61:955-8 D 26 '22

See also Corporations—Taxation

Exchange, Foreign. See Foreign Exchange

Exchanges. See Cotton exchanges; New York consolidated stock exchange; New York cotton exchange; New York paper exchange; New York stock exchange; Silk exchange (proposed); Stock exchange

Excitation equipment. See Electric generators—Excitation; Electric plants—Excitation equipment

Exclusive agencies

Government help in picking agents in foreign markets. H: H. Morse. *Ptr Ink* 123:73-4+ My '21 '23

Modern use of exclusive sales agencies by manufacturers. E. A. Kincaid. *J Elec* 49: 216-8 O 1 '22

What the exclusive agency contract should cover. *Ptr Ink* 123:137-8+ Ap 12 '23

Bibliography

Exclusive agencies. *Ptr Ink* 124:142 S 27 '23

Executive ability

Capacity for detail as an executive asset. H. Hysell. *Ind Management* 64:138-40 S '22

Measuring executive ability. W: E. Dunn. *Ind Management* 63:292-5 My '22

See also Efficiency, Industrial

Executive boards

Executive board—its functions and operation. A. E. Swanson. *Administration* 3:559-64 My '22

Executives

Accounting needs of technical men in executive positions. F. W. Thornton. *Chem & Met Eng* 27:925-7 N 8 '22

Danger of becoming a titled employee. M. F. Goodman. *Ptr Ink* 117:89-90+ D 15 '21

Engineer as a leader of business. W. E. Wickenden. *Eng Educ* 14:15-31 S '23

Executive and research. J: A. Matthews. *Chem Age* 30:521-2 D '22

Executive training and the engineering school. J: S. Keir. *chart Administration* 3:605-12 My '22

Executives I have met. B. Haley. *Management & Adm* 6:457-8 O '23

Executives of the future. J. J. Lawton. *Chem & Met Eng* 26:688 Ap 12 '22

Executives who are trained to stay with the business. T: E. Wilson. *Ptr Ink M* 4:35-6+ F '22

Factors of successful organization. I. R. Thomas. *Office Management* 8:39 O '22

Get licked—and get over it; the cashing in value of a failure or two. A. H. Dalton. *Ptr Ink* 118:102+ F 23 '22

Get out and look around. H. Botsford. *Nation's Business* 11:26 Ja '23

Gouvernement des entreprises. F. Carlioz. *Chimie & Ind* 7:1016-21 My '22

He always has time. *System* 44:274-7 S '23

High cost of supervision. C. H. Johnson. *Ind Management* 63:149-50 Mr '22

How much leeway should a manager be given? *System* 43:309-12+ Mr '23

How shall we select our executives? E. H. Fish. *Management & Adm* 6:183-4 Ag '23

Introducing a new executive to employees. *Management Eng* 4:416 Je '23

Making of an executive. A. H. Church. 457p Appleton '23

My way of getting executives to really manage. F. E. White. *il System* 44:284-6 S '23

Problems that confront an executive; abstracts. *Mech Eng* 45:617-19 O '23

Promoting men for executive jobs. *Ptr Ink* 123:73-4+ My 3 '23

Psychological influences in buying. J: J. Ralph. *Iron Age* 109:1123-5 Ap 27 '22

Qualifications of a manager—requisites for success in management work; abstracts. *Mech Eng* 45:619-20 O '23

Rewards of management. C. M. Schwab. *Administration* 5:513-16 My '23

Salaries for executives. C: T. White. *Administration* 5:641-5 Je '23

Scientific method for executives. W. Attwood. *Ind Management* (Lond) 9:267-9 My 3 '23

Solving the manager's present day problems. J: H. Van Deventer. *Ind Management* 64:1-3 Ji '22

Star salesmen poor executives? not often!

T. J. Young. *Ptr Ink* 120:61-2 S 21 '22

Technique for the chief executive. *Factory* 28:680+ Je '22

Training manufacturing executives. P. M. Atkins. *Administration* 3:189-206 F '22

Training men to run the plant. W. D. Stearns. *Factory* 30:168-9 F '23

What makes the general manager successful? E. H. Fish. *Management Eng* 4:387-8 Je '23

Why do first-class salesmen make second-class executives? R: Walsh. *Ptr Ink* 120: 57-8+ Ag 31 '22

Why I do my own job in half a day. *il System* 41:560-1+ My '22

See also Business management; Department managers; Efficiency, Industrial; Employment management; Factory management; Foremen; Industrial management; Office management; Trade associations—Executives

Rating

Measurement of management. F: J. Schlink. *Management & Adm* 6:173-8 Ag '23

Executors and administrators

Plumber may have right to sue administrator of an estate as an individual where latter had no power to bind the estate. *Dom Eng* 100:61-2 Ji 8 '22

Wills, estates, and trusts. T: Conyngton, H. C. Knapp and P. W. Pinkerton. 2v Ronald press '21

Exercise

Effect of exercise on blood constituents. N. W. Rakestraw. *Sci Am* 126:174 Mr '22

Exhaust gas. See Automobile engines—Exhaust; Gas and oil engines—Exhaust

Exhaust steam

Booster locomotives; utilisation of the main engine's exhaust steam. C: R. King. *Engineer* 136:403 O 12 '23

Commercial value of exhaust steam. F. W. Bosch. *Power Pl Eng* 26:997-9, 1047-8 O 15-N 1 '22

Condensing and utilisation of exhaust steam in locomotives. *diags Engineer* 135:279-81, 303-4 Mr 16-23 '23

Effective regulation of exhaust steam system by using a low-pressure turbine. J. E. Housley. *Power* 57:101 Ja 16 '23

Exhaust steam turned to profit. *il diags Power Pl Eng* 27:911-17 S 15 '23

Exhaust steam utilization in Britain. C. I. Haden. *diag Power Pl Eng* 27:225-3 F 15 '23

Fallacy of superheating exhaust steam. W. F. Schaphorst. *Heat & Ven* 19:45 O '22

Figuring the total heat of exhaust steam. A. G. Christie. *Power* 58:685-6 O 30 '23

Governing devices of British steam-extraction engines. *il Power* 57:173-4 Ja 30 '23

Heat balance of Colfax station. C. W. E. Clarke. *diags Mech Eng* 43:795-6+ D '21

Same cond., with table. *Power* 54:959-60 D 20 '21; Excerpt. *Power Pl Eng* 26:116-17 Ja 15 '22; Discussion. *Mech Eng* 44:25-6+ Ja '22; *Power* 54:960 D 20 '21

Heat balance of the Connors Creek plant of the Detroit Edison company. C. H. Berry and F. E. Moreton. *diags Mech Eng* 44: 22-5 Ja '22; Same cond. *Power* 54:958 D 20 '21; Discussion. *Mech Eng* 44:25-6+ Ja '22; *Power* 54:960 D 20 '21

Heating and its relation to isolated-plant operation. E. L. Wilder. *Power* 54:758-61 N 15 '21; Discussion. D. F. Grahame. 54:987 D 20 '21

Heating thirty-six acres; Chase metal works plant. *il Dom Eng* 102:320-1 F 17 '23

Huge savings possible by the use of by-product power. L: J. Sforzini. *diags Power* 57:624-8 Ap 24 '23

More data on steam and electric demands in buildings. *diags Heat & Ven* 20:31-6 Ji '23

Profitable municipal venture in the sale of exhaust steam for heating. D. D. Hayward. *Heat & Ven* 18:29-31 N '21

Profitable sale of exhaust steam for municipal heating at Miles City, Mont. *Munic Eng* 64: 237-9 Je '23

Exhaust steam—Continued

- Recent data on exhaust steam for heating. Heat & Ven 19:35-8 J1 '22
- Successful community heating at Arcade, New York, with exhaust steam from lighting plant. *il* Munic Eng 62:51-6 F '22
- Suggestions for saving heat in manufacturing plants. C. L. Hubbard. *diags* Power 57:704-8 My 8 '23
- Textile plant superheats exhaust steam for process work. *diags* Power 55:965-6 Je 20 '22
- Using exhaust energy in reciprocating engines. J. Stumpf and C. C. Trump. *diags* Mech Eng 44:369-72 Je '22; Same cond. Power 55:1033 Je 27 '22
- Utilization of exhaust steam from electric generating stations, and coal economy. C. I. Haden; F. H. Whysall. *Inst E E J* 60:265-72 Mr '22; Abstracts. *Electrician* 88:94-5 Ja 27 '22; Elec R (Lond) 90:139-40 Ja 27 '22; Discussion. *Inst E E J* 60:273-86, 552-61 Mr, My '22; *Electrician* 88:97 Ja 27 '22; Elec R (Lond) 90:140-1, 157, 223, 464 Ja 27-F 3, 17, Mr 31 '22; *Engineer* 133:109-10 Ja 27 '22

See also Steam engines—Binary vapor engines

Exhaust systems

- Design of exhaust systems. H. W. Pfeffer. *il* chart Heat & Ven 19:53-7 D '22
- Effective shaving exhaust system. *il* Elec Ry J 58:869 N 12 '21
- Using air from separator again. *diags* Sheet Metal Worker 12:857-8; 13:139-41 Ja 6, Mr 31 '22
- Ventilation in industrial works. F. E. Gooding. *il* *diags* Ind Eng 80:369-76+ Ag '22
- See also Dust removal

Exhibitions

- Are expositions good advertising? A. Bradbury. *Ptr Ink* 122:33-4+ Mr 1 '23
- Fairs; their influence on trade. F. Simpich. *il* Nation's Business 11:23-4 Mr '23
- Food expositions that are backed up by advertising. N. J. Greer. *Ptr Ink* 122:121-2+ Mr 22 '23
- Free goods and samples at expositions. A. Bradbury. *Ptr Ink* 122:105-6+ Mr 8 '23
- Japanese hold beautiful peace exhibition. *il* Pop Mech 38:401 S '22
- Park foresight in exposition planning; Fairmont parkway and the Schuylkill banks as a site for the world's fair, Philadelphia, 1925. G. Burnap. *il* plan Arch Rec 52:160-4 Ag '22
- Permanent industrial exposition in Newark. A. Oliver. *il* plan Am Ind 23:27-9 Mr '23
- Should business pow-wows be limited? A. Bradbury. *Ptr Ink* 123:161-2+ Ap 5 '23
- See also British industries fair; Canadian national exhibition; Iberian-American exhibition; also subdivision Exhibitions under various subjects, e.g. Aeronautics—Exhibitions; Automobiles—Exhibitions; Chemical industries—Exhibitions; Electric industries—Exhibitions; Electric instruments—Exhibitions; Laundry machinery—Exhibitions; Machine tools—Exhibitions; Motor cycles—Exhibitions; Physical instruments—Exhibitions; Radio apparatus—Exhibitions; Steel, Heat treatment of—Exhibitions

Exhibits

- Taking the convention exhibit out of the rut. S. C. Lambert. *Ptr Ink* 122:101-3 F 15 '23

Exhibits, Educational

- Associated rice millers get advertising into schools. E. F. Roark, jr. *Ptr Ink M* 4:64+ Ap '22
- Co-operative educational exhibits that sell to children. F. H. Madison. *il* *Ptr Ink M* 6:49-50+ Ja '23

Exits

- Automatic exit fixtures, or panic bolts. L. A. Walsh. *diags* Am Arch 123:471-3 My 23 '23
- Safety exits for school buildings. *il* plans Am Arch 123:128-31 Ja 31 '23

Expansion (heat)

- Automatic expansion apparatus. *diag* Am Cer Soc J (Bul) 6:352-3 N '23

- Contribution à l'étude des modifications thermiques de quelques fontes de moulage. J. Durand. *Génie Civil* 81:375 O 21 '22
- Determining coefficient of expansion with a metallurgical microscope. H. C. Knerr. *diags* Chem & Met Eng 26:644-6 Ap 5 '22
- L'étude dilatométrique des alliages d'aluminium avec les magnésium et le silicium. A. Fortevin and P. Chevenard. *Génie Civil* 82:181-5 F 24 '23
- Latent heats of vaporization and expansion. D. L. Hammick. *Philos Mag* 6th ser 44:590-4 S '22
- Lubrication—expansion of oil with temperature. W. F. Osborne. *Power* 55:178 Ja 31 '22
- Problems of expansion. R. L. Tullis. *diags* Power 57:567-8 Ap 10 '23
- Reversible thermal expansion of refractory materials. H. S. Houldsworth and J. W. Cobb. *Am Cer Soc J* 6:645-62 My '23
- Thermal expansion of a few steels. W. Souder and P. Hidnert. *U S Bur Stand Sci Pa* 433:611-26 '22
- Thermal expansion of copper and some of its important industrial alloys. P. Hidnert. *il* *diags* U S Bur Stand Sci Pa 410:91-159 '21
- Thermal expansion of gelatin gels. A. Taffel. *diag* Chem Soc J 121:1971-84 O '22
- Thermal expansion of nickel, monel metal, stellite, stainless steel, and aluminum. W. H. Souder and P. Hidnert. *U S Bur Stand Sci Pa* 426:497-519 '22
- Work out fahrenheit table to figure expansion of oil. *Nat Pet N* 13:43 D 21 '21
- Expansion bearings.** See Bridges—Expansion bearings
- Expansion joints.** See Concrete construction—Expansion joints; Pavements, Concrete—Expansion joints; Pipe joints
- Experiment farms.** See Agricultural experiment stations
- Explosion pots.** See Electric switches—Explosion pots.
- Explosions**
- Curious causes of gasoline fires and gas explosions. A. H. Gill. *Ind & Eng Chem* 15:110 F '23
- Death and destruction follow explosion. *il* Elec Ry J 59:491 Mr 13 '22
- Disastrous air-tank explosion. *il* Power 55:480 Mr 21 '22; Discussion. F. Richards. 55:703, 742-3 My 2-9 '22
- Eliminating gas explosions. H. C. P. Weber. *Gas Age* 50:861-2 D 23 '22
- Explosion from a hot-plate at Bristol. *Engineering* 113:216 F 17 '22
- Explosion in Springfield gas plant kills three. *il* Am Gas J 118:117-18+ F 10 '23
- Explosion of a cast-iron steam chest. *Engineering* 112:711-12 N 18 '21
- Explosion of a drying cylinder. *Engineering* 114:570 N 3 '22
- Explosion of a feed-water heater. *Engineering* 113:73 Ja 20 '22
- Explosion of a fertiliser filter. *Engineering* 112:742-3 N 25 '21
- Explosion of a stop valve chest at a spinning mill. *Engineering* 114:246 Ag 25 '22
- Explosion of a tee-piece on board a steamship. *Engineering* 114:143-4 Ag 4 '22
- Explosion of acetylene and nitrogen. W. F. Garner and K. Matsuno. *Chem Soc J* 119:1903-14; 121:1723-36 D '21, S '22
- Explosions in liquid air rectification plant. E. Fyfe. *Am Soc Chem Ind J* 42:37-9 Ja 26 '23; Discussion. 139-42 Mr 29 '23
- Explosions in open feed-water heaters. *Power* 54:984; 55:153-4, 195, 355-6 D 20 '21, Ja 24-31, F 28 '22
- Facts and fancies about the Oppau explosion. J. Kendall. *Chem & Met Eng* 25:949 N 23 '21
- Four killed in explosion at Bureau of standards. *Eng N* 91:527, 615 S 27, O 11 '23; Aviation 15:512 O 22 '22; Chem & Met Eng 29:639 O 1 '23; Power 58:551 O 2 '23; Safety Eng 46:163-4 O '23
- Gas holder explodes, injuring 100 persons. *il* Pop Mech 38:509 O '22
- Investigation of the explosion of a still. *Engineering* 115:725 Je 8 '23

Explosions—Continued

- Oppau disaster; facts and conjectures as to its cause. P. J. Mallmann. *il Sci Am* 126: 198 Mr '22
- Pressures developed in gaseous explosions. W. T. David. *Engineering* 114:791-2 D 29 '22; *Abstract. Soc Auto Eng J* 12:319 Mr '23
- Propagation of explosion waves in gases contained in tubes of varying cross-section. C. Campbell. *il Chem Soc J* 121:2483-98 N '22
- Propagation of the explosion-wave; hydrogen and carbon monoxide mixtures. H. B. Dixon and N. S. Walls. *Chem Soc J* 123:1025-37 My '23
- Rate of detonation in complex gaseous mixtures. W. Payman and N. S. Walls. *Chem Soc J* 123:120-6 Mr '23
- So-called pre-pressure interval in gaseous explosions. J. D. Morgan. *diag Chem Soc J* 123:1304-8 My '23
- Steam pipe explosion from water hammer action. *Engineering* 112:839 D 16 '21
- Study of explosions of gaseous mixtures. A. P. Kratz and C. Z. Rosecrans. *il diags Ill U Eng Exp Sta Bul* 133:1-74 '22
- Supercamera gauges speed of explosions. *il Pop Mech* 39:899 Je '23
- Temperature of explosion for endothermic substances; trinitro-meta-cresolates and their explosion temperatures. R. L. Datta, L. Misra and J. C. Bardhan. *Am Chem Soc J* 45:2430-3 O '23
- See also* Air compressors—Accidents; Air tanks—Failures; Boiler explosions; Chemical laboratories—Accidents; Coal dust; Coal mines and mining—Accidents and explosions; Dust explosions; Electric transformers—Explosions; Explosives; Flywheel explosions; Inflammable mixtures; Locomotive boiler explosions; Mine accidents; Mine fires; Tanks—Failures

Bibliography

- Bibliography on gaseous explosions. A. P. Kratz and C. Z. Rosecrans. *Ill U Eng Exp Sta Bul* 133:75-96 '22
- Oxygen-oil explosions. M. D. Hersey. p.7-9 *Rep. of Investigations U S Bur Mines* 2507 Washington '23 (typew)
- Explosions, Submarine**
- Early stages of a submarine explosion. H. Lamb. *Philos Mag* 6th ser 44:257-65 F '23
- Explosives**
- Accidents with explosives in 1922. *Engineering* 115:678 Je 1 '23
- Additions, removals and changes in list of permissible explosives. S. P. Howell. *Coal Age* 22:838 N 23 '22
- L'aptitude des explosifs à transmettre la détonation à distance. Audibert. *Génie Civil* 83:354 O 13 '23
- Best practices in use of explosives. *il diags Brick & Clay Rec* 60:998-1002 Je 27 '22
- Cartridge diameter and strength of high explosives. S. P. Howell and J. E. Crewshaw. *Eng & Contr (Ry)* 59:425-9 F 21 '23
- Etude d'un nouvel explosif, la flammocite. *Génie Civil* 82:579-80 Je 16 '23
- Experimental use of liquid air and explosives for tightening body-bound bolts. H. L. Whittemore. *Am Mach* 56:524-6 Ap 6 '22
- Explosives and fertilizers. A. H. White. *Chem & Met Eng* 26:161-5 Ja 25 '22
- Explosives; their materials, constitution, and analysis. C. A. Taylor and W. H. Rinkenbach. *U S Bur Mines Bul* 219:1-188 '23
- Explosives used in mining. *Eng & Min J* 114: 113 Ji 15 '22
- High explosives for detonators; patent. *Chem & Met Eng* 28:271-2 F 7 '23
- Manufacture and uses of explosives. R. C. Farmer. 116p *Pitman* '21
- Permissible explosives, mining equipment, and apparatus, approved prior to March 15, 1922. S. P. Howell and others. *U S Bur Mines Tech Pa* 307:1-21 '22
- Permissible explosives, mining equipment and apparatus approved prior to January 1, 1923. S. P. Howell and others. *U S Bur Mines Tech Pa* 333:1-22 '23
- Possibilities in liquid air explosives. E. Roy. *il diags Eng & Contr* 57:467-8 Ap 29 '22

- Progress of investigations on liquid-oxygen explosives. S. P. Howell, J. W. Paul and J. L. Sherrick. *il 6 pls U S Bur Mines Tech Pa* 294:1-80 '23
- Recherches expérimentales sur les explosifs de sûreté. E. Audibert. *Génie Civil* 80: 504 Je 3 '22
- Small cartridges inefficient and unsafe. *Coal Age* 23:1046 Je 28 '23
- Tamping explosives. *Pop Mech* 39:958 Je '23
- Thunderbolts of peace; modern industrial explosives—their manufacture and use. A. La Motte. *il Sci Am* 127:248-9+ O '22
- Velocity of decomposition of high explosives in a vacuum; mercuric fulminate. R. C. Farmer. *Chem Soc J* 121:174-87 Ja '22

See also Ammonium nitrate; Ammunition; Blasting; Coal mines and mining—Explosives; Detonators; Dumorite; Dynamite; Gun cotton; Inflammable mixtures; Nitrocellulose; Nitroglycerin; Nitroguanidine; Oxygen; Liquid; Tetryl; Torpedoes; Trinitrotoluene

Analysis

- Analysis of detonating and priming mixtures. C. A. Taylor and W. H. Rinkenbach. *il diags U S Bur Mines Tech Pa* 282:1-32 '22

Manufacture

- Chimie et fabrication des explosifs. P. Vérola. 202p A. Colin, Paris '22
- Lost motion in explosive making due to needless variety of products. G. M. Norman. *Chem & Met Eng* 27:458 Ag 30 '22
- New explosive made from sawdust. *il Pop Mech* 39:752 My '23
- Plant of the Northern explosives co., limited, Dragon, P.Q. J. R. Donald. *Can Chem & Met* 6:101-4 My '22
- U.S. government explosives plant, Nitro, West Virginia. M. F. Chase and F. E. Pierce. *diags J Ind & Eng Chem* 14:260-8, 498-503 Ap, Je '22
- Visit to the plant of the Nobel industries, ltd., at Ardeer, Scotland. E. Hendrick. *il Chem & Met Eng* 27:297-8 Ag 16 '22

Statistics

- Manufacture of explosives in 1921. *Chem & Met Eng* 27:1268 D 27 '22
- Production of explosives in 1921. *Eng & Contr* 57:593 Je 21 '22
- Production of explosives in the United States during the calendar year 1921. W. W. Adams. *U S Bur Mines Tech Pa* 313:1-25 '22
- Production of explosives in the United States during the calendar year 1922. W. W. Adams. *U S Bur Mines Tech Pa* 340:1-25 '23
- Sales of explosives in 1922 16 per cent greater than in preceding year. *Coal Age* 23:714 My 3 '23

Storage

- Danger of storing carbide with explosives. C. E. Munroe. *Min & Sci P* 123:899-900 D 24 '21; *Same cond. Safety Eng* 43:23-4 Ja '22; *Abstract. Eng & Min J* 112:972 D 17 '21
- Mine laws lax on handling and storing of explosives. *il Coal Age* 23:565-6 Ap 5 '23
- Surface explosives magazines. R. W. Jones. *il Eng & Min J* 113:407-8 Mr 11 '22

See also Powder houses

Testing

- Procedure for testing explosives for permissibility for use in gaseous and dusty coal mines with test requirements, tolerance limits, and the schedule of fees. *U S Bur Mines Schedule* 17:1-12 '21

Transportation

- Explosives in transit cost a life and \$75 in 1922. *Nation's Business* 11:80 My '23
- Regulations for the transportation of explosives and other dangerous articles. Rev. ed. 424p U.S. interstate commerce commission, Washington, D.C. '22
- Transportation of explosives by express; order of the Interstate commerce commission. *Safety Eng* 46:125-7 S '23

See also Tank cars

Explosives, Military

War explosives in France. J. Cavalier. *diag Chem & Met Eng* 27:689-93 O 4 '22

Export managers' club of New York

Annual meeting, March 21. W: M. Benney. *Am Ind* 22:35-9 Ap '22

Export trade

Agency agreements in foreign trade. W: G. Marvin. *U S Bur For & Dom Trade Information Bul* 102:1-10 '23

America in European markets. *Annalist* 22:262+ Ag '23

America must wake up to possibilities of foreign trade. F: Willson. *Am Mach* 55:825+ N 17 '21

America's foreign trade is well balanced. F. Johnston. *Ptr Ink* 125:161-2+ O 18 '23

America's 400,000,000 friends in China. S. A. Sze. *Nation's Business* 9:22 D '21

Analysis of the foreign trade situation. *Annalist* 20:625-7 D 11 '22

Asiatic markets for industrial machinery. W. H. Rastall. *il maps U S Bur For & Dom Com* 215:1-332 '22

Changing markets of the East. L: C. M. Reed. *System* 44:314+ S '23

Conditions in Europe that affect American electrical exporters. J. McElroy and P. S. Smith. *il map Elec W* 79:1264-6 Je 24 '22

Contest for South African trade. *Am Ind* 23:40-1+ O '22

Developing foreign trade by pictures. L. W. Moffett. *Iron Age* 109:931 Ap 6 '22

Distribution in export trade. P. S. Smith and W. L. Urquhart. *il Elec W* 81:913-17 Ap 21 '23

Domestic sales depend upon export stability. N. G. Shidle. *Automotive Ind* 46:1097-9 My 25 '22

Dry goods jobber's experiences in building trade in Mexico. J. R. Sprague. *Ptr Ink* 117:77-8+ N 17 '21

Elementary principles of exporting are important. *Automotive Ind* 45:976-7 N 17 '21

English manufacturers adopt American merchandising methods. W. F. Wyman. *Ptr Ink* 124:49-50+ Ag 30 '23

Europe, the farmers' market. J. R. Howard. *Nation's Business* 10:24-6 Je 5 '22

Experience in export selling. E. A. Wright. *Elec W* 81:1175-6 My 19 '23

An export "Dud" in France. P. Williams. *il Nation's Business* 10:17-19 O '22

Export merchandising. W. F. Wyman. 405p McGraw-Hill '22

Export organization; advice to the smaller manufacturer. L. Gorini. *Elec R (Lond)* 92:951-2 Je 15 '23

Export ratios need study in industrial machinery field. W. H. Rastall. *Eng N* 91:698-9 O 25 '23; Same. *Am Mach* 59:658 N 1 '23

Exporter faces problems in developing foreign markets. H. Oehlmann. *J Elec* 47:428 D 1 '21

Exporting small tools and machinery. H. D. Parker. *Am Mach* 58:101-4 Ja 18 '23

Fewer errors in handling export orders. W. F. Wyman. *System* 43:472-3 Ap '23

Finding and training men for foreign selling. J. True. *Ptr Ink* M 7:41-2+ S '23

Five helps for exporters. *System* 43:248-9+ F '23

For an American foreign trade policy. J. A. Farrell. *Iron Age* 109:1359-61 My 18 '22

Foreign trade markets and methods. C. S. Cooper. 440p Appleton '22

Foreign trade organization. J. A. de Haas. 375p [bibliog p 357-68] Ronald press '23

Foreign trade turns losses into profits. D. Beecroft. *Automotive Ind* 46:1047-51 My 18 '22

Guiding exports by past performances. S. H. Day. *Elec W* 81:1381-2 Je 9 '23

Has there been a decline in foreign trade? *Mach* 28:453 F '22

Help Germany to compete. M. C. Rorty. *Nation's Business* 9:18 D '21

Hoover message to export manufacturers. J. M. Oskison. *Ind Management* 65:131-5 Mr '23

Hope for improvement in export business. *Iron Age* 109:88-90 Ja 5 '22

How Gillette safety razor company gets results in foreign trade. T: W. Pelham. *Ptr Ink* 122:105-6+ Mr 29 '23

How to begin exporting. J. A. Dunnage. *Ind Management (Lond)* 9:140-1 Mr 8 '23

How to export goods. F. M. Dudeney. 112p Pitman '22

Kidd on foreign trade. H. C. Kidd. 2d ed. 441p Prentice-Hall, inc., New York '21

Legal adviser in foreign trade. A. J. Wolfe. *Sci Am* 126:19 Ja '22

Machinery export markets for the coming year. W. H. Rastall. *Am Mach* 58:153-4 Ja 25 '23; Same. *Eng N* 90:279+ F 8 '23

Machinery export plans for 1923—Latin America. W. H. Rastall. *Eng N* 90:370-1 F 22 '23

Machinery export plans for 1923—the Far East. W. H. Rastall. *Eng N* 90:768-9 Ap 26 '23

Manufacturer and export merchant. *Am Ind* 22:35-6 Mr '22

Marking U.S. merchandise for foreign shipment. *Ptr Ink* 122:85-6 F 8 '23

Need of co-operation in development of foreign trade. J. T. Holdsworth. *Comm & Fin Chr* 114:1613-14 Ap 15 '22

New electrical export classification. *Elec W* 78:1342 D 31 '21

New England exporter. H. R. Tosdal. 130p Com. on for. trade of the Boston chamber of commerce, Boston '22

Our international trade movement. M. Parsons. *Annalist* 22:506+ O 15 '23

Outlook for American trade in the Far East. R. Bean. *Annalist* 21:415, 446+ Mr 19-26 '23

Practical exporting. B: O. Hough. 7th ed. 529p American exporter, Johnston export pub co., New York '21

Preparing the field for the export salesman. W. F. Wyman. *Ptr Ink* 120:139-40+ O 12 '22

Problem in management. H. W. Hanson. *System* 44:166-7 Ag '23

Problems in export sales management. H. R. Tosdal. 702p Shaw '22

Profits in exports for small manufacturer. *Automotive Ind* 49:569-70 S 20 '23

Promoting American machinery sales abroad. W. H. Rastall. *U S Bur For & Dom Com Trade Information Bul* 138:1-18 '23

Questions on distribution abroad. E. B. Filsinger. *Textile World* 63:1983+ Mr 24 '23

Reducing the exporter's transport costs. J. A. Dunnage. *Ind Management (Lond)* 9:230-1 Ap 19 '23

Revised export classification effective Jan. 1, 1922. *Comm & Fin Chr* 113:2581-2 D 17 '21

Romance in the bypaths of trade. F: Simpson. *Nation's Business* 11:16-18 Ag; 32-3 S '23

Starting right in the export business. A. J. Wolfe. *Ptr Ink* M 7:33-4+ Ag '23

Trading with Asia. F. R. Eldridge. 474p Appleton '21

Uncle Sam no export novice. C: L. Chandler. *Nation's Business* 9:20-1 D '21

Wanted: better salesmanship abroad. J. Klein. *Ptr Ink* 120:109-10+ S 7 '22; Same cond. *Elec W* 80:633-4 S 16 '22; Same. *Eng N* 89:495-6 S 21 '22

Way that export business must be won. E. W. Droosten. *Elec W* 79:791 Ap 22 '22

What we can sell the Near East. E: E. Pratt. *il Nation's Business* 10:28-9 O '22

Why bother with foreign trade? J. Klein. *System* 44:425-7+ O '23

Why we must have foreign trade. J. S. Alexander. *Ptr Ink* 119:161-3 My 18 '22

World markets. J: S. Lawrence. *Textile World* 63:2831+ Ad 28 '23

See also Advertising, Foreign; Branch houses, Foreign; Foreign exchange; Letters of credit; Packing for shipment; Tariff; *also* subdivision Commerce under names of countries, e.g. Latin America—Commerce; South America—Commerce; United States—Commerce; *also* Foreign trade financing corporation; National foreign trade convention

Advertising

See Advertising, Foreign

Export trade—Continued

Bibliography

- Foreign commerce handbook, 1922-1923. 31p
Chamber of commerce of the U S, Wash-
ington '22
Foreign trade markets and methods. C. S.
Cooper. p.111-24 Appleton '22
Selected bibliography of foreign trade. 7p
National foreign trade council, New York
'22
Training for foreign service. G. L. Swiggett.
U S Bur Educ Bul, 1921, no 27:1-154 '22

Conferences

- Big attendance at M.A.M.A. export session
shows greater interest in foreign trade.
Automotive Ind 49:627-9 S 27 '23
Conference of export managers. W: M. Ben-
ney. Am Ind 22:35-9 Ap '22
First M. A. M. A. export session portends
greater foreign business. Automotive Ind
47:562-3 S 21 '22
National foreign trade council 9th annual con-
vention, Philadelphia. Iron Age 109:1355-8
My 18 '22; Iron Tr R 70:1420-1 My 18 '22

Credit

See Credit, Foreign

Finance

- Acceptances in foreign trade. F: I. Kent. Am
Ind 22:27-8 F '22
Financing exports and imports. A. B. Cook.
218p Ronald press '23
Function of gold in foreign trade. W: T.
Foster. Annalist 20:414+ O 23 '22
How to make sure of foreign collections. J:
Chapman. il System 43:340-2+ Mr '23
Methods employed by American bankers and
exporters to finance exports to Germany.
Annalist 21:570+ Ap 23 '23
Methods of payment for exports. Am Mach
59:460 S 20 '23
New job for the Federal reserve. H. J. Dodge.
Am Ind 22:11-13 F '22
Problem of turning foreign mercantile debts
into cash. A. J. Wolfe. Annalist 21:137-8
Ja 15 '23
Sidelights on American gold exports. R. Est-
court. Annalist 21:669-70 My 14 '23

Government aid

- Commerce department swamped with foreign
trade inquiries. Am Mach 58:11 Ja 4 '23
Expands foreign trade service. J. Klein. Iron
Tr R 70:1345 My 11 '22
Export service step by step. Ptr Ink 124:65-
6+ Jl 26 '23
Government help in picking agents in foreign
markets. H: H. Morse. Ptr Ink 123:73-4+
My 24 '23
Governmental influence in foreign trade. A.
B. Cook. Administration 4:149-54 Ag '22
Policing our foreign trade. A. G. Goldsmith.
il Nation's Business 10:21-3 S '22
Stimulating our foreign trade. B. N. Rod-
man. Annalist 19:562 My 22 '22
What the government does for our manufac-
turers abroad. J. True. Ptr Ink M 7:29-30+
Jl '23

Statistics

- Cotton cloth exports grow. Am Ind 23:31 S '22
December electrical exports bring 1921 total
to \$95,814,885. Elec W 79:206 Ja 28 '22
Electrical apparatus exports in 1922. Elec W
81:70 Ja 6 '23
Electrical exports for October, 1922, compared
with corresponding period a year ago. Elec
W 80:1363 D 9 '22 [continued monthly]
Electrical exports for the year 1922. Elec W
81:364 F 10 '23
Electrical exports of the United States, 1920.
Elec R (Lond) 89:723-4 N 25 '21
Exports of domestic motorcycles from the
United States, January to September, 1921,
inclusive; tabulation. Automotive Ind 45:
931 N 10 '21
Exports of electrical glassware, generators,
arc lamps, flashlights, etc., from the United
States during 1922. Elec W 81:1441 Je 16 '23

- Exports of electrical goods from the United
States during 1921 by countries and items;
tabulation. Elec W 79:455 Mr 4 '22
Exports of machine tools and metal-working
machinery for 1921. Mach 28:764 My '22
Exports of metal-working machinery before
and after the war. Mach 28:486 F '22
Exports of wiring devices, meters, motors,
rheostats, fans, motor-driven household de-
vices, etc., from the United States during
1922; tabulation. Elec W 81:1120-1 My 12
'23
First half of year in electrical exports. Am
Mach 59:271 Ag 16 '23
Foreign trade in 1922. Comm & Fin Chr 116:
2319-22 My 26 '23
Foreign trade of the United States for the
calendar year 1922. U S Bur For & Dom
Com Trade Information Bul 104:3-51 '23
Foreign trade of the United States for the
fiscal year 1921-22. U S Bur For & Dom
Com Trade Information Bul 59:1-25 '22
Late fiscal year's foreign trade. Comm & Fin
Chr 115:2201-3 N 18 '22
Manufacturers remiss in export returns. Iron
Age 109:1675-6 Je 15 '22
1923 automotive exports will be double 1922
totals. N. G. Shidle. Automotive Ind 49:
359-61 Ag 23 '23
Our foreign trade in 1921. Comm & Fin Chr
114:562-5 F 11 '22
Our trade abroad toils up. C. D. Snow. Na-
tion's Business 10:23-5 S '22
Pacific's foreign trade gain. Am Ind 23:46 Ja
'23
Slight gain in iron and steel exports. Iron
Age 110:1508-9 D 7 '22
Ten year's exports of machine tools to Great
Britain. Mach 28:626 Ap '22
Tractor, motorcycle, battery & spark plug
exports for 1st quarter. Automotive Ind 49:
25 Jl 5 '23
Trade of the United States with the world,
1920-1921; exports. U S Bur For & Dom
Com misc ser 115:1-490 '23
United States—exports of metal working ma-
chinery, 1909-1921, inclusive. Am Mach 57:
730-1 N 9 '22

Study and teaching

- Training for foreign service. G. L. Swiggett.
U S Bur Educ Bul, 1921, no. 27:1-154 '22
Expositions. See Exhibitions
Express companies
See American railway express company
Express service
Electric trucks in express service. E. E. La
Schum. Gen Elec R 25:209-13 Ap '22
Express and other contract carriers by rail.
I. Martin. Ry Age 73:1003 N 25 '22
See also Electric railroads—Freight

Safety devices and measures

- How the express man does his bit for safety.
S. W. Todd. il Nat Safety N 7:9-11 Je '23
Ex-service men's organizations

Directories

- International labour directory, 1923. p. 981-95
International labour office, Geneva '23

Extensometer

- Optical-level extensometer of wide utility. L.
B. Tuckerman. il diag Eng N 91:266-7 Ag
16 '23
Photo-recording extensometer for impact
tests. il diag Eng N 90:544-5 Mr 22 '23
Small roller extensometer. E. H. Lamb. il
diag Engineering 113:684 Je 2 '22
Successful distant-reading extensometer. O.
S. Peters and R. S. Johnston. il diag Eng
N 91:27-8 Jl 5 '23
Extraction processes
Definitions of metallurgical extraction. Eng &
Min J 114:949 N 25 '22
Extraction apparatus with extract-recovery
and solvent-regenerative devices. L: C.
Karrick and D. Gould. J Fr Inst 194:537-40
O '22
Extracts. See Flavoring extracts

Extrusion process

- Extruded brass. R. Genders. *il Metal Ind* 21: 278-9 J1 '23;
 Extrusion defect. R. Genders. *il diags Engineering* 112:487-9 S 30 '21; Excerpt. *Iron Age* 108:996-7 O 20 '21; Abstract. *Metal Ind* 19:479 D '21; Discussion. *Engineering* 112:483 S 30 '21; *Iron Age* 108:997 O 20 '21; *Metal Ind* 19:479-80 D '21

Eye

- Artificial light and our eyes. E. A. Sperry. *Illum Eng Soc* 18:323-8 Ap '23
 Electrical response of the retina to stimulation by light; abstract. E. L. Chaffee and W. T. Bowie. *Illum Eng Soc* 17:663-6 N '22
 Pathological effects of radiation on the eye. F. H. Verhoeff and L. Bell. *Illum Eng Soc* 16:625-64; Discussion. 664-5 no 9 '21
 Physiological effects of radiant energy. C. Sheard. *Safety Eng* 45:171-3, 215-19 My-Je '23

See also Color blindness; Eye strain; Optics, Physiological; Sight

Care and hygiene

- Eye defects are corrected by exercising scale. *il Pop Mech* 40:340 S '23

Diseases and defects

- Defective vision and industrial accidents. R. E. Simpson. *Safety Eng* 45:220-3 Je '23
 Eye symptomatology in occupational diseases. D. J. Lyle and C. P. McCord. *Monthly Labor R* 15:1344-50 D '22
 Final report of the departmental committee on the causes and prevention of blindness. *J Ind Hygiene* 5:sup33-6 Je '23

See also Miners' nystagmus; Myopia

Examination

- Better work and more work per man through better sight. E. LeRoy and W. B. Fisher. *Ind Management* 63:111-17 F '22
 Eyesight conservation in industry. R. Gordon. *Ind Management* 65:345-6 Je '23

Injuries

- Cause and prevention of blindness in Great Britain. *Monthly Labor R* 17:468-70 Ag '23
 Causes and cost of industrial eye injuries in the United States. *Monthly Labor R* 16: 614-16 Mr '23
 Compensation for injuries to the eye. W. Tarun. *U S Bur Labor Statistics Bul* 333: 170-3; Discussion. 173-9 '23
 Industrial eye injuries. F. Allport. *Safety Eng* 46:165-9 O '23
 Must reduce accident hazards to eyes. *Iron Tr R* 72:1886-7 Je 28 '23

Protection

- Conserving the worker's vision. S. DeHart. *il Am Mach* 58:537-40 Ap 12 '23
 Eye conservation in industry. (Bul. 1) 29p
 Eye sight conservation council of America, Times building, New York '22; Review. *Administration* 3:642-3 My '22; *J Ind Hygiene* 4:sup30 Je '22
 Eye hazards in industry. *Monthly Labor R* 14:789-90 Ap '22
 Eye plays dual role in industrial safety. G. A. Henry. *Am Ind* 24:29-30 O '23
 Eyes should be protected from intense heat and light. W. J. Risley, jr. *Power* 56:215 Ag 8 '22
 Eyesight conservation gains favor. *Safety Eng* 45:113-15 Ap '23
 Facts of importance in regard to relief of eye fatigue in industry. *Sci Am* 126:34 Ja '22
 Head and eye protection. *Ry Mech Eng* 96: 599 O '22
 Industrial eye injuries. F. Allport. *Safety Eng* 46:165-9 O '23; Abstract. *Monthly Labor R* 17:466-7 Ag '23
 National safety code for the protection of the heads and eyes of industrial workers. *U S Bur Stand handbook ser* 2:1-66 '23
 Protecting workmen's eyes. B. W. Nutt. *Foundry* 50:844-5 O 15 '22; Same. *Iron Tr R* 72: 946-7 Mr 29 '23
 Reducing eye accidents in the shop. H. R. Fowler. *diag Am Mach* 58:884 Je 14 '23

- Vision, its relation to industry. E. B. Fowler. *Iron Tr R* 70:965-7 Ap 6 '22

See also Goggles

Eye strain

- Eye fatigue in industry. M. Poser. *Illum Eng Soc* 16:431-7 no 8 '21

Eyes, Artificial

- How advertising and service won new markets for unusual product; glass eyes. S. O. Rice. *Ptr Ink M* 7:90+ O '23
 Science rivals nature in making eyes. A. N. Mirzoeff. *il Pop Mech* 40:416-18 S '23

F

- Fabric cutting. See Cloth cutting machines

- Fabricated houses. See Houses, Fabricated

- Fabrics. See Airplane fabric; Balloon fabric; Cotton fabrics; Textile fabrics; Tire fabrics

Fabrikoid

- How one make of artificial leather is manufactured. H. Chase. *il diag Automotive Ind* 49:224-7 Ag 2 '23
 Manufacture of rubber and pyroxylin coated fabrics differs widely. *il diag Automotive Ind* 49:794-7 O 18 '23

Fabyan, George

- Small private laboratory; some general impressions of the Riverbank laboratories. A. C. Lescarboursa. *il Sci Am* 129:154-5+ S '23

Faccidoli, Giuseppe, 1877-

- Sketch. *por Elec W* 51:2 Ja 6 '23

- Face brick association, American. See American face brick association

- Face powder. See Cosmetics—Advertising

Facing tools

- Emergency seat refacing tool. J. D. Flinner. *diags Ry Mech Eng* 97:302 My '23
 Large surfacing and boring machines. *il diags plan Engineer* 134:360-1 O 6 '22; *Mech Eng* 44:839-40 D '22
 Steiner valve facer. *il Mach* 28:589-90 Mr '22
 Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 56:175-8, 207-9 F 2-9 '22
 Tool for facing connecting-rod bushings. H. A. Peters. *diags Mach* 28:574 Mr '22

Factice

- Factice—a rubber substitute. *Chem & Met Eng* 27:753 O 11 '22
 Factice in rubber compounding. *India Rubber W* 66:670 J1 '22

Factories

- Annual report of H. M. chief inspector of factories and workshops. *Electrician* 89:122-3 Ag 4 '22; *Elec R (Lond)* 91:139-40 J1 28 '22; *Engineering* 114:81-2 J1 21 '22
 Building a daylight factory. Kops bros., Ozone Park, Long Island, N.Y. *il Bldg Age* 44:44-5 Ag '22
 Building for Baldwin piano manufacturing co., Cincinnati, Ohio; views. *Am Arch* 123: 60k-l Ja 17 '23
 Buildings from the manager's viewpoint; foundation, floors, and ceilings. G. L. H. Arnold. *il Management Eng* 4:329-33 My '23
 Considerations on factory size and efficiency. H. Baker. *diags Engineer* 133:292-4 Mr 17 '22
 Daylight building for yarn mill. *il diag Concrete* 22:227-8 Je '23
 Derby works of the International combustion engineering co., ltd. *il (supp) diag plan Engineer* 135:652-4 Je 22 '23
 Design and maintenance of factory buildings. H. Pearman. *il Ind Management (Lond)* 10: 35-6, 63-4, 91-2, 147-50, 239-41 J1 26-Ag 23, S 20, N 1 '23 (to be cont)
 Establishing a small engineering works. A. Whitehead. *diag plan Eng & Ind Management* 7:502-6, 540-2, 571-3; 8:3-6, 38-41, 75-7, 121-3 Je 15-S 7 '22
 Factory building with maximum window wall surface. *il diag Am Arch* 122:517-18 D 6 '22

Factories—Continued

Factory construction recovers. W: M. Rooney. *il Iron Tr R* 72:72-6 Ja 4 '23

Factory that fits the job; the plant of the Syracuse washing machine corporation. G. I. Rhodes. *il diag plan Am Mach* 57:85-8 Jl 20 '22

Future extension and use considered in modern factory design. S: B. Lincoln. *il Bldg Age* 44:43 Jl '22

How we combined reinforced concrete and mill construction. K. D. Hamilton. *il Factory* 31:608-10+ N '23

Industrial building reference number. *Arch Forum* 39:83-151 S '23

Industrial buildings by Lockwood, Greene & co.; views. *Am Arch* 123:456j-1 My 23 '23

Industrial plant design. J. L. McConnell. *il plans W Soc E J* 28:1-14; Discussion. 15-17 Ja '23

A laboratory store in the factory. R. Dickinson. *Ptr Ink M* 5:25-6 N '22

Letters from an architect to his son about to begin practice in a small city. F. E. Wallis. *Am Arch* 124:239-40 S 12 '23

Making the factory fit the job. H. V. Coes. *Ind Management* 63:34-5 Ja '22

Mechanical features of tire factory at Cumberland, Md.; Kelly-Springfield tire co. *il Iron Age* 108:1259-65 N 17 '21

New departure in building construction; the glass front factory. W: R. Fogg. *il plans Bldg Age* 44:26-7 N '22

Our viewpoint on management cut our costs 20%; J. F. Tapley company. E. W. Palmer. *il plan Factory* 30:269-73+ Mr '23

Planning the new building. P. M. Atkins. *Ind Management* 66:32-3 Jl '23

Preliminary estimate figures. C: F. Dingman. *Concrete* 20:163 Ap '22; Same. *Eng & Contr* 57:623-4 Je 28 '22

Unusual design for factory. *il Bldg Age* 44:37 F '22

War plants for peace production. R. G. Macy. *Management Eng* 3:39-42 Jl '22

Works of the Nord-Paris company. *il Engineering* 113:708-9, pl 39-40 Je 9 '22

Works of the Société générale de constructions mécaniques. *il diag Engineering* 113:680-1, 688, pl 35-6 Je 2 '22

See also Automobile factories; Candy factories; Carpet factories; Cement plants; Chemical plants; Cotton mills; Dye factories; Electric driving; Factory management; Factory sanitation; Flour mills; Foundries; Industrial buildings; Iron works; Knitting mills; Loft buildings; Machine shops; Metal working plants; Paper mills; Rubber factories; Sawmills; Shoe factories; Silk mills; Steel works; Sugar factories; Textile mills; Woodworking shops; Woolen and worsted mills

Accounting

Cost accounting in the jobbing shop. L. B. Prosnitz. *Mach* 29:794-7 Je '23

Cost keeping for the small shop. E. M. Pierce. *Am Mach* 59:199-201 Ag 9 '23

Cost of power transmission. R. Stelling. *Eng & Ind Management* 7:314-15 Ap 6 '22

Costing system and its relation to production. G. H. Hales. *Eng & Ind Management* 7:17-19, 31-4, 63-5, 91-2 Ja 5-26 '22

Costs—a short study of factory economics. A. G. Peterkin. *Am Inst Chem Eng Trans v* 13 pt 2:101-19 '20-21

Engineer and manufacturing costs. F. C. Lawrence. *Inst E E J* 61:52-8 D '22; Same. *Ind Management (Lond)* 9:11-14, 42-4 Ja 11-25 '23

Estimating cost promises in the small plant. D. S. Cole. *Ind Management* 63:181-3 Mr '22

Factory organisation. N. G. Smith. *Ind Management (Lond)* 8:339-42 D 14 '22

Handling expenses of idleness. T. W. Dinlocker and A. W. Wainwright. *Iron Tr R* 70:1047-9 Ap 13 '22

Handling factory costs. *See* monthly numbers of **Factory**

How does idleness affect profits and selling prices? F. P. Mullaney. *Chem & Met Eng* 28:531-3 Mr 21 '23

Interpreting operation to the directors; planning department charts supplant accounting statements. G. C. Brown. *Management & Adm* 6:593-8 N '23

Lightening the factory burden. C. W. Bennett. *Ind Management* 63:103-6 F '22

Linking accounting to production; new German system. E. Just. *Management & Adm* 6:491-3 O '23

New system of German factory accounting. Schar, Schlesinger and Wallichs. *Management Eng* 4:27-31 Ja '23

Overhead in cost-keeping. D. B. Strudley. *Can Eng* 43:645-6 D 19 '22

Setting machine rates. P. J. Rider. *Factory* 27:782+ D '21

Shop office accounting. N. G. Meade. *Ind Management* 65:216-20 Ap '23

Simplified manufacturing accounts. S. B. Levin. *Administration* 3:209-22 F '22

Some of the ways procedure in maintenance work can be audited. A. J. Whitcomb. *Ind Eng* 81:11-15+, 181-6, 426-31 Ja, Ap, S '23

Turning losses into profits. R. Rosenthal and G. C. Brown. *Management Eng* 4:307-10 My '23

Using cost figures to cut costs. W: R. Bassett. *Am Mach* 56:1-3 Ja 5 '22

Works accountability; its relation to production. W. Campbell. *Eng & Ind Management* 7:534-8 Je 29 '22

Your cost policies from your banker's viewpoint. J. A. House. *Factory* 30:682-4 Je '23

See also Chemical plants—Accounting; Power cost—Accounting

Cleaning

Maintaining the industrial plant. E. F. Ross. *il Iron Tr R* 70:1715-19 Je 15 '22

Vacuum cleaning applied to industrial plants. C: L. Hubbard. *diags Factory* 28:285-8 Mr '22

Washing factory windows. T. S. Haviland. *il Factory* 28:302+ Mr '22

Cleanliness

Value of organized cleanliness. E. E. Dyer. *Textile World* 64:685 Ag 4 '23

Why we keep our factory clean. W. C. Carlson. *il Factory* 28:648-9 Je '22

Electric equipment

Betterment work in industrial plants improves operating conditions. E. S. Lincoln. *Elec W* 78:1079-80 N 26 '21

Duties and responsibilities of the engineer and electrical contractor and their relations with the customer on contract jobs in a factory or mill. D. H. Braymer. *il plan Ind Eng* 81:16-22+ Ja '23

Efficient record system for industrial electrical department. J. E. Housley. *Elec W* 78:1015-13 N 19 '21

Proper maintenance of electrical equipment saves cost of shutdown and repair. E. H. Hubert. *Am Mach* 56:20-1 Ja 5 '22

Some of the ways procedure in maintenance work can be audited. A. J. Whitcomb. *Ind Eng* 81:11-15+, 181-6, 426-31 Ja, Ap, S '23

Some whys and hows of maintenance analyses and procedure. G. A. Van Brunt. *il Ind Eng* 81:48-51+ Ja '23

System in electrical division work. P. T. Vanderwaart. *Ind Eng* 81:482 O '23

Equipment

Comments on maintenance work by readers of *Industrial engineer*. *Ind Eng* 81:32-6 Ja '23

Planning with equipment standards. C. D. Buoy. *il Ind Management* 63:363-5 Je '22

Practice in maintenance work. E. H. Hubert. *il Ind Eng* 81:27-31+ Ja '23

Selecting tool equipment for maximum economy. D. W. McCrosky. *Ind Management* 65:28-31 Ja '23

Selection of modern plant equipment. P. M. Atkins. *Ind Management* 66:176-9 S '23

Some of the ways procedure in maintenance work can be audited. A. J. Whitcomb. *Ind Eng* 81:11-15+, 181-6, 426-31 Ja, Ap, S '23

See also Depreciation; Factories—Equipment; Labor saving devices

Factories—Continued

Floors

How diagonal floors cut costs. C. Lynndelle. *il* Factory 29:23-4 J1 '22
Terrazzo floor for industrial shoe factory building. H. S. Wright. *Eng N* 90:660 Ap 12 '23

Cost

Cost of a wood block factory floor. *Eng & Contr* 57:490 My 24 '22

Heating and ventilation

Analysis of factory heating. M. C. W. Tomlinson. *Factory* 28:162-4 F '22
Atmospheric conditions in industry. H. M. Vernon. *Eng & Ind Management* 8:85-7 Ag 24 '22

Choosing the factory heating system. S. E. Townley. *Factory* 31:548+ O '23
Controlling air conditions in the plant. *il* *diag Nat Safety N* 7:33-6 Mr '23

Cooling power of the atmosphere and comfort during work. L. Hill and J. A. Campbell. *bibliog J Ind Hygiene* 4:246-52 O '22

Economic heating of industrial plants. M. C. W. Tomlinson. *Management Eng* 3:221-3 O '22

Economical factory heating. C. F. Wade. *diags Ind Management (Lond)* 9:99-101 F 22 '23

Electrical heating of industrial plants. J. L. M. Yardley. *il* *diags Heat & Ven* 20:39-42 My '23

Factory ventilation requirements in Australia. *Heat & Ven* 19:49 Ap '22

Heating and ventilation of industrial buildings. C. A. Fuller. *il* *diag plan Arch Forum* 30:131-6 S '23

Heating industrial plants by direct steam radiation. C. L. Hubbard. *diags Sanitary & Heat Eng* 100:144-6, 175-7 S 7-21 '23

Heating system of the General fire extinguisher co. C. L. Hubbard. *il* *chart diags plan Power Pl Eng* 26:591-5 Je 15 '22

Heating thirty-six acres; Chase metal works plant. *il* *Dom Eng* 102:320-1 F 17 '23

Heating, ventilating and humidifying. See monthly numbers of *Factory*

Heating with condenser circulating water. J. E. Williams. *il* *diags Am Soc Heat & V E* J 29:399-406 J1 '23; *Abstract. Power* 58:155-6 J1 24 '23

Hints on factory heating in Canada. H. H. Angus. *Heat & Ven* 19:47-8 Ag '22

Industrial ventilation. R. L. Gould and E. L. Hewitt. *diags Am Mach* 55:792-5 N 17 '21

Lighting and ventilation of factories, hours of labor and health. J. S. Purdy. *J Ind Hygiene* 3:352-5 Mr '22

Preliminary notes on atmospheric conditions in boot and shoe factories. 69p Gt. Brit. Industrial fatigue research bd., London '21

Production economies through automatic temperature control. *il* *charts Factory* 30:696-9+; 31:461-3+ Je, O '23

Promoting health in industry. C.-E. A. Winslow. *Iron Tr R* 72:371-2 F 1 '23; *Same cond. Power Pl Eng* 27:186-8 F 1 '23

Ventilation in industrial plants a field for contractors. J. H. Carbone. *il* *Elec R* 79:807-9 N 26 '21

Ventilation in industrial works. F. E. Gooding. *il* *diags Ind Eng* 80:369-76+ Ag '22

Ventilation of English factories and workshops in hot weather. T. C. Angus. *diags J Ind Hygiene* 4:479-90 Mr '23

See also Paper mills—Heating and ventilation; Temperature—Physiological effect; Textile mills—Heating and ventilation

Layout

Establishing a small engineering works. A. Whitehead. *diag plan Eng & Ind Management* 7:502-6 Je 15 '22

Factory planning; a survey of the systems of shop planning for various methods of production. H. E. Taylor. *il* *plans Engineering* 114:756-8, 786-8 D 15-22 '22

How we moved—making a profit out of a nuisance. G. G. Powers. *il* *plan Factory* 29:27-9+ J1 '22

Industrial plant design. J. L. McConnell. *il* *plans W Soc E J* 28:1-14 Ja '23; *Excerpt. Eng & Contr (Bldgs)* 59:193-5 Ja 24 '23; *Discussion. W Soc E J* 28:15-17 Ja '23

Laying out a factory for production work. F. W. Curtis. *plans Am Mach* 56:56-8, 97-9 Ja 12-19 '22

Our viewpoint on management cut our costs 20%; J. F. Tapley company. E. W. Palmer. *il* *plan Factory* 30:269-73+ Mr '23

Some practical points in factory lay-out. R. Stelling. *il* *Ind Management (Lond)* 9:3-4 Ja 11 '23

10 factory improvements which helped one business. A. T. Doud. *Factory* 28:294-6 Mr '22

See also Foremen's offices

Lighting

Accidents and shadows: their cause and remedy. W. E. Bush. *il* *Elec R (Lond)* 93:605-6 O 26 '23

Adapting standard reflectors and guards to new type of mill lamp. J. M. Ketch. *Elec W* 79:1077 My 27 '22

Are your buildings properly lighted? A. C. Carruthers. *il* *Safety Eng* 46:186-9+ O '23

Artificial illumination of industrial plants. A. L. Powell. *il* *Arch Forum* 39:144-6 S '23

Better lighting an economy measure. W. Harrison. *il* *Iron Age* 109:922-4 Ap 6 '22

Better lighting increases production. W. Harrison. O. F. Haas and F. W. Dopke. *il* *Iron Tr R* 70:610-12 Mr 2 '22

Better lighting increases production 35 per cent. E. A. Anderson. *Elec W* 81:1530 Je 30 '23

Better ways to light the work. *il* *Factory* 28:96+; 29:150+ Ja. Ag '22

Boston industrial lighting exhibit. J. Daniels. *il* *N E L A Bul* 8:649-50 N '21

Bringing daylight into your present building. W. T. Spivey. *il* *diags Factory* 31:312-15+ S '23

Bringing daylight to the work. W. W. Tracey. *Factory* 31:672+ N '23

Code of lighting—factories, mills and other work places. *il* *Illum Eng Soc* 16:362-89; *Discussion. 389-96 no 8 '21* [also pub. separately]

Conserving the worker's vision. S. DeHart. *il* *Am Mach* 58:537-40 Ap 12 '23

Daylight as an aid to production. *il* *Management Eng* 4:24 Ja '23

Defective vision and industrial accidents. R. E. Simpson. *Safety Eng* 45:220-3 Je '23

Easy way of providing adjustable lights for benches and lathes. J. H. Gallant. *il* *diag Ind Eng* 80:497-8 O '22

Effect of white interiors on lighting. A. L. Powell. *il* *Textile World* 62:70+ J1 1 '22

Electric lighting—an aid to industrial management. C. Sylvester. *il* *Ind Management (Lond)* 10:457-8 S 20 '23

Eliminating accidents by better lighting increases output. *J Elec* 47:433 D 1 '21

Factory illumination and production. G. H. Stickney and H. E. Mahan. *il* *diag Gen Elec R* 24:1023-4 D '21

Few timely reminders on industrial lighting. F. H. Sweet. *Elec W* 80:28 J1 1 '22

Floodlighting highly successful in dusty industrial plant. D. R. Shearer. *Elec W* 78:1227 D 17 '21

From 5 to 17 foot-candles. E. L. Connell. *il* *plan Elec W* 82:580-2 S 22 '23

Good lighting—a servant that will increase production. G. Gallo. *il* *Chem & Met Eng* 27:410-12 Ag 30 '22

Good lighting increases production. J. M. Hickerson. *il* *Ind Management* 62:325-8 D '21

Good lighting reduces accidents and losses. C. E. Johnson. *il* *Safety Eng* 45:6-8 Ja '23

How better lighting increased our production 25%. J. Magee. *Factory* 30:148-50 F '23; *Same. Illum Eng Soc* 18:387-91 Ap '23

How to reduce your wastage of light. W. Harrison and J. R. Colville. *il* *diags Elec R* 80:13-16 Ja '22

Factories—Lighting—Continued

Illumination—production tests in the industries. *Am Inst E E J* 42:1104 O '23
 Importance of rugged lamps and proper reflectors localized in mill lighting. *J. M. Ketch. diag Ind Eng* 81:58-9 Ja '23
 Industrial illumination. *il Eng & Ind Management* 7:450-1+ My 18 '22
 Industrial lighting. *Elec R (Lond)* 90:366-7 Mr 17 '22
 Industrial lighting. *il Factory* 30:790+; 31:558+ Je O '23
 Industrial lighting and the prevention of accidents. *L. Gaster. Gas J (Lond)* 162:541-2 My 30 '23
 Industrial lighting as an accident hazard. *E. L. Elliott. U S Bur Labor Statistics Bul* 333:206-13; Discussion. 213-16 '23
 Industrial lighting: ideal requirements (legislative and otherwise) and practical solutions. *L. Gaster. il diag Illum Engr* 15:74-82; Discussion. 82-8 Mr '22
 Industrial lighting; notes on the annual report of H. M. chief inspector of factories for 1920. *Illum Engr* 14:213-14 N '21
 Industrial lighting; the British viewpoint in regard to the illumination of workshops. *il Gas Age* 49:407 Ap 1 '22
 Lighting and ventilation of factories, hours of labor and health. *J. S. Purdy. J Ind Hygiene* 3:349-52 Mr '22
 Lighting metal-working plants to increase production. *A. L. Powell. il diag Elec W* 78:1069-72 N 26 '21
 Lighting the factory. *S. G. Hibben. Factory* 28:523-6 My '22
 Maintaining the industrial plant. *E. F. Ross. il Iron Tr R* 70:1715-19 Je 15 '22
 Natural lighting of industrial buildings. *W. R. Fogg. il diag Arch Forum* 39:117-21 S '23
 Practical advantages of flexibility in a lighting system. *J. M. Ketch and A. F. Irish. il diag Ind Eng* 81:251-6 My '23
 Practical progress in industrial lighting. *W. J. Nealy. Elec R* 79:879-80 D 10 '21
 Promoting health in industry. *C.-E. A. Winslow. Iron Tr R* 72:371-2 F 1 '23; Same cond. *Power Pl Eng* 27:186-8 F 1 '23
 Provisions of Massachusetts lighting code. *W. Harrison. Elec W* 80:665-6 S 23 '22
 Reduced accidents through efficient industrial lighting. *O. E. Tichenor. Safety Eng* 44:175 O '22
 Relation between illumination and output. *il Eng & Ind Management* 6:563-4 N 17 '21
 Relation of illumination to production. *D. P. Hess and W. Harrison. il diag Elec W* 82:703-6 O 6 '23; Same. *Ind Eng* 81:485-8 O '23
 Re-lighting the factory—an aid to better quality. *T. H. White. il Factory* 31:42-4 J1 '23
 Second report of the Departmental (home office) committee on lighting in factories and workshops. *Illum Engr* 14:192-4 O '21
 Selecting lighting by trial competition. *R. A. Packard. Elec W* 78:1323-4 D 31 '21
 Significance of data on illumination and production. *S. E. Doane. il Gen Elec R* 25:98-101 F '22
 Teaching illumination to the workers. *P. F. O'Shea. Management Eng* 3:137-8 S '22
 Tentative lighting code; recommendations made by Massachusetts department of labor. *Textile World* 61:1953+ Ap 1 '22
 Third report of the Home office departmental committee on lighting in factories and workshops. *Illum Engr* 15:197-202 J1 '22
 Unit costs of industrial lighting systems. *D. H. Tuck. Elec W* 82:818 O 20 '23
 Value of industrial lighting to the central station. *J. C. Fisher. N E L A Bul* 9:47-9 Ja '22
 Vision, its relation to industry. *E. B. Fowler. Iron Tr R* 70:965-7 Ap 6 '22
See also Cotton mills—Lighting; Foundries—Lighting; Garment factories—Lighting; Machine shops—Lighting; Paper mills—Lighting; Steel works—Lighting; Textile mills—Lighting; Woodworking shops—Lighting

Location

Choice of an industrial building site. *M. M. Osborne. Arch Forum* 39:87-8 S '23
 Choosing a mill site. *A. L. Scott. Textile World* 61:3177+ My 27 '22
 Establishing branch plants. 47p *Industrial dept., Lehigh and New England railroad co., Bethlehem, Pa.* '22
 Figures that prove it paid us to build. *F. L. Ham and C. Hoskins. Factory* 31:162-5+ Ag '23
 Locating the factory. 39p *Traffic dept., Lehigh and New England railroad co., Bethlehem, Pa.* '22
 Transportation factor in textile costs. *D. L. Taylor. Textile World* 63:766+ F 3 '23
 When the buyer of location meets the seller of opportunity. *W: H. Crawford. J Elec* 48:267-8 Ap 1 '22
 Would it pay to move? *C. M. Bigelow. Factory* 29:684-5 D '22

Lunch rooms

See Lunch rooms and cafeterias, Employ-ees'

Maintenance and repair

Comments on maintenance work by readers of *Industrial engineer*. *Ind Eng* 81:32-6 Ja '23
 Organizing maintenance personnel for greater economy. *P. F. O'Shea. il Factory* 30:156-8+ F '23
 Organizing to prevent breakdowns. *B. M. Maynard and F. C. Everett. Factory* 31:454-7+ O '23
 Painting product and plant. *See* Monthly numbers of *Factory*
 Planning, scheduling, and dispatching of maintenance and repairs. *P. M. Atkins. Ind Management* 66:78-83 Ag '23
 Practice in maintenance work. *E. H. Hubert. il Ind Eng* 81:27-31+ Ja '23
 Some whys and hows of maintenance analyses and procedure. *G. A. Van Brunt. il Ind Eng* 81:48-51+ Ja '23

Printing

Cutting the factory printing expense. *P. F. O'Shea. il Factory* 30:700-1+ Je '23

Protection

Protecting industrial plants and contents against loss and theft. *J. Mayhew. Management Eng* 3:109-10 Ag '22

See also Factory fire brigades

Reception rooms

Reflecting the production in the reception-room. *R. Bostick. il Ptr Ink M* 5:29-30 O '22

Sanitation

See Factory sanitation

Water supply

See Water supply for factories

Yards

Handling materials in the plant yard. *J. Herbert. il Ind Management* 66:97-101 Ag '23

Factory costs

Capital utilization. *J. K. Mason. diag Administration* 4:708-14 D '22
 Carrying out changes in design. *C. B. Kearney. Ind Management (Lond)* 9:295-6, 329-30 My 17-31 '23
 Direct labor costs versus selling prices. *G. Clark. Am Mach* 57:800 N 23 '22
 Establishing management standards. *W. H. Smith. Management Eng* 3:11-16 J1 '22
 Estimating cost promises in the small plant. *D. S. Cole. Ind Management* 63:181-3 Mr '22
 Examples of high manufacturing costs. *A. A. Dowd. Management Eng* 2:108-9 F '22

Handling factory costs. *See* monthly numbers of *Factory*
 Industrial depression and cost manipulation. *J. L. O'Hara. Administration* 3:545-58 My '22

Paint as a bribe. *E. H. Fish. Management Eng* 4:194 Mr '23

Factory costs—Continued

Seven leaks we have stopped. A. H. Cubberley. *Factory* 27:743-7 D '21

Three points of attack on production costs. C. C. Hermann. *Ind Management* 66:53-8 J1 '23

Wages paid to machinery. W. B. Lewis. *Ind Management* 65:240-2 Ap '23

Factory fire brigades

Advantages and organisation of a works fire brigade. E. N. Simons. *Ind Management* (Lond) 10:121-3 S 6 '23

Fire brigade in the factory. C. U. Kerr. *Ind Eng & Ind Management* 7:37-8 Ja 12 '22

Factory inspection

Administration of labor laws and factory inspection in certain European countries. G. M. Price. *Monthly Labor R* 16:1153-71 Je '23

Factory inspection in Austria in 1919. *Int Labour R* 5:151-7 Ja '22

Factory inspection in Belgium. *Int Labour R* 5:157-62 Ja '22

Factory inspection in Canada. *Int Labour R* 8:609-12 O '23

Factory inspection in Greece in 1920. *Int Labour R* 7:980-4 Je '23

Factory inspection in Jugo-Slavia. *Int Labour R* 5:830-2 My '22

Factory inspection in Norway in 1920. *Int Labour R* 5:509-11 Mr '22

Factory inspection in Sweden in 1920. *Int Labour R* 5:1004-7 Je '22

Factory inspection in the United Kingdom in 1920. *Int Labour R* 5:337-41 F '22

Factory inspection in the United Kingdom in 1921. *Int Labour R* 6:670-5 O '22

How the industrial worker is protected by the state against work hazards; what Massachusetts practice requires of an inspector. C. T. Pomeroy. *Safety Eng* 43:236-7 Je '22

Industrial inspection in soviet Russia. *Int Labour R* 7:25-37 Ja '23

Medical features of factory inspection together with a review of the literature on industrial hygiene and industrial disease in Germany in 1922. L. Teleky. *J Ind Hygiene* 5:210-18; Bibliography. 218-19 O '23

Problems and importance of factory inspection. J. P. Meade. *Monthly Labor R* 15:13-23 J1 '22

Purposes and results of safety inspection work from the insurance companies' point of view. W. J. Venning. *Safety Eng* 42:214-16 N '21

Safety inspectors and inspections. J. A. Dickinson. *Am Mach* 55:867-9 D 1 '21

Value of careful factory inspection. J. L. Gernon. *U S Bur Labor Statistics Bul* 333:187-9; Discussion. 189-98 '23

Wanted—a spirit of perfect friendliness between safety engineer and inspector. G. W. Howland. *Safety Eng* 43:238+ Je '22

Factory laws

See Child labor; Employers' liability; Factory inspection; Hours of labor; Industrial laws and legislation; Labor laws and legislation; Lighting—Laws and regulations; Minimum wage; Woman—Employment

Factory libraries

Library of the Republic iron and steel co., Youngstown, Ohio. *Ind Special Lib* 13:158-60 N '22

See also Business libraries; Technical libraries

Factory management

Advantage of manufacturing into stock; putting the small plant on a big plant basis. D. S. Cole. *diags Ind Management* 66:28-32 J1 '23

America vs. Europe in industry. D. T. Farnham. 492p Ronald press '21

Application of Bedaux management methods in the Robbins & Myers plants. L. C. Morrow. *charts Am Mach* 57:249-55, 294-8 Ag 17-24 '22

Application of production methods to toy manufacture. N. Heyman. *Ind Management* 63:246-50 Ap '22

Carrying out changes in design. C. B. Kearney. *Ind Management* (Lond) 9:295-6, 329-30 My 17-31 '23

Change in management methods which is showing satisfactory results. A. E. Blackwood. *Management Eng* 3:129-31 S '22

Changing the design on short notice. E. E. Cook. *Ind Management* 65:178-81 Mr '23

Charting as an aid in stabilizing profits; graphics applied to production and sales control. P. A. Bivins. *Ind Management* 63:355-61 Je '22

Consistent works policy. J. O. Knowles. *Elec R* (Lond) 93:369-70 S 7 '23

Control of raw material to suit output; Woodstock typewriter co. successfully solves management problems. G. L. Lacher. *Ind Iron Age* 110:713-16+ S 21 '22; Same abr. *Ind Management* (Lond) 8:218-22 O 19 '22

Controlling production without a planning department. K. W. Stillman. *Ind Management* 66:160-2 S '23

Cost accounting and factory efficiency. G. P. Comer. *Chem & Met Eng* 27:417-21 Ag 30 '22

Cost control in the shop. H. Diemer and others. 62p La Salle extension univ., Chicago '21

Cutting overhead brought us capacity business in making trousers. F. L. Sweetser. *Ind Factory* 29:231-4+ S '22

Cutting production costs by combining manufacturing operations. C. B. Bartlett. *Ind Management* 63:198-200 Ap '22

Description of a department for making rough boxes. H. V. S. Tingley. *Ind plan Ind Management* (Lond) 8:278-81 N 16 '22

Distributing overhead to allow lower sales prices. W. N. Polakov. *Factory* 28:400-2 Ap '22

Diverting burden factors to direct production. P. B. Huston. *Am Mach* 56:96-7 Ja 19 '22

Economical manufacturing quantities. F. B. Avery. *Ind Management* 63:169-70+ Mr '22

Engineers and production managers. C. S. Dahlquist. *Soc Auto Eng J* 13:310-12 O '23

Establishing a small engineering works. A. Whitehead. *diags Eng & Ind Management* 7:571-3; 8:3-6, 39-41, 191-2, 286-7, 314-16, 343-5, 382-4 J1 13-Ag 10, O 5, N 16-D 28 '22

Establishing profitable standard quantities. J. A. Bennie. *Ind Management* 63:167-9 Mr '22

Estimating and handling output of "modifications." *Eng & Ind Management* 6:601-3 N 24 '21

Exception principle in management. L. J. Voorhees. *Eng & Contr* 56:486-7 N 23 '21

Factory administration in practice. W. J. Hiscox. 214p Pitman '21

Factory cure for slow sales; cost keeping, premiums, planning. E. L. Wayman. *Factory* 28:631-5 Je '22

Factory organisation. N. G. Smith. *Ind Management* (Lond) 8:111-12, 149-51, 179-80, 211-14, 243-5, 275-7, 312-13, 339-42 S 7-D 14 '22

Financial statement gages management. F. O. Hoagland. *Iron Tr R* 71:1492-3 N 30 '22

Ford principles and practice at River Rouge. J. H. Van Deventer. *Ind plan (supp) Ind Management* 64:131-7, 195-201 S-O '22

Ford's four production principles. S. Crowther. *Factory* 29:15-17 J1 '22

From losses to profits on the same volume. C. W. Sutton. *Ind Factory* 28:151-5 F '22

Functionalized time-study methods. P. S. Brown. *Soc Auto Eng J* 13:433-4 N '23

Gantt chart. W. Clark. 157p Ronald press '22

How I control the work in process. W. H. Kuh. *Ind Factory* 31:448-51+ O '23

How management can be made more productive. A. Smith. *Am Mach* 58:831-4 Je 7 '23

How output was increased; successful slate factory organisation. W. Attwood. *chart Ind Management* (Lond) 10:128+, 186-7 S 6, O 4 '23

How the Delco plant cut unit production cost. H. Tipper. *Automotive Ind* 47:415-17 Ag 31 '22

How tool engineering cuts costs. J. Lannen. *Ind diags Ind Management* 63:12-20 Ja '22

Humanizing production control. H. B. May. *Ind Management* 62:341-4 D '21

If no manual production were maintained. W. F. Godejohn. *Brick & Clay Rec* 60:846-7 My 30 '22

Factory management—Continued

- Importance of scientific control in increased production efficiency. C: H. MacDowell. Chem & Met Eng 27:430-1 Ag 30 '22
- Increasing finishing plant production. R. A. S. Reoch. Textile World 61:2325+ Ap 22 '22
- Industrial management. R: H. Lansburgh. 488p Wiley '23
- Industrial management's Cost control committee plan. J: H. Van Deventer. 18p The Engineering magazine co. New York '22
- Keeping lost time within bounds. J. J. Martindale. Factory 28:518-20+ My '22
- Management; a study of industrial organization. J: Lee. 125p Pitman '21
- Management in the brass and copper industry. J. E. Morrison. Management Eng 2: 1-6, 103-8, 173-8, 237-42, 297-302, 367-70 Ja-Je '22
- Management problems of the small factory. E. Cordeal. il Ind Management 61:306-10, 370-3; 62:114-19, 182-7, 334-40; 63:43-9 Ap 1, My 1, Ag-S, D '21-Ja '22
- Meeting lower prices. K. Moses. Ind Management 62:352-3 D '21
- Methods of maintaining production. M. R. Watson. Brick & Clay Rec 63:472-5 O 2 '23
- Model units for trying out new methods. C. E. Hunter. Factory 31:311 S '23
- Modern production methods. W. R. Basset. chart Am Mach 53:17-20, 63-6, 215-19, 619-25; 54:99-103; 55:286-8, 421-3, 501-5; 56:443-5 Jl 1-8, 29, S 30 '20, Ja 20, Ag 18, S 15, 23 '21, Mr 23 '22
- More output: lower costs: control; Veneer box shop. E. E. Ames. il Management & Adm 6:305-12 S '23
- Need of management methods in the moderate-sized plant. J. W. Roe. Chem Age 31: 193-5 My '23
- Operating a factory with a reduced force. J: C. Lease. Mach 28:533-5 Mr '22
- Organization and management of a medium sized plant; Corona typewriter co. P. S. Brown. chart Am Mach 58:5-11, 71-6 Ja 4-11 '23
- Organization of a large tool division. H. P. Losely. chart Mach 28:632-7 Ap '22
- Organisation of file factories. H. G. Smith. Eng & Ind Management 7:473-7 Je 1 '22
- Organization of instrument control in industrial plants. F: J. Schlink. il Management Eng 2:67-72 F '22
- Organization of knitting mills. C. M. Bigelow. Management Eng 2:37-42, 111-16, 221-6, 287-92 Ja-F, Ap-My '22
- Our profits to-day come from reducing overhead. F. C. Rand. il Factory 29:385-7 O '22
- Our viewpoint on management cut our costs 20%; J. F. Tapley company. E. W. Palmer. il plan Factory 30:269-73+ Mr '23
- Philosophy of management. O. Sheldon. 296p Pitman '23
- Planning and controlling work in the assembling department of a French shop. E. Julien. il plan Am Mach 56:932-3 Je 22 '22
- Planning department. J. Knowles. Ind Management (Lond) 9:199-201 Ap 5 '23
- Planning production for profit. J: H. Van Deventer, comp. 333p Engineering magazine co., New York '21
- Practical factory administration. M. Porosky. 244p McGraw-Hill '23
- Practical training for foremen; a simplified course in the study of industrial engineering. P. L. Burkhard. Iron Tr R 70:1183-7, 1251-2, 1329-31, 1476-9, 1643-5, 1801-4, 1869-71; 71:40-2 Ap 27-My 11, 25, Je 8, 22-Jl 6 '22
- Practical ways to cut costs. 166p Shaw '22
- Practical ways to cut costs. See monthly numbers of Factory
- Present-day application of the cost control committee plan. Ind Management 65:354-8 Je '23
- Preventing manufacturing waste. R. W. Gardner. Iron Tr R 73:35-7 Jl 5 '23
- Problem of production becoming one of management. H. Tipper. Automotive Ind 47: 1140-1 D 7 '22
- Procedure for handling a variety of manufacture. Engineering 116:136-7 Ag 3 '23
- Production control in a tire manufacturing plant. W. B. Mendenhall. charts India Rubber W 66:729-32 Ag '22
- Production control methods of the Corona typewriter co., inc. P. S. Brown. Automotive Ind 49:893-6 N 1 '23
- Production engineering and cost keeping. W: R. Basset and J. Heywood. 311p McGraw-Hill '22
- Production management; control of men, material, and machines. A. M. Simons. 2v Am. tech. soc., Chicago '22
- Production plan that prepares ahead for emergencies. M. Chapman. Factory 31:27-9 Jl '23
- Profitable management. J. L. Nicholson. 117p Ronald press '23
- Progress in reducing manufacturing costs. S. H. Bunnell. Iron Age 109:1339-42 My 18 '22
- Putting production up to the management. A. Smith. Management Eng 4:421-3 Je '23
- Rational works management in factories. J: A. Davenport and J. P. Emery. Ind Management (Lond) 9:259-60, 291-4, 323-5, 355-6, 387-9, 103-4, 37-40, 119-20, 181-2 My 3-Jl 26, Ag 23-S 6, O 4 '23
- Re-establishing the profit margins in the Edison industries. A. S. Myers. Ind Management 63:131-5 Mr '22
- Relation of investment to production. H. R. Boston. Iron Age 109:1293-4 My 11 '22
- Relieving the burden of industry. W. Clark. Iron Tr R 71:1705-6 D 21 '22
- Re-organising the small works. H. N. Munro. Eng & Ind Management 6:459-62 O 27 '21
- Results from improved management methods. I. M. Wheeler. il diags Management Eng 3:321-6 D '22
- Salvaging industrial wastes. J. A. Smith. Mech Eng 43:797-8 D '21; Same. Am Mach 56:15-17 Ja 5 '22; Same cond. Iron Tr R 69: 1684-6 D 29 '21
- Scientific management in the British factory. W: J. Hiscox. Am Mach 56:837-8 Je 8 '22
- Self-supporting small shop improvements. R. J. Rahn. Ind Management 63:225-8 Ap '22
- Seven leaks we have stopped. A. H. Cubberley. Factory 27:743-7 D '21
- Solving the manager's present day problems. J: H. Van Deventer. Ind Management 63: 129-30+ Mr '22
- Some details in the application of a bonus on operation and maintenance. A. A. Frank. Ind Eng 81:4-10+ Ja '23
- Something extra that makes for steady volume. J. E. Wall. System 43:63-6+ Ja '23
- Stabilizing the profits of the small factory. E. Cordeal. Ind Management 63:146-9 Mr '22
- Successful experience with the production budget. P. Mathewson. Factory 30:429+ Ap '23
- Take alibi out of production and bring down costs. L: Ruthenburg. charts Automotive Ind 48:701-5 Mr 29 '23
- 10 factory improvements which helped one business. A. T. Doud. Factory 28:294-6 Mr '22
- Ten years of scientific management. J: G. Aldrich. il diag Management Eng 4:87-92 F '23
- Three points of attack on production costs. C. C. Hermann. Ind Management 66:53-8 Jl '23
- Three wrong management methods made right. Factory 29:534 N '22
- Thrift in industrial materials. M. F. Simmons. Management Eng 3:349-52 D '22
- To buy or not to buy. D. S. Cole. Ind Management 66:239-42 O '23
- Training manufacturing executives. P. M. Atkins. Administration 3:189-206 F '22
- Turning losses into profits. R. Rosenthal and G. C. Brown. Management Eng 4:307-10 My '23
- 20% more men; 60% more machines; 500% more output. C: W. Nash. il Factory 30: 679-82+ Je '23
- \$200,000 saving in factory costs and other advantages from controlled production. H. L. Benedict. plan Management & Adm 6: 179-83 Ag '23
- Undetected faults in production processes. A. Whitehead. il diag Engineer 135:72-3 Ja 19 '23
- Unit plan for improving production. T. R. Cook. il Factory 29:34-6 Jl '22

Factory management—Continued

We are getting 25% more this year from our pay-roll; Wahl company. *il* Factory 31:159-62 Ag '23

What is production and why? H. Diemer and others. 70p La Salle extension univ., Chicago '21

What I've learned about business since 1920. G: F. Johnson. System 40:679-83 D '21

What management problems loom up for '23? Factory 30:17-19+ Ja '23

What the production executive should know from the financial records. W: M. Lybrand. Management Eng 4:19-23 Ja '23

What we did to double production. O. Earhart. *il* charts diag Management Eng 4: 217-22 Ap '23; Same. *Ind Management* (Lond) 9:270-2, 297-8 My 3-17 '23

Why manufacturers lose money. R. Grimshaw. 176p Van Nostrand '22

Why our factories are busier than ever. J. Johnson. Factory 28:27-30 Ja '22

Working methods for profitable management. C. E. Knoepfel. Management Eng 4:9-14, 93-100, 157-64, 245-50, 321-8, 409-16 Ja-Je '23; [cont. as] Management & Adm 6:59-66, 213-18 *Il-Ja* '23

Works accountability: its relation to production. W. Campbell. Eng & Ind Management 7: 534-8 Je 29 '22

Works management. Eng & Ind Management 6:538 N 10 '21

Works organisation. T. E. Pattinson. *il* Eng & Ind Management 7:215-16, 354-6, 388-91, 430-1 F 23, Ap 20-My 4, 18 '22

Works production. G. H. Nelson. plan *Inst E E J* 61:338-52 Mr '23; Same, without appendix. *Ind Management* (Lond) 9:39-41, 75-7, 106-8, 131-3, 166-8 Ja 25-Mr 22 '23; Abstract. *Elec R* (Lond) 92:152-4 Ja 26 '23; Discussion. *Inst E E J* 61:352-62, 393-6 Mr. Ag '23; *Elec R* (Lond) 92:154, 472-3 Ja 26, Mr '23 '23

See also Assembling methods; Bedeaux system; Bonus system; Budget, Business; Bulletins; Chemical plants—Management; Cleaning; Color in factory management; Company stores; Control boards; Conveying machinery; Cost accounting; Cotton mills—Management; Dental service, Industrial; Department managers; Drafting room management; Efficiency, Industrial; Employees; Employees, Transportation of; Employees' representation in management; Employment management; Employment systems; Engineering departments; Factories—Cleaning; Factories—Maintenance and repair; Factory transportation; Foremen; Gantt charts; Industrial betterment; Industrial management; Inspection; Instructions; Inventories; Janitors; Job analysis; Knitting mills—Management; Machine shop management; Mechanical handling; Medical service, Industrial; Metal cleaning; Motion study; Moving; Office management; Organization in Industry; Packing for shipment; Paper mills—Management; Payrolls; Piece work; Planning; Process charts; Production; Progress records; Purchasing; Records; Repair shops; Repairing; Routing systems; Rubber mills—Management; Safety devices and measures; Sales departments; Schedules; Service (in industry); Shipment of goods; Shop clerks; Simplification in industry; Stores systems; Suggestion systems; Symbols, Mnemonic; Textile mills—Management; Time keeping; Time study; Vacations; Waste; Welfare work in industry

Contests

How contests have helped us curb costs. R. Scott. Factory 29:17-20 *Jl* '22

Quality control

Control of quality in manufacturing. G: S. Radford. 404p Ronald press '22

Control of quality of manufactured goods as affected by size of plant. G. S. Radford. *il* Management Eng 3:193-8 O '22

Quality production in manufacturing. L. D. Burlingame. *il* Management Eng 4:33-40 Ja '23

Quality products. G. S. Radford and others. Management Eng 3:261-6, 333-8; 4:51-6, 111-16 N '22-F '23

Standards

Establishing management standards. W. H. Smith. Management Eng 3:11-16 *Jl* '22

Standardization and assimilation. H. Varley. Eng & Ind Management 6:554-6 N 17 '21

Factory museums

Have you a factory museum? R. W. Johnson. *il* *Ptr Ink M* 5:25-6+ Ag '22

Factory sanitation

Installing modern sanitary equipment in factories presents great possibilities for progressive plumbers. *il* *Dom Eng* 98:480-3 Mr 18 '22

Maintenance of men. W. T. Filmer. Blast F & Steel Pl 11:393 *Jl* '23

Promoting health in industry. C.-E. A. Winslow. Iron Tr R 72:511+ F 15 '23; Same cond. Power Pl Eng 27:231-5 F 15 '23

See also Factories—Heating and ventilation; Laboratories

Factory system

Organization of modern industry; economic principles underlying factory growth. D. S. Kimball. *il* Management & Adm 6:333-9 S '23

Factory transportation

Analysis and control of factory transportation. F. A. Pope. Factory 27:747-51; 28:38-42+ D '21-Ja '22

Electric trains used in moving 300 tons of material daily into a large foundry. *il* *Elec R* 80:185-6 Ap '22

Evolution in shop material handling. L. S. Love. *il* Iron Age 111:205-8 Ja 18 '23

Getting an 800% increase haulage at a lower cost. B. F. Goodrich company. *il* Factory 31:618-19 N '23

Handling material in automotive plant. M. R. Dennison. *il* Iron Age 110:1269-73 N 16 '22

Handling materials. See monthly numbers of Industrial engineer

Handling materials economically; eastern grinding wheel manufacturer uses special trucks and conveyors for transporting abrasives and wheels. B. A. Hildebrandt. *il* Iron Tr R 71:1069-71 O 19 '22

Handling materials in the shop. Iron Age 109: 1233-4 My 11 '22

How to make a plant transportation survey. W. Greaves. *il* plan *Ind Management* 66:115-20 Ag '23

Internal transportation in a large plant. W. R. Conover. *il* Management Eng 4:15-18 Ja '23

Internal transportation in a large textile finishing plant. A. H. Church. *il* diag plan Management Eng 2:197-202, 293-6 Ap-My '22

Intra-plant transportation of materials. J. E. Houseley. *il* *Ind Eng* 80:325-9+ *Jl* '22

Keeping work on the move. V. W. Davies. *il* Factory 29:39-41 *Jl* '22

Plant production organized around a material-handling plan; plant no. 2 of the Studebaker corporation. *il* *Elec R* 80:59-62 F '22

Plant transportation, plant roadways and concrete. G. L. Montgomery. *il* Chem & Met Eng 26:1169-70 Je 21 '22

Simpler methods of moving materials. *il* Factory 28:178+ F '22

Speeding up of production of pipe fittings by electromagnets, conveyors, trucks and elevators. *il* *Ind Eng* 80:571-4 D '22

Transport facilities in chemical works; United alkali co.'s works. H. Blyth. *il* diag map Chem Age (Lond) 9:192-4 Ag 25 '23

Transportanlagen in Siemens-Martin-stahl werken unter besonderer berücksichtigung der kosten der materialbewegung. H. Fromm. diag Stahl & Eisen 42:1737-42, 1809-15 N 23, D 7 '22

Unit system of tote boxes. F. Albrecht. *il* diag Am Mach 56:10 Ja 5 '22

What it pays to know about material handling. W. T. Spivey. *il* Factory 30:685-8+ Je '23

See also Electric trucks, Industrial; Mechanical handling; Tractors, Industrial; Trucks

- Factory waste.** See Trade waste
- Fade-ometer.** See Dyes, Fastness of
- Faience.** See Pottery
- Fain knitting mills**
Fain success due to an advertising heart.
Textile World 62:2625-6 N 4 '22
- Fairs.** See Exhibitions
- Fairweather recording calorimeter.** See Calorimeters and calorimetry
- Fajardo sugar company of Porto Rico**
Annual report to the stockholders for 1923.
Comm & Fin Chr 117:2005 N 3 '23
- Fall River, Massachusetts**
Water supply
Water supply of Fall River. H. K. Barrows.
il map plan N E Water Works Assn J 36:
550-67; Discussion. 568-70 D '22
- Falling bodies**
Falling body formulae made simple. W. F. Schapchorst, diags Sanitary & Heat Eng 98:104-6 Ag 25 '22
- Family allowances**
Expansion of the family-wage system in France and Belgium. M. T. Waggaman. Monthly Labor R 17:777-93 O '23
Some developments in the movement for family wages. M. T. Waggaman. Monthly Labor R 13:721-31 O '21
- Family of products**
Creating a brother product for a newly discovered market. A. L. Townsend. Ptr Ink 120:154+ S 14 '22
Full-line selling may be the way to beat last year's sales. F. L. Scott. Ptr Ink 123:3-4+ Ap 5 '23
When quality line prestige can carry cheaper goods. G. A. Nichols. Ptr Ink 124:41-2+ Ag 2 '23
See also Advertising—Family of products
- Famous players-Lasky corporation**
Consolidated statement of assets and liabilities and profit and loss accounts year 1921. Comm & Fin Chr 114:1196 Mr 18 '22
Consolidated statement of assets and liabilities and profit and loss account year 1922. Comm & Fin Chr 116:1194 Mr 17 '23
- Fan blast heating.** See Heating, Fan blast
- Fans, Automobile.** See Automobile engines—Fans
- Fans, Furnace.** See Furnaces, Warm air—Fans
- Fans, Mechanical**
Acid-resisting fans. Chem & Met Eng 29:68 Jl 9 '23
Centrifugal fan. A. L. Greene. il Textile World 64:1987 O 6 '23
Cinder-eliminating induced-draft fan. G. C. Derry. il Power 55:180-1 Ja 31 '22
Constructive mechanism and the centrifugal fan. G. D. Beals. Heat & Ven 20:42-7 Ja '23
Data for fans. Am Cer Soc J 6 (Cer A 2):2-3 F '23
Development of new double-curved multi-blade fan. A. A. Crique. il diag Heat & Ven 19:54-6 Mr '22
Drying at atmospheric pressure through use of fans. J. M. Matthews. Chem & Met Eng 29:490-2 S 10 '23
Electric drive for centrifugal fans, blowers and propeller fans. G. Fox. Blast F & Steel Pl 11:469-71, 530-2 S-O '23
Fan removes 75 per cent. of solid matter in flue gases. il Textile World 61:1145 F 18 '22
Forced draft fans and exhausters. il diags Power Pl Eng 27:13-15 Ja 1 '23
Improvements in fan design. il Chem & Met Eng 29:847 N 5 '23
Induced draft fan for catching cinders. il Power Pl Eng 26:199 F 1 '22
Operating characteristics of forced-draft fans. H. E. Corl. Power 55:1012-13 Je 27 '22
Operating pumps or fans in parallel. J. C. Hobbs. diag Power 55:58-60 Ja 10 '22
Reversible fan housing as a contribution to standardization and efficiency. A. L. Greene. il diags Heat & Ven 20:70-1 O '23
Some elements of air flow in electrical machinery. C. J. Fechheimer. diags Elec J 20:104-6 Mr '23
- Standardized method of measuring fan delivery.** E. N. Fales. il diags Am Soc Heat & V E J 23:1-10 Ja '22
Where ventilation spells more business for the sheet metal worker. C. A. Eddy. il Sheet Metal Worker 13:647-8+ O 27 '22
See also Blowers; Electric fans; Fans, Mine; Ventilation
- Testing**
Some elements of air flow in electrical machinery. C. J. Fechheimer. il diag Elec J 20:171-6, 270-2, 305-8 My, Jl-Ag '23
Standard code for the testing of centrifugal and disc fans. diags Am Soc Heat & V E J 23:371-80 My '23; Abstract. Heat & Ven 20:71 Je '23
- Fans, Mine**
Application of modern fans to the physical conditions of coal-mines. J. R. Robinson. il Eng Soc W Pa 39:99-108; Discussion. 109-16 Ap '23
Big losses in improper fan operation. J. R. Robinson. Coal Age 23:926-7 Je 7 '23
Calculation of efficiency in fan installation. Coal Age 23:19 Ja 4 '23
Developments in the theory of centrifugal fans. H. Briggs. diags Coal Age 23:601-5 Ap 12 '23
Dimensions of mine ventilation fan. Coal Age 23:570-1 Ap 5 '23
Efficiency and power requirements of fans. W. S. Weeks. Eng & Min J 116:499-500 S 22 '23
Helical gear reduction unit for mine fan meshes without impact and saves space. il Coal Age 24:15 Jl 5 '23
Keying a large ventilating fan to the shaft of its driving engine. F. C. Sinback. diags Coal Age 21:696-7 Ap 27 '22
Mine ventilating fans operating either tandem or in parallel. W. J. Montgomery. Coal Age 21:884 My 25 '22
Performance of fan-pipe installations in metal mines. D. Harrington and G. E. McElroy. Eng & Min J 113:523 Ap 1 '22
Power to drive fan at constant speed when mine resistance is increased. Coal Age 21:415 Mr 9 '22
Regarding the use of booster fans in mines. O. Kennett. Coal Age 22:636 O 19 '22
Selection of fans for pipe ventilation. W. S. Weeks. chart Eng & Min J 113:816-18 My 13 '22
Should speed of air through inlet of fan be limited to 2,000 ft. per minute? J. R. Robinson. Coal Age 24:107 Jl 19 '23
Stopping the fan on idle days. Coal Age 21:537-8 Mr 30 '22
Synchronous motors reduce mine-fan power bills. F. W. Cramer and A. A. MacDonald. diags plan Coal Age 21:571-5 Ap 6 '22
Use of water gate in estimating power on the air. H. Briggs. diags Coal Age 23:1016-17 Je 21 '23
Useful fan calculations. W. S. Weeks. diags Eng & Min J 115:676-7 Ap 11 '23
Ventilation problems. W. S. Weeks. Eng & Min J 116:413-14 S 8 '23
When to install a booster fan. Coal Age 22:638-9 O 19 '22
Why fans often cease to give satisfaction and frequently take excessive power to drive. J. R. Robinson. il Coal Age 23:891-4 My 31 '23
Why install a booster fan. O. H. Jones. Coal Age 22:841 N 23 '22
See also Mine ventilation
- Housing**
Design of a concrete fan housing equally efficient for blowing and exhausting. F. C. Cornet. diags Coal Age 21:960 Je 8 '22
- Standards**
Standardization of metal-mine ventilation from the manufacturer's standpoint. Eng & Min J 116:615-16 O 6 '23
- Testing**
Determination of initial pressure of centrifugal ventilators; abstract. H. C. Harris. Mech Eng 45:184-5 Mr '23

Far East

Development of electrical engineering in the Far East. C. A. M. Smith. Elec R (Lond) 91:698, 803-5 N 17-24 '22
 Weltpolitik und weltwirtschaft im besonderen Hinblick auf den Osten. M. Spahn. maps Stahl & Eisen 42:205-15 F 9 '22
See also China; Electric industries—Far East; Japan; Motor bus lines—Far East

Commerce

Advertising significance of the Washington conference; America's attitude will make easier sales in the Far East. J. B. Powell. Ptr Ink 118:33-4+ F 23 '22
 Changing markets of the East. L. C. M. Reed. System 44:314+ S '23
 Outlook for American trade in the Far East. R. Bean. Annalist 21:415, 446+ Mr 19-26 '23
 Trading with Asia. F. R. Eldridge, jr. 474p Appleton '21

Far Eastern Republic

Far Eastern Republic, its natural resources, trade and industries. 375p Special delegation of the Far Eastern Republic to U.S., Washington '22

Faraday, Michael, 1791-1867

Michael Faraday, and the foundations of electrical engineering. J. A. Fleming. [portrait pl 1] Inst E E J 60:379-88 Ap '22

Faraday effect

Magnetic and natural rotatory dispersion in absorbing media. E. O. Hulburt. Phys R 22:180-7 Ag '23
 Magnetic rotatory dispersion in gases. T. H. Havelock. Philos Mag 6th ser 45:560-76 Mr '23
 Magnetic rotatory dispersion of certain paramagnetic solutions. R. W. Roberts, J. H. Smith and S. S. Richardson. Philos Mag 6th ser 44:912-15 N '22

Faraday lines

Suggestions regarding an alternative theory. C. H. Bickerdike. Philos Mag 6th ser 45:456-63 Mr '23

Faraday-tube theory. See Electromagnetism**Faraday's laws (of electrolysis)**

Amperes per square foot; Faraday's law. G. B. Hogaboom. Brass W 18:90-1; Discussion. 91-2 Mr '22; Same. Metal Ind 20:106-8 Mr '22

Fare collection. See Motor bus lines—Fare collection; Street railroads—Fare collection; Turnstiles, Fare collecting**Fare tokens. See Street railroads—Tickets and tokens****Farley, Edward P.**

Appointed chairman of Shipping board. H. F. Lane. por Marine Eng 28:324+ Je '23

Farm accounting

Soil exhaustion in relation to the federal income tax laws. P. Chandler. Administration 4:461-5 O '22

Farm boys

How the farm boy influences rural buying. R. Yarnell. Ptr Ink M 7:55-6 S '23

Farm buildings

Construction and repair work for the farm. F. T. Struck. 382p Houghton '23
 Encouraging farm building. il Bldg Age 44:29-31 Ag '22
 Farm buildings. W. A. Foster and D. G. Carter. 377p Wiley '22
 Farm buildings of Walter Douglas, Dobbs Ferry, N.Y. Arch Forum 38:69, pl 21-3 F '23
 Some things the farmer likes. D. R. Van Horn. il Bldg Age 45:66-7 Je; 59-9 Jl '23
See also Barns and stables; Dairy buildings; Farmhouses; Granaries; Silos; Swine houses

Heating and ventilation

Why ventilate farm buildings and how. diags Heat & Ven 20:52-5 Mr '23

Lighting

Electro-farming. R. B. Matthews. Elec R (Lond) 92:807-8; 93:454-5 My 25, S 28 '23

Farm drainage. See Drainage**Farm engines**

Farm engines and how to run them. J. H. Stephenson and others. 252p Drake '23
 Laboratory manual for farm gas engines. F. W. Duffee. 58p [bibliog. p. 58] Dept. of agric. eng., Univ. of Wisconsin, Madison '21
See also Gas tractors; Tractor engines

Farm houses. See Farmhouses**Farm labor**

Accident insurance law for agricultural workers in France. Monthly Labor R 16:640-3 Mr '23
 Agricultural wage earners in France. V. B. Turner. Monthly Labor R 17:34-46 Jl '23
 Agricultural wage earners in the United States. V. B. Turner. Monthly Labor R 15:1192-1210 D '22
 Agricultural wages and hours of labor in Scandinavian countries in 1921 and 1922. Monthly Labor R 16:1281-3 Je '23
 Agricultural wages and wage earners in Denmark. V. B. Turner. Monthly Labor R 15:1059-68 N '22
 Agricultural wages and wage earners in Norway and Sweden. V. B. Turner. Monthly Labor R 15:596-610 S '22
 Agriculture and the international labour organization. Int Labour R 7:642-8 Ap '23
 Comparison of wages of farmers and other workers. H. C. Wallace. Comm & Fin Chr 115:821-2 Ag '22
 Compulsory accident insurance of agricultural workers in Italy. Monthly Labor R 16:26-32 Ja '23
 Conciliation in agriculture. Int Labour R 8:141-55 Jl '23
 Conditions of harvest labor in the wheat belt, 1920 and 1921. Monthly Labor R 16:270-6 F '23
 Control of the employment of children in agriculture in Europe. Int Labour R 4:402-39 N '21
 Cost of living of agricultural laborers in Sweden, 1920. Monthly Labor R 14:1158-60 Je '22
 Farm wages compared with others. H. C. Wallace. Am Ind 23:19-20 Ja '23
 Farm work and city school attendance; summary of a study of Philadelphia children leaving the city because of farm work. Monthly Labor R 15:1320-2 D '22
 Harvest labor problems in the wheat belt. D. D. Lescohier. diags maps U S Agric Bul 1020:1-35 '22
 Position of the agricultural labourer in Esthonia. W. Martna. Int Labour R 5:731-8 My '22
 Regulation of agricultural labour conditions in continental Europe. H. M. Conacher. Int Labour R 8:173-90 Ag '23
 Right of association among agricultural workers in Germany. J. Feig. Int Labour R 4:481-9 D '21
 Some forms of inspection in agriculture. Int Labour R 8:598-608 O '23
 Status of farm labor under workmen's compensation in the United States and in foreign countries. E. Stewart. U S Bur Labor Statistics Bul 333:300-6 '23
 Wages and working conditions of agricultural laborers in Peru. Monthly Labor R 15:87-8 Jl '22
 Wages of farm labor in England and Wales. V. B. Turner. Monthly Labor R 15:71-86 Jl '22
 Wages of farm labor in the United States, 1913 to 1921. Monthly Labor R 13:1037 N '21
 Working conditions of agricultural wage earners; a survey. Monthly Labor R 15:250-3 Ag '22
See also Beet workers

Farm lighting plants

Design problems of the isolated electric plant. G. Wiedeman. Automotive Ind 45:966-7 N 17 '21
 Electricity in isolated buildings. E. H. Freeman, il diag Elec R (Lond) 89:557-60, 633-5 O 28, N 11 '21; Discussion. M. Tate. 89:747 D 2 '21
 Fewer firms in isolated electric plant field. Automotive Ind 46:391 F 16 '22

Farm lighting plants—Continued

Lighting plants mounted inside of Ford sedan. *il Elec R* 79:826 N 26 '21
 New Stearns farm-lighting plant. *il Automotive Ind* 47:273 Ag 10 '22
 Power and light plants remove many of the hardships of rural life. *L. A. House, il Sanitary & Heat Eng* 98:339-41+, 404-6 D 15-29 '22

Merchandizing

Who is the man best qualified to sell farm lighting equipment? *Sanitary & Heat Eng* 100:135-7 S 7 '23

Specifications

American isolated electric plant specifications: tabulation. *Automotive Ind* 48:446-7 F 22 '23
 Specifications isolated electric plants 1922: tabulation. *Automotive Ind* 46:392 F 16 '22

Farm loan act. See Federal farm loan act

Farm loans. See Agricultural credit

Farm management

Farm management. *R. L. Adams. 670p McGraw-Hill '21*

See also Farm accounting

Farm papers

See Advertising mediums—Farm papers

Farm produce

Income from farm products. *Annalist* 22:490 O 8 '23

Tariff information, 1921. 226p U.S. Tariff commission, Washington '21

Advertising

Advertising that brings city customers to the farm. *Ptr Ink M* 7:110+ Ag '23

Farmer as a real advertising prospect. *Ptr Ink M* 5:64 D '22

Finding the advertising principles that stabilize farm produce markets. *Ptr Ink* 123: 85-6+ My 17 '23

Individual farmer as an advertiser. *Ptr Ink* 125:125-6 N 1 '23

Inspection

Overcoming the greatest obstacle to farm produce advertising. *J. True. Ptr Ink* 124:125-6+ Ag 9 '23

Marketing

Advertising does not have to lower retail prices to justify itself. *J. A. Murphy. Ptr Ink* 120:133-4+ S 14 '22

Cost of marketing grain. *J. E. Boyle. 24p J. E. Boyle, College of agriculture, Cornell univ., Ithaca, N.Y. '22*

Distribution—its analysis and control. *C. J. Brand. Administration* 3:598-604 My '22

Efficient marketing for agriculture; its services, methods and agencies. *T. Macklin. [bibliog.] Macmillan*

Farmer and transportation. *O. E. Bradfute. Nation's Business* 11:25-6 Je 5 '23

Farmers seek protection against unfair competition from foreign foods. *Ptr Ink* 125: 41-2+ O 18 '23

Louisiana farmers sell in carload lots to consumers. *E. F. Roark, jr. Ptr Ink* 118:64 F 23 '22

Marketing agricultural products. *B. H. Hibbard. 389p Appleton '21*

See also Apples—Marketing; Cheese—Marketing; Marketing, Cooperative; also American farm bureau federation; Northwest wheat growers, associated; United States grain growers, inc.

Prices

Prices of farm products in the United States. *Monthly Labor R* 14:88-91 Ja '22

Secretary of agriculture explains index numbers used by Department. *Comm & Fin Chr* 116:2207-8 My 19 '23

Sudden come-back of the farm market. *M. Hastings, jr. Ptr Ink* 118:133+ Mr 30 '22

Transportation

Carriers reduce freight rates on farm products. *T. D. Cuyler. Ry R* 69:687-8 N 19 '21
 Farmer and freight rates. *Ry Age* 73:872-3 N 11 '22

Freight rate embargo on fruits and vegetables.

Ry Age 74:1030 Ap 28 '23

Freight rates on farm products must be lowered. *H. C. Wallace. Comm & Fin Chr* 115:1689 O 14 '22

Farm tenancy

Trend of farm tenancy in the United States. *H. B. Weiss. Annalist* 20:471+ N 6 '22

Farm wagons. See Wagons

Farm women

Aunt Matilda learns how advertising benefits the farmer's wife. *R. Dickinson. Ptr Ink* 124:121-2+ S 27 '23

New woman on the farm. *F. Crissey. Ptr Ink* 120:3-4+ S 28 '22

What the farm girl buys. *R. Yarnell. Ptr Ink M* 7:48+ Jl '23

Women on the farm. *G. H. Dacy. il Sci Am* 129:110+ Ag '23

Farmers

Farmer buying power. *Automotive Ind* 46:477 F 23 '22

The farmer: who is he? *O. M. Kile. Nation's Business* 11:15 S '23

Farmers and the railroads. *Ry Age* 75:190-1 Ag 4 '23

Monthly spread of farming income. *H. B. Weiss. Annalist* 20:102 Jl 31 '22

On educating farmers about railroad matters. *C. A. Richards. Ry Age* 74:551-2 Mr 10 '23

Retail stores or traveling agents to sell the farmer? *bibliog Ptr Ink* 120:105-6+ Ag 31 '22

What I have learned in approaching farmers. *C. W. Runsey. System* 42:56+ Jl '22

When you sell to farmers. *W. S. Corsa. il System* 41:273-5+ Mr '22

See also Advertising—Farmers, Appeal to; Farm boys; Farm women; Marketing, Cooperative; also American farm bureau federation; United farmers of Alberta

Advertising

Who says the farmer is not an advertiser? *Ptr Ink* 123:137-8 Ap 19 '23

Bibliography

Selling to farmers. *Ptr Ink* 124:146 S 27 '23

Farmhouses

Cape Cod farm and village houses. *E. S. Read. il Arch Forum* 39:7-10 Jl '23

Types reproduced in the reconstruction of farm-houses in northern France. *D. Varon. il Arch Rec* 50:415-16 N '21

Farming. See Agriculture

Farming, Diversified. See Diversified farming

Farms

See also Agriculture

Advertising

Advertiser set on right track by old collie dog. *F. C. Kelly. Ptr Ink M* 4:46+ Ja '22

Fashion

Can the American manufacturer force styles? *Ptr Ink* 120:10+ O 12 '22

Changing the product instead of bucking the tide. *R. Dickinson. Ptr Ink* 122:69-70+ F 1 '23

Fashion, advertising and the press agent. *L. Allen. Ptr Ink* 121:25-7+ O 26 '22

Fashion versus advertising. *E. E. Calkins. Ptr Ink* 121:3-4+ O 5 '22

Insurgent youth upsets merchandizing traditions. *J. Henle. Ptr Ink M* 5:39-40+ S '22

Mystery in style creation; must the news of the press agent precede advertising? *Ptr Ink* 121:20+ O 26 '22

See also Advertisements—Fashion appeal; Clothing trade—Advertising

Fastness of dyes. See Dyes, Fastness of

Fatigue

Color scheme of work space affects output. *il Pop Mech* 40:79 Jl '23

Experimental observations upon the relation between atmospheric conditions and the production of fatigue in mine laborers. *A. J. Orenstein and H. J. Ireland. bibliog il J Ind Hygiene* 4:30-46, 70-91 My-Je '22; Abstract. *Heat & Ven* 19:31-5 Ag '22

Fatigue—Continued

- Fatigue and error in a mental occupation. Monthly Labor R 13:1108-9 N '21
- Fatigue study: a first step in safety work. F. B. Gilbreth and L. M. Gilbreth. Eng & Ind Management 6:557-8 N 17 '21; Excerpts. Iron Tr R 69:1282-3 N 17 '21
- Fatigue tests at Purdue university. G. H. Shepard. Ind Management 64:354+ D '22
- Ideal work-curve. T. Bedford. bibliog J Ind Hygiene 4:235-45 O '22
- Industrial fatigue. Eng & Min J 113:1035 Je 17 '22
- Industrial fatigue and efficiency. H. M. Vernon. 264p Routledge; Dutton '21
- Industrial fatigue and vocational selection on a basis of physical inquiry; abstract. D. McKail. J Ind Hygiene 4:sup95-6 Mr '23
- Industrial fatigue research. Eng & Ind Management 6:599-600 N 24 '21
- Industrial fatigue research and its applications. Engineering 115:111-12 Ja 26 '23
- Influence of fatigue on health and longevity. Monthly Labor R 13:1107-8 N '21
- Physiology of fatigue. A. B. Hastings. 42p U.S. Public health service, Washington '21
- Poison of fatigue in experimental tuberculosis and in consumptives; abstract. J Ind Hygiene 4:sup92-3 O '22
- Problems of fatigue. Int Labour R 5:985-92 Je '22
- Promoting health in industry. C.-E. A. Winslow. Iron Tr R 72:593+ F 22 '23; Same. Power Pl Eng 27:283-4 Mr 1 '23
- Reducing fatigue in tool rooms. F. B. Gilbreth and L. M. Gilbreth. il Eng & Ind Management 6:660-2 D 8 '21
- Relation of fatigue and accuracy to speed and duration of work. B. Muscio. Ind Management (Lond) 9:112-14 F 22 '23
- Science of human effort. R. S. Hutton. Engineer 134:298 S 22 '22
- Some results of an investigation into the efficiency of linen weavers. H. C. Weston. bibliog J Ind Hygiene 5:41-52 Je '23
- Studies in industrial physiology. Int Labour R 6:988-92 D '22
- Study of industrial fatigue. D. R. Wilson. Engineering 115:701-2 Je 8 '23
- 3d annual report of the Industrial fatigue research board. Engineering 115:558-9 My 4 '23
- Variations of efficiency in cotton weaving. S. Wyatt. Engineering 115:498-9 Ap 20 '23
- Why the working man gets tired. A. H. Ulm. Nation's Business 10:25-7 Jl '22
- Working capacity and the effect of alternating occupation on output. J. P. Baumberger. bibliog J Ind Hygiene 5:245-53 N '23
- See also Eye strain; Hours of labor; Motion study; Muscular power; Posture; Work
- Fatigue in metals**
- Alternating-stress fatigue restricted to high stresses. Eng N 88:76-8 Ja 12 '22
- Bultman fatigue testing machine. il Mach 29:654 Ap '23; Am Mach 58:675 My 3 '23
- Determination of the fatigue-resisting capacity of steel under alternating stress. T. Robson. il Engineering 115:67-8 Ja 19 '23
- Effect of scratches and of various workshop finishes upon the fatigue strength of steel. W. N. Thomas. il diags Engineering 116: 449-52, 483-5 O 12-19 '23
- Endurance of steel in tension, torsion and impact. D. J. McAdam. Eng N 91:298-301 Ag 23 '23
- Failure by fatigue. Engineering 113:525-6 Ap 28 '22; Same cond. Soc Auto Eng J 12:123 Ja '23
- Fatigue. Engineer 134:637 D 15 '22
- Fatigue failures cause heavy losses. H. F. Moore. Iron Tr R 72:1530 My 24 '23; Same. Eng & Contr (Bldgs) 59:1200-1 My 23 '23; Am Mach 58:859-60 Je 14 '23; Elec W 82:488 S 8 '23
- Fatigue in metals. C. F. Jenkin. diags Engineer 134:612-14 D 8 '22; Same. Roy Aeronautical Soc J 27:89-99 Mr '23; Same. Chem & Met Eng 28:811-15 My 7 '23; Same. Brass W 19:192-5 Je '23; Abstract. Engineering 114: 750 D 15 '22; Discussion. Roy Aeronautical Soc J 27:99-104 Mr '23

- Fatigue limit and proportionality of monel metal. Engineering 116:88 Jl 20 '23
- Fatigue of metals; abstracts. C. E. Stromeyer. Power 56:33 Jl 4 '22; Mech Eng 44:598-9 S '22
- Fatigue or progressive failure of metals under repeated stress. H. F. Moore, J. B. Kommers and T. M. Jasper. diags Am Soc T M Pro 22 pt 2:266-87; Discussion. 288-311 '22
- Important facts regarding fatigue of metals. Power 54:922 D 13 '21
- Investigation of the fatigue of metals. H. F. Moore and T. M. Jasper. il Ill U Eng Exp Sta Bul 136:1-100 '23; Abstracts. Automotive Ind 49:171 Jl 26 '23; Power 58:116 Jl 17 '23; Eng N 91:308-10 Ag 23 '23
- Investigation of the fatigue of metals. H. F. Moore and J. B. Kommers. bibliog il diags Ill U Eng Exp Sta Bul 124:1-185 '21; Abstracts. Chem & Met Eng 25:1141-4 D 21 '21; Eng & Contr 56:593-6 D 28 '21; Iron Tr R 69:1623-30 D 22 '21; Locomotive 34:99-108 O '22; Summary. Automotive Ind 46:229 F 2 '22; Engineer 133:310 Mr 17 '22
- New tests in fatigue of metals. H. F. Moore. Automotive Ind 46:1270-1 Je 8 '22
- Non-ferrous metal fatigue. R. L. Templin. diags Iron Age 110:356 Ag 10 '22
- Recent developments in fatigue of metals. H. F. Moore and T. M. Jasper. diag Iron Age 110:779-84 S 28 '22
- Recovery of iron and steel from overstrain. Engineering 115:179 F 9 '23
- Short-time tests for long-time endurance. J. W. Harsch. il diag Sci Am 128:264+ Ap '23
- Why weary metal fails under light loads; the causes of steel fatigue. G. H. Dacy. il Sci Am 125A:109-10 D '21

Bibliography

- Investigation of the fatigue of metals. H. F. Moore and J. B. Kommers. Ill U Eng Exp Sta Bul 124:168-78 '21
- Fats.** See Oils and fats
- Fatty acids.** See Acids, Fatty
- Faucet (term)**
- Faucets, cocks, etc. Dom Eng 103:544-5; 104: 183-4 Je 16, Jl 28 '23
- Faulkner, H. W.**
- Sketch. P. W. Hanna. System 41:286-7+ Mr '22
- Faults (geology)**
- Effect of faulting on accumulation of oil warrants close study. E. L. Estabrook. Nat Pet N 14:79+ N 15 '22
- Faulted Currie pool smaller than Mexia; Kaufman county tests watched. P. Wagner. Nat Pet N 14:76-8+ Ap 5 '22
- Faulting of ore. Eng & Min J 114:221-2 Ag 5 '22
- Geologist discusses relation of damsites to earthquake faults. B. Willis. diag J Elec 48:48 Ja 15 '22
- Minor faulting in the Cayuga lake region. E. T. Long. il map Am J Sci 5th ser 3:229-48 Ap '22
- Structural and stratigraphic relations of the great Triassic fault of southern Connecticut. W. L. Russell. maps diags Am J Sci 5th ser 4:483-97 D '22
- Structure of the Triassic rocks in southern Connecticut. C. R. Longwell. map Am J Sci 5th ser 4:223-36 S '22
- Fausser process.** See Ammonia—Manufacture
- Feathers**
- Iridescent colors in feathers. W. D. Bancroft. J Ind & Eng Chem 14:898-9 O '22
- Structural colors in feathers. C. W. Mason. J Phys Chem 27:201-51, 401-47 Mr, My '23
- See also Dyes and dyeing—Feathers
- Federal board for vocational education**
- Federal board for vocational education; its history, activities and organization. W. S. Holt. 74p [bibliog p.48-71] Appleton '22
- Work of the Federal board for vocational education, 1917-1922. Monthly Labor R 16:608-12 Mr '23
- Federal business associations**
- Federal business associations are being formed. Am Mach 57:826 N 23 '22

Federal electric railway commission

Progress made since report of Federal commission. C: E. Elmquist. Aera 12:586-92 N '23; Excerpts. Elec Ry J 62:611-13 O 13 '23

Federal farm land banks

Condition and earnings of the twelve federal land banks. Comm & Fin Chr 115:366-8 J1 22 '22

Distinction between federal land bank bonds and joint stock land bank bonds. Comm & Fin Chr 116:773-5 F 24 '23

Encouraging farm building. il Bldg Age 44: 29-31 Ag '22

New issue of \$45,000,000 Federal land bank bonds. Comm & Fin Chr 116:2940-1 Je 30 '23

New issue of \$47,000,000 Federal land bank bonds sold. Comm & Fin Chr 117:1728-9 O 20 '23

See also Intermediate credit banks

Federal farm loan act

Hearings before the Committee on banking and currency of the House of representatives, 67th Congress, 4th session on H.R. 13125 (as revised and numbered H.R. 14041). 270p Govt. ptg. off., Washington '23

Suggestion for amending Federal farm loan act. G: Woodruff. Comm & Fin Chr 113: 2157-8 D 10 '21

Federal farm loan board

5th annual report. Comm & Fin Chr 114:1477-9 Ap 8 '22

6th annual report. Comm & Fin Chr 116: 1480-2 Ap 7 '23

Federal intermediate credit banks. See Intermediate credit banks**Federal land banks. See Federal farm land banks****Federal mining and smelting company**

Facts for the stockholder. Eng & Min J 115: 385 F 24 '23

Federal power commission

Commission grants four more licenses including development on Ouachita and Clarion rivers. Elec W 80:789 O 7 '22

Federal board personnel. Elec W 80:1351 D 16 '22

Federal power commission hears protest of electric utilities and others on accounting rules and regulations. Elec W 78:1091-2 N 26 '21; N E L A Bul 8:699-705 D '21

Federal power commission; its history, activities and organization. M. Conover. 126p Johns Hopkins press, Baltimore '23

Federal power commission still kept busy. Elec W 80:91-2: 82:148 J1 8 '22, J1 21 '23

Fifty-one applications for permits and fifty-three for licenses are received in 1922-23. Elec W 82:93 J1 14 '23

Many water-power projects seek permits. Elec W 80:36-7 J1 1 '22

New power board policies. Elec W 80:1175 N 25 '22

New proposition made to power commission on high dam project; licenses and permits granted. Elec W 79:200 Ja 28 '22

Power commission makes second report. Eng N 80:950 N 30 '22

Recommends acceptance of Federal power commission depreciation proposals. O. C. Merrill. Elec W 78:1140-1, 1192 D 3-10 '21

357 applications, involving 21,100,000 hp. filed with Federal power commission. Eng & Contr (W W) 58:164-5 D 13 '22

United States power commission. Engineering 114:114 J1 28 '22

Water-power applications total 20,473,548 hp. Elec W 79:1072-3 My 27 '22

Federal reserve bank, New York

Laying of corner stone of Federal reserve bank of New York. Comm & Fin Chr 114: 2426-7 Je 3 '22

Management of Federal reserve bank of New York; letter to George F. Peabody. J: S. Williams. Comm & Fin Chr 113:2128-30 N 19 '21

Report of Federal reserve bank of New York for 1921. Comm & Fin Chr 114:468-9 F 4 '22

Report of Federal reserve bank of New York for 1922. Comm & Fin Chr 116:373-4 Ja 27 '23

Federal reserve bank of Peru. See Banks and banking—Peru**Federal reserve banks**

Amendments to Federal reserve system proposed by New England bankers at inquiry as to why state banks and trust companies remain out of system. Comm & Fin Chr 117:1833-4 O 27 '23

Bank credit and agriculture. I. Wright. 340p McGraw-Hill '22

Bankers in convention advise change in Federal reserve system. C. H. Getz. Annalist 22:420 O 1 '23

Commercial banking practice under the Federal reserve act. 3d ed., rev. 178p National bank of commerce in New York, New York '21

Destruction of states rights by Civil war used as argument before Supreme court as reason why Federal reserve system should control entire financial interests of the country as against state banks. Comm & Fin Chr 117: 290-1 J1 21 '23

Development of Federal reserve policy. H. L. Reed. 352p Houghton '22

Earnings, expenses, &c., of federal reserve banks in 1922. Comm & Fin Chr 116:887-8 Mr 3 '23

Earnings of Federal reserve banks in 1921. Comm & Fin Chr 114:796-7 F 25 '22

Establishment by Federal board of principles for guidance of banks in use of rediscount facilities. P. M. Warburg. Comm & Fin Chr 116:370-3 Ja 27 '23

Evidences of business improvement. W. P. G. Harding. Comm & Fin Chr 114:2192-5 My 20 '22

Expenses of federal reserve banks. (67th Cong., 1st sess. Senate. Doc. 75) 135p U.S. Federal reserve board, Washington '21

Extravagance in the administration of the federal reserve banks again alleged. J: S. Williams. Comm & Fin Chr 114:1723-5 Ap 22 '22

Farm and the federal reserve. S. Bent. Nation's Business 10:18-19 Ja '22

Federal reserve bank and the farmer and stockman. 3d ed. 33p Federal reserve bank of Minneapolis '23

Federal reserve banking during 1922. Comm & Fin Chr 115:2838-9 D 30 '22

Federal reserve banks and business fluctuations. A. W. Forbes. Am Mach 58:943-4 Je 28 '23

Federal reserve banks as banking agents for the government. Comm & Fin Chr 115:1177-8 S 9 '22

Federal reserve board says 1922 marks close of protracted period of liquidation. Comm & Fin Chr 115:223-9 Ja 20 '23

Federal reserve notes, inflation and speculation, deflation and hard times. H: C. Rawie. 47p Henry C. Rawie, Baltimore '22

Federal reserve system. A. D. Welton and C. H. Crennan, editors. 229p (Annals v. 99, no. 188) Am. Acad. of Pol. and Soc. Sci. '22

Federal reserve system as related to American business. W. P. G. Harding. Comm & Fin Chr 113:2669-71 D 24 '21

Federal reserve system at the close of 1922. H. P. Willis. Annalist 21:49 Ja 8 '23

Federal reserve system—its merits and defects; discussion. C. B. Hazelwood. Comm & Fin Chr 117:96-100 sec 2 O 13 '23

Federal reserve system; legislation, organization and operation. H: P. Willis. 1765p Ronald press '23

Fiscal functions of the Federal reserve banks. J: M. Chapman. 213p Ronald press '23

Inquiry under rural credits acts into failure of state institutions to join federal reserve system. Comm & Fin Chr 116:1003-4; 117: 1622-5, 1730-1 Mr 10, O 13-20 '23

Joint commission of agricultural inquiry criticize policy of federal reserve board. Comm & Fin Chr 114:689-93 F 18 '22

Membership in federal reserve system in various states. Comm & Fin Chr 115:2013 N 4 '22

National banking under the federal reserve system. 152p National city bank of New York '23

Federal reserve banks—Continued

- New conception of an old science. A. W. Russel. *Annalist* 20:31-2 JI 10 '22
- New job for the Federal reserve. H. J. Dodge. *Am Ind* 22:11-13 F '22
- Newly enacted bill broadening discount privileges of member state banks of Federal reserve system. *Comm & Fin Chr* 115:932-3 Ag 26 '22
- Operation of the Federal reserve banks during 1921. *Comm & Fin Chr* 113:2767-8 D 31 '21
- Politics menaces the Federal reserve system. P. M. Warburg. *Annalist* 22:563-4+ O 29 '23
- Reply of Federal reserve board to Senate resolution asking for information as to reserve bank interest charges. *Comm & Fin Chr* 116:572-5 F 10 '23
- Reply of Federal reserve board to Senate resolution respecting salaries, reserve bank buildings and franchise tax. *Comm & Fin Chr* 113:2130-4 N 19 '21
- Report of A. B. A. economic policy commission. *Comm & Fin Chr* 117:95-6 sec 2 O 13 '23
- Senate passes bill to enable small state institutions to enter Federal reserve system; text. *Comm & Fin Chr* 115:255 JI 15 '22
- State banks and trust companies admitted. 27p U.S. Federal reserve bd., Washington '22
- Tinkering with the banking system. *Comm & Fin Chr* 116:1227-8 Mr 24 '23
- Warning against amendments to federal reserve system, especially in behalf of farmers. E. C. McDougal. *Comm & Fin Chr* 116:679-80 F 17 '23
- Week with the Federal reserve banks and member banks of the Federal reserve system. See weekly numbers of *Commercial and financial chronicle*
- Weekly return of federal reserve board. See weekly numbers of *Commercial and financial chronicle*
- What the reserve ratio means—present high ratio due to flow of gold to U.S. *Comm & Fin Chr* 115:2542 D 9 '22

See also Bank officials—Salaries

Check collection

See Checks

Federal reserve board

- Advisory council of Federal reserve board opposes agricultural representative on board. *Comm & Fin Chr* 114:132-4 Ja 14 '22
- Annual report. *Comm & Fin Chr* 114:795-6 F 25 '22
- Annual report. *Comm & Fin Chr* 116:886-7 Mr 3 '23
- Bill calling for representation of agricultural interests on Federal reserve board. *Comm & Fin Chr* 113:2772-3 D 31 '21
- Farmer representation on Federal reserve board, and other governmental agencies in interest of agriculture. H. C. Wallace. *Comm & Fin Chr* 115:1584 O 7 '22
- Proposals of economic policy commission of American bankers association to prevent deterioration of Federal reserve board. *Comm & Fin Chr* 117:1414-15 S 29 '23
- Senate passes bill increasing membership of Federal reserve board—recognition of agricultural interests. *Comm & Fin Chr* 114:247-8 Ja 21 '22
- Text of act increasing membership of Federal reserve board. *Comm & Fin Chr* 114:2673 Je 17 '22

Federal specifications board

- Cooperation between Federal specifications board and industry. *Refrig Eng* 9:210-11 D '22

Federal trade commission

- Acts from which the commission derives its powers. 200p U.S. Fed. tr. comm., Washington '22
- Can Federal trade commission prevent misbranding? C. P. Carter. *Ptr Ink* 118:59-60 Mr 2 '22
- Federal trade commission; its history, activities, and organization. W. S. Holt. 80p [bibliog. p.68-77] Appleton '22

- Federal trade commission takes exception to certain trade practices. J. F. Richter, jr. *Ptr Ink* 124:53-4+ Ag 23 '23
- How much business freedom? H. Thompson. *Nation's Business* 10:14-15 Ja '22
- How the Federal trade commission fosters healthy competition. H. Thompson. *Ptr Ink* 123:17-20+ My 3 '23
- Index—digest of vols. I, II, and III of Decisions of the Federal trade commission with annotations of federal cases. 233p U.S. Federal trade comm., Washington '22
- Investigative powers of Federal trade commission defined. *Ptr Ink* 122:73-4 Ja 25 '23
- Mennen files petition against Federal trade commission ruling. *Ptr Ink* 121:108 N 9 '22
- Protection of trade-marks without recourse to courts. J. E. Davies. *Ptr Ink* 123:3-4+ Ap 26 '23
- Some recent federal trade cases. See monthly numbers of *Nation's business*
- Trade commission attacks right to classify customers. *Ptr Ink* 117:17-18 D 22 '21
- Trade commission issues annual report. C. P. Carter. *Ptr Ink* 122:161+ F 15 '23
- What the Federal trade commission says you mustn't do. *Ptr Ink* 120:25-7 S 7 '22; Same. Brick & Clay Rec 61:478-9 O 3 '22

Federated American engineering societies

- Activities of the Federated American engineering societies. *Boston Soc C E J* 10:269-72 Je '23
- Am. Soc. C. E. again rejects affiliation in Federated engineering societies. *map Eng N* 90:683 Ap 12 '23
- First year's achievements. *Min & Met* 180:14 D '21
- For and against the Am. Soc. C. E. joining the federation. *Eng N* 90:406-7 Mr 1 '23
- Lay view of the function of the Federated American engineering societies. *Min & Met* 189:29-31 S '22
- Review of progress made during first year. *Mech Eng* 43:830-2 D '21
- What F.A.E.S. is and what it is for. *Iron Tr R* 72:878-9+ Mr 22 '23
- Work of the Federated American engineering societies. *Eng & Contr (W W)* 59:835-8 Ap 11 '23

American engineering council

- Executive board of the American engineering council meeting, Pittsburgh, May 26-27. *Min & Met* 187:29-30 JI '22; *Power* 55:913-14 Je 6 '22
- 1st annual meeting, Washington, Jan. 5-6. *Am Mach* 56:120a Ja 19 '22; *Eng & Contr* 57:74-5 Ja 18 '22; *Iron Tr R* 70:132 Ja 12 '22; *Power* 55:158-9 Ja 4 '22; *Power Pl Eng* 26:187-8 F 1 '22
- 1st annual meeting, Washington, Jan. 5-6. E. Ludlow. *Min & Met* 182:19-20 F '22
- 2d annual meeting, Washington, Jan. 11-12. *Am Mach* 58:172c Ja 25 '23; *Power* 57:117 Ja 16 '23; *Am Inst E E J* 42:187-9 F '23

Federated Malay States

- See Mines and mineral resources—Federated Malay States; Railroads—Federated Malay States; Tin mines and mining—Federated Malay States

Federation of British Industries

- Annual general meeting, Nov. 23. *Elec R (Lond)* 89:761-2 D 2 '21

Federation of Central America

- Federation of Central America recently formed. *Elec R* 79:884 D 10 '21

Feed mechanism

- Automatic feeding device for high-speed drilling. C. E. Bernitt. *il diags Mach* 29:621-2 Ap '23
- Automatic feeding device for punch press. J. E. Collins. *il diags Mach* 29:471-2 F '23
- Automatic push or pull press feed. *il Iron Age* 109:1282 My 11 '22
- Dividing drill jigs; engagement of disengagement of feed mechanism actuated by friction discs. H. Bentley. *diags Eng & Ind Management* 7:6-7 Ja 5 '22
- Feeding work into rotating chuck. W. R. Ward. *diags Mach* 28:989 Ag '22

Feed mechanism—Continued

- Methods of machine tool design. A. L. DeLeeuw. diags Am Mach 57:480-2, 534-7, 561-4, 609-11, 639-42, 687-92, 761-6, 797-9 S 28-N 2, 16-23 '22; Discussion. R. Poliakoff. 57:724 N 9 '22
- Oilgear variable-speed power transmission and feed-control system. diag Power 54: 1018 D 27 '21
- Press feeding and grinding attachments. il Mach 29:464-5 F '23
- Walsh power-press push or pull feed. il Mach 28:667-8 Ap '22

Feed water

- Auto-thermal boiler feed. Mech Eng 45:496-7 Ag '23
- Boiler corrosion. Eng & Ind Management 7: 351-3 Ap 20 '22
- Boiler feed piping. C. L. Hubbard. diags Dom Eng 102:461-4 Mr 10 '23
- Boiler feed-water circuits in power stations. J. G. Weir. diags Engineer 136:372-4 O 5 '23; Same cond. Power 58:705-6 O 30 '23
- Boiler water; a study of the chemistry and treatment of water used for feeding purposes. C. E. Joos and A. W. Binns. Power Pl Eng 26:456-60, 511-14 My 1-15 '22
- Change in boiler feed piping. diags Power Pl Eng 26:968, 1072 O 1, N 1 '22
- Common error in weighing water. diags Power 56:88-9 Jl 18 '22
- Damage from oxygen in boiler-feed water. G. H. Gibson. Elec W 81:167 Ja 20 '23
- Delivery of feed water to boiler. diags Power Pl Eng 27:57 Ja 1 '23
- Economies of water service for railway locomotives. C. H. Koyl. W Soc E J 28:214-19 My '23; Same cond. Ry R 72:460-3 Mr 10 '23; Same cond. Ry Age 74:275-7 Ja 27 '23; Same Excerpt. Ry Mech Eng 97:278 My '23; Excerpts. Eng N 90:1091 Je 21 '23; Discussion. W Soc E J 28:223-5 My '23
- Effect of boiler feeding on operation. Power Pl Eng 27:53-4 Ja 1 '23
- Faulty boiler feed supply piping. H. A. Jahnke. diags Power Pl Eng 25:1109-10 N 15 '21
- Gravity boiler feeder. il Power 58:391 S 4 '23
- Hick, Hargreaves closed feed system. diag Elec R (Lond) 91:968 D 29 '22; Engineer 135:155-6 F 9 '23
- Instructions for the care and test of boiler feed water and for the operation, care and repair of feed water apparatus. 33p. U.S. Bur. of engineering, Washington, D.C. '22
- Les moyens d'éviter les inconvénients dus à la soude dans l'eau d'alimentation des chaudières. G. Paris. il Génie Civil 82:392-4 Ap 23 '23
- Safety locomotive feed water attachment. il Ry Mech Eng 96:604-5 O '22
- Some corrosive boiler waters. S. R. Trotman and S. J. Pentecost. Soc Dyers & Col J 39: 115-16 Ap '23
- Suggests arrangement of feed-water piping for three boilers. W. H. Wakeman. diags Power 55:313-14 F 21 '22; Discussion. 55:666 Ap 25 '22
- Will two feed water systems be necessary? Power Pl Eng 27:900 S 1 '23
- See also Boiler scale; Densimeter; Feed water heaters; Feed water purification; Feed water regulation; Feed water regulators; Pumps; Feed water; Railroads—Water supply

Testing

- Causes of hardness in water and how to find them. il diags Power Pl Eng 27:36-43 Ja 1 '23
- Daily test of feed water essential when treatment is used. A. C. McHugh. Power 57: 940 Je 12 '23
- Esterline-Angus concentration meter is convenient. il Power 55:499-500 Mr 28 '22
- Measurement of surface-condenser leakage by electrolytic-conductivity method. E. A. Keeler. il diags Power 55:126-8 Ja 24 '22
- Meter for recording alkalinity of boiler-feed water. R. C. Arthur and E. A. Keeler. diags Power 55:768-70 My 16 '22
- Water analysis for the non-technical man. C. Kennicott. Ry Age 72:1168 My 20 '22

Feed water heaters

- Economizers, feed water heaters, superheaters and air preheaters for paper mill power plants. W. F. Schaphorst. il Paper Tr J 74:30+ Mr 9 '22
- Explosion of a feed-water heater. Engineering 113:73 Ja 20 '22
- Explosions in open feed-water heaters. Power 54:984; 55:153-4, 195, 355-6 D 20 '21, Ja 24-31, F 28 '22
- Feed water heater shell built of wrought iron. il Power Pl Eng 27:202-3 F 1 '23
- Feed water heaters. Power Pl Eng 26:28-30 Ja 1 '22
- Feedwater heaters. Ry Age 74:1594 Je 23 '23; Same. Ry Mech Eng 97:506 Jl '23; Same cond. Ry R 72:1161 Je 30 '23; Discussion. Ry Age 74:1599 Je 23 '23; Same. Ry Mech Eng 97:511 Jl '23
- Feed water heaters for locomotives. E. Savage. diags Engineering 113:801-2 Je 23 '22; Abstract. Engineer 133:685 Je 23 '22; Discussion. Engineering 113:777 Je 23 '22; Engineer 133:685-6 Je 23 '22
- Feed water heaters on the Santa Fe. E. E. Chapman. Ry R 73:12 Jl 7 '23
- Fuel economy by the adoption of scientific management in steam generation and utilisation. D. Brownlie. il diags Eng & Ind Management 6:653-6 D 8 '21
- Gas type feedwater heater for small German locomotive. diag Ry Mech Eng 97:749 N '23
- Gas type feed water heaters on Austrian Rys. J. Rihosek. il diags Ry R 73:96-102 Jl 21 '23
- Increasing head on water supply to heater. C. H. McMahon. diags Power 55:943 Je 13 '22
- Locomotive feed water heaters. Ry Age 72: 1235-6 My 27 '22; Same. Ry Mech Eng 96: 443-4 Ag '22
- Locomotive feed water heaters. Ry Age 75: 523-5 S 22 '23
- Method of de-superheating steam. A. G. Christie. diag Power 58:366 S 4 '23; Discussion. 58:554-5, 661, 780-1 O 2, 23, N 13 '23
- Multicoll feed water heater. il Power Pl Eng 26:1077 N 1 '22
- New feed heater uses solid shell construction. il diag Power Pl Eng 27:298 Mr 1 '23
- Plant economy demands feed water heating. il diags plans Power Pl Eng 27:49-52 Ja 1 '23
- Power plant apparatus that saves fuel. R. June. Brick & Clay Rec 61:323-5 S 5 '22
- Les réchauffeurs de l'eau d'alimentation des locomotives. il diags Génie Civil 80:320-4 Ap 8 '22
- Report of committee on boiler feedwater heaters. Ry Age 74:1285-7 My 26 '23
- Report of the A.R.A. committee on locomotive feed water heaters. Ry R 70:995-6 Je 24 '22
- Test code of feedwater heaters. Mech Eng 44:759-60+ N '22
- Feed water heating**
- Chart for saving by feed heating. chart Power 57:138 Ja 23 '23
- Commercial value of exhaust steam. F. W. Bosch. Power Pl Eng 26:997-9 O 15 '22
- Condensing and utilisation of exhaust steam in locomotives. diags Engineer 135:279-81, 303-4 Mr 16-23 '23
- Degasification of boiler feedwater. J. R. McDermet. Mech Eng 44:648-50 O '22
- Effect of feedwater heating on plant economy. G. G. Bell. Mech Eng 45:417-20+ Jl '23; Same cond. Power Pl Eng 27:777-81 Ag 1 '23
- Feed heating for high thermal efficiency. L. Helander. diags Mech Eng 45:105-9 F '23; Same cond. Power 56:1036-8 D 26 '22; Abstracts. Power Pl Eng 27:166-7 F 1 '23; Iron Age 111:1023-5 Ap 12 '23; Discussion. Mech Eng 45:65-6 Ja '23; Power 56:915-16 D 12 '22
- Heat balance of Colfax station. C. W. E. Clarke. diags Mech Eng 43:795-6+ D '21; Same cond., with table. Power 54:959-60 D 20 '21; Excerpt. Power Pl Eng 26:116-17 Ja 15 '22; Discussion. Mech Eng 44:25-6+ Ja '22; Power 54:960 D 20 '21

Feed water heating—Continued

Heat balance of the Connors Creek plant of the Detroit Edison company. C. H. Berry and F. E. Moreton. *diags Mech Eng* 44:22-5 Ja '22; Same cond. *Power* 54:958 D 20 '21; Discussion. *Mech Eng* 44:25-6+ Ja '22; *Power* 54:960 D 20 '21

Heat-balance system for Hell Gate station. J. H. Lawrence and W. M. Keenan. *diags plan Mech Eng* 43:793-5 D '21; Same cond. *Power* 54:956 D 20 '21; Excerpt. *Power Pl Eng* 26:115-16 Ja 15 '22; Discussion. *Mech Eng* 44:25-6+ Ja '22; *Power* 54:960 D 20 '21

Heating feed water with exhaust of small turbine. *Power* 56:952-3 D 12 '22

Locomotive feed water heating here—and abroad. *il diag Ry R* 72:922-4 Je 2 '23

Maintaining heat balance at Hell Gate. *il diags Power* 55:760-3 My 16 '22

Open type system of locomotive feed water heating. *il diag Ry R* 69:898-902 D 31 '21

Practical advantages of locomotive feed water heating summarized in International railway fuel association report. *il diags Ry R* 70:825-30 Je 10 '22

Preheating boiler feed water is economical practice. F. A. Page. *J Elec* 48:201 Mr 1 '22

Réchauffage de l'eau d'alimentation par prélèvement de vapeur aux turbines. R. de Kergaradec. *diag Génie Civil* 80:380-3 Ap 29 '22

Réchauffeurs d'eau d'alimentation et pompes alimentaires pour locomotives, système Weir. *il diags Génie Civil* 80:473-4 My 27 '22

Removal of air from feed water. *il diags Power Pl Eng* 27:47-9 Ja 1 '23

See also Fuel economizers

Feed water pumps. See Pumps, Feed water

Feed water purification

Advantages of treating locomotive feed water. *Ry Mech Eng* 96:253-5 My '22

Advocate of soda ash. R. W. Chorley. *Ry Age* 72:412 F 18 '22

A.S.M.E. discuss P. W. Swain's paper on feed water. *Power* 57:419-20 Mr 13 '23

Ammoniacal liquor for softening water. Chevalet. *Gas J (Lond)* 163:735 S 12 '23

Boiler compounds. Eng & Ind Management 7:507-8 Je 15 '22

Boiler feed water—as it ought to be—zero soft. E. Rowe. *il plan Blast F & Steel Pl* 10:647-8 D '22

Boiler feed water purification. S. B. Applebaum. *Chem & Met Eng* 25:992 N 30 '21

Boiler feed-water purifier reduces scale troubles. *diag Pop Mech* 38:772 N '22

Boiler feed water should be freed from impurities. C. E. Joos. *il Power Pl Eng* 27:34-6 Ja 1 '23

Boiler water; a study of the chemistry and treatment of water used for feeding purposes. C. E. Joos and A. W. Binns. *Power Pl Eng* 26:456-60 My 1 '22

Boiler water treatment. R: June. *Textile World* 60:3261+ D 3 '21

Brook feed-water purifier. *il Power* 55:468 Mr 21 '22; *Textile World* 62:1687 S 23 '22

Brook improved type of feed-water purifier. *diag Power* 58:498 S 25 '23

Chemical treatment of feed water. *il diag Power* 56:984-6 D 19 '22

Continuous blowdown and water purification process. M. Kestner. *diags Power Pl Eng* 26:647-52 Jl 1 '22

Corrosion—apparatus to prevent it. *il diags Power* 56:645-8, 728-30 O 24, N 7 '22

Design and performance of locomotive feed water purifiers. D. L. Kiss. *il diags Ry R* 72:333-9 F 24 '23

Distilled water for boiler feed. *diags Power Pl Eng* 26:1013-14 O 15 '22

Distilled water for boiler feed at River Rouge plant. *il diags plans Power* 54:998-1003 D 27 '21

Effects of water treatment on the reduction of maintenance expense and increasing capacity of locomotives. W. C. Smith. *W Soc E J* 28:220-3 My '23; Same. *Ry R* 72:219-21 F 3 '23; Same. *Eng & Contr (Ry)* 59:430-2 F 21 '23; Same. *Ry Mech Eng* 97:277-8 My '23; Discussion. *W Soc E J* 28:223-5 My '23

Efficiency of water purification increased by emergency heating method. J. E. Housley. *diag Power* 54:810 N 22 '21; Discussion. T: C. Porteous. 55:74 Ja 10 '22

Extensive boiler-water treating on C. M. & St P. Ry.; abstracts. C. H. Koyl. *diags plans Eng N* 89:560-2 O 5 '22; *Ry Age* 73:573-6 S 23 '22; *Ry Mech Eng* 96:686 D '22

Feed water treated at a cost of 9.8 cents per 1,000 gal. C. E. Lewis. *Elec W* 80:180-1 Jl 22 '22

Flash evaporator. *il diags Power* 56:834-5 N 28 '22

Fuel saving aspect of boiler water treatment. C. R. Knowles. *Ry Age* 74:1288-9 My 26 '23; Same. *Eng & Contr (Ry)* 59:1389-91 Je 20 '23

Getting rid of boiler scale. E. M. Rowe. *il Brick & Clay Rec* 61:797-8 N 28 '22

How a Lillie evaporator operates. *diags Power* 56:802-4 N 21 '22

How the navy handles the feed-water problem. *Power* 57:23 Ja 2 '23

Improvement of boiler waters. W: M. Barr. *Ry Age* 72:364 F 11 '22

Increasing locomotive mileage—a chemical problem first. W. H. Hobbs. *Ry R* 71:11-12 Jl 1 '22

Interior treatment of boiler feed water. A. J. Loppin. *Power* 57:520-2 Ap 3 '23

Interior treatment of boiler waters. C. R. Knowles. *Ry Age* 71:935-6 N 12 '21; Discussion. 71:1077, 1132, 1241-2; 72:313-14, 907-8 D 3-10, 24 '21, F 4, Ap 15 '22

La lutte contre la corrosion des tôles de chaudières par le dégazage des eaux. H: Marchand. *diags Génie Civil* 82:423-5 My 5 '23

Marine boiler water treatment. J. B. Patton. *diags Marine Eng* 27:652-4 O '22

Missouri Pacific secures excellent results. W. C. Smith. *Ry Age* 74:277-8 Ja 27 '23

More water softeners on the Illinois Central. C. R. Knowles. *il Ry Age* 75:213-14 Ag 4 '23; Discussion. 75:418-19, 1045 S 8, D 8 '23

Need better cost accounting for water softening. W. H. Hobbs. *diags Ry R* 71:267-9 Ag 26 '22

Power problems of vital interest to executives. J. T. Beard. *il diags Ind Management* 65:268-73 My '23

Purification and degassing of boiler feed water. R. Kestner. *Power Pl Eng* 26:318-19 Mr 15 '22

Purification of boiler water. F. H. Rhodes. Sibley *J* 37:73-6 Ap '23

Railway water treatment plants and their operation. F. D. Yeaton. *Eng N* 90:877 My 17 '23

Removing oil from condensate. A. E. Krause. *diag Power Pl Eng* 26:814-15 Ag 15 '22

Results of feedwater treatment. *Ry Age* 75:485-6 S 15 '23

Review of feed-water treatment. *Power* 56:1018-20 D 26 '22

Savings effected by evaporator. J: Forbes. *il Power Pl Eng* 27:269-70 Mr 1 '23

Scale in feed water line. M. A. Saller. *Power Pl Eng* 27:900-1 S 1 '23

Small feed-water-treating equipment for \$100. C. B. Oliver. *Elec W* 82:867-8 O 27 '23

Softening boiler-feed water with zeolites. flow chart *il diags Power* 56:412-14, 449-54 S 12-19 '22; Discussion. P. F. Hoots. 56:620 O 17 '22

Solving the feed-water problem at New Orleans. O. P. Adams and P. F. Hoots. *diag Power* 56:596-9 O 17 '22; Discussion. A. G. Christi. 56:895 D 5 '22

Treated water improves locomotive performance. W. A. Pownall. *Ry Age* 72:794-5 Mr 25 '22; Same. *Ry Mech Eng* 96:191-2 Ap '22

Treatment of water for steam making. J. S. Simsohn. *Chem Age* 30:43-6 Ja '22

Use of Illinois waters in Wabash locomotive boilers. O. W. Carrick. *Am Water Works Assn J* 9:906-12; Discussion. 912-16 N '22

Water treating plant at Bensenville. Ill. C. H. Koyl. *diags plan Ry R* 73:419-21 S 22 '23

Wheeling steel corporation construct new power plant. T: G. Estep. *diag plan Blast F & Steel Pl* 10:332-4 Je '22

Feed water regulation

- Controlling density of boiler water. C. Brown. *diag Power* 56:854 N 28 '22
 Dangers from high or low water in boilers; extracts from an operating code. *Elec W* 81:580 Mr 10 '23
 Modern boiler feed regulation. E. W. Nick. *charts diags Sibley J* 36:157-61, 178-80+ N-D '22
 Some modern boiler feed control ideas. W. F. Schaphorst. *Power Pl Eng* 26:645-6 JI 1 '22
 Traps for boiler feeding. H. A. Jahnke. *diags Power Pl Eng* 26:1059-62 N 1 '22

Feed water regulators

- Automatic boiler regulation. J. R. Belknap. *charts diag Power* 56:618-19 O 17 '22
 Automatic feed water regulators for steam boilers. C. C. Brown. *Power Pl Eng* 27:997 O 1 '23
 Boiler feed water regulators. W. F. Schaphorst. *Power Pl Eng* 26:100-1 Ja 1 '22
 Feed-pump governor for severe conditions of steel plant. C. J. Smith. *diags Power* 55:824 My 23 '22
 Feed-water regulator for boilers. *diags Engineering* 112:785 D 9 '21
 Improvised feed-water regulator. *diag Power* 57:688 My 1 '23
 Method of operation of feed water regulator as installed on the Leviathan. *diag Marine R* 53:400-1 O '23
 Principles governing automatic regulation. *il diags Power Pl Eng* 27:54-6 Ja 1 '23
 Selecting a boiler feed regulator for the paper mill power plant. W. F. Schaphorst. *Paper Tr J* 76:34+ Je 21 '23
 Several types of feed water regulators available. *il diags Power Pl Eng* 27:58-60 Ja 1 '23
 Todd thermofeed regulator. *il Textile World* 61:2739 My 6 '22

Feeding and feeding stuffs

- Quantitative determination of amino acids of feeds; the amino acids of linseed meal, wheat bran, soy beans and red clover hay. T. S. Hamilton and others. *Am Chem Soc J* 45:815-19 Mr '23
 When the marketing situation is betwixt and between; Boston molasses co. changing from a consumer to a dealer business. D. Kirkland. *Ptr Ink* 123:105-8 Ap 26 '23

See also Alfalfa; Hay; Poultry food; Silage

Feet. See Foot**Fehling's solution**

- Determination of reducing sugars by means of Fehling's solution with methylene blue as internal indicator. J. H. Lane and L. Eynon. *Soc Chem Ind J* 42:32-7 Ja 26 '23
 Influence of alkaline-earths on the determination of reducing sugars by Fehling's solution. L. Eynon and J. H. Lane. *Soc Chem Ind J* 42:143-6 Ap 6 '23

Feld scrubber. See Gas washers**Feldspar**

- Canadian feldspar in demand. *Eng & Min J* 113:575 Ap 8 '22
 Colloquium on feldspar and feldspar deposits. R. B. Ladoo. *Am Cer Soc J* (Bul) 5:78-9 JI '22; Discussion. (Bul) 5:79-101, 133-46, 269-95 JI-Ag, N '22
 Feldspar for glassmakers. F. C. Flint. *Am Cer Soc J* 6:413-16 F '23
 Feldspar in 1921. F. J. Katz. *U S Geol S Min Res of U S* 1921, pt 2:111-15 '22
 Feldspar in the Ottawa district. N. B. Davis. *Can Chem & Met* 6:85-6 Ap '22; Abstract. *Am Cer Soc J* 5:294-8 Je '22
 Feldspar output declined in 1921. *Eng & Min J* 113:402 Mr 11 '22; *Iron Tr R* 71:931-2 O 5 '22
 Interesting case of dangerous aggregate. J. C. Pearson and G. F. Loughlin. *il Am Concrete Inst Pro* 19:142-54 '23; Same. *Concrete* 22:144-7 Ap '23; Discussion. *Am Concrete Inst Pro* 19:155 '23
 Marketing of feldspar. A. S. Watts. *Eng & Min J* 115:535-8 Mr 24 '23

- Melting of potash feldspar. G. W. Morey and N. L. Bowen. *diags Am J Sci* 5th ser 4:1-21 JI '22
 New deposit of high-potash feldspar in Ontario. A. M. Campbell. *Eng & Min J* 115:979-80 Je 2 '23
 No standard specifications for feldspar among producers and consumers. *Eng & Min J* 114:1077 D 16 '22
 Polarizing microscope as an aid in feldspar standardization. H. C. Arnold. *Am Cer Soc J* 6:409-13 F '23
 Preliminary report on the residual kaolin and feldspar in the Pacific Northwest. H. Wilson, A. L. Bennett and F. T. Heath. *il map Am Cer Soc J* 6:475-90 Mr '23
 Production of feldspar in New Hampshire. R. B. Ladoo. *Brick & Clay Rec* 61:721-2 N 14 '22
 Recent developments in dressing feldspar. *Eng & Min J* 114:574-5, 711, 935 S 30, O 21, N 25 '22
 Sales of crude feldspar in the United States increased in 1922. *Eng & Min J* 115:1023 Je 9 '23
 Several methods used for separation of mica from feldspar. *Eng & Min J* 114:949 N 25 '22

See also Kaolin

Analysis

- Rapid means for the determination of quartz content for feldspar. M. C. Booze and A. A. Klein. *Am Cer Soc J* 6:698-703; Discussion. 704-5 Je '23

Specifications

- Colloquium on feldspar specifications. E. Schramm. *Am Cer Soc J* (Bul) 6:210-13; Discussion. 213-25 JI '23
 Proposed tentative feldspar specifications. *Am Cer Soc J* (Bul) 6:163-5 Je '23; Same. *Brick & Clay Rec* 63:36-7 JI 10 '23

Felidae

- John Day Felidae in the Marsh collection. G. F. Eaton. *il Am J Sci* 5th ser 4:425-52 D '22

Fellowships. See Scholarships and fellowships**Felt**

See also Dyes and dyeing—Felt

Analysis

- Estimations of mercury in hatters' fur and in felt. A. C. Minot. *bibliog J Ind Hygiene* 4:253-5 O '22

Manufacture

- Clinical study of fur cutters and felt hat workers. W. Wright. *J Ind Hygiene* 4:296-304 N '22
 Industrial diseases of fur cutters and hatters. A. Hamilton. *J Ind Hygiene* 4:219-33; Bibliography. 234 S '22
 Industrial hygiene of fur cutting and felt hat manufacture. A. Hamilton. *bibliog J Ind Hygiene* 4:137-53 Ag '22
 Preparation of hatters' fur: a chemical study of the carrotting process. J. R. Johnson. *bibliog il J Ind Hygiene* 4:325-34 D '22

Felt, Automobile**Specifications**

- Felt specifications. *Soc Auto Eng J* 10:435 My '22
 Felt specifications; proposed S.A.E. recommended practice. *Soc Auto Eng J* 12:583-4 Je '23

Felts (paper making)

- Drier felts and their importance. *Paper* 31:7-8 Ap 11 '23
 Efficiency and life of felts. F. W. Vickery. *il Paper* 32:6-10+ My 30 '23
 Felt-cleaning device that increases production. C. A. Woodcock. *Tech Assn Pa ser* 3:23-4; Discussion. 35-6 D '20
 Functions of press felts. E. A. Rees. *Paper* 31:15 F 14 '23
 How woolen press felts are made. E. S. Bates. *Paper* 30:7-11+ Mr 8 '22; Same. *Paper Tr J* 74:43-6 F 23 '22

Felts (paper making)—Continued

- Manufacture of felts. W. S. Rooney. Paper 31:22+ Ja 31 '23
 Origin of so-called mildew injury to paper makers' felt. J. Mac Innes. Paper Tr J 74: 41-2 Ap 6 '22
 Removal of oil and grease from felts. J. I. Hardy. il Paper Tr J 77:48 O 11 '23
 Suggestions considered on papermaking felts. Paper Tr J 74:51 My 25 '22
 Technology of papermaking felts. J. Standish. Paper 30:7-10+ Mr 22 '22; Same. Paper Tr J 74:46-9 Mr 16 '22
 Use and abuse of paper making felts. G. H. Harvey. Paper Tr J 74:44-6 Je 15 '22

Standards

- Comment on standardization of felts. W. H. Lee. Paper 30:20+ Je 7 '22; Same. Paper Tr J 75:59 Jl 6 '22
 Standardized felts advocated. Paper 30:11 My 24 '22

Fence posts

- Report on treated fence posts. Ry Age 74:334 F 3 '23; Same abr. Eng & Contr (Ry) 59:456 F 21 '23

Advertising

- Fence posts advertised as offset to \$100,000,000 waste. Ptr Ink 120:10+ Ag 24 '22

Fence posts, Concrete

- Building up a fence post business in Illinois. il diags Concrete 22:209-11 Je '23
 Concrete fence posts. Can Eng 43:341 S 12 '22

Fences

- Back yard fences. il Bldg Age 44:60 F '22
 Makers would reduce wire fence sizes. Iron Tr R 73:252-3 Jl 26 '23
 Technical training not needed to sell Anchor post fences. J. True. Ptr Ink 120:97-8+ Ag 31 '22

Fenders, Automobile. See Automobiles—Fenders**Fenders (marine engineering)**

- Maintenance of tidal berths. E. Latham. diags Engineer 133:87-8 Ja 27 '22

Fenwick, Francis, 1851-1923

- Sketch. H. D. Sharpe. por Mach 30:223 N '23

Ferguson, Samuel, 1874-

- Sketch. por Elec W 79:166 Ja 28 '22

Fermasol

- Fermasol; a new product for removing starch from goods. Textile World 62:1801 S 30 '22; Same. Color Tr J 11:173 O '22

Fermentation

- Acetone, butanol, and ethanol in gas from the butyric fermentation of corn. A. L. Davis. Ind & Eng Chem 15:631-2 Je '23
 Action of bacteria on cellulosic material. Soc Chem Ind J (Chem & Ind) 42:491-3 My 18 '23
 L'évolution des industries de la fermentation sous l'influence des théories de Pasteur. J. Effront. Chimie & Ind 9:1076-93 Je '23
 March of hydrogen-ion concentration in bread doughs. C. H. Bailey and R. C. Sherwood. Ind & Eng Chem 15:624-7 Je '23
 Study of the separation of the gases formed in the *n* butyl alcohol-acetone fermentation process. E. W. Blair, T. S. Wheeler and J. Reilly. diags Soc Chem Ind J 42:235-9; Discussion. 239-40 Je 1 '23
 Von der chemie der gärungserscheinungen. C. Neuberg. Deutsche Chem Gesell Ber 55: 3624-38 D '22
 What happens during fermentation? F. F. Nord. Chem & Met Eng 28:351-3 F 21 '23
See also Alcohol; Enzymes; Sauerkraut; Yeast

Bibliography

- Alcoholic fermentation. A. Harden. p. 158-89 Longmans '23

Fernie's theory

- On the minimum stress theory of cable breakdowns. D. M. Simons. Am Inst E E J 41:433-8 Je '22

Ferns

- Catapult of the fern; a study of a remarkable mechanism for the dispersal of spores. H. Castle. il diags Sci Am 127:330 N '22

- Method of dyeing and bleaching ferns. Color Tr J 11:10-11 Jl '22

Ferric oxide. See Iron oxides

- Ferries.** See Ferry bridges; Ferryboats; Train ferries

Ferrochromium

- Chromium steels and irons. L. Aitchison. Automobile Eng 11:453-8 D '21; Same. Engineering 112:771-2, 805-7 D 2-9 '21
 Decarburization of ferrochromium by hydrogen. L. Jordan and F. E. Swindells. U S Bur Stand Sci Pa 448:327-34 '22; Same cond. Chem & Met Eng 27:1071-2 N 29 '22

Ferrocyanides

See Hydroferrocyanides

Ferromanganese

- British ferro trade surveyed. J. Horton. il Iron Tr R 72:1527-30 My 24 '23
 Ferro supply almost exhausted. Iron Tr R 70: 77-8 Ja 5 '22
 Ferromanganese drawback; possibilities of the steel export trade under the new tariff. Iron Age 110:1006 O 19 '22
 Ferromanganese supplies. Iron Age 109:1658; 110:1077 Je 15, O 26 '22
 High tariff features 1922 ferro. Iron Tr R 72:90-1 Ja 4 '23
 Molten ferromanganese; advantages from use of electrically melted alloy in steel making. F. Hodson. Iron Age 111:677 Mr 8 '23
 Monthly averages of ferromanganese quotations, 1921-1922. Iron Age 109:62; 111:72 Ja 5 '22, Ja 4 '23

Cost

- Table of comparison of making ferromanganese with air and oxygenated air. Iron Age 112:749 S 20 '23

Ferrophosphorus

- Ferrophosphorus aids sheet industry. Iron Tr R 70:470-1 F 16 '22

Ferrosilicon

See also Duriron

Ferrotitanium**Analysis**

- Analyse complète, rapide, du ferrotitane. C. Grandjean. Chimie & Ind 8:46 Jl '22

Ferrovanadium

- Electric furnace makes ferro-vanadium. B. D. Saklatwalla and A. N. Anderson. il Elec W 81:452-6 F 24 '23
 Production of ferrovanadium; patent. diags Chem & Met Eng 27:1232 D 20 '22

See also Duraloy

Ferry bridges

- Le pont à transbordeur sur le Riachuelo à Buenos-Ayres. H. Guérin. il diags Génie Civil 82:245-9 Mr 17 '23
 Riachuelo transporter bridge, Buenos Aires. J. P. Risdon. il diags Engineering 114:193-6, 227-8, 238, 287-90, 354-6, 424-5, pl 17-18, 25 Ag 18-25, S 8, 22, O 6 '22
 Suspended ferry carries traffic across English river. il Pop Mech 37:60-1 Ja '22

Ferry cars. See Freight car service—Car load**Ferryboats**

- Danish state railway steam ferry Denmark. il Engineering 116:507, pl 25 O 19 '23
 Diesel-engined ferry boat for motor cars. il diags plans Engineer 136:80-1 Jl 20 '23
 Electric drive adopted in a new field. W. H. Wild. il diags Marine Eng 27:626-9 O '22
 Electric ferryboat Poughkeepsie. W. H. Easton. il diags Marine Eng 28:159-62 Mr '23
 Electric propulsion for the new San Francisco-Oakland terminal railway's ferryboats. L. Rask. il diags Gen Elec R 26:294-7 My '23
 Ferryboats can be operated on more economic basis. H. Schreck. Marine Eng 27: 191-2 Mr '22
 From horse-driven ferry to steel bridge. il plans Sci Am 128:178 Mr '23

Ferryboats, Municipal

- Control equipments of the electrically propelled ferry boats for New York city. L. W. Webb. diags Gen Elec R 26:90-3 F '23

Ferryboats, Municipal—Continued

- Couldn't make city ferry pay in Seattle. F. R. Singleton. *Nation's Business* 11:31-2 O '23
- New turbo-electric ferryboats for New York city. diags plan *Marine Eng* 27:297-301 My '22
- New York electrically driven municipal ferryboats. A. Kennedy, jr. *Marine Eng* 27:729 N '22

Fertilizers

- Chilean nitrate and its competitors. F. Benitez. *Min & Sci P* 123:700-2 N 19 '21
- Concentrated fertilizer. *Chem Age* 31:285 Je '23
- Considerations relating to the future of sulphate of ammonia. R. C. Taylor. *Gas J (Lond)* 164:44-5; Discussion. 45-6 O 3 '23
- Constitution and manurial value of low grade basic slag. D. N. McArthur. *Soc Chem Ind J* 42:213-16 My 18 '23
- Crude ammonia liquor as fertilizer. I. Ginsberg. *Am Gas J* 117:70-1 Ji 22 '22
- Cultivation and nitrogen fertilization. H. A. Noyes, J. H. Martsof and H. T. King. *J Ind & Eng Chem* 14:299-302 Ap '22
- Dewatering sewage sludge; value of sludge as a fertilizer. T. C. Hatton. *Pub Works* 51:374-6 N 12 '21
- Division of fertilizer chemistry. *Chem & Met Eng* 27:585-6 S 20 '22
- Domestic potash, Muscle Shoals and Henry Ford. C. H. MacDowell. *Chem Age* 30:271-2 Je '22
- Economics of concentrated fertilizer. W. H. Ross and A. R. Merz. *Chem & Met Eng* 29:313-15 Ag 20 '23
- Effects of liming on soil. J. K. Plummer. *Sci Am* 126:128 F '22
- Explosives and fertilizers. A. H. White. *Chem & Met Eng* 26:161-5 Ja 25 '22
- Feeding the soils. A. L. Dahl. *il Sci Am* 128:316 My '23
- Fertilizer industry. (67th Cong., 4th sess. Senate. Doc. 347) 87p U.S. Fed. trade commission, Washington '23
- Fertilizer industry. W. H. Waggaman. *J Ind & Eng Chem* 14:789-91 S '22
- Fertilizer materials; market review and record of prices. *Oil Paint & Drug Rep* 103:87-9 Mr 29 '23
- Fertilizer trade conditions reviewed; address of President Ober of National association at annual convention. *Oil Paint & Drug Rep* 103:19+ Je 18 '23
- Fertilizing forest land. *Sci Am* 129:47 Ji '23
- Getting our money's worth in fertilizer. H. A. Mount. *il Sci Am* 128:392-3 Je '23
- L'industrie des engrais aux États-Unis. J. G. Lipman. *Chimie & Ind* 7:1001-8; Discussion. 1008-11 My '22; Same cond. *Génie Civil* 80:548-51 Je 17 '22
- Japanese fertilizer industry, past and present. *Oil Paint & Drug Rep* 101:87 Mr 28 '22
- Long-term credits and the fertilizer industry. *Chem & Met Eng* 28:49, 291, 335-6 Ja 10, F 14-21 '23
- N.P.K. fertilizer. E. L. Pease. *Gas J (Lond)* 162:742-3 Je 20 '23; Discussion. 163:366-7, 529, 682-4 Ji 25, Ag 15, S 5 '23
- National fertilization association convention, White Sulphur Springs, W. Va. *Chem & Met Eng* 28:1105-8 Je 25 '23
- New compound fertiliser. *Chem Age (Lond)* 9:140 Ag 11 '23
- Un nouvel engrais composé, le superam. C. Matignon. *Chimie & Ind* 10:216-17 Ag '23
- Phosphoric acid in cane juices. H. Walker. *Ind & Eng Chem* 15:164-5 F '23
- La politique économique de la France en matière d'engrais azotés. A. Grebel. *Génie Civil* 82:224-5 Mr 10 '23
- Present position of nitrogenous fertilisers. S. Williamson. *Chem Age (Lond)* 8:84-5 Ja 27 '23
- Report on the fertilizer industry. 272p U.S. Fed. trade commission, Washington '22
- U. S. production of fertilizers by decades. *Oil Paint & Drug Rep* 101:45 Mr 28 '22
- La valeur marchande de l'azote dans les différents engrais azotés. C. Harnist. *Soc Ing Civils Bul* 75:334-42 Ap '22

What is the future of the mixed fertilizer?

F. E. Bear. *Chem & Met Eng* 28:1121-2 Je 25 '23

Wool scouring wastes for fertilizer purposes. F. P. Veitch. *J Ind & Eng Chem* 14:434 My '22; Same abr. *Textile World* 61:2967 My 20 '22

See also Agricultural chemistry; Ammonium sulfate; Ammonium sulfonitrate; Calcium nitrate; Cyanamide; Dicyandiamide; Gypsum; Lime; Marl; Nitrates; Peat as fertilizer; Phosphates; Potash; Sewage sludge as fertilizer; Sodium nitrate

Advertising

Advertising has to wrestle with peculiar problems in this business. *Ptr Ink* 117:63-4+ D 22 '21

See also Gypsum—Advertising

Analysis

Insoluble phosphoric acid in acid phosphates and fertilizers. W. R. Austin. *Ind & Eng Chem* 15:1037-8 O '23

History

Romantic story of American fertilizer industry. *Oil Paint & Drug Rep* 101:25 Mr 28 '22

Manufacture

Common sense—and fertilizer manufacture at Muscle Shoals. W. S. Landis. *Chem Age* 30:149-50 Ap '22

Explosion of a fertiliser filter. *Engineering* 112:742-3 N 25 '21

Innumerable formulas of fertilizers a drawback to production efficiency. F. S. Lodge. *Chem & Met Eng* 27:458-9 Ag 30 '22

Manufacture of sulphuric acid and acid phosphates during 1922. *Chem & Met Eng* 28:728 Ap 23 '23

Modern trend in fertilizer plant operation. E. H. Armstrong. *Ind & Eng Chem* 15:415-16 Ap '23

Sulphuric acid and acid phosphate used in the manufacture of fertilizers. *Chem & Met Eng* 27:617 S 20 '22

Transformation industrielle de l'ammoniaque en urée, engrais de haute concentration. C. Matignon. *diag Chimie & Ind* 7:1057-70 Je '22

Trend of modern fertilizer plant construction. P. S. Gilchrist. *Ind & Eng Chem* 15:86-7 Ja '23

Patents

Fertilizer and process of making same. *Chem & Met Eng* 27:225 Ag 2 '22

Prices

Fertilizer materials. See weekly numbers of the *Oil paint & drug reporter*

Fiber pipes. See *Pipes, Fiber*

Fiber selector. See *Cotton machinery*

Fibers

Activating animal and vegetable fibers. *Chem Age* 30:423 S '22

See also Bast fibers; Cotton; Flax; Hemp; Jute; Linen; Paper making materials; Ramie; Silk; Sisal hemp; Textile fibers; Vulcanized fiber

Fidelity insurance. See *Insurance, Surety and fidelity*

Field museum of natural history, Chicago

Plant of the Field museum of natural history. il diags plans *Power Pl Eng* 26:349-56 Ap 1 '22

Recent departures from usual lighting practice in public spaces and offices. A. D. Curtis and J. L. Stair. il plans *Illum Eng Soc* 16:558-67 no 9 '21

Fifth avenue association, New York

Awards. *Am Arch* 122:557-60 D 20 '22

Fifth avenue bus securities corporation, New York

Fifth avenue bus corporation formed. *Bus Transportation* 1:672; 2:56 D '22-Ja '23

Fifth avenue coach company, New York

Fifth avenue coach company has big year. *Bus Transportation* 1:672-3 D '22

Fifth avenue coach company, New York—Cont.
51,091,365 passengers handled by bus line in New York. Bus Transportation 1:148-9 F '22

How it's done on Fifth avenue. il map Bus Transportation 1:153-61 Mr '22

Real attention to the safety of the public by a wholesale user of city streets. il Safety Eng 44:7-8 J1 '22

Synopsis of the annual report of the Fifth avenue coach co. for the year ended June 30, 1921. Bus Transportation 1:74 Ja '22

Figures of speech
Figures of speech employed to supply striking illustrations. W. L. Larned. Ptr Ink 125:61-2+ O 25 '23

Filene cooperative association
Department store dramatics. R. L. Harlow. Ind Management 64:164+ S '22

Files and filing (documents)
Cards and decimal filing system used in compiling Maine water-power data. G. C. Danforth. Eng N 88:578 Ap 6 '22

Collecting and filing data. W. Kaufmann. Mach 29:136 O '22

Course in correspondence filing for schools. (catalog no. 1892.1) 24p Library bureau, Boston, New York '22

Filing engineering literature. A. F. Ganier. Eng & Contr (Ry) 59:1137-8 My 16 '23

Filing information. Power 56:258 Ag 15 '22

Filing system for architects' offices. (A.I.A. doc. no. 172) 12p Am. inst. of architects, The Octagon House, Washington '23

Filing the Z chart. A. R. Burnet. Management Eng 2:47-50 Ja '22

How to organize written standard practice files. S. A. Peck. diags Ind Management 64:82-3 Ag '22

Is it for Samuel; something about a combination file. A. M. Cheney. Filing 6:13-14 S '22

Leak-proof plan for handling office records. T. R. Evans. System 43:44-6 Ja '23

Letters in answer to bulletins no. 1 and 2 of the American specification institute. Am Arch 120:455-60 D 7 '21

Making every foot of space pay its way. W. H. Leffingwell. System 42:710-12 D '22

Method of filing personal engineering data. N. B. Hunt. Eng & Contr 56:471 N 23 '21

New wrinkles in filing systems. H. H. Greene. Office Management 8:13-14 S '22

Numbering and indexing drawings. E. Heller. Mach 29:609-10 Ap '23

L'organisation de votre classement. O. J. Gérin. Chimie & Ind 7:176-8 Ja '22

Our automatic memory. J. R. Crawley. System 43:181 F '23

Plan filing for railway and municipal engineers. J. T. Thompson. Engineering 113:250-1 Mr 3 '22

Quick reference system of filing magazine clippings. S. L. Sinclair. Eng & Contr 58:170 Ag 16 '22; Same. Can Eng 43:389 S 26 '22

Revamping the filing and record system of an engineering department. R. B. Genest. il Elec Ry J 61:797-801 My 12 '23

Sherlock Holmesing the missing papers. H. McNamara. Filing 6:9-10+ S '22

Simple filing system in selling efforts. B. G. Priestly. Administration 4:64-70 J1 '22

Study of clerical work improves methods. J. H. Van Nice. Management & Adm 6:332 S '23

Water resources index inventory filing system. maps Can Eng 42:667-71 J1 4 '22; Same abr. Eng & Contr (W W) 58:98-101 N 8 '22

Why odd jobs get done on time. H. M. Sutton. System 42:568-9+ N '22

See also Classification, Decimal; Clippings; Filing clerks; Filing departments; Indexing

Files and rasps

Files and filing. C: Frémont. 148p Pitman '20

Some causes for file steel failures. A. W. F. Green. il Iron Age 112:811-15 S 27 '23

Advertising

Tool maker goes to American household as a market nearly untouched; Nicholson file co. J. E. Bullard. Ptr Ink 120:97-8+ Ag 24 '22

Manufacture

Organisation of file factories. H. G. Smith. Eng & Ind Management 7:473-7 Je 1 '22

Filing clerks

Wall street's pioneer file clerks the advent of the trained woman. S. E. Wallace. Filing 6:7-8+, 35-6 S-O '22

Why a file clerk? A. McKinney. Filing 6:5-6+ S '22

Filing departments

Selling the filing department to the boss. W: Hood. Filing 6:31-2 O '22

Filing machines

D.&C. strip-metal filing machine. il Am Mach 56:422-3 Mr 16 '22

Oliver high-power filing machine. il Am Mach 56:940 Je 22 '22; Iron Age 109:1668 Je 15 '22; Mach 28:918-19 J1 '22

Rearwin die-filing machine. il Mach 28:676 Ap '22; Am Mach 56:607 Ap 20 '22

Fillets

Importance of fillets in engine shafts and crankpins. E. M. Parry. il diags Locomotive 34:163-9 Ap '23

Weight of cast iron fillets per running inch. W. L. Tryon. diags Foundry 50:640a Ag 1 '22

Filling

Calaveras dam raised with dry fill and puddled core. plans Eng N 90:117-18 Ja 18 '23

Earth dam built by flooding dry fill. A. S. Fry. il diags Eng N 90:1118-20 Je 28 '23

Flood conditions and land filling at Cairo, Ill. Eng N 90:614-16 Ap 5 '23

Islands in the making. il Sci Am 128:310 My '23

See also Causeways; Earthwork; Hydraulic filling; Trestles—Filling

Filling materials

Non-metallic mineral-filler industry. W. M. Weigel. Min & Met 182:59-60 F '22; Excerpts. Chem & Met Eng 26:410 Mr 1 '22

Vulcanized plastic coating; patent. Chem Age 30:560 D '22

See also Paper making—Fillers; Pavements—Fillers

Films

Colours of mixed plates. C. V. Raman and K. S. Rao. diags Philos Mag 6th ser 42:679-95 N '21

Films; the spreading of liquids and the spreading coefficient. W: D. Harkins and A. Feldman. Am Chem Soc J 44:2665-85 D '22

Problem in viscosity; the thickness of liquid films formed on solid surfaces under dynamic conditions. F. S. Goucher and H. Ward. diags Philos Mag 6th ser 44:1002-14, pl 8 N '22

See also Soap bubbles and films

Films, Metallic

Hall effect and specific resistance of evaporated films of silver, copper and iron. J. C. Steinberg. diags Phys R 21:22-9 Ja '23

Hall effect and specific resistance of silver films. G. R. Wait. diags Phys R 19:615-22 Je '22

Transparent films of metal. A. E. Outerbridge, Jr. Chem & Met Eng 26:582 Mr 29 '22

Films, Photographic. *See* Moving picture films; Photography—Films

Filter cloth

See Hair press cloth

Filter paper

Effect of the presence of filter paper on permanganate-oxalate titrations. S. G. Simpson. J Ind & Eng Chem 13:1152-4 D '21

Filter paper requirements. L. C. Breed. Paper 30:7-8 Ag 16 '22

Standards

Filter paper. W. D. Collins. J Ind & Eng Chem 14:657-8 J1 '22

Filter paper—Continued

Testing

Penetrability of filter paper. R. C. Griffin and H. C. Parish. diags J Ind & Eng Chem 14: 199-200 Mr '22

Filter presses

Accident hazards in the operation of filter presses and centrifugal dryers. M F. Crass. Chem Age 29:505 D '21
Colloid mill and the ultra-filter press. A. W. Kenney. bibliog diags Chem & Met Eng 27:1080-5 N 29 '22
Development of the filter press. C. L. Bryden. Chem Age 30:493-5 N '22
Filter press in filtration. M. J. Sayles. il Chem & Met Eng 29:457-8 S 10 '23
Improved China clay filter-press. diags Chem Age (Lond) 9:sup9-10 S 15 '23
See also Oil filters

Safety devices

Safety locking device for filter press. W. J. Tait. diags Eng & Min J 115:938-9 My 26 '23

Filter stone

Testing

Testing sprinkling filter stone by freezing and thawing. il Eng N 89:938-9 N 30 '22

Filters, Electric wave. *See* Electric wave filters

Filters and filtration

Adsorption in sand filters. J. Don. Engineering 111:759-60 Je 17 '21; Same. Eng & Contr 57:297-9 Mr 29 '22
Analytical data essential to run mechanical filters. G. C. Bunker; C. A. Brown. Eng N 87:951-2 D 8 '21
Automatic control of water flow. C. C. Brown. diags Power Pl Eng 26:1069 N 1 '22
Columbus filtration items. Pub Works 52:373 My 20 '22
Concrete bottom for mechanical water filters. A. L. Gammage. diags Eng N 91:430-1 S 13 '23
Constructing Detroit filter plant. il diag Pub Works 52:77-8 F 4 '22
Controller regulates water flow through pressure filters. C. C. Brown. diags Eng N 91:446 S 13 '23
Depth and grading of percolating filters. W. J. Reid. Pub Works 54:169-70 My '23; Same. Can Eng 45:155-6 J1 17 '23
Designing filtration plants graphically. P. B. Streander. Eng N 90:882-3 My 17 '23
Detroit 320-m.g.d. filtration plant is world's largest. T. A. Leisen. il diags plan Eng N 90:860-5 My 17 '23
Effect of size of filter sand on operation. E. E. Smith, jr. Eng & Contr (W W) 60:102-3 J1 11 '23; Same. Pub Works 54:282-3 S '23
Enlarging Harrisburg filtration plant. il diags plan Pub Works 53:77-81 J1 29 '22
Experience with air-binding of rapid filters. W. D. Hatfield. Eng N 89:783-4 N 9 '22
Experiments on formation of floc for sedimentation. E. S. Hopkins. diag Eng N 90: 204-5 F 1 '23
Filter and pumping plant at Dunnville, Ont. E. H. Darling. il diags plan Can Eng 44: 489-93 My 15 '23
Filter plant control and operation. Pub Works 52:343-5 My 13 '22
Importance of filter sand and gravel in filtration plants. A. O. True. Eng & Contr (W W) 59:121-3 Ja 10 '23; Same. Can Eng 44: 478-9 My 8 '23
Interference with water filtration plant operation by wastes from by-product coke ovens and gas-works. C. A. Emerson, jr. Am Soc C E Pro 47:662-3 D '21; Same. Eng & Contr 57:132-3 F 8 '22
Laboratory control of filtration. G. D. Norcom. Eng & Contr (W W) 59:114-16 Ja 10 '23; Same. Can Eng 44:372-3 Ap 3 '23
Layer of fine sand within slow sand filters at Chester, England. Eng N 89:603 O 12 '22
Loading of filter plants. H. W. Streeter. Am Water Works Assn J 9:157-71 Mr '22; Discussion. M. F. Stein. 9:655-7 J1 '22

Loss of head as a criterion for washing filters; rational standard obtained by a new turbidity detector. J. W. Armstrong. diags Eng N 87:1060-1 D 29 '21
Modern water filtration plant built at Ashland, Kentucky. D. H. Maxwell. il Munic Eng 63:127-30 O '22
Montreal filtration plant extension. diags Can Eng 43:557 N 21 '22
New method of purifying water. H. W. Clark. N E Water Works Assn J '36:385-7; Discussion. 388-91 S '22
Novel type of filter. G. W. Fuller. Eng N 91:770 N 8 '23
Observations on the operation of rapid sand filter plants. J. W. Ellms. Am Water Works Assn J 9:603-5 J1 '22; Same. Can Eng 43: 330 S 5 '22
Operating filtration plants. J. J. Hinman, jr. Pub Works 52:80-1 F 4 '22
Operation and tuning up of the Cleveland filters. J. W. Ellms. il Eng N 88:776-9 My 11 '22
Operation control panels for the Sacramento filters. diags Eng N 88:782-4 My 11 '22
Operation data for three filters using Lake Michigan water. Eng N 88:578-9 Ap 6 '22
Operation of mechanical filters and value of simple laboratory tests. P. G. Turner. Eng & Contr (W W) 58:145-7 D 13 '22; Same. Can Eng 44:256-7 F 20 '23
Operation of rapid sand filtration plants. W. D. Hatfield. Can Eng 44:539-40 My 29 '23; Same. Eng & Contr (W W) 60:74-6 J1 11 '23
Perforated pipe underdrains for Alpena water filters. diag Eng N 88:1048 Je 22 '22
Plant for purifying tidal river water. il (supp) diags plans Engineer 136:168-71 Ag 17 '23
Preparation of water for filtration. F. A. Dallyn and A. V. Delaporte. Can Eng 44:474-6 My 8 '23; Same, without table. Eng & Contr (W W) 60:271-4 Ag 8 '23; Discussion. Can Eng 44:290-1 Mr 6 '23
Proposed filtration plant for Windsor, Ont. E. M. Proctor. plan Can Eng 43:605-7 D 5 '22
Recent developments in water filtration. A. Hazen. Am Soc C E Pro 47:660-1 D '21; Same. Eng & Contr 57:50 Ja 11 '22
Six million dollar filtration plant for Detroit, Mich. il Dom Eng 101:470 D 16 '22
Slow sand filtration plant for Hartford, Conn. C. M. Saville. il Eng N 89:380-4 S 7 '22; Discussion. A. L. Gammage. 90:86-7 Ja 11 '23
Special features of recent filter plant design. P. Hansen. Am Water Works Assn J 10: 236-42 Mr '23; Same, without table. Can Eng 44:497-8 My 15 '23; Same abr. plans Eng & Contr 57:438-40 My 10 '22
Specifications for pressure water filters. Pub Works 53:147 S '22
Standard specifications for pressure water filters. Am Water Works Assn J 9:928-30 N '22
Study of sand and ice conditions at water intake. C. M. Dally. il Eng & Contr 56: 435 N 9 '21
Successful means of removing hard spots from filter beds. W. C. Wills. diags Eng N 91: 232-3 Ag 9 '23
Twenty years of filtration practice at Albany. G. E. Willcomb. Am Water Works Assn J 10:97-122 Ja '23; Summary. Eng N 88:879 My 25 '22
Use of filter re-wash. J. H. Suggs. Pub Works 54:22-3 Ja '23
Water filtration plant for Omaha metropolitan district. F. P. Larmon. il diags Eng N 90: 870-1 My 17 '23
See also Air filters; Filter paper; Sewage disposal—Filtration; Strainers; Water purification

Cost

Construction and operation of Warren, Ohio, water purification plant. S. N. Vance. Munic Eng 64:188 My '23

Filters and filtration (metallurgy)

Filter notes. A. Del Mar. diags Eng & Min J 112:821-2 N 19 '21

Filters and filtration (technical chemistry)

- Clarifying fruit juices. W. V. Cruess. *il Chem & Met Eng* 29:351-3 Ag 27 '23
- Continuous drum filters in pulp and paper mills. H. A. Morrison. *il Paper Tr J* 75:52-3 S 14 '22
- Emploi des filtres à membranes en analyse; abstracts. R. Zsigmondy and others. *Chimie & Ind* 10:42-3 JI '23
- La filtration dans l'industrie. R. Moritz. *diags Chimie & Ind* 8:501-5 S '22
- Hele-Shaw stream-line filter. *il diags Chem Age (Lond)* 9:342-3 S 29 '23
- Industrial filtration. A. Wright. 336p Chemical catalog co. '23
- Methods and operations in a filter plant. F. A. Stanley. *il Am Mach* 56:299-301 F '23 '22
- Pressure filtering through paper. *il Sci Am* 127:262 O '22
- Progress and technique of filtration. A. Wright. *il Chem & Met Eng* 29:455-7 S 10 '23
- Quantitative Büchner filter. R. J. Cross. *diag Ind & Eng Chem* 15:910 S '23
- Recovery of fine solids from air and gases by suction filters. F. L. Jorgenson. *il diags Chem & Met Eng* 29:467-70 S 10 '23
- Rotary filters for the washing of paper pulp and for filtering and washing caustic lime mud. G. D. Dickey. *il Paper Tr J* 75:60-2 S 14 '22
- Stream-line filter. H. S. Hele-Shaw. *diags Soc Chem Ind J* 42:353-4; Discussion. 354-6 Ag 31 '23
- Stream-line filter. J. W. Hinchley. *Soc Chem Ind J (Chem & Ind)* 42:489 My 18 '23
- Study of the fundamental laws of filtration using plant-scale equipment. *J Ind & Eng Chem* 13:1163-5 D '21
- Technical details concerning filtration. *il Color Tr J* 13:177-8 N '23
- Text book of filtration. C. L. Bryden and G. D. Dickey. 376p Chemical pub. co. '23
- Ultra-filtration of soap solutions, sodium oleate and potassium laurate. J. W. McBain and W. J. Jenkins. *diags Chem Soc J* 121:2325-44 O '22
- See also Colloid mill; Filter presses; Oil filters

Finance

- Applied business finance. E. E. Lincoln. 772p Shaw '22
- Capital for the clay industry. J. K. Moore. *Brick & Clay Rec* 63:556-8 O 16 '23
- Controlling the finances of a business. J. O. McKinsey and S. P. Meech. 638p Ronald press '23
- Currency inflation and public debts. E. R. A. Seligman. 86p Equitable trust co. of N.Y., New York '21
- Current new capital flotations of corporate, municipal and foreign government financing; summary. *Comm & Fin Chr* 113:2236-9 N 26 '21 [continued monthly]
- Financing of present-day needs. M. L. Schiff. *Administration* 2:704-6 N '21
- Funds and their uses. F. A. Cleveland. *Rev. ed. & enl.* 425p Appleton '22
- How can financiers prevent industrial over-expansion? L. J. Moltke-Hansen. *Chem & Met Eng* 28:248 F 7 '23
- Mathematical theory of finance. T. M. Putnam. 117p Wiley '23
- Mathematics of finance. H. L. Rietz, A. R. Crathorne and J. C. Rietz. 280p Holt '21
- Menace of money power. C. P. Isaac. 293p J. Cape, London '21
- Principles of public finance. H. Dalton. 208p Dutton '23
- Public finance. M. E. Robinson. 172p Harcourt, Brace & co., New York '22
- Recent progress in public finance. L. R. Gottlieb. *Annalist* 20:198-9+ Ag 23 '22
- Taxation and war strains; status of comparative public finance today. L. R. Gottlieb. *Annalist* 22:271-2+ Ag 27 '23
- Varying interests of different forms of capital. R. Estcourt. *Annalist* 18:603+ D 26 '21

W. C. Durant issues reply to Wall Street. *Automotive Ind* 48:1096 My 17 '23

See also Auditing; Bankruptcy; Banks and banking; Bonds; Budget; Building loans; Capital; Commerce; Corporations; Credit; Debts, Public; Domestic finance; Finance companies; Financial statements; Foreign exchange; Income; Income tax; Insurance; Interest; Investment trust companies; Investments; Money; Municipal finance; Paper money; Prices; Securities; State finance; Stock exchange; Stocks; Tariff; Taxation; Trusts, Industrial; also subdivision Finance under special subjects, e.g. Automobile industry and trade—Finance, Corporations—Finance, Electric railroads—Finance, Gas companies—Finance, Public utilities—Finance, Railroads—Finance

Argentina

Argentine loans. *Annalist* 21:442-3 Mr 26 '23

Austria

Austrian financial situation. *Annalist* 21:473+ Ap 2 '23

Austrian loan. *Annalist* 21:827+ Je 18 '23

Austro-Hungarian bank and its successor. I. S. Pratt. *Annalist* 20:413-14 O 23 '22

Commerce department and the nation's business. *Annalist* 21:729-30 My 28 '23

Interim credits for Austria. *Comm & Fin Chr* 114:1843 Ap 29 '22

\$25,000,000 Austrian loan floated in United States over-subscribed. *Comm & Fin Chr* 116:2710-12 Je 16 '23

Belgium

Belgian finance and industry. S. H. Cross and E. A. Welden. *U S Bur For & Dom Com Trade Information Bul* 146:1-17 '23

Brazil

Coffee market and Brazil's financial situation. F. E. Nortz. *Annalist* 19:61+ Ja 9 '22

Canada

Outlook in Canada better than last year. W. L. Edmonds. *Annalist* 21:45 Ja 8 '23

China

Central and local finance in China. Chuan Shih Li. (Studies in history, economics and public law, vol. xcix, no. 2) 187p Columbia university, New York '22

China's default on \$5,500,000 notes—the Hu Kuang bonds. *Comm & Fin Chr* 113:2031-2 N 12 '21

See also China—Consortium; Tariff—China

Cuba

Advices to J. P. Morgan & co. regarding Cuba finances. *Comm & Fin Chr* 116:1361-2 Mr 31 '23

Cuban financial reforms proposed. *Comm & Fin Chr* 115:705-6 Ag 12 '22

Cuban law authorizing foreign loan of \$50,000,000. *text. Comm & Fin Chr* 115:2103-4 N 11 '22

Rehabilitation of Cuba. W. P. G. Harding. *Comm & Fin Chr* 116:358 Ja 27 '23

Czechoslovakia

Financial policy of Czecho-Slovakia during the first year of its history. A. Rašín. 160p Oxford '23

Public finances of Czechoslovakia. C. C. Latour. *Annalist* 20:437-8 O 30 '22

Reconstruction of Czechoslovak finances. L. Eisenmann. *Annalist* 22:71-2 JI 16 '23

Europe

British bankers' views on America's place in Europe's problems. J. Oakwood. *Annalist* 19:271-2 F 27 '22

Europe is on the mend! A. Balfour. *Nation's Business* 10:16-19 Je 5 '22

Finance in Central Europe. *Annalist* 22:472-3 O 8 '23

Monetary crisis in Europe. *Annalist* 21:11-12+ Ja 1 '23

Revival of Europe—a fundamental solution. E. M. Anderson, jr. *Annalist* 21:41+ Ja 8 '23

Finance—Europe—Continued

Text of Genoa financial commission report embodying proposals for restoration of Europe. *Comm & Fin Chr* 115:131-2 *Jl* 8 '22

See also *Debts, Public*

Finland

Finance and banking in Finland. L. A. Davis. *U S Bur For & Dom Com Trade Information Bul* 43:1-7 '22

France

Finances et bon sens. A. J. M. Artaud. 270p Payot & c^{ie}, Paris '22

Financial peril of France. R. Estcourt. *Annalist* 20:693-4+ *D* 25 '22

France's fiscal dilemmas. A. Comstock. *Annalist* 22:143-4 *Jl* 30 '23

France's particular problem. R. Masson. *Nation's Business* 11:17-19 *Je* 5 '23

French government finance. C. E. Lyon. *U S Bur For & Dom Com Trade Information Bul* 137:1-17 '23

French public finance in the great war and to-day. H. E. Fisk. 363p Bankers' trust co., New York '22

Germany

Building prosperity on the sands of inflation; some lessons from Germany. E. E. Agger. *Annalist* 22:597+ *N* 5 '23

Continued decline in German mark value—warning in Berlin against rise. *Comm & Fin Chr* 115:924-5 *Ag* 26 '22

Decline in German mark and discussion incident thereto by reparations commission. *Comm & Fin Chr* 115:1679 *O* 14 '22

Fall of the mark. *Am Ind* 23:43 '22
Financial status of Germany. G. W. Edwards. *Annalist* 20:535+, 565+, 598-9, 630-1; 21:13+, 253-4, 412+ *N* 20-D 11 '22, *Ja* 1, *F* 12, *Mr* 19 '23

German decree calling for surrender in gold of percentage of foreign securities. *Comm & Fin Chr* 117:953 *S* 1 '23

Germany's ability to pay. R. Estcourt. *Annalist* 20:354-5 *O* 9 '22

Germany's balance sheet. S. Stern. *Annalist* 19:173-4+ *Ja* 30 '22

Investment of foreign capital in Germany. *Annalist* 21:377-8 *Mr* 12 '23

Mark at the vanishing point. M. Parsons. *Annalist* 22:369 *S* 17 '23

Das neue finanzprogramm der regierung. M. Wellenstein. *Stahl & Eisen* 41:1721-5 *D* 1 '21

Reichsbank agrees to advance German government 500,000,000 gold marks toward loan. *Comm & Fin Chr* 115:2204-5 *N* 18 '22

Return to Paris of Allied reparations commission—loan of 500,000,000 marks asked. *Comm & Fin Chr* 115:2096-2101 *N* 11 '22

What next for Germany? A. W. Lahee. *Annalist* 18:557 *D* 12 '21

See also *German indemnities; Taxation—Germany*

Great Britain

British finance during and after the war, 1914-21. A. H. Gibson; A. W. Kirkaldy, ed. 474p Pitman '21

British war finance and the consequences. T. J. Kiernan. 132p P. S. King & son, London '21

English government finance, 1485-1558. F. C. Dietz. (Studies in the social sciences, v. 9, no. 3) 245p [Bibliog. p. 228-37] Univ. of Illinois, Urbana '21

Financial review of Great Britain. L. R. Robinson, D. Miller and F. A. Christoph. *U S Bur For & Dom Com Trade Information Bul* 98:1-29 '23

Flaws in fiscal policy of British budget. H. Dalton. *Annalist* 22:103-4 *Jl* 23 '23

Great Britain's new conversion loan. *Comm & Fin Chr* 114:2183 *My* 20 '22

Great Britain's surplus of over £100,000,000. *Comm & Fin Chr* 116:1476 *Ap* 7 '23

National economy in Great Britain. A. Comstock. *Annalist* 21:286 *F* 19 '23

National economy in Great Britain. A. de Lavergne. *Annalist* 22:507+ *O* 15 '23

When England lost investment leadership to us. J. Oakwood. *Annalist* 19:413+ *Ap* 10 '22

See also *Budget—Great Britain; Debts, Public—Great Britain*

Hungary

Hungary's currency holiday. A. Comstock. *Annalist* 19:441 *Ap* 17 '22

India

India's new fiscal policy. *Annalist* 22:337+ *S* 10 '23

Money, banking and exchange in India. H. S. Jevons. 330p Government central press, Simla, India '22

Indo China

What is wrong with Indo-China's monetary system? W. Oualid. *Annalist* 22:371+ *S* 17 '23

Italy

Financial and economic policy of Italy. *Annalist* 22:328+ *S* 10 '23

Financial problems of Italy met courageously. J. Moritzen. *Annalist* 19:273 *F* 27 '22

Italian government finances. H. C. MacLean. *U S Bur For & Dom Com Trade Information Bul* 130:1-15 '23

Japan

Japan's financial relations with the United States. G. Odate. (Studies in history, economics and public law, v. 98, no. 2) 136p Columbia univ., New York '22

War and armament loans of Japan. U. Kobayashi. 221p Oxford '22

Mexico

Mexico's lesson for Germany; how she put gold in place of depreciated paper. C. W. Van Law. *Annalist* 22:470+ *O* 8 '23

See also *Debts, Public—Mexico*

Poland

Public finance of Poland. E. D. Durand. *U S Bur For & Dom Com Trade Information Bul* 32:1-18 '22

Russia

New financial policies of Russia. A. Comstock. *Annalist* 19:485 *My* 1 '22

Russia's new money plan. *Comm & Fin Chr* 116:671-2 *F* 17 '23

South America

Financial economies needed in Latin America. R. J. Burgess. *Eng & Min J* 113:805-6 *My* 13 '22

Sweden

Sweden, an example of sound financing. *Annalist* 22:81+ *Jl* 16 '23

Switzerland

Fluctuations of the Swiss franc. *Annalist* 22:6+ *Jl* 2 '23

United States

Analysis of government expenses for 1922. *Eng & Contr* 57:534 *Je* 7 '22

Balance of international payments of the United States in 1922. *U S Bur For & Dom Com Trade Information Bul* 144:1-25 '23

Business and financial conditions in the United States. *Dom Eng* 97:410-12 *N* 26 '21

Continued progress of business recovery. N. R. Whitney. *Iron Age* 109:1417-21+ *My* 25 '22

Economic research bureau shows nation's income. *Am Mach* 55:906f *D* 1 '21

Financial history of the United States. D. R. Dewey. 8th ed. 567p Longmans '22

Financial situation. H. P. Willis. See monthly numbers of Administration

Financing the government. J. H. Case. *Comm & Fin Chr* 115:1997-8 *N* 4 '22

Government financing. G. B. Winston. *Comm & Fin Chr* 117:1938-9 *N* 3 '23

New figures on the government deficit. *Comm & Fin Chr* 116:451 *F* 3 '23

Finance—United States—Continued

- Refunding operations. A. W. Mellon. Comm & Fin Chr 115:1634-5 O 14 '22
- Report to U.S. stockholders. S. P. Gilbert, jr. Nation's Business 10:14-15 O '22; Same. Comm & Fin Chr 115:1585-7 O 7 '22
- Secretary of treasury Mellon lowers 1922 estimate of deficit and increases that for 1923. Comm & Fin Chr 114:1964-5 My 6 '22
- Stock of money in the country. Comm & Fin Chr 117:1408-9 S 29 '23 [Continued monthly]
- Treasury deficit for the fiscal year 1923. Comm & Fin Chr 114:1706 Ap 22 '22
- Treasury surplus of \$314,000,000 in year just ended; deficit for coming year. Comm & Fin Chr 115:257-8 Jl 15 '22
- Treasury's current problem—figures as to debt retirement. S. P. Gilbert, jr. Comm & Fin Chr 114:251-2 Ja 21 '22
- United States debt and the congressional acts authorizing it. Comm & Fin Chr 114:9-10+ sec 2 Je 24 '22
- Where the money goes; how Uncle Sam will spend his income for 1922. diag Sci Am 126:297 My '22

See also Banks and banking—United States; Budget—United States; Income tax—United States; Tariff—United States; Taxation—United States; United States—Appropriations and expenditures

Finance, Domestic. See Domestic finance**Finance, International**

- Allied experts' proposals for restoration of Europe. Comm & Fin Chr 114:1607, 1715 Ap 15-22 '22
- America and world finance. J: H. Williams. 40p American bankers assn., 5 Nassau st., New York '23
- England's come-back in international finance. J: Oakwood. Annalist 19:463+ Ap 24 '22
- International finance and its reorganization. E. M. Friedman. 702p [bibliog. 15p] Dutton '22
- Senator Borah's proposal for world economic conference—views of Senator Lodge, Smoot & C. Comm & Fin Chr 115:2845, 2846-8 D 30 '22
- Sounder foreign financing situation. J: Oakwood. Annalist 18:609 D 26 '21
- United States has contributed \$21,751,000,000 to finance outside world. D. R. Crissinger. Comm & Fin Chr 115:1262-4 S 16 '22
- When England lost investment leadership to us. J: Oakwood. Annalist 19:413+ Ap 10 '22
- See also* Balance of trade; Banks and banking, International; Credit, International; Free trade and protection; International economic conference; Loans, Foreign; Money, International

Finance, Municipal. See Municipal finance**Finance, State. See State finance****Finance companies**

- Finance company and the contractor-dealer. C. W. Fritz. J Elec 51:92-3 Ag 1 '23
- Receivable companies. A. E. Duncan. Comm & Fin Chr 117:151-5 sec 2 O 13 '23
- Why is an automobile finance company? Automotive Ind 47:919-21 N 9 '22

Financial libraries

- How a financial library aids in underwriting foreign loans. R. S. Rife. Special Lib 14:77-8 My '23

See also Business libraries

Financial library, National (proposed)

- Investment bankers association of America reviews consideration of a national financial library. Special Lib 13:184-5 D '22
- Suggestions looking to establishment of national financial library. L. Chamberlain. Comm & Fin Chr 115:1795 O 21 '22

Financial statements

- Accountant and banker. S. S. Marsh. J Account 34:20-4 Jl '22
- Analysis from the standpoint of the credit grantor and the business executive. A. Wall. Paper Tr J 76:57-60+ Je 21; 57-8+ Je 28 '23

- Business analysis for bank loans. C. E. Woods. Administration 2:734-8 D '21
- Chart to take to the bank. A. R. Burnet. Administration 2:591-3 N '21
- Company finances brought home to employees. C. M. Ripley. chart Management Eng 4: 153-6 Mr '23

Condition statements of brokerage houses. J: W. Roberts. Annalist 20:150 Ag 14 '22

Essentials of a report on an industrial. E. J. Bayle. Management Eng 2:219-20 Ap '22

Psychology of a good statement. N. Hutchings. Administration 3:207-8 F '22

Ratios and the statement. Paper Tr J 77: 49-52 N 8 '23

Use of a daily statement by the advertising agent. F. Y. Keeler. Ptr Ink 117:25-6 D 29 '21

See also Balance sheets; Consolidated statements

Financiers. See Capitalists and financiers

Finger prints

- Chamber of commerce of New York approves proposal for fingerprinting of aliens and citizens. Comm & Fin Chr 115:1690-1 O 14 '22
- Finger-prints via radio. il Sci Am 127:386 D '22
- New instrument facilitates finger-print study. il Pop Mech 39:174 F '23

Finland

See also Architecture—Finland; Cement industry—Finland; Cooperation—Finland; Copper mines and mining—Finland; Cost of living—Finland; Electric industries—Finland; Finance—Finland; Housing—Finland; Labor and laboring classes—Finland; Labor laws and legislation—Finland; Mines and mineral resources—Finland; Paper industry and trade—Finland; Street railroads—Finland; Trade unions—Finland

Economic conditions

- Economic position of Finland. C. C. Latour. Annalist 20:79+ Jl 24 '22

Fire

See Douglas fir

Fire

See Combustion; Fires; Fuel; Heating; Smoke

Fire alarms

- Development of local alarm services. Safety Eng 45:21-2 Ja '23
- Fire alarm signals for industrial plants must be reliable and audible. il Safety Eng 44:132 S '22
- Fire detecting wire automatic alarm system. il Marine Eng 27:769 D '22
- Modern fire-alarm system for New York. il Pop Mech 38:570-2 O '22
- New business for the electrical contractor in fire alarm systems. E. R. Murray. diag J Elec 48:17-18 Ja 1 '22
- New fire alarm operated by smoke. Sci Am 125A:137 D '21
- Operation of fire alarm systems. J. E. Housley. il diag Ind Eng 80:382-3+ Ag '22
- Several important developments made in fire alarm systems. il Safety Eng 43:190-1 My '22

Fire apparatus

- Aerial ladder for fire service. il Engineering 115:200-1 F 16 '23
- Fire prevention in industry; modern methods and appliances. Eng & Ind Management 7:563+ Je 29 '22
- Pacific electric standardizes fire-fighting apparatus. C. A. Elliott. il Elec Ry J 60:287 Ag 26 '22
- Sheet of water protects fire fighters. il Pop Mech 40:28 Jl '23

See also Fire boats; Fire engines; Fire extinguishers; Fire hose; Sprinkling systems

Fire apparatus, Motor

- Electric fire truck has four-wheel drive. il Pop Mech 38:493 O '22
- Electrically-driven fire-fighting apparatus. E. K. Scott. Elec R (Lond) 89:849-50 D 23 '21

Fire apparatus, Motor—Continued

- Motor truck vs. horses in fire fighting. *il Sci Am* 126:273 Ap '22
 Motorized fire apparatus important aid in fire fighting work. *il Safety Eng* 43:182-4 My '22
 New French fire engine has sedan body and four-wheel brakes. *il Automotive Ind* 49:274-5 Ag 9 '23; Discussion. 49:1114-15 N 29 '23

Fire boats

- Fire and salvage boat for Rangoon. *il Engineer* 135:75 Ja 19 '23
 Fireboat John Purroy Mitchel. I. C. G. Cooper. *il diag plans Marine Eng* 27:229-31 Ap '22
 Last word in fire-fighting boats. *il Sci Am* 127:387 D '22
 1,650 horsepower gasoline fire boat. A. D. Stevens. *Marine Eng* 27:777 D '22
 Powerful steam fire and salvage boat. *il Sci Am* 128:251 Ap '23
 Testing the new pumping equipment of the New York city fireboat Thomas Willett. *il Marine Eng* 27:573 S '22

Fire brick

- Boiler-furnace design. E. B. Ricketts. *diags plan Mech Eng* 45:299-302 My '23; Same. *Power Pl Eng* 27:465-70 My 1 '23; Same cond. *Power* 57:613-15 Ap 17 '23; Discussion. *Mech Eng* 45:303-4 My '23; *Power Pl Eng* 27:451-2 Ap 15 '23
 Bricks for malleable furnaces. H. G. Schurecht. *diag Foundry* 50:707-10 S 1 '22
 Brickwork; use of arches and elbows for perfecting combustion conditions. Z. Kogan. *diags Power Pl Eng* 26:1090-3 N 15 '22
 Carborundum brick. M. F. Peters. *diags Am Cer Soc J* 5 pt 1:181-208 Ap '22
 Care fire brick should receive. J. E. Noble. *Refrig W* 58:30 F '23
 Disintegration of blast furnace linings. P. O. Menke. *Blast F & Steel Pl* 10:116-18 F '22; Same. *Iron Age* 109:528-9 F 23 '22; Same. *Iron Tr R* 70:1409-10 My 18 '22; Discussion. R. M. Howe. *Blast F & Steel Pl* 10:161-3 Mr '22
 Disintegration of refractory brick by carbon monoxide. B. M. O'Harra and W. J. Darby. *il diag Am Cer Soc J* 6:904-12 Ag '23
 Fire brick materials of Pennsylvania. G. H. Ashley. *Am Cer Soc J* 6:837-49 Jl '23; Discussion. (Bul) 6:304-5 S '23
 Firebrick problems; abstract with discussion. K. Seaver. *Power* 57:192-3 Ja 30 '23
 Firebrick troubles—causes and remedies. *il Power* 55:78-9 Ja 10 '22
 Fire-clay refractories. R. M. Howe. *Am Cer Soc J* 6:275-7 Ja '23
 Furnace settings and refractory cements. F. J. Wakem. *Ind & Eng Chem* 15:893-4 S '23
 Heat transmission, with special reference to the stoker fired boiler. R. M. Howe and S. M. Phelps. *Am Cer Soc J* 5:420-3; Discussion. 423-9 Jl '22
 Improved method of utilizing old firebrick. J. A. Faulkner. *il Power* 57:754-6 My 15 '23; Excerpt. *Chem & Met Eng* 29:22 Jl 2 '23
 Ladle brick. D. A. Moulton. *il Am Cer Soc J* 5:823-5 N '22
 Maphite—new treatment for firebrick. *il Power* 57:30 Ja 2 '23
 New boiler coating material gives good results. *il Power Pl Eng* 27:252 F 15 '23
 Pulverizing firebrick to line furnace walls. *diag Power* 57:256 F 13 '23
 Refractory linings for cement kilns. *il Brick & Clay Rec* 59:813-14 N 29 '21
 Requirements of fire brick suited to malleable practice. H. A. Schwartz and A. F. Gorton. *Am Cer Soc J* 6:1094-7 O '23
 Solving furnace lining problems. C. E. Nesbitt and M. L. Bell. *il diag Iron Tr R* 72:1603-7 My 31 '23; Same cond. *Iron Age* 111:1557-9, 1640-2 My 31-Je 7 '23; Abstract. *Brick & Clay Rec* 62:1042-3 Je 12 '23
 Value of uniform fire brick from the standpoint of the consumer. R. F. Harrington. *Am Cer Soc J* 6:1193-5 N '23
 What is the specific heat, the conductivity, the coefficient of radiation of fire brick. *Gas Age* 49:213-14 F 18 '22

Where refractory bricks go. *Iron Age* 112:402 Ag 16 '23

See also Refractory materials; Silica brick

Classification

Service classification of fire brick. *Am Cer Soc J* (Bul) 6:263-8 Ag '23

Manufacture

- Co-operation of the engineer and chemist in the control of plants and processes. G. M. Gill. *diags Engineering* 113:57-9 Ja 13 '22; Same cond. *Engineer* 133:52 Ja 13 '22; Discussion. *Engineering* 113:51-3 Ja 13 '22; *Engineer* 133:37-8 Ja 13 '22
 Fire-clay refractories for the steel industry. C. L. T. Edwards. *Blast F & Steel Pl* 11:100-2 Ja '23
 Investigations on kiln burning. R. M. Campbell. *Am Cer Soc J* 6:886-90 Ag '23
 Making stiff mud fire brick. A. D. Cochran. *il Brick & Clay Rec* 62:852-5 My 15 '23
 Manufacture of fireclay refractories. A. G. Wikoff. *il plan Chem & Met Eng* 27:505-9 S 6 '22
 Preliminary report of the committee on fuel conservation on the railroad tunnel kiln. *Am Cer Soc J* 5:602-17 S '22
 Producer gas for burning refractories. W. D. Richardson. *Am Cer Soc J* 6:799-807 Jl '23
 Refractories for air furnaces. C. E. Bales. *il Foundry* 51:112-16 F 1 '23

See also Silica brick

Testing

- Effect of weather upon the strength of refractory brick. R. M. Howe, S. M. Phelps and R. F. Ferguson. *il Am Cer Soc J* 5:107-11 F '22
 Resistance tests on fire bricks under loads at high temperatures. E. Sieurin and F. Carlsson. *Am Cer Soc J* 5 pt 1:170-80 Ap '22
 Standard refractory tests. J. A. Mohr. *Iron Tr R* 69:1550 D 15 '21
 Tentative method of test for resistance of fire-clay brick to spalling action. *Am Soc T M Pro* 21:577-8 '21
 Unfired refractory brick; abstract. P. Schneider. *Am Cer Soc J* 4:861-2 O '21

Fire clay

- Calcining of clays; discussion. *Am Cer Soc J* (Bul) 6:20-5 Mr '23
 Causes of bulges on struck-off fire clay shapes; discussion. *Am Cer Soc J* (Bul) 6:119-21 My '23
 Effect of impurities in fire clays. C. E. Bales. *Brick & Clay Rec* 59:723-5 N 15 '21
 Effect of time and temperature upon the chlorination of flint fire clay. H. F. Kriege. *Am Cer Soc J* 6:850-3 Jl '23
 Fire brick materials of Pennsylvania. G. H. Ashley. *Am Cer Soc J* 6:837-49 Jl '23; Discussion. (Bul) 6:304-5 S '23
 Fire clays of the eastern coalfield of Kentucky. H. Ries. *il Am Cer Soc J* 5:397-408 Jl '22
 Fireclay refractories. A. G. Wikoff. *il Chem & Met Eng* 27:969-71 N 15 '22
 Investigation concerning the influence of the alkalies and alkaline earths on the fusion temperatures of the different types of refractory clays. A. S. Watts. *Am Cer Soc J* 6:1150-2 N '23
 Refractory clays of Illinois. C. W. Parmelee. *Am Cer Soc J* 5:685-92 O '22
 Refractory clays of Texas. J. H. Kruson. *il Am Cer Soc J* 5:643-5 S '22
 Refractory clays of the Alberhill, California deposits. E. M. Burchfiel. *il Am Cer Soc J* 6:1167-75 N '23
 Refractory possibilities of some Georgia clays. R. T. Stull and G. A. Bole. *il Am Cer Soc J* 6:663-73 My '23
 Some changes taking place in the (low temperature) burning of Stourbridge fireclays. C. E. Moore. *Engineering* 114:456-7 O 13 '22
 Suitability of the tunnel kiln for burning refractories. A. F. Greaves-Walker and S. M. Kier. *Am Cer Soc J* 6:891-5 Ag '23

See also Fire brick

Fire clay—Continued**Testing**

Simplified method of determining the dry volume of clay briquettes. J. L. Crawford. Am Cer Soc J 5:394-6; Discussion. 396 JI '22

Fire damp. See Firedamp**Fire doors**

Adequate fire doors provide protection against the spread of fire. il plan Safety Eng 43: 192-3 My '22

Automatic heat-closing fire door. J: A. Collins, jr. il Textile World 61:2723+ My 6 '22

Fire drills

Fire drill instructions. Am Gas J 116:483-4+ My 27 '22

Using the shop bridge for a theoretical fire. il Management Eng 2:36 Ja '22

Fire engines

Dennis hand-drawn motor fire-engine. il Engineer 134:57 JI 21 '22

Giant fire engine feeds many pipe lines. il Pop Mech 40:594 O '23

Pump that converts any automobile into a fire engine. il Sci Am 127:161 S '22

Fire extinction

Apparatus men load out heated material from a mine fire in a cooling current of oxygen-depleted air. C. A. Allen and A. C. Watts. il Coal Age 21:479-83 Mr 23 '22

Can mine fires be successfully fought by the aid of cooled boiler gases? J. J. Walsh. diags Coal Age 21:328-9 F 23 '22

Carbon dioxide succeeds in fighting Bitner mine fire when the flooding of the workings fails. C: L. Jones. il plan Coal Age 24:3-10, 132-4 JI 5, 26 '23

Experience with fire-fighting equipment for generators. Power 58:198 JI 31 '23

Extinguishing burning oils and greases. E. O'Connor. Pop Mech 39:798-9 My '23

Extinguishing fires through ventilating systems. Sci Am 127:89 Ag '22

Extinguishing generator fires with CO₂. T. H. Soren. il diag Elec W 80:1089-91 N 18 '22

Extinguishing generator fires with CO₂. J. B. Wheeler. il diags Elec W 80:165-7 JI 22 '22

Extinguishing lumber fire with cement. D. Throughton. Concrete 20:244 Je '22

Extinguishing textile mill fires. J: A. Collins, jr. Textile World 61:69+, 1407+ Ja 7, Mr 4 '22

Fire hazards and fire extinction. J. S. S. Brame. Inst Pet Tech J 9:111-23 Ap '23

Fireman's aid. E. W. Williams. 307p Press of Perry & Elliott co., Boston, Lynn '22

Fires in steeply pitching Southern anthracite beds are fought with silt and water and by sealing. J. B. Warriner. diags plan Coal Age 21:645-7 Ap 20 '22

Flooding with silt is extinguishing fire. Coal Age 21:490-1 Mr 23 '22

Heat from steam pipe of pump ignites coal in slope at Springhill, Nova Scotia; how fire is extinguished. J. C. Nicholson. Coal Age 20:711-13 N 3 '21

How one of the fiercest fires in history of Mexico was extinguished. il Nat Pet N 14: 65+ Ja 18 '22

Method of extinguishing oil fires. Eng & Contr 57:310 Mr 29 '22

Mine fires and hydraulic filling; abstract. H. J. Rahilly. Min & Met 182:41-2 F '22

New method for extinguishing oil fires by solid sheet of water directly above surface. C: W. Geiger. il Power Pl Eng 27:692-3 JI 1 '23

Putting out oil tank fires with water. il Sci Am 129:103 Ag '23

Should high pressure and small volumes be used in underground fire fighting and how? B. F. Tillson. diags Coal Age 23:595-600 Ap 12 '23

See also Fire apparatus; Fire boats; Fire engines; Fire extinguishers; Fire service (water supply); Hydrants; Sprinkling systems

Fire extinguishers

Carbon tetrachloride in fire extinguishers. Chem Age 30:324, 351-2 JI-Ag '22

Experience with carbon-tetrachloride fire extinguishers. H. J. Burton. Elec W 79:189 Ja 28 '22

Extinguishing textile mill fires. J: A. Collins, jr. il Textile World 61:1407+ Mr 4 '22

Fire extinguisher from waste pulp liquor. Chem Age 30:516 N '22

Fire-extinguishing liquid specifications. Elec W 81:107 Ja 13 '23

Fire-extinguishing pistol. il Sci Am 127:327 N '22

Fire extinguishment; some suggestions by the National safety council. Am Gas J 116:532-3 Je 10 '22

Liquid extinguishers effective for quenching generator fires. il Elec W 79:585 Mr 25 '22

N.Y. transit commission vindicates pyrene. Safety Eng 44:54 Ag '22

Use of chemical extinguishers increasing in the fight against fire. A. F. Hutchinson. Safety Eng 43:188-9+ My '22

Fire hose

How increases in diameter of fire hose reduces the friction loss. E: A. Barrier. Safety Eng 44:174 O '22

Specifications

Report of committee D-11 of A.S.T.M. on rubber products. Am Soc T M Pro 21:412-13, 419-22 '21

Standard specifications for cotton rubber-lined fire hose. U S Bur Stand Circ 114:1-10 '21

Tentative specifications for cotton rubber-lined fire hose for private fire department. Am Soc T M Pro 21:733-7; 22 pt 1:494-6 '21-'22

Tentative specifications for cotton rubber-lined fire hose for public fire department use. Am Soc T M Pro 21:778-83 '21

Fire houses

Central fire alarm station, Detroit, Mich. Am Arch 121:254g-h Mr 29 '22

Modern homes for fire apparatus needed in many towns. il plans Bldg Age 45:46 Ja '23

Town hall and fire house; excellent type of building for housing various municipal departments. il plans Bldg Age 43:44-5 D '21

Fire insurance. See Insurance, Fire**Fire protection**

Accident and fire prevention. F. W. Fisher. Am Gas J 117:228-32+ S 9 '22; Same abr. Gas Age 50:325-6+ S 9 '22

Christmas fire hazard. P. Bugbee. il N E L A Bul 8:746-8 D '21

Co-operation between the Philadelphia electric company and the Philadelphia fire department. C. D. Buchholz. il N E L A Bul 8:748-9 D '21

Data on fire and accident prevention requirements. C. S. Taylor. il Arch Forum 39:149-51 S '23

Diminishing the many hazards of fire in tall office buildings. C: E. Worthington. Safety Eng 43:185-7+ My '22

Engineer's relation to the fire waste problem. E. P. Heaton. Can Eng 45:215-16 Ag 7 '23

Exposure fire hazards and protection in the Burlington building fire. Eng N 88:538 Mr 30 '22

Field practice, 2d ed. 206p National fire protection association, Boston '22

Fighting a fire before it starts. H. C. Brearley. Am Ind 23:22-3+ JI '23

Fighting fires before they start. il Factory 31:457-9 O '23

Fire hazards at quenching tanks. Chem & Met Eng 26:1220 Je 28 '22

Fire hazards in plants using pulverized coal. L. D. Tracy. Blast F & Steel Pl 10:395-9 JI '22; Same abr. Coal Age 22:164-8 Ag 3 '22; Abstract. Power 55:1030-1 Je 27 '22

Fire hazards of emergency heating. Heat & Ven 20:57 Ja '23

Fire loss involving heating and cooking cost Bay state million in 1920. J: S. Caldwell. il Safety Eng 44:86-9 Ag '22

Fire prevention a patriotic duty. H. S. Welton. Can Eng 42:606-7 Je 13 '22

Fire protection—Continued

Fire prevention and fire protection in relation to the public water supply. F. C. Jordan. Am Water Works Assn J 9:731-40 S '22; Same. Can Eng 42:552-4 My 30 '22; Discussion. Am Water Works Assn J 9:740-2 S '22

Fire prevention and protection for industrial buildings. C. S. Taylor. Arch Forum 39: 105-8 S '23

Fire prevention in timber floors of highway bridges. diag Eng N 89:796-7 N 9 '22; Same. Can Eng 43:624-5 D 12 '22; Same. Eng & Contr (R & S) 58:178-81 D 6 '22; Same. Good Roads 64:20-1 Ja 10 '23; Same cond. Pub Works 53:228-9 N '22

Fire prevention methods. A. W. McQueen. Can Eng 45:103-5 J1 3 '23

Fire prevention week near. R. S. Moulton. il Am Ind 23:21-2 S '22

Fire protection and sprinkling system for lawn and garden for a country estate. E. Cunningham. diags Dom Eng 98:393-4 Mr 4 '22

Fire protection for buildings of small and medium size. C. L. Hubbard. il diags Bldg Age 45:60-2 Je '23

Fire protection in foundries and steel plants. J. M. Woltz. Safety Eng 46:194-7 O '23; Same cond. Iron Age 112:1255-6 N 8 '23

Fire protection in relation to safety. S. J. Williams. Am Gas J 116:135-7 F 11 '22

Fire risks in dye and print works. Textile World 62:749+ Ag 5 '22

5 factory fire hazards I face most often. Factory 29:388-9+ O '22

\$5,000,000 valuation records of C., B. & Q. railroad destroyed in fire, yet less would replace building. Safety Eng 43:244+ Je '22

How Chicago observed fire prevention week. Safety Eng 44:194-5 D '22

How the manufacturers of Albany prevent fires. B. Bigelow. Factory 30:212+ F '23

Industrial fire hazard. M. C. W. Tomlinson. Management Eng 2:357-61 Je '22

Modern fire prevention pays. R. S. Moulton. Am Ind 24:30-2 O '23

New data on fire safety from the Burlington building fire. A. R. Small. Eng N 89:113-14 J1 20 '22

Preventing the spread of fires. J. A. Collins, jr. Textile World 61:1947+ Ap 1 '22

Prevention of textile mill fires. J. A. Collins, jr. Textile World 61:3523+ Je 10 '22

Protecting industrial records against fire. R. S. Moulton. Management Eng 2:361-3 Je '22

Protection of historic public buildings. il diags plan Arch & Bldg 54:13-15+ F '22

Protection of records against fire. H. P. Weaver. Am Ind 24:27-9 O '23

Raising fire protection rating in mills. Textile World 62:3186+ D 2 '22

Rational method of measuring the results of the fight against fire. C. E. Worthington. Safety Eng 43:94-6 Mr '22

Reducing the fire risk in river front structures; lessons of the fire at government wharf, New Orleans, La. A. M. Shaw. diags plan Eng & Contr (Bldgs) 58:96-102 N 22 '22

Solvent recovery from the fire hazard standpoint. W. D. Milne. Chem Age 31:201-5 My '23

Some methods of fire prevention. T. S. Glover. Can Eng 42:564-5 My 30 '22

Specific things we did to reduce fire insurance costs. Factory 29:390+ O '22

Survey on fire prevention and insurance. Safety Eng 44:190-2 D '22

Value of drainage and separated feeders demonstrated during fire. Elec W 79:736-7 Ap 15 '22

Wharhouse at New Orleans army base destroyed by fire. A. M. Shaw. il diags Eng N 89:555-7 O 5 '22

What are you going to do about it? W. E. Mallalieu. Safety Eng 45:96-9 Ap '23

Window protection recognized as a serious fire problem. Eng N 88:834-5 My 18 '22

See also Aviation landing stations—Fire protection; Bridges—Fire protection; Exits; Factory fire brigades; Fire apparatus; Fire boats; Fire doors; Fire drills; Fire engines; Fire extinction; Fire extinguishers; Fire re-

sisting materials; Fire service (water supply); Fireproof construction; Fireproofing; Forest fire patrol; Forest fires; Gas, Natural—Fires and fire protection; Gasoline handling; Gasoline service stations—Fire protection; Hydrants; Mine fires; Oil burning equipment—Fire protection; Oil tanks—Fire protection; Railroads—Fires and fire protection; Ships—Fires and fire protection; Sprinkling systems; Theaters—Fires and fire protection; Underwriters' laboratories; also New Jersey—Industrial safety museum; Railway fire protection association

Laws and regulations

Fire loss—how shall we cut it down? C. E. Worthington. Safety Eng 44:126-7+ S '22

Legal view of fire protection. Eng N 89:519 S 28 '22

See also Oil industries—Fire regulations

Study and teaching

Course of study in fire prevention for Oregon schools, 1921. 30p Oregon Dept. of education, Salem '21

Fire pumps. See Pumps

Fire resisting materials

Effect of chemicals on the ignition temperature of wood. W. O. Banfield and W. S. Peck. il Can Chem & Met 6:172-6 Ag '22

Effect of grog additions on fire resistance of hollow tile. H. D. Foster. il Am Cer Soc J 6:748-52 Je '23

Factors affecting fire resistance of building columns. S. H. Ingberg. Eng N 88: 1088-90 Je 29 '22

Fire resistance of building columns. S. H. Ingberg. Eng & Contr (Bldgs) 59:941-6 Ap 25 '23; Same. Can Eng 45:171-4 J1 24 '23

See also Asbestos; Concrete construction—Fire resistance; Fire brick; Fire clay; Fireproof construction; Refractory materials; Silica brick; Wire glass

Testing

Fire test of building by U.S. Bureau of standards. Eng & Contr (Bldgs) 58:114 D 27 '22

Fire test turns office into oven. il Pop Mech 40:63 J1 '23

Fire tests favorable to cinder concrete block. il Eng N 89:694 O 26 '22

Fire tests of brick walls. Am Arch 121:113-14 F 1 '22

Fire tests of brick walls. il diag Am Arch 124:307-14, 355-62 S 26-O 10 '23; Abstract. Brick & Clay Rec 63:617-19 O 30 '23

Fire tests of loaded timber columns. T. F. Laist. Ry R 70:653-5 My 6 '22; Same. Eng & Contr 58:188-9 Ag 23 '22; Same abr. Can Eng 43:438-9 O 10 '22

Fire tests of new post cap for mill construction. G. B. Muldaur. il diags Eng N 87: 972-3 D 15 '21

Fire tests of various roofings. il Sheet Metal Worker 14:709-10, 711 O 12 '23

Fire tests on gunite walls. Can Eng 43:236-7 Ag 8 '22; Same cond. Concrete 21:106 O '22; Excerpts. Eng & Contr 58:292 S 27 '22; Am Inst Arch J 10:xv S '22

Intensity and duration of fires tested. il Safety Eng 45:131-3 My '23

Proving metal roofing by fire test. il Sheet Metal Worker 13:828-9+ Ja 5 '23

Underwriters' laboratories standard fire tests of roof coverings. C. H. Pierson. Safety Eng 46:11-13 J1 '23

Fire service (water supply)

Boston high pressure fire system and general problem of special fire service. F. A. McInnes. N E Water Works Assn J 36:483-94 D '22

Coordination of water and fire departments' related activities. C. Goldsmith. Am Water Works Assn J 9:595-600 J1 '22; Same. Eng & Contr (W W) 58:80-2 N 8 '22; Same abr. Can Eng 44:277-8 F 27 '23; Discussion. Am Water Works Assn J 9:600-2 J1 '22

Effect of long suction line on pump performance. W. A. Schmidheiser. Power Pl Eng 26:309-10 Mr 15 '22

Extinguishing textile mill fires. J. A. Collins, jr. Textile World 61:69+ Ja 7 '22

Fire service (water supply)—Continued

- Fire-fighting ability of Chicago summarized with recommendations. Eng N 89:1125 D 28 '22
- Fire pressure. C: R. Henderson. Am Water Works Assn J 9:582-3 Jl '22
- Fire prevention and fire protection in relation to water supply. F. C. Jordan. Eng N 88: 913 Je 1 '22
- Fire protection for the city of Chicago. C. Goldsmith. W Soc E J 28:138-41 Ap '23
- Fire service as it relates to water supply. D. R. Gwinn. Munic Eng 62:148-4 Ap '22
- General requirements of the National board of fire underwriters in regard to water works. R. E. Andrews. Am Water Works Assn J 9:117-24 Ja '22; Same. Eng & Contr 57:141-3 F 8 '22
- High pressure fire system of Boston. F. A. McInnes. Eng & Contr (W W) 58:39-42 O 11 '22; Excerpts. Eng N 89:479-80 S 21 '22
- High pressure systems from the underwriters' viewpoint. G. W. Booth. Eng & Contr (W W) 58:37-9 O 11 '22; Same. Can Eng 43:sup53+ N 14 '22; Same. N E Water Works Assn J 36:495-9; Discussion. 499-516 D '22
- Private fire protection charges and metering of sprinkler system. J: Simpson. Pub Works 54:163-5 My '23
- Proper charges for fire protection. H: L. Gray. Eng & Contr 57:134-6 F 8 '22
- Re-pumping vs. higher pressures in water systems for extinguishing fires. J. A. Jensen. Can Eng 44:534-6 My 29 '23; Same. Eng & Contr (W W) 60:526-9 S 12 '23
- Right method of paying for water for fire protection. C. M. Saville. Eng N 90:872-4 My 17 '23
- Use and discard of auxiliary fire protection from a polluted source. C. M. Saville. N E Water Works Assn J 36:392-405 S '22; Same cond. Can Eng 43:408-9 O 3 '22; Discussion. N E Water Works Assn J 36:406-23 S '22
- Water works superintendents and fire fighting. W. T. Cates. Pub Works 54:21 Ja '23

See also Hydrants

Fire stations. See Fire houses**Fire walls**

- Design of oil tank fire walls. F. W. Bab-bitt. diags Eng N 90:1132-3 Je 28 '23

See also Fire doors

Firearms

- Corrosion under oil films, with special reference to the cause and prevention of the after-corrosion of firearms. W. J. Huff. il U S Bur Mines Tech Pa 188:1-26 '22
- See also Machine guns; Pistols; Projectiles; Rifles; also Marlin firearms corporation

Manufacture

- Polishing firearm parts. B. H. Divine. il Mach 30:141-5 O '23

Sights

- Both-eyes-open sight. il Sci Am 126:341-2 My '22
- Ivory sights on guns for use in dark. Pop Mech 40:236 Ag '23
- Some unique operations in the manufacture of gunsights. il diag Am Mach 57:281-6 Ag 24 '22

Firedamp

- Les conditions d'inflammation du grisou. Génie Civil 81:572-3 D 16 '22
- Les gaz rares des gaz naturels. C: Moureu. Chem Soc J 123:1925-37 Ag '23
- Tube guards against marsh-gas explosions. il Pop Mech 39:282 F '23

Fireflies

- Fire-fly as an illuminant. H. E. Ives. bibliog il diags J Fr Inst 194:213-30 Ag '22

Firemen

- Central-station drills train firemen. il Pop Mech 38:658-9 N '22

Fireplaces

- Chimneys and fireplaces; how to build them. A. M. Daniels. diags plan U S Agric Farmers' Bul 1230:1-28 '21
- Modern fireplace and some of its problems. A. Dehli. diags Arch Rec 52:352-6 O '22

- Proper construction and use of open fire places. diags Heat & Ven 18:47-8 N '21
- Some essentials of fireplace construction. il diag Am Arch 122:131-4 Ag 16 '22
- Tuscan lavabos and fireplaces; views and drawings. H. D. Eberlein and R. B. C. M. Carrère. Arch Rec 51:413-25 My '22

Fireproof construction

- Building conditions where fire-resistive construction had a fresh start. Safety Eng 43: 156-7 Ap '22
- Building construction as applied to fire insurance. C: C. Dominge and W. O. Lincoln. 85p Spectator co., New York, Chicago '22
- Effects of fire on fireproof buildings. C: E. Fox. W Soc E J 27:255-66 S '22
- Fire prevention and fire protection as applied to building construction. J. K. Freitag. 2d ed., rev. 1038p Wiley '21
- Fire proof building fallacy; as illustrated by the recent Chicago fire. P. Bugbee. il Ind Management 64:15-17 Jl '22
- Fireproof throughout—the house of the future, in which floors are the important features. diags Concrete 22:57-60 F '23
- Fireproofing old mill construction warehouse with reinforced concrete. W. H. Wheeler. il diag Concrete 20:253-4 Je '22
- Fire-safe home building. G. Canterbury. il diag Bldg Age 44:38-9 Mr '22
- How to build our homes so they won't burn. L. H. Allen. Bldg Age 45:49-50 Jl '23
- Making fire-resistive building practicable. Safety Eng 44:136 S '22
- Modern dwellings of wood. diag Am Arch 120:357-9 N 9 '21
- Outline of the requirements of the National board of fire underwriters for fireproof building construction. Am Arch 122:472 N 22 '22
- Reinforced-concrete fireproof construction applied to home building. F. J. Hueber. Am Concrete Inst Pro 18:162-6 '22
- Selection of fireproof floors. E. E. Seelye. diags Am Arch 123:159-61 F 14 '23
- Standard specifications for chimney construction. diags plan Heat & Ven 19:40-4 Ja '22
- See also Brick construction—Fire resistance; Concrete construction—Fire resistance; Concrete houses; Fire doors; Fire resisting materials; Fire walls; Steel construction

Fireproofing

- La protection contre l'incendie par l'ignifugation des tissus et des bois. A. Kling and D. Florentin. Génie Civil 80:180-3, 202-4 F 25-Mr 4 '22
- Report of committee C-5 of A.S.T.M. on fireproofing. Am Soc T M Pro 22 pt 1:254-8 '22

- Station wiring adequately protected by fireproofing liquid. S. C. Lindsay. Elec W 79: 835 Ap 29 '22

See also Airships—Fireproofing

Fireproofing of textiles

- Fire-proofing of flame-proofing of textile fabrics. M. N. Conklin. Color Tr J 11:171-3, 259-61 O, D '22
- New process makes cotton bales fireproof. il Pop Mech 37:654-5 My '22

Fires

- Ashes of homes, factories and shops—and of men, women and children burned to death. Safety Eng 43:179-80 My '22
- Berkeley conflagration. il Safety Eng 46:192-3 O '23
- Biggest conflagration, so far, in 1922; \$7,000,000 fire in Chicago. il Safety Eng 43:178 My '22
- Broad street train shed destroyed by fire. il Ry Age 74:1459-61 Je 16 '23
- Burlington offices at Chicago suffer fire damage. il Ry Age 72:785-6 Mr 25 '22
- Burning of two hundred thousand pounds of picric acid at Sparta, Wisconsin. C: E. Munroe. il J Ind & Eng Chem 14:552-4 Je '22
- Causes of fires in textile mills. J: A. Collins, jr. Textile World 60:3257+ D 3 '21
- Causes of fires that are hard to trace and how to avoid them. W. L. Wedger. Safety Eng 44:128-30+ S '22

Fires—Continued

- Fire destroys Broad st. station trainshed. Eng N 90:1059-60, 1086-7 Je 14-21 '23
- Fire does \$15,000,000 damage to Astoria, Ore. Eng N 89:1041 D 14 '22
- Fire hazards in chemical plants. Chem Age 30:181-2 Ap '22
- Fire proof building fallacy; as illustrated by the recent Chicago fire. P. Bugbee. *il Ind Management* 64:15-17 JI '22
- Fireproof office building gutted by severe exposure fire; Burlington building, Chicago. *il plan Eng* N 88:495-8 Mr 23 '22
- Fires caused by sparks and burning embers. A. C. Carruthers. *il Safety Eng* 46:1-5 JI '23
- Fires in formwork in concrete buildings. Eng N 90:1084 Je 21 '23
- Half a billion fire toll in 1921. A. C. Carruthers. *il Safety Eng* 45:31-4 F '23
- Increased number of fires in Kansas in 1921. Safety Eng 44:89 Ag '22
- Indianapolis and the wooden-shingle roof hazard. J. J. O'Brien. Safety Eng 46:101 Ag '23
- Liquified rubber fire wrecks concrete roof. A. B. MacMillan. *il diags Eng* N 88:158-61 Ja 26 '22
- Lynn lesson shows, once more, the great danger of flammable roofs. *il Safety Eng* 43:250-1 Je '22
- Many large fires occurred in Canada in 1921. Can Eng 42:208 F 7 '22
- Origins of fires and conflagrations. Am Arch 121:327 Ap 12 '22
- Power plant operates while Burlington building burns. *il diag Power Pl Eng* 26:576-8 Je 1 '22
- Reducing the fire risk in river front structures; lessons of the fire at government wharf, New Orleans, La. A. M. Shaw. *diags plan Eng & Contr (Bldgs)* 58:96-102 N 22 '22
- Report of committee on Far Rockaway fire. *il diags plans Am Concrete Inst Pro* 17:368-411 '21
- Rubbish and grass fires a summer risk. Safety Eng 44:78-9 Ag '22
- Safety from fire the leading attribute of gas as fuel. H. M. Crawford. Gas Age 52:73-4 JI 21 '23
- 76 lives lost in school house fire. *il Safety Eng* 45:182-3 Je '23
- Severe formwork fire. A. R. Lord. *il diags Am Concrete Inst Pro* 19:27-38 '23; Same. Concrete 22:113-16 Mr '23; Same, without *il Eng & Contr (Bldgs)* 59:740-2 Mr 28 '23; Discussion. Am Concrete Inst Pro 19:39-40 '23
- Smoking and matches cost U.S. \$90,271,334 in 5-year period. P. E. Walsh. Safety Eng 43:195-6 My '22
- State's neglect; fire destroys 27 lives at Manhattan state hospital for the insane. A. C. Carruthers. *il Safety Eng* 45:59-62, 83-91 Mr '23
- Static and gasoline fires. *il Sci Am* 125A:135 D '21
- Tar heater ignites wood floor through sand. Eng N 89:529 S 28 '22
- Wharfhouse at New Orleans army base destroyed by fire. A. M. Shaw. *il diags Eng* N 89:555-7 O 5 '22
- Why worry? I'm insured. W. Bishop. chart Nation's Business 11:19-20 My '23
- See also* Bridges—Fires; Concrete construction—Fire resistance; Electric fires; Fire extinction; Fire protection; Forest fires; Gas, Natural—Fires and fire protection; Mine fires; Oil fires; Railroads—Fires and fire protection; Ships—Fires and fire protection; Spontaneous combustion; Theaters—Fires and fire protection
- Fires, Electric.** *See* Electric fires
- Fires, Oil.** *See* Oil fires
- Fires at sea.** *See* Ships—Fires and fire protection
- Fireworks**
- Pyrotechnics. A. St. H. Brock. 197p [bibliog. p182-5] D. O'Connor, London '23

Firing

- Fuel economy and firing with coal or wood in steam shovel or dragline operation. Eng & Contr (Ry) 59:436-8 F 21 '23
- Fuels division of A. S. M. E. publishes revised rules for coal conservation. Heat & Vent 20:60 Ja '23
- How to care for fires over night in house-heating boilers. Dom Eng 98:322 F 18 '22
- Marion hopper-feed hand stoker. *il diag Power* 58:369 S '23
- Standard practice for hand-firing. R. June. Gas Age 48:776-8 D 10 '21
- Treatment of fuels by direct flame. F. Frank. *il diags Sci Am* 126:408 Je '22
- See also* Boilers—Firing; Boilers—Gas firing; Boilers—Oil firing; Boilers—Pulverized coal firing; Boilers—Wood firing; Combustion; Draft; Fuel; Furnaces; Kilns—Firing; Stokers, Mechanical
- First aid in illness and injury**
- Advantages of an ambulance class. E. N. Simons. Ind Management (Lond) 10:179-80 O 4 '23
- First aid. 32p U. S. Surgeon-general's office, Washington '22
- First aid directions for sickness and accident cases. Am Gas Assn General Sessions sec v 4:231-58 '22
- First aid on Chicago elevated railroads. B. I. Budd. *il Elec Ry J* 59:364-5 Mr 4 '22; Same. Aera 10:675-7 Mr '22
- First-aid service and plant dispensary keep serious cases at low figure. M. N. Johnson. *il Safety Eng* 44:46-7 Ag '22
- Importance of first aid in gas plant. F. M. Rosseland. Am Gas J 116:227-8 Mr 11 '22
- Manual of first-aid instruction for miners. G. H. Halberstadt. Rev ed, 221p U.S. Bur. of mines, Washington, D.C. '22
- Treatment for carbon monoxide poisoning. Power Pl Eng 26:223 F 15 '22; Pop Mech 37:552 Ap '22
- See also* Electricity, Injuries from; Mine rescue work; Respiratory apparatus; Resuscitation
- First aid kits**
- First-aid kits standardized by Malden company. *il Elec W* 82:870 O 27 '23
- Ideal first aid kit. D. H. Smith. *il Safety Eng* 45:65-7 Mr '23
- Fischer, Emil**
- Emil Fischer, sein leben und sein werk. K. Hoesch. 480p Deutsche chemische gesellschaft, Berlin und Leipzig '21
- Fisetol**
- Synthese des fisetols. A. Sonn und S. Falkenheim. Deutsche Chem Gesell Ber 55:2975-85 O '22; Abstract. Chem Soc J 122 pt 1:1163-4 D '22
- Fish, Stuyvesant, 1851-1923**
- Sketch. por Ry Age 74:955 Ap 14 '23
- Fish.** *See* Fish as food; Fishes
- Fish, Frozen**
- Brine freezing of fish. H. F. Taylor. Refrig W 57:21-4 Ja '22
- Freezing fish for future food. *il Sci Am* 126:332 My '22
- Histological changes produced in fish by freezing in air and in brine. Refrig Eng 9:105-6 S '22
- Methods of freezing fish. P. W. Petersen. Refrig Eng 9:7-9; Discussion. 9+ JI '22
- Preservation of fish by freezing. W. Stiles. Refrig Eng 9:77-8 Ag '22
- Preservation of fish frozen in chilled brine. L. H. Almy and E. Field. J Ind. & Eng Chem 14:203-6 Mr '22
- Advertising**
- Wiggle in tail sells trade-marked fish in bulk. J. M. Mosely. Ptr Ink 118:33-4 F 9 '22
- Fish as food**
- See also* Fish, Frozen
- Preservation**
- Salunol ice for fish preservation. W. E. Gibbs. Refrig W 58:16+ Ag '23

Fish bait**Advertising**

How fish stories built up a bait business.
Ptr Ink M 4:70+ Ja '22

Fish nets. See Nets**Fish oil**

Highly unsaturated fatty acids of fish oils.
J. B. Brown and G. D. Beal. Am Chem Soc
J 45:1289-1303 My '23

Machine and method for utilizing fish scrap
in making oil and meal. il Chem & Met
Eng 29:793-4 O 29 '23

Production et usages des huiles d'animaux
marins. E. André. Chimie & Ind 10:437-52
S '23

Vicissitudes of the American animal and fish
oil markets. Oil Paint & Drug Rep 101:41
Mr 28 '22

See also Menhaden oil

Fish plates. See Rail joints**Fish-scaling. See Enamel and enameling****Fish trade**

Another perishable food product finding a
way to get advertising's help. J. True. Ptr
Ink 124:41-2+ S 6 '23

Fish as food and fertilizer. il Sci Am 129:336-
7 N '23

Fish industry to consider co-operative mea-
sures. Ptr Ink 125:105-6 N 1 '23

Making fresh fish a package specialty. J. H.
Collins. Ptr Ink 121:89-90+ O 19 '22

Men and methods; Frank E. Davis. H. Croy.
System 42:423-4+ O '22

See also Fisheries

Advertising

Gloucester inaugurates joint effort to popular-
ize salt fish. J. M. Mosely. Ptr Ink 123:
121-2 My 3 '23

Gloucester takes first step toward cooperative
advertising of salt fish. J. M. Mosely. Ptr
Ink 121:119-20+ N 16 '22

Identifies the hard-to-trade-mark product;
fish goes to the consumer bearing a pin-
ticket. C. L. Armstrong. Ptr Ink 118:17-19
Mr 9 '22

See also Fish, Frozen—Advertising

Fish waste

Machine and method for utilizing fish scrap
in making oil and meal. il Chem & Met
Eng 29:793-4 O 29 '23

Fisher, O. D.

O. D. Fisher who in 12 years has built up an
annual volume of \$20,000,000. W. E. Crane.
por System 42:265-6+ S '22

Fisher body corporation

Annual report for year ended April 30, 1923.
Comm & Fin Chr 116:2781-2 Je 16 '23

Fisheries

Cold storage and the Newfoundland fisheries.
Lord Morris. Refrig W 57:23-4 Ag '22

Fishing industry. W. E. Gibbs. 135p Pitman
'22

Nationality and wages of workers in Alaskan
fishing industry. Monthly Labor R 17:653-4
S '23

Bibliography

An analytical subject bibliography of the
publications of the Bureau of fisheries; 1871-
1920. R. M. E. MacDonald. (Doc. 899) 306p
U.S. Bur. of fisheries, Washington

Selected bibliography of chemical literature
pertaining to the fish industry. (In: Cali-
fornia fish and game, Oct. '21 p.256-60) Cali-
fornia state fish and game comm., Sacra-
mento

Fishes

Clogging of screens by fish. L. Metcalf. Am
Water Works Assn J 10:595-602 Jl '23; Ex-
cerpt. Eng & Contr (W W) 60:274-6 Ag 8
'23

Modern miracles of fishes. R. P. Crawford. il
Sci Am 126:310-11 My '22

Old ocean's ungathered wealth. H. O'Malley.
il Nation's Business 10:27-9 D '22

See also Eulachan; Goldfish

Transportation

Safeguarding live fish in transit. diag Sci
Am 127:188 S '22

Fishing

Their wireless news of schools of fish. Na-
tion's Business 11:70-1 Jl '23

Fishing schooner races

From kyak to schooner; Eskimos imitate the
famous Atlantic boat race. F. Dickie. il
Pop Mech 40:61-2 Jl '23

International fisherman's deep-sea race. il Sci
Am 127:297+ N '22

Fishing tackle**Advertising**

Al Foss, advertiser who gets his customers
to write his advertisements. Ptr Ink M 4:
86+ D '21

Fitch, John

Work of Rumsey and Fitch. E. C. Smith.
Engineer 136:418-19 O 19 '23

Fits (machinery)

Allowances for shrinkage fits. A. Designer.
chart Mach 28:997-8 Ag '22

American engineering standards' committee
submits report on plain limit gages. Iron
Tr R 71:774-5 S 21 '22

Chart for calculating fit allowances. A. D.
Sanger. Am Mach 57:230-1 Ag 10 '22

Forced and shrink fits in machine construction
and repair. W. S. Standiford. Am Mach 57:
210 Ag 10 '22; Discussion. 57:560 O 12 '22

German standards for tolerances and allow-
ances in machine fits. O. R. Wikander. diags
Am Mach 59:685-9, 733-7 N 8-15 '23

Shrink fits at Watertown arsenal. F. Brauer.
diags Am Mach 58:845-6 Je 7 '23

Standardization of tolerances. Mach 28:955 Ag
'22

Standardizing tolerances and allowances in
machine fits; suggestions by the A.S.M.E.
committee on plain gages. Am Mach 57:70-1
Jl 13 '22

Fitting (machinery)

Approved methods of fitting pinions to their
shafts. H. H. Johnston. il diag Coal Age
20:761-2 N 10 '21

Expansion of waterwheel runner and coupling
electrically for fitting on shaft. G. H. Bragg.
il J Elec 48:396-7 My 15 '22

Methods of making press fits on shafts that
insure a good job. N. L. Rea. il diags Power
57:392-4 Mr 13 '23

Shrink-fitting a heavy shaft assembly. A.
T. Parsons. il Am Mach 59:810-11 N 29 '23;
Same. Mach 30:281 D '23; Same. Power Pl
Eng 27:1172-3 D 1 '23; Same cond. Power 58:
698 O 30 '23

Fiume

Fiume and Trieste. W. Littlefield. Annalist
22:391+ S 24 '23

Five- and ten-cent stores

Hours, wages, and working conditions of
women in five and ten cent stores in New
York state. Monthly Labor R 13:1303-6 D
'21

Importance of being known. R. R. Updegraff.
Ptr Ink 119:17-20 My 25 '22

Variety stores as outlets for advertised goods.
Ptr Ink 123:41-2; Bibliography. 42, 44 My 10
'23

Five-day week. See Hours of labor**Fixed nitrogen research laboratory**

Fixed nitrogen research laboratory. il Chem
Age 30:266-7 Je '22

Fixtures

Right of landlord to prevent tenant from re-
moving fixtures under lease which so pro-
vides if rent is not paid. Dom Eng 103:221-2
My 5 '23

Fixtures, Lighting. See Electric light fixtures; Lighting fixtures; Street lighting fixtures**Fixtures, Machine tool. See Machine tools—Fixtures****Fizeau effect**

Convection of light (Fizeau effect) in moving
gases. C. V. Raman and N. K. Sethi. Philos
Mag 6th ser 43:447-55, pl 6-7 Mr '22

Flag poles

- Emerson prize competition—the base of a flag staff. *il Am Arch* 124:112-13 Ag 1 '23
 Flag pole in front of the arsenal, Venice, Italy measured and drawn by Robert M. Blackall. *il diags Am Arch* 123:411-12 My 9 '23

Flags**United States**

- Newly adopted code for civilian usage of American flag. *Comm & Fin Chr* 116:2842-3 Je 23 '23
 Old Glory too long, its size is changed. *il Pop Mech* 40:193 Ag '23

Flame propagation

- Combustion of complex gaseous mixtures. W. Payman and R. V. Wheeler. *Chem Soc J* 121:363-79 Mr '22
 Combustion of complex gaseous mixtures; mixtures of carbon monoxide and hydrogen with air. W. Payman and R. V. Wheeler. *il Chem Soc J* 123:1251-9 My '23
 Flame characteristics and their influence upon combustion. C. A. French. *Automotive Ind* 44:1100-2+ My 26 '21; Same. *Automobile Eng* 12:204-6; Discussion. 206-8 JI '22
 Flame propagation. *Automotive Ind* 46:1255-6 Je 8 '22

- Limits for the propagation of flame at various temperatures in mixtures of ammonia with air and oxygen. A. G. White. *Chem Soc J* 121:1688-95 S '22
 Limits for the propagation of flame in vapour—air mixtures; mixtures of air and one vapour at the ordinary temperature and pressure. A. G. White. *Chem Soc J* 121:1244-70 JI '22

- Limits for the propagation of flame in vapour—air mixtures; mixtures of more than one vapour and air at the ordinary temperature and pressure. A. G. White. *Chem Soc J* 121:2561-77 N '22

- Molecular movements during combustion in closed systems. T. Midgley, jr. *diags Soc Auto Eng J* 10:357-61; Discussion. 362-3 My '22

- Propagation of explosion waves in gases contained in tubes of varying cross-section. C. Campbell. *il Chem Soc J* 121:2483-98 N '22

- Propagation of flame from a spark in a closed tube through a homogeneous inflammable mixture. O. C. de C. Ellis. *il Chem Soc J* 123:1435-52 Je '23

- Propagation of flame in complex gaseous mixtures. W. Payman. *Chem Soc J* 123:412-20 Mr '23

- Propagation of the explosion-wave; hydrogen and carbon monoxide mixtures. H. B. Dixon and N. S. Walls. *Chem Soc J* 123:1025-37 My '23

- Rate of detonation in complex gaseous mixtures. W. Payman and N. S. Walls. *Chem Soc J* 123:420-6 Mr '23

- Speed of the uniform movement of flame in mixtures of the paraffins with air. W. Mason. *il Chem Soc J* 123:210-14 F '23

- Flameless combustion. See Surface combustion

- Flames

- Electricity in flames. H. A. Wilson. *Am Electrochem Soc Trans v* 44 (preprint 6):51-8; Bibliography. 58-60 S '23

- See also Combustion; Gas burners; Gas lighting; Oxyacetylene flame

- Flanges

- Jig for drilling companion flanges. C. M. Schleh. *diags Mach* 28:573 Mr '22

- New flanging equipment; attachment for punch press adapted for flanging circular plates. *il Iron Age* 111:1034 Ap 12 '23

- See also Flashing; Pipe joints

- Flanging machines

- Large flanging press for boiler shop. *il Ry Mech Eng* 97:725 O '23

- Flares. See Light signals

- Flash point

- Calculation of flash points for pure organic substances. E. Mack, C. E. Boord and H. N. Barham. *diag Ind & Eng Chem* 15:963-5 S '23

- Effect of small quantities of volatile impurities on the flash point of kerosene. E. C. Craven and B. G. Banks. *Inst Pet Tech J* 8:490-8 O '22

- Further investigations into the physico-chemical significance of flash-point temperatures. W. R. Ormandy. *diags Inst Pet Tech J* 9:33-60; Discussion. 60-8 F '23

- High flash point for fuel oil is handicap for many crudes. V. H. Manning. *Nat Pet N* 14:22-3 My 31 '22

- Investigation into the physico-chemical significance of flash-point temperatures. W. R. Ormandy and E. C. Craven. *diag Inst Pet Tech J* 8:145-72 Ap '22; Abstract. *Engineering* 113:80-1 Ja 20 '22; Discussion. *Inst Pet Tech J* 8:173-80 Ap '22

- Lubrication—flash and fire tests. W. F. Osborne. *il Power* 55:259 F 14 '22

- Physico-chemical significance of flash-point temperatures. W. R. Ormandy and E. C. Craven. *Engineering* 115:51-2 Ja 12 '23

- Tentative method of test for flash and fire points by means of open cup. *diags Am Soc T M Pro* 21:651-4 '21; Same. *Nat Pet N* 13:41+ N 30 '21

- Tentative method of test for flash point by means of the Pensky-Martens closed tester. *diags Am Soc T M Pro* 21:655-62 '21; Same. *Nat Pet N* 13:57-8+ D 7 '21

- Flash welding, Electric. See Electric welding, Arc

- Flashing

- Laying out collars and roof flanges. *diags Sheet Metal Worker* 12:797-8; 13:74-5 D 23 '21, Mr 3 '22

- Patterns for collars and roof flanges. *diags Sheet Metal Worker* 13:137-8 Mr 31 '22

- Flashlight photography. See Photography, Flashlight

- Flashlights, Electric. See Electric flashlights

- Flatirons, Electric. See Electric irons

- Flats. See Apartment houses

- Flavanone

- Die reduktion des flavanons. K. Freudenberg and L. Orthner. *Deutsche Chem Gesell Ber* 55:1748-51 Je '22

- Flavoring extract manufacturers' association of America

- Annual convention, Cincinnati, June 29. *Oil Paint & Drug Rep* 104:20 JI 2 '23

- Flavoring extracts

- Débutantes of the flavoring extract family. C. E. Larrabee. *Ptr Ink* 121:73-4+ N 23 '22

- Flavouring materials, natural and synthetic. A. Clarke. 166p Oxford '22

- Modern extractor. J. Hollingworth. 179p

- Extractor co., Pittsburgh, Pa. '23

- See also Vanilla

Analysis

- Determination of esters in imitation flavoring extracts. G. F. Beyer. *J Ind & Eng Chem* 14:324-5 Ap '22

- Flax

- Canadian flax and linen industry. W. L. Turner. *il Textile World* 61:413+ Ja 28 '22

- Cottonisation of flax tow; abstract. S. G. Schimansky and P. P. Budnikoff. *Soc Dyers & Col J* 39:184 Je '23

- Distinguishing between flax and hemp; abstract. C. R. Nodder. *Soc Dyers & Col J* 39:122-3 Ap '23

- Flax and wheat—a combination crop. A. C. Dillman. *Oil Paint & Drug Rep* 102:43-4 N 23 '22

- Flax retting in Europe. C. F. Goldthwait. *il Textile World* 62:1677+ S 23 '22

- Growing flax as a regular farm crop. A. C. Army. *Oil Paint & Drug Rep* 104:49 O 30 '23

- Humidity in jute, hemp and flax mills. A. W. Thompson. *Textile World* 63:1167-8 F 10 '23

- Machines for flax-pulling to supersede hand labor. *il Pop Mech* 39:102 Ja '23

- Manufacture of flax straw waste in Argentina. *Color Tr J* 11:33-4 JI '22

- Most useful linen plant. C. F. Goldthwait. *il Am Dyestuff Rep* 12:747-51 O 22 '23

- New era in flax. A. Wigglesworth. *Textile Inst J* 14:P109-18 My '23

Flax—Continued

- New test for fibres. *Textile World* 64:973+ Ag 18 '23
 Paper from flax straw. *Sci Am* 129:364 N '23
 Report of committee of flax development. *Oil Paint & Drug Rep* 104:48-9 O 30 '23
 Seed flax straw as papermaking material. E. H. Kellogg, M. B. Shaw and G. W. Bicking. *bibliog Paper Tr J* 77:43-9 Ag 2 '23
See also Flaxseed; Linen; Linseed oil

Flax yarn

- Behaviour of bast fibres under the influence of caustic alkalis. C. R. Nodder and R. W. Kinkead. *il Textile Inst J* 14:T133-56, pl 1-2 Je '23
 Manufacture of flax yarn. D. L. Malcolme. *Textile World* 60:3611+ D 24 '21

Flaxseed

- Argentine flaxseed marketing methods. *Oil Paint & Drug Rep* 102:21+ D 4 '22
 Canadian flaxseed crop and market statistics to August 31, 1923. *Oil Paint & Drug Rep* 104:20 O 29 '23
 Flaxseed and linseed oil duties adopted as recommended to Senate; vegetable oil group practically disposed of. *Oil Paint & Drug Rep* 102:42K-L J1 17 '22
 Flaxseed situation. J. W. Daniels. *Oil Paint & Drug Rep* 100:49-50 N 2 '21
 Production of flaxseed; Argentina, Canada, India and United States, 1889 to 1922. *Oil Paint & Drug Rep* 103:55 Mr 29 '23
 U. S. flaxseed production inadequate for country's requirements. *Chem & Met Eng* 29:682 O 8 '23; *Oil Paint & Drug Rep* 104:19 O 8 '23

Flaxseed oil. *See* Linseed oil**Fleischmann company**

- Fleischmann helps sell the other man's product. R. Bostick. *Ptr Ink M* 5:32-4 S '22
 Fleischmann's concentrated drive to increase use of bread. *Ptr Ink* 122:17-18 Ja 18 '23

Fleurion, journal of typography

- Fleurion—a book of exceptional merit. Review, by J. L. Frazier. *Inland Ptr* 71:537-40 J1 '23

Flexure

- Exact theory of flexure. C. A. P. Turner. *diags Concrete* 21:108-11 O '22
 Reciprocal load deflection relationships for structures. C. E. Larard. *Engineering* 116:287-8, 321-2 S 7-14 '23

See also Elasticity; Girders; Strains and stresses; Strength of materials

Flicker photometry. *See* Photometry**Flies**

- Electricity used to kill flies. *il J Elec* 49:243 O 1 '22
 Fingerprints of the murderous house fly. *il Pop Mech* 37:253 F '22
 Studying the flight of flies. *Sci Am* 126:41 Ja '22

Flight

- Aerodynamic tests on an Alsatian swift. *Aerial Age* 14:425 Ja 9 '22
 Analysis of soaring flight. A. O. Henrich. *Aerial Age* 14:353 D 19 '21
 Bird flight principles compared to the modern aeroplanes. F. F. Davis. *Aerial Age* 15:422 Ag '22
 Explanation of soaring flight. J. W. Miller. *diags Aviation* 13:121-3 J1 31 '22
 Flight of birds. *Sci Am* 126:65 Ja '22
 Gliding experiments in Europe, 1922. E. P. Warner. *il diags map Aviation* 13:376-80 S 25 '22
 Leonardo da Vinci as a pioneer of aviation. I. B. Hart. *diags Roy Aeronautical Soc J* 27:244-69 My '23
 Leonardo da Vinci's manuscript on the flight of birds; with translation of the manuscript. I. B. Hart. *il diags Roy Aeronautical Soc J* 27:289-317 Je '23
 Notes regarding soaring birds. H. S. Wildeblood. *Aerial Age* 14:305, 329 D 5-12 '21
 Problem of soaring flight; new theory based on observations of the turkey buzzard. A. P. Herff. *Aviation* 12:167 F 6 '22; *Same.* *Aerial Age* 14:573 F 20 '22

Soaring birdmen; a study of soaring birds and a review of recent glider experiments in Germany. L. d'Orcy. *il maps Sci Am* 126:235-7 Ap '22

Soaring flight. G. E. Clough. *Am J Sci* 5th ser 6:173-7 Ag '23

Soaring flight. Dr Hankin. *Aviation* 13:42 J1 10 '22

Soaring flight and its mechanical solution. F. W. Ruben. *il diags Aviation* 12:750-2 Je 26 '22; *Discussion.* 13:100, 260 J1 24, Ag 28 '22

Soaring flight and soaring aircraft; review of the progress achieved. *il Aviation* 12:195-8, 224-5 F 13-20 '22

Soaring flight in French Guinea. P. Idrac. *Aviation* 12:541 My 8 '22

Study of the vulture and golden eagle. H. J. Nordman. *Aerial Age* 15:89, 112, 184 Ap 3-10, My 1 '22

Le vol à voile. A. Lesage. *il diags plans Génie Civil* 81:309-15, 343-6, 367-70 O 7-21 '22

See also Aeronautics; Aviation; Gliders

Flint, Michigan**Railroads**

- Belt line and industry district at Flint. *diags map Eng N* 91:12-13 J1 5 '23
 Pere Marquette Ry. constructs belt line at Flint, Mich. *il map Ry R* 73:529-31 O 13 '23

Flint

- Products of the calcination of flint and chalcodony. E. W. Washburn and L. Navias. *il diags Am Cer Soc J* 5:565-85 S '22; *Discussion.* (Bul) 5:298-301 N '22
 Proposed tentative specifications covering the purchase of pulverized flint to be used in the manufacture of whiteware. *Am Cer Soc J* (Bul) 6:166; *Discussion.* 167-9 Je '23

Floating cranes. *See* Cranes, Floating**Floating debts.** *See* Debts, Public**Flocculation**

- Experiments on formation of floc for sedimentation. E. S. Hopkins. *diag Eng N* 90:204-5 F 1 '23
 Relation of hydrogen-ion concentration to the flocculation of a colloidal clay. R. Bradfield. *Am Chem Soc J* 45:1243-50 My '23

See also Colloids

Flood control

- Bluff plan for Arkansas river control approved. *Eng N* 91:280 Ag 16 '23
 Comparison of flood control measures. H. Taylor. *Munic Eng* 65:22-7 J1 '23; *Same.* *Eng & Contr (W W)* 60:563-7 S 12 '23
 Driving a 20,000 sec. ft. flood protection tunnel. *il diags Eng N* 87:882-6 D 1 '21
 Effect of a low dam at Harrisburg on flood stages and discharge. S. N. Whitman. *diag Eng N* 89:738 N 2 '22
 Factors in engineering accomplishment; the Miami conservancy project. A. E. Morgan. *Am Soc C E Pro* 48:[Soc aff] 397-405 My '22
 Fighting floods on the Mississippi above Vicksburg. W. W. DeBerard. *il (supp) maps Eng N* 88:814-19 My 18 '22
 Fighting the Mississippi flood at Oldtown, Arkansas. L. R. Parmelee. *il diag Eng N* 88:946-8 Je 8 '22
 Find new gulf outlet for Mississippi. *il map Marine R* 52:347-9 Ag '22
 Flood and drought control on the North Platte. S. R. Winters. *il Sci Am* 126:315 My '22
 Flood conditions and land filling at Cairo, Ill. *Eng N* 90:614-16 Ap 5 '23
 Flood control at Kansas City; how a river is being diverted and carried through a hill. *il diag Sci Am* 127:392 D '22
 Flood control at Pueblo. W. W. De Berard. *Eng N* 89:531-2 S 28 '22
 Flood-control dam replenishes under-ground water source; Devil's Gate dam at Pasadena. *il map Eng N* 88:770-1 My 11 '22
 Flood control in the Miami valley, Ohio. C. H. Paul. *il diags map Am Soc C E Pro* 48:1206-25 My '22
 Flood measures in the vicinity of Dayton, Ohio. A. E. Morgan. *il map W Soc E J* 27:1-12 Ja '22

Flood control

- Flood of June, 1921, in the Arkansas river, at Pueblo, Colorado. J. Munn and J. L. Savage. *il Am Soc C E Pro* 47:167-201, pl 2-4 S '21; Abstract. *Eng & Contr* 56:427-9 N 9 '21; Discussion. *Am Soc C E Pro* 47:535-60, 769-73 N-D '21
- Flood prevention status in Pueblo. *Eng N* 90: 849 My 10 '23
- Flood problem of the lower Mississippi river. J. Klorer. *diags map Am Soc C E Pro* 49:1159-66 Ag '23
- Flood problems; symposium. *il diags maps plans Am Soc C E Pro* 48:1092-1225, pl 20 My '22; Abstracts. *Eng N* 88:653-8, 703-4 Ap 20-27 '22; Discussion. *Am Soc C E Pro* 48: 1226-47 My '22
- Flood protection plan adopted by Pueblo district. C. A. Bock. *diags map plan Eng N* 91:48-51 Jl 12 '23
- Flood protection project for Pueblo, Colo. B. M. Jones. *Eng & Contr (W W)* 58:102-4 N 8 '22
- Flood relief plans for Red River of the North. *diags maps Eng N* 91:133-6 Jl 26 '23
- High-water fight at Old Town, Arkansas, in 1922. L. R. Parmelee. *il Am Soc C E Pro* 49:1155-7 Ag '23
- Hydraulic pump; Ohio's big impounding dam. *il diags Sci Am* 126:18-19 Ja '22
- Lower Mississippi river problems discussed by A.S.C.E. at New Orleans. *Eng N* 90:752-3 Ap 26 '23
- Miami conservancy work completed. *il Eng N* 89:1109 D 28 '22
- Mississippi problem in light of the 1922 flood. *map Eng N* 90:21-7 Ja 4 '23
- Need of a national hydraulic laboratory for the solution of river problems, etc. J. R. Freeman. *il diags maps plans Am Soc C E Pro* 49:1185-1249; Discussion. 1250-63 Ag '23
- Power development on the Colorado river and its relation to irrigation and flood control. O. C. Merrill. *maps Am Inst E E J* 41:500-7 Jl '22
- Progress on flood prevention at Phoenix, Arizona. *Eng N* 88:162 Ja 26 '22
- Protecting Tientsin, China, from flood damage. R. D. Goodrich. *il map Eng N* 89:198-200 Ag 3 '22
- Reforestation and floods. *Paper* 30:12-13 My 24 '22
- Relation of the flood control works of the Miami conservancy district to power development. C. H. Paul. *map Am Water Works Assn J* 10:431-8 My '23
- Relief from floods. C. B. Burdick. *diags maps plan W Soc E J* 28:451-67; Discussion. 467-71 O '23
- River and harbor problems of the lower Mississippi; discussion. *Am Soc C E Pro* 49:1624-43 S '23
- Studies of flow through cleared and uncleared floodways. C. E. Ramser. *il Eng N* 89:598-9 O 12 '22
- Success of the Mississippi river levees in the flood of 1922. A. L. Dabney. *Am Soc C E Pro* 49:1149-54 Ag '23
- Taking the kinks out of our rivers. I. E. Houk. *il Sci Am* 128:240-1 Ap '23
- Texas plans flood control on the Rio Grande. *il Pop Mech* 38:707-8 N '22
- Turkey Creek sewer one of the largest yet built; relation of sewer to flood control problem of Kansas City. A. D. Ludlow. *diags map Eng N* 87:815-17 N 17 '21
- Why the spillway will not solve the Mississippi problem. C. M. Townsend. *Eng N* 90: 24-7 Ja 4 '23; Discussion. 90:362-4 F 22 '23
- See also Barrages; Dams; Levees; Reclamation of land; Reservoirs; Rivers—Bank protection; Rivers—Regulation; Sea walls; Spillways

Finance

Appraisal of flood protection benefits and damages in the Miami valley. *Eng N* 89:831-5 N 16 '22

Flood prevention. See Flood control

Floodlighting. See Light projection

Floods

- Experiments on the effect of upper channel improvements upon the downstream flood heights. L. K. Sherman. *diags W Soc E J* 28:293-303; Discussion. 303-18 Ag '23
- Flood discharge formulae. T. Walker. *Eng & Contr (Ry)* 58:166-7 D 20 '22
- Floods on small streams caused by rainfall of the cloudburst type. G. H. Matthes. *map Am Soc C E Pro* 48:1096-1107 My '22; Abstract. *Eng N* 88:654-5 Ap 20 '22
- Rainfall and floods. *Engineering* 114:614-16 N 17 '22; Discussion. G. Ribeiro. 115:246 F 23 '23
- Relief from floods. C. B. Burdick. *diags maps plan W Soc E J* 28:451-67; Discussion. 467-71 O '23
- Winter overflow from ice gorging on shallow streams. J. C. Stevens. *il map Am Soc C E Pro* 47:583-602 D '21
- See also Flood control; Snow surveys

Arkansas

Cloudburst flood at Hot Springs, Arkansas. J. R. Fordyce. *il map Eng N* 90:922-4 My 24 '23

California

Consequences of flood year in California. C. E. Grunsky. *J Elec* 47:418-19 D 1 '21

Canada

- Assiniboine river floods. *Can Eng* 43:578 N 28 '22
- Canadian flood problems. J. B. Challies. *Am Soc C E Pro* 48:1237-40 My '22; Abstract. *Eng N* 88:658 Ap 20 '22
- Flood conditions in Canada; clearing of land. J. G. Sullivan. *Am Soc C E Pro* 48:1092-5 My '22; Abstract. *Eng N* 88:657 Ap 20 '22

China

- Flood problem in China. H. T. Wright. *il (supp) diag map Engineer* 133:600-2 Je 2 '22
- Flood problems in China. J. R. Freeman. *il maps Am Soc C E Pro* 48:1113-67 My '22; Abstract. *Eng N* 88:704-5 Ap 27 '22
- Protecting Tientsin, China, from flood damage. R. D. Goodrich. *il map Eng N* 89:198-200 Ag 3 '22

Colorado

- Arkansas river flood of June 3-5, 1921. R. Follansbee and E. E. Jones. *il map U S Geol S Water-supply Pa* 487:1-44 '22
- Data concerning cloudburst flood at Colorado Springs. P. V. Hodges. *map Eng N* 89: 921-2 N 30 '22
- Flood of June, 1921, in the Arkansas river, at Pueblo, Colorado. J. Munn and J. L. Savage. *il Am Soc C E Pro* 47:167-201, pl 2-4 S '21; Abstract. *Eng & Contr* 56:437-9 N 9 '21; Discussion. *Am Soc C E Pro* 47:535-60, 769-73 N-D '21

Hawaiian Islands

Maximum flood discharges in Hawaii. J. B. Lippincott. *Eng N* 89:239 Ag 10 '22

Illinois

- Hydrology of the 1922 flood in the Illinois river. H. E. Grosbach. *map Eng N* 89:1118 D 28 '22
- Illinois river flood highest on record. *Eng N* 88:804 My 11 '22

India

Flood discharge and the dimensions of spillways in India. G. B. Williams. *Engineer* 134:321-2 S 29 '22

Maine

Disastrous Maine floods due to heavy snow storage. G. C. Danforth. *il Eng N* 90:891-2 My 17 '23

Mexico

Flood conditions encountered in Mexican rivers. *il Ry R* 70:215-16 F 18 '22

Mississippi

Battling with the Devil's Hole in the Mississippi flood. A. L. Dabney. *il diag plans Eng N* 88:988-92 Je 15 '22

Floods—Continued**Oklahoma**

- Floods, high winds, damage refineries, producing fields and pipe lines. *il Nat Pet N* 15:25-6 *Je* 20 '23
- How Oklahoma City water-works dam withstood floods. A. S. Holway. *il map Eng N* 91:292-4 *Ag* 23 '23
- Water-works dam at Oklahoma City, withstands record flood. V. V. Long; S. W. Stewart. *il map Eng N* 91:724-6 *N* 1 '23

Pennsylvania

- Unusual flood of eighty years ago in Delaware co., Pa. I. E. Houk. *Eng N* 89:402-3 *S* 7 '22

Texas

- Flood of September, 1921, at San Antonio, Texas. C. T. Bartlett. *il maps Am Soc C E Pro* 47:443-54 *N* '21; Discussion. 47:801-2; 48:707-9, 981-9 *D* '21, Mr-Ap '22
- Floods in central Texas in September, 1921. C. E. Ellsworth. *U S Geol S Water-supply Pa* 488:1-56, pl 1-8 '23
- Rainfall and the San Antonio flood. *Pub Works* 51:454 *D* 10 '21
- Record-breaking rainfall and flood at Fort Worth, April, 1922. *Eng N* 89:345 *Ag* 31 '22

United States

- Fighting floods on the Mississippi above Vicksburg. W. W. DeBerard. *il (supp) maps Eng N* 88:814-19 *My* 18 '22
- Hydrologic record of the Mississippi floods from 1882 to 1922. E. N. Chisolm. *maps Eng N* 90:112-16 *Ja* 13 '23
- Some factors affecting the problem of flood control. C. E. Grunsky. *Am Soc C E Pro* 48:1191-1205 *My* '22; Abstract. *Eng N* 88:653 *Ap* 20 '22

Floodways. See Flood control**Floor coverings**

- Price's directory of the floor-covering trade. H. T. Price. *Price trade pub co., New York* '22

See also Carpets; Linoleum; Rugs

Floor marking machine

- Floor-marking machine works close to wall. *il Pop Mech* 40:449 *S* '23

Floor plates

- Checked floor plate made by hand. M. E. Duggan. *diags Foundry* 50:423 *My* 15 '22
- Patterns for checked floor-plate castings. M. E. Duggan. *diags Mach* 28:902 *Jl* '22
- Stopping-off piece for floor-plate patterns. M. E. Duggan. *diag Mach* 28:990 *Ag* '22

Floors

- Comparison of finished-floor materials. *Eng N* 89:710 *O* 26 '22
- Composition flooring. *Chem Age* 30:416 *S* '22
- Composition flooring. R. R. Butler. *Soc Chem Ind J (Chem & Ind)* 42:980-2 *O* 12 '23
- Cotton fiber and rubber flooring. *il India Rubber W* 67:179 *D* '22
- Design and construction of light-weight floor systems. J. Fruchtbau. *diags Eng N* 88:730-5 *My* 4 '22
- Excessive floor loads specified for school buildings. N. M. Stineman. *Am Arch* 123:334-5 *Ap* 11 '23; Same abr. *Eng & Contr (Bldgs)* 60:153 *Jl* 25 '23
- Fireproof throughout—the house of the future, in which floors are the important features. *diags Concrete* 22:57-60 *F* '23
- Floor load requirements in American building codes. *Am Arch* 121:78-9 *Ja* 18 '22
- Floor loads for office buildings. *Can Eng* 44:589-90 *Je* 12 '23; Same. *Eng & Contr (Bldgs)* 59:1411-12 *Je* 27 '23
- French tile and joist floor. *diag Can Eng* 44:384 *Ap* 3 '23
- Hospital floor. *Am Arch* 123:86-9 *Ja* 17 '23
- Inconsistent codes; digest of minimum floor load requirements of 109 American building codes. *Am Arch* 123:429-32 *My* 9 '23; Same. *Safety Eng* 45:147-51 *My* '23; Excerpt. *Eng & Contr (Bldgs)* 59:1151 *My* 23 '23; Same. *Eng N* 91:255 *Ag* 16 '23
- Industrial flooring materials. C. A. Whittemore. *Arch Forum* 39:115-16 *S* '23

- Interiors adapted from the Italian; floors and trim. W. F. Wheeler. *il diags Arch Forum* 35:199-204 *N* '21
- Leather-waste flooring improved by asphalt impregnation. *il Eng N* 90:515 *Mr* 15 '23
- Live floor loads. C. H. Blackall. *Am Arch* 123:6-8 *Ja* 3 '23
- Live loads in office buildings; results of investigations by C. T. Coley. I. H. Woolson. *diags Concrete* 22:133-6 *Ap* '23; Same abr. *Arch Forum* 38:199-200 *Ap* '23; Same. *Am Arch* 123:281-4 *Mr* 28 '23; Same. *Eng N* 90:584-6 *Mr* 29 '23; Excerpt. *Am Mach* 58:447-8 *Mr* 22 '23; Same. *Eng & Contr (Bldgs)* 59:927-8 *Ap* 25 '23
- Maple, beech and birch flooring. *Arch & Bldg* 55:77-8 *Jl* '23; Same. *Eng & Contr (Bldgs)* 60:391-3 *Ag* 22 '23
- New fiber flooring has fireproof qualities. *il Pop Mech* 39:917 *Je* '23
- New floor design reduces load in tall steel building. *il diags Eng N* 90:452-3 *Mr* 8 '23
- New flooring material having large leather content. *Am Arch* 123:427-8 *My* 9 '23
- Oak flooring. *Arch & Bldg* 55:103-4 *O* '23
- Selection of fireproof floors. E. E. Seelye. *diags Am Arch* 123:159-61 *F* 14 '23
- Small units in house building—support of the floors, sills and lintels. A. J. R. Curtis. *il diags Concrete* 20:121-4 *Mr* '22
- To formulate walkway code. *Safety Eng* 45:63-4 *Mr* '23
- Use of handbooks, accompanied by discussions of definite problems in wood and steel floor framings. E. F. Rockwood. *Arch Forum* 38:195-8 *Ap* '23
- Value of finished floors. A. Fair. *Bldg Age* 45:98 *Je* '23
- Value of light weight floors. *il diags Am Arch* 123:40-1 *Ja* 3 '23
- See also* Bridges—Floors; Building; Car floors; Fireproof construction; Floor coverings; Foundries—Floors; Pavements; Ship-building—Deck coverings; Ships—Floors

Advertising

- Expanding the local market; Cromar flooring. R. Dickinson. *Ptr Ink* 124:101-2+ *Jl* 19 '23

Anti-slip surfaces

- Unsafe footing kills more people than fires, + elevators, + street cars. *il Safety Eng* 44:69-72 *Ag* '22

Testing

- Laminated floor tested for influence of end joints of plank. E. O. Ericson. *Eng N* 89:569 *O* 5 '22
- Loading test of a hollow tile and reinforced concrete floor of Arlington building, Washington, D.C. L. J. Larson and S. N. Petrenko. *il diags plan U S Bur Stand Tech Pa* 236:405-44 '23; Abstracts. *Concrete* 23:166 *O* '23; *Eng & Contr (Bldgs)* 60:201 *Jl* 25 '23
- Making load tests of a tile wall and measuring floor deflections. E. Godfrey. *il diags Eng N* 89:189-90 *Ag* 3 '22
- Test of a hollow tile and concrete floor slab reinforced in two directions. W. A. Slater, A. Hagener and G. F. Anthes. *il diags plans U S Bur Stand Tech Pa* 220:727-93 '22
- Tests of steel floor joists with concrete encasement. *diag Eng N* 90:800, 1116 *My* 3, *Je* 28 '23

Floors, Concrete

- Analysis of two-way flat slabs. E. F. Rockwood. *diags Arch Forum* 39:21-2 *Jl* '23; Same. *Eng & Contr (Bldgs)* 60:155-7 *Jl* 25 '23
- Carborundum finish for granolithic floor. *Eng & Contr (Bldgs)* 58:95 *N* 22 '22
- Cement or granolithic finish on concrete floors. J. C. Grady. *Am Concrete Inst Pro* 18:115-21 '22
- Centerless concrete floor. *diags Concrete* 23:84 *Ag* '23
- Concrete floor hints for contractors. *Eng & Contr (Bldgs)* 60:662-5 *S* 26 '23
- Design of flat slab floors. S. T. Mills. *chart diags Concrete* 21:197-200 *D* '22
- Design of light weight floors of concrete. *il diags Am Arch* 120:447-50 *D* 7 '21

Floors, Concrete—Continued

- Dustproof and attractive concrete floors. W. E. Hart Concrete 23:139-41 O '23
- Early overloading of concrete floors. W. H. Wheeler. Eng N 87:826-7 N 17 '21
- Floor finish. Concrete 20:134-5 Mr '22
- Floor of coral aggregate, green color and a minimum of water. Concrete 23:122 S '23
- Forms for flat slab floors. G. W. Maker. diags plan Concrete 21:48-9 Ag '22
- Girdlerless floors in Malmo, Sweden. W. A. Slater. Concrete 20:264 Je '22
- Proper finishing and protection against rapid drying, important features of concrete floor construction. J. E. Freeman. Eng & Contr 57:622-3 Je 28 '22
- Reinforced concrete most economical in school construction. diags plans Concrete 23:132, 135-6 O '23
- Report of committee on cement floor finish. Am Concrete Inst Pro 17:246-66; Discussion. 267-80 '21
- Special type of floor finish. W. M. Bailey. Am Concrete Inst Pro 18:122-3 '22
- When and how to finish a concrete floor. C. R. Miller and W. M. Rynerson. Concrete 19:178-9 N '21

See also Floors, Terrazzo

Failures

- Child killed in collapse of floor in Pittsburgh theater. Eng N 89:535 S 28 '22

Specifications

- Department of specifications. Am Arch 122:29-31+ JI 5 '22
- Standard specifications for concrete floors. Am Concrete Inst Pro 17:258-66 '21
- Tentative standard specifications for concrete floors. Am Concrete Inst Pro 19:489-506 '23; Abstract. Can Eng 45:197 JI 31 '23

Testing

- Test of a flat-slab floor of the new Channon building. H. F. Gonnerman and F. E. Richard. il diags Am Concrete Inst Pro 17:182-204 '21
- Test of determining concrete floor finish for special conditions. Eng & Contr 56:424 N 2 '21

Bibliography

- Bibliography. U S Bur Stand Tech Pa 236:444-5 '23

Floors, Steel

- All welded steel floor. H. H. Freysinger. il diags Sheet Metal Worker 14:164-6 Mr 30 '23

Floors, Terrazzo

- Terrazzo floor for industrial shoe factory building. H. S. Wright. Eng N 90:660 Ap 12 '23

Florence, Italy

- Seven drawings—Florence. Am Inst Arch J 11:386-k O '23

Palazzo Davanzati

- Davanzati palace, Florence, Italy. L: C. Rosenberg. 72p Architectural book pub. co., New York '22

Florida

- See Petroleum—Florida; Roads—Florida; Waterways—Florida

Florists

- Hobby business of an underwear manufacturer; peonies. il Ptr Ink M 5:57-8+ O '22

Advertising

- Plain talk about sentiment from the New York florists. Ptr Ink 121:12 N 9 '22

See also Bulbs—Advertising

Florsheim shoe company

- Building a business to last. M. S. Florsheim. Ptr Ink 118:3-4+ Ja 5 '22
- Shoe workers—Chicago. Monthly Labor R 14:524-9 Mr '22

Flotation machines

- Akins flotation machine. il Min & Sci P 124:281-2 F 25 '22
- Improved flotation machine. W. I. Nelson. il Eng & Min J 114:1079 D 16 '22

- Kraut flotation machine. diags plan Eng & Min J 116:352 Ag 25 '23
- Parker flotation machine. diags Eng & Min J 113:1032 Je 10 '22
- Sundt-Diaz flotation machine. F. A. Sundt. il diags plans Eng & Min J 114:586 S 30 '22

Flotation plants**Cost**

- Cost of a small flotation plant. E. Gayford. Min & Sci P 124:183 F 11 '22

Flotation process

- Adsorption of gases during froth-flotation. R. S. Dean and R. A. White. Min & Sci P 124:410 Mr 25 '22
- Agitation in flotation process. A. W. Fahrenwald. Min & Sci P 123:699-700 N 19 '21
- Bac à laver les minerais, système Hancock. F. Millet. diags Génie Civil 82:580-1 Je 16 '23
- Ball-milling and flotation at Catemu, Chile. F. Benitez. il diags Min & Sci P 123:921-31 D 31 '21
- California Rand silver mine. A. B. Parsons. flow sheet il Min & Sci P 124:11-17 Ja 7 '22
- Continuous alkalinity indicator for flotation pulp. E. H. McLeod. diags Eng & Min J 114:991 D 2 '22
- Design of flotation plants. A. B. Parsons. flow sheets Min & Sci P 123:775-84 D 3 '21
- Differential flotation. A. W. Fahrenwald. (Idaho Bur. of mines and geology, Pamphlet 4) 23p Univ. of Idaho, Moscow '21
- Differential flotation in Tasmania. Eng & Min J 113:951 Je 3 '22
- Flotation in the Slovan district, B. C.; silver-lead-zinc ores offer difficult problems in differential separation. J. P. MacFadden. diags plan Eng & Min J 114:677-81 O 14 '22
- Flotation tests on zinc table slime. M. H. Thornberry. Eng & Min J 113:54-5 Ja 14 '22
- Function of oil in flotation. D. W. Leeke and R. H. Jarvis. Min & Sci P 124:223-6 F 18 '22
- Interfacial tension measurements and some applications to flotation. R. B. Elder. (Idaho Bur. of mines and geology, Pamphlet 1) 33p Univ. of Idaho, Moscow '21
- Magnetic separation of complex lead-zinc ores. E. Hedburg. Eng & Min J 115:920 My 26 '23; Discussion. W. Macdonald. 116:18 JI 14 '23
- Manual of flotation processes. A. F. Taggart. 181p Wiley '21
- Mechanism of the surface phenomena of flotation. I. Langmuir. Gen Elec R 24:1025-33 D '21; Same cond. Min & Sci P 121:913-17 D 25 '20
- Milling and flotation. A. F. Taggart. charts Eng & Min J 115:113-16 Ja 20 '23
- Minerals Separation flotation progress in other countries. Eng & Min J 113:241 F 11 '22
- New concentrator of the Real Compania Asturiana de Minas, Spain. L. Barcena y Diaz. il diags Eng & Min J 115:395-400 Mr 3 '23
- Ore dressing, fluxes, and fuels at Namtu. R. G. Hall. Eng & Min J 115:712-15, 757-63 Ap 21-28 '23; Discussion. 116:48 JI 14 '23
- Proposed method for reducing mineral waste in the Wisconsin zinc district, Wisconsin. W. H. Coghill and C. O. Anderson. U S Bur Mines Tech Pa 301:1-66 '22
- Selective flotation of a complex zinc-lead ore. G. J. Young. flow sheets (supp) il Eng & Min J 116:453-6 S 15 '23
- Silver mining and milling at Talache, Idaho. F. E. Wormser. flow sheet il Eng & Min J 114:581-5 S 30 '22
- Size of mineral particle in relation to flotation concentration. A. W. Fahrenwald. (Idaho Bur. of mines and geology, Pamphlet 2) 8p Univ. of Idaho, Moscow '21
- Sodium sulphide as a differential flotation reagent. J. B. Parker. Eng & Min J 114:629 O 7 '22
- Surface-energy and adsorption in flotation. A. W. Fahrenwald. il diags Min & Sci P 123:227-34 Ag 13 '21; Discussion. 123:498, 631-2; 124:83 O 8, N 5 '21, Ja 21 '22

Flotation process—Continued

- Surface tension and adsorption phenomena in flotation. A. F. Taggart and A. M. Gaudin. *Min & Met* 188:37-8 Ag '22
- Surface tension and flotation phenomena. D. W. Leeke and R. H. Jarvis. *Eng & Min J* 114:321-2 Ag '22; Discussion. 114:1019-20; 116:5 D 9 '22, JI 7 '23
- Testing ores for flotation. A. W. Fahrenwald. (Idaho Bur. of mines and geology, Pamphlet 3) 22p Univ. of Idaho, Moscow '21
- See also Flotation machines

Patents

- Jackling and Minerals Separation settle flotation litigation. *Eng & Min J* 113:784-5, 801 My 6-13 '22
- Recent flotation litigation. T. A. Rickard. *Eng & Min J* 116:576-8 O 20 '23

Flotation process (coal)

- Can expel water from wet slack by oils and pressure; much ash leaves the coal with the water. C. H. S. Tupholme. *Coal Age* 24:277-8 Ag 23 '23
- Clean Vancouver island coals by flotation process. P. E. Peterson. *diags Coal Age* 21:243-4 F 9 '22
- Comparison of froth with the Trent process. O. C. Ralston. *Coal Age* 22:911-14 D 7 '22
- Flotation methods successfully used in Great Britain to clean coal, culm and sludge. C. H. S. Tupholme. *diags Coal Age* 23:177-80 Ja 25 '23
- Flotation plant will treat slack, sludge and picking-table refuse. *il Coal Age* 21:365-6 Mr 2 '22
- Froth flotation of coal. O. C. Ralston and A. P. Wichmann. *Chem & Met Eng* 26:500-3 Mr 15 '22
- Froth flotation tests on bituminous coking coal. O. C. Ralston and G. Yamada. *Chem & Met Eng* 26:1081-6 Je 7 '22
- Kohlenveredlung, insbesondere zur herstellung von aschermem koks. A. Thau. *Stahl & Eisen* 42:1153-8, 1242-9 JI 27, Ag 10 '22
- Metallurgical coke by froth flotation process. *Iron Age* 109:329 F 2 '22
- Operating records and construction layouts of plant using Chance flotation process of preparing coal. D. C. Ashmead. *il diags plans Coal Age* 21:735-9 My 4 '22
- Plastic fuel, or amalgam. W. E. Trent. *Power* 54:1032 D 27 '21
- Possibilities of sand flotation of ore in a high-density pulp; commercially applied to coal washing. H. M. Chance. *diag Eng & Min J* 116:629-30 O 13 '23
- See also Coal cleaning

Flour

- Influence of starch on strength of wheat flour. J. H. Buchanan and G. G. Naudain. *Ind & Eng Chem* 15:1050-1 O '23
- Loss of carbon dioxide from dough as an index of flour strength. C. H. Bailey and M. Weigley. *diag J Ind & Eng Chem* 14:147-50 F '22
- Maturing flour. F. L. Dunlap. *Chem & Met Eng* 27:174-7, 934-7 JI 26, N 8 '22
- Microscopical examination of flour. G. L. Keenan and M. A. Lyons. *U S Agric Bul* 839:1-32 '22
- Physico-chemical properties of strong and weak flours; relation between the maximum viscosity obtainable by the addition of lactic acid and the concentration of flour-in-water suspensions. P. F. Sharp and R. A. Gortner. *J Phys Chem* 27:771-88 N '23
- Physico-chemical properties of strong and weak flours; the identity of the gluten protein responsible for the changes in hydration capacity produced by acids. P. F. Sharp and R. A. Gortner. *J Phys Chem* 27:674-84 O '23
- Physico-chemical studies of strong and weak flours; the imbibitional properties of the gluteins from strong and weak flours. P. F. Sharp and R. A. Gortner. *J Phys Chem* 26:101-36 F '22
- Physico-chemical properties of strong and weak flours—the influence of the ash of flours upon the viscosity of flour-in-water suspensions. R. A. Gortner and P. F. Sharp. *J Phys Chem* 27:567-76 Je '23

- Physico-chemical properties of strong and weak flours; viscosity as a measure of hydration capacity and the relation of the hydrogen ion concentration to imbibition in the different acids. R. A. Gortner and P. F. Sharp. *J Phys Chem* 27:481-92 My '23
- Precipitation of proteins from cereal extracts by sodium tungstate. L. A. Rumsey. *Ind & Eng Chem* 15:270-2 Mr '23
- Story of flour. 28p Pillsbury flour mills co., Minneapolis, Minn. '22

See also Potato flour

Analysis

- Determination of carbon dioxide in self-rising flour. B. R. Jacobs. *diag J Ind & Eng Chem* 14:419-20 My '22

Flour handling

- Scientific method for executives. W. Attwood. *Ind Management (Lond)* 9:301-3, 337 My 17-31 '23

Flour mills

- Dittlinger mills; description of Diesel engine plant in flour mill at New Braunfels, Texas. J. Pierce. *il diag Power Pl Eng* 26:652-5 JI 1 '22
- Le matériel de minoterie moderne; la minoterie de Millenium, près de Londres. P. Boudreaux. *diags plan Génie Civil* 82:29-33 Ja 13 '23
- Modern flour mill. *diags plan Engineer* 133:612, 616-17, 627-9, 664-6, 686-8, 696 Je 2-23 '22; Discussion. W. W. Beaumont. 134:10 JI 7 '22
- Observations on milling. E. S. Miller. 128p National miller, Chicago '23
- State-owned flourmill nearing completion. *Pop Mech* 33:927 D '22
- Works of Pillsbury flour mills company, Minneapolis. *il Ind Eng* 81:122-3 Mr '23

Accounting

- Cost apportionment in flour milling. R. W. McKee. *J Account* 35:22-5 Ja '23

Heating and ventilation

- Heat as a means of destroying mill insect pests. J. P. Calderwood. *Heat & Ven* 19:25-6 Mr '22

Power

- Flour making by oil. A. L. Copeland. *il diag plan Power Pl Eng* 26:611-12 Je 15 '22
- Making flour by oil power at the Quality mills, Austin, Tex. J. Pierce. *il Power Pl Eng* 26:1000-2 O 15 '22

Safety devices and measures

- Progress of dust-explosion prevention. D. J. Price. *Chem & Met Eng* 26:1203-6 Je 28 '22; Same. *Safety Eng* 44:26-32 JI '22

Flour trade**Advertising**

- Flour as well as flowers for June brides. *Ptr Ink* 124:161 S 6 '23
- Flour millers have advertising plans. *Ptr Ink* 119:130+ Je 22 '22

Flow meters

- Cochrane flow meter. *il diag Chem & Met Eng* 28:904 My 21 '23
- Developments in power station design. *il diags Engineer* 133:545-7 My 19 '22
- Direct-reading instrument measures flow of fluids. *il Pop Mech* 38:906 D '22
- Effect of pulsations on flow of gases. H. Judd and D. B. Pheley. *il diags Mech Eng* 45:223-8 Ap '23; Abstract. *Power* 55:919-20 D 12 '22; Discussion. *Mech Eng* 45:228-9+ Ap '23
- Electric flow meter. *diags Elec R (Lond)* 92:33-4 Ja 5 '23
- Electrical instrument applied to measurement of fluids. E. H. Freeman. *il diag Power* 56:1008-9 D 26 '22
- Gasoline depth gages and flowmeters for aircraft. J. A. C. Warner. *il U S Nat Advisory Com for Aeronautics* 1921:727-36 '23
- Hyperbo-electric flow meter for steam or gas. *il Power Pl Eng* 27:604-5 Je 1 '23; *Power* 57:1024-5 Je 26 '23
- Methods of measuring steam flow. *il diags Power Pl Eng* 27:72-5 Ja 1 '23

Flow meters—Continued

- Reliability of fluid meters in refrigerating tests. L. S. Morse. *diags Refrig Eng* 10: 1-8; Discussion. 8-13 JI '23
- Republic flow-meter redesigned for greater accuracy. *il Power* 55:257-8 F 14 '22
- Republic steam-flow meter and CO₂ recorder combined. *il Power* 55:308 F 21 '22
- Shotter, electrolytic flowmeter. *il diags Elec-trician* 89:209-11 Ag 25 '22
- Tilting manometer principle used in new flow meter. *il diag Power Pl Eng* 26:1026-7 O 15 '22; *Power* 56:570 O 10 '22
- Use of nozzles in measuring pulsating flow. *diags Chem & Met Eng* 26:32-4 Ja 4 '22; Same cond. *Mech Eng* 44:199-200 Mr '22
- See also Gas flow: Gas meters: Steam meters; Water meters

Flow of fluids. See Air flow; Flow meters; Fluids; Gas flow; Hydraulics; Steam flow; Water flow

Flower pots

How flower pots are manufactured. *il diags Brick & Clay Rec* 61:398-401 S 19 '22

Flowers, Artificial

Making artificial flowers. B. G. Morey. *il Pop Mech* 39:806-10 My '23

Flowers, Fossil

Fossil dogwood flower. F. H. Knowlton. *il Am J Sci* 5th ser 4:136-8 Ag '22

Flowers, Glass. See Glass flowers

Fluctuations in industry. See Industry—Fluctuations

Flue dust

- Briquetting flue dust and scrap. A. L. Stillman. *il Iron Tr R* 71:1269-72 N 9 '22
- Filtering dirty gas through the dust. G. B. Cramp. *diags Iron Age* 112:1111-14 O 25 '23
- Flue dust briquetting by corrosion process. A. L. Stillman. *il Iron Age* 110:1571-2 D 14 '22
- Recovering flue dust completely. G. B. Cramp. *plans Iron Tr R* 70:459-63 F 16 '22
- Ueber pyrophoren gichtstaub. J. W. Gilles. *Stahl & Eisen* 42:884-9 Je 8 '22; Abstract (Pyrophoric flue dust). *Blast F & Steel Pl* 10:157-8 S '22; Discussion. *Stahl & Eisen* 42:889-91 Je 8 '22

See also Blast furnace gas; Blast furnaces; Sintering; Smelting

Flue gas

- Determining heat content of gases from oil-fired boilers. N. G. Hardy. *Elec W* 79:137-8 Ja 21 '22
- Elimination of chimney dust. *diag plan Power Pl Eng* 27:818 Ag 15 '23
- Explosion-proof process of solvent recovery. E. F. Dodge. *flow sheet il diag Chem & Met Eng* 26:416-19 Mr 1 '22
- Flue gas filter for CO₂ equipment. *il Chem & Met Eng* 26:514 Mr 15 '22; *Power Pl Eng* 26:246 F 15 '22
- Flue gas filtering system. C. C. Phelps. *il Gas Age* 49:217 F 18 '22
- Influence de la température des fumées sur le débit d'une cheminée. Laffargue. *Chimie & Ind* 7:1099-1100 Je '22
- Losses up the stack. *Power* 58:548 O 2 '23
- Recording combustible gases. R. Moeller. *il Gas Age* 48:904-7 D 31 '21
- Tables and charts for natural gas users. R. P. Anderson. *Chem & Met Eng* 27:1039-40 N 22 '22
- Utilizing flue gases to preheat air to furnace—consideration of some of the problems involved. E. R. Welles and C. T. Mitchell. *Power* 54:844-6 N 29 '21; Discussion. 55:355, 742 F 28, My 9 '22
- See also Blast furnace gas; Flue dust

Analysis

- Advantage of nitrogen in the boiler furnace. *Power* 54:647, 819, 902 O 25, N 22, D 6 '21
- Advisability of supplementing a CO₂ recorder with an occasional Orsat analysis. A. R. Mumford. *Power* 57:892 Je 5 '23
- Apparatus that weighs furnace gases, thus determining their dioxide percentage. *il diag Coal Age* 23:482-4 Mr 22 '23

- Automatic carbon dioxide indicator for flue gas. R. B. MacMullin. *diag J Ind & Eng Chem* 14:628-9 JI '22
- Calculating heat losses in furnaces. O. I. Hansen. *diag Blast F & Steel Pl* 10:437-40 Ag '22
- Carbon dioxide is measured by electrical indicator. *il Pop Mech* 37:76 Ja '22
- Constant low draft over the fire. E. M. Eliot. *Power* 56:523-6 O 3 '22
- Control of CO₂ results in steam boiler economy. R. June. *il diags Gas Age* 52:511-15 O 27 '23
- Effect of coal on excess air in boiler operation. H. R. Carr. *charts Power Pl Eng* 26: 112-14 Ja 15 '22
- Excess air in gas fired apparatus. J. M. Davies and T. T. Gill. *il Gas Age* 51:727-8 Je 9 '23
- Flue gas analyzers and CO₂ recorders. *il diags Power Pl Eng* 27:30-3 Ja 1 '23
- Graphical treatment of stack gas analysis and flue gas analysis. W. Trinks. *charts Blast F & Steel Pl* 10:50-8, 131-5 Ja-F '22
- How sulphur in fuel affects flue-gas composition and computations. C. H. Berry. *Power* 58:95-6, 113-15 JI 17 '23; Discussion. F. F. Uehling. 58:507-8 S 25 '23
- Ideal for efficient steam generation. D. Brownlie. *Engineer* 135:649 Je 22 '23
- Keeping down the furnace losses. R. T. Haslam. *charts Power* 55:372-5 Mr 7 '22
- New method of determining heat losses due to incomplete combustion in furnaces. O. I. Housey. *diags Blast F & Steel Pl* 11:117-22 Ja '23
- Operation of the Orsat apparatus. P. G. Dahl. *Power* 58:686-7 O 30 '23
- Recent developments in flue-gas analysis. E. H. Lockwood. *Power* 58:461-2 S 18 '23; Discussion. H. D. Fisher. 58:662 O 23 '23
- Registering carbon dioxide meters. K. Muenzer. *diags Am Gas J* 119:481-3+ O 27 '23
- Relation between CO₂ and stack losses. *diags Power Pl Eng* 26:429-31 Ap 15 '22
- Tests for good combustion and heat transfer. *diags Power Pl Eng* 27:25-7 Ja 1 '23
- See also Carbon dioxide recorders

Flues

- Construction of stacks and flues. *il Power Pl Eng* 27:822-3 Ag 15 '23
- Flue outlet. H. W. Kerridge. *Gas J (Lond)* 162:39-41 Ap 4 '23

See also Chimneys

Fluid meters. See Flow meters

Fluidity

- Fluidity and plasticity. E. C. Bingham. 435p McGraw-Hill '22
- Method of calculating fluidity, surface tension and reaction (equilibrium) pressure. H. J. M. Creighton. *J Fr Inst* 193:647-55 My '22
- Study of the fluidity relationships in the system, nitric acid, sulfuric acid and water. E. C. Bingham and S. B. Stone. *J Phys Chem* 27:701-33 N '23

Fluids

- Simplifying the solution of problems of fluid flow. B. F. Dodge. *Chem & Met Eng* 29: 844-6 N 5 '23
- La synthèse expérimentale des mouvements tourbillonnaires des fluides, par Charles Weyher. C. Rabut. *Génie Civil* 82:333-4 Ap 7 '23
- See also Air flow; Flow meters; Gas flow; Gases; Hydraulic engineering; Hydraulics; Hydrodynamics; Liquids; Osmosis; Rectification; Solution (chemistry); Steam flow; Viscosity

Flumes

- Design and construction of a rectangular suspended gunite flume. W. A. Kunigk. *il diags Eng & Contr (W W)* 59:100-4 Ja 10 '23
- Design, construction and use of metal flumes. J. Hinds. *il diags Eng N* 88:854-61 My 25 '22
- Design for small irrigation flume. W. F. Heath. *diags Eng N* 90:408 Mr 1 '23
- Flume built along Columbia-river cliffs. *il Pop Mech* 36:871 D '21
- Flume takes place of culvert on Skagit railroad. *il diags Eng N* 89:744 N 2 '22

Flumes—Continued

Good practice and some features in log-flume construction. V. K. Woods. *il diags Eng N 86:768-70 Mr 5 '21*; Abstract. *Eng & Ind Management 6:391-2, 450 O 6, 20 '21*

See also Irrigation canals; Venturi flumes

Cost

Design and construction of a rectangular suspended gunite flume. W. A. Kunigk. *Eng & Contr (W W) 59:102-4 Ja 10 '23*

Flumes, Concrete

Building a concrete flume in rough country. H. K. Fox. *il diags Eng N 91:20-1 Jl 5 '23*
Concrete and gunite flumes on the King Hill project, Idaho. W. Ward. *il diags Eng N 87:926-32, 1014-18 D 8, 22 '21*

Concrete flumes on the King Hill project. *Eng N 88:371 Mr 2 '22*

Culvert failure and replacement for drainage district. W. F. Heath. *il diags Eng N 89:967 D 7 '22*

Precast concrete flume on Klamath project. E. C. Koppen. *il diags Eng N 90:194-9 F 1 '23*

Tasmanian concrete flume. W. Nimmo. *diag Eng N 89:366-7 Ag 31 '22*

Fluorene

Das dibenzofulven. A. Sieglitz and H. Jassoy. *Deutsche Chem Gesell Ber 55:2032-40 Jl '22*; Abstract. *Chem Soc J 122 pt 1:820-1 S '22*

Studien in der fluoren-reihe. A. Sieglitz and H. Jassoy. *Deutsche Chem Gesell Ber 54:2133-8 S '21*

Über eine synthese der iso-diphensäure; (studien in der fluoren-reihe). A. Sieglitz and J. Schatzkes. *Deutsche Chem Gesell Ber 54:2070-1 S '21*

Zur kenntnis des 2,7-dichlor-fluorens; (studien in der fluoren-reihe). A. Sieglitz and J. Schatzkes. *Deutsche Chem Gesell Ber 54:2072-8 S '21*; Abstract. *Chem Soc J 120 pt 1:781-2 N '21*

Fluorescence

Dependence of the intensity of the fluorescence of dyes upon the wave-length of the exciting light. S. I. Vavilov. *diag Philos Mag 6th ser 43:307-20 F '22*

Fluorescence and coloration of glass produced by β -rays. J. R. Clarke. *Philos Mag 6th ser 45:735-6 Ap '23*

Fluorescence and photochemistry. R. W. Wood. *Philos Mag 6th ser 43:757-65 Ap '22*
Fluorescence of gems by ultra-violet light. W. J. Jones. *Illum Engr 14:237 D '21*

Fluorescence spectrum of benzene vapour. W. H. McVicker and J. K. Marsh. *Chem Soc J 123:820-2 Ap '23*

Spectrographic study of ultra-violet fluorescence excited by X-rays. J. O. Perrine. *diags Phys R 22:48-57 Jl '23*

Studies on the low-voltage arc in mercury vapor and its relation to fluorescence. Y. T. Yao. *diags Phys R 21:1-21 Ja '23*

Study of the exciting power for fluorescence of the different parts of the ultraviolet spectrum. L. J. Boardman. *diags Phys R 20:552-72 D '22*

Über einen zusammenhang zwischen fluoreszenz und chemischer konstitution bei benzoxazol-derivaten. F. Henrich. *Deutsche Chem Gesell Ber 54:2492-2511 O '21*; Abstract. *Chem Soc J 120 pt 1:886-9 D '21*

Zusammenhang zwischen fluoreszenz und chemischer konstitution bei benzoxazol-derivaten. F. Henrich. *Deutsche Chem Gesell Ber 55:3911-21 D '22*

See also Luminescence

Fluorides

See Fluorspar; Lead alkyl fluorides; Lead aryl fluorides

Fluorine

Notions exactes sur les émaux fluorés. C. Musiol. *Chimie & Ind 9:872-87 My '23*

Fluoro-acetyl compounds

Fluoro-acetyl derivatives of sugars. D. H. Brauns. *Am Chem Soc J 45:833-5 Mr '23*

Fluorspar

Developing the fluorspar industry. J. M. Blainey. *il Iron Tr R 70:404-9 F 9 '22*

Equipment of fluorspar mines. *Eng & Min J 115:10 Ja 6 '23*

Fluorspar. *Min & Sci P 124:395 Mr 25 '22*

Fluorspar. M. A. Allen and G. M. Butler. *Univ. of Arizona, Arizona bureau of mines, Tucson '21*

Fluorspar and cryolite in 1922. H. W. Davis. *U S Geol S Min Res of U S 1922, pt 2:15-22 '23*

Fluorspar and its uses. *Min & Sci P 123:752 N 26 '21*

Fluorspar and its uses. G. H. Jones. *Blast F & Steel P 10:563-7 N '22*; Excerpts. *Iron Age 110:1215-17 N 9 '22*; Excerpts. *Iron Tr R 71:1279-80 N 9 '22*

Fluorspar in open-hearth practice. *Iron Age 109:783-4 Mr 23 '22*

Fluorspar industry. B. Crowell. *Eng & Min J 113:95-6 Ja 21 '22*

Fluorspar output is 81 per cent less in 1921. *Iron Tr R 70:967 Ap 6 '22*; *Eng & Min J 113:487 Mr 25 '22*

Fluorspar producers improved their mines and mills during 1921. *Eng & Min J 113:1013 Je 10 '22*

Mining and milling of fluorspar. flow sheet *il Iron Age 112:335-9 Ag 9 '23*

Tortugas fluorspar mine purchased by New York interests. *Eng & Min J 115:200 Ja 27 '23*

Analysis

Analysis of fluorspar. C. E. Gifford. *Ind & Eng Chem 15:526 Mv '23*

Fluosilicic acid

Fluosilicic acid. C. A. Jacobson. *diag J Phys Chem 27:577-80, 761-70 Je, N '23*

Flushometer

Flushometer. N E Water Works Assn J 36:467-70 S '22

Fluting

Cutting spiral flutes with a planer. D. A. Hampsen. *il diags Am Mach 58:384-5 Mr 8 '23*

Flux

Effect of some fluxes on the absorption and transverse strength of a terra cotta body. E. C. Hill. *Am Cer Soc J 5:832-4; Discussion. 835-6 N '22*

Washing limestone for blast furnace use. *il Iron Age 112:736-8 S 20 '23*

Washing limestone for flux. A. J. Hain. *il Iron Tr R 73:820-1+ S 20 '23*

See also Solder and soldering

Fluxmeter

Measurement of time intervals with a galvanometer having fluxmeter characteristics. P. E. Klopsteg. *Phys R 19:61-3 Ja '22*

Theory of Grassot fluxmeter. R. B. Burrows. *Electrician 88:122-3 F 3 '22*

Flying boats

Aeromarine airways show safe operation. *il Aviation 11:622-3 N 28 '21*

Aeromarine model AMC commercial flying boat. *il Aviation 15:550-2 O 29 '23*

Boats that fly. D. C. M. Hume. *Aeronautical J 26:108-14 Mr '22*

Commercial operation of flying boats. *Aviation 12:752 Je 26 '22*

Design, construction and operation of flying boats. J. D. Rennie. *il diags Roy Aeronautical Soc J 27:123-67 Ap '23*; Abstract. *Aviation 14:189 F 12 '23*; Discussion. *Roy Aeronautical Soc J 27:168-81 Ap '23*

Dornier Dragonfly lands on ice. *il Aviation 12:667 Je 5 '22*

Dornier Wal twin-engined flying boat. *il Aviation 14:444-5 Ap 23 '23*

Fokker amphibian flying boat. *il Aviation 14:44-5 Ja 8 '23*; Same. *Aerial Age 16:69-70 F '23*

Foreign air transport by seaplane. L. d'Orcy. *il diags Aviation 14:122-5 Ja 29 '23*

French quadruplane has original features. *il Pop Mech 39:12-13 Ja '23*

Loening claim for the Collier trophy. *Aviation 12:139 Ja 30 '22*

Log of Curtiss metropolitan company's Seagull no. 1 from Port Washington, N.Y. to Palm Beach, Florida, December, 1921. *Aerial Age 14:463 Ja 23 '22*; *Aviation 12:110 Ja 23 '22*

Flying boats—Continued

- Marcel Besson H-5 quadruplane flying boat; abstract. Mech Eng 45:306 My '23
- Marcel Besson quadruplane flying boat. diags Aviation 13:635 N 6 '22
- New aeromarine flying boat. il Aviation 14: 427, 527 Ap 16, My 14 '23
- Passenger-carrying flying-boat operation. H. A. Bruno. Soc Auto Eng J 12:351-2; Discussion. 352-3 Ap '23
- Remarkable performance of the Loening air yacht. Aerial Age 15:392 Ag '22; Same abr. Aviation 13:73 Jl 17 '22
- See also* Seaplanes

Cost of operation

- Cost figures on operating aeromarine flying boat passenger and mail service. C. F. Redden. Aerial Age 14:422+ Ja 9 '22

Testing

- Speed tests of flying boats. B. V. Korvin-Kroukovsky. diags Aviation 13:602-3 O 30 '22

Flying fields. See Aviation fields**Flying machines**

- Leonardo da Vinci as a pioneer of aviation. I. B. Hart. diags Roy Aeronautical Soc J 27:265-9 My '23
- New type of flying machine—the Lacierva Autogiro. H. Alfaro. il diags Aviation 14: 397-8 Ap 9 '23; Same cond. Mech Eng 45:358 Je '23
- See also* Aeronautics; Airplanes; Aviettes; Flying boats; Helicopters; Langley flying machine; Seaplanes

Flyosan (insecticide)

- Turning a dull season into a holiday rush. W. F. Plowfield. il Ptr Ink M 6:27-8+ F '23

Flywheel explosions

- Flywheel explosion at Seguin, Texas. il Power 57:402 Mr 13 '23
- Flywheel explosions and their prevention. E. B. Tolsted. Power Pl Eng 26:1010-12 O 15 '22; Same cond. Power 56:586-7 O 10 '22; Discussion. J. W. Melroy. Power 56:662-3 O 24 '22
- Flywheel explosions during 1921. Locomotive 34:60-1 Ap '22
- Fly-wheel explosions during 1922. Locomotive 34:186-7 Ap '23

Flywheels

- Direction of turning engine wheel for locating dead centers. diags Power 56:547 O 3 '22
- Error due to neglecting electrical forces in calculating flywheels for reciprocating machinery driven by synchronous motors. A. R. Stevenson, jr. il Gen Elec R 25:690-9 N '22
- Flywheel design. Power Pl Eng 26:925 S 15 '22
- Flywheels for steel mill drives. L. A. Uman-sky il diags Gen Elec R 26:688-707 O '23
- Fly-wheels on rolling mill drives. F. R. Burt. charts Blast F & Steel Pl 11:201-4 Mr '23
- Note sur le calcul des volants pleins par la théorie de l'élasticité. G. Prudon. diags Génie Civil 82:280-2 Mr 24 '23
- Refacing old pulleys and flywheels. J. S. Hagans. diags Pop Mech 33:451-2 S '22
- Truing large flywheels while in place. H. H. Porter. diags Power 54:856 N 29 '21
- Two flywheels as compared with one for internal-combustion engines. W. H. Singleton. diags Power 58:147-8 Jl 24 '23
- Use of flywheels on electrical machinery. G. Fox. Power Pl Eng 25:1099-1101 N 15 '21

Manufacture

- Machining twenty flywheels an hour. J. E. Schipper. il Automotive Ind 47:172-3 Jl 27 '22

- Motor flywheels on the Libby lathe. H. Campbell. il diag Am Mach 57:400-1 S 14 '22

Foch, Ferdinand

- Elected an honorary member of four national engineering societies. Am Inst E E J 41:sup 3-4 Ja '22; Elec Ry J 58:1081 D 17 '21; Elec W 78:1239-40 D 17 '21; Mech Eng 44:67-8 Ja '22; Min & Met 181:3-5 Ja '22

Foettinger hydraulic transformers

- Foettinger transformers on a liner. diags (supp) Engineer 134:4-5 Jl 7 '22

Fog

- Airman's weather-finder. il Sci Am 127:35 Jl '22
- Atmospheric pollution and fog prevention; abstracts. Engineer 135:561 My 25 '23; Gas J (Lond) 162:496-7 My 23 '23
- Fogs and clouds. W. J. Humphreys. bibliog il J Fr Inst 193:217-30, 327-84 F-Mr '22
- Instrument guides planes in fog. Aerial Age 14:365 D 26 '21

Fog removal. See Air washing**Fog signals**

- Automatic train control for fog signals. Ry R 72:703 Ap 21 '23
- Fog signalling by means of polarised sound. A. Bull. il diags Engineer 132:505-6 N 11 '21; Same. Sci Am 127:406-7 D '22

Folding machines

- New type of interfolding machine. Paper 32: 16 My 23 '23
- Report on Schopper folding machines. H. U. Kiely. Paper Tr J 76:45-8 My 10 '23; Same. Tech Assn Pa ser 6:97-100 Je '23

Folds (geology)

- Similar, parallel and neutral surface types of folding. E. L. Ickes. diags Econ Geol 18: 575-91 S '23

Follow-up systems

- Building sales from consumer inquiries. C. B. Larrabee. map Ptr Ink M 7:26-8+ N '23
- Effective follow-up to both dealers and consumers. J. L. Badger. Ptr Ink M 7:52 Jl '23
- Follow-up methods that bring the reply you want. J. C. Sweeney. Ptr Ink 125:53-4+ N 1 '23
- Following up inquiries in branch territory. Ptr Ink 118:20 Mr 2 '22
- Getting all the business possible out of advertising replies. R. Dickinson. Ptr Ink 120: 3-4+ Jl 6 '22
- The put-it-off prospect. L. Peake. Ptr Ink M 5:37-8 S '22
- System for following up credit references. C. B. Van Antwerp. Filing 6:33-4 O '22
- Test of Williams shaving soap advertising follow-up. J. H. Naylor. Ptr Ink 124:117-18 Jl 19 '23
- When the follow-up letter really follows up. M. Droke. Ptr Ink 119:145-6+ Je 1 '22
- When to forget the dead prospect. A. H. Redfern. Ptr Ink M 4:84 My '22
- See also* Advertising; Advertising, Mail; Commercial correspondence; Sales letters

Bibliography

- Systematizing the sending of follow-up letters. Ptr Ink 120:20 Ag 24 '22

Food

- Consumption of food by average working-men's families. Monthly Labor R 14:931-4 My '22
- Food colourings. F. W. Richardson. Soc Dyers & Col J 39:148-9 My '23
- Food industries. H. T. Vulté. 4th ed. 323p Chemical pub. co. '23
- Food products from afar. E. H. S. Bailey and H. S. Bailey. 287p Century co. '22
- Foreign foods in American cities. L. Lodian. il Sci Am 128:312-13 My '23
- New foods for old. G. Illington. il Sci Am 128:174 Mr '23
- Physical chemistry as applied to foods. C. L. Alsberg. J Ind & Eng Chem 14:867 S '22
- Some curious comestibles. L. Lodian. il Sci Am 129:224-5 O '23
- Some day we'll make food faster. C. P. Steinmetz. il Nation's Business 11:15 Ap '23
- Spectral transmissive properties of dyes; seven permitted food dyes, in the visible, ultra-violet, and near infra-red. K. S. Gibson and others. il diags U S Bur Stand Sci Pa 440: 121-84 '22; Abstract. Color Tr J 11:239-41 D '22

Food—Continued

Test digestibility of food in glass container. *il Pop Mech* 39:103 Ja '23

See also Bakers and bakeries; Baking; Beverages; Bleaching—Food; Bottled food; Bread; Buttermilk; Canned food; Cost of living; Drying (food); Eggs; Farm produce; Fish as food; Flavoring extracts; Flour; Food preservatives; Food supply; Fruit; Gelatin; Jelly; Meat; Milk; Nutrition; Oleomargarine; Olives; Plant introduction; Potatoes; Proteins; Rice; Sirups; Soy beans; Sugar; Vegetables; Vitamines

Analysis

Méthodes actuelles d'expertises employées au Laboratoire municipal de Paris et documents sur les matières relatives à l'alimentation. A. Kling. Dunod, Paris '21
Microscopy of foods; a study of starch, the world's premier alimantal substance. L. A. Hausman. *il diags Sci Am* 127:256-7 O '22

Dictionaries

Encyclopedia of food. A. Ward. 596p
Artemas Ward, 50 Union Sq., New York '23

Standards

Food standards. W. W. Skinner. *Chem & Met Eng* 28:483 Mr 14 '23

Tables, calculations, etc.

Food controller and calculator. H. B. Clyatt. 75p
W. B. Carpenter co., Cincinnati '22

Food, Bottled. *See* Bottled food

Food, Canned. *See* Canned food

Food brokers

What is a food broker? *Ptr Ink* 119:122 Ap 20 '22

Food industry and trade

Lighting of the food industries. W. H. Rademacher. *bibliog il Illum Eng Soc* 17:548-72 O '22; *Abstract. Am Inst E E J* 42:180-2 F '23; *Discussion. Illum Eng Soc* 17:573-6 O '22

Machinery cannot displace human factor in food products industry. F. E. Barbour. *Chem & Met Eng* 27:464 Ag 30 '22

Les métiers et les industries de l'alimentation. H. Roussel and A. Chaplet. 308p
Delagrave, Paris '22

New company puts ham and bacon on drug store counters; Chicago Freshmor company. D. M. Hubbard. *Ptr Ink* 120:19-20 S 14 '22

Uses of carbon dioxide. C. L. Jones. *Can Chem & Met* 7:173-4 Jl '23

Working for standard sizes of food containers. *Ptr Ink* 122:166+ Ja 25 '23

See also Grocery trade; Meat industry and trade; Milk trade; Olives; Raisins; *also* Beech-nut packing company

Advertising

Advertising recipe in the home—a defence. H. H. Gerry. *Ptr Ink* 121:89-90 N 30 '22

Antithesis of reason—why copy sells cheese. R. W. Johnson. *Ptr Ink* 119:61-2 Je 1 '22

Does the staff of life need advertising? *bibliog Ptr Ink* 119:169-70+ Ap 6 '22

Food expositions that are backed up by advertising. N. J. Greer. *Ptr Ink* 122:121-2+ Mr 22 '23

How the Underwood company found its best market for deviled ham. A. Belden. *Ptr Ink* 124:25-7 Ag 2 '23

Quick change in company's name promotes sale of new product; The Best Foods, inc. *Ptr Ink* 125:111-12 O 18 '23

The recipe as an advertising appeal to women. *Ptr Ink* 121:157-8+ N 23 '22

Recipes in food advertising increase inquiries 650 per cent. C. M. Harrison. *Ptr Ink* 118:69-70+ F 9 '22

Systematizing the personal touch; Knox gelatine. R. Cole. *Ptr Ink* 121:81-2+ N 23 '22

What advertising has done for a food product that is difficult to trade-mark; Gobel's meat products. J. True. *Ptr Ink* 119:33-4+ My 18 '22

See also Butter substitutes—Advertising; Flour trade—Advertising; Fruit trade—Advertising; Grape nuts—Advertising; Maca-

roni—Advertising; Olives—Advertising; Oysters—Advertising; Sardines—Advertising; Tomatoes—Advertising

Food laws and legislation

Fifty-seven varieties of food laws. J. S. Abbott. *Am Ind* 23:13-14+ Ja '23

Why the government can't set quality standards for the products of industry; advertising manufacturer who raises the level. *Ptr Ink* 125:61-2+ N 1 '23

See also Milk supply

Food preservation

Summer foods in the winter time. *Sci Am* 128:27 Ja '23

See also Canned food; Canning and preserving; Cold storage; Fish as food—Preservation; Milk—Preservation; Rancidity

Food preservatives

Cider preservatives. R. D. Scott and E. G. Will. *J Ind & Eng Chem* 13:1141-3 D '21

Use of chemical preservatives in foods. A. R. Tankard. *Chem Age (Lond)* 9:146-7 Ag 11 '23

See also Canning and preserving; Eggs—Preservation; Isopropyl alcohol

Food products institute of America

Organization. *Chem Age* 31:77 F '23

Food research institute. *See* Stanford university—Food research institute

Food supply**Europe**

Food control measures of Europe—European farmers still subject to many wartime regulations. *Comm & Fin Chr* 115:1161-2 S 9 '22

Great Britain

Food production in war. T. H. Middleton. 373p
Oxford '23

United States

America's domestic food supply. R. G. Skerrett. *il Sci Am* 126:5-7 Ja '22

Foot

Metatarsophalangeal fractures, with a report of twenty-seven cases. A. G. Bolduc. *il J Ind Hygiene* 3:371-5 Ap '22

See also Foot strain

Foot-candle meter

New lightmeter for the measurement of foot candles. *il Elec Ry J* 59:121 Ja 21 '22

Foot strain

Back and foot strain. P. D. Wilson. *il diags J Ind Hygiene* 4:106-24 Jl '22

Foots, James Berry, 1867-

Portrait. *Elec W* 81:956 Ap 28 '23

Footings, Column. *See* Column footings**Footings, Wall.** *See* Wall footings**Forage plants**

See Alfalfa; Corn; Hay; Kudzu

Foraminifera. *See* Protozoa**Force account system**

Earth moving methods and costs, Bronx parkway. G. D. Clarke. *il Eng N* 91:186-8 Ag 2 '23

Force-account bridge building in South Dakota. *il plans Eng N* 90:302-3 F 15 '23

Municipal paving in Massena. W. E. Timmerman. *il Pub Works* 54:61-3 F '23

Force and energy

Dissociation-equilibria by the method of partitions. R. H. Fowler. *Philos Mag* 6th ser 45:1-33 Ja '23

Matter and energy. W. J. Pope. *Soc Chem Ind J (Chem & Ind)* 42:52-4, 72-4 Ja 19-26 '23

La mesure de l'énergie en travail; l'entropie. L. Grenet. *Génie Civil* 81:233-7 S '22

Partition of energy. C. G. Darwin and R. H. Fowler. *Philos Mag* 6th ser 44:450-79, 823-42 S, N '22

States and entities; what is energy? *Engineering* 114:236, 329-30, 364 Ag 25, S 15-22 '22

See also Atomic forces; Dynamics; Electromotive force; Impact; Mechanics; Molecular power; Pendulum; Pressure; Strains and stresses; Surface energy

Forced draft. See Mechanical draft

Ford, Henry, 1863-

Ford is right—and wrong. W. D. Hines. *Nation's Business* 9:14-15 D '21; Same. *Ry Age* 71:1047-8 N 26 '21

Ford's four production principles. S: Crowther. *Factory* 29:15-17 JI '22

Henry Ford and the presidency. O. G. Villard. *Comm & Fin Chr* 116:2474-6 Je 2 '23

If I ran the railroads. H: Ford. *Nation's Business* 9:7-9 N '21; Excerpts. *Eng N* 87: 698 O 27 '21; *Ry Age* 71:939-40 N 12 '21; *Ry Mech Eng* 95:689-90 N '21; Discussion. *Ry Age* 71:1023-4 N 26 '21

Latest Ford demonstration as an attack on the railroads; views of a typical group of railroad men. *Ry R* 71:317-19 S 2 '22

My life and work. H: Ford and S: Crowther. 289p Doubleday '22

Woman interviews Henry Ford. E. Gilbert. *Ptr Ink* 121:126- N 30 '22

See also Detroit, Toledo and Ironton railroad

Ford automobiles. See Automobiles

Ford motor company

Ford and General Motors assets half those of U.S. steel corp. *Automotive Ind* 49:534-5 S 13 '23

Ford engine-cylinder production. P. E. Haglund and I. B. Scofield. *il diag plan Soo Auto Eng J* 11:463-71 D '22

Ford principles and practice at River Rouge. J: H. Van Deventer. *il plan (supp) Ind Management* 64:131-7, 195-201, 280-7, 321-8; 65:1-11, 67-76, 149-60, 205-13, 257-67, 359-68; 66:19-27, 85-95, 151-9 S 22-S '23

Ford products and their sale. D. C. Prentiss. 6v Franklin press. Detroit '23

Ford report shows \$690 share profit. *Automotive Ind* 48:1047 My 10 '23

Learning while earning. *il Sci Am* 126:199 Mr '22

Money-making weighing methods of the Ford motor company. F. Reichmann. *il Management Eng* 4:405-7 Je '23

My rule for making steady profits. H: Ford. *il System* 41:259-63 Mr '22

Die neue giesserei und das herstellungsverfahren für zylinderblöcke der Ford-motor-co. C. Irresberger. *diags Stahl & Eisen* 42:126-8 Ja 26 '22

Proportion of Fords varies greatly in different states. *Automotive Ind* 49:480-3 S 6 '23

River Rouge development of Ford motor company; illustration. *Iron Age* 112:74a JI '23

\$7,000,000 to be spent in year's advertising for Ford automobile. G. A. Nichols. *Ptr Ink* 124:17-20 Ag 23 '23

Some engineering features of the Ford plant at River Rouge. L. B. Breedlove. *il W Soc E J* 28:472-84 O '23

Some points in manufacturing. O. Stromborg. *il Engineer* 132:695-6, 706 D 30 '21

Successful safety week at Ford plant. *il Iron Age* 110:129-31 JI 20 '22

Foreign exchange

Academic study of some money market and other statistics. E. G. Peake. 63p P. S. King & son, London '23

Accounting problems of fluctuating currencies. K. Sitka. *Administration* 5:320-3 Mr '23

Le change, phénomène naturel. J. Rueff. *Génie Civil* 82:43-4 Ja 13 '23

Classic stabilizations of exchanges and their value for Germany, by C. A. Schaefer. Review by M. Winkler. *Administration* 4:746-8 D '22

Depreciated exchange and international trade. 118p U.S. Tariff commission, Washington '22

Domestic and foreign exchange. I. B. Cross. 572p Macmillan '23

Economic conditions in Europe. H. G. Moulton and J: F. Bass. *Administration* 2:577-90 N '21

Equalizing exchange duties' to solve tariff problems. G. F. Bauer. *Annalist* 18:509-10 N 28 '21

Foreign exchange. See weekly numbers of the *Annalist*

Foreign exchange. E. S. Furniss. 409p Houghton '22

Foreign exchange a practical study. C: E. Artman. *Am Ind* 22:36- D '21

Foreign exchanges. A. C. Booth. *Textile Inst J* 14:P17-24 F '23

Future of exchange and the Indian currency. H. S. Jeavons. 264p Oxford '22

German efforts to stabilize the mark. F. Caussy. *Annalist* 21:637- My 7 '23

Gutttag's foreign currency and exchange guide. 130p Gutttag bros., New York '21

International exchange, normal and abnormal. T: York. 600p Ronald press '23

Principles and arithmetic of foreign exchange. S: E. Thomas. 269p Macdonald & Evans, London '21

Problem of exchange. D. W. Morrow. *Comm & Fin Chr* 114:244-5 Ja 21 '22

La question du change. M. Lambert. *Chimie & Ind* 8:684-9 S '22

Rates of exchange on continental and other centres. Published in monthly Bank and quotation section of Commercial and financial chronicle

Relation of foreign exchange to currency. R. Estcourt. *Annalist* 18:485-6 N 21 '21

Stabilization of the mark. M. J. Bonn. 56p First national bank, Chicago '22

Stabilizing or improving the exchanges. R. Estcourt. *Annalist* 19:629-30 Je 12 '22

Study of exchange direct and through the medium of currency. L. Hare. 84p P. S. King & son, London '21

Survey of the year in the financial district; stocks, bonds, exchange, money. *Annalist* 19:86-92 Ja 9 '22

Survey of the year in the financial district; stocks, bonds, exchange, money. *Annalist* 21:92-100 Ja 8 '23

Treatment of foreign exchange in branch-office accounting. C. S. Ashdown. *J Account* 34:262-79 O '22

Weekly foreign exchange rates thruout the world, 1921. *Annalist* 19:88-92 Ja 9 '22

Weekly foreign exchange rates thruout the world—1922. *Annalist* 21:94-8 Ja 8 '23

See also Balance of trade; Letters of credit; Money, International

Foreign investments. See Investments, Foreign

Foreign-language press

Foreign-language papers reflect advance of printing. *Inland Ptr* 69:694-5 Ag '22

Foreign trade. See Export trade

Foreign trade convention, National. See National foreign trade convention

Foreign trade financing corporation

Reports to form the \$100,000,000 Foreign trade financing corporation to be discontinued at present. *Comm & Fin Chr* 114:245 Ja 21 '22

Foremen

As foreman is, so is the plant. C. R. Hook, E. A. Holbrook and A. Notman. *Iron Tr R* 70:820-2 Mr 23 '22

Attributes of a successful foreman. J: S. Watts. *Am Mach* 56:266-7 F 16 '22

Can foremanship help to rebuild profits? B. M. Nussbaum. *Ind Management* 63:155-9 Mr '22

Choosing a foreman for the printing shop. F. V. Faulhaber. *Inland Ptr* 69:509-10 JI '22

First-class machine shop foremen. F. P. Terry. *Am Mach* 59:632 O 25 '23

Foreman and his job. C: R. Allen. 526p Lipincott '22

Foreman and his job. F. G. Buffe. *Aera* 11: 800-4 F '23; Abstract. *Elec Ry J* 61:137-8 Ja 20 '23

Foreman as a teacher. J. W. Dietz. *Administration* 3:565-74 My '22

Foreman—past and future. G. G. Weaver. *Am Mach* 57:652 O 26 '22

Foreman's responsibility to his men. E. Lee. *Ry Mech Eng* 96:283-4 My '22

Foremen and employment. W. L. Lowry. *Textile World* 61:3371 Je 3 '22

Foremen I have met. B. Haley. *Management Eng* 2:90 F '22

Foremen, such as they are. W: H. Parry. *Metal Ind* 20:17 Ja '22

Humanizing production control. H. B. May. *Ind Management* 62:341-4 D '21

Foremen—Continued

- Improving foremanship. T. Struck. Paper Tr J 75:38-9 Ag 31 '22
- Judging foremen by results. R. M. Nelson. Management Eng 3:86-8 Ag '22; Same. Ind Management (Lond) 9:73-4 F 8 '23
- Machine shop foreman's salary. F. P. Terry. Am Mach 58:264-5 F 15 '23
- Make-up of a good foreman. E. H. Fish. Management Eng 4:333-4 My '23
- Making better foremen. Factory 30:480+ Ap '23
- Man's job; the sheet metal shop foreman's responsibilities. L. Broemel. Sheet Metal Worker 13:856 Ja 5 '23
- Modern foreman. R. Grimshaw. 190p Biddle business publications, New York '21
- Organized brain power in the mill. B. M. Nussbaum. Textile World 61:657+ F 4 '22
- Practical training for foremen; a simplified course in the study of industrial engineering. P. L. Burkhard. Iron Tr R 70:1183-7, 1251-2, 1329-31, 1476-9, 1643-5, 1801-4, 1869-71; 71:40-2, 169-72+ Ap 27-My 11, 25, Je 8, 22-Jl 6, 20 '22
- Problem of the foreman. E. N. Simons. Ind Management (Lond) 9:134-6, 163-5 Mr 8-22 '23
- Qualifications of a successful foreman. W. Fraine. Brass W 19:217-21 Jl '23
- Responsibility of foremen. A. Wilkinson. Paper 31:15 S 6 '22
- Rightful place of the shop foreman. A. H. Rodrick. Ind Management 64:350-1+ D '22
- Shop management. H. Fowler. Engineering 113:75 Ja 20 '22; Same. Eng & Ind Management 7:106-7 Ja 26 '22; Same cond. Engineer 133:70 Ja 20 '22
- Ten-minute talks to foremen. Factory 28:645-6; 29:38-9, 142-3, 243+, 397-8 Je-O '22
- What determines successful foremanship? E. S. Cowdrick. Management Eng 2:285-6 My '22
- Who is the central character in shop management? C. P. Hubbard. Ry R 70:223-5 F 18 '22

See also Mine foremen

Foremen, Training of

- Building up teaching ability in foremen. D. J. MacDonald. Am Mach 56:360-1, 406-8 Mr 9-16 '22
- Cost of foremen training. B. M. Nussbaum. Ind Management 66:101-3 Ag '23
- Does foreman training really pay? J. Calder. Factory 31:167-9+ Ag '23
- Education. C. R. Hook. Min & Met 186:27 Je '22
- Education and development of track foremen. Ry Age 75:534-6 S 22 '23
- Foreman training. E. Bard. Am Mach 59:362 S 6 '23
- Foremanship training. H. Diemer. Administration 4:181-8 Ag '22
- Foremanship training. E. T. Teece. Ind Management 63:216-17 Ap '22
- Foremanship training in the medium-sized plant. H. Moore. Ind Management 65:214-15 Ap '23
- Foremen training as a factor in cost reduction. B. M. Nussbaum. Ind Management 63:229-33, 297-302, 351-4 Ap-Je '22
- How to educate foremen. V. M. Palmer. Ind Management 62:321-4 D '21
- Increased efficiency through industrial training. B. M. Nussbaum. Chem & Met Eng 27:435-8 Ag 30 '22
- Practical suggestions for developing foremen. Ry Mech Eng 96:527-8 S '22
- Results of foremen training. B. M. Nussbaum. Textile World 63:779+ F 3 '23
- Training foremen to think about their jobs. H. H. Tukey. Factory 28:290-1 Mr '22
- Training leaders for foremanship classes. D. J. MacDonald. Am Mach 55:249-51 Ag 18 '21; Discussion. J. T. Towlson. 56:620 Ap 27 '22
- Training of foremen. H. C. Link. Administration 4:88-98 Jl '22
- Training steelworks foremen. B. M. Nussbaum. Iron Tr R 71:1407-8, 1491-2 N 23-30 '22
- Training the factory foremen. J. K. Novins. Paper 32:13-14 S 26 '23

- Training the section foreman. D. C. Buell. Ry R 71:785-6 D 2 '22; Same. Eng & Contr (Ry) 58:161-3 D 20 '22
- Ways of improving foremanship. T. Struck. Paper 31:9-10+ S 13 '22
- What is the best way to make better foremen? V. E. Carroll. Textile World 61:53+ Ja 7 '22
- What kind of educational work is good for the foreman? H. Tipper. Automotive Ind 47:132-3 Jl 20 '22
- What kind of training for the foreman? B. M. Nussbaum. Am Mach 58:29-31 Ja 4 '23
- What to expect from foremen training. B. M. Nussbaum. Iron Age 110:1565-6 D 14 '22; Excerpts. Ind Management (Lond) 9:5-6 Ja 11 '23

Foremen's offices

- Position of foreman's office. Ind Management (Lond) 8:319 N 30 '22

Forest conservation

- Elimination of waste. L. W. Wallace. Paper Tr J 76:43-7 Ap 19 '23; Same. Paper 32:9-14 My 9 '23
- Forest preservation a national duty. Sci Am 127:380 D '22
- Our need of a sustained supply of softwood timber. W. B. Greeley. Ptr Ink 124:157-8+ S 13 '23
- Our reforestation activities. C. F. Carter. Il Sci Am 125A:106-7 D '21
- Reforestation denuded timber land a means of reducing freight and material costs of roof support. E. S. Stackhouse. Il Coal Age 23:679-81 Ap 26 '23

Forest fire patrol

- Radio telegraphy is great aid in fighting forest fires. M. V. Chesnut. Il Wireless Age 9:62-4 Ag '22

Forest fire patrol, Aerial

- Airplane forest patrol commended. Aerial Age 15:556 N '22
- Airplane forest patrol makes good western record in 1921. Il Eng N 88:163 Ja 26 '22; Same. J Elec 48:157 F 15 '22
- Discontinuing the airplane forest patrol. J Elec 48:45 Ja 15 '22
- Forest fire patrol by airplane and radio. S. R. Winters. Il Aviation 13:282-3 S 4 '22
- Operation of aeroplanes over forested areas. Aerial Age 15:11 Mr 13 '22; Same. Aviation 12:317-18 Mr 13 '22
- Operations of the aerial forest patrol, 1922. Il Aviation 14:241-4 F 26 '23

Forest fires

- Forest devastation by fire. Paper 31:10-11 D 20 '22
- Forest fires in California, 1911-1920. S. B. Show and E. I. Kotok. U S Agric Circ 243:1-80 '23

How tree seeds live through forest fires. W. I. Hutchinson. Il Pop Mech 38:901-2 D '22

See also Forest fire patrol

Forest mensuration

- Forest mensuration. H. H. Chapman. 553p Wiley '21

Forest patrol. See Forest fire patrol**Forest products**

- American progress in dendro-chemistry. H. O. Chute. diags Am Inst Chem Eng Trans v 13 pt 1:345-77 '20
- Forest products industries of the South. C. P. Winslow. map Chem Age 30:145-9 Ap '22
- See also Gums and resins; Lumber; Rubber; Timber; Turpentine; Wood; Wood pulp; Wood waste

Forest products laboratory. See United States—Forest products laboratory**Forest rangers**

See Forest fire patrol

Forest service. See United States—Forest service**Forest valuation**

- Valuation of American timberlands. K. W. Woodward. 253p Wiley '21

Forestry laws and legislation

- A.P.P.A. adopts resolutions against N.Y. forestry bill. Paper Tr J 76:62+ Mr 22 '23

Forestry laws and legislation—Continued

President Harding endorses legislation for conservation of forests. *Comm & Fin Chr* 116:681-2 F 17 '23

Forests and forestry

Afforestation and papermaking. H. P. Baker. *Paper* 29:13-14 F 15 '22

British Empire forestry conference at Ottawa. *Can Eng* 45:253-4 Ag 21 '23

Comparison of flood control measures. H. Taylor. *Munic Eng* 65:22-7 J1 '23; *Same. Eng & Contr (W W)* 60:563-7 S 12 '23

Forest resources of the world. R. Zon and W. N. Sparhawk. 2v 997p McGraw-Hill '23

Forestation, a problem in public service accounting. E. Field. *Am Water Works Assn J* 10:206-13 Mr '23; *Same. Eng & Contr (W W)* 59:827-30 Ap 11 '23

Forests and fertility. *Sci Am* 129:329 N '23

Problems in the reforestation of watersheds. G. R. Taylor. *Am Water Works Assn J* 9:874-84 N '22

Problems in the reforestation of watersheds; experiences of Scranton (Pa.) water co.; abstracts. G. R. Taylor. *Eng & Contr* 58:38-40 J1 12 '22; *Can Eng* 43:207-10 Ag 1 '22

Reforestation and floods. *Paper* 30:12-13 My 24 '22

Reforestation of water-sheds. P. W. Ayres. *il N E Water Works Assn J* 37:127-41; *Discussion.* 141-4 Je '23

Reforesting denuded timber land a means of reducing freight and material costs of roof support. E. S. Stackhouse. *il Coal Age* 23:679-81 Ap 26 '23

See also Forest fires; Landscape gardening; Lumber; Lumber trade; Lumbering; Pine; Timber; Tree planting; Wood

Statistics

L'organisation du travail dans les exploitations forestières et dans les scieries mécaniques. P. Razous. *il Génie Civil* 83:49-51 J1 21 '23

Europe

Notes on forest resources of Central Europe. U S Bur For & Dom Com Trade Information Bul 152:1-16 '23

France

Planting Yankee trees in France. A. N. Pack. *il Am Ind* 23:27-30 S '22

India

Forests of India. E. P. Stebbing. 548p Dutton '22

New York (state)

Oppose Ferris amendment permitting the use of not to exceed 3 per cent of the Forest preserve for the building of transmission lines and power stations in connection with hydro-electric development. *Elec W* 82:622 S 22 '23

Norway

Forest resources, lumber industry and lumber export trade of Norway. A. H. Oxholm. *il diags maps plans U S Bur For & Dom Com* 211:1-136 '22

United States

Forest problems of the country and manner in which they may be solved. H. P. Baker. *Paper Tr J* 77:38-4 J1 26 '23

Forestry. *Ind Management* 62:344 D '21

Indian as a lumber baron. E. P. Allen. *il Am Ind* 23:27-9 J1 '23

Minor roads in national forests. F. D. Mendenhall. *Eng & Contr (R & S)* 59:1020 My 2 '23

Our reforestation activities. C. F. Carter. *il Sci Am* 125A:106-7 D '21

Reforestation to conserve industrial investments. D. L. Goodwillie. *il Mech Eng* 44:162-3 Mr '22

Regulating the timber cut on private lands. T. S. Woolsey, jr. and H. C. Belyea. *Paper* 31:13-4 F 21 '23

See also Forest conservation

Forge shops

Forge output highly specialized; history of the Heppenstall forge and knife co., Pittsburgh. *il Iron Tr R* 71:845-51 S 28 '22

Forge shop has new provisions for operating economies. H. R. Simonds. *il Iron Tr R* 71:1347-50 N 16 '22

Plant makes upset forgings exclusively; new shop of Amforge co. *il diags Iron Age* 109:401-4 F 9 '22

Safety devices and measures

Tentative draft of a safety code for forging practice. *Iron Tr R* 73:1031-2 O 11 '23

Using safety devices in forge shops. *il Iron Tr R* 69:1216 N 10 '21

Forgery

Drama of disputed documents; tests by which the expert reveals forgery. E. H. Smith. *Sci Am* 129:302-3+ N '23

Forgery or genuine; some new laboratory methods of the French handwriting experts. F. P. Mann. *il Sci Am* 127:404+ D '22

Inventor vs. forger. E. H. Smith. *il Sci Am* 127:374-5; 128:8-9+ D '22-Ja '23

Making easy the forger's path. H. F. Woods. *Nation's Business* 11:68+ My '23

Stamp frauds and their detection. *il Sci Am* 126:12-13 Ja '22

\$35,000,000 yearly to check raisers. B. Smith. *Am Ind* 22:27-8+ My '22

Forges

Portable electric forge. E. M. Love. *il diags Pop Mech* 40:451-2 S '23

Stewart furnaces and forges. *il Am Mach* 56:81-2 Ja 12 '22

Forging

Cost recording and production control in drop-forging plants. H. F. Osler. *diags Mach* 28:807-9, 882-6 Je-J1 '22

Drop forging. P. T. Lavender. *il Ry Mech Eng* 97:648 S '23

Drop forging and drop stamping. H. Hayes. 108p Pitman '23

Entwurf, fertigung und verwendung der schmiedegesenke und abgratpressen. H. Hoffmeister. *diags Stahl & Eisen* 42:388-90 Mr 9 '22

Flow of metal during forging; abstract. H. F. Massey. *Engineering* 112:700-1 N 18 '21; *Discussion.* 112:728, 756-7, 786; 113:72-3, 104, 165 N 25-D 9 '21, Ja 20-27, F 10 '22

Forge shop with charger-manipulator. *il Iron Age* 112:1034-6 O 18 '23

Forged motion work bushings. *il Ry Mech Eng* 97:184 Mr '23

Grundlagen zur berechnung des kraft- und arbeitsbedarfs beim schmieden und walzen. E. Siebel. *diags Stahl & Eisen* 43:1295-8 O 11 '23

Heat treatment of drop-forgings. *il diag Mach* 28:384-8 Ja '22

History indicates forging was ancient art. F. Somers. *il Iron Tr R* 73:311-13, 339-91+, 463-6 Ag 2-16 '23

Machine forging work at Elizabethport. *il diags Ry Mech Eng* 95:769-71 D '21

Manufacturing rolled steel wheels. G. A. Richardson. *il diag Elec Ry J* 59:959-62 Je 17 '22

Material affects drop forging. J. H. Nelson. *Iron Tr R* 72:807 Mr 15 '23

Perfecting a drop forging. J. H. G. Williams. *diags Am Mach* 57:143 J1 27 '22

Prolonging the life of forging dies; Reinhardt method of maintaining the dies or tools, while in use, at a temperature above that resulting from normal operation but below the temperature at which they are hardened and drawn. M. Parker. *il Mach* 29:671-4 My '23

See also Blacksmithing; Chains—Manufacture; Dies; Forge shops; Forging machinery; Steel forgings; Welding

Forging machinery

Forging presses for blacksmith shop work. *il diag Ry Mech Eng* 96:159-60 Mr '22

Header machine makes forgings. H. E. Diller. *il diags Iron Tr R* 71:643-5+ S 7 '22

History indicates forging was ancient art. F. Somers. *il diags Iron Tr R* 73:463-6 Ag 16 '23

Forging machinery—Continued

Niagara no. 512 straight sided press for hot forging. *il Am Mach* 58:493-4 Mr 29 '23
Screw operated forging press by the Zeh & Hahnemann co. *il Iron Age* 112:1242 N 8 '23

Forgings, Steel. See Steel-forgings**Formaldehyde**

Action of ozone on hydrocarbons with special reference to the production of formaldehyde. E. W. Blair and T. S. Wheeler. *Soc Chem Ind J* 42:343-6, 347-50 Ag 17-24 '23
Die alkoholische vergärung des formaldehyds durch osmium. E. Müller. *Deutsche Chem Gesell Ber* 54:3214-16 D '21
Detection of pentose, formaldehyde and methyl alcohol. J. B. Sumner. *Am Chem Soc J* 45:2378-80 O '23

Determination of formaldehyde in paraformaldehyde. P. Borgstrom and W. G. Horsch. *Am Chem Soc J* 45:1493-7 Je '23
Determination of formaldehyde in presence of substances found in formalin. P. Borgstrom. *Am Chem Soc J* 45:2150-5 S '23

Discoloring due to packing materials. A. J. Hall. *Textile Col* 45:35 Ja '23

Einwirkung von hydroperoxyd auf formaldehyd; zur theorie der oxydationsvorgänge. A. Bach and A. Generosow. *Deutsche Chem Gesell Ber* 55:3560-6 N '22

Formaldehyde-urea condensation products. *Chem Age* 31:473-4 O '23

Furfural-phenol products. *il India Rubber W* 66:734-5 Ag '22

Influence of formaldehyde on the chlorine bleaching process. E. Ristenpart, P. Weyrich and P. Wieland. *Am Dyestuff Rep* 12: 637-42 Ag 27 '23

Is formaldehyde a synthetic organic chemical? *Chem Age (Lond)* 8:669, 702-3; 9:10, 203-4 Je 23-Jl 7, Ag 25 '23

Nouvelle lampe à formol. E. Berger. *diags Génie Civil* 80:578-9 Je 24 '22

Oxidation of hydrocarbons with special reference to the production of formaldehyde. T. S. Wheeler and E. W. Blair. *Soc Chem Ind J* 42:81-6, 87-92, 260-2, 263-6, 415-17 Mr 9-16, Je 15-22, O 26 '23

Safeguarding of industries act. *Soc Chem Ind J (Chem & Ind)* 42:642-3, 812-14 Je 29, Ag 24 '23

Synthese von β -ketobasen aus acetophenon, formaldehyd und aminalsen. C. Mannich and G. Heilner. *Deutsche Chem Gesell Ber* 55:356-65 F '22

Über die einwirkung von formaldehyd auf pyrrolidin und piperidin. N. J. Putochin. *Deutsche Chem Gesell Ber* 55:2749-53 S '22

Use of paraformaldehyde (gaseous formaldehyde) and paraldehyde (gaseous acetaldehyde) in the synthesis of alcohols. C. E. Wood and F. Scarf. *diags Soc Chem Ind J* 42:13-15 Ja 12 '23

Formalin

Determination of formaldehyde in presence of substances found in formalin. R. Borgstrom. *Am Chem Soc J* 45:2150-5 S '23

Formamide

Synthese des formamids aus kohlenoxyd und ammoniak. K. H. Meyer and L. Orthner. *Deutsche Chem Gesell Ber* 54:1705-9 S '21; Correction. 55:857 Ap '22

Formamidines

Reactions of the formamidines; the thio-imidazolones. F. B. Dains, R. Thompson and W. F. Asendorf. *Am Chem Soc J* 44:2310-15 O '22

Formanilide

Preparation of phenylimido-phosgene, and the chlorination of formanilide. R. S. Ely, G. A. Perkins and W. L. Lewis. *Am Chem Soc J* 44:2896-9 D '22

Formates

Compound formation and conductivity in systems of the types formic acid:metal formate and sulfuric acid:metal sulfate. J. Kendall, H. Adler and A. W. Davidson. *Am Chem Soc J* 43:1846-53 Ag '21

Converting formates into oxalates. *Chem & Met Eng* 28:509 Mr 14 '23

Formic acid

Catalytic decomposition of formic acid in acetic anhydride. E. R. Schierz. *Am Chem Soc J* 45:455-68 F '23

Catalytic decomposition of formic acid on surfaces of platinum and silver. H. C. Tingey and C. N. Hinshelwood. *diag Chem Soc J* 121:1668-76 Ag '22

Decomposition of formic acid by sulfuric acid. E. R. Schierz. *Am Chem Soc J* 45:447-55 F '23

Energy of activation in heterogeneous gas reactions with relation to the thermal decomposition of formic acid vapour. C. N. Hinshelwood and B. Topley. *diag Chem Soc J* 123:1014-25 My '23

Formation of formic acid by caramelization of cane sugar. S. G. Simpson. *Ind & Eng Chem* 15:1054-5 O '23

Influence of temperature on two alternative modes of decomposition of formic acid. C. N. Hinshelwood and H. Hartley. *Chem Soc J* 123:1333-8 Je '23

Preparation of anhydrous formic acid. M. C. Boswell and H. E. Corman. *Can Chem & Met* 6:63-5 Mr '22

Reactions of formic acid at the surface of alumina; the selective activation of alumina. H. Adkins and B. H. Nissen. *Am Chem Soc J* 45:809-15 Mr '23

Solubility of liquids in liquids; the partition of the lower acids, particularly formic, between water and various organic solvents. N. E. Gordon and E. E. Reid. *J Phys Chem* 26:773-89 N '22

See also Ethyl formate

Formica

Study of material and methods needed in non-metallic gear production. J. E. Schlipper. *il diags Automotive Ind* 48:1084-6 My 17 '23; Discussion. 49:85 Jl 12 '23

Forming tools

Brown duplex automatic forming machine. *il Mach* 28:504-5 F '22

Design of split circular screw machine forming tools. H. P. Berry. *diags Mach* 29:309 D '22

Form tool for Gridley automatics. J. V. Romig. *diags Mach* 28:609 Ap '22

Set of progressive operation press tools. F. E. Johnson. *diags Am Mach* 58:509-10 Ap 5 '23

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 56:472-6, 547-50 Mr 30, Ap 13 '22

Formosa

See Irrigation—Formosa

Forms (business). See Records

Fort Madison, Iowa

Sewerage

Unusual sewer construction at Fort Madison; reconstruction made necessary by raising of water level. L. B. Reynolds. *il Pub Works* 53:222-3 N '22

Fort Mifflin. See Mifflin, Fort

Fort Smith, Arkansas

Water supply

Overhauling outgrown water-works at Fort Smith. W. Kiersted, jr. *il Eng N* 90:878-9 My 17 '23

Fort Wayne, Indiana

Rapid transit

\$1,000,000 for new work. *Elec Ry J* 62:383 S 8 '23

Fort William, Ontario

Rapid transit

Fort William electric railway. *Can Eng* 44: 183-4 Ja 30 '23

Fort Worth, Texas

Record-breaking rainfall and flood at Fort Worth, April, 1922. *Eng N* 89:345 Ag 31 '22

Rapid transit

Fare fight in court. *Elec Ry J* 60:411-12 S 16 '22

Forth bridge

Strengthening of the floor. &c., of the
Forth bridge. W: A. Fraser. Engineer 134:
633-4 D 15 '22; Same. Engineering 114:719
D 8 '22; Same. Can Eng 44:173-4 Ja 23 '23;
Same. Eng & Contr 59:260-1 Ja 31 '23;
Abstract. Eng N 90:160 Ja 25 '23

Fortification

Concrete in front line work, 1914-1917. E. C.
Eckel. il Concrete 20:173-6, 199-200+ Ap-
My '22

Fossil flowers. See Flowers, Fossil

Fossil vertebrates. See Vertebrates, Fossil

Fossils. See Paleobotany; Paleontology

Foster, E. C., 1852-

Fifty years spent in street railroading. por
Elec Ry J 59:917 Je 3 '22

Foundation soils

Builder's paradise; ground that cuts like
cheese and needs no shoring or piling. L.
Matters. il Sci Am 128:40 Ja '23

Columns and walls lifted by swelling clay
under floor. F. E. Giesecke. il plan Eng N
88:192-3 F 2 '22

Essais de résistance et d'élasticité du ter-
rain de fondation de la nouvelle écluse
maritime d'Ymuiden (Hollande). A. Bijls.
diags Génie Civil 82:490-2 My 26 '23; Ab-
stract (Elastic modulus of sand founda-
tion measured in Holland). Eng N 90:1120
Je 28 '23

Exploratory boring needed as guide to de-
sign and construction of public works. J.
F. Sanborn. il diag Eng N 88:1024-8 Je
22 '22

Progress report of the special committee to
codify present practice on the bearing
value of soils for foundations, etc. il diags
plans Am Soc C E Pro 48:523-80; 49:1732-43
Mr '22, O '23

Transmission of pressure through solids and
soils and the related engineering phe-
nomena. G. Paaswell. diags Am Soc C E
Pro 48:1075-89 My '22

See also Roads—Subgrades

Testing

Foundation tests for Nebraska state capitol.
il diags Eng N 89:606-9 O 12 '22

Settlement of soils under loads. Pub Works
52:464 Je 24 '22

Tests on foundation piers with 1,000-ton
jack. diags Eng N 87:763-4 N 10 '21

See also Foundations—Testing

Foundations

Bank foundation designed to resist flood up-
lift. J. W. Pickworth. diags plans Eng N
91:712-14 N 1 '23

Bond strength of wood piles in concrete. R.
R. Lundahl. il Am Soc C E Pro 48:1653-64
O '22; Same. Eng & Contr (Bldgs) 58:83-9 N
22 '22

Building foundations in clay. C: E. Fowler.
diags Eng & Contr (Bldgs) 60:870-4 O 24 '23
Chimney foundations. W. W. Christie. Power
58:459-60 S 18 '23

Concrete raft foundations for radio station.
diags Eng & Contr 57:297 Mr 29 '22

Continuous-mat foundations for 22-story build-
ing. diags plan Eng N 89:73-5 Jl 13 '22

Department of specifications. Am Arch 121:
117-19, 148-50 F 1-15 '22

Difficult foundation work. J. T. N. Hoyt.
Eng & Contr 56:485 N 23 '21

Erecting office building over complicated track
layout. il plan Eng N 90:532-3 Mr 22 '23

Foundation and framing design of Colfax
power station. M. E. Thomas. il diags Eng
N 89:1102-5 D 28 '22

Foundation and scour protection of Cahokia
power station on Mississippi river. il diags
plans Eng N 90:219-21 F 1 '23

Foundation contractor's work. Am Arch 120:
479-81; 121:24-6, 72-4 D 21 '21-Ja 18 '22

Foundations, abutments and footings. G: A.
Hool and W. S. Kinne. 413p McGraw-Hill '23

Foundations of memorial tower, University of
Toronto. diags Can Eng 44:453 My 1 '23;
Same. Eng & Contr (Bldgs) 59:1460-1 Je
27 '23

Foundations of New York County court house.
F. W. Skinner. il diag Arch Forum 38:201-4
Ap '23

How to make forms for concrete buildings—
footings. W: F. Lockhardt. diags plan Con-
crete 20:56-8 F '22

Load ground with pig iron to salvage build-
ings. il Pop Mech 40:106 Jl '23

Muddy site of Shanghai bad for foundations.
il Pop Mech 39:437 Mr '23

New Standard oil building. R. W. Chambers.
il diags plans Am Arch 122:282-92 S 27 '22

Prince Edward hotel, Windsor, Ont., founda-
tions. plan Eng & Contr 56:473-4 N 23
'21

Putting new foundations under an occupied
building. il diags plan Eng N 89:750-2 N 2 '22

La résistance des pieux de fondation. G. Pi-
geaud. Génie Civil 83:77-80 Jl 28 '23

Short methods for foundation design. M. M.
Bush. diags Am Arch 122:373-8 O 25 '22

Undiscovered substratum of peat complicates
foundation job. il diags plan Eng N 91:
192-3 Ag 2 '23

Using common stone. J. Upton. il diags Bldg
Age 45:67-8 Mr '23

See also Bridges—Foundations and piers;
Building; Caissons; Cellars; Cofferdams;
Column footings; Concrete construction,
Subaqueous; Concrete piling; Cribbs, Con-
crete; Dams—Foundations; Foundation soils;
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Foundations; Piers (foundations); Piles and
pile driving; Roads—Foundations; Shoring
and underpinning; Wall footings; Walls

Testing

Epoch-making tests of foundation piers. H:
S. White. il Pop Mech 37:23-4, 653-4 Ja, My
'22

Foundation tests for the new Chicago union
station. il Ry R 70:225 F 18 '22; Ry Age 72:
561-2 Mr 11 '22; Sci Am 126:380 Je '22

Load tests of piers for Chicago new Union
station. il diags Eng N 88:822-4 My 18 '22;

Discussion. J. Feld. 88:1052 Je 22 '22

Testing foundations. J. D'Esposito. W Soc
E J 27:[current news]58 Ap '22; Same.
Am Arch 121:447-8 My 24 '22

Tests on foundation piers with 1,000-ton jack.
diags Eng N 87:763-4 N 10 '21

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See Foundries—Employees; International
molders' union

Founding. See Aluminum founding; Brass
founding; Foundry practice; Iron founding;
Molding machines

Foundries

Adopts melting units to meet varied needs.
B. K. Price. il plan Foundry 51:868-72+ N
1 '23

Alabama foundry saves labor. E. C. Kreutz-
berg. il plan Iron Tr R 73:171-5 Jl 19 '23

American foundrymen end tour of British
centers. il Foundry 51:770-5 O 1 '23

Brass firm makes malleables. P. Dwyer. il
plan Foundry 50:523-8 Jl 1 '22

Builds new West coast foundry; Llewellyn
iron works in Los Angeles. D. Partridge.
il Foundry 51:61-3 Ja 15 '23; Same. Iron Tr
R 72:300-2 Ja 25 '23

Casting small parts in production foundry;
new Gilbert & Barker mfg. co. plant. G.
Frazar. il Iron Age 108:1653-6 D 29 '21

Complete huge Wisconsin foundry; Fair-
banks, Morse & co., Beloit. il diags Foundry
50:89-98 F 1 '22

Derby works of the International combus-
tion engineering co., ltd. il (supp) diag
plan Engineer 135:652-4 Je 22 '23

Foundry operations at a higher rate. Iron
Tr R 72:1314 My 3 '23

Garden city steel foundry; Kryn and Lahy
metal works, Letchworth. il plan Engineer
133:636-8 Je 9 '22

Improved foundry melting plant. il diags En-
gineer 133:365-6 Mr 31 '22

London foundry. il Engineer 135:164-5 F 16 '23

Make castings for railroads. P. Dwyer. il
Foundry 51:601-5 Ag 1 '23

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- Manufacturing firm builds plant; the McMyler-Interstate co. il plan Foundry 49: 963-5 D 15 '21
- Model foundry exhibited at Birmingham. il Iron Tr R 71:378 Ag 10 '22
- Modern foundries of Central Europe. B. Schapira. il plans Foundry 50:900-5+, 946-51 N 15-D 1 '22
- Nation's iron and steel industry centers in Cleveland. il map Iron Tr R 72:sup59-68 Ap 26 '23
- Die neue giesserei der maschinenfabrik Eduard Laeis & cie., G. m. b. H., in Trier. C. Pardun. il diags plan Stahl & Eisen 42: 332-8 Mr 2 '22
- Die neue giesserei und das herstellungsverfahren für zylinderblöcke der Ford-motor-co. C. Irresberger. diags Stahl & Eisen 42:126-8 Ja 26 '22
- New Canadian motor foundry plant. il plan Iron Age 109:1063-70 Ap 20 '22
- New foundry for casting chilled rolls; Garrison foundry, Pittsburgh. G. F. Tegan. il diags Iron Age 109:38-42 Ja 5 '22; Same cond. Brass W 18:97-100 Mr '22; Same abr. Metal Ind 20:158-9 Ap '22
- New steel foundry at Fairfield car works; with layout. il Iron Age 112:137-40 Jl 19 '23
- New steel foundry is operating at Parkersburg, W. Va. J. D. Knox. il plan Iron Tr R 73:455-9+ Ag 16 '23; Same. Foundry 51: 704-9 S 1 '23
- New steel foundry; the Crucible steel castings co., Cleveland. il Iron Age 111:543-4 F 22 '23
- New steel jobbing foundry; Eastern steel castings at Newark. il plan Iron Age 112: 881-7 O 4 '23
- New textile machinery foundry of the Saco-Lowell shops at Newton Upper Falls, Mass. il Iron Age 109:1499-1503 Je 1 '22
- Old New York foundry at Spuyten Duyvil closes. Iron Age 111:1773-4 Je 21 '23
- Planning a new malleable shop. E. Touceda. diags Iron Tr R 71:243-8 Jl 27 '22; Same. Foundry 50:588-93 Jl 15 '22
- Plant makes heavy machine tools; Toledo machine & tool co., Toledo, O. il diag plan Foundry 50:173-7 Mr 1 '22
- Recalls curious experience; old time foundry equipped with made-to-order machinery. R. E. Masters. Foundry 51:590-1 Jl 15 '23
- Rochester the foundrymen's convention city. G. B. Ellis. il plan Metal Ind 20:173-8 My '22
- Small shop built for jobbing work. il Foundry 49:850-3 N 1 '21
- Valve firm operated four shops. il Foundry 50:259-63 Ap 1 '22
- Walker & Pratt build addition planned decade ago. H. R. Simonds. il Foundry 49: 915-19+ D 1 '21

See also Brass foundries; Foundry management; Foundry practice, and other headings beginning Foundry; also Mackintosh-Hemphill company

Accounting

See Foundry accounting

Congresses

- Le Congrès international de fonderie (Paris, 12-15 septembre 1923). Génie Civil 83:349-51 O 13 '23
- Le II^e congrès de l'Association technique de fonderie (Nancy, 5-8 octobre 1922). Génie Civil 81:340-3 O 14 '22
- French hold sessions at Nancy; first meeting of the Association technique de fonderie de France. V. Delport. diags Foundry 50: 909-10 N 15 '22

Electric equipment

- Association of iron and steel electrical engineers opens electrical exposition, Buffalo, Sept. 24. il Foundry 51:796-8 O 1 '23; Iron Tr R 73:815-18 S 20 '23
- Choosing an electric melting furnace for the foundry. F. W. Brooke. Iron Tr R 70:529-31 F 23 '22

- Complete electrification of foundries; abstracts. L. W. Egan. Iron Age 112:1043-5 O 18 '23; Ind Eng 81:483-4 O '23; Foundry 51:840-2 O 15 '23; Discussion. Iron Age 112: 1045-6 O 18 '23
- Electric trains used in moving 300 tons of material daily into a large foundry. il Elec R 80:185-6 Ap '22
- Foundry employs electricity for melting and annealing. H. R. Simonds. il diag Iron Tr R 70:1567-70 Je 1 '22; Same. Foundry 50:609-12+ Ag 1 '22
- Using electric cranes in foundries. A. H. McDougall. Iron Tr R 70:1653-4 Je 8 '22

See also Electric furnaces, Foundry

Employees

- Apprentice courses are successful. H. R. Simonds. il Iron Tr R 72:1377-81 My 10 '23
- Demand for apprentices grows. A. Trowbridge. Foundry 51:691-3 S 1 '23
- Discuss apprentice situation. W. S. Simon. Foundry 51:438-9 Je 1 '23
- Problems in training. E. A. Parker. Foundry 51:439-40 Je 1 '23
- Segregate apprentices. F. W. Kirky. Foundry 51:440-2 Je 1 '23
- Symposium on foundry training at American foundrymen's association convention. Iron Age 111:1425-6 My 17 '23; Iron Tr R 72: 1525-6 My 24 '23
- Training foundry apprentices. H. A. Frommelt. il Foundry 51:689-91, 737-9 S 1-15 '23; Same. Iron Tr R 73:1167-71 O 25 '23
- Training foundry apprentices in France. H. M. Lane. il Iron Age 112:733-4 S 20 '23
- Training system adopted by the Newark foundries. Iron Tr R 72:1893 Je 28 '23
- Wages and hours of labor in foundries and machine shops, 1923. Monthly Labor R 17: 835-7 O '23

Equipment and supplies

- Adequate equipment needed to operate a modern molding machine. A. Lenz. il diags Foundry 50:500-5 Je 15 '22
- Belgians stage foundry exhibition. il Foundry 49:837-40 N 1 '21
- Charging floor with undercover storage. E. A. Hunger. il plan Iron Age 108:1459-62 D 8 '21
- Complete huge Wisconsin foundry; Fairbanks, Morse & co., Beloit. il diags Foundry 50:89-98 F 1 '22
- Control in a railway iron and steel foundry. G. N. Shawcross. il diags Engineering 112: 832-6 D 16 '21
- Equipment for making die-castings. A. G. Carman. il Mach 29:261-3 D '22
- Features foundry equipment; new steel plant of Tennessee coal, iron and railroad co. E. C. Kreutzberg. il diags Foundry 51:611-15 Ag 1 '23
- Forced draft unit fires core oven. il diag Foundry 50:244-5 Mr 15 '22
- Ford principles and practice at River Rouge. J. H. Van Deventer, il diags plans Ind Management 65:1-11 Ja '23
- Foundry trades exhibition, Birmingham, Eng., June 15-24. il diag Engineer 133:658-60, 692-4 Je 16-23 '22; Engineering 113:779-82, 786, 809-14 Je 23-30 '22; Eng & Ind Management 7:543-8 Je 29 '22
- Die giesserei-fachausstellung in München, 14. bis 25. September 1921. diags Stahl & Eisen 42:128-30 Ja 26 '22
- Great variety of products will be shown by exhibitors at American foundrymen's show. Iron Age 109:1526-30, 1709-11 Je 1, 15 '22; Iron Tr R 70:1577-82, 1723-8 Je 1, 15 '22; Foundry 50:406-11, 484-90 My 15, Je 15 '22; Brass W 18:175-8 Je '22
- Handling malleable castings. H. R. Simonds. il Foundry 50:733-6 S 15 '22
- Handling malleable castings in process. F. L. Prentiss. Iron Age 111:591-4 Mr 1 '23
- Hose and its use in the foundry. Brass W 18: 304-5 O '22
- Improve equipment despite lull. E. L. Shaner. il Iron Tr R 70:37-8 Ja 5 '22
- International exhibit shows interesting developments. V. Delport. il Foundry 51:777-80 O 1 '23

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Invents safety pouring crucible device. J. Pearson. diags Foundry 51:680 Ag 15 '23
 Machine builder erects foundry; Toledo machine & tool co., Toledo, O. P. Dwyer. il plans Iron Tr R 70:683-6 Mr 9 '22
 Makes valves in new foundry. H. R. Simonds. il Foundry 50:431-5 Je 1 '22
 Methods of handling foundry material shown. il Iron Tr R 72:1319-22 My 3 '23
 Molding machine. W. J. Reardon. il Metal Ind 20:423-4 N '22
 Molding machine modern necessity. H. D. Dickinson. Foundry 50:371-2 My 1 '22
 Push molds from bench machine to track by air cylinder mechanism. il Foundry 49:858 N 1 '21
 Pyrometer indicates temperature of molten metal. il Foundry 50:126 F 1 '22
 Removing the dust from the casting cleaning room. C. C. Hermann. diags Ind Management 63:171-4 Mr '22
 Savings effected in new radiator plant; the Republic boiler and radiator co., in Woodberry, Baltimore, Md. M. C. Lippitt. il plan Iron Age 112:591-7 S 6 '23
 Shaking-out of heavy flasks made easier. il Iron Age 112:141 Ji 19 '23
 Small overhead foundry runways. diag Eng & Ind Management 8:23 Ji 27 '22
 Solves material handling problems in design of new foundry; plant of Gilbert & Barker mfg. co., Springfield, Mass. H. R. Simonds. il plan Iron Tr R 69:1545-8 D 15 '21; Same. Foundry 50:1-4 Ja 1 '22
 Specializes in electrical parts; company builds up business making castings for electrical machinery and increases capacity. il Foundry 50:653-60 Ag 15 '22
 Success attends British show, Birmingham, June 15-24. H. C. Estep. il Foundry 50:580-3 Ji 15 '22
 Technical sessions of A.F.A. on steel foundry subjects. Iron Age 109:1666, 1707-8 Je 15 '22
 Tramrail system in car wheel foundry. il Iron Age 112:264 Ag 2 '23
 Utilizing steam from waste-heat boilers. il Foundry 50:719-20 S 1 '22; Same. Iron Tr R 71:995 O 12 '22
 What exhibitors will display at American foundrymen's show. Iron Tr R 72:sup73-9 Ap 26 '23; Foundry 51:309-17, 397-402 Ap 15, My 15 '23; Brass W 19:140-3 My '23; Iron Age 111:1339-41 My 10 '23
 Zur entwicklung des giesspfannenstopfens. diags Stahl & Eisen 42:848-50 Je 1 '22

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Exhibitions

Foundrymen meet in Hamburg. H. Hermanns. il diags Foundry 51:792-5 O 1 '23; Abstract. Iron Tr R 73:890-1 S 27 '23
 German founders' zeal for their art; triple convention at Hamburg. Iron Age 112:638+ S 13 '23

See also Foundry machinery—Exhibitions

Floors

What is best type of foundry floor. C. C. Hermann. Foundry 50:56+ Ja 15 '22

Heating and ventilation

Ventilating a moulding shop. J. Mackay. diags plan Dom Eng 101:227-9 N 11 '22
 Ventilating ceiling on sand blast room. plan Foundry 51:472 Je 1 '23; Same. Iron Tr R 72:1759-60 Je 14 '23

Layout

Cleaning steel castings. H. R. Simonds. il plan Foundry 51:457-60 Je 1 '23
 Designs foundry to fit additions. G. H. Manlove. il plans Foundry 49:841-2 N 1 '21
 Foundry layout and material handling at the Wilson foundry & machine co. H. M. Lane. il plan Iron Age 111:1037-40 Ap 12 '23

Foundry layout that lowers unit costs. J. C. Merwin. il Factory 30:166-7 F '23

Handling expedited in new foundry of Gilbert & Barker mfg. co. H. R. Simonds. il plan Foundry 50:1-4 Ja 1 '22; Same. Iron Tr R 69:1545-8 D 15 '21

New steel foundry is operating at Parkersburg, W. Va. J. D. Knox. il plan Iron Tr R 73:455-9+ Ag 16 '23; Same. Foundry 51:704-9 S 1 '23

Produces malleable for own use. P. Dwyer. il plan Iron Tr R 71:587-90 Ag 31 '22

Production methods at fittings plant; works of Geo. B. Limbert & co., East Chicago, Ind. G. L. Lacher. il plan Iron Age 109:1731 Je 22 '22

Savings effected in new radiator plant; the Republic boiler and radiator co., in Woodberry, Baltimore, Md. M. C. Lippitt. il plan Iron Age 112:591-7 S 6 '23

Small shop secures low costs; aluminum shop built for economical production. H. E. Diller. il plan Foundry 50:385-9 My 15 '22

Lighting

Good foundry lighting. J. M. Shute. il diags Elec R 80:165-8+ Ap '22

Management

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Safety devices and measures

Approve safety code for foundries. Foundry 51:57 Ja 15 '23

Arbeiterschutz in giessereien. A. Holverscheld. Stahl & Eisen 43:968-75, 1157-62 Ji 26, S 6 '23

British foundries decrease accidents. Foundry 50:668 Ag 15 '22

Protecting against hot metal burns. il Iron Tr R 71:1707-9 D 21 '22

Protecting workmen's eyes. B. W. Nutt. Foundry 50:844-5 O 15 '22; Same. Iron Tr R 72:946-7 Mr 29 '23

Reducing electrical hazards in foundries. W. Greenwood. Foundry 49:848-9 N 1 '21

Safe foundry practice. 2d ed., rev. 85p Travelers insurance co., Hartford, Conn. '21

Safety code to protect foundry workers. Iron Age 111:217-20 Ja 18 '23; Same. Foundry 51:224a, 268a, 320a, 368a, 410a, 446a Mr 15-Je 1 '23

Safety in foundries. R. W. Patmore. Eng & Ind Management 8:90-1 Ag 24 '22

Statistics

Foundry and machine shop products, 1921. Am Mach 58:727 My 17 '23

Increase in foundries between the years 1922 and 1920. maps Foundry 50:761-5 S 15 '22; Same. Iron Tr R 71:920-2 O 5 '22

Seeing ourselves through the census. Am Mach 58:585-8 Ap 19 '23

Foundries, Cooperative

Operate co-operative foundry. E. H. Tingley. Foundry 51:735-6 S 15 '23

Foundry accounting

Accounting for foundry overhead expense. F. C. Everitt and J. Heywood. Iron Age 112:67-70, 147-50, 340-2 Ji 12-19, Ag 9 '23

Cost accounting of foundry labor. F. C. Everitt and J. Heywood. Iron Age 111:1701-4 Je 14 '23

Cost control for foundries. F. C. Everitt and J. Heywood. 226p McGraw-Hill '23

Cost data essential to foundries. R. E. Belt. Foundry 49:966-9 D 15 '21; Same. Iron Age 108:1351-3 N 24 '21

Figure costs on an engineering basis. W. L. Churchill. Foundry 51:376-7 My 1 '23

Foundry costs and establishment charges. D. Adamson. Engineering 112:894-5 D 30 '21; Abstract. Engineer 132:604 D 2 '21

How foundry costs control foundry practice. D. T. Sterling. Ind Management 63:3-6 Ja '22

Keeping down maintenance expense. D. J. Perdue. Foundry 50:447 Je 1 '22

Material cost accounting in a foundry. F. C. Everitt and J. Heywood. Iron Age 111:1165-9 Ap 26 '23

Foundry accounting—Continued

Obtaining engineering costs in foundry and machine shop. H. B. May. Iron Tr R 69: 1218-21, 1356-8, 1485-9, 1619-22+; 70:207-10 N 10, 24, D 8, 22 '21, Ja 19 '22
Simplifying foundry costs. A. Baruch. Foundry 51:479-81, 533-5, 565-7, 616-18, 653-6, 710-13, 749-50 Je 15-S 15 '23
Standard foundry costs. T. Harper. Metal Ind 20:377-81 O '22; Same. Foundry 50:942-5 D 1 '22; Discussion. Metal Ind 20:417-19, 459-60, 477; 21:55-7, 112 N-D '22, F-Mr '23
System keeps tab on foundry costs. H. C. Keller. Foundry 50:309-10+ Ap 15 '22
Volumetric efficiency as a measure of foundry costs. D. T. Sterling. il diags Ind Management 63:201-5 Ap '22

Foundry chemistry

Beiträge zur eisenhüttenchemie (Juli 1920 bis Juni 1921). Stahl & Eisen 42:1058-63, 1102-6 JI 6-13 '22

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Foundry costs

Simplifying foundry costs. A. Baruch. Foundry 51:479-81, 533-5, 565-7, 616-18, 653-6, 710-13, 749-50 Je 15-S 15 '23
Standard foundry costs. T. Harper. Metal Ind 20:377-81 O '22; Same. Foundry 50:942-5 D 1 '22; Discussion. Metal Ind 20:417-19, 459-60, 477; 21:55-7, 112 N-D '22, F-Mr '23

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Foundry flasks

Adequate equipment needed to operate a modern molding machine. A. Lenz. il diags Foundry 50:500-5 Je 15 '22
Foundry flasks repaired by arc welding. A. M. Candy. Elec W 81:1278 Je 2 '23; Same. Ind Eng 81:511-12 O '23
Rolls molded in sectional flasks. J. R. Hadsum. diags Foundry 50:206-7 Mr 1 '22

Foundry furnaces. See Electric furnaces, Foundry; Furnaces, Foundry**Foundry laboratories**

Laboratory for malleable iron foundry. il Iron Age 109:645-4 Mr 9 '22
Malleable castings research laboratory. il Iron Age 109:1819-20 Je 29 '22
New laboratory at the T. H. Symington iron co., Rochester, N. Y. aids foundry. il Foundry 51:542-3 JI 1 '23

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Foundry ladles

Design affects ladle operation. A. W. Gregg. diags Iron Tr R 70:1648-50 Je 8 '22; Same. Foundry 50:682-4 Ag 15 '22
Ladle device facilitates pouring of molds. il Iron Tr R 70:1123 Ap 20 '22; Iron Age 109: 1002 Ap 13 '22
Rules for finding ladle holding capacity. Foundry 50:194 Mr 1 '22

Stoppers

Development of steel ladle stoppers. diags Foundry 51:35-6 Ja 1 '23

Foundry literature

Foundry book compilers and authors. W. H. Parry. Metal Ind 20:388-9 O '22

Foundry machinery

English develop breaker for pig and scrap. il Iron Tr R 71:1710 D 21 '22
53-in. tyre mould and core boring and turning mill. il Engineering 112:888 D 30 '21
French jarring machine compact and rapid. diags Foundry 50:932 N 15 '22
Germans jar molds mechanically. U. Lohse. diags Foundry 49:934-8 D 1 '21
Jarring for molding pipe. plan Iron Age 108: 1412-13 D 1 '21
Molding equipment refinements mark exhibits. il Iron Tr R 72:1322-3+ My 3 '23
Osborn stationary machine for filling flasks. il Iron Age 109:591 Mr 2 '22; Am Mach 56: 387 Mr 9 '22
Sand cutter for medium floors. il Iron Age 109:1224 My 4 '22
Squeeze pattern draw Belgian machine. diags Foundry 50:993 D 15 '22

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Belgians stage foundry exhibition. il Foundry 49:837-40 N 1 '21
Foundry trades exhibition, Birmingham, Eng., June 15-24. il diags Engineer 133:658-60, 692-4 Je 16-23 '22; Engineering 113:779-82, 786 Je 23 '22; Eng & Ind Management 7:543-8 Je 29 '22
Foundrymen meet in Hamburg. H. Hermanns. il diags Foundry 51:792-5 O 1 '23; Abstract. Iron Tr R 73:890-1 S 27 '23
Germans show new foundry equipment. C. Irresberger. il diags plan Foundry 49:984-6 D 15 '21
Die giesserei-fachausstellung in München, 14. bis 25. September 1921. il diags Stahl & Eisen 41:1522-6, 1736-41, 1892-7 O 27, D 1, 29 '21
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Foundry management
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Cost comparison in handling materials. S. B. Brown. il Management & Adm 6:611-16 N '23
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Looks back on fifty years of progress. R. H. Palmer. Foundry 50:421-2 My 15 '22
Routing work in the steel foundry. L. J. Barton. Iron Age 111:1170-2 Ap 26 '23
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Surprising profits from small savings. C. C. Chesney. il Factory 31:595-8+ N '23
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Systemising foundry production. H. Bentley. Eng & Ind Management 6:631-2 D 1 '21
Technical control of the McCook field foundry. E. H. Dix, jr. il Metal Ind 20:426-9 N '22
Time study in a malleable foundry. M. A. Harder. Iron Age 112:748 S 20 '23
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- Core sand in the foundry. G. Pouplin. *Brass W* 17:345-50 D '21
- Dispenses with a cope flask. J. H. Eastham. *diags plan Foundry* 51:799 O 1 '23
- Dr. Edward Kirk's system of foundry practice; dry sand cores. E. Kirk. 198p Edward Kirk, Philadelphia, Pa. '22
- Dried mold solves problem. J. F. Redfeather. *diags Foundry* 50:967 D 1 '22
- Eliminating skilled foundry labor; special machines and conveyors result in producing 500 Chevrolet 4-cylinder castings per day. F. L. Prentiss. *il diags Iron Age* 111:949-54 Ap 5 '23
- Equipment employed for making soil pipe. *Foundry* 51:217 Mr 15 '23
- Exactitude in propeller manufacture. *il Sci Am* 126:260-1+ Ap '22
- Finished seats are cast inside valves. D. Partridge. *il Foundry* 51:784 O 1 '23
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- Ford engine-cylinder production. P. E. Haglund and I. B. Scofield. *il diag plan Soc Auto Eng J* 11:463-71 D '22
- Ford principles and practice at River Rouge. J. H. Van Deventer. *il Ind Management* 64:321-8; 65:67-76 D '22, F '23
- Formen und giessen von blockformen. C. Irshberger. *diags Stahl & Eisen* 42:649-54, 1013-16 Ap 27, Je 29 '22
- Founders' trade practice. *Power Pl Eng* 27:882 S 1 '23
- Foundry difficulties; a statistical survey of difficulties encountered by non-ferrous foundries over a period of years. A. Bregman. *Metal Ind* 20:269-70 J1 '22
- Foundry layout and material handling at the Wilson foundry & machine co. H. M. Lane. *il plan Iron Age* 111:1037-40 Ap 12 '23
- Foundry production of air-cooled cylinders. E. H. Dix, jr. *il Soc Auto Eng J* 12:53-6 Ja '23
- Foundry work; a text on molding, dry-sand core-making, and the melting and mixing of metals. R. E. Wendt. 206p McGraw-Hill '23
- Foundry work on motor cylinders. *il Am Mach* 56:962-3 Je 29 '22
- Foundrymen's handbook. 309p Penton pub. co. '22
- Germans jar molds mechanically. U. Lohse. *diags Foundry* 49:934-8 D 1 '21
- Heavy tonnage from a small floor. *il Foundry* 50:301-7 Ap 15 '22
- How a British foundry specializes. H. C. Estep. *il Foundry* 49:879-87 N 15 '21
- How ingot mold castings are made. *il diags Foundry* 50:229-35 Mr 15 '22
- How large engine parts are made. P. Dwyer. *il Foundry* 50:66-73, 114-19 Ja 15-F 1 '22
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- Improve practice in radiator shops. H. E. Diller. *il Foundry* 50:20-6 Ja 1 '22
- India shop adopts continuous molding. *diag Foundry* 51:739 S 15 '23
- Laboratory control in automobile castings. H. M. Lane. *Iron Age* 112:212-14 J1 26 '23
- Large pattern and core work on the Pacific coast. *il Am Mach* 59:553-5 O 11 '23
- Machining qualities set standard for telephone box. H. R. Simonds. *il Foundry* 49:970-3 D 15 '21
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- Methods of casting manganese-bronze test bars as a check on melts of small castings. E. H. Dix, jr. *il Am Soc T M Pro* 21:912-18 '21; Same. *Metal Ind* 19:315-17 Ag '21; Same. *Foundry* 49:734-6 S 15 '21; Discussion. *Am Soc T M Pro* 21:919-21 '21
- Modern foundries of Central Europe. B. Schapira. *il plans Foundry* 50:900-5+, 946-51 N 15-D 1 '22
- Mold intricate gray-iron castings. H. E. Diller. *il Foundry* 50:45-51 Ja 15 '22
- Molding a 50-ton turbine runner. *il Foundry* 50:318-21 Ap 15 '22
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- Molding and casting large steel wheel. W. H. Roesner. *il Foundry* 51:96 F 1 '23
- Molding flanged bushings. C. Vickers. *diags Foundry* 51:97-100 F 1 '23
- Molding Franklin cylinders. F. H. Colvin. *il Am Mach* 58:465-7 Mr 29 '23
- Molding large card cylinders. H. R. Simonds. *il diags Foundry* 51:87-92 F 1 '23
- Molding machine practice is successful. P. R. Ramp. *diags Iron Age* 109:397-9, 463-4 F 9-16 '22
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- New foundry process secures uniform hardness in cylinder bore. *diags Automotive Ind* 47:422-3 Ag 31 '22
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 Some foundry troubles and their remedy. H. M. Lane. Iron Age 110:1197-8 N 9 '22
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Bibliography

Index of the transactions of the American foundrymen's association. 191p American foundrymen's assn., Chicago '21

Study and teaching

Developing material for the foundry. J. H. Hogue. Foundry 51:13-14 Ja 1 '23
 University to instruct foundrymen. O. W. Potter. Foundry 50:178-9 Mr 1 '22
 What technical schools offer. J. D. Hoffman and R. E. Wendt. Foundry 50:783-5 O 1 '22

Foundry records

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 Keeping track of costs in cleaning room. J. O. Proctor. Foundry 51:237 Mr 15 '23
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Foundry research

Co-ordinating foundry control. il Foundry 50:375-9 JI 15 '22
 Foundry research productive in 1921. H. E. Diller. il Iron Tr R 70:32 Ja 5 '22
 Malleable castings improved by research. Ry Age 71:986 N 19 '21
 Proposes lines of foundry research. J. Horton. Foundry 50:957 D 1 '22; Same. Iron Tr R 71:1634 D 14 '22
 Steel foundries and cooperative research. W. J. Corbett. Iron Age 112:675+ S 13 '23
 Steel foundries co-operate in joint research. D. M. Avey. il Iron Tr R 70:1471-4 My 25 '22; Same. Foundry 50:529-32 JI 1 '22

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Foundry riddles. See Riddles**Foundry terms**

Technical vocabulary of the foundry. P. Powell. diags Brass W 19:4-7, 39-42 Ja-F '23

Fountain pens

Growth from an idea of the Duofold pen. J. Henle. Ptr Ink 120:118+ S 28 '22
 How Waterman pen business grew from an ink blot. E. T. Tandy. il Ptr Ink M 4:62+ D '21
 Lapping fountain pen points. J. A. Honegger. diags Mach 29:698-9 My '23

Advertising

Featuring seasonal uses in street-car copy. Ptr Ink 120:20 JI 20 '22
 Marketing Eversharp's partner; the Wahl pen. C. A. Frary. Ptr Ink 121:17-20 N 30 '22

Fountains

Fonte Marcella, Assisi, Italy, measured and drawn by Robert M. Blackall. Am Arch 120:343-5 N 9 '21
 Italian renaissance details. il diags plans Arch Forum 39:23-5, 175-8 JI, O '23
 Lorado Taft's Fountain of time done in concrete by John J. Earley. il Concrete 21:170-3 D '22

See also Drinking fountains

Fourdrinier machine

Eibel patent for improvement in Fourdrinier machines held invalid and not infringed. W. Gustin. Chem & Met Eng 27:58 JI 12 '22

Fourier's series

Introduction to the theory of Fourier's series and integrals. H. S. Carslaw. 2d ed., rev. Macmillan '21

Fourth dimension

Absurdity of a fourth dimension of space. H. P. Gillette. Eng & Contr 57:534 Je 7 '22

Fourth dimension. A. S. Eddington. Sci Am 129:23 Jl '23

Fourth dimension. E: H. Neville. 55p Macmillan '21

Reduction of all physical dimensions to those of space and time. A. P. Mathews. Mech Eng 45:493-4 Ag '23

Fox, Sir Charles Douglas, 1840-1921

Sketch. por Engineer 132:533-4 N 18 '21; Engineering 112:703-4 N 18 '21; Mech Eng 44: 68 Ja '22

Fox farming

Fox ranch idea and how it is sold by advertising. C. M. Harrison. Ptr Ink 120:49-50+ Ag 3 '22

Fractionating apparatus. See Distillation apparatus**Fractures**

Metatarsophalangeal fractures, with a report of twenty-seven cases. A. G. Bolduc. Il J Ind Hygiene 3:371-5 Ap '22

Fractures of materials. See Strength of materials**Framing (building)**

Building better homes; factory-made houses. A. H. Scott. Il Sci Am 126:110-11 F '22

Foundation and framing design of Colfax power station. M. E. Thomas. Il diags Eng N 89:1102-5 D 28 '22

Use of handbooks, accompanied by discussions of definite problems in wood and steel floor framings. E. F. Rockwood. Arch Forum 38:195-8 Ap '23

See also Roofs

France

Vingt ans après. H. V. Magonigle. Il Am Inst Arch J 10:276-82 S '22

See also Aeronautics, Commercial—France; Architecture—France; Electric railroads—France; Hydroelectric plants—France; Railroads—France; Railroads and state—France; Reconstruction (European war)—France; Roads—France; Street railroads—France; Transportation—France; Waterways—France

Army

Need of France for armed forces. A. Briand. Comm & Fin Chr 113:2246-9 N 26 '21

Reduced military budget of France. Comm & Fin Chr 115:2843 D 30 '22

Colonies

French colonial public works. Engineer 134:86, 110-11 Jl 28-Ag 4 '22

See also Radio telegraph—France—Colonies; Saigon, Indo-China

Commerce

Foreign commerce of the French nation. Annalist 21:9-10 Ja 1 '23

France—imports of machine tools. Am Mach 59:22 Jl 5 '23

Franco-German trade. D: S. Green. U S Bur For & Dom Com Trade Information Bul 23:1-18 '22

French customs figures. Comm & Fin Chr 117:1727 O 20 '23

Increase in French export and import. Comm & Fin Chr 116:899-900 Mr 3 '23

See also Advertising—France; Coal trade—France; Machine tool industry—France

Description and travel

Some alluring cities of old France. G: Benoit-Levy. Il plan Arch Forum 39:1-6 Jl '23

Economic conditions

Economic revival of France. F: Simpich. Il Nation's Business 11:21-4 N '23

European conditions as I saw them. J. S. Negru. Chem & Met Eng 27:966-8 N 15 '22

An export "Dud" in France. P. Williams. Il Nation's Business 10:17-19 O '22

France's economic problems. Annalist 21:475 Ap 2 '23

Industrial developments in France. C. E. Carpenter. Am Mach 56:652b Ap 27 '22

Les manifestations économiques et sociales en 1921. R. Roure. Génie Civil 80:110-12 F 4 '22

Notes on the French industrial situation. Eng N 91:337-8 Ag 30 '23

President Millerand of France urges France to adopt drastic economies. Comm & Fin Chr 117:1726 O 20 '23

Reconstructed France; abstracts. J. R. Cahill. Elec R (Lond) 92:872-3 Je 1 '23; Engineering 115:689-90 Je 1 '23

See also Cost of living—France; Labor and laboring classes—France; Miners—France; Trade unions—France; Wages—France

Foreign relations

Lord Curzon, British foreign minister, warns France against pursuing isolated and individual policy. Comm & Fin Chr 113:2367 sec 1 D 3 '21

See also Ruhr valley—French occupation

Industries and resources

Excursion de la Société des ingénieurs civils en Dauphiné, en Provence et à Marseille. L. Barthélemy and others. Soc Ing Civils Bul 74:451-541 O '21

France revisited; impressions and comparisons. T. Rich. Elec R (Lond) 91:363-4, 400-2, 476-9, 512-13 S 15-22, O 6-13 '22

See also Cement industry and trade—France; Ceramic industries—France; Chemical industries—France; Coal mines and mining—France; Dye industry—France; Electric lines—France; Electric plants (central stations)—France; Electric utilities—France; Electricity supply—France; Forests and forestry—France; Hydroelectric plants—France; Iron industry and trade—France; Iron mines and mining—France; Iron ores—France; Iron works—France; Locomotive industry—France; Machine tool industry—France; Machinery industry—France; Metallurgical plants—France; Petroleum—France; Petroleum industry and trade—France; Potash industry and trade—France; Reconstruction (European war)—France; Steel industry and trade—France; Steel works—France; Water power—France; Wine

Navy

French navy and oil fuel. Engineer 135:498 My 11 '23

Politics and government

See also Taxation—France

Public works

Proposed public works in France. Engineer 134:45-6 Jl 14 '22

Franchises

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Frankfort, Kentucky**Rapid transit**

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Franklin, Benjamin, 1706-1790

Benjamin Franklin's family and descendants. H: L. Bullen. Il Inland Ptr 70:531-4 Ja '23

The Franklin trust. F: Vierling. J Account 36:15-26 Jl '23

Franklin, William Suddards, 1863-Portrait. Elec W 79:616 Ap 1 '22

Franklin, New Jersey**Water supply**

Water-borne typhoid outbreak of unusual character. C. K. Blanchard. Eng & Contr (W W) 60:81-3 Jl 11 '23

Franklin automobile company

Sales contests and intensive dealer drive that put Franklin through the slump. Ptr Ink 119:89-90+ Ap 20 '22

Franklin process. See Dyeing machines

Frary metal

- Electrolytically-produced calcium-barium-lead alloys comprising Frary metal. W: A. Cowan, L. D. Simpkins and G. O. Hiers. *il diag Am Electrochem Soc Trans* v 40 (pre-print 17):237-58 S '21; Same abr. *Chem & Met Eng* 25:1181-5 D 28 '21
- New bearing metal of unusual properties. *Sci Am* 127:82 Ag '22
- Study of Frary metal. *J Fr Inst* 192:636 N '21

Fraser river

- Extension of Fraser river jetty to improve entrance, diags map plans *Eng N* 89:318-20 Ag 24 '22

Fraternity houses

- Phi delta theta fraternity house, Cornell university, Ithaca, N.Y. A. C. Phelps. *il diags plans Arch Rec* 52:183-97 S '22
- Theta Delta Chi fraternity house, Amherst college, Amherst, Mass. *Arch Forum* 38: 234, pl 62-4 My '23

Fraud

- See Advertising, Fraudulent; Bribery, Commercial; Competition, Unfair; Misbranding; Swindlers and swindling

Fraudulent advertising. See Advertising, Fraudulent

Frazier, J. L.

- The man, and his work. C. T. Fish. *por Inland Ptr* 69:399-400 Je '22

Free energy

- Effect of substitution on the free energy of oxidation-reduction reactions; benzoquinone derivatives. V: K. LaMer and L. E. Baker. *Am Chem Soc J* 44:1954-64 S '22
- Free energy and heat of formation of lead monoxide. D: F. Smith and H. K. Woods. *diag Am Chem Soc J* 45:2632-7 N '23
- Free energy and heat of formation of zinc iodide. T. J. Webb. *J Phys Chem* 27:448-54 My '23
- Free energy of dilution and the activities of the ions of potassium bromide in aqueous solutions. J. N. Pearce and H. B. Hart. *Am Chem Soc J* 43:2483-92 D '21
- Free energy of dilution of alcoholic solutions of lithium chloride and the effect of solvent upon the activity of the ions. J. N. Pearce and H. B. Hart. *Am Chem Soc J* 44:2411-19 N '22
- Free energy of mercurides. R. H. Gerke. *Am Chem Soc J* 45:2507-12 N '23
- Free energy of the thiosulfate ion. F. R. Bichowsky. *diags Am Chem Soc J* 45:2225-35 O '23
- Reduction potentials of quinones; the effect of the solvent of the potentials of certain benzoquinones. J. E. Conant and L. F. Fieser. *Am Chem Soc J* 45:2194-2218 S '23
- Thermodynamics and the free energy of chemical substances. G. N. Lewis and M. Randall. 658p McGraw-Hill '23

Free harbors

- Free ports and American commerce. A. H. Ritter. *Am Ind* 23:19-20+ S '22
- Free zones in ports of the United States. 120p U.S. Tariff comm., Washington '22
- How free ports help trade. *il Nation's Business* 10:20-1 F '22

Free ports. See Free harbors

Free speech

See also Freedom of the press

Bibliography

- Free speech bibliography. T. A. Schroeder. 274p H. W. Wilson co.; Grafton & co., London '22

Free trade and protection

- Praktische grenzen der freihandelstheorie für die deutsche handelspolitik. O. Steinbrinck. *Stahl & Eisen* 42:1200-5 Ag 3 '22
- Protection and depreciated currencies. H. Withers. *Annalist* 22:423 O 1 '23
- See also Free harbors; Tariff

Freedom of the press

- City of Chicago loses libel suit for \$10,000,000 against the Chicago daily tribune—text of decision of Judge Fisher. *Comm & Fin Chr* 113:2259-62 N 26 '21

Bibliography

- Liberty of the press. New York Pub Lib Bul 27:658-71 Ag '23

Freeman, John Ripley

- President of the American society of civil engineers. *por Min & Met* 183:18-19 Mr '22

Freezing

- Melting interval of certain undercooled liquids with a note on the use of liquid air as a refrigerant. J: B. Ferguson. *J Phys Chem* 26:549-52 Je '22
- Theory of freezing mixtures. A. W. Porter and R. E. Gibbs. *Philos Mag* 6th ser 44:787-92 O '22
- See also Beef—Freezing; Fish, Frozen; Hydroelectric plants—Ice protection; Ice—Manufacture; Refrigeration and refrigerating machinery; Waterworks—Ice protection

Freezing points

- Correction to the freezing-point diagram of lead-sodium alloys. G. Calingaert and W. J. Boesch. *Am Chem Soc J* 45:1901-4 Ag '23
- Cryoscopic measurements with nitrobenzene. H. M. Roberts and C. R. Bury. *Chem Soc J* 123:2037-43 Ag '23
- Estimation of the proportions of TNT and tetryl from the freezing point curve. C. A. Taylor and W. H. Rinkenbach. *Ind & Eng Chem* 15:73-4 Ja '23
- Freezing-point curve for mixtures of potassium nitrate and sodium nitrate. H: V. A. Briscoe and W. M. Madgin. *diag Chem Soc J* 123:1608-18 Je '23
- Freezing-point diagram of the system phenol-water. F. H. Rhodes and A. L. Markley. *J Phys Chem* 25:527-34 O '21
- Freezing point-solubility diagram of the system tetryl-picric acid. C. A. Taylor and W. H. Rinkenbach. *Ind & Eng Chem* 15: 1070-1 O '23
- Some low temperatures. W. F. Schaphorst. *Power Pl Eng* 27:743 Jl 15 '23
- Where the temperature is 434 degrees below zero; the work of the Bureau of standards in liquefying and freezing hydrogen, lightest of gases. S. R. Winters. *il Sci Am* 129: 106 Ag '23

Freight, Perishable

- Notes on small insulated containers; with discussion. M. E. Pennington. *A S R E J* 8:393-7 Mr '22

Freight and freightage

- See Bills of lading; Demurrage; Electric railroads—Freight; Freight cars; Freight handling; Freight ships; Railroads—Freight; Railroads—Rates; Shipment of goods; Ships—Cargo; Storage; Tonnage; Transportation

Freight bureau, Transcontinental. See Transcontinental freight bureau

Freight car service

- Analysis of the freight car situation. J: E. Muhlfeld. *Ry Age* 71:981-3 N 19 '21
- Analysis of the present box car situation. *Ry Age* 73:755-6 O 21 '22
- Assigned-car practice assailed. C. E. Maurer. *Coal Age* 23:867-8 My 24 '23
- Assigned cars for railroad fuel; abstract. C. G. Hall. *Coal Age* 21:894 My 25 '22
- Avoidable waste in the operation of locomotives and cars; abstracts. W: Elmer. *il Ry R* 69:746-52 D 3 '21; *Ry Age* 71:1081-4, 1149-50 D 3-10 '21; *Mech Eng* 44:93-7; Discussion. 97-8 F '22
- Bad order cars down to 8.4 per cent. *Ry Age* 75:123-4 Jl 21 '23
- Car service division appoints district managers; duties and suggestions. *Ry Age* 74: 243-4 Ja 20 '23
- Car service division issues annual statistical bulletin. *Ry R* 72:576-8 Mr 31 '23
- Car service division orders cars West. *Ry Age* 73:798 O 28 '22
- Car service rules improve use of equipment. M. J. Gormley. *Ry Age* 72:1007-8 Ap 29 '22

Freight car service—Continued

Central clearing house agency as a remedy for car shortage. S. D. Warfield. *Comm & Fin Chr* 116:137 Ja 13 '23

Charting the movement of empty cars. *Ry R* 70:717-19 My 20 '22

Commerce commission decides against joint mines, limiting car supply to 100 per cent. *Coal Age* 22:1005 D 21 '22

Commission prohibits assigned car practice. *Ry Age* 75:73-7 J1 7 '23

Comprehensive program of railroads to meet expected record volume of freight traffic. *Comm & Fin Chr* 116:1490-1 Ap 7 '23

Constructive transportation program for 1923; resolutions adopted by the American railway association and the Association of railway executives. *Ry R* 72:641-5 Ap 14 '23; *Excerpt. Ry Age* 74:950 Ap 14 '23

Co-operation for the most economical use of cars. M. J. Gormley. *Ry Age* 73:709-10 O 14 '22

Co-operation in distribution of refrigerator cars. H. P. Dreyer. *Ry Age* 75:729-31 O 20 '23

Design of modern steel freight car equipment. J. A. Pilcher. *il diags plan Ry R* 71:467-75 O 7 '22; Same, without *il. Ry Age* 73:645-9 O 7 '22; Same. *Ry Mech Eng* 96:633-7 N '22

Digest of transportation statistics for 1922. *Ry Age* 74:564-5 Mr 10 '23

Freight car loading. See weekly numbers of Railway age, Commercial & financial chronicle, and *Annalist*

Freight car situation of the United States as of October 1. M. J. Gormley. *Ry R* 71:567-9 O 21 '22

Get better service from freight cars. H. B. Dreyer. *Ry Age* 73:453, 1031 S 9, D 2 '22

Handling the anthracite movement on the Reading. E. L. Boner. *Ry R* 72:928-9 Je 2 '23

How the Union Pacific keeps its freight cars moving. *Ry R* 71:579-83 O 28 '22

Improved equipment condition assists operation. *Ry Age* 74:1443-9 Je 16 '23

I. C. C. declines to take charge of car distribution. *Ry Age* 73:887-8 N 11 '22

Largest car shortage in history. *Ry Age* 73:829-30 N 4 '22

Mid-West traffic jam. H. J. Hughes. *il Nation's Business* 11:30-2 Je '23

New rules proposed for distribution of empty coal cars. *Ry R* 71:697-700 N 18 '22

Over a million cars loaded in the week ended October 21. *Ry Age* 73:851-2 N 4 '22

Problems of the car service agent. H. P. Dreyer. *Ry Age* 74:368 F 10 '23

Progress in carrying out program of railroads to meet expected record volume of freight traffic. *Comm & Fin Chr* 116:2477-9 Je 2 '23

Progress made in transportation program. *Ry Age* 74:1202 My 19 '23

Railroad transportation and car distribution. M. J. Gormley. *il Ry Age* 74:777-9 Mr 17 '23

Railroads and the coal industry. M. W. Potter. *Ry Age* 75:23-7 J1 7 '23

Railroads are giving a remarkable service. R. H. Aishton. *Ry Age* 74:1545-6 Je 23 '23; Same. *Ry Mech Eng* 97:495-6 J1 '23

Railroads' definite pledge to shippers and the public. E. Lee. *Ry Age* 74:1110 My 5 '23

Railroads plan for a record. *chart Nation's Business* 11:56-+ My '23

Record of car supply. *chart Ry R* 72:89 Ja 6 '23

Remedy for car shortage. *Ry Age* 74:1310 Je 2 '23

Slow freight traffic; reports at the International railway congress. *Engineering* 113:676-7 Je 2 '22

Some elements of a freight car shortage. W. C. Kendall. *chart Ry R* 71:706-8 N 18 '22

Still another high record in railroad freight car loading. *Comm & Fin Chr* 116:2067-8 My 12 '23

Study of car shortage. *Ry R* 72:301-2 F 17 '23

Suggestions for improving operating methods. J. J. Bernet. *Ry Age* 74:327; *Discussion* 327-8 F 3 '23

Summary of idle cars and car loadings. See weekly numbers of *Annalist*

Will the railroads be ready for the peak load this fall; views of railroad and supply men. *Ry R* 72:1107-9 Je 23 '23

See also Coal—Transportation; Demurrage; Freight cars—Interchange; Railroads—Management; Railroads—Statistics; Railroads—Trains; Refrigerator cars; also American railway association—Regional advisory boards

Car load

Avoidable waste in car and locomotive operation. W. Elmer. *Mech Eng* 44:94-5 F '22

Do record car loadings mean record tonnage? *Ry Age* 75:301-3 Ag 18 '23

Increase the car loading. M. A. Simmer. *Ry Age* 75:469 S 15 '23

Loading guides solve difficulties of l.c.l. freight. *il Ry Age* 71:1271-3 D 24 '21

Report of the Mechanical division committee on loading rules. *diags Ry Age* 74:1650-2 Je 23 '23; Same. *Ry Mech Eng* 97:526-8 J1 '23

Safe and economical loading of steel products. W. R. Rogers. *Ry Mech Eng* 97:168-70; *Discussion* 170-2 Mr '23

Freight cars

Best representative examples of box and automobile cars built in 1922. *il Ry R* 72:40-3 Ja 6 '23

British railway wagon. *Engineer* 135:149-50 F 9 '23

Campaign against rough handling reduces loss. R. G. Fagan. *Ry Age* 74:1169 My 12 '23

Check on rough handling of cars. *il Ry Age* 71:444 S 3 '21; Same. *Ry Mech Eng* 95:696 N '21

Chemist in a freight car. H. J. Force. *Ry Age* 71:815 O 29 '21; Same. *Ry Mech Eng* 95:700 N '21

Composite hopper cars for Nickel Plate. *il Ry Age* 75:703-4 O 20 '23; *Ry Mech Eng* 97:754-6 N '23

Convertible stock and box car. A. S. Abbott. *il diags Ry R* 71:271-2 Ag 26 '22

Freight car development. *il Ry R* 70:sup31-2 Je 10; *sup28 Je 17; sup26 Je 24 '22*

Freight cars—are they assets or liabilities? C. B. Peck. *Ry Mech Eng* 97:39-41 Ja '23

Milk car for freight or passenger train service. *il Ry R* 72:246 F 10 '23

Milk car for the Boston & Maine. *il Ry Age* 74:1450 Je 16 '23

Need longer cars for tube shipments. *Ry R* 71:765-6 N 25 '22

New box car order. *Iron Age* 110:1148 N 2 '22

Poison-gas chambers disinfect freight. S. R. Winters. *il Pop Mech* 37:595 Ap '22

Railroad cars, their origin and development. E. F. Carry. *il Ry Age* 74:1581-6 Je 23 '23; Same. *Ry R* 72:1073-81 Je 23 '23; Same. *Ry Mech Eng* 97:445-50 J1 '23

Some British well cars. *il Ry Mech Eng* 96:515 S '22

Use of ordinary box cars for shipping fruit. *Ry R* 69:643-6 N 12 '21

Wagon stock on British railways. H. N. Gresley. *Engineer* 135:151 F 9 '23

Which is most interesting to railroad men today—car or locomotive design; views of a typical group of railroad men. *Ry R* 71:868-71 D 16 '22

See also Air brakes; Car doors; Car heating; Car painting; Car roofs; Car wheels; Coal cars; Container cars; Draft gears; Dump cars; Freight car service; Grain cars; Grain doors; Loading and unloading; Ore cars; Refrigerator cars; Tank cars

Cost

Treated timber decreases service cost of cars; report to the American wood preservers' association. *Ry Mech Eng* 97:219-20 Ap '23

Design

Chicago, Milwaukee & St Paul automobile cars. *il diags plans Ry Mech Eng* 97:97-105 F '23

C. M. and St P. Ry. sets an example in good car design. *il diags map Ry R* 70:415-21 Mr 25 '22

Design of a modern 40-ton capacity composite box car. *il diags plans Ry R* 71:745-54 O 21 '22

Freight cars—Design—Continued

Design of automobile car presents special problems, *il* diags plans Ry R 71:731-9, 799 N 25-D 2 '22

Design of combination 40-ton stock and coal car, diags Ry R 73:159-69 Ag 4 '23

How the C.M. & St P.R.R. designed their new gondola cars, diags Ry R 70:834-41 Je 10 '22

Important factors in freight car design, L. E. Endsley, Ry Mech Eng 96:341-2 Je '22

Method used in designing C. M. & St P. gondola cars, *il* diags plans Ry Mech Eng 96:638-44 N '22; Discussion, 97:4-5, 109-11, 201 Ja-F, Ap '23

New designs of freight cars for the Santa Fe, *il* diags Ry Age 74:1409-13 Je 16 '23; Same, Ry Mech Eng 97:573-7 Ag '23

New steel frame double-sheathed box car for Santa Fe, diags Ry R 72:1010-15 Je 16 '23

One-piece cast steel freight car underframe, *il* diags plan Ry R 73:147-9 S 29 '23

Progress toward standard car designs shown in A.R.A. report, diags Ry R 70:970-1 Je 24 '22

Report of the Mechanical division committee on car construction; with discussion, diags Ry Age 74:1553-72 Je 23 '23; Same, Ry Mech Eng 97:425-44 Jl '23; Same cond. Ry R 72:1132-43 Je 30 '23; Discussion, Ry R 73:69, 129-30, 352-7, 450-2, 544-6 Jl 14, 28, S 8, 29, O 13 '23

70-ton D. & R. G. W. general service gondola car, *il* diags plan Ry Mech Eng 96:517-20 S '22

Spring assemblages for freight car trucks, G. S. Chiles, diags plans Ry R 70:844-50 Je 10 '22

Underframe and truck design for C. M. & St P. Ry. cars, *il* diags plans Ry R 72:356-65 Mr 3 '23

See also Freight cars, Steel—Design

Equipment

Savage impact register on the Baltimore & Ohio, *il* Ry Age 74:344 F 3 '23; Ry R 71:800 D 2 '22

Inspection

See Car inspection

Interchange

Car inspectors discuss new rules of interchange, Ry Mech Eng 96:85-90, 153 F-Mr '22

Centralized freight car ownership undesirable, D. D. Conn, Ry Age 74:289-92 Ja 27 '23

Discussion of changes in interchange rules, Ry Mech Eng 96:702-7 D '22

Discussion of the new rules of interchange, Ry Mech Eng 96:203-6 Ap '22

Distribution of railway freight car ownership, J. P. Hallihan, Ry Age 73:1229-33 D 30 '22

Interchange and industrial inspection of freight train cars, W. J. Owen, Ry Mech Eng 97:283-4 My '23

Interchange car inspection, Ry R 72:1091-2 Je 23 '23

Interchange of rolling-stock; reports at the International railway congress, Engineering 113:678-9 Je 2 '22

Make car owners' responsibility complete, C. J. Wymer, Ry Mech Eng 95:695-6 N '21

Plea for separate settlement for rebuilt cars when destroyed in interchange, Ry Age 75:27-8 Jl 7 '23

Report of the arbitration committee of the Mechanical division; responsibility for car conditions to meet interchange requirements for rule 3 placed on owner, Ry Age 74:1611-12 Je 23 '23; Same, Ry Mech Eng 97:451-2 Jl '23

Simplified system of car accounting saves large expense, J. W. Fox, Ry R 70:251-7 F 25 '22

Unnecessary transferring of loaded cars, F. W. Brazier, Ry Age 71:814 O 29 '21; Same, Ry Mech Eng 95:690 N '21

Manufacture

Preservative treatment of car lumber, H. S. Sackett, *il* Ry Age 71:1079-80 D 3 '21; Same, Ry Mech Eng 96:83-5 F '22

Treated lumber in cars, Ry R 70:472 Ap 1 '22

Use of wood in freight car construction; the advantages of composite design, H. S. Sackett, *il* diags Ry Age 71:1037-42 N 26 '21; Same, Ry Mech Eng 96:27-32 Ja '22

See also Freight cars, Steel—Manufacture

Ownership

See Freight cars—Interchange; Freight cars—Pooling

Painting

See Car painting

Pooling

Agricultural commission reports findings on transportation, Ry R 70:651-3 My 6 '22; Excerpt, Comm & Fin Chr 114:1972-3 My 6 '22

A.R.A. analyzes security owners' car pooling plan; abstracts, Ry R 72:247-52, 290-3 F 10-17 '23; Ry Age 74:373-6 F 10 '23

A. R. A. committee rejects the Warfield car-pool plan, Ry R 72:236 F 3 '23

Car pooling plan considered of doubtful utility by railway executives, Comm & Fin Chr 114:1026-7 Mr 11 '22

Centralized freight car ownership undesirable; abstracts, D. D. Conn, Ry Age 74:289-92 Ja 27 '23; Comm & Fin Chr 116:376 Ja 27 '23

Effects of the Warfield proposal for a car-pool corporation with government backing, F. H. Alfred, Ry R 72:158 Ja 20 '23

Freight car pool suggests government ownership, Eng N 90:188+ Ja 25 '23

I.C.C. general rate investigation, Ry Age 72:481-3 F 25 '22

Latest scheme for pooling cars, Ry Age 72:508-9 Mr 4 '22

Mr Warfield's dangerous argument, Ry Age 74:259-60 Ja 27 '23

Mr Warfield's reply to the A.R.A. report on his plan, diags Ry R 72:252-3 F 10 '23

President's plan for pooling cars, Ry R 71:867; 72:148-9 D 16 '22, Ja 20 '23

Proposed freight car pooling, R. Budd, Ry R 70:875-6 Je 10 '22

Railroad committee opposes car pooling plan; suggested ways of improving coal transportation discussed in report to U.S. coal commission, Ry Age 74:293-5 Ja 27 '23

Remarkable increase in freight car efficiency, Ry Age 74:1678 Je 30 '23; Discussion, 75:56-7, 60, 142-3, 145-6 Jl 14, 28 '23

Report of committee of the American railway association, 74p American railway assn., Washington '23

Word for the security owners' car pooling plan, O. C. Castle, Ry Age 72:811-12 Ap 1 '22

Repair

Carmen at the freight house, Ry R 70:236-8 F 18 '22

Community hospitals for disabled foreign freight cars, J. J. Tatum, *il* plan Ry R 70:73-6 Ja 21 '22

Does it pay to repair foreign freight cars? N. D. Ballantine, Ry Mech Eng 96:22-4 Ja '22; Same, Ry Age 71:1319-21 D 31 '21; Same cond. Ry R 69:712-15 N 26 '21

Practical plan for analyzing account no. 314; would exhibit effect of freight car design on maintenance, L. Richardson, Ry R 73:133-5 Jl 28 '23

Reclaiming sheets of outside metal car roofs, *il* plan Ry Age 72:275-6 Ja 28 '22; Same, Ry Mech Eng 96:25-6 Ja '22

Rip track equipment and methods on Ft. D.D.M. & S. J. Duncan, *il* diags Ry R 70:491-5 Ap 8 '22

Scientific freight car rebuilding program, Ry Age 74:1403 Je 16 '23

Shop prices covering repair work on all wooden freight car equipment, 207 1. Michigan Central railroad co., Detroit '21

Unit system of repairing freight cars, *il* plans Ry Age 75:70-4 Jl 14 '23; Same, Ry Mech Eng 97:568-72 Ag '23

See also Freight cars—Interchange; Freight cars, Steel—Repair; Railroads—Shops

Freight cars—Continued**Standards**

Adopt the standard box car. Ry Age 75:561-2 S 29 '23
 Proposed standard car designs inopportune. J. E. Muhlfeld. Ry R 73:547 O 13 '23
 Standard freight cars; recommendations to be made by joint congressional commission. Iron Age 109:1274 My 11 '22

Statistics

Freight car orders during 1921 lowest on record. F. W. Kraeger. il Ry Age 72:127-30 Ja 7 '22
 Freight car orders eight times 1921 figure. il Ry Age 74:130-5 Ja 6 '23
 64,232 freight cars delivered to domestic railroads in 1922. il Ry R 72:39-51 Ja 6 '23

Steel construction

See Freight cars, Steel

Weight

Freight train resistance and tonnage rating. R. J. McCarty, jr. il Ry Mech Eng 97:204-7 Ap '23

Freight cars, Electric railroad

And now, one-man freight cars. il map plan Elec Ry J 62:210 Ag 11 '23

Freight cars, Steel

Best representative examples of steel hopper cars built in 1922. il Ry R 72:48-51 Ja 6 '23
 First steel cars. C. E. Postlethwaite. Ry R 70:sup43 Je 10 '22
 Reducing the corrosion in steel cars. J. J. Tatum. il Ry Age 74:1427-30 Je 16 '23; Same. Ry Mech Eng 97:413-16 Jl '23
 Self-supporting corrugated steel freight car roof. il diags Ry Age 72:1129-30 My 13 '22; Same. Ry Mech Eng 96:424 Jl '22

Design

All-steel automobile car construction on the U. P. system. il diags plans Ry R 72:53-8 Ja 6 '23
 Design of modern steel freight car equipment. J. A. Pilcher. il diags plan Ry R 71:467-75 O 7 '22; Same, without il. Ry Age 73:645-9 O 7 '22; Same. Ry Mech Eng 96:633-7 N '22
 New export coal carrying equipment for C. & O. Ry. il diags plans Ry R 70:1-4 Ja 7 '22
 Present day tendencies in car construction. E. R. Viberg. Ry Mech Eng 97:161-5 Mr '23; Same cond. Ry R 71:895-902 D 23 '22; Discussion. W. J. Meyer. Ry Mech Eng 97:264 My '23
 Some factors to be considered in freight car design. H. W. Williams. il Ry R 71:269-71 Ag 26 '22
 Springs, draft gears and other problems in car design. L. E. Endsley. il Ry R 70:591-4 Ap 29 '22; Discussion. Ry R 70:650-1, 711; 71:52-3 My 6, 20, Jl 8 '22

Equipment

Edgar steel car seals. diags Ry Age 71:1111 D 3 '21

Manufacture

Car construction at the shops of the C.P.R. H. R. Naylor. il plan Ry R 72:917-21 Je 2 '23; Same. Ry Mech Eng 97:335-40 Je '23; Same. Mech Eng 45:349-52 Je '23; Same cond. Am Mach 58:841-3 Je 7 '23
 Equipment and operation of a modern steel car plant. G. A. Richardson. il plan Ry R 70:913-18 Je 17 '22
 Planned repetitive manufacture of heavy equipment—steel coal cars. W. B. Ferguson. il Management & Adm 6:585-92 N '23

Repair

Repairing freight cars by progressive methods. W. W. Warner. il Ry Mech Eng 97:759 N '23
 Repairing steel cars in a remodeled roundhouse. il plans Ry Mech Eng 95:751-3 D '21
 Requirements for a modern car repair shop. H. H. Dickinson and P. Schioler. plans Ry Age 71:890-3 N 5 '21; Same. Ry Mech Eng 95:759-62 D '21

Freight claims

Shipowners can stop pilferage losses. diags Marine R 53:128-9 Ap '23

See also Railroads—Claims

Freight handling

Cargo handling at ports; British and American methods compared. B. Cunningham. Ind Management (Lond) 10:48-50, 81-2 Jl 26-Ag 9 '23; Abstract. Elec R (Lond) 93:158-9 Jl 27 '23

Cargo winches for merchant ships. C. H. Giroux. Gen Elec R 26:570-4 Ag '23

Design of a port to take full advantage of mechanical equipment. C. R. Thompson. il Eng & Ind Management 7:513-17, 554 Je 15-29 '22

Developing lower costs for handling freight. il Ry Age 75:757-60 O 27 '23

Electrically-operated apparatus for handling railway general goods. G. Bulkeley. il Electrician 87:819-21 D 30 '21

English cartage-practice a standard for our railway-terminal trucking. F. C. Horner. il Soc Auto Eng J 12:437-45 My '23; Abstract. Automotive Ind 48:959-60 My 3 '23; Discussion. Soc Auto Eng J 12:492-5 My '23

Factors at a port which determine the kind and amount of freight handling machinery. B. F. Cresson, jr. Can Eng 43:410-11 O 3 '22

Handling freight in the country's largest terminal. il Ry Age 72:225-6 Ja 21 '22

How Britons ship pig iron to U.S. J. Horton. il diags plan Iron Tr R 72:871-3 Mr 22 '23

Material-handling problems in pier design. C. R. Thompson. il diags Mech Eng 45:525-30; Discussion. 530+ S '23

Modern dock appliances at Glasgow harbour including the handling of grain in bulk also dredging plant. D. Fife. diags Engineering 115:820-2 Je 29 '23

Modern methods of handling package freight. G. Marks. Ry Age 72:469-70 F 25 '22

Modern quayside equipment for general goods handling. B. Cunningham. Ind Management (Lond) 8:193-6 O 5 '22

Motion picture in freight claim prevention. il Ry R 73:15-18 Jl 7 '23

Motion pictures save money for the Illinois Central. il Ry Age 74:954 Ap 14 '23; Ry R 72:886-8 My 26 '23

Port of Montreal. F. W. Cowie. il Mech Eng 45:521-4 S '23

Relative advantages of ship equipment and port equipment for loading and discharging ships. Engineer 136:40, 65-6 Jl 13-20 '23; Engineering 116:43-4 Jl 13 '23

Report on improvement of railroad terminals in St. Louis. maps Ry R 71:99-113 Jl 22 '22

Successful tractor and semi-trailer railroad-terminal haulage. J. F. Murphy. il Soc Auto Eng J 12:467-71 My '23

Transhipment of freight. J. Rostern and C. Bentham. Engineering 115:470-1 Ap 13 '23

XIII^e Congrès international de navigation (Londres, 2-7 juillet 1923). P. Barrillon. diags Génie Civil 83:320-3 O 6 '23

Utilizing tractors and trailers for 100 ft. hauls. il Ry Age 71:991-2 N 19 '21

Veri-direct method of handling L.C.L. freight. Ry Age 73:1053-7 D 2 '22; Ry R 72:902-3 My 26 '23

See also Coal handling; Container system (freight handling); Containers; Cranes, derricks, etc.; Dumping appliances; Electric railroads—Freight; Electric trucks, Industrial; Electricity in freight handling; Freight houses; Freight ships; Freight tunnels; Grain handling; Hoisting machinery; Lighters; Loading and unloading; Lumber handling; Merchant marine; Motor trucks in freight service; Ore handling; Railroads—Terminals; Terminals; Wharves

Bibliography

Reference list of articles on freight terminals and freight handling. *In*: American ry. eng. assn., (Chicago) 22d annual convention Proceedings p. 895-8

Cost

Effect of stevedoring costs on operating expenses. L. B. Chapman. Marine Eng 28:71-3 F '23

Freight handling—Cost—Continued

Terminal relief by direct freight delivery; with discussion. W. W. Drinker. Ry Age 73:514-16 S 16 '22

Store door delivery

Coordination of motor-truck and railroad transportation; abstracts. W. J. L. Banham. Soc Auto Eng J 13:122-4+ Ag '23; Nation's Business 11:15-18 N '23; Ry R 73:30-1 J1 7 '23; Am Ind 24:15-16+ Ag '23; Automotive Ind 48:962-3, 1074 My 3, 17 '23
Erie adopts direct freight delivery at New York. il Ry Age 72:233-4 Ja 21 '22; Ry R 70:81-2 Ja 21 '22
Store-door delivery in England. Ry Age 72:758 Mr 18 '22
Terminal relief by direct freight delivery; with discussion. W. W. Drinker. Ry Age 73:514-16 S 16 '22
Theory and practice of store door delivery. T. C. Powell. Ry Age 72:826-8 Ap 1 '22
Why New York city needs store-door delivery. W. H. Connell. Munic Eng 63:144-7 O '22

Freight houses

Burlington develops large new freight station. il diag plans Ry Age 75:475-9 S 15 '23
Carmen at the freight house. Ry R 70:236-8 F 18 '22
Concrete freight house of Central Georgia Ry., at Macon. il diag plans Ry R 72:400-3 Mr 10 '23
Harrison street freight terminal of the Chicago & Alton R. R. in Chicago. il diag plans Ry R 70:179-85 F 11 '22
Hints on freight office routine. N. L. Dragonetti. Elec Ry J 59:749-51 My 6 '22
Improved lighting and ventilation for railway freight houses. G. F. Richardson. diags Eng N 88:393 Mr 9 '22
Katy builds freighthouse of fireproof construction at Dallas, Tex. il diags plans Ry Age 72:559-61 Mr 11 '22; Eng & Contr 58:94 J1 26 '22
Modernizing railway freight houses. G. P. Richardson. diags Am Arch 120:487-8 D 21 '21
New freight house on Alameda street, Los Angeles, provides special service. il diag map plan Ry Age 75:803-6 N 3 '23
See also Railroads—Terminals; Warehouses

Lighting

Improving daylight conditions in railway freighthouses. diags Eng N 90:632-3 Ap 5 '23

Freight rates

British ships cut costs in 1922. C. Maughan. Marine R 53:52-5 F '23
Compares freight costs in making iron. Iron Tr R 72:307 Ja 25 '23
Cut in upper lake rates urged. J. A. Topping. Iron Tr R 69:1542-4 D 15 '21
Export rates from gulf to Europe bar western products. P. W. Babcock. Nat Pet N 15:37+ Ap 18 '23
How conferences control rates. Marine R 52:11-14 Ja '22
Lowering of freight rates will be urged. L. W. Moffett. Iron Age 108:1415-16 D 1 '21
Ocean freight rates. See monthly numbers of Marine review
Text of I.C.C. ruling refusing decreased rates on lake ore after Jan. 1. Coal Age 20:1023 D 22 '21
Uniformity of steamship rules, rates and practices. K. F. Johns. Annalist 19:391 Ap 3 '22
United States tariff commission on preferential transportation rates. Comm & Fin Chr 115:2227 N 18 '22

See also Railroads—Rates

Freight ships

Automobile carrying fleet developed on Great Lakes. il Marine Eng 28:496-7 Ag '23
Cargo steamer Brynmor for the Polecrest steamship co., ltd. diags Engineering 113:117-18 Ja 27 '22
Cargo steamer steel traveler, of 10,050 tons D. W. diags plans Marine Eng 27:547-52 S '22

Deadweight. E. C. Bennett. Marine Eng 28:76-7 F '23

Diesel-electric fruit-carrying ship La Playa. il diag Engineer 136:420-2, 456-8 O 19-26 '23; Elec R (Lond) 93:621-3 O 26 '23; Engineering 116:492 O 19 '23

Dyson's method applied to merchant ship propellers. E. A. Stevens, jr. Marine Eng 28:225-30 Ap '23

Economic efficiency of merchant ships. J. Tutin. Marine Eng 27:386-90+ Je '22

Eight boats added to fleet handling lake iron ore. A. J. Hain. il Iron Tr R 73:184-6 J1 19 '23; Same. Marine R 53:306-8 Ag '23

Fruit ship propelled by electricity. il Marine R 51:541 D '21

Great Lakes freighter Frontenac. diags plans Marine Eng 28:536-9 S '23

Keel laid for new lake bulk freighter. diags plans Marine R 52:290-1 J1 '22

Longitudinal strength of cargo vessels and its variation with fullness of form. E. L. Champness. Engineering 113:502-6; Discussion. 483 Ap 21 '22; Engineer 133:462 Ap 28 '22

Modern steam-driven freighter Thomas P. Beal. il diags plans Marine Eng 26:913-20 D '21

Motorships for both lake and coastwise service. il diags plans Marine Eng 28:594-7 O '23; Marine R 53:378-80 O '23

New type ship has double chilled steel interior. L. R. Perry. il Pop Mech 39:176 F '23

Proportions and block coefficients of merchant steamers. W. J. Lovett. Engineering 114:94-5; Discussion. 71-2 J1 21 '22; Same. Marine Eng 28:115-17 F '23

Safety factors in lake ships. A. Lindblad. Marine R 53:370-3, 424-5, 462-4 O-D '23 (to be cont)

Shallow freight boats have four pontoon rudders. il Pop Mech 40:109 J1 '23

Small motor cargo ships for the eastern trade. il Marine Eng 27:649-50 O '22

Steamship Bethore completed. il Marine Eng 27:243-4 Ap '22

Value of tramp steamers to a merchant marine. C. H. Potter. Marine Eng 27:744-5 D '22

See also Lighters; Merchant marine; Tank ships

Cost of operation

American ships now operating on economical basis. R. E. Annin. Marine Eng 27:8-10 Ja '22

Does an annual saving of \$40,000 interest you; evaporators can save half of fuel bill. L. B. Chapman. Marine Eng 28:197-9 Ap '23

Effect of stevedoring costs on operating expenses. L. B. Chapman. Marine Eng 28:71-3 F '23

Freight terminals. See Railroads—Terminals; Terminals

Freight trains. See Railroads—Trains

Freight tunnels

Foundation excavation removed by tunnels at Chicago; shafts on building site chute material to cars of narrow-gage underground railway for disposal on lake front. il Eng N 89:877-8 N 23 '22

Making most of surrounding conditions in ventilation and heating; fresh air in summer and tempered air in winter obtained from Chicago's freight tunnel. M. Kimberley. il diag Sanitary & Heat Eng 93:247-9 N 3 '22

Freight yards. See Railroads—Yards

French Guiana

See Gold mines and mining—Guiana; Radio stations—French Guiana

French language

French commercial course (cours de français commercial). B. Dumville. 236p Dutton '22
French commercial terms and phrases. R. Lusum. 190p Dutton '22

Frequency changers

Aligning a frequency changer set il diags Power 58:298-9 Ag '21 '23

Frequency converter ties between large power systems. J. W. Dodge. il diag Gen Elec R 26:435-44 Je '23

Frequency changers—Continued

- Group operation of systems having different frequencies. E. R. Stauffacher and H. J. Briggs. *il Am Inst E E J* 42:1129-32 N '23; Abstract. *Elec W* 82:863 O 27 '23
- Input-output performance of frequency changer. W. A. Churchill. *Elec W* 82:236 Ag 4 '23
- One solution of the frequency problem. C. Sutton. *diags Elec R (Lond)* 89:700-2 N '21 '21; Discussion. 89:745-6, 817 D 2, 16 '21
- Polyphase commutator machines; losses in a frequency-changer. A. B. Field. *diags Am Inst E E J* 41:50-7, 386-7 Ja, My '22
- Protection for frequency-changer sets. W. C. Hornberger. *il plan Elec W* 81:1094-5 My 12 '23

Fresh air charity

- See Chicago daily news sanitarium, Lincoln park, Chicago

Fresno, California**Rapid transit**

- Fresno has new franchise. *Elec Ry J* 59:1011-12 Je 24 '22

Friction

- Friction. T. E. Stanton. 183p Longmans '23
- Laws of bearing and dry friction similar when loads are high. P. M. Heldt. *diags Automotive Ind* 49:573-5, 735-9, 800-1, 842-4 S 20-O 25 '23
- Power lost in shaft bearings. H. M. Brayton. *chart diag Am Mach* 58:861-3 Je 14 '23
- Testing oiliness by friction-testing machines. W. H. Herschel. *Chem & Met Eng* 28:302-3 F 14 '23
- Tests on cap-leather sleeve friction. E. Irion. *Mech Eng* 44:59-60 Ja '22
- Theory of static friction. R. M. Deeley. *Engineer* 134:610-11 D 8 '22

Friedel-Crafts' reaction

- Arsenated benzophenone and its derivatives. W. L. Lewis and H. C. Cheetham. *Am Chem Soc J* 45:510-15 F '23
- Friedel and Crafts' reaction; bromophthalic anhydrides, benzene and aluminum chloride. H. N. Stephens. *Am Chem Soc J* 43:1950-6 Ag '21
- Friedel and Crafts' reaction; diphenyl and ditolyl tetrahalogen phthalides. W. A. Lawrence and H. G. Oddy. *Am Chem Soc J* 44:329-30 F '22
- Friedel-Crafts' reaction; migration of alkyl groups in the benzene nucleus. M. Copisarow. *Chem Soc J* 119:1806-10 N '21
- Friedel and Crafts' reaction; some substituted phthalic anhydrides with toluene and aluminum chloride. W. A. Lawrence. *Am Chem Soc J* 43:2577-81 D '21
- Friedel and Crafts' reaction; the carbomethoxy-benzoyl chlorides with aromatic hydrocarbons and aluminum chloride. M. E. Smith. *Am Chem Soc J* 43:1920-4 Ag '21
- Friedel and Crafts' reaction; the preparation of 2-para-toluyil-benzoic acid. T. C. McMullen. *Am Chem Soc J* 43:1965 Ag '21
- Friedel and Crafts reaction with phthalic anhydride. T. C. McMullen. *Am Chem Soc J* 44:2055-60 S '22
- Use of iron pyrites in a Friedel-Crafts' reaction. J. A. Smythe. *Chem Soc J* 121:1270-9 Jl '22
- Zur kenntnis der Friedel-Craftsschen reaktion. H. Wieland and L. Bettag. *Deutsche Chem Gesell Ber* 55:2246-55 S '22; Abstract. *Chem Soc J* 122 pt 1:1033-4 N '22

Friemel cross-rolling mills. See Rolling mills**Friends, Society of**

- Story of a Quaker meeting; how one group of employers is working to improve industrial relations. *Nation's Business* 11:56-7 S '23

Friezes

- Architectural sculpture. L. V. Solon. *il Arch Rec* 54:292-5 S '23

Frogs

- Minstrel frogs; a few details about the source of one of springtime's melodies. S. F. Aaron. *diags Sci Am* 128:248 Ap '23

Frost

- See Plants, Effect of cold on; Thawing

Frost protection

- Central-heating system for orange groves. C. R. Baldwin. *diag plan Pop Mech* 38:499 O '22

Frozen fish. See Fish, Frozen**Frozen meat. See Meat, Frozen****Fructose**

- Constitution and rotatory powers of mannitol and fructose complexes formed in solutions containing boric acid and sodium hydroxide. G. Van B. Gilmour. *Chem Soc J* 121:1333-40 Jl '22
- 1:3:4:6-tetramethyl fructose. J. C. Irvine and J. Patterson. *Chem Soc J* 121:2696-2703 D '22
- Preparation of fructose. T. S. Harding. *Am Chem Soc J* 44:1765-8 Ag '22
- Frueauff, Frank Wheatcroft, 1874-1922
- Portrait. *Elec W* 79:866 My 6 '22
- Sketch. *por Elec W* 80:287, 341-2 Ag 5-12 '22, N E L A Bul 9:537-8, 553-5 S '22

Fruhauf brothers

- Manufacturer's work preliminary to the advertising; Fruhauf brothers, New York. W. P. Tuttle. *Ptr Ink* 123:65-6+ My 10 '23

Fruit

- Action of metals on fruit and vegetable products. M. Donauer. *Chem Age* 31:427-8 S '23
- New fruit-peeling machine uses caustic-soda vapor. *il Pop Mech* 37:726 My '22
- See also Bananas; Canning and preserving; Drying (fruits and vegetables); Prunes

Marketing

- Making a market for oranges and lemons not yet grown. G. A. Nichols. *Ptr Ink* 121:81-2+ O 5 '22
- Marketing northwestern apples. H. H. Maynard. 190p Ronald press '23
- Wholesale distribution of fresh fruits and vegetables. R. G. Phillips and S. Fraser. 256p For the Joint council of the National league of commission merchants of the United States—the Western fruit jobbers' association of America—International apple shippers' association—Printed by the Fish-Lyman co., Rochester, N.Y. '22

Storage

- Fruit storage and transport. *Engineering* 116:180-2 Ag 10 '23

Bibliography

- Bibliography on the preservation of fruit and vegetables in transit and storage. 76 numb. I. U.S. Dept. of agriculture, Library, Washington '22

Transportation

- Fruit storage and transport. *Engineering* 116:180-2 Ag 10 '23
- Precooling fruits and vegetables before shipment. C. T. Baker. *Refrig Eng* 9:333-4 My '23
- Use of ordinary box cars for shipping fruit. *Ry R* 69:643-6 N 12 '21

Fruit culture

- See Grafting

Fruit juices

- Clarifying fruit juices. W. V. Cruess. *il Chem & Met Eng* 29:351-3 Ag 27 '23
- See also Grape

Advertising

- Advertising to put a new kind of old-fashioned beverage in the home. H. Burwen. *Ptr Ink* 123:41-2+ My 24 '23

Fruit syrups. See Sirups**Fruit trade**

- See also Fruit—Marketing

Advertising

- Advertising does not have to lower retail prices to justify itself. J. A. Murphy. *Ptr Ink* 120:133-4+ S 14 '22

Fruit trade—Advertising—Continued

- Blue goose campaign of marketing and advertising. J. T. Bartlett. *Ptr Ink* 119: 133+ My 25 '22
- Justification of advertising in marketing fruit. J. Thomas. *Ptr Ink* 120:73-4 Ag 24 '22
- Need of advertising to sell perishable crops. W. H. Heath. *Ptr Ink* 120:91-2 Jl 6 '22
- Summer demand for grapefruit created by Sealdsweet advertising. M. Walker. *Ptr Ink* 124:10+ Jl 19 '23

See also Apples—Advertising; Pineapples—Advertising

Bibliography

- Yield of co-operative fruit advertising. *Ptr Ink* 119:91-2 My 25 '22

Fruit trees

- Fruit trees are trained in many queer shapes. *il Pop Mech* 40:272 Ag '23
- Wire bracing of fruit trees judged best. *il Pop Mech* 39:557 Ap '23

Fuchsin

- Effect of light on fibres dyed with a mixture of chrysaniline and fuchsin. W. W. Padon. *J Phys Chem* 26:288-91 Mr '22; Same. *Am Dyestuff Rep* 12:442-3 Je 4 '23
- Non-porous porcelain and how to obtain it. S. L. Case. *Elec W* 81:751 Mr 31 '23

Fucose

- Structure of fucose. E. P. Clark. *U S Bur Stand Sci Pa* 459:527-34 '22

Fuel

- Aluminum melting practice. R. J. Anderson. *Foundry* 50:792-6 O 1 '22
- American fuels. R. F. Bacon and W. A. Hamor. 2v 1245p McGraw-Hill '22
- America's fuel resources. R. G. Skerrett. *il Sci Am* 126:85-7 F '22
- Analysis of fuel, gas, water and lubricants. S. W. Parr. 3d ed., rev. & enl. 250p McGraw-Hill '22
- California's prosperity depends on future supplies of fuel. C. H. Delany. *J Elec* 48:272-4 Ap 1 '22
- La chaleur reçue du soleil par la terre et le cycle terrestre du carbone. C. Roszak. *Génie Civil* 81:446-7 N 11 '22
- Characteristics of different types of Canadian household fuels. R. E. Gilmore, J. H. Nicolls and H. Kohl. *Can Chem & Met* 7:30-4 F '23
- Coal and coke mixtures as water-gas generator fuel. W. W. Odell. *il U S Bur Mines Tech Pa* 284:1-31 '21
- Combustibility of blast furnace fuels. E. R. Sutcliffe and E. C. Evans. *il Blast F & Steel Pl* 10:427-36 Ag '22
- Comparison of the relative thermal value of typical fuels. 43p General oil gas corp., New York '21
- Current talk about substitute fuels. F. W. Parsons. *Gas Age* 52:257-8+ S 1 '23
- Drying of moist fuels outside of the furnace. Z. Kogan. *diags plan Power Pl Eng* 27: 619-22 Je 15 '23
- Engine-room chemistry. A. H. Gill. 3d ed. 174p McGraw-Hill '22
- étude de la question des carburants en France. A. Grebel. *diags Génie Civil* 81:537-41, 558-63 D 9-16 '22
- L'exposition du chauffage industriel, 18-21 juin 1923. P. Dufour. *Chimie & Ind* 10:supl-6 Jl '23
- Farm fuels vs. mine fuels. F. W. Parsons. *Gas Age* 49:543-4+ My 6 '22
- Fuel and refractory materials. A. H. Sexton. *Rev. & enl.* 382p Van Nostrand '21
- Fuel efficiency; what the future holds for petroleum and natural gas. O. J. Sieplein. *Am Gas J* 117:100-2 Jl 29 '22
- Fuel facts and fancies. F. W. Parsons. *Gas Age* 49:449-50+ Ap 15 '22
- Fuel of the future—what shall it be? I. Ginsberg. *Am Gas J* 118:557-61; 119:193-6, 204-5, 253-7+, 457-61, 545-7+ Je 30, S 8, 29, O 20, N 17 '23
- Fuel problems discussed at New Haven branch of A.S.M.E. *Power* 54:822-3 N 22 '21
- Fuel problems of the Pacific coast. *Mech Eng* 44:655-9 O '22
- Fuel research board. *Engineering* 115:485-7, 794-6, 761, 811-12; 116:168-9 Ap 20, Je 15-29 Ag 10 '23

Fuel situation in Canada. *Can Eng* 43:659-60 D 26 '22

- Fuels available for domestic use. R. Kudlich. *Heat & Ven* 20:61-3 O '23
- Fuels used in open-hearth practice. E. F. Cone. *Iron Age* 108:1589-92 D 22 '21
- Gas—the fuel of the future. T. King. *Am Gas J* 116:321-2, 332-5 Ap 8 '22
- Joint fuel sessions of the National automobile chamber of commerce and other automotive interests, with the American petroleum institute, Chicago, Dec. 6-7. *diags Soc Auto Eng J* 10:1-6, 17-24 Ja '22
- Moist fuels present unusual conveying problems. Z. Kogan. *diags Power Pl Eng* 27: 461-3 My 1 '23
- Montreal branch E.I.C. issues fuel report. *Can Eng* 44:521 My 22 '23
- Origin and characteristics of solid fuels. C. L. Wright. *Locomotive* 34:170-7 Ap '23
- Patent fuel industry and the use of tar on roads. *Gas J (Lond)* 161:600-2 Mr 7 '23
- Patent, smokeless and semi-smokeless fuels. J. A. Greene and F. M. Perkin. 116p Pitman '22
- Power and fuel consumption of the iron and steel industries of the Pittsburgh district. S. B. Ely and W. F. Rittman. *il Mech Eng* 45:401-6 Jl '23
- 1er Congrès et 1re exposition de chauffage industriel, Paris, 1-21 juin 1923. *Génie Civil* 83:37-9, 55-8 Jl 14-21 '23; *Engineer* 135:693 Je 29 '23
- Progress of iron and steel industry. *Iron & Steel Inst J* 107:613-39 no 1 '23
- Relative heating values of fuels. L. P. Breckenridge. *Brick & Clay Rec* 60:626 Ap 18 '22
- Solid substitutes for hard coal. *diag Sci Am* 127:309 N '22
- Substitutes for anthracite. O. P. Hood. *Sheet Metal Worker* 14:645+ S 14 '23
- Thermo-calorimetric heating values of fuels. J. Hudler. *diags Mech Eng* 44:596-7 S '22
- To keep the home fires burning; expert opinion on the coal shortage of the coming winter and how the householder may meet it. J. M. Bird. *il Sci Am* 127:302-3 N '22
- Trend in heating. J. Harrington. *System* 44: 666 N '23
- Using waste liquor residue for fuel. *Paper* 29:7-10 Ja 11 '22
- World sources of mineral fuels. E. G. Sievers. *il maps Gas Age* 51:757-61, 793-6 Je 16-23 '23
- See also Airplane engines—Fuel; Alcohol as fuel; Automobile engines—Fuel; Bagasse as fuel; Blast furnace gas; Briquetting (fuel); Carbocool; Charcoal; Cinders; Coal; Coal, Pulverized; Coal dust as fuel; Coal waste; Coke; Coke breeze; Coke-oven gas; Combustion; Culum; Diesel engines—Fuel; Firing; Fuel, Colloidal; Fuel economizers; Fuel economy; Furnaces; Gas, Natural; Gas and oil engines—Fuel; Gas as fuel; Gasoline; Heating; Kerosene; Lignite; Liquid fuel; Locomotives—Fuel; Metaldehyde; Oil as fuel; Peat; Pitch as fuel; Railroads—Fuel; Rubber as fuel; Smoke prevention; Waste fuel; Wood as fuel

Cost

- Comparative fuel costs of coal and oil. E. T. McCarthy. *diag Power* 57:446-7 Mr 20 '23
- Comparisons of industrial fuels. *Gas Age* 51: 563 My 5 '23
- Economics of fuel for melting metal. T. H. A. Eastick. *Metal Ind* 20:15-16 Ja '22
- Kiln firing and relative fuel values. F. W. Walker, jr. *Chem & Met Eng* 27:1276-7 D 27 '22
- Quick way to find fuel costs. A. H. Jansson. *Marine R* 53:422-3+ N '23
- Some relative costs of cooking with various fuels. *diag Gas Age* 49:690 Je 3 '22
- What the present coal situation means to the heating industry. F. B. Howell. *chart Heat & Ven* 19:36-8 S '22
- Which? coal or oil. W. F. Schaphorst. *diags Power Pl Eng* 27:1093 N 1 '23
- Will it pay to burn oil instead of coal? N. G. Near. *Power Pl Eng* 27:732 O 15 '23

Fuel—Cost—Continued

Will it pay to burn oil instead of coal? W. F. Schaphorst. *il chart Ry Mech Eng* 97:624 S '23; Same. *Refrig W* 58:26-7 Ag '23; Same. *Heat & Ven* 20:55-6 O '23

Testing

By-product coke and other fuels for house-heating boilers. H: Kreisinger and others. *U S Bur Mines Tech Pa* 315:1-21, pl 1 '23; Same. *Gas Age* 52:283-6+ S 8 '23
Heat transference and combustion tests in small domestic boiler. J: Blizard and others. *il Am Soc Heat & V E J* 29:317-43 My '23
Value of coke, anthracite, and bituminous coal for generating steam in a low-pressure cast-iron boiler. J: Blizard, J. Neil and F. C. Houghton. *diags U S Bur Mines Tech Pa* 303:1-56 '22
Value of mixtures of coke breeze and bituminous coal as fuel for a hand-fired boiler. J: Blizard and J. Neil. *Am Soc Heat & V E J* 27:645-55 S '21

Fuel, Colloidal

Colloidal mixture with coal may give fuel oil wider use. L. W. Bates. *Nat Pet N* 14:77+ Ag 16 '22

Fuel, Plastic

Amalgam fuel possibilities in the Orient. J. V. McCartney. *il map Blast F & Steel Pl* 11:434-8 Ag '23
Oil and coal mixed used for fuel. *Blast F & Steel Pl* 10:487 S '22; Same. *Power Pl Eng* 26:916-17 S 15 '22; Same. *Am Gas J* 117:207 S 2 '22; Same cond. *Elec W* 80:488 S 2 '22; Abstract. *Power* 56:395 S 5 '22; Discussion. R. Poliakoff. 56:817 N 21 '22
Plastic fuel can be made of low-grade coal and oil and can be coked even if non-coking coal is used. G: H. Dacy. *il Coal Age* 21:953-6 Je 8 '22; Discussion. W. Trent. 22:12 J1 6 '22
Plastic fuel, or amalgam. W. E. Trent. *Power* 54:1032 D 27 '21

Fuel economizers

Care and operation of fuel economizers. H. M. Guilbert. *il diags Power Pl Eng* 27:567-9 Je 1 '23
Case for the economiser. J. Frith. *Engineer* 133:655-6 Je 16 '22
Economizers and economizer operation. F. H. Prouty. *diags Blast F & Steel Pl* 10:240-2 Ap '22
Economizers; correct temperatures, methods of cleaning, inspection. *diags Power Pl Eng* 26:30-2 Ja 1 '22
Economizers, feed water heaters, superheaters and air preheaters for paper mill power plants. W. F. Schaphorst. *il Paper Tr J* 74:24+ Mr 9 '22
Fuel economy by the adoption of scientific management in steam generation and utilization. D: Brownlie. *il Eng & Ind Management* 6:626-30+, 719-22 D 1, 22 '21
Interesting economizer installation. *plan Ry Mech Eng* 96:653-4 N '22
Low pressure economizer with a high-pressure boiler. *Power* 56:459 S 19 '22
New Foster economizer. *il diag Power* 57:485-6 Mr 27 '23; *Power Pl Eng* 27:326-7 Mr 15 '23
Notes on economizer performance. A. W. Binns. *chart diag Power Pl Eng* 26:694-7 J1 15 '22
Repairing an economizer. A. D. Palmer. *diags Power* 55:578 Ap 11 '22
Value of fuel economizers in paper mill operation. G. E. Williamson and G. C. Derry. *Paper Tr J* 74:52-5 My 4 '22; Same. *Tech Assn Pa ser* 5:92-5 Je '22

Fuel economy

Aids to coal economy. W. H. Casmey. *il Eng & Ind Management* 7:65 Ja 19 '22
Ample reserve of fuel an insurance. W. Walker. *diags Inst E E J* 60:26-33 D '21
Analysis of factory heating. M. C. W. Tomlinson. *Factory* 28:162-4 F '22
Coal carbonization and the world's fuel. H. C. Porter. *diags Ind & Eng Chem* 15:335-8 Ap '23
Conservation of the fuel supplies of the Pacific coast. F. H. Sibley. *Mech Eng* 44:659 O '22

Discussion of heat balance. J. B. Crane. *Blast F & Steel Pl* 10:583-4 N '22

Economical use of bituminous fuels. J: B. C. Kershaw. *diags Elec W* 80:1317-24 D 16 '22

L'économie de combustibles dans une grande usine sidérurgique. *Génie Civil* 83:30-4 J1 14 '23

L'économie des combustibles dans les industries du sucre. *Génie Civil* 82:282-3 Mr 24 '23

Educational work for fuel economy. D. C. Buell. *Ry Age* 72:1287-8 Je 3 '22

Entwicklungsmöglichkeiten bei hüttentechnischen oefen. G: Bulle and Rosin. *diags Stahl & Eisen* 42:529-32 Ap 6 '22

L'exposition de l'office central de chauffe rationnelle (18-30 avril 1922). P. Mahler. *Génie Civil* 80:434-5 My 13 '22

Facts about coal conservation. E. Douglas. *Ind Management* 64:296-300 N '22; Excerpts. *Power* 56:899 D 5 '22

Fuel conservation as viewed from several practical standpoints; addresses at the international railway fuel association convention. L. W. Baldwin and others. *Ry R* 70:736-40 My 27 '22; *Ry Age* 72:1233-5, 1236-7 My 27 '22

Fuel conservation in industrial power plants. D: M. Myers. *Gen Elec R* 25:95-8 F '22; Same cond. *Power Pl Eng* 26:307-9 Mr 15 '22

Fuel economy by the adoption of scientific management in steam generation and utilization. D: Brownlie. *il diags Eng & Ind Management* 7:39-41, 117-20, 131-2, 238-40 Ja 12, 26-F 2, 23 '22

Fuel economy; fifth report of the fuel economy committee of the British association. *Engineer* 134:334-5, 364-6, 393-4 S 29-O 13 '22; *Elec R (Lond)* 91:462 S 29 '22

Fuel economy from recirculation with air washers at the Springfield Y. M. C. A. college. N. A. Hollister. *diag plan Am Soc Heat & V E J* 28:279-88 Ap '22

Fuel economy in cement mills. O. Lellep. *Concrete* 22:sup100-4 Je '23

Fuel economy in iron and steel works. H. C. Armstrong. *Iron Age* 108:1216 N 10 '21

Fuel economy in shipping board vessels. R. D. Gatewood. *Marine Eng* 28:22-3 Ja '23

Fuel economy secured by organization. M. Mahler. *diags Power Pl Eng* 27:317-19 Mr 15 '23

Fuel saving in relation to capital necessary. J. Harrington. *Mech Eng* 43:725-6 N '21; Discussion. 44:113+ F '22

Good advice on coal saving. O. W. Ott. *Ind Management* 62:373-4 D '21

Heat balances of blast furnace and steel plants. W. Trinks. *diags Blast F & Steel Pl* 10:451-6 S '22

High spots in the saving of fuel. E. C. Molby. *diags Heat & Ven* 20:37-9 S '23

How heat losses may be reduced. J: Primrose. *Textile World* 61:2081+ Ap 8 '22; Same abr. *Chem Age* 29:449-50 N '21

Incentives for promoting fuel economy. O. S. Beyer, jr. *Ry Age* 72:1290 Je 3 '22

Insulation for fuel conservation. E. F. Davis. *il diag Gas Age* 49:769-70+; 50:13-17 Je 24-J1 1 '22

National saving of fuel. S. H. Fowles. *Eng & Ind Management* 7:14 Ja 5 '22

L'organisation des économies de combustibles dans l'industrie. *Génie Civil* 81:322-5 O 7 '22

The other ten percent. R. S. Twogood. *Ry Mech Eng* 97:562-3 Ag '23; Same cond. *Ry Age* 74:1335-6 Je 2 '23

Possibilities of further economy in marine boilers. J: Reid. *il diags Engineering* 113:472-5; Discussion. 448-9 Ap 14 '22; *Engineer* 133:420 Ap 14 '22

Railroad electrification will make important changes in the coal industry. C: Means. *Coal Age* 22:235-6 Ag 17 '22

Railway fuel—a reducible 13% of operating costs. J: Kruttschnitt. *Ry R* 72:877-84 My 26 '23

Responsibility of the petroleum and the automotive industries to the public. H. L. Horning. *Soc Auto Eng J* 10:20-4 Ja '22

Smoke evils and the remedy. F. W. Parsons. *Gas Age* 49:253-5 Mr 4 '22

Fuel economy—Continued

- Some practical aspects of fuel economy. C. W. Mitman. diags (Misc. Coll. v 76, no. 1) 19p Smithsonian Institution, Washington '23
- Water works coal pile. D. H. Maxwell. Munic Eng 65:17-22 J1 '23; Same cond. Eng & Contr (W W) 60:84-8 J1 11 '23

See also Boiler plants; Boilers—Gas firing; Boilers—Oil firing; Coal waste; Combustion; Exhaust steam; Firing; Fuel economizers; Furnaces; Furnaces, Recuperative and regenerative; Insulation (heat); Locomotives—Fuel; Temperature—Regulation; Waste fuel; Waste heat

Fuel oil. See Oil as fuel**Fuel purchasing**

- How to buy fuel of proper quality at lowest price. G. M. Talbot. il Marine Eng 28:290-1 My '23

See also Coal purchasing

Fuel research

- Les services que pourraient rendre les recherches scientifiques organisées en matière d'économie et d'utilisation rationnelle des combustibles. A. Kling. Chimie & Ind 7:161-70 Ja '22
- Visit to H.M. fuel research station. Gas J (Lond) 164:184-6 O 17 '23

Fulgides

- Die halochromie der fulgide. H. Stobbe and R. Dietzel. Deutsche Chem Gesell Ber 55: 3567-80 N '22; Abstract. Chem Soc J 124 pt 1:39-40 Ja '23

Fullagar engine

- Fullagar oil engine. il diags Electrician 88: 660-1 Je 2 '22
- Fullagar oil engine for land purposes. il diags Engineer 133:466-8, 470 Ap 28 '22

See also Cammellaird-Fullagar engine

Fuller, E. M., & company

- Charles A. Stoneham indicted for alleged perjury in Fuller case by Federal grand jury. Comm & Fin Chr 117:1418-19 S 29 '23

Fuller, George A., company

- 19th consolidated annual report for the year ended April 30, 1923. Comm & Fin Chr 116: 2530-2 Je 2 '23

Fuller, John T.

- Mining engineers of note. por Eng & Min J 114:858 N 11 '22

Fuller brush company

- How we use advertising to sell our representatives to the public. A. C. Fuller. Ptr Ink 119:61-2+ My 25 '22
- Selling policy that doubled sales in 1921. A. C. Fuller. il System 42:681-5 D '22

Fullerboard. See Pressboard**Fuller's earth**

- Adsorption and catalysis in fuller's earth. E. K. Rideal and W. Thomas. Chem Soc J 121: 2119-23 O '22
- Commercial preparation and use of fuller's earth. T. P. Maynard and L. E. Mallory. Chem & Met Eng 26:1074-6 Je 7 '22
- Contact process for the filtering of petroleum products. H. L. Kaufman. Nat Pet N 15: 81+ Ja 17 '23
- Effect of fuller's earth on pinene and other terpenes. C. S. Venable. Am Chem Soc J 45:728-34 Mr '23
- Fuller's earth deposit at Olmstead, Ill. C. W. Parmelee. il Chem & Met Eng 26:177 Ja 25 '22
- Fuller's earth deposit opened in Pennsylvania. il Chem & Met Eng 26:602 Mr 29 '22
- Fuller's earth in Cornwall. Chem Age (Lond) 9:sup15 Ag 18 '23
- Fuller's earth in 1922. J. Middleton. U S Geol S Min Res of U S 1922, pt 2:69-71 '23
- Preparation of fuller's earth in Florida. S. L. Lloyd. Eng & Min J 112:860 N 26 '21
- Preparation of vitamin-activated fuller's earth. A. Seidell. Chem Age 30:180 Ap '22

Fulling

- Washing and fulling carded wool fabrics. A. Ganswindt. Color Tr J 11:128-30 S '22

Fulling oils

- Fulling oils vs. soap. A. S. Mann. Am Dye-stuff Rep 12:325-7 Ap 23 '23

Fulweiler, Walter H.

- Grasselli medal award. por J Ind & Eng Chem 14:1154-5 D '22

Fumarates

- Salts of maleic, fumaric and inactive malic acids. J. M. Weiss and C. R. Downs. Am Chem Soc J 45:2341-9 O '23

Fumaric acid

- Physical properties of maleic, fumaric and malic acids. J. M. Weiss and C. R. Downs. Am Chem Soc J 45:1003-8 Ap '23
- Preparations from maleic and fumaric acids. H. G. Oddy. Am Chem Soc J 45:2156-60 S '23
- Use of malic, maleic and fumaric acids in volumetric analysis. N. A. Lange and H. Kline. Am Chem Soc J 44:2709-12 D '22

Fumigation

- Conserving crops by fumigation. B. Lowy. Sci Am 127:313 N '22

See also Disinfection and disinfectants

Functionalization. See Organization in industry**Functions**

- Applications of functions with multiplicative periods. J. Kunz. Phys R 21:186-94 F '23

Functions, Exponential

- Easy solutions to hyperbolic functions. A. F. Puchstein. Elec W 81:979 Ap 28 '23
- Rudiments of hyperbolic functions should be discussed repeatedly. L. N. Robinson. Elec W 79:85 Ja 14 '22

Functions, Hypergeometric

- Some approximations to hypergeometric functions. D. M. Winch. Philos Mag 6th ser 45:818-27 My '23

Functions, Legendre. See Legendre functions**Fungicides**

- Chemistry in the control of plant enemies. W. C. O'Kane. Ind & Eng Chem 15:911-13 S '23
- Colloidal copper-hydroxide as a fungicide. H. D. Hooker, jr. Ind & Eng Chem 15:1177-8 N '23

Fur

- Fur durability measured by new device. il Pop Mech 37:428 Mr '22
- Principles and practice of fur dressing and fur dyeing. W. E. Austin. 191p Van Nostrand '22
- Results from improved management methods. I. M. Wheeler. il diags Management Eng 3: 321-6 D '22
- Wrapping the world in furs. T. W. Thackery. il Pop Mech 40:425-31 S '23
- See also* Dyes and dyeing—Fur

Fur bearing animals

- Wrapping the world in furs. T. W. Thackery. il map Pop Mech 40:67-71, 213-17, 425-31 J1-S '23

Fur cutting

- Clinical study of fur cutters and felt hat workers. W. Wright. J Ind Hygiene 4:296-304 N '22
- Industrial diseases of fur cutters and hatters. A. Hamilton. J Ind Hygiene 4:219-33; Bibliography. 234 S '22
- Industrial hygiene of fur cutting and felt hat manufacture. A. Hamilton. bibliog J Ind Hygiene 4:137-53 Ag '22

See also Felt

Fur trade

- Furs and the fur trade. J. C. Sachs. 128p Pitman '23

See also Fox farming

Far Eastern Republic

- Fur industry of the Far Eastern Republic. 13p Special delegation of the Far Eastern Republic to the United States of America, Washington '22

Furfural

- Commercial furfural—its properties and uses. C. S. Miner, J. P. Trickey and H. J. Brownlee. Chem & Met Eng 27:299-303, 362-6 Ag 16-23 '22

- Dyes containing the furane cycle. R. R. Renshaw and N. M. Naylor. Am Chem Soc J 44:862-4 Ap '22

Furfural—Continued

Estimation of pentoses and pentosans; the formation and distillation of furfural. N. C. Pervier and R. A. Gortner. *Ind & Eng Chem* 15:1167-9 N '23

Furfural for the production of synthetic resins. *Chem Age* 31:62 F '23

Furfural from corncoobs. F. B. LaForge and G. H. Mains. *il diags Ind & Eng Chem* 15: 499-502, 823-9, 1057-60 My, Ag, O '23

Furfural-phenol products. *il India Rubber W* 56:734-5 Ag '22

Furfural resins. J. P. Trickey, C. S. Miner and H. J. Brownlee. *bibliog Ind & Eng Chem* 15:65-6 Ja '23

System furfural-water. G. H. Mains. *Chem & Met Eng* 26:779-84, 841-3 Ap 26-My 3 '22

Bibliography

Commercial furfural; its properties and uses. C. S. Miner, J. P. Trickey and H. J. Brownlee. *Chem & Met Eng* 27:363-6 Ag 23 '22

Furfuraldehydes

Über kondensationen von *p*-nitrobenzylchlorid mit zimtaldehyd und mit furfural. E. Kleucker. *Deutsche Chem Gesell Ber* 55: 1634-54 Je '22; *Abstract. Chem Soc J* 122 pt 1:734-5 Ag '22

Furfurylidene anthranilic acids

Action of acetic anhydride upon some furfurylidene anthranilic acids. J. B. Ekeley and E. C. Rogers. *Am Chem Soc J* 44:2655-7 N '22

Furnace arch

Deflecting arches for chain grate stokers. H. Weaver. *diags Power Pl Eng* 27:314-15 Mr 15 '23

Detrick suspended arch for boilers. *il diag Electrician* 89:564-5 N 17 '23

General factors governing design of arches. Z. Kogan. *diags Power Pl Eng* 27:930-2 S 15 '23

McLeod & Henry flat suspended furnace arch. *il Power* 57:795 My 22 '23; *Power Pl Eng* 27:549 My 15 '23

New Waite & Davey air-cooled flat arch. *diags Power* 57:764 My 15 '23

Novel arrangement of suspended arch. *il Power Pl Eng* 27:958 S 15 '23

Tile may be individually replaced in National arch. *il Power* 57:50 Ja 9 '23

La voûte suspendue SAFA pour foyers. H. Le Chatelier and B. Bogitch. *diags Génie Civil* 83:137-8 Ag 11 '23

Furnace doors

Chain screen doors for boilers and furnaces. *il Ry Mech Eng* 96:543-4 S '22

Chain screens for industrial furnace, and ovens. *il Gas Age* 48:727 N 26 '21

Furnace door latch holds against internal pressure. *il Power* 57:669 My 1 '23

Furnace industry and trade

Address on selling furnace heating. M. J. Lenihan. *Sheet Metal Worker* 13:249+ My 12 '22

Building a retail outlet to order; how the L. J. Mueller furnace company picks and develops its dealers. G. A. Nichols. *Ptr Ink* 119:41-2+ My 18 '22

Eliminating abominable furnace work. *Sheet Metal Worker* 14:724 O 12 '23

Furnace demand promises to tax capacity. *Sheet Metal Worker* 14:157+ Mr 30 '23

How to take the bulky product to the consumer; use of photographs. *Ptr Ink* M 5:90+ N '22

Jim Loney sells tailor-made furnace installations. *il Sheet Metal Worker* 14:393-5 Je 22 '23

Making and selling warm-air furnaces. J. L. Loell. *Sheet Metal Worker* 14:247-8 Ap 27 '23

Merchandising furnaces. E. C. Taylor. *Sheet Metal Worker* 14:288-9+ My 11 '23

Something that furnace makers should guard against. E. E. Zideck. *Sheet Metal Worker* 14:611 Ag 31 '23

Using pictures to sell furnaces. *il Sheet Metal Worker* 13:454 Ag 4 '22

See also Furnaces, Warm air—Furnace installation code

Advertising

Advertising asks home buyers to specify make of furnace wanted. *Ptr Ink* 119:106+ Je 22 '22

Driving in early furnaces repairs. *Sheet Metal Worker* 14:281-2 My 11 '23

Fighting the saturation specter by developing an auxiliary use for the product. M. Hastings, Jr. *Ptr Ink* M 5:94+ Je '22

Newspaper advertising builds bigger furnace business in Erie. G. C. Krack. *il Sheet Metal Worker* 14:443-4+ Jl 6 '23

Furnace installation code. *See* Furnaces, Warm air—Furnace installation code

Furnaces

Air-cooled furnace blocks for reducing upkeep. *il Power* 56:136 Jl 25 '22

Approximation for furnace volume. *Power* 58: 750 N 6 '23

Fire fed by electric stoker that puts ashes in can. *il Pop Mech* 40:820 D '23

Flow of gases in furnaces. W. E. Groumje-Grjimallo. 399p Wiley '22

Furnace maintenance with pulverized fuel. M. W. Arrowood. *il diags Iron Age* 110:1633-6 D 21 '22

Furnace settings and refractory cements. F. J. Wakem. *Ind & Eng Chem* 15:893-4 S '23

Herringbone fire box construction. *diag Power Pl Eng* 27:852 Ag 15 '23

Industrial furnaces. W. Trinks. (v. 1) 319p Wiley '23

Installation for heavy fuel oil; heating furnace equipment. W. C. Buell. *il diags Iron Age* 112:129-32 Jl 19 '23

Motion pictures of a stoker furnace in operation. R. S. Riley. *il diag Mech Eng* 44: 103-4 F '22

Oil-fired furnace for the plant laboratory. D. A. Moulton. *il diags Am Cer Soc J* 5:713-20 O '22

Oxygen-acetylene high-temperature furnace. H. Wilson. *diags Am Cer Soc J* 4:835-41 O '21

Small glass tank. H. T. Bellamy. *diag Am Cer Soc J* 5:157-60 Mr '22

Technology of the carbon-electrode industry; baking and baking furnaces. C. L. Mantell. *il diags plans Chem & Met Eng* 27:312-18 Ag 16 '22

Theory and design of furnace stokeholes. Z. Kogan. *diags Power Pl Eng* 26:1193-6 D 15 '22

See also Blast furnaces; Boilers; Clinkers; Coke ovens; Crucibles; Cupola furnaces; Draft; Electric furnaces; Fire brick; Firing; Foundry practice; Fuel; Fuel economy; Furnace doors; Grates; Heating; Kilns; Mechanical draft; Metallurgy; Oil burners; Open hearth process; Refractory materials; Refuse incinerators; Silica brick; Smelting

Cleaning

Moist fuels present ash handling difficulties. Z. Kogan. *diags Power Pl Eng* 27:162-4 F 1 '23

Furnaces, Air

Apply powdered coal to air furnace. P. Dwyer. *il Foundry* 49:955-62 D 15 '21

Using fuel oil in air furnaces. A. V. Land-schoot. *diags plan Iron Tr R* 73:599-604 Ag 30 '23; *Same. Foundry* 51:862-7 N 1 '23

Furnaces, Annealing

Annealing of sheet metal for stamping. F. G. White. *diags Blast F & Steel Pl* 11:542-4, 637-42 O, D '23

Continuous annealing furnaces for sheets; new sheet mill plant of Ashtabula steel co. *il Iron Age* 110:1342-3+ N 23 '22

New annealing furnace and carriage for wire. *diags Iron Age* 109:1832 Je 29 '22; *Iron Tr R* 70:1875-6 Je 29 '22

Practice on recuperative annealing furnaces. K. G. Gustafsson. *diags Iron Age* 111:1782-3 Je 21 '23

Sheet and tin mill furnaces. T. J. Costello and J. H. Knapp. *diags Blast F & Steel Pl* 10:141-4 F '22

Furnaces, Boiler

American suspended arch. *il diag Power* 58: 296 Ag 21 '23

Furnaces, Boiler—Continued

- Boiler-furnace design. C. A. Frankenhoff. *Mech Eng* 45:560-1 S '23
- Boiler-furnace design. E. B. Ricketts. *diags plan Mech Eng* 45:299-302 My '23; Same. *Power Pl Eng* 27:165-70 My 1 '23; Same. *cond. Power* 57:613-15 Ap 17 '23; Discussion. *Mech Eng* 45:303-1 My '23; *Power Pl Eng* 27:451-2, 644-5, 794-5, 1249 Ap 15, Je 15, Ag 1, D 15 '23; *Power* 57:992-3 Je 19 '23
- Brickwork; use of arches and elbows for perfecting combustion conditions. Z. Kogan. *diags Power Pl Eng* 26:1090-3 N 15 '22
- Burning liquid fuel efficiently. H. A. Anderson. *Iron Tr N* 73:197-S+ O 18 '23
- Care and operation of boiler furnaces. *diags Power Pl Eng* 26:15-22 Ja 1 '22
- Change in furnace setting to prevent smoke. *diag Power Pl Eng* 27:796, 1004 Ag 1, O 1 '23
- Cutting fuel costs; good furnace construction. G. F. Swetnam. *Power* 57:370 Mr 6 '23
- Economy in furnace wall construction. H. S. Bastian. *il Elec W* 81:522-3 Mr 3 '23
- Le foyer économiseur système Wilton. *diags plan Génie Civil* 53:65 J1 '21 '23
- Le foyer F pour chaudières à vapeur. *il diags Génie Civil* 52:354-5 Ap 14 '23
- Franklin-Stephenson oil-burning furnace. *diags Engineering* 115:800-1 Je 29 '23
- French forced draught furnace. *diags Engineer* 133:212 F 24 '22
- Furnace arrangement for burning fuel oil. C. C. Brown. *diags Power Pl Eng* 27:1021-5 O 15 '23
- Furnace design for effective drying. Z. Kogan. *diags Power Pl Eng* 27:265-8 Mr 1 '23
- Furnace design for Iowa coal. J. Drabelle. *Power* 57:230-1 F 6 '23
- Furnace for brown coal. *diags Engineer* 135:482 My 4 '23
- Furnace redesigned to burn shavings. C. J. Miller. *diags Power Pl Eng* 25:1164 D 1 '21
- Furnace setting for oil-fired boilers. G. C. Adams. *diags Power* 58:531 O 2 '23
- High-volatile slack burned smokelessly by specially designed boiler furnace. *diags Coal Age* 21:616 Ap 13 '22
- Ignition wall in furnace increases efficiency. F. Atkinson. *diag Power* 56:463-4 S 19 '22
- Improvements in furnace bridge walls outlined and their uses and advantages analyzed. *il diags Marine R* 53:162-4 Ap '23
- Influence of radiant heat on furnace design. A. G. Christie. *Power* 57:851-4 My 29 '23; Discussion. E. C. Wescott. *58:65-6 J1 10 '23*
- Insulation of furnace walls. H. T. Matthew. *Power* 56:209-11 Ag 8 '22; Discussion. 56:428-9, 545, 581-2 S 12, O 3-10 '22
- Modern boiler furnaces from the point of view of theory of furnaces based on the laws of hydraulics. W. E. G. Grjmailo. *diags Mech Eng* 45:596-8 O '23
- New furnace front for Dahl oil burner. *il Marine Eng* 28:360 Je '23
- Radiant heat from new type of furnace. *diags Power* 58:99-100 J1 17 '23; *Chem & Met Eng* 29:804 O 29 '23
- Redesigning furnaces for Iowa coal. H. Kreisinger, C. E. Augustine and F. K. Ovitiz. *Elec W* 81:523-4 Mr 3 '23
- Rotary furnace-wall plate cuts down clinkering. *il Power* 56:574 O 10 '22
- Some important factors neglected. H. E. Weightman. *Power* 56:736-7 N 7 '22; Discussion. 56:817; 57:36-7 N 21 '22, Ja 2 '23
- Swinging furnace front. *il Marine R* 53:236-7 Je '23
- Unit furnace blowers. *il Power Pl Eng* 27:11-12 Ja 1 '23
- Uses old furnace linings for side-wall construction. J. Harrington. *Power* 55:21 Ja 3 '22
- Volumetric dimensions of boiler furnaces. *Engineer* 134:217-18 S 1 '22
- What design of furnace is best for burning mill refuse? *diags Power* 57:728; 58:29, 67, 107-8 My 8, J1 3-17 '23
- Why the refractory is a factor in furnace life and capacity. I. S. Pieters. *Paper Tr J* 75:36+ J1 20 '22

Will change from vertical to horizontal baffling increase furnace temperatures? *Power* 58:109, 341 J1 17, Ag 28 '23

See also Boilers

Air preheating

Ljungström air preheaters for boiler furnaces. *il diags Engineering* 114:24-7 J1 7 '22; *Power* 56:199 Ag 8 '22; *Power Pl Eng* 26:855 S 1 '22; *Mech Eng* 44:664-5 O '22

Preheated air for boiler furnaces. *Ind Management (Lond)* 10:44-5 J1 26 '23

Repair

Improved method of utilizing old firebrick. J. A. Faulkner. *il Power* 57:754-6 My 15 '23

Testing

Report of test on a Cannon experimental furnace. J. J. Eames. *Power* 58:100 J1 17 '23

Turbine furnace

Le foyer turbine pour chaudières à vapeur. *diags Génie Civil* 79:422 N 12 '21

Modern steam-jet furnace. *il diags Gas J (Lond)* 163:870-2 S 19 '23

Steam-jet furnaces—ancient and modern. *il diags Gas J (Lond)* 164:53-4 O 3 '23

Furnaces, Brass melting

Fuel data on brass melting furnaces. W. H. Parry. *Metal Ind* 20:145-6 Ap '22

Fuels and furnaces for melting copper and brass alloys. T. H. A. Eastick. *Brass W* 18:340-1 N '22

Modern developments in the British brass industry. E. A. Smith. *Am Electrochem Soc Trans v* 40 (preprint 24):301-22 S '21; Same. *Metal Ind* 19:439-40, 482-6 N-D '21

One piece lining for brass melting furnace. *il Metal Ind* 21:375 S '23; Same. *Chem & Met Eng* 29:590-1 S 21 '23

Price of stack buys gas furnaces; how Lock company at Rochester saved cost of erecting stack for coal and put it into gas fired brass melting equipment. *Gas Age* 49:745-6 Je 17 '22

Type of natural draft melting furnace. C. Vickers. *diags plan Brass W* 17:197-201; 18:49-52, 168-70 J1 '21, F, Je '22

See also Electric furnaces, Brass melting

Furnaces, Cupola. *See Cupola furnaces*

Furnaces, Electric. *See Electric furnaces*

Furnaces, Enameling

Gas-fired vitreous enamel furnace proves superior. H. H. Clark. *il Am Gas J* 116:229-30 Mr 11 '22

Intermittent gas-fired enameling furnace. F. C. Mackey. *il diags plans Am Gas J* 117:215-9+ S 16 '22

Largest enamelling furnace in the world. Blast F & Steel Pl 11:313 Je '23

New type of gas-fired vitreous enameling furnace. H. H. Clark. *il diags Am Cer Soc J* 5:478-87 Ag '22

Furnaces, Forging

Heating furnaces for forgings. C. Fischer. *diags Blast F & Steel Pl* 10:94-5 Ja '22

Furnaces, Foundry

See also Electric furnaces, Foundry

Charging

Electric charger cuts in half cost of charging malleable furnaces. *Ind Eng* 80:359 J1 '22

Furnaces, Heat treating

Discussion of forge furnaces. C. Longenecker. Blast F & Steel Pl 10:194-6 Mr '22

Gas wins out for heat treating. J. P. Lafore. *il Gas Age* 49:451-2+ Ap 15 '22

Heat treating in a California tractor plant. *il Am Mach* 59:679-81 N 8 '23

Industrial gas takes over heat treating of metals. P. J. Lafore. *Gas Age* 52:113-14 J1 28 '23

Ingot reheating furnace. H. E. Smythe. *diags Iron Age* 109:149-50 Ja 12 '22

Insulation for fuel conservation. E. F. Davis. *il diag Gas Age* 49:769-70+; 50:13-17 Je 24-J1 1 '22

Insulation of heating furnaces. J. T. Gower. *diags Gas Age* 50:905-8 D 30 '22

Furnaces, Heat treating—Continued

- New style furnace proves successful. diags Elec Ry J 61:691 Ap 21 '23
 Pressure gas for industrial furnaces. F. J. Evans. il diags Gas Age 48:741-6 D 3 '21
 Producing seamless steel tubing. C. F. Poppleton. il diags plan Iron Tr R 69:1477-83 D 8 '21

See also Electric furnaces, Heat treating

Furnaces, Iron founding

- Arcade malleable iron co. builds new type malleable furnaces. H. R. Simonds. il diags Iron Tr R 71:1493-5 N 30 '22
 Bricks for malleable furnaces. H. G. Schurecht. diag Foundry 50:707-10 S 1 '22
 Making malleable castings. E. Touceda. diags Foundry 50:588-93 Jl 15 '22; Same. Iron Tr R 71:243-8 Jl 27 '22
 Melts with oil in air furnace; abstracts. D. I. Dobson. diags Foundry 51:436-7+ Je 1 '23; Iron Age 112:5-6 Jl 5 '23; Iron Tr R 73:33-44 Jl 5 '23
 New furnace for malleable castings. A. Gradenwitz. il diag Iron Age 111:1779-82 Je 21 '23
 Powdered coal for malleable. T. W. Atterbury. il diags plan Foundry 50:815-19, 880-4 O 15-N 1 '22
 Refractories for air furnaces. C. E. Bales. il Foundry 51:112-16 F 1 '23
 Requirements of fire brick suited to malleable practice. H. A. Schwartz and A. F. Gorton. Am Cer Soc J 6:1094-7 O '23
 Use powdered coal for malleable. E. E. Griest. il diags Iron Tr R 72:1309-14 My 3 '23

See also Electric furnaces, Iron founding

Furnaces, Iron-pot

- Aluminum melting practice. R. J. Anderson. Foundry 50:737-41, 792-6, 823-6, 866-70, 919-24 S 15-N 15 '22
 Iron-pot melting practice for aluminum alloys. R. J. Anderson. Metal Ind 19:189-90, 246-7, 285-7, 360-2, 397-9; 20:60-1, 309-11, 342-4 My-Jl, S-O '21, F, Ag-S '22

See also Furnaces, Air

Furnaces, Metallurgical

- Description of test on furnace sand. M. W. Mawhinney. diags Blast F & Steel Pl 10:136-7 F '22
 Entwicklungsmöglichkeiten bei hüttentechnischen oefen. G. Bulle and Rosin. diags Stahl & Eisen 42:529-32 Ap 6 '22
 Errechnung der arbeitstemperaturen in metallurgischen oefen. H. Bansen. Stahl & Eisen 42:245-53, 291-7, 370-5, 423-6 F 16-23, Mr 9-16 '22
 Evolution of mechanical roasting. A. S. Dwight. Min & Met 180:5-10 D '21
 Flecht vertical retort furnace for zinc ores. W. Kapellmann. il diag Eng & Min J 114:1153-4 D 30 '22
 Firing assay muffles with pulverized coal. E. H. Hamilton. il Min & Met 180:24 D '21
 Industrial furnace brickwork. M. H. Mawhinney. diags Blast F & Steel Pl 11:145-7 F '23
 Multiple-hearth roasting furnace. diags Engineer 133:163 F 10 '22
 New British reverberatory furnace. diag Metal Ind 21:416-17 O '23
 Novel cupelling furnace. C. Flury. il Eng & Min J 113:495 Mr 25 '22
 Oil furnace operation. W. J. Reardon. Metal Ind 20:105 Mr '22
 Production of caustic calcined magnesite in the Scott furnace. W. C. Riddell and C. N. Schuette. il diags Eng & Min J 114:981-4 D 2 '22
 Proposed pyritic smelting in a reverberatory. E. C. King. diags plan Eng & Min J 114:633-4 O 7 '22; Discussion. 114:1062-3; 115:702 D 16 '22; Ap 21 '23
 Reverberatory sweating furnace. W. J. Reardon. diag Metal Ind 20:313 Ag '22
 Stewart furnaces and forges. il Am Mach 56:81-2 Ja 12 '22
 Tucker decentralized control system for roasting furnaces not invention. W. Gustin. Chem & Met Eng 27:545 S 13 '22

Ueber einige versuche an Siegerländer röstöfen. P. Oberhoffer and A. Weyel. Stahl & Eisen 42:1673-7 N 9 '22; Discussion. 43:946-8 Jl 19 '23

Wood-burning furnace for smelting cyanide precipitate. M. B. Evans. diags Eng & Min J 114:1078 D 16 '22

Working time cut one-half in single operation; gas-fired equipment for coal-fired furnaces. H. O. Andrew. il Gas Age 52:378 S 29 '23

See also Blast furnaces; Cupola furnaces; Electric furnaces, Metallurgical; Furnaces, Steel making; Metallurgy; Open hearth process; Puddling furnaces; Smelting

Charging

History of side-charging of reverberatory furnaces. Eng & Min J 112:856-8, 924 N 26, D 10 '21

Furnaces, Non-ferrous melting

- Aluminum melting practice. R. J. Anderson. Foundry 50:737-41, 792-6, 823-6, 866-70, 919-24 S 15-N 15 '22
 Fuels and furnaces for melting copper and brass alloys. T. H. A. Eastick. Brass W 18:340-1 N '22
 Iron-pot melting practice for aluminum alloys. R. J. Anderson. Metal Ind 19:189-90, 246-7, 285-7, 360-2, 397-9; 20:60-1, 309-11, 342-4 My-Jl, S-O '21, F, Ag-S '22
 Melting aluminum for rolling. Brass W 19:272-3 Ag '23
 Metallurgical requirements of refractories for furnaces melting copper alloys. H. W. Gillett. il diags Am Cer Soc J 6:596-609 Ap '23
 Schwartz aluminum furnace. il Metal Ind 20:444-5 N '22
 Small French furnaces. W. P. Mitchell. diag Foundry 50:852 O 15 '22

See also Electric furnaces, Non-ferrous melting

Furnaces, Open hearth. See Open hearth process

Furnaces, Recuperative and regenerative

- Fuel economy in heating furnaces. K. Huesener. diags Blast F & Steel Pl 10:380-3 Jl '22
 Fuel saving in modern gas producers and industrial furnaces. W. B. Chapman. il diags Mech Eng 43:717-21 N '21; Abstract. Iron Age 108:1671-2 D 29 '21; Same abr. Iron Tr R 70:400-3 F 9 '22
 Furnaces utilize low heat gases. R. J. Weitlaner. diags Iron Tr R 70:1332-4 My 11 '22
 Heat salvage in small furnaces. W. C. Buell, jr. il diags Chem & Met Eng 28:638-41 Ap 9 '23
 Heating furnaces for blooms, slabs and billets. W. F. Chandler, jr. diags Blast F & Steel Pl 10:556-62 N '22; Same. Iron Tr R 71:1195-1200+ N 2 '22; Same cond. Iron Age 110:1211-14 N 9 '22; Excerpt. Am Gas J 117:612-13 N 25 '22; Discussion. Iron Tr R 71:1485-7; 72:163-4+ N 30 '22, Ja 11 '23
 Méthode de calcul d'un régénérateur Siemens appliqué à un four Martin. Xhignesse. Génie Civil 81:133-8 Ag 5 '22
 Ein neues gaswechselsventil für regenerativöfen. P. Brandenburger. diags Stahl & Eisen 41:1614-16 N 10 '21
 Pit reheating and soaking pit furnaces. W. E. Groume-Grjmaillo. diags Iron Age 110:1013 O 19 '22
 Preheating combustion air with stack gases. diags Power 57:841 My 29 '23
 Recuperation and regeneration pav. H. O. Loebell. il Gas Age 48:447-55 O 15 '21; Discussion. O. Lelpe. 48:773-6 D 10 '21; Same. Am Gas J 115:479-82 N 26 '21
 Recuperative furnaces for the glass industry. W. B. Chapman. il Am Cer Soc J 6:258-62 Ja '23
 Regeneratively fired heating furnaces. W. E. Groume-Grjmaillo. diags Iron Age 110:537-8 Ag 31 '22
 Study of valves for furnaces. H. Hellan. diags Blast F & Steel Pl 10:473-7 S '22

Furnaces, Recuperative and regenerative—Cont.
 Wärmetechnische untersuchungen an einigen schwedischen stoss- und schmelzöfen; abstract, A. Hallböck. Stahl & Eisen 43:1300-3 O 11 '23

See also Siemens furnace

Furnaces, Steel making

British Siemens furnace practice. F: Clements. diags Iron & Steel Inst J 105: 429-47 no 1 '22; Same. Engineering 113:579-83 My 12 '22; Excerpt. Engineer 133: 518 My 12 '22; Abstract. Iron Age 110:75-7 JI 13 '22; Discussion. Iron & Steel Inst J 105:448-90 no 1 '22; Engineering 113:593-4, 758-60 My 12, Je 16 '22; Engineer 133:518 My 12 '22; Iron Age 110:77-8 JI 13 '22

Continuous heating furnaces for steel. W. E. Groume-Grijmalo. il diags Iron Age 110:465-7 Ag 24 '22

New continuous furnace introduced by Priest furnaces, Ltd., Middlesbrough, England. diags Iron Age 111:1729 Je 14 '23

See also Electric furnaces, Steel making; Open hearth process

Furnaces, Warm air

Brick set furnaces in bank building. il plan Sheet Metal Worker 13:887-8+ Ja 19 '22

Burning powdered coal in warm-air furnaces. T: W. Atterbury. diags Sheet Metal Worker 14:43-5+ F 16 '23

Comparison of modern heating equipment. L. W. Millis. diags Sheet Metal Worker 12: 799-800 D 23 '21

Essentials to successful furnace heating. R. W. Menk. diags Sheet Metal Worker 13: 142-3+ Mr 31 '22

Furnace heating on North Pacific coast. il Sheet Metal Worker 14:197-8 Ap 13 '23

Furnaces heat city hall and opera house. il plans Sheet Metal Worker 13:237-9 My 12 '22

Hot air furnace efficiency. Power Pl Eng 26: 1073 N 1 '22

Object of furnace systems. il diag Sheet Metal Worker 13:792-3 D 22 '22

Positive circulation in furnace heating. J. D. Spurrier. il diags Sheet Metal Worker 12: 839-40+ Ja 6 '22

Practical pointers on selection and use of hot air furnaces for residences. R. B. Monfort. Bldg Age 44:41-2 S '22

Simplified lessons in furnace heating. J: Lynch. diags Sheet Metal Worker 13:649-51 O 27 '22

Some comments on furnace installation. F. T. Giblin and F. K. Chew. il plans Am Soc Heat & V E J 29:19-26 Ja '23; Discussion. Sheet Metal Worker 14:51-3+ F 16 '23; Discussion. Am Soc Heat & V E J 29:227-30 Mr '23

Tests of humidity conditions in a residence heated by a warm-air furnace using recirculated air. A. P. Kratz. il Am Soc Heat & V E J 28:11-20 Ja '22; Discussion. 28:254-60 Mr '22

Trunk-line, return-air furnace system. plans Sheet Metal Worker 14:162-3 Mr 30 '23

Wood furnaces set to heat and save fuel. il plan Sheet Metal Worker 12:761-2 D 9 '21

Fans

Making good installations work better; use of an automatic fan. diags Sheet Metal Worker 14:410-11 Je 22 '23

Wales automatic furnace fan. il Sheet Metal Worker 13:597, 625+ S 29-O 13 '22

Furnace installation code

Columbus adopts heating code. Sheet Metal Worker 14:349+ My 25 '23

Furnace code conference, Chicago, Oct. 25. Sheet Metal Worker 12:716 N 11 '21

Needed changes in furnace installation code. Sheet Metal Worker 13:579-80+ S 29 '22

Report of committee on code for installation of warm air furnaces; discussion. Am Soc Heat & V E J 28:562-76 JI '22; Discussion. 28:663-4 S '22

Report of the Philadelphia furnace code committee. Sheet Metal Worker 14:126-7, 167- Mr 16-30 '23

Suggestion on preparing for a code; views on the subject of licensing furnace installers. Sheet Metal Worker 12:713 N 11 '21
 Text of warm-air furnace code. Sheet Metal Worker 13:766+, 813 D 8-22 '22; Same. Am Soc Heat & V E J 28:869-76 D '22

Pipeless furnaces

Adapting pipeless to house designs. C: L. Hubbard. plans Sheet Metal Worker 14:643-4+ S 14 '23

Popular idea of the pipeless. Sheet Metal Worker 13:356 Je 23 '22

Remodeling a pipeless job. Sheet Metal Worker 13:621, 727-8, 767 O 13, N 24-D 8 '22

Satisfied with work of pipeless furnace. plans Sheet Metal Worker 13:449 Ag 4 '22

Pipes and fittings

Comments on furnace heating problem. G. A. Voorhees. Sheet Metal Worker 12:772-4 D 9 '21

Louisiana furnace heating system. plans Sheet Metal Worker 14:571-2 Ag 17 '23

Operation furnace job remodeled. il plans Sheet Metal Worker 13:477-8 Ag 18 '22

Simplified lessons in furnace heating. J: Lynch. il Sheet Metal Worker 13:205-6 Ap 28 '22

Tables of warm-air pipe sizes. G. A. Voorhees. Sheet Metal Worker 14:328-9 My 25 '23

Rating

Basic troubles and corrective formula; exposure of fallacies in attempt to arrive at heating capacities of warm-air furnaces. Sheet Metal Worker 12:527-8 S 2 '21; Discussion. 12:878-80+; 13:12, 36-7+, 81, 111+, 144-5, 185 Ja 20-Ap 14 '22

Rating warm-air furnaces. plans Sheet Metal Worker 13:83, 279+ Mr 3, My 26 '22

Significance of air temperature at registers in rating warm-air furnace. A. C. Willard. diags Sheet Metal Worker 13:835-6 Ja 5 '23; Correction. 13:900 Ja 19 '23

What uniform ratings mean to furnacemen. Sheet Metal Worker 13:387-8 JI 7 '22

Testing

Effect of recirculating duct design on furnace capacity. A. C. Willard, A. P. Kratz and V. S. Day. chart diags plans Sheet Metal Worker 13:891-2 Ja 19 '23

Investigation of warm-air furnaces and heating systems. A. C. Willard, A. P. Kratz and V. S. Day. il diags plans Ill U Eng Exp Sta Bul 120:1-137 '21; Excerpt (Air measurement in furnace testing). Am Soc Heat & V E J 27:797-812 N '21

Furniture

Adapting the eighteenth century interior. H. Major. il diags plans Arch Forum 36:247-52, pl 96 Je '22

American interiors of the early republican period; woodwork and furniture of the Derby-Rogers house at the Museum of fine arts, Boston. E. J. Hipkiss. il Arch Forum 38:209-12 Ap '23

Chinoiserie in English decoration. W. F. Wheeler. il Arch Forum 36:162-8 Ap '22

Department of architectural decoration and furniture. R. L. Morin. il Am Arch 124: 129-35 Ag 1 '23

Design of furniture—an art or a trade? M. Price. Arch Rec 54:100-1 JI '23

Early English furniture and woodwork. H. Cescinsky and E. R. Gribble. 2v Funk & Wagnalls, New York '22

Eighteenth century American furniture and craftsmanship. E. J. Hipkiss. il diags Arch Forum 38:72-8 F '23

English furniture designs. P. T. Hildesley. 87p Benn bros., London '23

Exemplar of antique furniture design. E. Salomonsky and V. C. Salomonsky. 5p Periodical pub. co., Grand Rapids '23

French influence on furniture of Chippendale school. R. L. Ames. il diags plans Arch Forum 36:206-10 My '22

Furnishings of the early Georgian domestic interior 1720-1760. S. Macomber. il Arch Forum 36:120-6, pl 47-8 Mr '22

Furniture—Continued

- Furniture and interior decoration of the Italian renaissance. F. Schottmuller. 246p Brentano's, New York '21
- Furniture for the craftsman. P. D. Otter. 2d ed. 318p U. P. C. book co. '23
- Furniture masterpieces of Duncan Phyfe. C. O. Cornelius. 86p Doubleday '22
- Interiors adapted from the Italian; furniture and its arrangement. W. F. Wheeler. il Arch Forum 35:241-6 D '21
- Light furnishings for amusing places. A. F. Wright. il Arch Forum 39:75-80 Ag '23
- Le meuble français sous Louis XIV et la régence. R. de Félice. 141p Hachette, Paris '22
- Modern American interiors and their correct furnishing. M. L. King. il Am Arch 124:31-7 JI 4 '23
- Old English walnut and lacquer furniture. R. W. Symonds. 176p H. Jenkins limited, London '23
- Practical book of furnishing the small house and apartment. E. S. Holloway. 296p Lip-pincott '22
- Present state of old English furniture. R. W. Symonds. 132p Stokes '21
- Recent Austrian styles in furniture. H. Gorge. il Arch Forum 39:34-6 JI '23
- Sanity of Hepplewhite. W. A. Dyer. il Arch Rec 52:345-50 O '22
- Seventeenth century interiors and furniture in United States. R. Bemis. il Am Arch 123:525-9 Je 6 '23
- Some furniture by Duncan Phyfe; exhibition at Metropolitan museum of arts. il Arch Forum 37:243-4 N '22; Am Arch 122:427-9 N 8 '22
- Spanish influence in interior decoration and its expression in the United States. R. Cutajar. il Am Arch 123:433-8 My 9 '23
- Style in modern furniture design. R. L. Morin. il Am Arch 124:253-8 S 12 '23
- Use and future of electrically equipped furniture. E. E. Whitehorne. il diags Elec W 79:224-7 F 4 '22; Same cond. Electrician 88:377-9 Mr 31 '22
- See also Bank furniture; Highboys; House decoration

Cost

- Quantity of and expenditures for furniture and house furnishings and expenditures for miscellaneous items purchased by the average workingman's family in one year. Monthly Labor R 15:759-62 O '22

Manufacture

- Furniture plant uses wood refuse as fuel. il diags plans Power Pl Eng 27:303-8 Mr 15 '23
- Furniture weaving projects. L. F. Hyatt. 140p Bruce pub. co., Milwaukee, Wis. '22

Terminology

- Standardizing furniture trade terms. Arch Forum 36:sup52-3 Ja '22; Same. Ptr Ink 117:178+ N 17 '21

Furniture, Built-in

- Disappearing or built-in sewing cabinet. C. A. Byers. il Bldg Age 45:75 My '23

See also Murphy door bed company

Furniture, Steel**Manufacture**

- Furniture—an important new use for steel; Simmons company at Kenosha plant manufactures complete bed room suites from steel. G. L. Lacher. il Iron Age 112:665-70 S 13 '23

Furniture club of America

- Will unite furniture manufacturer, salesman and dealer. Ptr Ink 123:148 Ap 12 '23

Furniture industry and trade

- House furnishings industries. V 1, Household furniture. 484p U.S. Fed. trade commission, Washington '23
- House furnishings industries; summary of report. 45p U.S. Fed. trade commission, Washington '23
- New marketing idea in the furniture industry; the Home furnishing styles association's triple guarantee. R. Dickinson. Ptr Ink 121:73-4+ D 7 '22

Advertising

- How advertising built retail mail business for jobber. W. Leavens. Ptr Ink M 5:56+ Je '22
- Mahogany starts an advertising comeback. E. B. Weiss. Ptr Ink 117:113-14+ N 17 '21
- Putting hooks into the advertising; Berkey & Gay's adaptation of family of products idea in furniture selling. C. M. Harrison. Ptr Ink 119:149+ Je 8 '22
- This man says furniture cannot be advertised to user. Ptr Ink 121:137-8+ N 9 '22
- Furyl alanine**
Über d,l - β (furyl)- α -alanin. Takaaki Sasak. Deutsche Chem Gesell Ber 54:2056-9 S '21
- Fused silica.** See Silica, Fused
- Fuses, Electric.** See Electric fuses
- Fusion, Latent heat of**
Latent heats of fusion. K. Stratton and J. R. Partington. diags Philos Mag 6th ser 43:436-46 Mr '22
- Melting point, latent heat of fusion and solubility. F. S. Mortimer. Am Chem Soc J 44:1416-29 JI '22
- Fustic**
Detection of natural dyes on the fibre. A. G. Whittaker. Textile Col 45:434-5 JI '23
- Natural dyestuff industry and reserves of Latin America. O. Wilson. il Chem & Met Eng 27:599-600 S 20 '22
- Properties and application of fustic. J. E. Springer. il Color Tr J 9:202-6, 250-1 N-D '21
- Future contracts**
Keeping a record of future contract liabilities. C. Djörup. Administration 5:210-12 F '23
- Fynn, Valère Alfred, 1870-**
Sketch. por Elec W 79:566 Mr 25 '22

G**Gabbro**

- Petrologic study of the Cape Neddick gabbro. A. Wandke. map Am J Sci 5th ser 4:295-304 O '22

See also Norite-micropegmatite

Gadolinium

- Wave length measurements in the arc spectra of gadolinium and dysprosium. C. C. Kiess. U S Bur Stand Sci Pa 466:695-706 '23

Gage steel

- Bureau of standards program for the laboratory investigation of gage steels. Am Mach 57:653-4 O 26 '22
- Fourth progress report of gage steel investigation. Am Mach 58:520 Ap 5 '23
- Investigation of steel for precision gages. Chem & Met Eng 27:754 O 11 '22
- National screw thread commission to recommend standards. diags Iron Tr R 70:1038-9 Ap 13 '22
- Report of the Gage steel committee of the Bureau of standards. Am Mach 57:914 D 14 '22; Iron Tr R 71:1416 N 23 '22
- Volume changes during hardening. Chem & Met Eng 28:353 F 21 '23

Gages

- Accurate mechanical solution of statically indeterminate structures by use of paper models and special gages. G. E. Beggs. il diags Am Concrete Inst Pro 18:58-78; Discussion. 79-82 '22
- Accurate standards of comparison needed in precision measurements. C. Hellyar. Automotive Ind 49:479 S 6 '23
- Allowing for gage wear; shall master gages have a fixed tolerance or shall allowance be made for wear? R. Dumas and E. C. Peck. diags Am Mach 56:953-4 Je 29 '22; Discussion. 58:739-40 My 17 '23
- Ames dial gage. il Mach 29:576-7 Mr '23
- Combination gage and adjusting fixture. C. J. Dorer. il diags Am Mach 57:376-7 S 7 '22

Gages—Continued

Cylinder gage. H. A. Peters. diag Am Mach 57:699 N 2 '22
 Cylinder inspection gages. F. C. Hudson. diags Am Mach 58:769-70 My 24 '23
 Devices to facilitate thread gaging. il Iron Age 112:146 J 19 '23
 Dial gage device used with success to test spiral bevel gears. P. M. Heldt. il diags Automotive Ind 48:1088-9 My 17 '23
 Factors governing out-of-roundness measurement. A. H. Frauenthal. diags Am Mach 59:701-4 N 8 '23; Same. Soc Auto Eng J 13:370-4 N '23; Same cond. Automotive Ind 49:898-90 N 1 '23; Discussion. Soc Auto Eng J 13:484 D '23
 Form gage for U.S.F. thread tools. J. V. Romig. diags Am Mach 57:385 S 7 '22
 Gage for determining space available for inlet bars. diags Eng & Contr (Ry) 59:465-6 F 21 '23
 Gage for measuring steel wheel wear. il Ry Mech Eng 96:729 D '22
 Gage for setting boring bar cutters. diags Am Mach 58:635; 59:681 Ap 26, N 8 '23
 Gage for setting boring tool. G. Phelps. diags Am Mach 59:225 Ag 9 '23
 Gage for sprinkler-head bar. il diag Mach 29:761 Je '23
 Gage for testing depth of recess. J. T. Longdon. diags Mach 29:37 S '22
 Gage for testing spur gears. G. Phelps. diags Am Mach 55:1014 D 22 '21
 Gages and gaging for screw-threads. Soc Auto Eng J 10:530-2; 11:543-5 Je, D '22
 Gages for checking the distance of a hole from a surface. C. J. Dorer. diags Am Mach 58:85-6 Ja 11 '23
 Gages for indicating rake angles in hob and cutter teeth. H. E. Harris. diags Am Mach 57:270 Ag 17 '22
 Gages. G. C. Reilley. il Gen Elec R 26:110-15 F '23
 Hanson thread gage. diags Automotive Ind 48:281 F 8 '23
 Height-gage lines. G. A. Remacle. diags Am Mach 56:566-7 Ap 13 '22
 Imlach Twistest connecting-rod gage. il Am Mach 56:427 Mr 16 '22
 Improved draft gage of cabinet type. il diag Power 56:690-1 O 31 '22
 Inside micrometer and height gages. il Iron Age 110:84 J 13 '22; Iron Tr R 71:249 J 17 '22
 Inspection gages for crankcases. H. F. Crawford. diags Am Mach 58:529 Ap 5 '23
 Length gage. H. Moore. diag Mach 28:572 Mr '22
 Limitation of piston-aligning gages. diag Am Mach 57:659, 931 O 26, D 14 '22
 Machinists' hook gage. diags Pop Mech 40:618-19 O '23
 Measuring diameter at small end of taper plug gage. W. G. Holmes. diags Mach 29:194 N '22
 Microgage. il Am Mach 58:856 Je 7 '23
 Micrometer tire gage. diags Ry Mech Eng 97:710-11 O '23
 New thread snap gage. il Iron Age 110:651 S 14 '22
 New type of adjustable thread snap gage. C. G. Johnson. il Mach 29:23 S '22
 New type of thread plug gage manufactured by the Hartford tap & gage co. il diag Mach 28:368 Ja '22
 Permanence of steel gages. Chem & Met Eng 26:248 F 8 '22
 Pipe gage, pin gage, and gage for steel wheels. il Iron Age 110:1434 N 30 '22
 Piston inspection gages. F. C. Hudson. diags Am Mach 58:596-7 Ap 19 '23
 Pit inspector's clearance gage. E. A. Miller. Ry Mech Eng 96:165 Mr '22
 Pratt & Whitney A.R.A. wheel-tread gage. il Am Mach 57:863 N 30 '22
 Pratt grinding gage. il Am Mach 57:33 J 16 '22
 Productive ways and means. H. Darbyshire. diags Eng & Ind Management 6:618-21 D 1 '21
 Proposed wire and sheet metal gages. Am Mach 58:265 F 15 '23
 Set-up and checking gage. C. E. Stevens. diag Am Mach 58:120 Ja 13 '23

Snap gage design. J. B. Conway. diags Mach 28:556 Mr '22
 Standard tool gages. R. D. Fletcher. il diags Ry Mech Eng 97:705-6 O '23
 Taft-Perce micrometer plug gage. il diags Automotive Ind 49:841 O 25 '23
 Taper gages. H. M. Funnell. diags Am Mach 56:184-5 F 2 '22
 Three-in-one surface gage. B. R. Wickes. diag Am Mach 57:458 S 21 '22
 Tool and gage work. C. L. Goodrich and F. A. Stanley. 300p McGraw-Hill '22
 Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 58:511-14, 551-4, 689-93, 755-9, 801-4, 869-71; 59:49-51, 135-7, 179-81, 251-3, 405-7, 481-3, 557-60 Ap 5-12, My 10, 24-31, Je 14, J 12, 26-Ag 2, 16, S 13, 27, O 11 '23
 Tooling equipment and methods used in making dial gages. R. Mawson. il Mach 28:627-30 Ap '22
 Two Pierce-Arrow connecting rod gages. F. C. Hudson. diags Am Mach 58:309 F 22 '23
 Use of inertia gauges in pile driving. E. Latham. diag Eng & Contr 56:499 N 30 '21
 We don't measure, we gage. Factory 28:419-20 Ap '22
 Wickman adjustable limit gage for taps. il diags Engineering 113:100-2 Ja 27 '22
See also Draft gages; Micrometers; Oil gages; Pressure gages; Screw threads; Strain gages; Track gages; Water gages

Inspection

Gage inspection methods. F. R. Daniels. il Mach 29:702-5 My '23
 Inspection methods. E. Fairbrother. il Eng & Ind Management 8:45, 78-81 Ag 10-24 '22

Manufacture

Grinding a cam slot in a reference gage. W. H. Keefe. diags Mach 29:443-4 F '23
 Grinding multiple spline gages. C. F. Schlegel. diags Mach 28:393-4 Ja '22
 Heat treatment of screw gages. F. A. Livermore. Brass W 18:63 F '22
 Lapping snap gages. C. E. Long. diag Mach 29:633 Ap '23
 Manufacture of steel gages. Chem & Met Eng 26:701-2 Ap 12 '22
 Position gauges and their jigs. A. G. Robson. diags Engineer 133:460-1 Ap 28 '22
 Surface oxidation during hardening. Chem & Met Eng 28:313 F 14 '23

See also Gage steel

Standards

British standard pipe thread and gage dimensions. C. G. Spice. diags Mach 29:271-2 D '22
 Standardizing tolerances and allowances in machine fits; suggestions by the A.S.M.E. committee on plain gages. Am Mach 57:70-1 J 13 '22

Testing

Checking diameter of taper plug gage. W. G. Holmes. diags Mach 28:721 My '22
 Comparator for checking precision gage-blocks. F. D. Jones. il Mach 28:689-93 My '22
 Interference methods for standardizing and testing precision gage blocks. C. G. Peters and H. S. Boyd. diags U S Bur Stand Sci Pa 436:677-713 '22
 Measuring thread plug gages. J. M. Henry. il Mach 28:545-6 Mr '22
 Wickman gauge measuring machine. il diags Engineer 135:266-8 Mr 9 '23

Gages, Strain. *See* Strain gages

Gaging

Errors of gauging. diags Engineer 134:606, 629-30, 673, 686 D 8-29 '22

Level gages operating on the hydrostatic principle. plans Automotive Ind 45:1257 D 29 '21

See also Oil measurement

Gahl, Rudolf, 1875-

Metallurgists of note. Eng & Min J 115:176 Ja 27 '23

Gaine, Hugh, 1727-1807

Hugh Gaine, printer. *por* Inland Ptr 70:377-8 D '22

Galactose

Constitutional studies in the monocarboxylic acids derived from sugars; tetramethyl galactonolactone and the structure of galactose. J. Pryde. *Chem Soc J* 123:1808-15 JI '23

Preparation of galactose. E. P. Clark. *U S Bur Stand Sci Pa* 416:227-9 '21
Über *t*-galaktose. E. O. von Lippmann. *Deutsche Chem Gesell Ber* 55:3039-40 O '22

Galena

Optical properties of some metallic sulfides. E. P. T. Tyndall. *diags Phys R* 21:162-80 F '23

Galicia

See Petroleum industry and trade—Galicia

Gallaldehyde

Zur kenntnis des gallusaldehyds und seiner derivative. K. W. Rosenmund and E. Pfannkuch. *Deutsche Chem Gesell Ber* 55:2357-72 S '22; Abstract. *Chem Soc J* 122 pt 1:1030-1 N '22

Gallium

Atomic weight of gallium. T. W. Richards and W. M. Craig. *diags Am Chem Soc J* 45:1155-67 My '23

Galls

Tannin of Chinese galls; abstract. P. Karrer, H. R. Salomon and J. Peyer. *Soc Dyers & Col J* 39:82 Mr '23

Galvanized iron. See Iron, Galvanized**Galvanizing**

Effects of hot-dip galvanizing. W. R. Bean. *il diags Foundry* 51:447-55 Je 1 '23; Abstract. *Brass W* 19:274 Ag '23

Experiments with sherardizing. L. McCulloch. *Metal Ind* 20:97-8 Mr '22; Excerpts. *Min & Met* 182:63 F '22; *Am Mach* 56:453 Mr 23 '22; *Engineer* 133:591 My 26 '22

Factors influencing the process of sherardizing. L. McCulloch. *il Elec J* 19:156-60 Ap '22

Galvanizing and tinning. W. T. Flanders. 323p *U. P. C. book co.* '22

Galvanizing at fault? *il Iron Age* 110:1283 N 16 '22; Same. *Sheet Metal Worker* 13:756+ D 8 '22; Discussion. W. J. Robinson. *Iron Age* 110:1586-7 D 14 '22

Heat transmission in the hot-galvanizing process. J. D. Keller. *diags Blast F & Steel Pl* 10:371-3, 407-11 JI-Ag '22

Horizontal versus vertical hot galvanizing kettles. W. H. Parry. *Metal Ind* 21:236-7 Je '23

Hot galvanizing. C. O. Kell. *Am Mach* 57:605-7 O 19 '22

Improved wire-galvanizing equipment. *diags plans Iron Age* 110:1563-4 D 14 '22

Malleable embrittlement in galvanizing discussed at American institute of mining and metallurgical engineers meeting. *Iron Tr R* 72:672-3 Mr 1 '23

Old and new processes of using zinc. T. Newton. *Sheet Metal Worker* 13:396-7 JI 7 '22

To paint or galvanize steel structures? *Elec W* 81:961-5 Ap 28 '23; Summary. *Elec Ry J* 61:765 My 5 '23

What is the matter with modern galvanizing. J. A. Singmaster and G. F. Halfacre. *Min & Met* 190:15-16 O '22

Zinc coatings for shipbuilding purposes; galvanizing and sherardizing. H. H. Thayer. *diags Marine Eng* 28:235-7 Ap '23

See also Iron, Galvanized; Steel, Galvanized

Testing

Method for determining the spelter coating on iron and steel sheets by measuring the rise in temperature of the acid employed. D. M. Strickland. *il Am Soc T M Pro* 22 pt 2:227-31 '22

Testing device for weighing galvanized coatings. *il Chem & Met Eng* 27:797 O 18 '22

Galvanometers

Balancing the Rymer-Jones marine galvanometer coil. J. Rymer-Jones. *diags Elec R (Lond)* 90:831-2 Je 16 '22

Electrical vibration instruments. A. E. Kennelly. 450p [bibliog p 438-42] *Macmillan* '23
Galvanometer method for producing at a distance a magnified record of a mechanical motion. F. Wenner. *Phys R* 19:410-12 Ap '22

Measurement of time intervals with a galvanometer having fluxmeter characteristics. P. E. Klopsteg. *Phys R* 19:61-3 Ja '22
Temperature measurement with the Einthoven galvanometer. F. Adcock and E. H. Wells. *il diags Philos Mag* 6th ser 45:532-60, pl 9-10 Mr '23

See also Electric measurement

Galveston, Texas

Ports of the nation—Galveston. I. D. McMaster. *il chart Am Ind* 23:19-23 Ap '23

Rebuilding of Galveston causeway nearly complete. *il diags map Ry Age* 72:1113-16 My 13 '22

Bridges

New causeway of Southern Pacific links island and mainland. H. F. Jonas. *il Ry R* 72:142-3, Ja 20 '23

Rapid transit

Lower court is upheld in Galveston fare case. *Elec Ry J* 59:718-21 Ap 29 '22

Six cents in Galveston. *Elec Ry J* 60:797 N 11 '22

Gambler

Time and concentration factors in the combination of tannin with hide substance. A. W. Thomas and M. W. Kelly. *J Ind & Eng Chem* 14:292-4 Ap '22

Gambling and gamblers

Inventor and the gay gambler; ingenuity ranging from marked cards to crooked roulette wheels. E. H. Smith. *il Sci Am* 129:150-1+ S '23

Games

Invention and the grifter at the summer amusement parks. E. H. Smith. *il Sci Am* 129:78-9+ Ag '23

See also Mah jong

Gamma rays

Determination of the number of α -particles per second emitted by thorium C of known γ -ray activity. A. G. Shenstone and H. Schlundt. *Philos Mag* 6th ser 43:1038-47 Je '22

Excitation of γ radiation by α particles from radium emanation. F. P. Slater. *diags Philos Mag* 6th ser 42:904-23 D '21

Gamma-ray action of extensive flat radium preparations at different distances with and without absorbing materials. V. F. Hess. *Phys R* 19:73-9 F '22

Radio-activity. E. Rutherford. *il diags Engineering* 113:464-6 Ap 14 '22

Rise of γ -ray activity of radium emanation. F. P. Slater. *Philos Mag* 6th ser 44:300-4 Ag '22

Gamma sugars. See Sugars**Gantt charts**

Gantt chart. W. Clark. 157p *Ronald press* '22
How a manager uses Gantt charts. F. W. Trabold. *Management Eng* 2:28-30 Ja '22
Measurement of human work. W. N. Polakov. *Management Eng* 2:91-3 F '22

Garages

Basement garage for office-building tenants. *il Pop Mech* 37:921-2 Je '22

Colorado company builds 35-stall garage. E. J. Strock. *il Concrete* 19:sup105 D '21

Demonstration of value of comfort facilities to garage owners. *il plan Sanitary & Heat Eng* 99:285 My 4 '23

Garage door arrangement. *il diag Eng & Contr (Bldgs)* 60:399 Ag 22 '23

Live-loads for motor-truck storage. -E. L. Verveer. *Eng N* 88:238-41 F 9 '22

Packing case of motor car can be used as garage. *Pop Mech* 38:534 O '22

Some considerations in the design of truck garages. *Eng & Contr (Bldgs)* 60:397-8 Ag 22 '23; Same. *Arch & Bldg* 55:105 O '23

Garages—Continued

Special plumbing and lighting requirements for the modern garage. C: L. Hubbard. il diags Bldg Age 44:38-9 Je '22
 Universal concrete girders in garage roof. il diags Concrete 22:233 Je '23

See also Automobile renting; Automobile service stations; Gasoline handling; Motor bus lines—Garages

Designs and plans

Attractive show room forms the novel feature of this modern 300 car garage. R. C. Gautier. il diag plans Bldg Age 44:26-9 D '22
 Garage and greenhouse. il plans Bldg Age 45: 66 Ap '23
 Garage bungalow. C: A. Beyers. il plans Bldg Age 45:51 JI '23
 Homes with attached garages. il plans Bldg Age 44:40 Ap '22
 Modern private garages. il plan Bldg Age 44: 57 F '22
 New type of garage. H. F. Blanchard. il diag plan Am Arch 121:160 F 15 '22
 Ramp design in public garages. H. F. Blanchard. il Arch Forum 35:169-75 N '21
 Ramp garage. il plans Am Arch 123:375-82 Ap 25 '23
 Three private garages on Park avenue, New York; view and plans. Am Arch 122:504 D 6 '22

Electric equipment

Company garage has model electrical installation. il Elec W 81:170 Ja 20 '23

Equipment and supplies

Clever contrivances of the garage man. il Sci Am 129:335 N '23
 Door opener for garage. il Bldg Age 44:34 JI '22
 Education of dealers along business lines will increase use of garage tools. Automotive Ind 49:473 S 6 '23
 Latest garage equipment replaces repair pit. il Pop Mech 37:529 Ap '22
 Manley portable hoist. il Am Mach 56:424 Mr 16 '22
 Progress made in garage equipment. H. C. Buffington. il Soc Auto Eng J 11:61-6; Discussion. 66+ JI '22
 Stevens speed up garage tools. il Am Mach 57:816-17 N 23 '22
 Two practical garage conveniences. J. S. Haggans. il Pop Mech 38:287-8 Ag '22

Heating and ventilation

Garage heater works overtime. W: Hutton. il plans Sanitary & Heat Eng 97:246-8 My 5 '22
 Garage heating. A. G. King. diags Dom Eng 104:332-5 Ag 18 '23
 Heating a garage. C: L. Hubbard. il diags Sanitary & Heat Eng 99:43-5 Ja 26 '23
 Heating garage by warm air. diag Sheet Metal Worker 14:722 O 12 '23
 How a man got the most from a garage heater. W: Hutton. il diags Dom Eng 104: 118-19 JI 21 '23
 Importance of ventilating a garage to eliminate poisonous gases. C. L. Hubbard. diags Bldg Age 44:46-7 S '22
 Ventilation and heating for a large service garage. J. Mackay. diags plans Dom Eng 100:190-4 JI 29 '22
 Ventilation of garages. G. W. Jones and S. H. Katz. Am Soc Heat & V E J 29:423-6; Discussion. 426-8 JI '23

Management

Increasing your profits. 148p American automobile digest, Cincinnati '22

Garages, Concrete

Garages built of precast units. il Concrete 21: 19 JI '22
 Portable concrete garage. Engineer 133:580 My 26 '22

Garages, Cooperative

Community garages. R: Shepard. il diag Bldg Age 43:50 D '21

Garamond, Claude

Geoffroy Tory, a great typographer and his apprentice, Claude Garamond, the first typefounder. H: L. Bullen. Inland Ptr 68: 635-9 F '22

Garbage. See Refuse disposal**Garden cities**

Are great cities a menace? L. Veiller. il Arch Rec 51:175-84 F '22
 City homes on country lanes. W: E. Smythe. 270p Macmillan '21
 Garden cities and model dwellings as conceived by the French. W. P. Mitchell. il plan Eng & Contr 57:613-14 Je 28 '22
 International garden cities and town planning association conference. Olympia, London and Welwyn Garden City, March 14-15. E. E. Wood. Am Inst Arch J 10:165-6 My '22
 International garden cities and town planning federation conference in Paris, Oct. 21. Am Inst Arch J 11:45-7 Ja '23

See also City planning

Garden walls

Garden wall as part of the house. il Bldg Age 44:21-2 O '22

Gardening

Use of paper in gardening. Sci Am 129:167 S '23

Gardens

Current competitions in garden planning. G: Burnap. Arch Rec 51:455-60 My '22
 Garden brickwork. il diag Bldg Age 44:56-7 My '22
 Garden colorists. B. Gerry. il Arch Rec 52:44-51 JI '22
 Garden design. E: C. Whiting. il plans Arch Forum 36:211-16, pl 90-5 Je '22
 Garden of the country house. W: J. Lamb. il Arch Rec 50:295, 303-4, 336 O '21
 Gardens of Dobris near Prague, Czechoslovakia. G: Burnap. il Arch Rec 52:510-23 D '22
 Gardens on estate of H. S. Shonnard, Oyster Bay, L.I., N.Y.; views. Am Arch 122:144e-1 Ag 16 '22
 The Gardens, Snowhill manor, Gloucestershire; views. Arch Rec 54:352-9 O '23
 Italian garden at Groton, Conn. il Arch Forum 36:221-2, pl 81-3 Je '22
 Outside the house beautiful. H. C. Peabody. 70p Atlantic Monthly press, Boston '23
 Spanish gardens—old and new. F. Howard. il Am Arch 121:287-94, 300m-p Ap 12 '22

See also Landscape gardening

Gargoyles

Four gargoyles. il Am Inst Arch J 10:285-8 S '22

Garment centre capitol, New York

Garment centre capitol, New York. Arch & Bldg 53:93-4, pl 192-201 D '21

Garment cutting

Pattern making. A. K. Hanna. 148p Macmillan '22

Garment factories

See also Clothing trade

Lighting

Lighting for the manufacture of clothing. A. B. Oday and R. W. Peden. il Illum Eng Soc 16:606-22; Discussion. 622-4 no 9 '21

Garment workers

Garment industry—Cleveland. Monthly Labor R 16:561-1; 17:122-5 Mr, JI '23
 Garment workers in New York strike against re-establishment of piece-work system. Comm & Fin Chr 113:2150-2 N 19 '21
 Ladies' garment industry—Cleveland. Monthly Labor R 15:101-9 JI '22
 Men's clothing industry—Chicago. Monthly Labor R 17:861-3 O '23
 Shirt industry—New York city. Monthly Labor R 14:511-14 Mr '22
 Termination of the strike in the women's garment trades—the employers enjoined. Comm & Fin Chr 114:263-4 Ja 21 '22
 Trade agreements in the New York garment industries. M. Gadsby. Monthly Labor R 16:1290-1312 Je '23

Garment workers—Continued

Wages and hours of labor in the men's clothing industry, 1911-1922. U S Bur Labor Statistics Bul 329:1-39 '23; Abstract. Monthly Labor R 15:1269-74 D '22

See also Clothing trade; also International ladies' garment workers union; Joint board of sanitary control in the New York ladies' garment industries

Garnet**Bibliography**

Garnet. p. 15-16 Rep. of Investigations U S Bur Mines 2347 '22 (typew)

Garrey, George H.

Mining geologists of note. por Eng & Min J 114:492 S 16 '22

Gary, Elbert H.

Portrait. System 43:194 F '23

Sketch. S: Crowther. System 41:36-8 Ja '22

Gary, Indiana

In the youngest city in the world; city with a model master plumbers' association. il Dom Eng 101:514-16 D 23 '22

Gas

Atlantic City meeting of the American gas association. Chem & Met Eng 27:920-4 N 8 '22

Calorific value. W. B. Davidson. diags Gas J (Lond) 162:345-8 My 9 '23

Calorific value of gas as actually supplied. W. B. Davidson. Gas J (Lond) 162:479-81 My 23 '23

Catalytic gas from heavy oil. J. F. Shadgen. Gas Age 50:897-8 D 30 '22

City gas used as a cutting agent. D. R. Lane. il Gas Age 50:757-8 D 2 '22

Gas chemistry and how it affects the consumer. A. V. Hendrickson. Gas J (Lond) sup 2:7-8, 24-5, 40, 79, 121 Ja 31-Mr 28, My 30, Jl 25 '23

Gas buyers electricity. W. H. Becket and C. S. Buyers. Elec R (Lond) 90:66-7 Ja 13 '22

Making the use of gas in the home safe. Y. Henderson. Sci Am 127:251 O '22; Discussion. 129:55 Jl '23

Manufactured gas in the home. S: S. Wyer. il diags map 24p (U.S. National Museum Bul. 102, pt. 8), 24p Smithsonian Institution, Washington '23

Public health from the architect's point of view. E. C. M. Willmott. Gas J (Lond) 161: 203-4; Discussion. 204-5 Ja 24 '23

Le XLV^e congrès de la société technique du gaz (Paris, 17-20 juin 1922). il diags Génie Civil 81:17-19 Jl 1 '22

Relative usefulness of gases. F. W. Parsons. Gas Age 49:483-4+ Ap 22 '22

Story of gas. diags Sci Am 128:36-7 Ja '23

Study of gas from destructive distillation of a mixture of water-gas tar and coal. R. L. Brown. Chem & Met Eng 26:363-5 F '22

'22; Same. Am Gas J 116:186-8+ F 25 '22

Thermal efficiencies of production of different grades of gas. A. Parker. Gas J (Lond) 161: 334 F 7 '23

See also Acetylene; Blast furnace gas; Coke-oven gas; Distillation; Flue gas; Gas analysis; Gas and oil engines; Gas appliances; Gas as fuel; Gas burners; Gas industry; Gas lighting; Gas manufacture and works; Gas producers; Gases; Oxy-acetylene apparatus; Oxyacetylene flame; Petroleum

Air mixing

Aeration and air injection. diags Gas J (Lond) 163:104-18 Jl 4 '23

Analysis

See Gas analysis

History

City and gas celebrate together; Boston became city in 1822 and first gas company was established. J. E. King. il Gas Age 50:629-32 N 4 '22

Ignition

Lighting gas by electricity. G. E. Swartz. diag Ind Eng 80:543-4 N '22

Temperature of ignition of gas mixtures? Gas Age 49:213 F 18 '22

See also Gas and oil engines—Ignition

Laws and regulations

French gas legislation. Gas J (Lond) 161:389-90, 526-7 F 14, 28 '23

Law relating to stealing gas. J: Simpson. Gas Age 49:132-3 F 4 '22

Should gas undertakings have statutory powers to control the installation of pipes and appliances? W. L. Westbrook. Gas J (Lond) sup 2:39 Mr 28 '23

See also Gas—Standards; Gas, Natural—Laws and regulations; Gas companies—Law; Gas companies—Regulation; Gas rates

Moisture content

Condensing and scrubbing fundamentals and principles. W. H. Earle. diags Gas Age 52: 399-402+ O 6 '23; Same. Am Gas J 119:572-4+ N 24 '23

Detector for water vapor in closed pipes. E. R. Weaver and P. G. Ledig. il diags Ind & Eng Chem 15:931-4 S '23

Rates

See Gas rates

Standards

Advantages of low heat unit gas. E: L. Rieha. Gas Age 49:651-4+ My 27 '22; Same. Am Gas J 116:464-6+ My 20 '22

Approvisionnement de la France en hydrocarbures; fixation du pouvoir calorifique. P. Mallet. Soc Ing Civils Bul 74:321-36 Jl '21

B.t.u. standards adopted. Gas Age 48:851 D 24 '21

California B.t.u. research results. Gas Age 51:47-52 Ja 13 '23

Calorific standards. J. B. Klumpp. Am Gas Assn General Sessions sec v 4:41-7 '22

Changing to the B.t.u. in New York state. H. Russell. Am Gas J 117:591-2 N 18 '22

Commission heat unit standards. J: Simpson. Gas Age 48:812-13 D 17 '21

Consumer burdened by too hot gas. Gas Age 51:671-2 My 26 '23

Débenzologie du gaz de houille et la limitation de son pouvoir calorifique. C. Berthelot. Soc Ing Civils Bul 74:337-72 Jl '21

Efficiency and economy of gas; progress report of a joint committee of the railroad commission of the state of California working with the Pacific coast gas association and gas companies. il Gas Age 48:616-19, 655-8 N 12-19 '21

English calorific standards and their governmental regulation. A. I. Phillips. Am Gas Assn General Sessions sec v 3:96-115 '21; Same. Am Gas J 115:461-2, 468-72 N 19 '21

Excerpt. Gas Age 48:620-2 N 12 '21; Discussion. Am Gas Assn General Sessions sec v 3:115-17 '21

Experiences with the therm in England. E. W. Smith. Gas J (Lond) 164:252-5 O 24 '23

Government expert advocates gas company choosing quality of gas best for manufacture and sale. O. P. Hood. Am Gas J 119: 435+ O 19 '23

New York gas consumers get facts. Gas Age 51:747-8 Je 9 '23

No calorific standard; Colorado takes progressive step. Gas Age 52:319-20 S 15 '23; Same abr. Am Gas J 119:213-14 S 15 '23

Reduction of quality. R. E. Gibson. diags Gas J (Lond) 161:517-19 F 28 '23

Status of therm basis in Britain. C. H. S. Tunholme. Gas Age 50:801-2+, 835-7+ D 9-16 '22

What is the best quality of gas to declare, in the interests of seller and buyer? J. F. Tyndall. Gas J (Lond) 161:597-9 Mr 7 '23

Sulfur content

Organic sulphur and cyanogen removal from gas. A. R. Powell. Gas Age 52:443-7 O 13 '23; Same. Am Gas J 119:441-6 O 19 '23

Terminology

Nomenclature for gas units. R. E. Griswold. Gas Age 51:333 Mr 17 '23; Discussion. 51:368, 400, 477-8, 518-14, 534, 773-5 Mr 24-31, Ap 14-28, Je 16 '23

Testing

See Gas testing

- Gas, Accidents from**
Gas fatalities. Gas Age 52:558 N 3 '23.
- Gas, Natural**
Better methods of using natural gas. Am Gas J 117:569-71 N 11 '22
Carbon black from natural gas in 1921. Chem Age 30:164 Ap '22
Carbon monoxide in the products of combustion from natural gas burners. I. V. Brumbaugh and G. W. Jones. il chart diag U S Bur Stand Tech Pa 212:431-50 '22; Same cond. Gas Age 49:427-9, 495-8 Ap 8, 22 '22
Chlorination of natural gas. G. W. Jones, V. C. Allison and M. H. Meighan. U S Bur Mines Tech Pa 255:1-42 '21
Fuel gas question in steel industry. F. J. Denk. Iron Age 111:401-5+ F 8 '23; Same. Gas Age 51:327-32 Mr 17 '23; Abstract. Gas J (Lond) 164:388-90 N 7 '23
Gas and oil industrial cooperation. B. K. Stroud. Gas Age 51:535-6 Ap 28 '23
General aspects of natural gas industry. J. B. Garner. Am Gas J 115:438+ N 12 '21
High pressure gas separator is made from lease equipment. il Nat Pet N 14:27+ Je 7 '22
Little Rock gets perfumed gas; experiments started to give natural gas a distinctive odor to make it discernible. Gas Age 50:45+ JI 8 '22
Moving underground water as a primary cause of the migration and accumulation of oil and gas. J. L. Rich. Econ Geol 16:347-71 S '21; Discussion. C. A. Bonine. 17:389-92 Ag '22
Much material needed in natural gas work. Am Gas J 116:45 Ja 14 '22
Natural gas as a fuel for central stations. E. A. Quinn. il diags Elec W 81:575-7 Mr 10 '23
Natural gas-gasoline blends. D. B. Dow. Chem Age 29:464 N '21
Natural-gas manual for the home. R. A. Cattell. diags U S Bur Mines Tech Pa 325:1-30, pl 1-8 '22
Natural gas statistics for 1921. R. S. McBride. Gas Age 51:109-12 Ja 27 '23
New specific-gravity apparatus for natural gas. T. R. Weymouth, R. P. Anderson and J. R. Fay. Ind & Eng Chem 15:358-9 Ap '23
Passing of king methane. S. R. Scholes. Am Cer Soc J 5:693-6; Discussion. 697-701 O '22
Relative heating values of coal, oil and natural gas, and relative economies obtainable with each. chart Power Pl Eng 26:324-5 Ag 15 '22
Scope of the natural gas industry. E. G. Sievers. Gas Age 51:529-33 Ap 28 '23
Temperature of deep well reaches 150 degrees. Gas Age 50:495 O 14 '22
Tests of heaters operated with natural gas. G. W. Jones, W. P. Yant and L. B. Berger. diag Gas Age 52:223-6 Ag 25 '23
Use of natural gas by oil company. M. J. Dewey. Gas Age 50:146-7+ JI 29 '22
Use of natural gas under boilers. M. P. Youker. Gas Age 49:591-2 My 13 '22
Why universal house heating with natural gas is not feasible. S. S. Wyer. Gas Age 51:568 My 5 '23
World sources of mineral fuels. E. G. Sievers. Gas Age 51:795 Je 23 '23
See also Carbon black; Gasoline—Manufacture—Natural gas processes
- Conservation**
Better natural gas service. Gas Age 48:582-3 N 5 '21
Exhaustion of our natural gas. F. L. Chase. Gas Age 51:763-5 Je 16 '23
Gas primer used in Penn. schools; teaching conservation and better utilization. Gas Age 49:713-15 Je 10 '22
How to get better service with less natural gas in domestic gas appliances. U S Bur Stand Circ 116:1-5 '21
Louisiana launching campaign to save its natural gas. Gas Age 51:620 My 12 '23
Need of saving natural gas. S. S. Wyer. Munic Eng 61:175-7 N '21
Startling waste of gas in carbon plants is shown in report. Am Gas J 116:488-9 My 27 '22
- Using governmental sanction to give a conservation campaign added strength. Ptr Ink 120:69-70+ Ag 31 '22
- Fires and fire protection**
Recapping wild gas well tests nerve and ingenuity. Eng & Min J 116:551 S 29 '23
- Laws and regulations**
Louisiana would regulate natural gas use. Am Gas J 116:554-6 Je 17 '22
Regulate gas transportation lines. J. Simpson. Gas Age 50:871-2 D 23 '22
Senate of Louisiana passes committee substitute for Browne bill. Am Gas J 117:39-40 JI 8 '22
Supreme court's West Virginia natural gas decision clarifies interstate commerce situation—held to apply to coal, oil, electricity and staples. N E L A Bul 10:478-82 Ag '23
West Virginia gas export law invalid. Oil Paint & Drug Rep 103:20+ Je 18 '23
- Prospecting**
Prospecting and testing for oil and gas. R. E. Collom. diags maps U S Bur Mines Bul 201:1-170, pl 1-6 '22; Abstract. Gas Age 51:699-700 Je 2 '23
- Tables, calculations, etc.**
Depletion and maintenance table for gas properties. H. A. Fisher. Nat Pet N 15:81 S 26 '23
Tables and charts for natural gas users. R. P. Anderson. Chem & Met Eng 27:1039-40 N 22 '22
- Testing**
Testing device for natural gas built to fit any oil field car. il Nat Pet N 14:47 Ap 5 '22
- Transportation**
Most elaborate long-distance gas-piping system on earth. F. J. Koch. Am Gas J 117:72-5 JI 22 '22
Natural gas distribution matters. R. B. Kilpatrick. Gas Age 50:877-8 D 23 '22
Principal functions of compressing stations. F. K. Howell. Am Gas J 116:575 Je 24 '22
- Valuation**
Application of appraisal methods for rate making, federal taxation, and commercial purposes. P. Ruedemann. Eng Soc W Pa 38:46-54 Mr '22; Same. Am Gas J 117:351-3 O 14 '22; Discussion. Eng Soc W Pa 38:55-7 Mr '22; Am Gas J 117:353-4 O 14 '22
Relation of valuation to rates, depletion and depreciation. R. E. Davis. Nat Pet N 15:107+ My 2 '23
- Alberta**
Is there oil in Alberta? answer seems as remote as ever. L. E. Smith. il Nat Pet N 15:51-2+ Ag 8 '23
Natural gas resources of Alberta. Nat Pet N 14:62 O 4 '22
- Australia**
Existence of natural gas and possibly petroleum, proved in Queensland. R. Bedford. Nat Pet N 14:69-70 Mr 22 '22
- California**
Factors in natural gas rates; railroad commissioners of California unravel some of the rate knots. Gas Age 50:803-4 D 9 '22
Mixing natural and oil-water gas. H. L. Masser. Gas Age 50:195-9 Ag 12 '22
Protection and development of California natural gas. Gas Age 50:145 JI 29 '22
Southern California is a gas man's paradise with its bountiful supply of natural gas. map Gas Age 50:652 N 11 '22
- Canada**
See Gas, Natural—Alberta
- Kentucky**
Conservation of natural gas in Kentucky. W. R. Jillson. 152p J. P. Morton & co., Louisville, Ky. '22

Gas, Natural—Kentucky—Continued

Oil and gas resources of Kentucky. W. R. Jilson. 2d ed. 630p Kentucky geol. survey, Frankfort, Ky. '20

Louisiana

Monroe gas field. H. W. Bell and R. A. Cattell. 99p La. Dept. of conservation, in co-operation with U.S. Bureau of mines '21
New gas producing sand is found in Bossier parish. Nat Pet N 15:69 O 3 '23

Michigan

Geological factors affecting the search for oil and gas in Michigan, with results of drilling. W. I. Robinson. map Nat Pet N 14:71-2+ S 6 '22

Montana

Oil and gas prospects in and near the Crow Indian reservation, Montana. W. T. Thom, jr. U S Geol S Bul 736—B:35-53, pl 7 '22

New York

Surveying the future. B. J. Hatmaker. Gas Age 52:409-10 O 6 '23

Oklahoma

Chickasha field making 400 million feet; one well is showing oil. A. F. Hinton. Nat Pet N 15:67-8 Ja 10 '23

Structure and oil and gas resources of the Osage reservation, Oklahoma. D. White and others. U S Geol S Bul 686:1-427, pl 1-60 '22
Structure of the Madill-Denison area, Oklahoma and Texas; with notes on oil and gas development. O. B. Hopkins, S. Powers and H. M. Robinson. U S Geol S Bul 736—A:1-33, pl 1-6 '22

Texas

Notes on the oil and gas fields of Webb and Zapata counties. E. H. Sellards. Texas U Bul 2230:1-40 Ag 8 '22

Oil and gas in the Texas Panhandle. W. Pratt. maps Nat Pet N 15:57-8+ J1 25 '23
Oil in natural gas of Refugio county, Texas. L. A. Thiele. Chem Age 31:115-16 S '23
White Point gas field, Texas. A. G. Wolf. il map Eng & Min J 113:174-5 Ja 28 '22

United States

Natural gas in 1919-1921. R. S. McBride and E. G. Sievers. diag maps U S Geol S Min Res of U S 1921, pt 2:335-69 '23

Wyoming

Development of natural gas and gasoline industry in Wyoming fields. C. K. Francis. Nat Pet N 15:97+ My 9 '23

Gas, Oil

Crude oil gas plant analysis. R. H. Burdick. Am Gas J 118:217-19 Mr 17 '23
New Bedford, Mass. to have oil gas plant. Am Gas J 118:129-30 F 17 '23
Oil gas generator design. Am Gas J 117:610+ N 25 '22

Gas, Producer

By-product recovery with producer gas. Chem Age (Lond) 9:122 Ag 4 '23
Carbonization of coal with blue gas and producer gas. W. R. Morris. il diags Am Gas Assn Technical sec v 4:21-61 '22; Same abr. Blast F & Steel Pl 11:22-30 Ja '23; Discussion. Am Gas Assn Technical sec v 4:195-210 '22
Charcoal producer gas. J. E. Kirchner. il diag Automobile Eng 13:138 My '23
Cleaning producer gas made from bituminous coal. H. W. Seldon. Blast F & Steel Pl 9:708-10 D '21
Cleaning producer gas without washing. J. H. Matheson. diags Iron Age 109:916-17 Ag 6 '22
Combustion of gaseous fuels judged from gas analyses. A. G. Witting. Am Gas J 117:250-4, 256-61 S 16 '22; Same, without appendix. Blast F & Steel Pl 10:522-8 O '22; Same cond. Iron Age 110:1281+ N 16 '22
Fuel gas question in steel industry. F. J. Denk. Iron Age 111:401-5+ F 8 '23; Same. Gas Age 51:327-32 Mr 17 '23; Abstract. Gas J (Lond) 164:388-90 N 7 '23

Fuel gases in iron and steel plants; abstracts. H. S. Watts. Iron Age 110:153-7 J1 20 '22; Iron Tr R 70:605-9 Mr 2 '22
Gas producers and producer gas. V. Windett. Blast F & Steel Pl 11:55-60 Ja '23
Graphical treatment of stack gas analysis and of producer gas analysis. W. Trinks. Blast F & Steel Pl 10:131-5 F '22
Hungary uses charcoal producer gas as truck fuel. J. E. Kirchner. il diag Automotive Ind 48:283-4 F 8 '23
Making producer gas efficiently. W. B. Chapman. Iron Tr R 72:1014-15+ Ap 5 '23
New methods of producing gas for industrial operations. R. Maclaurin. Engineering 116:457-8 O 12 '23
Producer-gas and gas-producer practice. R. V. Wheeler. Gas J (Lond) 161:452; 162:164-5 F 21, Ap 18 '23
Producer gas, deriving little sulphur from coal, makes good iron-works fuel. Coal Age 20:920 D 8 '21
Producer gas for burning refractories. W. D. Richardson. Am Cer Soc J 6:799-807 J1 '23
Producer gas from powdered coal. R. T. Haslam and L. Harris. diag plan Ind & Eng Chem 15:355-7 Ap '23
Producer gas in the textile industry. P. A. Merriam. il Textile World 63:3013+ My 5 '23
Producer gas used as fuel in British trucks. il Eng N 89:861 N 16 '22
Production and utilization of producer gas for heating open hearth furnaces. M. G. Husson. Blast F & Steel Pl 11:264-8, 328-30 My-Je '23
Report of experiments on producer-gas. K. Morimoto. Am Cer Soc J 5 (Cer A) 1:267-8 N '22
Thrift in using power. Factory 30:44+ Ja '23
Treatment of gases from gas producers. Chem & Met Eng 28:907 My 21 '23
Using clean cold producer gas. C. F. Kaufman. Iron Tr R 70:267-70 Ja 26 '22
See also Gas producers

Gas, Water

Baby gas machine works. E. H. Bauer. il diag Gas Age 49:237-8 F 25 '22
Baltimore's water gas plant. il Gas Age 50:535-7 O 21 '22
Bituminous coal as generator fuel. W. A. Dunkley. Am Gas J 116:249-52+ Mr 18 '22; Same. Gas Age 49:523-6 Ap 25 '22
Bituminous water gas fuel economy. W. A. Dunkley. Gas Age 50:795-7 D 9 '22
Blue gas in big electric plant; how the Western electric co. makes and utilizes enough blue gas to supply a city of 100,000. A. J. Smith. il Gas Age 50:513-16 O 21 '22
Bridlington gas company. J. Kelly. Gas J (Lond) 163:935-7 S 26 '23
Carbonization of coal with blue gas and producer gas. W. R. Morris. il diags Am Gas Assn Technical sec v 4:21-61 '22; Same abr. Blast F & Steel Pl 11:22-30 Ja '23; Discussion. Am Gas Assn Technical sec v 4:195-210 '22
Carburetted water gas. Gas J (Lond) 161:335-6 F 7 '23
Carburetted water gas plant analysis. R. H. Burdick. Am Gas J 118:215-16 Mr 17 '23
Carbureting with low-grade oil; new water gas plant at Fall River, Mass. H. Vittinghoff. il Gas Age 51:67-70 Ja 20 '23
Catalysis in the gas industry. E. K. Rideal. Gas Age 49:9 Ja 7 '22
Coal and coke mixtures as water-gas generator fuel. W. W. Odell. il U S Bur Mines Tech Pa 284:1-31 '21
Comparisons of some methods of running water-gas plant. J. G. King and J. F. Shaw. 31p Gt. Brit. Dept. of sci. and ind. research, London '23; Abstract. Gas J (Lond) 162:662 Je 13 '23
Continuous oil-water-gas process. Gas Age 49:267-9 Mr 4 '22
Contribution to the theory of the water-gas process. S. Kohn. J Ind & Eng Chem 14:69-72 Ja '22
Demonstration of the manufacture of blue and of carburetted water-gas. F. C. Freeman. Gas Age 50:842-3 D 16 '22

Gas, Water—Continued

- Description of carbonizing apparatus of the Isbell-Porter company. R. K. Wehner. *il Am Gas Assn Technical sec v 3:494-6* '21
- Experiment with an eight foot six inch water gas set. H. S. Parker. *Am Gas J 117:275-6 S 23* '22; Same. *Gas Age 50:583 O 28* '22
- La fabrication de l'hydrogène par liquéfaction partielle du gaz à l'eau. G. Claude. *diag Génie Civil 79:376-7 O 29* '21
- Gasoline gas adjunct. F. B. Crowell. *il Gas Age 49:13 Ja 7* '22
- Gummy meter deposits; nature, causes and prevention. R. L. Brown. *Gas Age 52:273-6 S 8* '23
- Heating coke ovens with blue water-gas. J. F. O'Malley. *il Chem & Met Eng 27:75-8 Jl 12* '22
- Increasing water gas set capacity. W. E. Steinwedell. *il diags Gas Age 50:3-4+ Jl 1* '22
- Low-grade oils in water-gas making. A. C. Klein. *Chem & Met Eng 28:601-2 Mr 28* '23
- Low-temperature carbonization by the medium of water gas; the Marshall-Easton process. F. D. Marshall. *diags Gas J (Lond) 162:667-72 Je 13* '23
- Making mixed gas in horizontal retorts. J. Ruf. *diags Am Gas J 118:443-5+ My 26* '23
- Manufacture and distribution of gas; with discussion. H. N. Cheney. *il Boston Soc C E J 10:47-55 F* '23
- Manufacture of blue water gas. *diags Gas J (Lond) 163:134-56; Discussion. 156-7 Jl 4* '23
- Manufacture of hydrogen by the partial liquefaction of water gas and coke oven gas. G. Claude. *diags Engineering 14:506-7 O 20* '22; Same. *J Ind & Eng Chem 14:1118-19 D* '22
- Manufacture of water gas. J. Hall. *Gas J (Lond) 161:209-11 Ja 24* '23
- Many advantages to be gained by using false grate bars on water gas sets. D. H. Livingston. *Gas Age 50:651 N 11* '22
- Post-war gas-making plant at Maubeuge. *diags Gas J (Lond) 163:532-3 Ag 15* '23
- Regenerative coal gasification system. M. W. Travers and F. W. Clark. *il diags Gas J (Lond) 164:34-7, 130-3 O 3-10* '23
- Removing dust from water-gas blast gas. A. M. Beebe. *il Am Gas J 118:523-5 Je 16* '23
- Rincker complete gasification plant. *il diags Gas Age 51:637-8+ My 19* '23
- Some observations on the use of the Doherty washer cooler as a water gas condenser. F. W. Steere. *flowsheet Am Gas Assn Technical sec v 4:335-48* '22; Same. *Gas Age 50:471-4 O 14* '22; Excerpts. *Chem & Met Eng 27:990-2 N 15* '22; Discussion. *Am Gas Assn Technical sec v 4:376-87* '22
- Steaming stop-end horizontal retorts. W. A. Dunkley and R. D. Leitch. *diags plan Gas Age 49:70-4 Ja 21* '22
- Story of automatic control. R. W. Polk. *Gas Age 50:582 O 28* '22
- Strache double-gas process. A. Breisig. *diag Gas Age 50:317-18+ S 9* '22
- Thermal efficiencies of production of different grades of gas. A. Parker. *diags plan Soc Chem Ind J 42:112-17 Mr 23* '23
- Two-stage carbonization method of gas manufacture. J. M. Smith. *il diags plan Gas J (Lond) 163:740-3 S 12* '23
- Water gas. A. Parker. *diags plan Gas J (Lond) 161:27-32; Discussion. 32-3 Ja 3* '23
- Water gas from bituminous coal. W. A. Dunkley. *Gas Age 50:435-7 O 7* '22
- Water-gas generation. J. G. King and F. Shaw. *Engineering 116:195 Ag 17* '23
- Water gas manufacture at Schenectady and equipment in use. C. W. Shay. *Gas Age 50:142 Jl 29* '22
- Water-gas reactions. R. T. Haslam, F. L. Hitchcock and E. W. Rudow. *diags Ind & Eng Chem 15:115-21 F* '23
- Water-gas tar emulsions. W. W. Odell. *U S Bur Mines Tech Pa 304:1-49* '23; Excerpts. *Gas Age 49:561-2+ My 6* '22; *Am Gas J 119:228 S 15* '23
- What goes on in a water-gas machine. M. E. Benesh. *charts diag Am Gas Assn Technical sec v 3:9-28* '21; Same cond. *Am Gas J 115:275-8+ S 24* '21; Same. *Gas Age 48:559-63 N 5* '21; Discussion. *Am Gas Assn Technical sec v 3:28-38* '21
- Cost
- Continuous water gas producer. A. W. H. Gripe. *diags Am Gas J 116:53-4+ Ja 21* '22
- Testing
- Water gas plant tested by British research board. C. H. S. Tupholme. *diags Gas Age 52:185-90 Ag 18* '23
- Gas absorption towers. See Absorption towers
- Gas analysis
- Analysis of gas mixtures containing methyl chloride. R. H. McKee and S. P. Burke. *il Ind & Eng Chem 15:573-9 Je* '23
- Analytical determination of oxides of nitrogen in gas mixtures. C. L. Eurdick. *J Ind & Eng Chem 14:308-10 Ap* '22
- Apparatus for the continuous analysis of gas. I. Ginsberg. *diag Am Gas J 115:555-6 D 24* '21
- Appareil pour l'analyse continue du gaz. R. Mezger and M. Muller. *diag Chimie & Ind 8:355-6 Ag* '22
- Automatic volumetric analysis carbon monoxide recorder. G. B. Taylor and H. S. Taylor. *diags J Ind & Eng Chem 14:1008-10 N* '22
- Die bestimmung der kohlenwasserstoffe in technischen gasen; with discussion. G. Wollers. *diag Stahl & Eisen 42:1449-56 S 21* '22
- Die bestimmung von kohlenoxyd und kleinen mengen brennbarer gase. G. Wollers. *diag Stahl & Eisen 42:1050-3; Discussion. 1053-5 Jl 6* '22
- Carburetor adjustment by gas analysis. A. C. Fieldner and G. W. Jones. *il diags J Ind & Eng Chem 14:594-600 Jl* '22
- Caustic potash in gas analysis. *Gas J (Lond) 163:681 S 5* '23
- Combustion of gaseous fuels judged from gas analyses. A. G. Witting. *Am Gas J 117:250-4, 256-61 S 16* '22; Same, without appendix. *Blast F & Steel Pl 10:522-8 O* '22; Same cond. *Iron Age 110:1281+ N 16* '22
- Detector for water vapor in closed pipes. E. R. Weaver and P. G. Ledig. *il diags Ind & Eng Chem 15:931-4 S* '23
- La détermination du pouvoir comburivore et le dosage de l'azote du gaz d'éclairage. M. Nicloux. *Chimie & Ind 9:866-71 My* '23
- Determination of aromatic hydrocarbons. E. Berl, K. Andress and W. Mueller. *diag Am Gas J 116:440-1 My 13* '22
- Determination of gases in metals. H. L. Simons. *diag Chem & Met Eng 27:248-9 Ag 9* '22
- Determination of hydrogen sulphide in illuminating gas. C. W. Jordan and W. H. Fulweiler. *Am Gas Assn Technical sec v 3:386-403* '21; *Am Gas J 115:526-9+ D 10* '21; Discussion. *Am Gas Assn Technical sec v 3:404-7* '21
- Determination of suspended impurities in gases. W. W. Scott. *diags J Ind & Eng Chem 14:432-3 My* '22
- Engine-room chemistry. A. H. Gill. 3d ed. 174p McGraw-Hill '22
- Formation of oxides of nitrogen in the slow combustion and explosion methods in gas analysis. G. W. Jones and W. L. Parker. *J Ind & Eng Chem 13:1154-7 D* '21
- Gas composition by calculation. M. L. Abbott. *Gas Age 51:141-3 F 3* '23
- Graphical treatment of stack gas analysis and of producer gas analysis. W. Trinks. *Blast F & Steel Pl 10:131-5 F* '22
- Improved method for the separation of gas mixtures by fractional distillation at low temperatures and pressures. M. Shepherd and F. Porter. *diag Ind & Eng Chem 15:1143-6 N* '23
- Light oil in coke-oven gas. A. L. Davis. *Ind & Eng Chem 15:689 Jl* '23
- Manuel de chimie gazière. E. Sainte-Claire Deville. 208p Dunod, Paris '21

Gas analysis—Continued

- Method for the micro-analysis of gases by the use of the Pirani pressure gauge. *J Fr Inst* 193:110 Ja '21
- New apparatus for gas analysis. K. A. Schaller and W. Berndt. *diag Am Gas J* 118:491-2+ Je 9 '23
- New interpretation of exhaust-gas analysis. E. H. Lockwood. *Soc Auto Eng J* 12:299-301 Mr '23
- Production and utilization of producer gas for heating open hearth furnaces. M. G. Husson. *Blast F & Steel Pl* 11:264-8, 328-30 My-Je '23
- Report on standardization of sizes and shapes of apparatus; gas analysis apparatus. W. D. Collins. *J Ind & Eng Chem* 14:738-9 Ag '22
- Sampling and analysis of automobile exhaust gas. A. C. Fieldner and G. W. Jones. *il diags J Fr Inst* 194:613-44 N '22
- Unsaturated hydrocarbon constituents of gas. R. L. Brown. *Am Gas J* 116:186-8+ F 25 '22; Same. *Chem & Met Eng* 26:363-5 F 22 '22
- Use of phosphorus in gas analysis. A. Holmes. *Ind & Eng Chem* 15:357 Ap '23
- See also Air—Analysis; Carbon monoxide; Flue gas—Analysis
- Gas and electric shops**
- Service by gas and electric shops. *Gas Age* 50:485+ O 14 '22
- Solving the merchandising problem. *il Elec W* 80:1445-7 D 30 '22
- Gas and oil engines**
- Belgian hot bulb engine with the R.E.M. type fuel pump. *il diags Engineer* 135:120 F 2 '23
- Brief statement of the condition of the oil engine industry. *Power* 58:400 S 4 '23
- British blast-furnace gas engines. *il Power* 56:608-9 O 17 '22
- Brotherhood cold-starting crude oil engine. *diags Engineering* 113:746-8 Je 16 '22
- Builds oil engine air compressor unit. *il Iron Tr R* 71:796 S 21 '22
- Combustion engines; starting up, shutting down and routine of operation. *diags Power Pl Eng* 26:520-1 My 15 '22
- Combustion engines; types, conditions for efficiency, methods of governing. *diags Power Pl Eng* 26:215-17 F 15 '22
- Compression pressures in gas engine. *Power* 56:145 J 25 '22
- Cost of oil-engined central stations. *Power* 58:537 O 2 '23
- Cylinder wear in oil engines. M. S. Howard. *diags Power Pl Eng* 27:789-91 Ag 1 '23
- Cylinders of British gas engines. Major Taylor-Johnson. *diags Power* 56:641 O 24 '22
- Design and construction of oil engines. A. H. Goldingham. 5th ed. 312p Spon '22
- Diesel and oil engine hand book. J. Rosbloom. 376p Technical publishing co., Los Angeles '23
- Efficiency of gas engines for central stations. M. S. Mason. *Elec R (Lond)* 92:1006-7 Je 29 '23
- Erecting an oil engine. M. S. Howard. *diags Power Pl Eng* 26:902-4 S 15 '22
- Evolution of the heavy oil engine. R. E. Mathot. *Engineer* 135:137-8 F 9 '23; Same cond. *Power* 57:499-500 Mr 27 '23
- Factors influencing selection of oil engines. L. V. Armstrong. *Power Pl Eng* 27:1081-2 N 1 '23
- Falk heavy-oil engine. *il diags Power* 58:56-8 J 10 '23
- First large gas-engine installation in American steel works. E. P. Coleman. *Blast F & Steel Pl* 11:485-8, 517-20; Discussion. 520-1+ S-O '23
- Flow of gas into a cylinder. A. Johnson. *Automobile Eng* 12:41-3 F '22
- Forces in rotary motors. K. H. White. *diags Mech Eng* 44:643-7+ O '22
- Gas-driven alternators for South Africa. *il diags Engineer* 136:44-7, 64-5 J 13-20 '23
- Gas engine power station of Palmers' ship-building and iron company. *il diags Engineering* 116:195-8, 208, 288-92, 364-6, 368, 454-7, pl 14, 21 Ag 17, S 7, 21, O 12 '23
- Gas engines for central stations. M. S. Mason. *Elec R (Lond)* 92:244-5 F 16 '23
- Gas works electricity scheme; its fuel cost. W. T. Wardale. *Elec R (Lond)* 93:512-13 O 5 '23
- Gasverbrauch und zusammensetzung der abgase von grossgasmaschinen. D. Rauer. *diags Stahl & Eisen* 42:1545-53 O 12 '22; Discussion. 43:235-8 F 15 '23
- German high-speed heavy-oil engine. *Power* 56:973 D 19 '22
- German oil-engine developments; interview with Franz Schultz. *Power* 56:878-9 D 5 '22
- Gernandt oil engine developed by Bendix. *Automotive Ind* 47:593 S 21 '22
- High-speed oil engines. J. L. Chaloner. *il diags Automobile Eng* 13:84-95 Mr '23
- Hot-bulb record oil engine at the Olympia exhibition. *il diags Engineering* 116:356-7 S 21 '23
- How the Wygodsky oil engine operates. *il diags Power Pl Eng* 27:169-71 F 1 '23
- Installing and operating an oil-engine plant. V. Morris. *il Power* 58:492-3 S 25 '23
- Internal-combustion engine. H. R. Ricardo. Blackie & son, 50, Old Bailey, E.C. 4, London '22-'23
- Internal-combustion engines. J. Okill. 126p Pitman '22
- Internal combustion engines. R. L. Streeter. 2d ed. 443p McGraw-Hill '23
- Internal combustion engines exhausting into low-pressure turbines. F. Modugno. *Engineer* 136:290-1 S 14 '23; Abstract. *Engineering* 116:323 S 14 '23
- Large gas engines installed in steel plants. C. G. Sprado. *il Blast F & Steel Pl* 11:123-5 Ja '23
- Lawrence oil engine. *diags Power* 56:20 J 14 '22
- Loss of power in a gas engine. E. Pagett. *Power* 56:167-8 Ag 1 '22
- Mean effective pressures of internal-combustion engines. R. Matthews. chart *Power* 57:403-4 Mr 13 '23
- Le moteur à essence. F. Carlès. 480p Dunod, Paris '21
- New two-stroke cycle engine. *il diags Engineer* 133:310-11 Mr 17 '22
- Oil-engine drive for dipper dredges. G. B. Massey. *Eng N* 89:647 O 19 '22
- Oil engine hints. B. Bare. *diag Power Pl Eng* 26:704-7, 800-2, 851-2 J 15, Ag 15-S 1 '22
- Oil-engine industry is picking up. *il Power* 55:11-13 Ja 3 '22
- Oil engine of today. C. E. Lucke. *il Power* 56:241-3 Ag 15 '22
- Oil engine vs. steam power. C. E. Lucke. *Power* 56:80-3 J 18 '22
- Oil engines and electricity supply. G. Porter. *Elec R (Lond)* 89:798-9 D 9 '21
- Oil engines for village power plants. G. T. Prince. *Power* 56:860 N 28 '22
- Oil engines meet with increasing favor. *il Power* 57:16-17 Ja 2 '23
- Oil-injection combustion engines. C. E. Lucke. *diags Power Pl Eng* 25:1206-8 D 15 '21
- Photographic recording of engine data. A. Trowbridge. *il diags Soc Auto Eng J* 10:351-6; Discussion. 356+ My '22
- Portable oil engine runs pump or bucksaw. *il Pop Mech* 39:744 My '23
- Practical way to detect afterburning in oil engines. H. F. Shepherd. *il diags Power* 57:249-51 F 13 '23
- Practical way to study engine performance. P. H. Schweitzer. *diags Power* 57:553-6, 640-2 Ap 10, 24 '23; Discussion. 57:908-9; 58:421-2; 430 Je 5, S 11 '23
- Present status and probable development of internal combustion engines to consume heavy fuels. *il Am Pet Inst Bul* 3:128-50 D 30 '22
- Les progrès récents réalisés dans la construction du moteur léger à explosion. C. Faroux. *Génie Civil* 80:305 Ap 1 '22
- Questions and answers relating to Diesel, semi-Diesel and other internal-combustion engines, air compressors, etc. J. Lamb. 209p Lippincott '22

Gas and oil engines—Continued

Recent research work on the internal combustion engine. H. R. Ricardo. *il diags Soc Auto Eng J* 10:305-28 My '22; Same. *Automobile Eng* 12:265-73, 299-306, 329-32 S-N '22; Same abr. *Automotive Ind* 46:126-33 Ja 19 '22; Discussion. *Soc Auto Eng J* 10:328-36+ My '22; *Automotive Ind* 46:110-11 Ja 19 '22

Record combustion engine with twin cylinders and common combustion engine. J. H. Blakey. *diag Power Pl Eng* 26:468 My 1 '22

Schneider gas engine. H. A. A. Dombrain. *il Electrician* 87:643-6 N 18 '21

Setting the crankshaft bearings of internal-combustion engines. H. F. Shepherd. *diags Power* 57:363-5 Mr 6 '23; Discussion. 57:570; 58:147-8 Ap 10, Jl 24 '23

Shipping, engineering and machinery exhibition; brief description of the British internal combustion engine section. *il diags Automobile Eng* 13:308-15 O '23

Six-cylinder oil engine. *diags Engineer* 135:176, 180-1 F 16 '23

Sproule internal-combustion engine. *Power* 55:580 Ap 11 '22

Stationary internal-combustion engineering. T. C. Menges. *Soc Auto Eng J* 10:80-2 F '22

Steam and heavy oil combustion engines for municipal service. J. W. Hill. *Munic Eng* 63:211-14 D '22

Theoretical aspect of heat regeneration for internal combustion motors. W. J. Walker. *Engineer* 135:506 My 11 '23

3-B.H.P. hopper-type paraffin engine. *il diags Engineering* 114:707-9 D 8 '22

Time-saving devices for the gas-engine power plant. H. W. Los. *diags Power* 58:697-8 O 30 '23

Two-cycle oil engine with auxiliary cylinders. *il Pop Mech* 38:528 O '22

Two-stroke engines; a consideration of methods for improving the charging stroke. C. H. T. Alston. *diags Automobile Eng* 12:243-4 Ag '22

Types of oil engines and advantages of the various designs. F. M. Towl. *Nat Pet N* 15:45-+ O 31 '23

Typical application and operation of gasoline auxiliary pumps. S. L. Fear. *Can Eng* 44:420 Ap 17 '23

Valveless, gearless engine. *diag Engineer* 132:658 D 16 '21

Variation of oil engine power with altitude. *chart Power* 57:151 Ja 23 '23

Vertical two-cycle oil engine made by Marshall, sons and co., limited. *il diag Engineer* 132:544 N 18 '21

What expansion without loss of heat means. *diags Power* 56:169-72 Ag 1 '22

See also Air engines; Airplane engines; Airship engines; Automobile engines; Cammellaird-Fullagar engine; Carbureters; Cylinders (engines); Diesel engines; Doxford engines; Fullagar engine; Gas tractors; Gas turbines; Hvid engine; Locomotives; Gas and oil; Motor boats; Motor cars (railroad); Motor cycle engines; Motor ships; Motor truck engines; Ripert engines; Semi-Diesel engines; Silencers (exhaust); Spark plugs; Still engine; Tractor engines; Tractors

Advertising

What a new marketing programme did for Witte engines. E. H. White. *Ptr Ink* 118:3-4+ Mr 30 '22

Air supply

Measurement of air flow by means of a throttle plate with special reference to the measurement of the air supply to internal combustion engines. R. O. King. *Engineering* 115:156-8, 181-2 Ap 13-20 '23

Bearing pressure diagrams

How to make better bearing pressure diagrams. P. M. Heldt. *diags Automotive Ind* 46:1057-8 My 18 '22

Bearings

Care of oil engine bearings. M. S. Howard. *diags Power Pl Eng* 26:1066-7 N 1 '22

Use of precision bearings on engine crankshafts. L. W. Chadwick. *Soc Auto Eng J* 13:424-5 N '23

Compounding

Compounding the combustion engine. E. A. Sperry. *il diags Mech Eng* 44:27-32+ Ja '22; Same abr. *Engineering* 113:149-51 F 3 '22; Excerpts. *Marine Eng* 27:60-3 Ja '22; Excerpts. *Power* 54:967-8 D 20 '21; Abstract. *Power Pl Eng* 26:164-6 F 1 '22; Discussion. *Engineering* 113:164-5, 390-1 F 10, Mr 31 '22; *Mech Eng* 44:525-7, 674-5 Ag, O '22

What can we expect from the compound gas engine? W. J. Wohlenberg. *Power* 56:560-2 O 10 '22

Will compounding of internal combustion engines pay? L. H. Morrison. *Power* 55:730-2 My 9 '22

Cooling

Cooling of semi-Diesel engines. R. E. Dean. *Power* 58:20 Jl 3 '23

Cooling-water systems for internal combustion engines. E. J. Kates. *diags Power* 54:710-13 N 8 '21

Oil and air-cooled motors developed in England. *il Pop Mech* 37:925 Je '22

See also Automobile engines—Cooling; Motor cycle engines—Cooling

Design

Fundamentals of internal-combustion-engine design. L. H. Pomeroy. *Soc Auto Eng J* 11:328-32; Discussion. 332+ O '22

Hot-bulb oil engines with cold-starting device. *il diags Engineering* 115:694 Je 1 '23

Internal-combustion engine cams. B. B. Low. *diags Engineering* 115:641-4 My 25 '23

Single-valve internal-combustion engine design and operation. R. Abell. *il chart diags Soc Auto Eng J* 13:301-9; Discussion. 309 O '23

Exhaust

La calcination des carbonates de zinc menus; (terres calaminaires) par l'échappement des moteurs à explosion. L. Tissier. *diag Chimie & Ind* 8:1201-5 D '22

Exhaust piping for semi-Diesel engines. H. F. Shepherd. *diags Power* 57:134-6 Ja 23 '23

Silencing engine exhaust by interference. W. Hooton. *Engineer* 133:649 Je 9 '22

See also Automobile engines—Exhaust

Fuel

Blast furnace waste heat utilized. H. Hermanns. *diags Blast F & Steel Pl* 10:531-4 O '22

Burning boiler oil in Diesel engines. L. R. Ford. *diags Power* 56:12-14 Jl 4 '22

Characteristics of petroleum oils used in Diesel engines. H. Moore. *Engineer* 133:620 Je 2 '22

Chemical control of gaseous detonation with particular reference to the internal-combustion engine. T. Midgley, jr. and T. A. Boyd. *diag J Ind & Eng Chem* 14:894-8 O '22; Same. *Am Pet Inst Bul* 3:84-9 D 30 '22; Abstract. *Power* 57:40 Ja 2 '23

Detonation—a consideration of its causes. S. W. Sparrow. *diag Automotive Ind* 46:951-5 My 4 '22; Same. *Aerial Age* 15:201-3+ My 8 '22

Detonation characteristics of blends of aromatic and paraffin hydrocarbons. T. Midgley, jr. and T. A. Boyd. *diag J Ind & Eng Chem* 14:589-93 Jl '22

Detonation characteristics of some blended motor-fuels. T. Midgley, jr. and T. A. Boyd. *diag Soc Auto Eng J* 10:451-6 Je '22; Same. *Nat Pet N* 14:59-60+ Jl 5 '22; Same cond. *Automotive Ind* 47:23-7 Jl 6 '22; Discussion. *Soc Auto Eng J* 11:247 S '22

Effect of compression on detonation and detonation control. H. L. Horning. *Soc Auto Eng J* 13:144-8; Discussion. 148-50 Ag '23

Engine experiments with oxidized oils. J. H. James and F. C. Zeisenheim. *Chem & Met Eng* 28:543-5 Mr 21 '23

400-h.p. wood refuse suction gas engine. *diags Engineer* 132:547 N 13 '21

Fuel requirements of internal-combustion engines. S. W. Sparrow. *Ind & Eng Chem* 15:476-9 My '23

Gas and oil engines—Fuel—Continued

Gas for use in gas engines. J. Taylor. Power 57:753 My 15 '23

Internal-combustion engine characteristics under high compression. J. H. Holloway, H. A. Huebotter and G. A. Young. il Soc Auto Eng J 12:111-17 Ja '23; Abstract. Bus Transportation 2:148-9 Mr '23; Discussion. Soc Auto Eng J 12:354-8 Ap '23

Internal combustion heat losses and specific heat of working fluid. W. J. Walker. Engineer 135:191-2 F 23 '23; Abstract. Mech Eng 45:313 My '23

Laws governing gaseous detonation. T. Midgley, Jr., and R. Janeway. il diags Soc Auto Eng J 12:367-73 Ap '23; Discussion. 12:458-60 My '23

Method for the determination of the vapour pressure of hydrocarbon fuels, and the estimation of dissolved air. H. T. Tizard and A. G. Marshall. diag Inst Pet Tech J 8:217-23 Ap '22

Methods of measuring detonation in engines. T. Midgley, Jr. and T. A. Boyd. diags Soc Auto Eng J 10:7-11 Ja '22; Discussion. 10:374-5 My '22

Nichols medal awarded to Thomas Midgley, Jr. Chem & Met Eng 28:485-6 Mr 14 '23

Pressure-volume-quantity indicator-card. T. Midgley, Jr. and R. Janeway. il Soc Auto Eng J 12:105-10 Ja '23

Recent research work on the internal combustion engine. H. R. Ricardo. il diags Soc Auto Eng J 10:305-28 My '23; Same. Automobile Eng 12:265-73, 299-306, 329-32 S-N '22; Same abr. Automotive Ind 46:126-33 Ja 19 '22; Discussion. Soc Auto Eng J 10:328-36+ My '22; Automotive Ind 46:110-11 Ja 19 '22

Self-ignition temperatures of fuels. H. T. Tizard. Automobile Eng 13:136-7 My '23; Same. Automotive Ind 48:1278-80 Je 14 '23

Some fundamental relations among the elements and compounds as regards the suppression of gaseous detonation. T. Midgley, Jr. Ind & Eng Chem 15:421-3 Ap '23

Some properties of the working fluid of gas engines. W. T. David. Engineering 113:281-4 Mr 10 '22

Total sensible heats of engine fuels and their mixtures with air. R. E. Wilson and D. P. Barnard. diag Soc Auto Eng J 10:65-8 Ja '22

Using tar oil in solid injection engines. H. F. Shepherd. diags Power 56:939 D 12 '22

Utilisation of heavy fuel oils in internal combustion engines. H. E. Moore. diags Engineer 135:127-8 F 2 '23

Vaporization of motor-fuels. P. S. Tice. il Soc Auto Eng J 11:307-14; Discussion. 314-19+ O '22

Varying specific heats and gas engine mixtures. T. Petrie. Engineer 136:361-2 O 5 '23

See also Airplane engines—Fuel; Alcohol as fuel; Automobile engines—Fuel; Carburetors; Gasoline; Liquid fuel; Motor truck engines—Fuel; Oil as fuel

Fuel feeding

Fakir fuel pump. diags Aerial Age 15:586-7 D '22

Raindrops and engineering. G. B. Upton. Sibley J 37:60-3+ Mr '23

Repair of oil-engine fuel pump. C. K. Lee. diag Power 57:767 My 15 '23

See also Gas and oil engines—Solid injection

Ignition

Combustion research an aid to better performance; cause of detonation. H. Chase. Automotive Ind 46:1253-6 Je 8 '22

Compression pressures in the solid-injection engine. diags Power 56:980-2 D 19 '22

Electrical ignition apparatus for internal combustion engines. E. O. Turner. Engineering 114:375-8 S '22; Excerpt. Power 56:742 N 7 '22; Abstract. Elec R (Lond) 91:460-1 S 29 '22; Discussion. Engineering 114:358 S 22 '22; Elec R (Lond) 91:461-2 S 29 '22

Spark-advance in internal-combustion engines. G. B. Upton. Soc Auto Eng J 13:111-21+ Ag '23; Same cond. Automotive Ind 49:14-18, 76-82, JI 5-12 '23; Discussion. Soc Auto Eng J 13:227-33 S '23

See also Airplane engines—Ignition; Automobile engines—Ignition devices; Magnetos

Lubrication

Cause of carbon in gas engines. W. F. Osborne. Power 56:761-2 N 14 '22

Cause of poor cylinder lubrication in internal-combustion engines. W. F. Osborne. Power 56:720 N 7 '22

Holding the piston seal in a gas engine. W. F. Osborne. Power 56:683 O 31 '22

Influence of mechanical conditions on lubrication of internal-combustion cylinders. W. F. Osborne. Power 56:655 O 24 '22

Injury in oiling running engine. A. L. H. Street. Power 56:234-5 Ag 7 '23

Lubricating oil; some factors affecting its consumption in internal combustion engines. W. R. G. Atkins. Automobile Eng 11:450-2 D '21

Lubrication of vertical gas engines. M. S. Mason. Elec R (Lond) 91:951-2 D 22 '22

Methods of lubricating the cylinders of internal-combustion engines. W. F. Osborne. Power 56:832-3 N 28 '22

Oil engine hints. B. Bare. Power Pl Eng 26:900-1 S 15 '22

Selection of lubricating oil for internal-combustion engines. W. F. Osborne. Power 56:875 D 5 '22

Testing lubricating oils for internal combustion engine cylinders. W. F. Osborne. il Power 56:983 D 19 '22

Why lubrication of gas engines is difficult. W. F. Osborne. Power 56:807-8 N 21 '22

See also Diesel engines—Lubrication

Manufacture

German engineer's impressions of the American oil-engine industry. F. Schultz. Power 58:184 JI 31 '23

How large engine parts are made. P. Dwyer. il Foundry 50:66-73, 114-19 Ja 15-F 1 '22

Used loam and green sand for a gas engine bed plate. J. H. Eastham. diags plans Foundry 50:701-3 S 1 '22

See also Gas and oil engines—Marine—Manufacture

Mufflers

Venturi-tube principle in exhaust mufflers. il Pop Mech 38:583 O '22

Repair

Getting an engine into service after a breakdown. M. S. Howard. diags Power 57:293-4 F 20 '23

Replacing a cylinder on a large gas engine. E. Pagett. Power 56:794 N 21 '22

Solid injection

Airless injection system for oil engines. E. Lundgren. diag Mech Eng 44:531 Ag '22

Cold-starting Petter 36-h.p. oil engine. il diags Engineer 135:666 Je 22 '23

Determining compression pressures for solid-injection oil engines. H. F. Shepherd. diag Power 57:214-15 F 6 '23

Development of the Hesselman solid-injection oil engine. E. Lundgren. diags Power 57:927-9 Je 12 '23

Development of the solid-injection oil engine. H. F. Shepherd. diags Power 57:92-4 Ja 16 '23

European oil engines; the Deutz engine and new Hesselman solid injection engine. E. Lundgren. diags Power 57:171-2 Ja 30 '23; Discussion. 57:690 My 1 '23

Price direct-injection oil engine drives compressor. il Ry Mech Eng 97:61 Ja '23; Same ily Age 74:435-6 F 17 '23

Price horizontal engine. il diags Power Pl Eng 26:707-8 JI 15 '22

Robson solid-injection oil engine. il diags Engineer 135:523-4 My 18 '23

Small solid-injection oil engine. il Power 57:976 Je 19 '23

Gas and oil engines—Solid injection—Continued
 Solid-injection oil engine investigations in Sweden. E. Lundgren. diags Power 57:666-9 My 1 '23; Discussion. R. Matthews. 58:28-9 J1 3 '23
 Swedish solid injection oil engine. E. Hubendick. diags Engineer 134:290-2 S 22 '22
 Vertical cold-starting solid-injection oil engines. il diags Engineering 115:152-5 F 2 '23

Temperature

Estimation of suction and compression temperatures in internal combustion engines. W. Morgan. diag Automobile Eng 13:189-91 Je '23
 Overheating of oil-engine pistons. H. F. Shepherd. diags Power 58:649-50 O 23 '23; Discussion. J. McIntosh. 58:960 D 11 '23
 Temperature measurement with the Einthoven galvanometer. F. Adcock and E. H. Wells. il diags Philos Mag 6th ser 45:552-60, pl 9-10 Mr '23

See also Gas and oil engines—Cooling

Terminology

Classification des machines thermiques; terminologie des moteurs à huile lourde. Génie Civil 82:185-6 F 24 '23
 Oil engine nomenclature. J. L. Chaloner. Engineer 135:202 F 23 '23; Same abr. Power 57:463 Mr 20 '23; Discussion. H. A. Stuart. Engineer 135:574; 136:403 Je 1, O 12 '23

Testing

Division of frictional losses in engines. Automotive Ind 46:916 Ap 27 '22
 Engine-testing instruments. J. Okill. diags Automobile Eng 13:150-5 My '23
 Internal-combustion engine characteristics under high compression. J. H. Holloway, H. A. Huebotter and G. A. Young. il Soc Auto Eng J 12:111-17 Ja '23; Abstract. Bus Transportation 2:148-9 Mr '23; Discussion. Soc Auto Eng J 12:354-8 Ap '23
 Novel method of testing internal combustion engines. K. De Juhász. il Automobile Eng 12:143-4 My '22
 Some oil engine experiments. A. I. Nicholson. Engineering 115:562 My 4 '23
 Strap brake for testing power of small gas engine. diag Power 56:739 N 7 '22
 Test code for internal-combustion engines. Mech Eng 45:193-200 Mr '23

See also Gas and oil engines, Marine—Testing

Gas and oil engines, Marine

Aster 10 horse-power marine engine. il diags Engineer 134:394 O 13 '22
 British marine engine practice. M. W. Bourdon. Automotive Ind 46:396+ F 16 '22
 Hot-bulb oil engines for land and marine use; the Penney-Porter heavy oil engine. il diags Engineering 115:652-3 My 25 '23
 Internal-combustion engines for marine propulsion. Engineering 115:81-2 Ja 19 '23
 Line shafts for marine internal combustion engines. J. Hecking. diags Marine Eng 27: 711-19 N '22
 Marine and small craft exhibition. Engineer 134:553-9 N 24 '22
 Marine engines show influence of automobile practice. Automotive Ind 48:530-1 Mr 1 '23
 Marine motor with combined reducing and reversing gear. il diags Engineering 116: 353-5 S 21 '23
 Les moteurs, système Doxford, de 3 000 chevaux, des cargo-boats Yngaren et Eknaren. il diags Génie Civil 81:553-8 D 16 '22
 New British lifeboat motor; abstract. W. O. Horsnail. Mech Eng 45:309 My '23
 New British marine motor; Ailsa Craig Kid engine. il diag Engineer 134:151 Ag 11 '22
 New engine designs at motor boat show. il Automotive Ind 46:499-501 Mr 2 '22
 90 h.p. six-cylinder marine engine; an interesting power unit designed for lifeboat service. il diags Automobile Eng 13:66-74 Mr '23
 Oil engines designed for large liners. il Marine Eng 28:363-4 Je '23
 Oil engines will supersede steam engines at sea say British experts. Power 58:552 O 2 '23

Papers on internal combustion engines. 595p
 Institute of marine engineers, London '22
 Penlee motor lifeboat. il diags (supp) Engineer 134:656-9 D 22 '22
 Remarkable development in marine oil engines. diag Pop Mech 38:118 J1 '22
 Shipping, engineering and machinery exhibition; brief description of the British internal combustion engine section. il diags Automobile Eng 13:308-15 O '23
 Still engine for marine propulsion. A. Renne. il diags Engineering 113:275-8, 309-12, pl 14 Mr 3-10 '22; Same cond. Engineer 133: 180-2, 204-7 F 17-24 '22; Abstract. Mech Eng 44:316-17 My '22
 Still oil engine for marine propulsion. il Engineering 112:344-5 S 2 '21; Same cond. Soc Auto Eng J 9:435 D '21
 3,000-I.H.P. single-screw motor ship Eknaren. diags Engineering 114:611-14, pl 38 N 17 '22
 Two-stroke engines at the marine and small craft exhibition. il diags Engineering 114: 644-7 N 24 '22
 Waterproof motor for lifeboats. H. C. Bywater. il Sci Am 129:239 O '23
 See also Cammellaird-Fullagar engine; Diesel engines, Marine; Diesel engines, Submarine; Motor ships

Design

Clyde marine oil engines. A. L. Mellanby. diags Engineering 116:95-8, 128-30 J1 20-27 '23; Abstract. Engineer 136:120-1 Ag 3 '23
 Design of small marine motors. Engineering 116:434-5 O 5 '23
 Marine engine design as affected by life-boat service conditions. A. F. Evans. il diags Automobile Eng 12:157-9 My '22
 Tendencies in high-speed marine-engine design. J. G. Vincent. diags Soc Auto Eng J 12:257-62 Mr '23; Discussion. 13:168-70 Ag '23
 Working practice in the design of large double-acting two-stroke engines. A. E. L. Chorlton. Engineering 114:590-1 N 10 '22

Manufacture

Building gas engines for the navy. S. W. Brinson. il plan Am Mach 57:45-8 J1 13 '22
 Navy yard makes gas engines. S. W. Brinson. il Foundry 50:984-6 D 15 '22

Specifications

American marine engine specifications; tabulation. Automotive Ind 46:393-6; 48:448-51 F 16 '22, F 22 '23
 British marine engine specifications; tabulation. Automotive Ind 46:397-8; 48:452-3 F 16 '22, F 22 '23

Testing

New development in marine propulsion. H. R. Sankey. Engineering 113:177-8 F 10 '22; Excerpt. Power 55:520 Mr 28 '22

Gas appliance industry

Gas appliance price situation. A. P. Post. Am Gas Assn General Sessions sec v 4: 369-88; Discussion. 389-91 '22
 How Hoffman made peace between gas company and plumber. Ptr Ink 120:141-2+ S 7 '22
 Prefers selling to gas companies. K. S. Clow. Gas Age 49:299-300 Mr 11 '22
 Selling by deferred payment plan. W. H. Matlack. Gas Age 49:235-6 F 25 '22

Gas appliance society

Gas appliance society formed. Gas Age 49: 367-8 Mr 25 '22

Gas appliances

Maintaining consumers' appliances. J. A. Ryan. diags Gas Age 51:769-70 Je 16 '23
 Thoughts on appliances and appliance makers. J. H. Brearley. Gas J (Lond) sup 2:146-7 Ag 29 '23
 View of the exhibits at Bingley Hall, Birmingham. Gas J (Lond) 163:821-45 S 19 '23

See also Gas burners; Gas cooking; Gas heaters; Gas industry; Gas ovens; Gas stoves; Gas water heaters

Prices

Resale price plan depends on gas men. R. O. Jasperson. Gas Age 49:195 6 F 18 '22

Gas appliances—Continued

Specifications

Report of committee on standardization of gas appliance specifications for 1921. Am Gas Assn Manufacturers' sec v 3:43-5 '21; Same. Am Gas Assn General Sessions sec v 3:80-2 '21

Report of committee on standardization of gas appliance specifications. Am Gas Assn Manufacturers' sec v 4:11-18 '22

Testing

Gas testing laboratory helps sales. J. H. Schalek. il Gas Age 51:277-8 Mr 3 '23

Ventilation

Flue vent for down drafts. L. L. Osler. diags Gas Age 51:409 Mr 31 '23

Vented and unvented appliances. R. M. Connor. Am Gas J 116:43-4 Ja 14 '22; Same. Gas Age 49:173-4 F 11 '22

Venting gas appliances. L. L. Osler. diags Gas Age 50:376 S 23 '22

Gas appliances, Domestic

Gas service as an aid to the housewife. E. L. Willans. Gas J (Lond) 164:117-18 O 10 '23
How to get better service with less gas. S. S. Wyer. Am Gas Assn Commercial sec v 3:158-66 '21

See also Gas cooking; Gas stoves

Accidents

Unsafe domestic appliances discussed at Baltimore. I. V. Brumbaugh. diags Gas Age 52:217-22 Ag 25 '23

Gas as fuel

Adaptability of the gas-fired compartment kiln for the burning of clay products. W. D. Richardson. Am Cer Soc J 5:254-8 My '22; Discussion. R. H. Minton. (Bul) 5:107-9 J1 '22

Air required for combustion of gases in steel plants. R. T. Haslam and A. F. Spiehler. Blast F & Steel Pl 10:174-5 Mr '22

All other fuels tried first; silver product manufacturer turns to gas fuel. il Gas Age 52:569 N 3 '23

Baking jappanning by industrial gas. Am Gas J 118:570 Je 30 '23

Burn face brick with producer gas. il Brick & Clay Rec 60:27-8 Ja 10 '22

By-product gas industrial uses. H. Dobrin. Gas Age 49:719-22 Je 10 '22

Can electricity replace gas for domestic use? abstracts. S. S. Wyer. Am Gas J 118:222-4 Mr 17 '23; Gas Age 51:345-8 Mr 17 '23

Central heating by steam, water or gas. S. R. Lewis. Power 55:267-8 F 14 '22; Same cond. Heat & Ven 19:48-50 Mr '22; Discussion. Power 55:438-9 Mr 14 '22

Cold clean artificial gas and a discussion upon the general properties of gaseous fuels. A. E. Blake. il diag Am Cer Soc J 6:808-26; Discussion. 826-30 J1 '23

Combustion of gaseous fuels. G. F. Moulton. il Ind & Eng Chem 15:583-7 Je '23

Converting foundry from kerosene to city gas. diags Gas Age 49:198 F 13 '22

Correct use of manufactured gas. S. S. Wyer. diags Am Gas J 119:112-14+ Ag 11 '23

Excess air in gas fired apparatus. J. M. Davies and T. T. Gill. il Gas Age 51:727-8 Je 9 '23

Few of the thousand uses for gas; heat-treatment and melting of metals. J. P. Lafore. Am Gas J 116:184-5+ F 25 '22; Same cond. Gas Age 49:227-8 F 25 '22

Fuel efficiency; what the future holds for petroleum and natural gas. O. J. Sieplein. Am Gas J 117:100-2 J1 29 '22

Fuel gas question in steel industry. F. J. Denk. Iron Age 111:401-5+ F 8 '23; Same. Gas Age 51:327-32 Mr 17 '23; Abstract. Gas J (Lond) 164:388-90 N 7 '23

Fuel of the future—what shall it be? I. Ginsberg. Am Gas J 119:193-6, 204-5, 253-7+, 457-61 S 8, 29, O 20 '23

Gas as a source of energy for industrial processes. C. J. Wright. Chem & Met Eng 27:442-3 Ag 30 '22; Same. Gas Age 50:353-4 S 16 '22

Gas burning equipment installed on large core oven. W. M. Hepburn. il diags Iron Age 109:342-3 F 2 '22

Gas firing increases capacity of cocoa roasters. H. O. Andrew. il Gas Age 52:199 Ag 18 '23

Gas for beer boiling. W. Wilson. Gas J (Lond) 164:125-6 O 10 '23

Gas for ripening bananas is effective. Gas Age 49:171 F 11 '22

Gas for sugar boiling and the making of confectionery. W. B. M'Lusky. Gas J (Lond) 164:124-5 O 10 '23

Gas for wholesale baking. E. D. Milener. il Am Gas J 119:235-6 S 22 '23

Gas fuel reduces air impurities. C. H. S. Tupholme. Gas Age 50:401-4 S 30 '22

Gas is master bread baking fuel. il Gas Age 51:179-80 F 10 '23

Gas or lignite, the fuel of the future? Am Gas J 118:257-8 Mr 31 '23

Gas preferred for telescope discs. diag Gas Age 49:775-6+ Je 24 '22

Gas—the fuel of the future. T. King. Am Gas J 116:321-2, 332-5 Ap 8 '22

Gas to heat towers on big Michigan Boulevard bridge. il Gas Age 50:896 D 30 '22

Gas trims electricity in bakeries. H. S. Babb. Gas Age 50:793-4 D 9 '22

Gas useful in heat treating room. J. W. Smith. il Gas Age 50:477-82, 517-19 O 14-21 '22

Gas wins out for heat treating. J. P. Lafore. il Gas Age 49:451-2+ Ap 15 '22

Heat-treatment by town gas in Midland industries. C. M. Walter. Gas J (Lond) 164:120-1 O 10 '23

Heating coke ovens with blue water-gas. J. F. O'Malley. il Chem & Met Eng 27:75-8 J1 12 '22

Improving quality and reducing labor with gas. J. E. Bullard. Am Gas J 116:365-6 Ap 22 '22

Industrial fuel sales; report of 1922 A.G.A. committee. Am Gas Assn Commercial sec v 4:21-4 '22

Industrial gas takes over heat treating of metals. P. J. Lafore. Gas Age 52:113-14 J1 28 '23

Industrial uses of gases. Am Gas J 116:181-5, 193-5 F 25 '22

Intermittent gas-fired enameling furnace. F. C. Mackey. il diags plans Am Gas J 117:245-9+ S 16 '22

Internal steam coils to heat gas refrigeration generator. W. F. Schaphorst. il Gas Age 49:460 Ap 15 '22

Less spoilage in making meters with gas-fired turnaces. J. E. Bullard. Gas Age 52:463-4 O 13 '23

Manufacture of dry color with industrial gas. G. F. Wetzel. Am Gas J 118:520 Je 16 '23

Modern newspaper owes big debt to gas. il Gas Age 52:67-70 J1 21 '23

National fuel policy. Gas J (Lond) 161:390-1 F 14 '23

New type of gas-fired vitreous enameling furnace. H. H. Clark. il diags Am Cer Soc J 5:478-87 Ag '22

Obtaining correct gas and air ratios for combustion. A. A. Schuetz. Am Gas J 118:325-7 Ap 21 '23

Possible gas sales in the domestic heating field. W. M. Carpenter. Am Gas J 118:450-2 My 26 '23

Practical advantages of gas service to the manufacturer. A. W. Smith. Gas J (Lond) 164:119-20 O 10 '23

Precious metals need perfectly controlled fuel. J. E. Bullard. il Gas Age 52:141-2 Ag 4 '23

Pressure gas for industrial furnaces. F. J. Evans. il diags Gas Age 48:741-6 D 3 '21

Price of stack buys gas furnaces; how Lock company at Rochester saved cost of erecting stack for coal and put it into gas fired brass melting equipment. Gas Age 49:745-6 Je 17 '22

Producer gas in the textile industry. P. A. Merriam. il Textile World 63:3013+ My 5 '23

Production and utilization of producer gas for heating open hearth furnaces. M. G. Husson. Blast F & Steel Pl 11:264-8, 323-30 My-Je '23

Gas as fuel—Continued

- Recuperation and regeneration pay. H. O. Loebell. *il Gas Age* 48:447-55 O 15 '21; Discussion. O. Lelupp. 48:773-6 D 10 '21; Same. *Am Gas J* 115:479-82 N 26 '21
- Refrigeration—a desirable outlet for gas. H. D. Valentine. *il diags Gas Age* 52:431-6 O 13 '23
- Safety from fire the leading attribute of gas as fuel. H. M. Crawford. *Gas Age* 52:73-4 JI 21 '23
- Some aspects of gaseous fuel utilization. J. G. Clark. *Gas J (Lond)* 161:690-2, 754-8 Mr 14-21 '23
- Sulphiding of metals in gas kilns. B. B. Saul. *Am Gas J* 117:234 S 9 '22
- Symposium on gas firing; abstract. E. W. Smith and others. *Am Cer Soc J* 5 (Cer A 1):10-11 Ja '22
- Temperature control of Dressler tunnel kiln. T. R. Harrison. *diags Am Cer Soc J* 6:1128-33 N '23
- Two-fold value of efficient application of industrial gas. D. W. Chapman. *Am Gas Assn Commercial sec v* 4:25-30; Discussion. 49-51 '22
- Ueber die aenderung der zusammensetzung von herdfenheizgasen durch erwärmen, insbesondere bei gegenwart von teer- und wasserdämpfen. S. Schleicher. *diags Stahl & Eisen* 43:593-7 My 3 '23
- Use of gas for industrial purposes. C. M. Walter. *Gas J (Lond)* sup 2:69-71 Ap 25 '23
- Use of gas forges in repair shops. J. L. Springer. *Gas Age* 49:133-4 F 4 '22
- Use of gas in the boot and shoe industry. G. S. Eunsom. *Gas J (Lond)* 164:122; Discussion 122-3 O 10 '23
- Use of liquid and gas fuels in heating of small buildings. M. M. Osborne. *Arch Forum* 36:57-8 F '22
- Use of medium grade gases in the steel industry. F. J. Denk. *diags Blast F & Steel* PI 9:719-21 D '21
- Using fuel in open-hearth furnaces. H. F. Miller, jr. *Iron Age* 109:1495-6 Je 1 '22; Same. *Iron Tr R* 70:1646-74 Je 8 '22
- Using gas fuel in textile industry. V. E. Hillman. *Gas Age* 48:768-70 D 3 '21
- Versuche mit pressgas-beheizung von Siemens-Martin-ofen. G. Donner. *diags Stahl & Eisen* 43:558-63; Discussion. 563-4 Ap 26 '23
- Vital factors affecting the central station industrial gas business: report of 1921 Industrial fuel sales committee. H. O. Loebell. *Am Gas Assn Commercial sec v* 3:104-26; Discussion. 127-39 '21
- Where and how gas is used in industry. *Gas Age* 52:295-6 S 8 '23
- Why Chicago factories use gas. J. F. Weedon. *Gas Age* 49:61-2 Ja 14 '22
- See also Blast furnace gas; Boilers—Gas firing; Boilers, Heating—Gas firing; Coke-oven gas; Gas, Producer; Gas and oil engines; Gas burners; Gas cooking; Gas heating; Gas ovens; Gas producers; Gas stoves; Gas water heaters; Mine gases as fuel
- Gas associations**
History of the state associations. *Am Gas J* 119:316-21 O 13 '23
- Gas benches.** See Gas retorts
- Gas bills**
Gas bill form—comments and suggestions. W. A. Sauer. *Am Gas Assn Accounting sec v* 4:185-95; Discussion. 195-204 '22
- Meter cards and consumers' accounts on the therm basis. *Gas J (Lond)* sup 2:129-30 JI 25 '23
- Story of the gas bill. A. W. Schmitt. *Am Gas J* 118:351-3 Ap 28 '23
- Gas black.** See Carbon black
- Gas boosters**
Advantages of new booster in gas-burning plants. *il Pop Mech* 38:755 N '22
- Turbo gas booster; Matteucci patented speed transmission gear. *il diags Engineer* 135:372-3 Ap 6 '23
- Gas burners**
Aeration and air injection. *diags Gas J (Lond)* 163:104-18 JI 4 '23

- Boiling-burners, old and new. A. Forshaw. *Gas J (Lond)* 161:749-50 Mr 21 '23
- Burning blast furnace gas. G. D. Bradshaw. *charts diags Blast F & Steel PI* 11:250-2 Ap '23
- Call for cheap but efficient burners. *Gas J (Lond)* 162:534-5 My 30 '23
- Carbon monoxide in the products of combustion from natural gas burners. I. V. Brumbaugh and G. W. Jones. *il chart diag U S Bur Stand Tech Pa* 212:431-50 '22; Same cond. *Gas Age* 49:427-9, 495-8 Ap 8, 22 '22
- Common sense in boiler-burners. *Gas J (Lond)* 161:821 Mr 28 '23
- Design of atmospheric gas burners. W. M. Berry and others. *il diags U S Bur Stand Tech Pa* 193:1-62 '21
- Elementary treatise on gas lighting. *il diags Gas J (Lond)* sup 2:100-1, 167-9, 184-5 Je 27, S 26-O 31 '23
- Empire interests put Doreco low pressure gas burner on market. *diag Nat Fet N* 15:113 Ag 1 '23
- Gas burners with high efficiency. A. Thau. *diags Blast F & Steel PI* 10:470-2 S '22; Abstract. *Mech Eng* 44:735-6 N '22
- Heating values and burner adjustments. W. M. Berry and others. *il Gas J (Lond)* 162:154-5 Ap 18 '23
- Ideal canvasser. *Gas J (Lond)* sup 2:103-4 Je 27 '23
- Inverted gas lighting in L.C.C. schools. *Illum Engr* 15:311 N '22
- Lighting and burners. F. V. Barnes. *diags Gas J (Lond)* 161:614-19 Mr 7 '23
- Maintaining consumers' appliances. J. A. Ryan. *diags Gas Age* 51:769-70 Je 16 '23
- Natural gas as a fuel for central stations. E. A. Quinn. *il diags Elec W* 81:575-7 Mr 10 '23
- Pro and con of industrial burners. A. Schuetz. *Gas Age* 51:375-6 Mr 24 '23
- Progress in gas lighting methods. S. Gulbrandsen. *Gas Age* 49:139-41 F 4 '22
- Some new wrinkles in gas lighting. R. H. Maurer. *il diags Gas Age* 51:37-40 Ja 13 '23
- Use of low pressure gas burner in oil field boilers. M. P. Youker, G. S. Brewer and C. E. Beecher. *Nat Pet N* 14:32a-h Ja 25 '22
- Use of natural gas under boilers. M. P. Youker. *Gas Age* 49:591-2 My 13 '22
- Versuche mit gasbrennern an kesseln und Cowpern. E. Weymann. *diags Stahl & Eisen* 42:215-21 F 9 '22
- See also Bunsen burner

Specifications

- Gas burner specifications—American gas association. *Mech Eng* 44:331 My '22

Testing

- Burner devices for gas saving. *il Gas Age* 49:711-12 Je 10 '22; Same. *Am Gas J* 116:530-1+ Je 10 '22
- Carbon monoxide in the products of combustion from natural gas burners. I. V. Brumbaugh and G. W. Jones. *il chart diag U S Bur Stand Tech Pa* 212:436-46 '22; Same cond. *Gas Age* 49:495-8 Ap 22 '22
- Distance from burner to utensil. *Gas Age* 50:137-9 JI 29 '22
- Effect of B.t.u. on burner efficiency. W. M. Berry and others. *il Gas Age* 50:41-4+, 81-4 JI 8-15 '22
- How Uncle Sam tests burners. S. R. Winters. *il Gas Age* 49:618 My 20 '22
- Relative usefulness of gases of different heating value and adjustments of burners for changes in heating value and specific gravity. W. M. Berry and others. *il U S Bur Stand Tech Pa* 222:15-91 '22
- Gas cleaning**
Application of electrical precipitation to chemical engineering processes. P. E. Landolt. *il Chem & Met Eng* 29:588-9 S 24 '23
- Cleaning producer gas made from bituminous coal. H. W. Seldon. *Blast F & Steel PI* 9:708-10 D '21
- Gas cleaning methods compared. N. H. Gelbert. *Iron Tr R* 70:1401-6 My 18 '22

Gas cleaning—Continued

Gas engine power station of Palmers' ship-building and iron company, il diags Engineering 116:195-8, 208, pl 14 Ag 17 '23
Removal of solid and liquid particles from gases, A. F. Nesbit, diags Blast F & Steel Pl 10:637-41 D '22
Rotary filter process of cleaning gases and vapors; abstract, diag Mech Eng 44:126 F '22
Trend in blast furnace gas cleaning, F. E. Kling, diags Blast F & Steel Pl 11:44-6 Ja '23

See also Blast furnace gas; Electric precipitation; Gas purification; Gas washing

Gas cocks

Standardization of laboratory gas cocks, S. W. Parr, il diag J Ind & Eng Chem 14:1105 D '22

Gas companies

Analyzing the house heating load, N. T. Sellman, Gas Age 51:583-6 My 5 '23; Same, Am Gas J 118:409-14 My 12 '23
Here and there in selling; with organization plan, W. H. Matlack, Am Gas J 117:212-14 S 2 '22

San Francisco had very high rate, Gas Age 50:863-4 D 23 '22

What kind of insurance should gas companies carry? H. M. Eaton, Gas Age 52:345-6 S 22 '23; Same, Am Gas J 119:241-2+ S 22 '23

See also Gas industry; Gas lighting; also Consolidated gas company, New York; Scranton gas and water company

Accounting

Accounting committee to canvass industry; questionnaire, Am Gas J 116:371-2 Ap 22 '22
Card ledgers, W. A. Doering, Am Gas Assn Accounting sec v 4:64-76; Discussion, 116-21 '22

Commercial department accounting, E. Johnston, Am Gas J 119:36 Jl 14 '23

Consumer accounting, E. J. Tucker, Gas Age 52:347-50 S 22 '23; Excerpts, Am Gas J 119:215-16+ S 15 '23

Consumers' accounting in the smaller utility, W. G. Murfit, Am Gas J 117:456-9 O 26 '22; Same, Gas Age 50:617-19 N 4 '22

Continuous inventory of fixed capital, H. C. Davidson, Am Gas Assn Accounting sec v 4:205-13 '22; Same, Gas Age 50:623-4 N 4 '22; Same, Am Gas J 117:488-90 O 27 '22; Discussion, Am Gas Assn Accounting sec v 4:213-16 '22

Co-operating with the accounting department, B. G. Williams, Am Gas J 117:340-1 O 14 '22; Same, Gas Age 51:479-80 Ap 14 '23

Federal income tax as applied to gas companies, H. W. Forbes, Am Gas Assn Accounting sec v 3:55-64; Discussion, 64-70 '21

Fixed capital records; report of 1923 committee, Am Gas J 119:462 O 20 '23

Form of monthly production statement, H. T. Hughes, Am Gas Assn Accounting sec v 3:111-15; Discussion, 115-41 '21

Gas accountant plays a big part, W. A. Sauer, Gas Age 49:425-6 Ap 8 '22; Same, Am Gas J 116:253-4 Mr 18 '22

Gas men hear papers on various accounting systems at American gas association meeting, Am Gas J 117:475-+ O 27 '22

Germans study gas calculations; automatic calculating and recording devices, Sprinzel, Gas Age 51:641-2 My 19 '23

Importance of accounting in rate cases, A. W. Teele, Am Gas Assn General Sessions sec v 4:160-70 '22; Same, J Account 34:417-26 D '22

Job order systems; progress report of 1921 committee, F. M. James, Am Gas Assn Accounting sec v 3:99-105 '21

Loose leaf ledger accounting and how it works, W. A. Doering, Am Gas J 117:432-5 O 25 '22

Loose leaf ledger system of the Peoples gas light & coke company of Chicago, P. D. Warren, Am Gas Assn Accounting sec v 4:13-46 '22

Machine bookkeeping experience, W. H. Barton, il Gas Age 48:805-9 D 17 '21

Mechanical control of consumers' bookkeeping, F. G. Barrie, il charts Am Gas J 117:289-300+ S 30 '22

Plan of customers' accounting in use by the Consolidated gas, electric light & power company of Baltimore; bookkeeping without books, W. H. Cassell, Am Gas Assn Accounting sec v 4:76-96; Discussion, 108-13 '22

Practical suggestions for rate cases, S. E. Linton, Am Gas J 118:421-6, 432-8 My 19 '23

Rate structure; definitions of terms and theories of allocation, Am Gas Assn General Sessions sec v 4:93-152 '22

Short cut method for cost allocation in determining unit costs for a three part rate, D. Burnett, Am Gas Assn General Sessions sec v 4:84-92 '22

System of keeping customers' records by Consolidated gas company, N. Y. E. P. Prezzano, Am Gas Assn Accounting sec v 4:46-63; Discussion, 113-16 '22

Uniform classification of accounts for gas utilities (classes A and B) prescribed by the Railroad commission of Wisconsin, 105p Railroad commission, Madison '22

Uniform classification of accounts for gas utilities, 100p State law reporting co., New York '22

Advertising

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Claims

Lessons taught by claim department work, Gas Age 51:826 Je 30 '23

Complaints

Consumers' complaints and inquiries, W. H. Sainsbury, Gas J (Lond) 161:604-5 Mr 7 '23
Does it pay to treat 'em nice, Gas Age 49:663-4 My 27 '22

Experiences, J. Clements, Am Gas J 115:558-60+ D 24 '21

How Norfolk beats customer to it, G. H. Smith, Gas Age 49:301+ Mr 11 '22

Investigating high bills; how such complaints are handled, R. W. Manier, Am Gas J 119:16 Jl 7 '23

Merchandising by means of service, A. E. Gerg, Gas Age 49:467-70 Ap 15 '22

Report of the sub-committee on high bill complaints, Am Gas J 119:463-5 O 20 '23

Selling the consumer his gas bill, A. C. Fuller, Am Gas Assn General Sessions sec v 4:396-402 '22; Same, Gas Age 50:615-16 N 4 '22

Service salesmen rout complaints, R. F. Bonsall, Gas Age 51:743-6 Je 9 '23

Telephone table saves tempers; method of handling complaint calls, R. O. Jaspersen, Gas Age 48:799-800 D 10 '21

Contracts

See Gas contracts

Directories

American gas catalog and directory, American gas journal, New York '22

Directory of the gas industry, Gas Age 51:3-26 sec 2 Ap 7 '23

Employees

Education scheme, W. Hole, Gas J (Lond) 163:577, 629-30; 164:56-7 Ag 22-O 3 '23; Discussion, 164:128-9 O 10 '23

Increasing sales efficiency, J. E. Bullard, Am Gas J 119:12-13 Jl 7 '23

Making the class room hold the interest; Providence gas company teaches in miniature gas museum, il Gas Age 50:606 N 4 '22

Pension scheme for the staff of a small gas undertaking, F. G. Kingwell, Gas J (Lond) 162:799-800 Je 27 '23

Relations of employees to the public, A. G. Curtis, Gas Age 51:801 Je 23 '23

Selling the gas bill; bonuses to employees, A. C. Fuller, Am Gas Assn General Sessions sec v 4:396-402 '22; Same, Gas Age 50:615-16 N 4 '22

Sub-committee report on development and education of personnel, Am Gas J 119:484-5+ O 27 '23

Gas companies—Employees—Continued

Teaching gas men the gas business. J. E. Bullard. *il* Gas Age 50:71-4 *JI* 15 '22

Equipment

See also Gas meters—Calculating devices

Finance

Comparative working results of the three metropolitan and four of the suburban gas companies. Gas J (Lond) 161:522-3 *F* 28 '23

Consolidated gas company report. Gas Age 49:99-103 *Ja* 28 '22; Excerpts. Am Gas J 116:93-5 *Ja* 28 '22

Construction budget. H. C. Davidson. Am Gas J 119:384-6 *O* 17 '23

Financial aspect of gas business. H. M. Atkinson. Am Gas J 116:469-72 *My* 20 '22

Gas leakage as affecting returns. J. Simpson. Gas Age 50:701-2 *N* 18 '22

Indianapolis gas company surrenders franchise; report for 1920. W. S. Greenough. Am Gas J 115:457-60+ *N* 19 '21

Meter and stove rents. G. Evetts. Gas J (Lond) 163:413-14 *Ag* 1 '23

More analysis. R. H. Burdick. Am Gas J 119:149-52+ *Ag* 25 '23

See also Gas companies—Securities; Gas companies—Valuation of property

Franchises

Indianapolis gas company surrenders franchise; report for 1920. W. S. Greenough. Am Gas J 115:457-60+ *N* 19 '21

Laboratories

New industrial gas laboratory in San Francisco. C. W. Geiger. *il* Am Gas J 119:27-8 *JI* 14 '23

Law

Contributory negligence defined in legal decisions. J. Simpson. Gas Age 52:363-7 *S* 29 '23

Leakages and explosions decisions. J. Simpson. Gas Age 50:663-5+ *N* 11 '22

Legal liabilities in asphyxiation. J. Simpson. Gas Age 51:311-13 *Mr* 10 '23

See also Gas—Laws and regulations; Gas companies—Regulation

Management

Accountant and the salesman. E. Hortop. Gas J (Lond) sup 2:173-4 *S* 26 '23

Backing up newspaper advertising. J. R. Jennings. Gas Age 51:341-2 *Mr* 17 '23

Choosing manager from the ranks. C. B. Wyckoff. Gas Age 50:11-12+ *JI* 1 '22

Co-operation of gas undertakings. W. H. Cooper. Gas J (Lond) sup 2:127-8; Discussion. 128-9 *JI* 25 '23

Co-ordination of order taking and order executing departments. Am Gas J 119:359-60 *O* 16 '23

Customers' service. J. B. Meyers. Am Gas Assn General Sessions sec v 3:186-204 '21; Same. Am Gas J 115:545-50 *D* 17 '21; Same. Gas Age 48:602-7 *N* 5 '21; Discussion. Am Gas Assn General Sessions sec v 3:204-11 '21

Following up installations. J. E. Bullard. Am Gas J 116:457-8 *My* 20 '22

Group instruction for gas company letter writers. W. F. Doolittle. *il* Gas Age 52:85-6 *JI* 21 '23

Materials and supplies budget; purpose, details of preparation and use. G. E. McKana. Am Gas J 119:423-4 *O* 18 '23

Office methods after sale is made. O. C. Vieweg. Gas Age 50:119 *JI* 22 '22

One small town man to another. J. S. Rider. Gas Age 49:229 *F* 25 '22

Operating budget—detailed description of budget suitable to small company. E. Porter. Am Gas J 119:120-3 *O* 18 '23

Organization. F. C. Briggs. Gas J (Lond) 161:760-2 *Mr* 21 '23

Paris has modern gas equipment. H. B. Harte. *il* Am Gas J 117:177-83 *Ag* 26 '22

Question of space heating. S. Cooper. Am Gas J 118:564-6+ *Je* 30 '23

Selling the gas bill. A. C. Fuller. Am Gas Assn General Sessions sec v 4:396-402 '23

Story of the gas bill. A. W. Schmitt. Am Gas J 118:351-3 *Ap* 28 '23

Sub-committee report; credit and collection policies and contractual relations with customers. Am Gas J 119:502-3, 516-19 *N* 3 '23

Tells public of gas company management in Plymouth. C. Otten, jr. Am Gas J 117:703-5 *D* 23 '22

Why should gas companies sell their tar to distillers instead of working it themselves? R. P. Perry. map Am Gas Assn General Sessions sec v 3:146-61 '21; Same abr. Chem Age 29:439-43 *N* '21; Discussion. Am Gas General Sessions sec v 3:161-6 '21

See also Gas companies—Employees

Meter inspectors

Disadvantages of the meter inspector as an indirect salesman. F. A. C. Pykett. Gas J (Lond) sup 2:89-90; Discussion. 90-1 *My* 30 '23

Public relations

Basis of newspaper publicity. J. R. Jennings. Gas Age 51:121-2 *Ja* 27 '23

Can cub reporters whip gas companies? H. D. Kemperton. Am Gas J 116:255-6 *Mr* 18 '22

City of Cleveland soon gasless. Gas Age 51:381-3 *Mr* 24 '23

Dollars and sense of it; what good public relations mean. J. B. Groce. Am Gas J 116:163-4 *F* 18 '22

Duty to the public of gas supply undertakings. J. W. Napier. Gas J (Lond) 161:606-7 *Mr* 7 '23

Engineer's gas talks win public. J. E. Bullard. Gas Age 49:461-2 *Ap* 15 '22

Financial aspect of gas business. H. M. Atkinson. Am Gas J 116:469-72 *My* 20 '22

Good-will for the public utilities. I. H. Rice. Gas Age 51:777-8 *Je* 16 '23

Harmful publicity. I. Ginsberg. Am Gas J 118:537-40 *Je* 23 '23

How attacks affect the gas industry. R. S. Merrill. Am Gas J 118:373-6 *My* 5 '23

Merchandising by means of service. A. E. Gerg. Gas Age 49:467-70 *Ap* 15 '22

Neighborhood gas company helps movers; Peoples of Chicago builds good-will by aiding inexperienced. H. D. Kemperton. Am Gas J 117:102-3 *JI* 29 '22

Ordinary citizen and his view of the utility. D. N. Lewis. Gas Age 52:563-5 *N* 3 '23

People believe what they want to. J. E. Bullard. Am Gas J 118:111-12+ *F* 10 '23

Politicians do not mould opinion. J. E. Bullard. Gas Age 50:239-40 *Ag* 19 '22

Public relations. J. S. S. Richardson. Am Gas Assn General Sessions sec v 4:153-9 '22

Public relations and the newspapers. M. S. Sloan. Am Gas J 119:25-7 *JI* 14 '23

Relations with customers; report of 1923 committee. Am Gas J 119:356-9 *O* 16 '23

Salesmanship in public relations. E. J. Cooney. Am Gas Assn Commercial sec v 4:150-63; Discussion. 163-5 '22

Some good ideas on public relations. S. E. Dillon. Am Gas J 116:36-7 *Ja* 14 '22; Same. cond. Gas Age 48:550 *N* 5 '21

State committees on public utility information. B. J. Mullaney. Am Gas Assn General Sessions sec v 4:269-81 '22

When the gas plant entertains; the Providence gas company entertains Chamber of commerce by inspection trip through plant. J. E. Bullard. *il* Gas Age 50:729-30 *N* 25 '22

Rates

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Records

What particular value are charts to a gas company? R. E. Pierce. Am Gas J 118:381 *My* 5 '23

Regulation

Appointment, qualifications, and duties of gas examiners under the gas regulation act, 1920. Gas J (Lond) 164:33 *O* 3 '23

Brentford gas order. Gas J (Lond) 164:265-71 *O* 24 '23

Edinburgh traders and the gas corporation. Gas J (Lond) 163:263-4 *JI* 11 '23

Gas companies—Regulation—Continued

Gas-company activities in Belgium. H. B. Harte. Am Gas J 117:23-5 JI 8 '22
 Legal decisions and utility commission orders. J. R. Simpson. Gas Age 52:397-8 O 6 '23
 More freedom for gas companies. D. D. Barnum. Gas Age 49:191-2 F 18 '22
 Providing for increased demand; Los Angeles companies are confronted by increasing service requirements and an order of the state commission specifying increased equipment. Gas Age 50:39-40+ JI 8 '22
 Standards of gas service for Michigan. Gas Age 52:143-6 Ag 4 '23
 State can change contract rates. Gas Age 50:409-10 S 30 '22

See also Gas—Standards; Gas rates

Safety measures

Accident prevention; report of 1921 committee. C. B. Scott. Am Gas Assn General Sessions sec v 3:59-63 '21
 Accident prevention; report of 1922 A.G.A. committee. Am Gas Assn General Sessions sec v 4:171-258 '22
 Employes' gross carelessness causes most accidents in gas industry. E. L. Davies. Safety Eng 43:215-20 My '22
 Protective devices in gas supply. J. J. O'Connor. Gas Age 49:7-8 Ja 7 '22
 Pulmotor advertises gas company. il Gas Age 49:257-8 Mr 4 '22

See also Gas manufacture and works—Safety devices and measures

Salesmen

Blame the executives when the sales departments fail. W. Gould. Gas Age 52:23-4 JI 7 '23
 Bonus as spur to extra effort. R. Falconer. Gas Age 49:30-1 Ja 7 '22
 Don't let salesmen spread misinformation. J. E. Bullard. Am Gas J 117:206-7 S 2 '22
 Emphasizing the value of team work. Gas Age 51:279-80 Mr 3 '23
 How shall we compensate the salesman? W. H. Matlack. Am Gas J 117:80 JI 22 '22
 Ideal canvasser. Gas J (Lond) sup 2:41-2, 60-1, 103-4, 123-4, 142-3, 169-70 Mr 28-Apr 25, Je 27-S 22 '23
 Industrial gas salesmanship. C. E. Paige. Am Gas J 118:201-2 Mr 10 '23
 Joint conference of junior associations and salesmen's circles, at the National gas exhibition, Bingley Hall, Birmingham, Saturday, Sept. 22. il Gas J (Lond) sup2:155-9 S 26 '23
 Plot your method of paying salesmen. J. E. Bullard. Am Gas J 117:513-14 N 4 '22
 Sales promotion. T. Newton. Gas J (Lond) sup 2:59 Ap 25 '23
 Sales stimulation; report of 1923 committee. Am Gas J 119:381-3 O 17 '23
 Selection and training of salesmen. P. W. Ross. Am Gas J 119:277-9 O 6 '23
 Things that matter in gas salesmanship. S. W. Simmons. Am Gas J 119:173-5 S 1 '23
 Training industrial gas salesmen. Gas Age 51:211-12 F 17 '23
 Would you pay salesmen \$10,000? R. O. Jasperson. Gas Age 49:625-6 My 20 '22

Securities

Customer ownership and Citizens gas company. Am Gas J 115:542+ D 17 '21
 Gas securities as an investment; what the public thinks of them. G. R. Kinsley. Gas Age 51:701-3 Je 2 '23; Same abr. Am Gas J 117:360-2 O 21 '22
 Marketing gas securities locally. E. C. Scobell. Am Gas Assn General Sessions sec v 3:117-23; Discussion. 123-39 '21
 New York Consolidated to adopt customer-ownership plan. Gas Age 50:708 N 18 '22
 Providence gas company; an opportunity to purchase shares of stock for cash or on installments. Am Gas Assn General Sessions sec v 3:130-2 '21

Service

Customers' service. J. B. Myers. Am Gas Assn General Sessions sec v 3:186-204 '21; Same. Am Gas J 115:545-50 D 17 '21; Same. Gas Age 48:602-7 N 5 '21; Discussion. Am Gas Assn General Sessions sec v 3:204-11 '21
 Factors and grading of gas service. J. H. Mathews. Am Gas J 118:259-65 Mr 31 '23
 Inspection service for gas customers. G. Wehrle. Am Gas J 119:109-11+ Ag 11 '23
 Inspections for better service. Elec W 81:526-7 Mr 3 '23
 Mixing manufactured and natural gas in Buffalo. Am Gas J 118:397-8 My 12 '23
 St Louis' systematic service campaign. W. H. Matlack. il Am Gas J 117:164+ Ag 19 '22
 Serving the public is mission of utility operator. J. B. Jones. il Gas Age 52:43-4 JI 14 '23
 Soul of service. W. H. Rogers. Am Gas Assn Accounting sec v 3:2-18; Discussion. 18-35 '21

See also Gas and electric shops

Valuation of property

Concerning valuation and rates. S. T. Handy. Gas Age 49:261-2 Mr 4 '22
 Indianapolis gas rate case. W. P. Kappes. Gas Age 51:407-9 Mr 31 '23
 Preparation and presentation of rate cases before commissions. W. G. Woolfolk. Am Gas Assn General Sessions sec v 3:212-29 '21; Same abr. Gas Age 48:659-61 N 19 '21; Discussion. Am Gas Assn General Sessions sec v 3:230-1 '21
 Valuation for rate making cases. Gas Age 49:661+ My 27 '22
 Valuation methods used in the Baltimore gas rate case. J. Simpson. Gas Age 52:13-15 JI 7 '23
Gas condensers
 Grid condenser design. O. C. Clisham. Am Gas J 118:517-20 Je 16 '23
Gas conservation. See Gas, Natural—Conservation
Gas consumption
 Analyzing the house heating load. N. T. Sellman. Gas Age 51:583-6 My 5 '23; Same. Am Gas J 118:409-14 My 12 '23
 Grand Rapids unprofitable consumer. W. F. Douthirt. Gas Age 51:267-70 Mr 3 '23
Gas containers
 First report of the Gas cylinders research committee. 126p Gt. Brit. Dept. of sci. and ind. research. London '21
 Industrial gases and their containers. E. O. Benjamin. diag Chem Age 30:91-4 F '22
Gas contracts
 Improving public relations. J. E. Bullard. Gas Age 48:871 D 24 '21
 Industrial fuel contracts; report of 1921 subcommittee of Industrial fuel sales committee. C. S. Smith. Am Gas Assn Commercial sec v 3:183-9 '21; Same. Gas Age 48:699-1 N 19 '21
Gas cooking
 Developments in gas-cookers. H. Hartley. Gas J (Lond) 161:835-8; 162:32-4 Mr 28-Apr 4 '23; Discussion. 162:34-5 Ap 4 '23
 Famous chefs demonstrate gas kitchen. il Am Gas J 117:714-15 D 30 '22
 First-hand data on hotel cooking. S. Barnaby. il Gas Age 51:645-7 My 19 '23
 Fish and potato frying by gas. R. Elms. il Gas J (Lond) sup 2:40-1 Mr 28 '23
 Fuel makes all the difference in the quality; fuel change in frying of potato chips. Gas Age 52:377-8 S 29 '23
 Gas-cookers. C. Watson. Gas J (Lond) sup 2:51-3 Mr 28 '23
 Gas for catering and canteens. R. G. Marsh. Gas J (Lond) 164:123-4 O 10 '23
 Gas for fish frying. H. Clark. Gas J (Lond) 164:126-7; Discussion. 127 O 10 '23
 Gas in large kitchens for cooking purposes. L. J. Joyce. Am Gas J 116:183-4 F 25 '22
 Gas in the baking industry. J. A. Sutton. il Am Gas J 119:155-6 Ag 25 '23
 Gas solves a big baking problem. E. B. Crawford. il Gas Age 49:515-16+ Ap 29 '22

Gas cooking—Continued

- In the bakery. E. D. Milener. Gas J (Lond) sup 2:174 S 26 '23
 Mirage of electric cooking. L. L. Osler. Gas Age 50:741 N 25 '22
 New ham boiler. il Gas J (Lond) 162:673-4 Je 13 '23
 Oven control in modern cookery. Gas Age 49:32 Ja 7 '22
 Relation of home cooking to gas sales. A. J. Peterson. Am Gas Assn Commercial sec v 4:104-19 '22; Same. Gas Age 50:459-62 O 14 '22; Same cond. Am Gas J 117:485-8 O 27 '22; Discussion. Am Gas Assn Commercial sec v 4:120-6 '22

See also Gas ovens; Gas stoves

Gas coolers. See Gas washers**Gas distribution**

- Condensation loss in H P lines. W. A. Dunkley. diags Gas Age 51:693-6 Je 2 '23
 Control of gas pressures by distant indication. G. Wehrle. diag Am Gas J 116:323-5 Ap 8 '22
 Deposits in gas pipes and meters: report of 1921 A. G. A. committee. O. A. Morhous. Am Gas Assn Technical sec v 3:555-9; Discussion. 559-70 '21
 Distribution design committee report. Am Gas J 119:465-8+ O 20 '23
 Distribution design: report of 1922 A.G.A. committee. Am Gas Assn Technical sec v 4:211-16 '22
 Distribution in Belfast. A. M'I. Cleland. Gas J (Lond) 163:174-8; Discussion. 178-80 Jl 4 '23
 Distribution of gas. W. Hole. 4th ed., rewritten & enl. 699p Van Nostrand '21
 Distribution problems of mains, meters and services. W. Naile. Am Gas J 118:526+ Je 16 '23
 From the gasholder to the householder. P. E. Browne. Gas J (Lond) 161:267-71; Discussion. 71 Ja 31 '23
 Further presentation of the Doherty ideal distribution system. R. G. Griswold. diags Am Gas Assn Technical sec v 4:217-40; Discussion. 240-73 '22
 Gas distribution; suggestions for standard installations. A. W. H. Griepe. il diags Am Gas J 116:155-8 F 18 '22
 Gas distribution system in San Diego. A. R. Gittings. Am Gas J 117:691-2 D 23 '22
 Gummy deposits in gas pipes and meters. R. L. Brown. Am Gas Assn Technical sec v 4:280-301 '22; Abstracts. Gas Age 50:571-4 O 28 '22; Am Gas J 117:453-6 O 26 '22; Discussion. Am Gas Assn Technical sec v 4:302-11 '22
 High pressure gas distribution. W. W. Handy. Gas Age 51:401-2 Mr 31 '23
 High-pressure gas distribution; some notes on British practice. F. Johnstone-Taylor. diags Am Gas J 117:335-7 O 14 '22
 High pressure gas services. R. C. Graveley. Gas Age 49:272 Mr 4 '22
 High pressure gas transmission. F. W. Parsons. il Gas Age 49:287-90 Mr 11 '22
 High pressure line for Los Gatos. R. S. Fuller. il Gas Age 49:585-7 My 13 '22
 High pressure system successful; Western united gas & electric company serves wide radius in Chicago suburban territory. map Gas Age 50:669-70 N 11 '22
 Increasing distribution capacities: report of 1921 committee of A.G.A. diags plan Am Gas Assn Technical sec v 3:103-34; Discussion. 134-42 '21
 Manuel du Chef du service extérieur d'une usine à gaz de puissance moyenne. A. Mineur. 111p Journal des usines à gaz, Paris '22
 Mechanical methods for the propulsion of gases. Gas Age 52:8 Jl 7 '23
 Not all unaccounted for is leakage. Am Gas J 117:580-4 N 18 '22
 Novel high pressure gas station. R. C. Conant. il Gas Age 48:875-6 D 31 '21
 Pressure lines for distant supply. G. O. Carter. il maps Gas Age 50:789-92 D 9 '22
 Pressure proposition. E. H. Clarry. Gas J (Lond) 162:292-4 My 2 '23
 Problems of load variation in gas supply. A. F. Bridge. Am Gas J 117:365-8 O 21 '22

- Serve gas off high pressure line; interesting experience in Michigan situation. B. G. Campbell. Gas Age 50:371+ S 23 '22
 Some functions of the governor. H. A. Hayward. diags Gas Age 49:485-7+ Ap 22 '22
 Subjects and problems associated with the distribution and utilization of gas. E. L. Oughton. Gas J (Lond) 161:531-1 F 28 '23
 Transmuting water gas under high pressure. W. A. Dunkley. Am Gas J 118:239-42 Mr 24 '23
 Turbo-boosters and exhausters for town gas. il diags Engineering 113:105-6, 108 Ja 27 '22
 See also Gas, Natural—Transportation; Gas flow; Gas governors; Gas leakage; Gas pipes

Tables, calculations, etc.

- Graphic gas volume correction. A. W. 11. Griepe. Gas Age 51:15-17 Ja 6 '23

Gas engineering

See also Gas and oil engines; Gas distribution; Gas lighting; Gas manufacture and works

Safety devices and measures

See Gas companies—Safety measures; Gas fitting; Gas manufacture and works—Safety devices and measures

Study and teaching

- Gas laboratory for Mass. institute. J. E. Bulard. Gas Age 50:169-70 Ag 5 '22
 Status of gas engineering. W. A. Dunkley. Gas Age 51:251-3 F 24 '23
 Technical and commercial education in the gas industry. Gas J (Lond) 161:443-7, F 21 '23

See also Michigan gas association fellowships

Gas explosions. See Explosions**Gas fires**

See Gas, Natural—Fires and fire protection

Gas fitting

- Accidental deaths by gas in New Orleans will be less. Sanitary & Heat Eng 97:158-9+ Mr 24 '22
 Gas industry and the plumbing trade. H. P. Chant. Gas J (Lond) sup 2:9-10 Ja 31 '23
 Gas piping in buildings. O. H. Fogg. Am Arch 123:516-18 Je 6 '23
 Relationship between the distribution department of a gas undertaking and the interior piping of premises. Gas J (Lond) sup 2:113-15 Je 27 '23
 Rules for installing gas fittings. Sanitary & Heat Eng 96:291 N 4 '21
 Suggestions for fitters make for good workmanship. Gas Age 51:486 Ap 14 '23
 Thoughts on the installation of appliances. E. A. Clark. Am Gas J 116:194-5 F 25 '22; Same. Gas Age 49:231-2 F 25 '22
 Training of fitting staff. W. L. Westbrook. Gas J (Lond) sup 2:139-40 Ag 29 '23
 Water heater sales helped by proper installations. G. C. Carnahan. diags Gas Age 52:455-60 O 13 '23; Same. Am Gas J 119:146-52 O 19 '23; Same. Sanitary & Heat Eng 100:247-9, 341-3 O 19, N 30 '23

See also Pipe fitting; Plumbing

Gas flow

- Accelerated reactions in pulsating gaseous currents. J. Deschamps and J. F. Shadgen. diags Chem & Met Eng 27:1269-71 D 27 '22; Discussion. A. E. Mueller. 28:434 Mr 7 '23
 Accurate bubble meters for very small rates of gas flow. T. Fuwa and G. A. Shattuck. diag Ind & Eng Chem 15:230-1 Mr '23
 Effect of pulsations on flow of gases. H. Judd and D. B. Pheley. il diags Mech Eng 45:223-8 Ap '23; Abstract. Power 56:919-20 D 12 '22; Discussion. Mech Eng 45:228-9+ Ap '23
 Flow of gas. W. B. Morton. Gas J (Lond) 163:101-2 Jl 4 '23
 Flow of gas in pipes. S. Lacey. diags Gas J (Lond) 163:119-32; Discussion. 132-3 Jl 4 '23
 Flow of gas into a cylinder. A. Johnson. Automobile Eng 12:41-3 F '22

Gas flow—Continued

- Flow of gases in furnaces. W. E. Groumje-Grijmailo. 399p Wiley '22
 Flow of gases through orifices. G. B. Shawn. Am Gas J 118:23-5 Ja 13 '23
 Influence des pulsations sur les réactions des gaz en présence d'emplages. J. Deschamps. diags Chimie & Ind 8:1167-71 D '22
 Works connections; report with particular reference to the proper size for works capacities and apparatus. chart Am Gas J 117: 607-9 N 25 '22

See also Air flow

Gas governors

- Development of retort-house governors. W. E. Kemen. Am Gas J 118:348-9 Ap 28 '23;
 Same. Gas Age 51:697-8 Je 2 '23
 Recent development in European by-product coking. A. Thau. il diags Blast F & Steel Pl 10:164-6, 221-3 Mr-Apr '22
 Some functions of the governor. H. A. Hayward. diags Gas Age 49:485-7+ Ap 22 '22

Gas heaters

- Gas-fire, il diag Gas J (Lond) sup 2:148-9 Ag 29 '23
 Gas-fire problems. W. E. Cadwallader. Gas J (Lond) sup 2:33-4; Discussion. 34-5 F 28 '23
 Gas heaters for early fall. W. B. Stoddard. il Gas Age 50:207-8 Ag 12 '22; Same. Am Gas J 119:504-5 N 3 '23
 House heating by vented heaters. L. F. Blyler. Gas Age 50:399-400+ S 30 '22
 Radiant heat in daily use in homes. F. R. Hutchinson. il Gas Age 51:569-72 My 5 '23
 Repairing gas heater coils. L. B. Osler. Gas Age 50:50 Jl 8 '22
 Supply of gas automatically controlled. C. Ralston. il diags Pop Mech 37:939 Je '22
 See also Gas water heaters

Testing

- Tests of heaters operated with natural gas. C. W. Jones, W. P. Yant and L. B. Berger. diag Gas Age 52:223-6 Ag 25 '23

Gas heating

- All gas house in England. J. Y. Dunlop. il Dom Eng 100:154-5 Jl 22 '22
 Denver residence gas-heating experiment. T. M. Foulk and T. G. Storey. il diags Heat & Ven 20:37-43 O '23; Same. Gas Age 52:389-93+ O 6 '23; Same, without table. Am Gas J 119:388-92 O 17 '23
 Denver setting a rapid pace in gas development. Gas Age 52:339-40+ S 22 '23
 Denver to be real smokeless town. Gas Age 50: 427-8+ O 7 '22
 Domestic dwellings and public buildings. C. Eves. Gas J (Lond) sup 2:124-5 Jl 25 '23
 Evolution of the Gasco furnace. J. H. Hartog. Gas Age 50:85-6 Jl 15 '22
 Gas and electric heating for dwelling houses. C. L. Hubbard. il diags Bldg Age 44:46-7 D '22
 Gas applied to house heating in a new manner; gases in combustion are circulated through hot water radiators. diags Sanitary & Heat Eng 98:165-6 S 22 '22
 Gas equipment solves a difficult heating problem. H. E. Eckenroth. il plan Am Gas J 118:113-14 F 10 '23
 Gas heating development on Pacific coast. H. L. Eckenroth. il diag plan Am Gas J 116: 525-9+ Je 10 '22
 Growth of house heating in West. T. M. Knap-pen. il Gas Age 49:421-4 Ap 8 '22
 House heating and water heating as a combined load. N. T. Sellman. Am Gas J 117: 695-7 D 23 '22; Same. Gas Age 51:11-13 Ja 6 '23; Same. Gas J (Lond) sup 2:150-1 Ag 29 '23
 House heating business. G. I. Vincent. diags Am Gas J 119:377-81 O 17 '23
 House heating by gas. A. T. Fay. Am Gas J 119:53-4 Jl 21 '23
 House heating by gas; its development in Providence, R.I. J. E. Bullard. Am Gas J 119:132-3 Ag 18 '23
 House heating by vented heaters. L. F. Blyler. Am Gas J 115:486-8 N 26 '21
 House heating in U.S. at a glance. J. R. Jennings. Gas Age 51:557-8+ My 5 '23

- Ideal canvasser; gas for heating. Gas J (Lond) sup 2:169-70 S 26 '23
 Important ratios in house heating. F. E. Wilder. Gas Age 51:565-6 My 5 '23
 Jersey gas men talk house heating. Gas Age 51:85-7 Ja 20 '23
 1922-23 progress and prospects. T. King. il Gas Age 51:567-8 My 5 '23
 One way to solve the house heating problem. J. E. Bullard. Am Gas J 118:305-6 Ap 14 '23
 Possibilities of gaseous heating. H. H. Clark. W Soc E J 27:51-8 F '22
 A progressive Dane heating his home with gas 50 years ago? J. Barber. Gas Age 51: 587-8 My 5 '23
 Question of space heating. S. Cooper. Am Gas J 118:564-6+ Je 30 '23
 Selling Chicago on gas fuel for house heating. G. C. Carnahan and H. D. Valentine. il chart Gas Age 52:127-30, 159-62 Ag 4-11 '23
 Selling the gas designed furnace. R. E. Brady. il Gas Age 51:573-5 My 5 '23
 Space heating offsets the domestic load. J. E. Bullard. Gas Age 52:571-2 N 3 '23
 This gas man takes own medicine; gas burning equipment for his new home. E. D. Brewer. il plan Gas Age 50:379-80 S 23 '22
 Warm-air house heating. J. E. Smith. Am Gas J 115:422-4 N 5 '21
 Western plumbers are sadly misled; given mass of misinformation on gas fired heating appliances. Gas Age 48:687-9 N 19 '21
 See also Boilers, Heating—Gas firing; Gas heaters; Gas steam radiators; Gas water heaters

Bibliography

- Bibliography of house heating. Gas Age 51: 562+ My 5 '23
Gas heating, Industrial. See Gas as fuel
Gas holders
 City block too small for holder. W. S. Yard. diag Gas Age 49:771+ Je 24 '22
 Colossal gas tank holds 15,000,000 cubic feet. il Pop Mech 37:32 Ja '22
 Company solves residue gas problem by installing holder. L. E. Smith. il Nat Pet N 14:33-4 F 22 '22
 Fabricates large storage tanks. J. D. Knox. il plan Iron Tr R 73:241-7 Jl 26 '23
 Five million foot gas holder, Hamilton, Ontario. H. E. Gingrich. il diags Can Eng 43: 271-3 Ag 22 '22
 Gas betterments in Los Angeles. D. E. Col-lister. il Am Gas J 117:553-4 N 11 '22
 Gas holder design and construction. E. F. Miller. il diags Boston Soc C E J 10:57-91 F '23
 Gazomètres secs, à couvercle mobile. diag Génie Civil 80:215, 555 Mr 4, Je 17 '22
 Le joint d'étanchéité des gazomètres secs, à couvercle mobile. diag Génie Civil 83: 305-6 S 29 '23
 L. A. company solves gas storage and transportation problem. il J Elec 48:426 My 15 '22
 Maximum load on roller axles of a spirally-guided gasholder. A. Gadd. Gas J (Lond) 164:41-3 O 3 '23
 Moving gigantic gas tank with hand jacks. il Pop Mech 40:221 Ag '23
 Novel accumulator storage tank. C. H. Potter. il Gas Age 49:325-6 Mr 18 '22
 Pitted corrosion of impure iron. D. M. Strick-land. il Gas Age 49:623+ My 20 '22
 Six million foot holder for Oakland ready Oct. 1. Gas Age 49:420 Ap 8 '22
 Some experiments with the mixing of different gravity gases in holders. H. E. Bates. Am Gas Assn Technical sec v 3:408-20 '21; Same. Am Gas J 115:483-4, 490-2 N 26 '21; Discussion. Am Gas Assn Technical sec v 3:420-30 '21
 Southern California extensions. C. H. Potter. il Gas Age 51:5-6+ Ja 6 '23
 Sydney gasholder. Gas J (Lond) 163:736-7 S 12 '23
 Tankless gas holder experience. Fleisch. il diags Gas Age 50:225-9 Ag 19 '22
 Testing tightness of gas holder. Gas Age 50: 263-4 Ag 26 '22

Gas holders—Continued

Welding gasholders by quasi arc in Australia. J. N. Reeson. *il Gas Age* 52:250-2 S 1 '23; Same. *Am Gas J* 119:221-2+ S 15 '23; Same. *Gas J (Lond)* 164:260 O 24 '23; Abstract. *Can Eng* 45:337 S 18 '23

Failures

Gas holder explodes, injuring 100 persons. *il Pop Mech* 38:509 O '22

Heating

Comparative methods of heating gas holders. G. Wehrle. *Am Gas J* 117:359-60 O 21 '22

Repair

Repairing Rochester relief holder. W. N. Whitney. *il diags Gas Age* 48:865-6 D 24 '21

Gas holders, Concrete

Making reinforced concrete holders. C. Hartmann. W. Vandt and N. Adler. *diags Gas Age* 50:355-6 S 16 '22

Gas industry

Admittanitis gas industry ailment. H. H. Lackey. *Am Gas J* 116:9+ Ja 7 '22

American gas association 3d annual meeting, Chicago. *Am Gas J* 115:433-4, 442-4 N 12 '21

Annual meeting of Gas sales ass'n. J. E. Bullard. *Gas Age* 49:657-9 My 27 '22

Anthractite coal and gas sales. W. M. Carpenter. *Am Gas J* 119:233-4 S 22 '23

Babson man points to candles. O. W. Hill. *Gas Age* 50:705-6 N 18 '22; Same, with discussion. *Am Gas J* 117:577-9 N 18 '22

Babson set right on gas industry. O. Fogg. *Gas Age* 50:135 JI 29 '22

Bucking competition to get industrial business. W. D. Thompson. *Am Gas J* 118:266 Mr 31 '23

Chemists and the gas industry. H. O. Andrew. *Gas Age* 52:16 JI 7 '23

City zoning and the gas industry. J. E. Bullard. *Gas Age* 51:805-6 Je 23 '23

Competition. W. A. Bishop. *Gas J (Lond)* sup 2:48-50 Mr 28 '23; Discussion. sup 2:66-8 Ap 25 '23

Competition. G. E. Burden. *Gas J (Lond)* sup 2:91-3; Discussion. 93 My 30 '23

Criticism; constructive, but pointed. R. H. Burdick. *Am Gas J* 117:67-9 JI 22 '22

Development of the gas industry. W. D. Wilcox. *Am Gas J* 118:417-20+ My 19 '23

Doing business on a falling market. J. E. Bullard. *Am Gas J* 116:309-10 Ap 1 '22

Economic, not technologic, considerations govern in the gas industry. R. B. Brown. *Chem & Met Eng* 27:466 Ag 30 '22

Effect of fuel situation on gas industry. *Am Gas J* 118:34-6 Ja 13 '23

Factors in commercial development. O. H. Fogg. *Gas Age* 49:613-16 My 20 '22; Same. *Am Gas J* 116:459-61+ My 20 '22

Fixed return. T. D. Miller. *Gas Age* 49:388 Ap 1 '22

Fuel facts and opinions. F. W. Parsons. *il Gas Age* 49:33-5+ Ja 14 '22

Fuel facts for gas consumers. charts *Gas Age* 51:43-5 Ja 13 '23

Functions of the gas official. L. Gaston. *Gas Age* 50:827-8 D 16 '22; Same. *Am Gas J* 117:671-3 D 16 '22

Gas industry's biggest task. S. Insull. *Am Gas Assn General Sessions* sec v 3:175-85 '21; Same cond. *Gas Age* 48:810-12 D 17 '21

Gas sales and trade conditions. L. W. Allwyn-Schmidt. *Am Gas J* 119:45-7 JI 21 '23

Gas the smokeless fuel. E. J. Mullaney. *Am Gas J* 119:135-3+ Ag 18 '23

Graphical presentation of data; some high lights of the gas industry. *Gas Age* 49:36-8 Ja 14 '22

Great growth for industry predicted. V. E. Bird. *Am Gas J* 118:242-3 Mr 24 '23

How leaders foresaw the future. H. H. Clark. *Gas Age* 49:357-9 Mr 25 '22

How to develop industrial gas. H. Vittinghoff. *Gas Age* 50:829-33 D 16 '22

Illinois gas association meets at Chicago. R. O. Jasperson. *Gas Age* 49:369-70 Mr 25 '22

Important trends in gas industry. R. S. McBride. *Gas Age* 49:707-10 Je 10 '22

Industrial gas section holds first meeting, Atlantic City. H. O. Andrew. *Gas Age* 52:527-8 O 27 '23

Iowa men swat Bacharach bill; annual convention of Iowa district gas association. W. V. Turner. *il Gas Age* 49:557-9 My 6 '22

Making gas appliances stay sold. E. J. Otterbein. *Am Gas J* 118:386-7 My 5 '23

Midland junior gas association; presidential address. L. H. Thomas. *Gas J (Lond)* 164:257-9 O 24 '23

More standardization and publicity needed. J. E. Bullard. *Am Gas J* 117:142+ Ag 12 '22

1923 to be small company year. J. E. Bullard. *Gas Age* 50:703-4+ N 18 '22

Organization of selling effort. W. Gaskin. *Gas J (Lond)* sup 2:85-8 My 30 '23

Pipe it for gas a good slogan. R. O. Jasperson. *Gas Age* 50:323 S 9 '22

Plans to overcome summer slump. *Gas Age* 51:807-8 Je 23 '23

Reducing the number of non-profitable consumers. J. B. Jones. *Am Gas J* 116:394-5 Ap 29 '22; Same. *Gas Age* 49:555-6 My 6 '22

Right use of graphic charts. J. E. Bullard. *Gas Age* 51:443-4 Ap 7 '23

Romance of the gas industry. O. E. Norman. 203p A. C. McClurg & co., Chicago '22

Sales department and company. C. E. Paige. *Gas Age* 49:365-6 Mr 25 '22

Sales development and its relation to the gas business. P. S. Young. *Am Gas J* 119:411-13 O 18 '23

Sales stimulation; report of A.G.A. 1922 committee. *Am Gas Assn Commercial* sec v 4:5-15; Discussion. 16-20 '22

Sell gas as a superior fuel. J. E. Bullard. *Am Gas J* 118:474-5 Je 2 '23

Selling gas to industries in Chicago. F. W. Parsons. *Gas Age* 50:455 O 14 '22

Shaking the industrial gas tree. R. O. Jasperson. *Gas Age* 51:41-2 Ja 13 '23

Southern New England helps to push industrial gas. W. E. Curtin. *Gas Age* 52:261-2 S 1 '23

Studying gas service instead of books. R. S. Merrill. *Am Gas J* 117:162-3+ Ag 19 '22

Summer slump is usually only a state of mind. J. R. Jennings. *Gas Age* 52:75-6 JI 21 '23

Talk upon selling more gas. W. Gould. *Gas Age* 49:336-7 Mr 18 '22

Talks with doers. F. C. Freeman. *Gas Age* 49:175+ F 11 '22

What does it cost to stop selling? F. L. McCormick. *Am Gas J* 116:105-6 F 4 '22

What will be the future of the gas industry? F. A. Newton. *Gas Age* 52:359-61 S 29 '23; Same. *Am Gas J* 119:273-5+ O 6 '23

See also Gas, Natural; Gas and electric shops; Gas as fuel; Gas companies; Gas cooking; Gas distribution; Gas heating; Gas lamps; Gas lighting

Advertising

Advertise! but how? C. W. Person. *Am Gas J* 116:275-6 Mr 25 '22

Advertise your gas service. O. F. Schully. *Am Gas J* 118:270-2 Mr 31 '23

Advertising appliances. A. D. Dudley. *Am Gas J* 119:37 JI 14 '23

Advertising as a public service. R. M. Searle. *Gas Age* 49:453-4+ Ap 15 '22

Advertising booms appliance sales. J. F. Weedon. *Gas Age* 50:467-9 O 14 '22

Advertising the point of contact. R. Bostick. *Ptr Ink* 122:169-70 Mr 22 '23

Advertising to stimulate sales of merchandise and appliances. J. F. Weedon. *Am Gas Assn Commercial* sec v 4:131-44; Discussion. 144-9 '22

Advertising utilities. J. Carmichael. *Am Gas J* 118:478 Je 2 '23

Aesop's fables win 17 franchises. J. D. Sinclair. *Gas Age* 49:517-19 Ap 29 '22

A. G. A. announces ad service. *Gas Age* 50:405-6 S 30 '22

Appliance advertisement. K. C. Ogden. *Am Gas J* 119:234+ S 22 '23

Boost appliance sales with this stunt. F. H. Williams. *Am Gas J* 117:621-2 D 2 '22

Broadcasting home service by radio. A. Irwin. *il Gas Age* 51:335-8 Mr 17 '23

Gas industry—Advertising—Continued

Buying good will—selling service. K. L. Hamman. Gas Age 51:505-6, 611-14 Ap 21, My 12 '23

Combating the post-holiday slump. W. B. Stoddard. *il* Am Gas J 118:3-4 Ja 6 '23

Consistent advertising will help make sales. J. B. Dillon. Am Gas J 116:103-4+ F 4 '22

Co-operative advertising campaign in Dallas. M. L. Tenery. Am Gas J 117:559-61 N 11 '22

Co-ordinate sales and advertising more strongly. F. H. Williams. Am Gas J 117:117-18 Ag 5 '22

Counteracting the gas peril stunt. Gas J (Lond) sup 2:71-2 Ap 25 '23

Direct-by-mail question. Am Gas J 118:473-4 Je 2 '23

Education by advertising. F. L. McCormick. Am Gas J 117:1-2+ J1 1 '22

Effective appeals in advertising. R. Stuart. Am Gas J 118:173-4 Mr 3 '23

Effective direct mail advertising. J. E. Bullard. Am Gas J 117:119-20 Ag 5 '22

Effective newspaper advertising at small cost. Am Gas J 117:633-5 D 2 '22

Enlightened public utility gets sales action. *Ptr Ink* 117:93-4 D 8 '21

Feminine appeal in advertising. M. E. Matlack and W. H. Matlack. Am Gas J 117:316-18 O 7 '22

Gas companies manifesting ingenuity and artistic taste in window displays. E. A. Dench. *il* Am Gas J 119:169-70+ S 1 '23

Gas company advertising and the public. Am Gas J 118:177-8 Mr 3 '23

Gas heaters for early autumn; how they may be advertised. W. B. Stoddard. Am Gas J 119:501-5 N 3 '23

Gasholder as an advertising medium. J. H. Brearley. *il* Gas J (Lond) sup2:163, 204 S 26, N 28 '23

Getting news into your advertisements. F. H. Williams. *il* Am Gas J 116:505-6 Je 3 '22

Getting timeliness into your ads. J. H. Bryan. Am Gas J 116:15-17 Ja 7 '22

Good service advertisements. Am Gas J 116:512 Je 3 '22

Good service sells gas appliances. N. G. Meade. *il* Gas Age 51:149-50 F 3 '23

Good-will advertising campaign. S. C. Schmulbach. Am Gas J 116:373 Ap 22 '22

Have women quit reading your ads? H. D. Kemperton. Am Gas J 116:308 Ap 1 '22

Here and there in selling. W. H. Matlack. *il* Am Gas J 115:501-3+; 117:626-8; 118:7-9+, 288-91; 119:92-5, 279-83, 506-7 D 3 '21, D 2 '22, Ja 6, Ap 7, Ag 4, O 6, N 3 '23

Honeymooners buy aluminum. W. B. Stoddard. *il* Gas Age 50:51-2 J 8 '22

How to use advertising space. H. F. Podhaski. Am Gas J 115:414-16 N 5 '21

If everybody took a bath a day. R. O. Jasper. Gas Age 49:747-8 Je 17 '22

Keep them sold—use object lesson in selling gas water heaters. *il* Gas Age 49:545-6+ My 6 '22

Laconic lesson in advertising. M. E. Klingler. Gas Age 51:476 Ap 14 '23

Large scale newspaper advertising. Gas Age 50:725-6 N 25 '22

Local advertising and publicity in the gas industry. F. R. Ayre. Gas J (Lond) sup 2:45-7; Discussion. 47 Mr 28 '23

Mechanics of publicity. Am Gas J 117:601-3 N 25 '22

More gas advertising the cure. S. Jinks. Gas Age 50:377-8 S 23 '22

Must advertise intensively; abstracts. J. F. Weedon. Am Gas J 117:491-4 O 27 '22; *Ptr Ink* 121:166+ O 26 '22

National advertising campaign engages attention of Pacific gas men. Gas Age 50:894 D 30 '22

New advertising services by A.G.A. Gas Age 49:688 Je 3 '22

Newspaper advertising for gas companies. Am Gas J 118:90-2 F 3 '23

Newspapers most effective publicity medium. P. H. Gadsden. Am Gas J 118:329-30 Ap 21 '23

Open house exhibits will sell more appliances. F. H. Williams. Am Gas J 119:14-15 J1 7 '23

Opportunity to create good will. Gas Age 50:242-3 Ag 19 '22

Permanent exhibits—a new mode of advertising. M. M. Scott. *il* Am Gas J 119:261-2 S 29 '23

Persistent advertising necessary. R. Stewart. Am Gas J 118:87-8 F 3 '23

Prize contests as a means of stimulating new business. E. R. Hamilton. Am Gas J 119:276-7 O 6 '23

Publicity and advertising section of A.G.A.; report of chairman. M. C. Robbins. Am Gas Assn Commercial sec v 3:77-82 '21

Putting a punch in your ads. Am Gas J 117:315-16 O 7 '22

Right kind of advertising is timely. R. S. Merrill. Am Gas J 117:622-5 D 2 '22

Sales and service. P. G. G. Moon. Gas J (Lond) 162:733-6; Discussion. 736 Je 20 '23

Selling the gas idea to the bride. W. B. Stoddard. *il* Am Gas J 119:88-9 Ag 4 '23

Service and good-will advertising. R. F. McGuinness. Am Gas J 119:49-50 J1 21 '23

Shaping advertising to mass mind. S. Jinks. Gas Age 50:175-6 Ag 5 '22

Some good ideas from the South. H. F. Podhaski. Am Gas J 115:504+ D 3 '21

Some pitfalls of advertising. O. F. Schully. Am Gas J 117:203-5 S 2 '22

Status of advertising in the gas business. C. W. Person. Am Gas Assn Commercial sec v 3:97-103 '21; Same. Am Gas J 115:509-11 D 3 '21; Same abr. *Ptr Ink* 117:137-8+ N 17 '21

Taking advantage of the season; a side line that will produce real orders. J. B. Dillon. Am Gas J 117:3-5 J1 1 '22

Use these spring-time promotion stunts. F. H. Williams. Am Gas J 118:175-6 Mr 3 '23

Using governmental sanction to give a conservation campaign added strength. *Ptr Ink* 120:69-70+ Ag 31 '22

Using the testimonial in gas ads. H. B. Kelley. Gas Age 49:331-2 Mr 18 '22

Value of advertising. F. W. Parsons. *il* Gas Age 49:65-9 Ja 21 '22

Wanted: trained advertising men. J. E. Bullard. Gas Age 49:79-82 Ja 21 '22

Water-heater campaign. W. B. Stoddard. Am Gas J 117:5-6+ J1 1 '22

What advertising did for one small town gas man. C. B. Wyckoff. Am Gas Assn Commercial sec v 3:83-93; Discussion. 94-6 '21

What advertising does. J. B. Dillon. Am Gas J 117:208-9 S 2 '22

What newspaper advertising has done for our company. A. W. Hawks, jr. Gas Age 52:465-6 O 13 '23

When women won't cook, then advertise to them! *Ptr Ink* 121:69-70 D 28 '22

Who has the best mailing list? J. E. Bullard. Gas Age 50:289-90 S 2 '22

Why continuous advertising pays. W. H. Matlack. Gas Age 48:801-2 D 10 '21

Why gas companies should use advertising stickers. J. T. Bartlett. Gas Age 52:291-2 S 8 '23

See also Gas stoves—Advertising

Directories

American gas catalog and directory. American gas journal, New York '22

Directory of the gas industry. Gas Age 49:supp Ap 8 '22

Exhibitions

American gas association annual convention exhibits. Am Gas J 115:407-8 N 5 '21

Echoes from gas exhibitions—past and present. N. H. Humphreys. Gas J (Lond) 164:111-12 O 10 '23

National gas exhibition, Bingley Hall, Birmingham, Sept. 17-Oct. 3. *il* Gas J (Lond) 163:815-46, 925-30; 164:47 S 19-O 3 '23

What you will see at the A.G.A. show. Gas Age 52:429-30+ O 13 '23; Dom Eng 105:172-5 O 27 '23

Gas industry—Continued

Merchandizing

- Acquainting the public with gas heaters. W: B. Stoddard. *il Am Gas J* 117:114-15 Ag 5 '22
- Active program for industrial men. *Gas Age* 50:821-2 D 16 '22
- A.G.A. to boost gas sales. L: Stotz. *Gas Age* 49:63 Ja 14 '22
- Appliance merchandising. H. M. Riley. *Am Gas J* 115:497-8+ D 3 '21
- Ask yourself these questions. F. H. Williams. *Am Gas J* 116:215-16 Mr 4 '22
- Attractive salesrooms help business. F. H. Williams. *Am Gas J* 116:296-7 Ap 1 '22
- Be a domestic comfort specialist. J: M. Brock. *Gas Age* 49:327-8 Mr 18 '22
- Beating the Xmas buying reaction; plans for special appliance sales during dull months. *Gas Age* 51:83-4 Ja 20 '23
- Beating the slump. J. E. Bullard. *Gas Age* 52:109-10 Jl 28 '23
- Boosting summer sales. J. E. Bullard. *Gas Age* 52:201-2 Ag 18 '23
- Bucking competition from within. A. T. Hicks. *Gas Age* 50:319 S 9 '22
- Building a house to house crew. *Gas Age* 51:245-6 F 24 '23
- Business men discuss appliances. F. H. Williams. *Am Gas J* 118:1-2 Ja 6 '23
- Buying good-will and selling service. K. L. Hamman. *Am Gas J* 117:302-6 S 30 '22
- Co-operation in selling gas appliances. *Am Gas J* 118:333-4+ Ap 21 '23
- Creating the desire. F. L. McCormick. *Am Gas J* 116:299-300 Ap 1 '22
- Deer and gas company co-operation. R. Stuart. *Am Gas J* 118:468-9 Je 2 '23
- Direct consumer selling; how to put over house-to-house campaign. H. Leslie. *Am Gas J* 118:237-8 Mr 24 '23
- Don't campaign—sell. F. L. McCormick. *Am Gas J* 115:419-21 N 5 '21
- Economics of merchandising. *Gas Age* 49:295-6 Mr 11 '22
- Few notes on showroom management and sales. T. Garland. *Gas J (Lond)* sup 2:94-5 My 30 '23
- Finding chances to sell. R. S. Merrill. *Am Gas J* 116:297-8 Ap 1 '22
- Five elements of selling. J. E. Bullard. *Am Gas J* 116:3-4 Ja 7 '22
- From range maker's point of view. W. E. Derwent. *Gas Age* 51:447+ Ap 7 '23; Same. *Am Gas J* 118:294-5 Ap 7 '23
- Future bright, but salesmanship is needed. L. L. Osler. *Gas Age* 50:324 S 9 '22
- Gas appliance society formed. *Gas Age* 49:367-8 Mr 25 '22
- Gas appliances make wonderful Xmas gifts. J. B. Dillon. *Am Gas J* 115:409-10+ N 5 '21
- Gas companies as merchants. *Gas Age* 51:181-2 F 10 '23
- Gas lightens burden in laundry. *Gas Age* 50:475-6 O 14 '22
- Gas merchandising a necessity. W: H. Halsey. *Gas Age* 49:689 Je 3 '22
- Getting business by specialized campaigns. J. F. Jones. *Am Gas J* 119:288-90 O 6 '23
- Getting more women into the salesroom. F. H. Williams. *Am Gas J* 118:467-8 Je 2 '23
- Here and there in selling. W: H. Matlack. *Am Gas J* 115:411-13; 116:5-6+, 111+, 205-7+, 301-2, 415-17, 507-11+, 117:9+, 122-5, 212-14, 540-1; 118:99-102, 179-81+, 471-3; 119:6-9+, 178-9+ N 5 '21, Ja 7, F 4, Mr 4, Ap 1, My 6, Je 3, Jl 1, Ag 5, S 2, N 4 '22, F 3, Mr 3, Je 2, Jl 7, S 1 '23
- Home cooking makes gas sales. A. J. Peterson. *Am Gas Assn Commercial sec v* 4:104-19 '22; Same. *Gas Age* 50:459-62 O 14 '22; Same cond. *Am Gas J* 117:485-8 O 27 '22
- How about exhibits in public schools? F. H. Madison. *Am Gas J* 116:211-12 Mr 4 '22
- How better business is created. J. B. Dillon. *Am Gas J* 119:171-2 S 1 '23
- How special offers stimulate sales. *il Gas Age* 50:115-16 Jl 22 '22
- How to back up the sales force. W: H. Matlack. *Gas Age* 50:659-61 N 11 '22
- How to get industrial business. E. G. de Coriolis. *Am Gas J* 119:436-9 O 19 '23; Same, with *il Gas Age* 52:495-500 O 20 '23
- How windows help Peoples' sales. R. O. Jaspersen. *il Gas Age* 49:127-9 F 4 '22
- Intensive sales campaign. H. B. Hindon. *Am Gas J* 117:14-15 Jl 1 '22
- Introducing laundry appliances. J. D. Hartog. *Gas Age* 51:439 Ap 7 '23
- Investigation makes for successful merchandizing. R. Stewart. *Am Gas J* 119:3-4 Jl 7 '23
- Is gas co. domination desirable? R. O. Jaspersen. *Gas Age* 48:909-10 D 31 '21
- It takes a horn to sell goods. J. E. Davies. *Gas Age* 49:403-4 Ap 1 '22
- Lynn co. solves plumbers' problems. *Gas Age* 49:259-60 Mr 4 '22
- Marketing of laundry appliances. B. A. Duvall. *Gas Age* 50:527-9 O 21 '22
- Meaning of selling and service. A. G. Schanze. *Gas Age* 49:529-30 Ap 29 '22
- Merchandiser or manufacturer? H. J. Long. *il Gas Age* 48:692-8 N 19 '21
- Merchandising gas appliances. C: C. Paylin. *Am Gas Assn General Sessions sec v* 3:27-50 '21
- Merchandising; report of 1921 committee! H. J. Long. *Am Gas Assn Commercial sec v* 3:9-24; Discussion. 25-36 '21
- Modern gas showroom. F. C. Wheeler. *il Gas J (Lond)* 162:100-3 Ap 11 '23
- Neighborhood demonstrations help. J: J. Quinn. *il Gas Age* 50:763-4 D 2 '22
- Never knock—but make that sale. L. L. Osler. *Gas Age* 51:411-12 Mr 31 '23
- New-business department. C. S. Morse. *Am Gas J* 116:461-3 My 20 '22; Same abr. *Gas Age* 49:656+ My 27 '22
- New England men in April meeting. E. J. Bullard. *Gas Age* 51:511-2 Ap 28 '23
- New factors in gas merchandising. C. E. Shaffner. *Am Gas J* 119:176-7 S 1 '23
- Off to a flying start for 1922; Chicago company offers easy terms, small down payment and attractive premiums to get appliance business. R. O. Jaspersen. *il Gas Age* 49:159-62 F 11 '22
- Passing of the Gipsy higgler. L. B. Michaels. *Gas Age* 52:467-9 O 13 '23
- Planning a special sale. *Am Gas J* 117:75-6 Jl 22 '22
- Plumbers as allies in selling gas. W: J. Woolley. *Gas Age* 49:223-4 F 25 '22
- Possibilities of the water-heating business. H. H. Ganser. *il Am Gas J* 116:423-6 My 6 '22
- Principles of proper merchandising. E: J. Cooney. *Am Gas J* 119:501+ N 3 '23
- Prize contests for stimulating new business. E. R. Hamilton. *Gas Age* 52:259-60 S 1 '23
- Real basis of success in selling gas appliances. C. E. Shaffner. *Am Gas J* 116:1-2 Ja 7 '22
- Retailer and gas appliance selling. J. O. Smith. *Am Gas J* 117:319-21+ O 7 '22
- Retailer vs. gas man on appliances. J. O. Smith. *Gas Age* 51:833-5 Je 30 '23
- Sale of domestic appliances in the smaller cities. W. B. Johnson. *Am Gas J* 119:283+ O 6 '23
- Sales co-operation vital to increase send-out. W: R. Bell. *Am Gas J* 117:529-30 N 4 '22
- Sales department experience. J. F. Jones. *Gas Age* 52:341-2+ S 22 '23
- Sales plan for manufacturers. M. V. Bryant. *Gas Age* 49:178 F 11 '22
- Sales stimulation; report of 1923 committee. *Am Gas J* 119:510-12+ N 3 '23
- Selling by means of window displays. O. F. Schully. *Am Gas J* 117:535-7 N 4 '22
- Selling more appliances to the gas office visitor. F. H. Williams. *Am Gas J* 119:85-6 Ag 4 '23
- Selling on a community basis. C. E. Schaffner. *Am Gas J* 116:414+ My 6 '22
- Service and merchandizing. W. F. Moses. *Am Gas J* 119:90-1 Ag 4 '23
- Service first. A. T. Hicks. *Am Gas J* 117:217-18 S 2 '22
- Settling the appliance war. *Gas Age* 50:381-2 S 23 '22

Gas industry—Merchandizing—Continued

- Stimulating winter appliance sales. W. Gould. Gas Age 50:621-2 N 4 '22
 Stunts that have made sales. F. H. Williams. Am Gas J 118:377-8 My 5 '23
 Supporting the appliance market. F. L. McCormick. Am Gas J 116:409-10+ My 6 '22
 System in gas sales promotion. B. A. Duvall. chart Gas Age 49:169-70 F 11 '22
 Things that matter in gas salesmanship. S. W. Simmons. Gas J (Lond) sup 2:133-5 JI 25 '23
 2 cents for juice—10 cents for gas. Gas Age 51:107-8 Ja 27 '23
 Two queens in the kitchen. J. B. Dillon. Am Gas J 116:208-10 Mr 4 '22
 Unsold field of domestic gas. A. P. Post. Gas Age 49:399-400 Ap 1 '22
 Use these salesroom stunts. F. H. Williams. Am Gas J 117:7-8 JI 1 '22
 Use your wits in selling. F. H. Williams. Am Gas J 119:183-4 S 1 '23
 What is wrong with gas appliance merchandising? F. L. McCormick. Am Gas J 116:201-2+ Mr 4 '22
 Why appliance departments succeed. F. H. Williams. Am Gas J 117:201-2 S 2 '22
 Why people buy beautiful ranges. F. M. Fluke. Gas Age 50:205-6 Ag 12 '22

Safety devices and measures

See Gas companies—Safety measures

Statistics

- Board of trade gas undertakings return for 1922. Gas J (Lond) 163:417-19 Ag 1 '23
 Gas output in New York continues to increase. Gas Age 49:255 Mr 4 '22
 Manufactured gas statistics for 1921. Am Gas J 118:388-9 My 5 '23; Same. Gas Age 51:700 Je 2 '23
 1920 statistics of gas industry. Am Gas J 116:37-8+ Ja 14 '22; Gas Age 49:137-8 F 4 '22

Terminology

- Joint progress report of the Accounting and Technical section committees, 1921. W. A. Sauer and O. E. Norman. Am Gas Assn Accounting sec v 3:49-51; Discussion. 52-5 '21

Argentina

- Gas industry in Argentina. Am Gas J 118:345-7 Ap 28 '23

California

- Southern California extensions. C. H. Potter. il Gas Age 51:5-6+ Ja 6 '23

See also Gas supply—California

Canada

- Co-operation with American gas association urged. D. R. Street. Am Gas J 119:198-9+ S 8 '23

Great Britain

- British commercial gas association 12th annual conference at Birmingham. Gas J (Lond) 164:113-17 O 10 '23
 British opinions concerning probable developments in gas practice. F. W. Parsons. Gas Age 52:561-2+ N 3 '23
 Gas engineering in 1921. Engineer 133:36-7 Ja 13 '22
 Gas engineering in 1922. Engineer 135:39-40 Ja 12 '23
 Gas fuel reduces air impurities. C. H. S. Tupholme. Gas Age 50:401-4 S 30 '22
 Gas industry in England. H. B. Harte. il Am Gas J 118:43-6, 109-11, 193-8 Ja 20, F 10, Mr 10 '23
 Governmental regulation of English calorific standards. A. I. Phillips. Am Gas J 115:461-2, 468-72 N 19 '21; Excerpt. Gas Age 48:620-2 N 12 '21
 How juniors help gas industry in Britain. C. H. S. Tupholme. Am Gas J 118:134-7 F 17 '23
 Light, heat, and power—a plea for a broader outlook. J. R. Bradshaw. Gas J (Lond) 163:867-9; Discussion. 869 S 19 '23
 Radiation limited. Gas J (Lond) 161:775-8 Mr 21 '23

- Selling England's appliance market. S. Jinks. il Gas Age 50:899-901+ D 30 '22
 Technical and commercial education in the gas industry. Gas J (Lond) 161:443-7 F 21 '23
 Victorian gas managers' association; presidential address. F. C. H. Hunt. Gas J (Lond) 162:483-5 My 23 '23

Japan

- Gas in Japan. Gas J (Lond) 162:744 Je 20 '23

New York

- New York state commission makes annual report—outlines work in gas industry in 1922. Am Gas J 118:31-2+ Ja 13 '23

See also Consolidated gas company, New York

Paris

- Paris has modern gas equipment. H. B. Harte. il Am Gas J 117:177-83 Ag 26 '22

United States

- Baltimore judges future by past. R. O. Jasperson. Gas Age 50:857-60 D 23 '22
 Industrial men favor new section of the American gas association be formed devoted to industrial fuel activities. Gas Age 50:731-3, 773-5, 807-8 N 25-D 9 '22
 Manufactured gas and by-products in 1920. R. S. McBride. U S Geol S Min Res of U S 1920, pt 2:439-97 '22
Gas industry and plumbing trade
 Address of Wm. J. Woolley. Am Gas Assn Commercial sec v 4:87-97; Discussion. 98-103 '22
 Cooperation between industry and plumbers. E. W. Allen. Am Gas J 118:47-50 Ja 20 '23
 Cooperation between the plumber and the gas industry. S. W. Wilson. Am Gas Assn General Sessions sec v 4:392-5 '22; Excerpt. Dom Eng 101:271 N 18 '22; Same. Sanitary & Heat Eng 98:289 N 17 '22
 Gas company and plumbing dealer co-operation. F. H. Knapp. Am Gas J 119:73-4 JI 28 '23
 Making friends with the plumber. Gas Age 51:79-80 Ja 20 '23
 Plumber's viewpoint of co-operation. J. A. Laraway. Am Gas J 118:162+ F 24 '23
 Working with the plumber. F. A. Woodhead. Am Gas J 118:160-2 F 24 '23

Gas lamps

- Gas-light globe that will not crack. Sci Am 126:119 F '22
 Window propaganda to sell more lamps. E. A. Dench. Am Gas J 116:107-8 F 4 '22
 See also Gas mantles

Gas leakage

- Condensation loss in H P lines. W. A. Dunkley. diag map Gas Age 51:693-6 Je 2 '23
 Gas leakage as affecting returns. J. Simpson. Gas Age 50:701-2 N 13 '22
 Locating gas leaks in paved streets. A. G. Cushing. Am Gas J 119:201-2 S 8 '23
 Natural gas leakage. C. M. Thompson. Gas Age 51:239-40 F 24 '23
 Not all unaccounted for is leakage. Am Gas J 117:580-4 N 13 '22

Gas lighting

- British commercial gas association, 11th annual conference, Bristol, Oct. 16-18. Illum Engr 15:276-8 O '22; Engineer 134:417 O 20 '22
 Conservation of the lighting load. J. Bell. Gas J (Lond) 163:743-4 S 12 '23
 Elementary treatise on gas lighting. Gas J (Lond) sup 2:5-6, 28-9, 63-4, 80-1, 100-1, 120-1, 144-5, 167-9, 184-5, 206-7 Ja 31-N 28 '23
 English notes on gas lighting. J. S. Dow. Gas Age 48:850 D 24 '21
 Gas. Illum Eng Soc 17:357-62 S '22
 Gas for street lighting advocated by a London engineer. C. H. S. Tupholme. diag Gas Age 52:37-41 JI 14 '23
 Gas lighting. J. D. Lofts. Gas J (Lond) 161:759-60 Mr 21 '23
 Gas lighting; report of 1921 committee. F. R. Barnitz. Am Gas Assn Commercial sec v 3:167-72; Discussion. 172-82 '21
 Gas lighting required by law. J. E. Bullard. Am Gas J 117:348-50 O 14 '22

Gas lighting—Continued

- Gas lighting versus electricity. *Am Gas J* 117:593-4 N 18 '22
- Gas street lighting—is it to be discarded? *F. V. Westermaier. Am Gas J* 116:159-61+ F 18 '22
- Illustrated gas light story. *S. Dubois, jr.; J. H. Stewart. il Gas Age* 51:113-15 Ja 27 '23
- Industrial illumination, *il Eng & Ind Management* 7:457-9 My 18 '22
- Lighting. *Gas J (Lond)* sup 2:142-3 Ag 29 '23
- Lighting and burners. *F. V. Barnes. diags Gas J (Lond)* 161:614-19 Mr 7 '23
- Need of more gas lighting. *F. L. McCormick. Am Gas J* 117:538+ N 4 '22
- Notes on gas lighting. *Illum Engr* 14:200-2 O '21
- Our lighting load. *E. E. Stones. Gas J (Lond)* 162:95-9, 160-1 Ap 11-18 '23; Discussion. *J. Wilson. 163:744-5 S 12 '23*
- Outside shop lighting. *M. A. C. Brereton. il Gas J (Lond)* sup 2:131-3 Jl 25 '23
- Pacific gas & electric co., San Francisco, features gas lighting. *C. S. Geiger. il Gas Age* 49:265-6 Mr 4 '22
- Progress in gas lighting. *J. S. Dow. Gas Age* 49:168 F 11 '22
- Progress in gas lighting in relation to illuminating engineering. *W. J. Sandeman. il diags Illum Engr* 15:6-22; Discussion. 22-34 Ja '22
- Progress in gas lighting methods. *S. Gulbrandsen. Gas Age* 49:139-41 F 4 '22
- Public lighting. *E. Burke. Gas J (Lond)* 161:85-6 Ja 10 '23
- Some new wrinkles in gas lighting. *R. H. Maurer. il diags Gas Age* 51:37-40 Ja 13 '23
- Street-lighting by gas in Newcastle-on-Tyne. *R. Davison. Illum Engr* 15:229 Ag '22
- What makes your holder go down at night? *J. B. Jones. Gas Age* 52:41-12 O 6 '23; Same. *Am Gas J* 119:409-10 O 13 '23
- Year's progress in illumination, 1922-1923; *gas. Illum Eng Soc* 18:587-92 S '23

See also Acetylene lamps; Gas lamps; Gas mantles; Gas meters

Gas lighting, Incandescent

- Elementary treatise on gas lighting. *Gas J (Lond)* sup 2:80-1 My 30 '23
- Incandescent lighting. *S. I. Levy. 129p Pitman '22*
- La production de l'oxyde de carbone par les becs à incandescence. *A. Kling and D. Florentin. Chimie & Ind* 6:305-8 S '21; Discussion. 6:596-600 N '21

See also Gas mantles

Gas mantles

- Elementary treatise on gas lighting. *il diags Gas J (Lond)* sup 2:167-9 S 26 '23
- Indictments against gas mantle companies ordered quashed by Attorney-general. *Comm & Fin Chr* 115:2537-8 D 9 '22
- Manufacturers of gas mantles indicted under Sherman law. *Comm & Fin Chr* 114:1142 Mr 18 '22
- Microscope in the mantle industry. *Gas J (Lond)* 161:751 Mr 21 '23
- Progress in gas lighting methods. *S. Gulbrandsen. Gas Age* 49:139-41 F 4 '22

See also Welsbach company, Gloucester, N.J.

Manufacture

- Gas-mantle in the making; a visit to the Welsbach factory. *Gas J (Lond)* 164:63-4 O 3 '23
- Making of incandescent gas mantles. *Gas Age* 48:872 D 24 '21

Testing

- Acetylene mantle burner tests. *C. F. Rockstroh. Gas Age* 50:178-9 Ag 5 '22

Gas manufacture and works

- Analysis: the value of having real information. *R. H. Burdick. Am Gas J* 118:213-22 Mr 17 '23
- Annual meeting of the Institution of gas engineers, London, Oct. 11-13. *Gas Age* 48:781-3 D 10 '21
- Application of oxygen to the manufacture of gas. *F. W. Davis. Gas Age* 52:437-8 O 13 '23

- Ayre's quay works. *W. L. Robertshaw. Gas J (Lond)* 162:535-7 My 30 '23
- Baby gas machine works. *E. H. Bauer. il diags Gas Age* 49:237-8 F 25 '22
- Back run gas—what it is and why? *W. W. Klyce. Am Gas J* 119:262+ S 29 '23; Same. *Gas Age* 52:331-2 S 22 '23
- Baltimore's water gas plant. *il Gas Age* 50:535-7 O 21 '22
- Beehive coke ovens with central generator. *H. Kleinholz. il diags Am Gas J* 115:519-22+ D 10 '21
- Benner coal gas process results. *G. H. Wölle. il diags Gas Age* 49:685-7 Je 3 '22
- Bituminous coal as generator fuel. *W. A. Dunkley. Am Gas J* 116:249-52+ Mr 18 '22; Same. *Gas Age* 49:523-6 Ap 29 '22
- Bituminous generator for Rochelle. *A. M. Peck. il Gas Age* 51:173-4 F 10 '23
- Bituminous water gas fuel economy. *W. A. Dunkley. Gas Age* 50:795-7 D 9 '22
- Blue gas in big electric plant; how the Western electric co. makes and utilizes enough blue gas to supply a city of 100,000. *A. J. Smith. il Gas Age* 50:513-16 O 21 '22
- Bridlington gas company. *J. Kelly. Gas J (Lond)* 163:935-7 S 26 '23
- Britain's largest gas works. *F. Johnstone-Taylor. Gas Age* 50:661 N 11 '22
- Building new horizontal at Lowell. *C. R. Prichard. il Gas Age* 51:433-8 Ap 7 '23
- By-product ovens as the future source of town gas. *J. M. Hastings, jr. il diags Am Gas Assn Technical sec v* 3:523-43 '21
- Carbonization as a heat distributing problem. *O. C. Clisham. Am Gas J* 116:387-8+ Ap 29 '22
- Carbonization of coal with blue gas and producer gas. *W. R. Morris. il diags Am Gas Assn Technical sec v* 4:21-61 '22; Same abr. *Blast F & Steel Pl* 11:22-30 Ja '23; Discussion. *Am Gas Assn Technical sec v* 4:195-210 '22
- Carbonization; report of 1921 committee of A.G.A. *Am Gas Assn Technical sec v* 3:431-41 '21
- Carburetting with low-grade oil; new water gas plant at Fall River, Mass. *H. Vittinghoff. il Gas Age* 51:67-70 Ja 20 '23
- City gas from by-product ovens. *A. I. Phillips. Gas Age* 50:689-92, 709-12 N 18 '22
- City of Birmingham gas department. *Gas J (Lond)* 164:50-1 O 3 '23
- Coal carbonization plant at Lowell, Mass. *V. Baker. il diags Am Gas Assn Technical sec v* 4:172-9 '22
- Cold clean artificial gas and a discussion upon the general properties of gaseous fuels. *A. E. Blake. il diags Am Cer Soc J* 6:803-26; Discussion. 826-30 Jl '23
- Continuous oil-water-coal gas. *F. C. Cornet. Gas Age* 49:455 Ap 15 '22
- Continuous oil-water-gas process. *Gas Age* 49:267-9 Mr 4 '22
- Co-operation of the engineer and chemist in the control of plants and processes. *G. M. Gill. diags Engineering* 113:57-9 Ja 13 '22; Same co. ed. *Engineer* 133:52 Ja 13 '22; Discussion. *Engineering* 113:51-3 Ja 13 '22; *Engineer* 133:37-8 Ja 13 '22
- Demonstration of the manufacture of blue and of carburetted water gas. *F. C. Freeman. Gas Age* 50:842-3 D 16 '22
- Description of carbonizing apparatus of the gas machinery company. *W. E. Steinwedell. il diags Am Gas Assn Technical sec v* 3:474-8 '21
- Description of carbonizing apparatus of the Improved equipment company. *G. H. Niles. il Am Gas Assn Technical sec v* 3:485-93 '21
- Description of carbonizing apparatus of the U. G. I. contracting company. *il Am Gas Assn Technical sec v* 3:543-8 '21
- Description of new Semet-Solvay by-product coke and gas oven plants. *C. R. Bellamy. il diags Am Gas Assn Technical sec v* 4:179-86 '22
- Description of the Belfast corporation gas-works. *il diags plan Gas J (Lond)* 163:80-6 Jl 4 '23

Gas, manufacture and works—Continued

- Description of the carbonizing apparatus of the Russell engineering company. V. Baker. diags Am Gas Assn Technical sec v 3:511-22 '21
- Description of the Garston works of the Liverpool gas company. plan Gas J (Lond) 162: 411-14 My 16 '23
- Description of the Koppers company ovens and producers. J. T. Tierney. il Am Gas Assn Technical sec v 3:496-503 '21
- Direct-carbonization plant. H. E. Smith. diags Gas J (Lond) 163:100 JI 4 '23
- Discussion of various paints and oils for use in gas plants. Gas Age 51:740+ Je 9 '23
- Engineering features of Chicago's new gas plant. J. I. Thompson. W Soc E J 27:267-78 S '22
- Evolution of a chemical industry. C. Carpenter. Soc Chem Ind J 42:289-94 JI 6 '23
- Experience with producer firing. S. B. Sherman. Gas Age 51:139-40 F 3 '23
- Experiences on a small gas-works. Gas J (Lond) 164:199-201 O 17 '23
- Extensions in Borough of Brooklyn; the growth of the Kings county lighting company. il Gas Age 49:647-9 My 27 '22
- Ferro-concrete and its applications to gas-works construction. J. Twist. Gas J (Lond) 162:105-6 Ap 11 '23
- Fuel economy on gas-works boilers. T. W. Andrews. Gas J (Lond) 161:82-4; Discussion. 84-5 Ja 10 '23
- Functions and duties of the chemist and the bearing of chemistry on the gas industry. G. H. Gemmell. Gas J (Lond) 162:220-1 Ap 25 '23
- Future of the small gas-works. G. M. Gill. Gas J (Lond) 161:138-9 Ja 17 '23
- Future of the small gas works. N. H. Humphrys. Gas J (Lond) 161:387-8 F 14 '23
- Gas betterments in Los Angeles. D. E. Collier. il Am Gas J 117:553-4 N 11 '22
- Gas chemists' handbook. 2d ed. 608p American gas assn., New York '22
- Gas industry and chemical engineering. il diags Chem & Met Eng 29:795-8 O 29 '23
- Gas industry in England. H. B. Harte. il Am Gas J 118:193-8 Mr 10 '23
- Gas made by carbonizing straw. H. E. Roethe. il Gas Age 49:75-6 Ja 21 '22
- Gas making from mixed coals. W. C. Butterworth. Am Gas J 118:495-7 Je 9 '23
- Gas manufacture. W. B. Davidson. 464p Longmans '23
- Gas service bulletin of the Railroad commission of the state of California. 85p California railroad commission, Sacramento '22
- Gas undertakings at Neath; presidential address. W. C. Jackson. Gas J (Lond) 164: 189-92 O 17 '23
- Gas-works extension at Wallasey. il diags Gas J (Lond) 161:199-202 Ja 24 '23
- Gas works of the future. A. M. McGregor. Gas Age 49:271-2 Mr 4 '22
- Gas-works of the Plymouth and Stonehouse gas light and coke company. il Gas J (Lond) 162:663-5 Je 13 '23
- Gasification of low calorific combustibles; a process for producing gas from dust, garbage, etc. E. Wolff. Am Gas J 118:246, 248-50 Mr 24 '23
- Gasification of Ohio coals. D. J. Demorest. il diags Chem & Met Eng 27:1172-5, 1221-4 'D 13-20 '22
- Glover-West verticals at Vancouver. E. G. Blackwell. il diags Gas Age 50:7-9 JI 1 '22
- Graphic charts of gas generator operation. A. W. H. Griepe. Am Gas J 116:435-9, 446-7 My 13 '22
- Graphical presentation of data; some high lights of the gas industry. Gas Age 49:36-8 Ja 14 '22
- Improving water gas results. H. S. Parker. Gas Age 50:583 O 23 '22
- Increasing water gas set capacity. W. E. Steinwedell. il diags Gas Age 50:3-4+ JI 1 '22
- Industrial oxygen. T. Campbell-Finlayson. Gas J (Lond) 162:737-40 Je 20 '23; Excerpt. Chem Age (Lond) 8:642-3 Je 16 '23; Discussion. Gas J (Lond) 162:740-1 Je 20 '23; Chem Age (Lond) 8:643-5 Je 16 '23
- Low-temperature carbonization by the medium of water gas; the Marshall-Easton process. F. D. Marshall. diags Gas J (Lond) 162:667-72 Je 13 '23
- Making gas by the backrun process. G. E. Whitwell and D. J. Young. il Chem & Met Eng 29:664-9 O 8 '23
- Making mixed gas in horizontal retorts. J. Ruf. diags Am Gas J 118:443-5+ My 26 '23
- Making producer gas efficiently. W. B. Chapman. Iron Tr R 72:1014-15+ Ap 5 '23
- Manufacture and distribution of gas; with discussion. H. N. Cheney. il Boston Soc C E J 10:47-55 F '23
- Manufacture of blue water gas. diags Gas J (Lond) 163:134-56; Discussion. 156-7 JI 4 '23
- Manufacture of gas for heating and lighting purposes. diags Gas J (Lond) 161:698-9 Mr 14 '23
- Manufactured gas; how it is made and delivered. diags Pop Mech 38:938-9 D '22
- Modern British gas works at Carlisle. C. H. S. Tupholme. il map diags Gas Age 51:603-10 My 12 '23
- Modern gas plant in Australia. Gas Age 49: 241-2+ F 25 '22
- Modern gasworks chemistry. G. Weyman. 184p Benn bros., London '22
- Modern gas works practice. by Alwyne Meade. Review. Engineering 113:217-18 F 24 '22
- Modern plant practice. E. Olsen. Am Gas J 118:452+ My 26 '23
- Modern vertical carbonizing plant. R. K. Wehner. il diags Gas Age 50:693-6 N 18 '22
- Modernizing a coal gas plant. il Gas Age 49: 10-11 Ja 7 '22
- Municipal plant at Miami uses oil process. Gas Age 50:264 Ag 26 '22
- New Bedford, Mass. to have oil gas plant. Am Gas J 118:129-30 F 17 '23
- New carbonization plant at Battle Creek. C. S. Holt. Gas Age 52:337-8 S 22 '23
- New Chicago plant placed in service. W. V. Turner. il Gas Age 48:545-9 N 5 '21
- New coal gas plant at Columbia. V. Baker. il Gas Age 48:705-7 N 26 '21
- New gas-making principle: Deschamps method involving pulsating rather than a continuous supply of air. J. F. Shadgen. Iron Age 110: 1285 N 16 '22
- New gasworks at Carlisle. il diags plan Engineer 135:541-4, 554, 584-7 My 25-Je 1 '23
- New gas-works at Dumbarton. il Gas J (Lond) 163:422 Ag 1 '23
- New methods of producing gas for industrial operations. R. Maclaurin. Gas J (Lond) 164:195-6 O 17 '23
- New plant for the city of Leeds gas department. diags Gas J (Lond) 161:610-14 Mr 7 '23
- New Saginaw river gas plant. J. A. Brown. Gas Age 52:332-3+ S 22 '23
- New Woodall-Duckham vertical retorts at Paisley. il Gas J (Lond) 161:264-5 Ja 31 '23
- Nitrogen distribution in verticals. C. H. Stone. Gas Age 51:241-3; 52:195 F 24, Ag 18 '23; Same cond. Chem & Met Eng 28:507-8 Mr 14 '23
- Official inauguration of the Dempster-Too-good vertical-retort installation and reconstructed gas-works at Great Harwood. il diags Gas J (Lond) 163:847-53 S 19 '23
- Plymouth gas company. P. S. Hoyte. il diags plans Gas J (Lond) 161:824-31 Mr 28 '23
- Post-war gas-making plant at Maubeuge. diags Gas J (Lond) 163:532-3 Ag 15 '23
- Presidential address. J. D. Smith. Gas J (Lond) 163:95-100 JI 4 '23; Same abr. Gas Age 52:131-4, 167-71 Ag 4-11 '23
- Producer gas for furnace work. il diags Engineering 113:347-51, pl 17 Mr 24 '22
- Reconstruction at Great Yarmouth. P. D. Walmesley. il diags plan Gas J (Lond) 162: 285-90 My 2 '23
- Refuse destruction in suction gas plant. Eng & Contr 55:263 S 13 '22
- Report of the A.G.A. operators' section. Am Gas J 119:346-7 O 16 '23
- Reviving a run-down gas plant: Winchester, Va. il Gas Age 50:343-6 S 16 '22

gas manufacture and works—*Continued*

- Steam requirements at a gas works. A. D. Whittaker. *Am Gas J* 118:399-404 My 12 '23; Same. *Gas Age* 51:817-20 Je 30 '23
- Story of automatic control. R. W. Polk. *Gas Age* 50:582 O 28 '22
- Strache double-gas process. A. Breisig. *diag Gas Age* 50:317-18+ S 9 '22
- Tottenham works of the Tottenham district light, heat, and power company. *il Gas J (Lond)* 163:856-9 S 19 '23
- Treatment of fuels by direct flame. F. Frank. *il diags Sci Am* 126:108 Je '22
- Tully carbon monoxide process. *Gas J (Lond)* 162:591 Je 6 '23
- Two-stage carbonization method of gas manufacture. J. M. Smith. *il diag plan Gas J (Lond)* 163:740-3 S 12 '23
- Use of refractory materials in gas works. G. M. Gill. *il diags Engineering* 115:696-8 Je 1 '23
- Using wood waste for making gas; process used in Germany and Sweden. H. Neumann. *diags Paper* 32:5-6+ Je 13 '23
- Vancouver coal installation completed—Glover-West retorts in new plant. *il Am Gas J* 116:sup19-20 Ap 8 '22
- Variables in gas manufacture. H. O. Andrew. *Gas Age* 51:799 Je 23 '23
- Verbindung von gaserzeugung und verschmelzung. G. Bulle. *diags Stahl & Eisen* 43:630-2 My 10 '23
- Vertical retort results from small plant in Victoria. F. H. Hewlings. *il Gas Age* 52:247-3, 289-90 S 1-8 '23
- Victorian gas managers' association; presidential address. P. C. H. Hunt. *Gas J (Lond)* 162:483-5 My 23 '23
- Visit to the Foleshill gas-works. *Gas J (Lond)* 162:593-5 Je 6 '23
- Visit to the Redditch gas-works. *il Gas J (Lond)* 162:596-7 Je 6 '23
- Visit to the Vauxhall gas-works. *Gas J (Lond)* 161:393-4 F 14 '23
- Visit to the works of the Lea Bridge district gas company. *il Gas J (Lond)* 162:156-8 Ap 18 '23
- Waste heat from chamber ovens used in production of steam. Fischer. *Am Gas J* 116:351-2 Ap 15 '22
- Water gas from bituminous coal. W. A. Dunkley. *Gas Age* 50:435-7 O 7 '22
- Water gas plant tested by British research board. C. H. S. Tupholme. *diags Gas Age* 52:185-90 Ag 18 '23
- Water-gas plants for small gas-works; new plant at Emsworth. *il Gas J (Lond)* 163:934 S 26 '23
- Waterly association of gas managers; presidential address. F. Welsh. *Gas J (Lond)* 162:674-6 Je 13 '23
- What goes on in a water-gas machine. M. E. Benesh. *diag Am Gas J* 115:275-8+ S 24 '21; Same. *Gas Age* 48:559-63 N 5 '21
- Works of the Southend gas company and retort-house control. T. F. Canning. *Gas J (Lond)* 162:277-83 My 2 '23
- See also Gas—Standards; Gas, Water; Gas companies; Gas holders; Gas power plants; Gas producers; Gas retorts; Gas testing; Tar*
- By-products**
- Ammonia losses in carbonization. H. D. Greenwood. *Gas J (Lond)* 161:750-1 Mr 21 '23
- Ammonia still operation graphically is demonstrated. J. S. Unger. *Gas Age* 52:277-8 S 8 '23
- Ammonia yields from vertical retorts. G. Braidwood. *il diags Gas J (Lond)* 163:180-8; Discussion. 188-9 Jl 4 '23
- Benzole recovery. T. Biddulph-Smith. *Gas J (Lond)* 163:254 Jl 11 '23
- British by-products production. *Gas Age* 50:441-3 O 7 '22
- By-product recovery with producer gas. *Chem Age (Lond)* 9:122 Ag 4 '23
- Coal and what we get from it. W. A. Twine. *Gas J (Lond)* 163:929-30 S 26 '23
- Coke-oven and by-product works chemistry. T. Biddulph-Smith. 196p Lippincott '21
- Commercializing the residual department of a gas plant. G. H. Waring. *Am Gas J* 117:272-3+ S 23 '22; Same. *Gas Age* 50:433-4 O 7 '22
- Concentration of ammonia liquor. A. S. Nisbet. *Gas J (Lond)* 163:747-8; Discussion. 718-9 S 12 '23
- Considerations relating to the future of sulphate of ammonia. R. C. Taylor. *Gas J (Lond)* 164:44-5; Discussion. 45-6 O 3 '23
- Débenzolage du gaz de houille et la limitation de son pouvoir calorifique. C. Berthelot. *Soc Ing Civils Bul* 74:337-72 Jl '21
- Determination of pyridine in ammonia liquors. F. Rinden. *Am Gas J* 119:200 S 8 '23
- Disposal of waste from gas plants; report of 1921 A.G.A. committee. F. W. Sperr, jr. *diags plans Am Gas Assn Technical sec v* 3:571-90 '21; Same. *Gas Age* 48:566-71 N 5 '21; Discussion. *Am Gas Assn Technical sec v* 3:590-5 '21
- La distillation continue du goudron de houille, par entraînement à la vapeur d'eau. C. Ab-der-Halden. *il diag Chimie & Ind* 7:226-34 F '22
- Fabrication du sulfate d'ammoniacque dans les usines à gaz. A. Grebel. *il diags Chimie & Ind* 9:26-42 Ja '23; Same abr. *Genie Civil* 81:863-9 Jl 15 '22
- Finding sulfur content in oxide. C. E. Little. *Gas Age* 49:463-5 Ap 15 '22
- Gasification of coke in steam, with special reference to nitrogen and sulphur. S. Pexton and J. W. Cobb. *diags Gas J (Lond)* 163:160-73 Jl 4 '23
- Hydrocyanic corrosion of gas mains. W. Bertelsmann and A. Thau. *Gas Age* 49:225-6 F 25 '22
- Important trends in gas industry. R. S. McBride. *Gas Age* 49:707-10 Je 10 '22
- Modern methods of ammonia absorption. F. W. Steere. *Chem & Met Eng* 29:717-18 O 15 '23
- Naphthalene and its extraction from coal gas. B. Richardson. *Soc Chem Ind J* 42:152-4 Ap 13 '23
- New process of distilling tar. C. Ab-der-Halden. *diag Am Gas J* 117:32, 34-6 Jl 8 '22
- Producing alcohol from coal gas. *Gas Age* 50:471-14 S 30 '22
- Provan chemical works of the Glasgow corporation. *diags plans Engineering* 115:761-4, 792-4, pl 46-9 Je 22-29 '23
- Récupération du coke dans les crasses de gazogènes et autres foyers. Mougín. *diags (Genie Civil)* 83:9-10 Jl 7 '23
- Treatment of effluent spent liquors from the distillation of ammoniacal liquors. T. L. Bailey. *Gas J (Lond)* 163:256-8 Jl 11 '23
- See also Alcohol; Ammonia; Ammonium sulfate; Carbocoal; Coal tar; Coke; Tar*
- Complete gasification process**
- Complete-gasification lay-out. L. Vincent. *diag Gas Age* 50:233-4 Ag 19 '22
- Complete gasification of coal; report of 1921 committee. A. W. Warner. *charts diags Am Gas Assn Technical sec v* 3:39-74; Discussion. 75-81 '21
- Developments and applications of the Tully plant. *Gas J (Lond)* 162:420-2 My 16 '23; *Chem Age (Lond)* 8:538-9 My 19 '23; *Engineering* 115:628-9 My 18 '23
- Proposed process for complete gasification of coal by the use of oxygen. L. F. Willien. *Am Gas J* 119:253-4 O 16 '23
- Regenerative coal gasification system. M. W. Travers and F. W. Clark. *il diag Gas J (Lond)* 164:34-7, 130-3 O 3-10 '23
- Report of the complete gasification of coal section of the A. G. A. charts *Am Gas Assn Technical sec v* 4:103-28 '22
- Rincker complete gasification plant. *il diag Gas Age* 51:637-8+ My 19 '23
- See also Coke—Gasification in steam*
- Bibliography**
- Bibliography of complete gasification process. *Am Gas Assn Technical sec v* 4:129-31 '22

Gas manufacture and works—Continued

Condensation

Condensing and scrubbing fundamentals and principles. W. H. Earle. Gas Age 52:399-402+ O 6 '23; Same. Am Gas J 119:572-4+ N 24 '23

Costs

British steelworks gas-producer practice. F. Clements. Iron & Steel Inst J 107:folding sheet 15 no 1 '23; Same. Engineering 115:611 My 18 '23
Construction cost trend in city gas plants. W. W. Handy. Gas Age 52:451-3 O 13 '23
Gas producers and producer gas. V. Windett. Blast F & Steel Pl 11:55-60 Ja '23
Maintenance costs of continuous vertical retorts. W. Buckley. il diags Gas J (Lond) 162:414-19 My 16 '23; Discussion. 162:419-20; 164:319-20 My 16, O 31 '23
Notes on works cost. H. C. Smith. diags plan Gas J (Lond) 163:860-7 S 19 '23
Working costs. W. Wilson. Gas J (Lond) 162:161-2 Ap 18 '23

Equipment and supplies

Automatic recording instruments. H. O. Andrew. Gas Age 51:77 Ja 20 '23
Carbonizing apparatus of the gas machinery company. W. E. Steinwedell. il Am Gas Assn Technical sec v 4:144-8 '22
Description of the carbonizing apparatus of the Parker-Russell mining & mfg. co. L. Wickham. il diag Am Gas Assn Technical sec v 4:165-70 '22
Gas plant wrinkles. C. R. Henderson. Am Gas J 117:267-72 S 23 '22
Gas works electrification; the coal and coke handling equipment at the Plymouth gas works. H. C. Widlake. il diags plan Electrician 89:738-41 D 29 '22
Gasworks recorders, their construction and uses. L. A. Levy. 246p Benn bros., London '22
Works instruments and auto-control of calorific value. J. G. Stewart. diags Gas J (Lond) 162:36-8 Ap 4 '23
See also Gas boosters; Gas retorts

History

Early history of the gas process. D. Brownlie. il Engineer 135:331-3 Mr 30 '23

Power

Electrification of gas plants. L. Stein. il Gas Age 51:397-400 Mr 31 '23

Safety devices and measures

Accident and fire prevention. F. W. Fisher. Am Gas J 117:228-32+ S 9 '22; Same abr. Gas Age 50:325-6+ S 9 '22
Promoting safety at by-product plants. J. F. O'Nalley. Iron Tr R 73:1034 O 11 '23

Visitors

Good will visits to the gas plant; Providence gas company encourages the visits of clubs and societies to the gas plant. J. E. Bullard. il Gas Age 51:673-4 My 26 '23
When the gas plant entertains; the Providence gas company entertains Chamber of commerce by inspection trip through plant. J. E. Bullard. il Gas Age 50:729-30 N 25 '22

Gas masks

Absorption of war gases by rubber and rubberized fabric. T. M. Rector. diag Ind & Eng Chem 15:1132-4 N '23
Catalytic oxidation of carbon monoxide at ordinary temperatures. D. R. Merrill and C. C. Scalone. Am Chem Soc J 43:1982-2002 S '21
Comparison of gas masks, hose masks and oxygen-breathing apparatus. Blast F & Steel Pl 11:459 Ag '23
Effective carbon monoxide gas masks. T. M. Knappen. il Gas Age 48:841-4 D 24 '21
Gas mask for the miner. il Sci Am 129:341 N '23
Gas mask hose-connected to a distant blower. il Pop Mech 38:922 D '22
Gas masks and other respiratory apparatus. Safety Eng 46:74-7 130-2 Ag-S '23

Gas masks for gases met in fighting fires. A. C. Fieldner, S. H. Katz and S. P. Kinney. il diags U S Bur Mines Tech Pa 248:1-61 '21; Abstract. Gas Age 48:877-80 D 31 '21
Gas masks in chemical plants. I. V. Kepner. Nat Safety N 7:31 Ja '23
Industrial uses of gas masks. H. F. Bain. Chem Age 30:16 Ja '22
Latest industrial gas-mask. il Sci Am 127:264 O '22
Perfects gas mask for industrial use. Iron Tr R 72:1236 Ap 26 '23
Protection from gases. Engineering 116:370-1 S 21 '23
Report on gas masks suitable for all uses around gas manufacturing and distribution plants. Am Gas Assn General Sessions sec v 4:218-22 '22
Temple coal co. supplements its breathing apparatus with mask that absorbs all poisons in mine air. D. C. Ashmead. il Coal Age 22:791-2 N 16 '22
Tests of gas masks and respirators for protection from locomotive smoke in railroad tunnels with analyses of tunnel atmospheres. A. C. Fieldner, S. H. Katz and S. P. Kinney. il U S Bur Mines Tech Pa 292:1-27 '22
Universal and the fireman's gas masks. S. H. Katz, J. J. Bloomfield and A. C. Fieldner. U S Bur Mines Tech Pa 300:1-22 '23; Abstract. Sci Am 129:230 O '23
Universal gas mask. diags Chem & Met Eng 28:982 Je 4 '23
Use of gas masks explained. Chem & Met Eng 29:325 Ag 20 '23
Warning concerning the peace-time use of army gas masks. Sci Am 126:327 My '22

Gas measurement
Measuring gas with electricity. W. H. Jefferson. il diags Gas Age 48:594-600+ N 5 '21

Gas meters
Age, service charges and proof of gas meters. H. A. Norton. Am Gas J 118:430-1 My 19 '23
Consumers' meters. H. A. Norton. Am Gas J 117:555-9 N 11 '22
Consumers' meters; report of 1921 committee of A.G.A. J. A. Clark, jr. Am Gas Assn Technical sec v 3:161-2; Discussion. 162-8 '21
Control of gas pressures by distant indication. G. Wehrle. diag Am Gas J 116:323-5+ Ap 8 '22
First short course for gas metermen. Am Gas J 115:575-6 D 31 '21
Fulprufe multiple coin exchange machine for all types of prepayment meters. il Gas J (Lond) 164:261 O 24 '23
Gas control. diag Gas J (Lond) 161:463-5, 524-5, 692-3 F 21-28, Mr 14 '23
Gas meter capacity. W. A. Castor. Am Gas J 119:51-3 Jl 21 '23
Impeller displacement meter used for measuring gases of all kinds. il Gas Age 50:538 O 21 '22
Importance of meter record. C. Scott. diags Gas Age 50:293+ S 2 '22; Same. Am Gas J 117:225-7 S 9 '22
Investigation of orifice gas meters. Chem & Met Eng 29:54 Jl 9 '23; Same. Sci Am 129:324 N '23
Largest Venturi gas meter that has yet been built. il Pop Mech 37:669 My '22
Life and accuracy of gas meters. H. A. Norton. Gas Age 48:846-7 D 24 '21; Same. Am Gas J 115:571-2 D 31 '21
Life of gas meters; report of Institution of gas engineers' committee. Engineering 113:789-90 Je 23 '22
Measuring gas with electricity. W. H. Jefferson. il diags Gas Age 48:594-600+ N 5 '21
Measuring oven gas at Milwaukee. E. C. Brenner. diag Gas Age 51:503-4 Ap 21 '23; Same. Am Gas J 118:313-14+ Ap 14 '23
Meter deposits and meter corrosion. W. H. Fulweiler. il Am Gas J 118:446-9 My 26 '23
Meter size standards. Gas Age 49:131 F 4 '22
Methods of handling meter applications and meter records. O. C. Vieweg. Am Gas J 119:253-60 S 29 '23

Gas meters—Continued

- Old-age meter changes. Am Gas J 117:585-6+ N 18 '22
- Positive blower mechanism basis of new gas meter. il Pop Mech 38:567 O '22
- Progress in the gas-meter industry; extensions at George Glover & co.'s Chelsea works. il Gas J (Lond) 164:51-2 O 3 '23
- Report of life of gas-meters joint committee. Gas J (Lond) 163:190-1 JI 4 '23
- Rust dust causes meter troubles. J. Ferrier. diag Gas Age 51:203-4 F 17 '23
- Stamping and sealing of gas-meters. Gas J (Lond) 162:608-9 Je 6 '23
- Therm gas-meter. C. Carpenter. diag Gas J (Lond) 163:751 S 12 '23
- Thomas gas meter. il diags Engineer 134:111-12 Ag 4 '22
- Venturi gas meter. il diags Gas J (Lond) 161:752-3 Mr 21 '23
- Venturi tubes and orifices for bulk gas measurement. F. Johnstone-Taylor. diags Am Gas J 117:139-41+ Ag 12 '22
- Visit to the Haggerston stove and meter works of the Gas light and coke company. Gas J (Lond) 161:139-40 Ja 17 '23
- Why of the gas meter. W. C. Sykes. il diag Am Gas J 118:307-9 Ap 14 '23
- See also Gas flow

Calculating devices

- Germans study gas calculations; automatic calculating and recording devices. Sprinzel. Gas Age 51:641-2 My 19 '23

Gummy deposits

- Deposits in gas pipes and meters; report of 1921 A.G.A. committee. O. A. Morhous. Am Gas Assn Technical sec v 3:555-9; Discussion. 559-70 '21
- Gummy deposits in gas pipes and meters. R. L. Brown. Am Gas Assn Technical sec v 4: 280-301 '22; Abstracts. Gas Age 50:571-4 O 28 '22; Am Gas J 117:453-6 O 26 '22; Discussion. Am Gas Assn Technical sec v 4:302-11 '22
- Gummy meter deposits; nature, causes and prevention. R. L. Brown. Gas Age 52: 273-6 S 8 '23
- Hardened diaphragms and gummy meter deposits. B. B. Saul and E. J. Turley. Am Gas J 117:239-42 S 9 '22; Same. Gas Age 50: 347-9 S 16 '22

Repair

- Meter room shellac substitutes. J. H. Schalek. Gas Age 50:75-6 JI 15 '22
- Meter shop layout improves service. il Gas Age 49:333-4 Mr 18 '22
- Meter shop of novel design. C. W. Geiger. il diag Am Gas J 118:489-90 Je 9 '23
- Routine tests for meter accuracy. D. A. Powell. Gas Age 50:109-11 JI 22 '22

Standards

- Standardization of gas meters. Thurley. Am Gas J 119:237-8 S 22 '23

Testing

- Determination of meter capacities. H. S. Bean and others. Am Gas Assn Technical sec v 4:314-32 '22

Gas mixing

- Gas making from mixed coals. W. C. Butterworth. Am Gas J 118:495-7 Je 9 '23
- Making mixed gas in horizontal retorts. J. Ruf. diags Am Gas J 118:443-5+ My 26 '23
- Mixing manufactured and natural gas in Buffalo. Am Gas J 118:397-8 My 12 '23
- Some experiments with the mixing of different gravity gases in holders. H. E. Bates. Am Gas Assn Technical sec v 3:408-20 '21; Same. Am Gas J 115:483-4, 490-2 N 26 '21; Discussion. Am Gas Assn Technical sec v 3: 420-30 '21
- Stratification of gas mixtures. P. E. Haynes. Gas Age 50:203-4 Ag 12 '22
- Gas mixtures. See Inflammable mixtures
- Gas mixtures, Separation of. See Gas separation

Gas oil

- Low-grade oils in water-gas making. A. C. Klein. Chem & Met Eng 28:601-2 Mr 28 '23
- Removing naphthalene from gas by gas oil. H. C. Hubbard and O. L. Kowalke. diag Am Gas J 119:197 S 8 '23
- Report of the Technical committee on gas oil. W. H. Fulweiler. Am Gas Assn Technical sec v 3:82-93 '21
- Sulphur in gas oil. R. B. Wailes. diags Gas Age 50:333 S 9 '22
- Tentative method of testing gas oils. Nat Pet N 15:73+ O 24 '23
- Testing and valuation of gas oil report. Gas Age 52:491-2 O 20 '23

Gas ovens

- Baking cake by the ton. E. D. Milener. il Gas J (Lond) sup 2:61-2 Ap 25 '23
- Rotary bread ovens. diags Gas J (Lond) 163:481 Ag 8 '23

Gas pipes

- Analyses of the causes and remedy for the corrosion of mains. Gas Age 51:696 Je 2 '23
- Cast iron pipe in gas distribution. H. Y. Carson. diags Gas Age 50:865-8 D 23 '22
- Collecting gas-main sweat from drip wells. il Pop Mech 37:897 Je '22
- Conveying finely pulverized fuels through gas mains. Wittfeld. diags Mech Eng 44:834-6 D '22
- Corrosion and other deposits in gas services. B. Richardson. Gas J (Lond) 162:348-50 My 9 '23
- Corrosion in gas-mains and meters. H. E. Williams. Gas J (Lond) 162:725-6; 163:679 Je 20, S 5 '23; Discussion. H. G. Colman. 162:794 Je 27 '23
- Deposits in gas pipes and meters; report of 1921 A.G.A. committee. O. A. Morhous. Am Gas Assn Technical sec v 3:555-9; Discussion. 559-70 '21
- Distribution design committee report. Am Gas J 119:465-8+ O 20 '23
- Gummy deposits in gas pipes and meters. R. L. Brown. Am Gas Assn Technical sec v 4: 280-301 '22; Abstracts. Gas Age 50:571-4 O 28 '22; Am Gas J 117:453-6 O 26 '22; Discussion. Am Gas Assn Technical sec v 4: 302-11 '22
- Laying 90 miles of 10-14 inch main. R. S. Lord. il Gas Age 49:165-7 F 11 '22; Same cond. Nat Pet N 14:54 Ja 25 '22
- Laying 186 ft. of 48-in. cast iron pipe per day for Chicago gas co. il Munic Eng 63: 101-3 S '22; Same. Eng & Contr 58:245-6 S 13 '22; Same. Am Gas J 117:186+ Ag 26 '22; Same. Gas Age 50:259-60+ Ag 26 '22
- Methods and cost of laying gas main with new joint. J. D. Von Maur. diags Eng N 89:572-3 O 5 '22
- Piping natural gas at high pressure. W. Bailey. Gas Age 48:564 N 5 '21
- Saving the trench laborer's hire. R. A. Lundell. Gas Age 50:667-8 N 11 '22
- Suspend gas main 80 feet in air; novel bypass during dredging operations at Honolulu. E. S. Jones. il Gas Age 49:611-12 My 20 '22
- Works connections; report with particular reference to the proper size for works capacities and apparatus. chart Am Gas J 117: 607-9 N 25 '22

See also Gas distribution; Gas fitting; Gas flow

Cleaning

- Clear piping with compressed air. T. J. Griffin. il Gas Age 50:165-8 Ag 5 '22
- Naphthalene deposits and their removal as affecting mains and services. A. H. Anderson. Am Gas J 117:274-5 S 23 '22; Same. Gas Age 50:727-8 N 25 '22
- Naphthalene gas. F. J. Taylor. diags Am Gas J 117:700 D 23 '22
- Naphthalene stoppages. A. V. Hendrickson. Gas J (Lond) sup 2:140 Ag 29 '23
- Portable compressor outfit for cleaning service. G. Wehrle. il Am Gas J 116:569-70 Je 24 '22
- Utilization of compressed air in clearing gas piping. J. T. Griffin. il Am Gas Assn Technical sec v 3:143-52 '21; Same. Am Gas J 115:446-9 N 12 '21; Discussion. Am Gas Assn Technical sec v 3:153-60 '21

Gas pipes—Continued

Cost

Gas distribution problems. R. C. Griswold.
diag Am Gas J 117:460-4 O 26 '22

Repair

Repair broken mains during flood. C. H.
Potter. il Gas Age 49:105-6 Ja 28 '22

Cost

Split sleeve for broken joints on large mains.
Gas Age 50:578 O 28 '22

Standards

Cast iron pipe standards; progress report of
1921 committee. W. Forstall. Am Gas Assn
Technical sec v 3:169-74; Discussion. 174-6
'21

Gas plants. See Gas manufacture and works;
Gas power plants

Gas power

Gas power v. electric motors. W. A. Tookey.
Gas J (Lond) sup2:162-3 S 26 '23

Power from sewage gas. diags plans Engineer
132:642-3, 669-71 D 16-23 '21

Sewage gas for power purposes. T. J. Moss-
Flower. Can Eng 45:394 O 9 '23

Utilizing gas from sewage sludge as motive
power. J. D. Watson. Eng N 87:1062-4 D
29 '21; Same. Can Eng 42:127-9 Ja 10 '22;
Abstract. Eng & Contr 56:495 N 30 '21

Gas power plants

British practice in deriving gas power from
wood refuse. C. H. S. Tupholme. il diag
Power Pl Eng 26:1206-8 D 15 '22

Gas driven power plant using wood fuel. diag
plan Engineer 134:194, 202-3 Ag 25 '22

Producer gas from wood for mine power
supply. A. W. Allen. il Eng & Min J 114:813-
14 N 4 '22

Some observations on a producer-gas power
plant. H. S. Denny and N. V. S. Knibbs.
diags Engineering 113:119-22, 152-4, 184 Ja
27-F 10 '22; Abstract. Engineer 133:98 Ja
27 '22; Discussion. Engineering 113:142-5,
160-2 F 3-10 '22; Engineer 133:132-3, 159 F
3-10 '22

See also Gas manufacture and works

Costs

Internal combustion engines for power. D.
M. Petty. diag Iron Age 110:1073-5 O 26
'22; Same abr. Blast F & Steel Pl 10:528-
30 O '22; Abstract. Power 56:512 S 26 '22;
Excerpt. Elec W 80:885 O 21 '22

Oil engine vs. steam power. C. E. Lucke.
Power 56:80-3 Jl 18 '22

Gas producers

Ash fusion gas producer. M. A. Fichet. diags
Am Gas J 116:550-2 Je 17 '22; Abstract.
Mech Eng 44:600-1 S '22

Ash-fusion type of gas producer; abstract.
E. Servais. Mech Eng 45:657-8 N '23

British practice in deriving gas power from
wood refuse. C. H. S. Tupholme. il diag
Power Pl Eng 26:1206-8 D 15 '22

British steelworks gas-producer practice. F.
Clements. diags Iron & Steel Inst J 107:97-
123, 15 folding sheets n 1 '23; Same, with-
out diags. Engineering 115:597-9, 611 My 11-
18 '23; Discussion. Iron & Steel Inst J 107:
124-37 n 1 '23; Engineering 115:611-12 My
18 '23; Engineer 135:530 My 18 '23; Iron Age
111:1489-90+ My 24 '23

Les camions à gaz pauvre; le concours de
véhicules à gazogène de l'Automobile-club
de France (juillet 1922). C. Dantin. il diags
Génie Civil 82:100-3, 130-3 F 3-10 '23

Comparison between laboratory fuel tests and
practical working results of the producer-gas
process. N. E. Rambush. Engineering
112:668-9 N 11 '21

Continuous water gas producer. A. W. H.
Griepe. diags Am Gas J 116:53-4+ Ja 21 '22

Corrosion of a producer-gas cooling system.
L. E. Jackson. il diag Chem & Met Eng
26:60-4 Ja 11 '22

Emploi de l'air chaud, de l'air sec ou humide
et de l'air suroxygéné, dans les gazogènes,
cubilots et hauts fourneaux; abstracts. J.
Seigle. Génie Civil 83:330 O 6 '23; Mech Eng
45:662-3 N '23

L'emploi du vent chaud dans les gazogènes à
fusion des cendres. A. Dessemond. diag
Génie Civil 79:561-4 D 24 '21

Étude sur la théorie des gazogènes; applica-
tion à la conduite du haut fourneau. A.
Korevaar. diags Chimie & Ind 8:12-25 Jl
'22

Experience with producer firing. S. B. Sher-
man. Gas Age 51:139-40 F 3 '23

Finding a use for waste wood. J. Taylor.
diags Power 58:419-20 S 11 '23

400-h.p. wood refuse-suction gas engine. diags
Engineer 132:547 N 18 '21

French suction gas lorries. il diags Engineer
134:332-4 S 29 '22; Abstract. Mech Eng 44:
836 D '22

Fuel saving in modern gas producers and
industrial furnaces. W. B. Chapman. il
diags Mech Eng 43:717-21 N '21; Same abr.
Iron Tr R 70:400-3 F 9 '22; Abstract. Iron
Age 108:1671-2 D 29 '21

Galusha automatic gas producer. il Iron Age
111:1434 My 17 '23

Galusha generator gas reducing costs in tex-
tile industry. il diag Textile World 61:433
Ja 28 '22

Gas-driven alternators for South Africa. il
diag-Engineer 136:44-7, 64-5 Jl 13-20 '23

Gas producer for truck uses charcoal as fuel.
il Pop Mech 37:576-7 Ap '22

Gas producers. diags Chem & Met Eng 28:
554 Mr 21 '23

Gas producers and producer gas. V. Wind-
ett. Blast F & Steel Pl 11:55-60 Ja '23

Gasification of crude lignite containing con-
siderable water. G. H. Meyer. il diags
Am Gas J 117:711-14 D 30 '22

Le gazogène à fusion des cendres. A. Fichet.
diags Soc Ing Civils Bul 74:595-638 O '21

Les gazogènes à fusion des cendres depuis
l'origine jusqu'à 1921. A. Folliet. diags
Chimie & Ind 8:965-73 N '22

Gazogènes de l'usine du Breuil de MM. Schnei-
der et cie. J. Cohade. Chimie & Ind 9:925-6
My '23

Graphic charts of gas generator operation.
A. W. H. Griepe. Am Gas J 116:435-9, 446-
7 My 13 '22

Heat balance for gas producers. W. B. Chap-
man. Chem & Met Eng 29:270-1 Ag 13 '23

Installation moderne de gazogènes Pintsch;
résultats obtenus avec diverses sortes de
combustibles. H. Lichte. il diags Chimie &
Ind 8:815-16 O '22

Lean coals tested in gas producer. J. Blizard
and E. S. Malloch. diag Gas Age 49:135-6 F
4 '22

Low-temperature bye-product producer gas.
Gas J (Lond) 161:141-2 Ja 17 '23

Making efficient producer gas; abstracts. W.
P. G. Dyrssen. Iron Tr R 72:1677-82 Je 7 '23;
Iron Age 111:1556-7 My 31 '23

Mechanically operated producer. diags Gas
Age 51:275 Mr 3 '23

Modifies gas producer design. il diags Iron
Tr R 71:1351-4 N 16 '22

Morgan producers in Britain. diags Iron Age
110:1575-6 D 14 '22

New gas producer by the Wellman-Seaver-
Morgan co. il Iron Age 111:817-18 Mr 22 '23

New gas producer introduced by the R. G.
syndicate. diags Engineer 135:364 Ap 6 '23

New German gas producer. Gas Age 48:884
D 31 '21

L'organisation du travail dans les exploita-
tions forestières et dans les scieries
mécaniques; sous-produits. P. Razous. il
diag Génie Civil 83:109-11 Ag 4 '23

Outside producers at Racine. H. R. Broker.
diags plans Am Gas Assn Technical sec v
4:10-21 '22; Same. Gas Age 49:389-91 Ap 1
'22; Same. Am Gas J 116:325-8 Ap 8 '22

Power from refuse in Britain; producer gas
made from factory and dust-bin refuse used
in gas engines and boiler furnaces. C. H.
S. Tupholme. diag Power Pl Eng 26:853-4
S 1 '22

as producers—Continued

Procédés modernes pour le traitement du lignite et de ses dérivés. C. Berthelot. diags Chimie & Ind 7:1079-89 Je '22

Producer gas for by-product ovens. F. D. Lohr. il diag Gas Age 49:677-81 Je 3 '22

Producer gas for furnace work. il diags Engineering 113:347-51, pl 17 Mr 24 '22

Producer gas power plant. Engineering 113:326 Mr 17 '22

Producer progress during the past quarter century. W. B. Chapman. il Am Cer Soc J 6:253-8 Ja '23

Recent developments in gas producers. T. R. Wollaston and A. L. Booth. diag Soc Chem Ind J 42:200-3 My 11 '23

Reinforced concrete gas producer. il diag Engineer 133:364 Mr 31 '22; Am Gas J 117:145-6 Ag 12 '22

Soft coal producer bench firing. P. Gartner. diags Gas Age 49:563-4 My 6 '22

Some observations on a producer-gas power plant. H. S. Denny and N. V. S. Knibbs. diags Engineering 113:119-22, 152-4, 184 Ja 27-F 10 '22; Abstract. Engineer 133:98 Ja 27 '22; Discussion. Engineering 113:142-5, 160-2 F 3-10 '22; Engineer 133:132-3, 159 F 3-10 '22

Starting the producer gas engine. H. W. Los. Power 58:87 Jl 17 '23

La station centrale à moteurs à gaz pauvre et à gazogènes au bois de la mine Lonely (Rhodésie méridionale). il diag plan Génie Civil 82:376-9 Ap 21 '23

Stein-Chapman gas producer with mechanical agitator. diags Engineering 114:597-8 N 10 '22

Suction gas tractor. Engineer 134:306 S 22 '22

Thornycroft three-ton suction gas lorry. il diags Engineer 134:19-20, 223-9 Jl 7, S 1 '22

L'utilisation des gazogènes à fusion des cendres, soufflés au vent chaud et l'emploi de leurs laitiers comme ciments. Génie Civil 81:398-9 O 28 '22

Utilisation du bois dans les gazogènes. A. Fichet. Génie Civil 82:277-80 Mr 24 '23

Verbindung von gaserzeugung und verschmelzung. G. Bulle. diags Stahl & Eisen 43:630-2 My 10 '23

See also Gas, Producer; Gas, Water; Gas and oil engines; Gas manufacture and works

Electric heating

Stassano electric gas producer; abstracts. diags Mech Eng 44:736 N '22; Pop Mech 39:288 F '23

Specifications

Specification guide for gas producer equipment. Am Arch 123:530+ Je 6 '23

Gas products association

Code of ethics or standards of correct practice of Gas products association. Chem Age 31:373-5 Ag '23

Gas purification

Determination of hydrogen sulfide. C. H. Stone and E. O. Wiig. Gas Age 51:649-50+ My 19 '23

Effect of moisture on the activity and capacity of iron oxides for gas purification. W. A. Dunkley. Am Gas Assn Technical sec v 3:214-41 '21

Elimination of carbon monoxide, and its effect on the gas industry; abstracts. C. B. Tully. Gas J (Lond) 162:422 My 16 '23; Chem Age (Lond) 8:538-9 My 19 '23

Liquid purification at Battle Creek. F. W. Seymour. Gas Age 50:765-7 D 2 '22

Liquid purification; progress of the Koppers system. F. W. Sperr, jr. il diags plan Gas Age 52:553-8 N 3 '23

Naphthalene; its occurrence and removal. W. H. Fulweiler. Am Gas J 118:354-8+ Ap 23 '23; Same cond. Gas Age 51:205-7 F 17 '23

New device for gas absorption. H. E. Robertson. il diag Chem Age 30:59-60 F '22

New purifiers at Sutton gas-works. il Gas J (Lond) 161:456-9 F 21 '23

Onion bags on purifier trays. E. M. Osbourne. il Gas Age 48:551-2 N 5 '21

Organic sulphur and cyanogen removal from gas. A. R. Powell. Gas Age 52:443-7 O 13 '23; Same. Am Gas J 119:441-6 O 19 '23

Progress in gas purification. W. S. Blauvelt. diags Gas Age 52:334-7 S 22 '23

Purification of gases from methane. G. R. Fonda and H. N. Van Aernem. J Ind & Eng Chem 14:539-40 Je '22

Removal of naphthalene. O. L. Kowalke and A. W. Pesch. Am Gas J 116:347-9 Ap 15 '22; Same. Gas Age 49:433-5 Ap 8 '22

Removal of small amounts of carbon monoxide from gases by passage through heated granular soda lime. R. E. Wilson, C. A. Hasslacher and E. Masterson. Ind & Eng Chem 15:698-701 Jl '23

Removing naphthalene from gas. D. E. Collier. Am Gas J 118:545 Je 23 '23

Removing naphthalene from gas by gas oil. H. C. Hubbard and O. L. Kowalke. diag Am Gas J 119:197 S 8 '23

Removing S from gas by NaOCl. H. R. Broker and O. L. Kowalke. Gas Age 49:386-7 Ap 1 '22

Report of 1921 committee of A.G.A. A. C. Fieldner. Am Gas Assn Technical sec v 3:189-213 '21

Report on cooperative tests of purifying oxides. W. A. Dunkley. Gas Age 52:371-2 S 29 '23; Excerpts. Am Gas J 119:455-6 O 19 '23

Report on liquid purification. A. M. Beebe. diags Gas Age 49:741-3 Je 17 '22

Seaboard liquid process of gas purification. F. W. Sperr, jr. il diags Am Gas Assn Technical sec v 3:282-353 '21

Seaboard liquid purification process. H. R. Broker. il Gas Age 51:499-500 Ap 21 '23; Same abr. Chem & Met Eng 28:909-10 My 21 '23; Discussion. Gas Age 51:639-40 My 19 '23

Some of the latest developments in gas purification. E. H. Bird. Chem & Met Eng 29:16-18 Jl 2 '23

Steel turnings for scrubbing water gas. Gas Age 50:437 O 7 '22

Using clean cold producer gas. C. F. Kaufman. Iron Tr R 70:267-70 Ja 26 '22

Volume loss by light oil removal. F. Henry and N. F. Prince. Gas Age 50:79-80 Jl 15 '22

Wirtschaftlichkeit neuerzeitlicher hochofengasreinigungen im Ruhr- und Minettebezirk. M. Schlipkötter. diags Stahl & Eisen 42:285-90, 408-22, pl 1 F 23, Mr 16 '22

See also Blast furnace gas; Electric precipitation; Gas cleaning; Gas washers; Gas washing

Bibliography

Bibliography of articles on naphthalene removal. Gas Age 49:570-1 My 6 '22

Resumé of literature on liquid purification. D. L. Jacobson. Am Gas Assn Technical sec v 3:353-63 '21

Selected and annotated bibliography on gas purification. A. R. Powell and K. C. Walker. Am Gas Assn Technical sec v 3:242-67 '21

Gas ranges. See Gas stoves

Gas rates

Analysis of gas rate structure. W. F. Douthirt. Gas Age 51:297-300, 403-6 Mr 10, 31 '23

Analyze rate situation. Am Gas J 116:389-93+ Ap 29 '22

Atlanta gas case again. Elec W 82:352 Ag 18 '23

California public utility regulation. Gas Age 48:844-6 D 24 '21

Changes in utility rates. Am Gas J 117:344+ O 14 '22

Cheaper gas at Halifax. Gas J (Lond) 164:271 O 24 '23

Commission opinions on gas rates. J: Simpson. Gas Age 49:43-5 Ja 14 '22

Commission orders B.T.U. standard for New York. Gas Age 50:288 S 2 '22

Comparing prices. J. E. Bullard. Am Gas J 115:477-8 N 26 '21

Concerning valuation and rates. S. T. Handy. Gas Age 49:261-2 Mr 4 '22

Court upholds referee in Indianapolis rate case. Am Gas J 118:267-8 Mr 31 '23

Demand charge rates as sales helps. J. E. Bullard. Gas Age 51:73-5 Ja 20 '23

Gas rates—Continued

Discussion of cost of service and structure of rates. E. Haase. Am Gas Assn General Sessions sec v 4:71-83 '22

Dollar gas rate confiscatory; referee so finds in Bronx company suit. Am Gas J 117:515-16 N 4 '22

Factors in natural gas rates; railroad commissioners of California unravel some of the rate knots. Gas Age 50:803-4 D 9 '22

Finds Indianapolis rate confiscatory. Am Gas J 118:27-30 Ja 13 '23

Gas rate curve. E. S. Hoyt. Gas Age 51:704 Je 2 '23

Gas rate schedule. J. B. Hill. Am Gas J 118:406+ My 12 '23

Gas the smokeless fuel. B. J. Mullaney. Am Gas J 119:135-8+ Ag 18 '23

Gas to be used for industrial and domestic heating in Denver. Power Pl Eng 26:1093 N 15 '22

Governor Smith signs dollar gas bill of New York. Am Gas J 118:504-5 Je 9 '23

Grand Rapids unprofitable consumer. W. F. Douthirt. Gas Age 51:267-70 Mr 3 '23

How far are we justified in applying the cost of service principle in the gas industry? C. D. Jackson. Am Gas Assn General Sessions sec v 4:24-35 '22

How gas service charge helps average user. Am Gas J 117:184-5 Ag 26 '22

How the therm came about. Gas J (Lond) 161:167-8 F 21 '23

Importance of accounting in rate cases. A. W. Teele. Am Gas Assn General Sessions sec v 4:160-70 '22; Same. J Account 34:417-26 D '22

Indianapolis company seeks increased rate. Am Gas J 116:367-8 Ap 22 '22

Indianapolis gas case may go back to commission. Am Gas J 118:131-3 F 17 '23

Indianapolis gas rate case. W. P. Kappes. Gas Age 51:407-9 Mr 31 '23

Indianapolis gas rate now \$1.20. Am Gas J 116:481-2+ My 27 '22

Industrial gas rates in Chicago. B. J. Mullaney. Am Gas J 119:225-6 S 15 '23

Industrial gas rates scientifically made in Chicago. A. B. Greenleaf. Gas Age 52:317-18 S 15 '23

Legislature, commission or courts in New York? Gas Age 52:51 JI 14 '23

Making the service charge palatable. F. C. Hamilton. Gas Age 50:759-60+ D 2 '22

Method of charging for gas in terms other than per thousand cubic feet. H. C. Abell. Am Gas Assn General Sessions sec v 3:83-94 '21

New summer industrial rate in effect in Pennsylvania. Am Gas J 116:520 Je 3 '22

New York city gas rates—statutory rates held confiscatory. Comm & Fin Chr 114:1023-5 Mr 11 '22

New York city on B.t.u. basis. Am Gas J 117:223-5 S 9 '22

New York gas consumers get facts. Gas Age 51:747-8 Je 9 '23

Practical suggestions for rate cases. S. E. Linton. Am Gas J 118:421-6, 432-8 My 19 '23

Preparation and presentation of rate cases before commissions. W. G. Woolfolk. Am Gas Assn General Sessions sec v 3:212-29 '21; Same abr. Gas Age 48:659-61 N 19 '21; Discussion. Am Gas Assn General Sessions sec v 3:230-1 '21

Rate and contract cases heard by commissions. J. Simpson. Gas Age 52:461-2 O 13 '23

Rate designed to get business. W. W. Cummings. diags Gas Age 49:77-8 Ja 21 '22

Rate methods relic of old days. C. D. Jackson. Gas Age 50:625-8 N 4 '22

Rate structure; definitions of terms and theories of allocation. Am Gas Assn General Sessions sec v 4:93-152 '22

Rate structure; report of 1921 committee. J. D. Shattuck. Am Gas Assn Commercial sec v 3:37-50; Discussion. 51-76 '21

Readiness to serve charge decisions. J. Simpson. Gas Age 48:749-51 D 3 '21

Reasonable return and rates as viewed by the court. J. Simpson. Gas Age 52:253-5 S 1 '23

Receiver's rights regarding rates. J. Simpson.

Gas Age 51:675-6+ My 26 '23

Recent cases on rates and return. J. Simpson.

Gas Age 49:489-91 Ap 22 '22

Recent decisions in rate cases. J. Simpson.

Gas Age 51:507-8, 767-8 Ap 21, Je 16 '23

Recent decisions on rates charged for public utility service. J. Simpson. Gas Age 52:

71-2, 98 JI 21-23 '23

Regulate gas transportation lines. J. Simpson.

Gas Age 50:871-2 D 23 '22

Report of the therm charges committee. Gas

J (Lond) 161:676-80 Mr 14 '23

Results of the Norfolk gas-rate plan. C. B.

Cooke, jr. Am Gas J 116:547-9 Je 17 '22

Retail prices of gas in the United States.

Monthly Labor R 14:284-5, 903-6; 15:279-82,

999-1002; 16:319-20, 953-5; 17:365-7 F, My,

Ag, N '22, F, My, Ag '23

Revere, Mass., service charge is working. L.

Wright. Gas Age 51:441-2 Ap 7 '23

Service charge. J. E. Bullard. Am Gas J

119:71-2 JI 28 '23

Service charge and esprit de corps. E. H.

Cummings. Gas Age 50:261 Ag 26 '22

Short cut method for cost allocation in de-

termining unit costs for a three part rate.

D. Burnett. Am Gas Assn General Sessions

sec v 4:84-92 '22

Sliding scale in practice. Gas Age 50:35-8 JI

8 '22

Some notable gas rate decisions. E. E. Bank-

son. Gas Age 48:888-9 D 31 '21

State can change contract rates. Gas Age 50:

409-10 S 30 '22

Therm inquiry. Gas J (Lond) 161:146-52, 213-

19, 277-83 Ja 17-31 '23

Three-part rate for Ottawa, Kansas, is vindic-

ated. Gas Age 50:839-40+ D 16 '22

Trend of rate case decisions. Am Gas J 115:

562-3 D 24 '21

U. S. Supreme court holds N. Y. eighty-cent

gas law invalid. Am Gas J 116:236+ Mr 11

'22; Gas Age 49:291-2 Mr 11 '22

Valuation for rate making cases. Gas Age

49:661+ My 27 '22

Would deny right of injunction; Bacharach

bill to limit jurisdiction of federal courts.

Gas Age 49:675-6 Je 3 '22

Gas research

Report of the Bureau of standards. W. M.

Berry. Am Gas Assn Commercial sec v 4:36-

48 '22

Research work in Germany. Gas J (Lond)

164:256-7 O 24 '23

Research work to be carried on by the Bu-

reau of standards. J. Zander. Am Gas Assn

Commercial sec v 4:31-5 '22

U. S. Bureau of standards co-operates in gas

matters. Gas Age 49:239-40 F 25 '22

Gas retorts

Benner coal gas process results. G. H. Wolle.

il diags Gas Age 49:685-7 Je 3 '22

Building new horizontal at Lowell. C. R.

Prichard. il Gas Age 51:433-8 Ap 7 '23

Carborundum retorts. M. Barrett. diags Gas

J (Lond) 163:118 JI 4 '23

Description of Glover-West vertical retorts. F.

J. Kennedy. diags Am Gas Assn Technical

sec v 3:479-85 '21

Description of the Dessau vertical retort

ovens. W. F. H. Schultz. Am Gas Assn

Technical sec v 3:461-2 '21

Everard-Davies vertical retorts. diags plan

Gas J (Lond) 161:832-4 Mr 28 '23

Experiences of vertical retorts. J. Poulson.

Gas J (Lond) 161:528-31 F 28 '23

Gas retort precautions. A. B. Searle. Gas

Age 50:354 S 16 '22

Glover-West vertical retorts. il Gas J (Lond)

161:450-1 F 21 '23

Glover-West vertical retorts at Belfast. diags

Gas J (Lond) 161:821 Mr 28 '23

Glover-West vertical retorts at Perth. il diags

Gas J (Lond) 162:213-14 Ap 25 '23

Glover-West vertical retorts—continuous type.

E. G. Blackwell. il plan Am Gas Assn Tech-

nical sec v 4:148-53 '22

Glover-West verticals at Vancouver. E. G.

Blackwell. il diags Gas Age 50:7-9 JI 1 '22

Internally heated retorts. C. V. McIntyre.

diags Am Gas Assn Technical sec v 4:76-93

'22

as retorts—Continued

- Low-temperature carbonization of coal. H. A. Curtis and W. J. Geldard. *il diags Chem & Met Eng* 28:171-3 Ja 24 '23
- Modern vertical carbonizing plant. R. K. Wehner. *il diags Gas Age* 50:693-6 N 18 '22
- New Woodall-Duckham vertical retorts at Paisley. *il Gas J (Lond)* 161:264-5 Ja 31 '23
- Nouveaux fours à chambres verticales. Wibratte. *Génie Civil* 83:8-9 JI 7 '23
- Reconstruction for vertical retorts at Perth gas works. *Gas J (Lond)* 161:764-5 Mr 21 '23
- Retort vacuum and quality control. W. H. Warren. *diags Gas J (Lond)* 161:619-23 Mr 7 '23
- Through horizontal benches of sixes. V. Baker. *diags Am Gas J* 116:485-8 Mr 27 '22
- Vancouver coal installation completed—Glover-West retorts in new plant. *il Am Gas J* 116:sup19-20 Ap 8 '22
- Vertical retort apparatus. *diags Gas J (Lond)* 163:424-5 Ag 1 '23
- Vertical retort results from small plant in Victoria. F. H. Hewlings. *il Gas Age* 52:247-9, 289-90 S 1-8 '23
- Woodall-Duckham verticals at Hinckley. *il Gas J (Lond)* 164:194-5 O 17 '23
- See also Gas manufacture and works

Steaming

- Abstract of the report on steaming in vertical retorts at H.M. fuel research station, England.—presented by Sir Geo. Bellby. *diag Am Gas Assn Technical sec v* 3:59-69 '21;
- Abstract. *Engineering* 112:560-1 O 21 '21
- Fuel research board. *Engineering* 115:734-6, 761, 811-12 Je 15-29 '23
- Low temperature carbonisation in vertical retorts. *Engineering* 116:212-13 Ag 17 '23
- Steaming horizontal gas retorts. G. W. Burke and C. J. Myers. *diags Gas Age* 51:365-7 Mr 24 '23
- Steaming in continuous vertical gas-retorts. *Gas J (Lond)* 161:334-5 F 7 '23
- Steaming in times of coal shortage. A. F. Kersting. *Gas Age* 50:579 O 28 '22
- Steaming of continuous vertical retorts; report of 1921 committee. A. W. Warner. *charts diags Am Gas Assn Technical sec v* 3:44-59 '21
- Steaming stop-end horizontal retorts. W. A. Dunkley and R. D. Leitch. *diags plan Gas Age* 49:70-4 Ja 21 '22
- Thermal efficiencies of production of different grades of gas. A. Parker. *Soc Chem Ind J* 42:111-12 Mr 23 '23

as safety code

- Committee for gas safety code. *Am Gas J* 117:544-5 N 4 '22

as safety valve

- A.S.S.E. takes stand against proposed Gotham gas safety valve. *Safety Eng* 43:230-1 My '22

as sampling

- New apparatus for collecting gas samples. *diags Am Gas J* 117:698 D 23 '22
- Sampling and analysis of automobile exhaust gas. A. C. Fieldner and G. W. Jones. *il diags J Fr Inst* 194:613-44 N '22

- Stratification of gases within a boiler furnace. W. C. Strunk. *il diags Power* 57:166-8 Ja 30 '23

as saving devices. See Gas burners—Testing**Gas separation**

- Improved method for the separation of gas mixtures by fractional distillation at low temperatures and pressures. M. Shepherd and F. Porter. *diag Ind & Eng Chem* 15:1143-6 N '23

Gas separators

- High pressure gas separator is made from lease equipment. *il Nat Pet N* 14:27+ Je 7 '22

Gas steam radiators

- Field for gas steam radiators. *Gas Age* 51:579 My 5 '23

Gas storage

See Gas holders

Gas stoves

- Appliance efficiency. J. E. Bullard. *il Gas Age* 52:15-6 JI 11 '23; Discussion. J. H. Hartog. 52:293-4 S 8 '23
- Boiler and gas range without legs. *il diags Bldg Age* 41:40 Ag '22
- Combination ranges sell more gas. C. T. Aaron. *Gas Age* 50:49-50 JI 8 '22
- Efficiency—economy—exultation; a gas range. J. B. Dillon. *Am Gas J* 116:503-4+ Je 3 '22
- Forerunner of the gas range. G. M. Clark. *Gas Age* 50:581-2 O 28 '22
- Gas range has novel burner and cast-iron range top. *il Pop Mech* 37:588 Ap '22
- Gas range week a winner. *il Am Gas J* 116:411-13 My 6 '22
- Gas range with efficient method of combustion. *il Pop Mech* 38:556 O '22
- N. G. C. standard cooker. *il Gas J (Lond)* sup 2:106-7 Je 27 '23
- New World cooker. *il Gas J (Lond)* 162:215-16 Ap 25 '23
- New World cooker. H. Davies. *Gas J (Lond)* sup2:112; Discussion. 112-13 Je 27 '23
- Rational system of cooker standardization. A. Forshaw. *Gas J (Lond)* 162:93-4 Ap 11 '23
- Sell 836 ranges in three weeks. R. O. Jasperson. *il Gas Age* 49:457-9 Ap 15 '22
- Visit to the Haggerton stove and meter works of the Gas light and coke company. *Gas J (Lond)* 161:139-40 Ja 17 '23

Advertising

- Advertising that links up with other firms' trade characters. W. B. Edwards. *Ptr Ink* 123:8+ Je 28 '23
- Gas ranges aid in making happier homes. J. B. Dillon. *Am Gas J* 116:7-9 Ja 7 '22
- Good meals and gas ranges inseparable. J. B. Dillon. *Am Gas J* 115:499-500+ D 3 '21
- Incomparable service—a gas range. J. B. Dillon. *Am Gas J* 116:293-5 Ap 1 '22
- March to be gas range month. *Gas Age* 49:193-4 F 18 '22
- Michigan companies boost ranges. W. B. Stoddard. *il Gas Age* 49:624 My 20 '22
- Side lights on advertising the gas range. O. F. Schully. *Am Gas J* 117:111-13 Ag 5 '22
- Spring good time to sell gas ranges. W. B. Stoddard. *il Am Gas J* 118:89-90 F 3 '23
- Successful early spring gas range sale. W. B. Stoddard. *il Am Gas J* 118:283-5 Ap 7 '23
- Uses popcorn to advertise gas stoves. W. B. Stoddard. *Gas Age* 50:806 D 9 '22

Manufacture

- Standard gas-cookers. *il Gas J (Lond)* sup 2:3-4 Ja 31 '23

Specifications

- Standard gas range specifications, American gas association, inc. *diags Am Gas Assn Manufacturers' sec v* 3:58-74 '21
- Standard gas range specifications, American gas association, inc. *diags Am Gas Assn Manufacturers' sec v* 4:47-64 '22

Gas supply

- Mixing natural and oil-water gas. H. L. Masser. *Gas Age* 50:195-9 Ag 12 '22

Baltimore

- Six years' growth as great as century's; Baltimore's yearly output of gas 1836 to 1923. G. Beadenkopf. *Am Gas J* 117:693-4 D 23 '22

California

- Northern California uses millions of cubic feet of gas annually. *map Gas Age* 51:106 Ja 27 '23
- Providing for increased demand; Los Angeles companies are confronted by increasing service requirements and an order of the state commission specifying increased equipment. *Gas Age* 50:39-40+ JI 8 '22

Gas testing

- Brady B.t.u. indicator tests. O. L. Kowalke. *Gas Age* 49:405-6 Ap 1 '22
- California B.t.u. research results. *Gas Age* 51:47-52 Ja 13 '23
- Caloric power testing. H. J. Hailstone. *diags Gas J (Lond)* 161:822 Mr 28 '23

Gas testing—Continued

Effect of B.t.u. on burner efficiency. W. M. Berry and others. *il Gas Age* 50:41-44, 81-4 J1 8-15 '22

Efficiency and economy of gas; progress report of a joint committee of the railroad commission of the state of California working with the Pacific coast gas association and gas companies. *il Gas Age* 48:616-19, 655-8 N 12-19 '21

New graphic B.t.u. calculator. M. C. K. Jones. *Gas Age* 49:392-4 Ap 1 '22

Rapid method determines amount of tar in gas. *il Pop Mech* 37:686 My '22

Relative usefulness of gases of different heating value and adjustments of burners for changes in heating value and specific gravity. W. M. Berry and others. *il U S Bur Stand Tech Pa* 222:15-91 '22

See also Gas, Natural—Testing; Gas analysis; Gas sampling

Gas torch

City gas used as a cutting agent. D. R. Lane. *il Gas Age* 50:757-8 D 2 '22

G. W. & E. automatic cutting machine. *il Am Mach* 56:115 Ja 19 '22; *Elec Ry J* 59:479 Mr 18 '22

Mechanical gas cutting torch a labor-saver. *il Ry Mech Eng* 97:294-5 My '23

Use of gas torch in repair shops. J. L. Springer. *il diags Gas Age* 48:778-80 D 10 '21

Use of preheating torch for repair work. J. H. Clemmency. *diag Mach* 28:541 Mr '22

See also Metal cutting; Oxyacetylene flames; Oxyacetylene welding

Gas tractors

Modern gas tractor, construction, utility, operation and repair. V. W. Pagé. 4th ed., rev. & enl. 648p Henley '21

Suction gas tractor. *Engineer* 134:306 S 22 '22

Gas tubing

Insuring safety in sale of gas tubing. J. R. Jennings. *il Gas Age* 52:529-32 O 27 '23

Standard performance specifications for flexible gas tubing. *il diag Am Gas Assn Manufacturers' sec v* 3:46-57 '21

Gas turbines

Dampf- und gasturbinen. A. Stodola. 1111p J. Springer, Berlin '22

Gas turbine. *Engineer* 132:321-2; 133:75, 100, 153-4, 177, 220, 248-9 S 23 '21, Ja 20-27, F 10-Mr 3 '22

Gas turbine in theory and practice. *Engineer* 135:466, 490-1, 515-17, 557-9, 583-4, 595-8, 630-2 My 4-Je 15 '23; *Abstract. Mech Eng* 45:488-90 Ag '23

Das gasturbinenproblem und seine bedeutung für die industrie. M. de Conninck. *diags Stahl & Eisen* 42:304-6 F 23 '22

Internal combustion engines exhausting into low-pressure turbines. F. Modugno. *Engineer* 136:290-1 S 14 '23; *Abstract. Engineering* 116:323 S 14 '23

Internal combustion turbine. *Engineer* 135:475-6 My 4 '23; *Abstract. Power* 57:1039 Je 26 '23

Internal combustion turbine. W. A. D. Forbes. *diags Engineer* 134:224-5 S 1 '22; *Same abr. Power* 56:820-1 N 21 '22; *Abstract. Elec R (Lond)* 91:466 S 29 '22

Puplett internal-combustion turbine. *diag Mech Eng* 45:659 N '23

Recent developments in the gas and oil turbine. W. Schuele. *diags Power* 55:690-1 My 2 '22; *Discussion. J. Deschamps. Power* 56:741-2 N 7 '22; *Same. Engineer* 134:224 S 1 '22

Schuele's tests of a Holzwarth gas turbine; abstract. *diag Mech Eng* 44:453 J1 '22

Thermodynamic bases for determining efficiency to be expected from gas turbines. H. Schmolke. *diags Mech Eng* 44:187-90 Mr '22

Gas warfare. See Gases in warfare**Gas washers**

Apparatus for scrubbing and cooling. R. A. McNeas. *Gas Age* 48:552-3 N 5 '21

Field scrubber for cleaning metallurgical smoke. W. F. Lamoreaux. *il diag Eng & Min J* 113:198-206 F 4 '22

Proper scrubbing and condensing facilities in a coal gas plant and their effect upon tar and ammonia recovery. J. R. Wohrley. *diags Am Gas Assn Technical sec v* 4:349-75 '22; *Same. Gas Age* 50:521-6+ O 21 '22; *Abstract. Am Gas J* 117:494-8 O 27 '22; *Discussion. Am Gas Assn Technical sec v* 4:376-87 '22

Recent developments in chemical plant—new type of gas scrubber. A. B. Scorer. *diags Soc Chem Ind J* 42:241-2 Je 1 '23

Some observations on the use of the Doherty washer cooler as a water gas condenser. F. W. Steere. *flowsheet Am Gas Assn Technical sec v* 4:335-43 '22; *Same. Gas Age* 50:471-4 O 14 '22; *Excerpts. Chem & Met Eng* 27:990-2 N 15 '22; *Discussion. Am Gas Assn Technical sec v* 4:376-87 '22

See also Tar extractor

Manufacture

English make centrifugal castings. H. C. Estep. *il Foundry* 50:217-22 Mr 15 '22; *Same. Iron Tr R* 70:887-92 Mr 30 '22

Gas washing

Analyzing gas washing losses. H. T. Watts. *Iron Tr R* 70:1179-81 Ap 27 '22

Recovering ammonia in gas plants. F. Plenz. *Am Gas J* 119:23-32 J1 14 '23

Tower fillings for industrial absorption. P. D. V. Manning. *il Chem & Met Eng* 29:504-5 S 16 '23

Washing benzol and other carbons out of gas. K. Bunte and E. Frel. *diag Am Gas J* 117:673-6+ D 16 '22

See also Gas cleaning; Gas purification; Gas washers

Gas water heaters

Aid plumbers to sell water heaters. E. W. Allen. *Gas Age* 51:81-2 Ja 20 '23

Ascertaining the demand for hot water; determining sizes and types to meet it. *Am Gas J* 117:603-7 N 25 '22

Automatic water heater problem simple; abstracts. C. E. Bartlett. *Am Gas J* 117:464-8 O 26 '22; *Gas Age* 50:613-14+ N 4 '22

Automatic water heaters provide big gas market. A. P. Post. *Am Gas J* 116:306-8 Ap 1 '22

Automobiles vs. automatic heaters. *Gas Age* 49:419-20 Ap 8 '22

Brass tacks about water heating. L. L. Osler. *Gas Age* 49:751-2 Je 17 '22

Economies in gas water heating. S. E. Gillette. *Gas Age* 49:203-4 F 18 '22

Electrical control for gas-water-tank heaters. *il Pop Mech* 37:381-2 Mr '22

Estimating hot water installations. *Gas Age* 51:473-6 Ap 14 '23

Every automatic water heater sells another. J. E. Bullard. *il Gas Age* 52:175-6 Ag 11 '23

For the man who connects heaters. L. L. Osler. *diags Gas Age* 49:521-2 Ap 29 '22

Gas fired hot water systems. A. A. Schuetz. *Gas Age* 48:639-41 N 12 '21; *Same. Am Gas J* 115:440, 450-3 N 12 '21; *Same. Sanitary & Heat Eng* 96:317-20 N 18 '21; *Excerpts. Am Soc Heat & V E J* 28:360-4 Ap '22

Gas heated hot-water apparatus. W. B. Cobb. *diags Gas J (Lond)* sup 2:109-11 Je 27 '23

Gas-heated hot-water supply. W. L. Westbrook. *Gas J (Lond)* sup 2:30-1; *Discussion. 31-2 F 28 '23*

Gas water-heater market. F. A. Lemke. *Am Gas J* 117:53-4+ J1 15 '22; *Same. Gas Age* 50:77-8+ J1 15 '22

Gas water heating most fertile field. O. H. Fogg. *Gas Age* 50:291-2+ S 2 '22

Geysers, from the salesman's point of view. P. Wilson. *Gas J (Lond)* sup 2:73-4 Ap 25 '23

Have your directors automatics? R. H. Lewis. *Gas Age* 49:691-3 Je 3 '22

Heat water with gas. L. E. Spear. *Am Gas J* 118:404-6 My 12 '23

Heating of water and other liquids. T. King. *il diag Am Gas J* 117:133-9 Ag 12 '22

Heating water by gas. *il Am Gas J* 119:143 Ag 18 '23

Gas water heaters—Continued

- Hollar circulating and self-contained boiler. *il* diag Gas J (Lond) sup 2:4-5 Ja 31 '23
- Hook up with a bath a day drive. Gas Age 49:581-2 My 13 '22
- Hot water heaters for summer use. W. B. Stoddard. *il* Am Gas J 118:379-80 My 5 '23
- How to sell automatic water heaters. B. H. Atwood. Am Gas J 118:353+ Ap 28 '23
- Keep them sold—use object lesson in selling gas water heaters. *il* Gas Age 49:545-6+ My 6 '22
- Market for water heaters; sales resistance that is encountered. R. H. Lewis. Am Gas J 117:280-1 S 23 '22
- New Everhot water heater. *il* Sanitary & Heat Eng 98:334-5 D 1 '22
- Proper method of installing all types of gas-fired water heating equipment. N. T. Sellman. diags Dom Eng 100:273-6+ Ag 12 '22
- Pushing the gas-heated boiler or circulator. *il* diags Gas J (Lond) sup 2:20-1 F 28 '23
- Questions salesmen are asking on the subject of heating water with gas. R. O. Jaspersen. Gas Age 50:743-4 N 25 '22
- Selling gas through water heaters. E. S. Stack. Gas Age 51:711-13 Je 2 '23
- Selling hot water to those who use it most. D. Long. *Ptr* Ink 123:10+ Je 7 '23
- Water heater sales helped by proper installations. G. C. Carnahan. diags Gas Age 52:455-60 O 13 '23; Same. Am Gas J 119:446-52 O 19 '23; Same. Sanitary & Heat Eng 100:247-9, 341-3 O 19, N 30 '23
- Why should consumers purchase automatic hot water service? J. B. Jones. Am Gas J 118:327-8 Ap 21 '23; Same. Gas Age 51:465-6 Ap 14 '23

Gas works. See Gas manufacture and works**Gases**

- Adsorption from the gas phase at a liquid-gas interface. T. Iredale. diag Philos Mag 6th ser 45:1088-1100 My '23
- Application of an optical manometer to the measurement of the viscosity of gases. J. E. P. Wagstaff. Philos Mag 6th ser 45:81-8 Ja '23
- Application of probabilities to the movement of gas-molecules. F. Y. Edgeworth. Philos Mag 6th ser 43:241-58 F '22
- Behavior of free electrons toward gas molecules. H. B. Wahlin. Phys R 19:173-86 F '22
- Beiträge zur untersuchung und kenntnis von natürlich vorkommenden gasen. F. Henrich and G. Prell. diags Deutsche Chem Gesell Ber 55:3021-30 O '22
- Bestimmung der gase in eisen und stahl. A. Vita; E. Maurer. diags Stahl & Eisen 42:445-52; Discussion. 452-6 Mr 23 '22
- Chemical constants of some diatomic gases. J. R. Partington. Philos Mag 6th ser 44:988-93; 46:329-30 N '22, Ag '23
- Coefficients of slip in gases and the law of reflection of molecules from the surfaces of solids and liquids. R. A. Millikan. Phys R 21:217-38 Mr '23
- Coefficients of viscosity and of slip of air and of carbon dioxide by the rotating cylinder method. K. S. Van Dyke. Phys R 21:250-65 Mr '23
- Condensation of vapor from mixtures of vapors and noncondensable gas. B. F. Dodge. J Ind & Eng Chem 14:1062-6 N '22
- Convection of light (Fizeau effect) in moving gases. C. V. Raman and N. K. Sethi. Philos Mag 6th ser 43:447-55, pl 6-7 Mr '22
- Densities of important industrial gases. M. S. Blanchard. Chem & Met Eng 29:399-400 S 3 '23
- Determination by the constant deflection method of the value of the coefficient of slip for rough and for smooth surfaces in air. L. J. Stacy. diag Phys R 21:239-49 Mr '23
- Determination of viscosities and of the Stokes-Millikan law constant by the oil-drop method. Y. Ishida. diag Phys R 21:550-63 My '23
- Discharge of air through small orifices, and the entrainment of air by the issuing jet. J. S. G. Thomas. diags Philos Mag 6th ser 44:969-88, pl 6 N '22
- Effect of gases in facilitating the passage of current from an electron-emitting source in crossed electric and magnetic fields. O. W. Richardson and R. Chaudhuri. diags Philos Mag 6th ser 45:337-42 F '23
- Effect of gases on the contact difference of potential between metals at different temperatures. O. W. Richardson and F. S. Robertson. diags Philos Mag 6th ser 43:162-74 Ja '22
- Effect of variable specific heat on the discharge of gases through orifices or nozzles. W. J. Walker. Philos Mag 6th ser 43:589-93 Mr '22
- Electrification at the boundary between a liquid and a gas. H. A. McTaggart. diag Philos Mag 6th ser 44:386-95 Ag '22
- Electrochemistry of gases. S. C. Lind. Am Electrochem Soc Trans v 44 (preprint 7):61-9 S '23
- Energy of activation in heterogeneous gas reactions with relation to the thermal decomposition of formic acid vapour. C. N. Hinshelwood and B. Topley. diag Chem Soc J 123:1014-25 My '23
- Entropy of diatomic gases and rotational specific heat. R. C. Tolman and R. M. Badger. Am Chem Soc J 45:2277-85 O '23
- Experiments on the ignition of gases by sudden compression. H. T. Tizard and D. R. Pye. diags Philos Mag 6th ser 44:79-121, pl 1 J '22
- Les gaz rares des gaz naturels. C. Moureu. Chem Soc J 123:1905-47 Ag '23
- General law of fall of a small spherical body through a gas, and its bearing upon the nature of molecular reflection from surfaces. R. A. Millikan. Phys R 22:1-23 J '23
- Get specific gravity by effusion. D. Wilson. diags Gas Age 50:321-2 S 9 '22
- Handling of corrosive gases in chemical plants. C. S. Robinson. Ind & Eng Chem 15:225-7 Mr '23
- Heat capacities and entropies of diatomic and polyatomic gases. H. C. Urey. Am Chem Soc J 45:1445-55 Je '23
- Low voltage arcs in diatomic gases. O. S. Duffendack. diags Phys R 20:665-87 D '22
- Magnetic rotatory dispersion in gases. T. H. Havelock. Philos Mag 6th ser 45:560-76 Mr '23
- Measurement of the resonance, radiation, and ionization potentials of several gases and vapors. P. E. Boucher. diags Phys R 19:189-209 Mr '22
- Measurements on the gases evolved from glasses of known chemical compositions. J. E. Harris and E. E. Schumacher. bibliog diags Ind & Eng Chem 15:174-7 F '23
- Mechanical methods for the propulsion of gases. E. F. Hooper and B. B. Waller. diags Soc Chem Ind J 42:180-4 Ap 27 '23
- Motion of electrons in gases. V. A. Bailey. Philos Mag 6th ser 46:213-18 J '23
- Motion of electrons in gases. J. S. Townsend and V. A. Bailey. Philos Mag 6th ser 42:873-91 D '21
- Motion of electrons in gases under crossed electric and magnetic fields. R. N. Chaudhuri. Philos Mag 6th ser 46:461-72 S '23
- Phenomena in gases excited by radio frequency currents. E. O. Hulburt. diags Phys R 20:127-33 Ag '22
- Positive rays in simple gases. J. J. McHenry. Philos Mag 6th ser 45:133-43 Mr '23
- Rates of absorption and heat transfer between gases and liquids. W. G. Whitman and J. L. Keats. J Ind & Eng Chem 14:186-91 Mr '22
- Relation of the temperature, volume and pressure of a gas. Power 55:654 Ap 25 '22
- Relative affinity of some gas molecules for electrons. L. B. Loeb. Philos Mag 6th ser 43:229-36 Ja '22
- Second virial coefficient of gases. A. F. Core. Philos Mag 6th ser 46:256-72 Ag '23
- Simple form of apparatus for observing the rate of reaction between gases and liquids, and its use in determining the rate of solution of oxygen by water under different conditions of mixing. H. G. Becker. *il* diags Philos Mag 6th ser 45:581-92 Mr '23

Gases—Continued

- Solubility of gases in liquids. B. S. Neuhausen. *J Phys Chem* 26:553-7 Je '22
- Solubility of gases in rubber and rubber stock and effect of solubility on penetrability. C. S. Venable and T. Fuwa. *diag J Ind & Eng Chem* 14:139-42 F '22
- Solubility relations of certain gases. N. W. Taylor and J. H. Hildebrand. *Am Chem Soc J* 45:682-94 Mr '23
- Some photoelectric experiments on platinum relating to the influence of gases. L. A. Welo. *diags Philos Mag* 6th ser 45:593-609 Mr '23
- Specific heats of polyatomic gases at low temperatures. R. W. Millar. *Am Chem Soc J* 45:874-81 Ap '23
- Statistical theory of spontaneous fluctuations in energy, pressure, and density. K. C. Kar. *Phys R* 21:672-9 Je '23
- Study of distribution of combustion gases. H. Thoma. *il diags Am Gas J* 117:89-91 Ji '22
- Study of the separation of the gases formed in the *n*-butyl alcohol-acetone fermentation process. E. W. Blair, T. S. Wheeler and J. Reilly. *diags Soc Chem Ind J* 42:235-9; Discussion. 239-40 Je 1 '23
- Temperatures and gas velocities in boiler settings; results of tests on 1000-h.p. Stirling boilers. A. W. Binns and C. E. Joos. *diag Power Pl Eng* 25:1138-9 D 1 '21
- Treating gases; patent. *diags Chem & Met Eng* 28:368 F 21 '23
- La variation de la chaleur spécifique des gaz avec la température d'après les travaux les plus récents. H. Muraur. *bibliog Chimie & Ind* 10:23-9 Ji '23; Abstract. *Mech Eng* 45:712 D '23
- Velocity of electrons in gases. J. S. Townsend. *Philos Mag* 6th ser 44:384-6 Ag '22
- See also* Absorption; towers; Acetylene; Adsorption; Aerodynamics; Air; Argon; Blast furnace gas; Chemistry; Chlorine; Coke-oven gas; Electric discharges; Fire-damp; Flue gas; Fluids; Gas; Gas analysis; Gases in warfare; Helium; Hydrogen; Inflammable mixtures; Ionization, Gaseous; Joule-Thomson effect; Mine gases; Nitrogen; Olefines; Oxygen; Ozone; Van der Waals' equation; Vapor pressure; Volcanic gases; Water vapor

Analysis

See Gas analysis

Compression

See Compression of gases; Gases, Compressed

Liquefaction

Discussion on the generation and utilization of cold by the Faraday society and the British cold storage and ice association. *Mech Eng* 45:305-6 My '23

See also Chlorine, Liquid; Hydrogen, Liquid; Liquid air; Oxygen, Liquid

Mixing with liquids

Roturbo gas pump and mixer. *diags Engineer* 132:704 D 30 '21

Occlusion

Crystal structures of the system palladium-hydrogen. L. W. McKeehan. *Phys R* 21:334-9; Bibliography. 339-42 Mr '23

Gases in metals. *Sci Am* 126:333 My '22

Separation

See Gas separation

Gases, Asphyxiating and poisonous

- Gas masks for gases met in fighting fires. A. C. Fiellner, S. H. Katz and S. P. Kinney. *il diags U S Bur Mines Tech Pa* 248:1-61 '21; Abstract. *Gas Age* 48:877-80 D 31 '21
- Peace-time jobs for poison gas. H. A. Mount. *il Sci Am* 126:326-7 My '22
- Peacetime use of war gases for extermination of pests. A. A. Fries. *il Oil Paint & Drug Rep* 102:x sec 2 S 18 '22
- Poison gas as a cure for disease. *Chem Age (Lond)* 8:537 My 19 '23
- Special gas research at Edgewood. T. M. Knappen. *il Gas Age* 48:554-7 N 5 '21

War gases for dispersing mobs. T. M. Knappen. *il Gas Age* 48:701-3 N 26 '21

See also Arsine; Carbon dioxide; Carbon monoxide; Chloropicrin; Firedamp; Mine gases; Mustard gas; Phenylimidophosgene

Gases, Compressed

Compressed gas industry. *Chem Age* 31:208 My '23

Industrial gases and their containers. E. O. Benjamin. *diag Chem Age* 30:91-4 F '22

Gases, Flow of. *See* Gas flow**Gases, Kinetic theory of**

Notes on the kinetic theory of gases. R. H. Fowler. *Philos Mag* 6th ser 43:785-800 My '22

Gases in warfare

Armament conference declares against poisonous gas warfare. *Comm & Fin Chr* 114:156-60 Ja 14 '22

Chemical warfare and the arms treaty. R. S. McBride. *Chem & Met Eng* 26:351-3 F 22 '22

See also Chloropicrin; Mustard gas; also Conference on the limitation of armaments, Washington, D.C.—Five-power submarine and poison gas treaty

Gaskets

Care should be used in installing gaskets. *diag Iron Tr R* 72:1392 My 10 '23

Gasket practice. *Power Pl Eng* 27:744, 951-2 Ji 15, S 15 '23

Gaskets and packing, and how to use them. C. A. Underwood and J. R. Darnell. *diags Power Pl Eng* 27:813-16 Ag 15 '23; Discussion. 27:1150-1 N 15 '23

Handhole gasket blowout. L. L. Lollard. *diags Power Pl Eng* 26:282-3 Mr 1 '22

How much does a poor gasket cost? W. F. Schaphorst. *Sanitary & Heat Eng* 98:17 Ji 14 '22; Same. *Textile World* 62:1130+ Ag 26 '22

Making lead gaskets. J. V. Romig. *diags Pop Mech* 36:929 D '21

Packing and gaskets for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:720-2 N '22

Some practical gasket hints. H. Bohmer, jr. *Power Pl Eng* 27:390 Ap 1 '23; Same. *Chem & Met Eng* 29:193-4 Ji 30 '23; Discussion. *Power Pl Eng* 27:539, 696-7, 899 My 15, Ji 1, S 1 '23

World's largest gasket. *il Sci Am* 129:323 N '23

Gasoline

Anti-knock gasoline now a commodity of commerce; tetra-ethyl lead. *Chem & Met Eng* 29:597 S 24 '23

Automobile gasoline. A. H. Gill. 54p Lippincott '23

Best methods of using natural gasoline. O. P. Keeney. *Nat Pet N* 14:19-20 D 6 '22

Blended fuels for automotive engines. J. C. Smallwood. *Mech Eng* 45:577-8 O '23

Comparative figures on gasoline and benzol as fuel. W. K. Halbert. *Nat Pet N* 14:35 Ap 26 '22

Comparative merits of benzol and gasoline as engine fuels. W. O. Hincley. *Soc Auto Eng J* 11:359-60; Discussion. 360-2 O '22

Compression temperatures. *Automotive Ind* 46:79 Ja 12 '22

Curious causes of gasoline fires and gas explosions. A. H. Gill. *Ind & Eng Chem* 15:140 F '23

Direct determination of dew points of gasoline-air mixtures. W. A. Gruse. *diags Ind & Eng Chem* 15:796-9 Ag '23

Economic aspects of motor-fuel supply from petroleum. F. W. Lane and A. D. Bauer. *Ind & Eng Chem* 15:479-81 My '23

Experimental survey of gasoline and kerosene carburetion. C. S. Kegerreis and G. A. Young. *il Soc Auto Eng J* 12:63-75 Ja '23; Discussion. 12:238-9, 460-4 F, My '23

Fifth semi-annual gasoline survey; price and physical characteristics of fuel sold in various localities throughout the country. *Automotive Ind* 46:624 Mr 16 '22

Gasoline and alcohol as fuels of the future. *Sci Am* 128:381 Je '23

Gasoline—Continued

Gasoline as a refrigerant. L. D. Wyant. plan
Refrig W 58:16-21 O '23; Same. Nat Pet
N 15:99+ O 3 '23

Gasoline ten years hence. R. H. McKee. Can
Chem & Met 7:4-6 Ja '23; Same. Soc Chem
Ind J (Chem & Ind) 42:193-6 Mr 2 '23

Motor fuel problem. E. H. Leslie. Am Inst
Chem Eng Trans v 13 pt 2:155-83 '20-'21

Motor fuels. E. H. Leslie. 681p Chemical
catalog co. '23

Motor gasoline surveys of 1920 and 1921. N.
A. C. Smith. U S Bur Mines Tech Pa 328:1-
41 '23

Qualitative limitations in refining and mar-
keting gasoline. F. A. Howard. Nat Pet N
13:39-40 D 21 '21

Seventh semi-annual gasoline survey. Soc
Auto Eng J 12:397 Ap '23

Solite; Standard sells new premium gasoline
being introduced in the Twin Cities. Nat
Pet N 14:24 O 25 '22

Standard of Indiana gets ethyl gas rights for
18 months only. R. B. Stafford. Nat Pet N
15:21-2 O 31 '23

What is good gasoline? il diags map Am Pet
Inst Bul 3:84-128 D 30 '22

See also Automobile engines—Fuel; Gas
and oil engines—Fuel; Petroleum refining

Cost

Cost of producing natural-gas gasoline. E.
G. Sievers. Chem & Met Eng 28:297-8 F
14 '23

Natural gasoline industry is studying costs to
meet new conditions. J. B. Gambrell, jr.
Nat Pet N 13:35+ N 9 '21

Synthetic gasoline production: what it means
to industry. R. Cross. Nat Pet N 14:41 Mr
22 '22; Same. Mech Eng 44:595+ S '22

Evaporation losses

Effect of cooling systems on evaporation losses
of gasoline. L. Schmidt. Nat Pet N 15:51-2+
O 17 '23

Evaporation of straight-run gasoline in bare
and insulated storage tanks. J. H. Wig-
gins. Nat Pet N 15:31 Ja 3 '23

Inspection

See Oil inspection

Manufacture

Catalytic gas from heavy oil. J. F. Shadgen.
Gas Age 50:897-8 D 30 '22

Conversion of petroleum residuum into gaso-
line. Chem Age 30:35-6 Ja '22

Cracking of petroleum oil in the gas-liquid
phase. G. Egloff. diags Ind & Eng Chem 15:
580-3 Je '23

Cracking processes are gaining ground as
cheaper units develop. P. Truesdell. Nat
Pet N 14:17-18 Ap 26 '22

Enter stock promoter with secret cracking
process. Nat Pet N 14:37 Jl 5 '22

Expander-absorption process for saving gaso-
line in still gases. J. C. Bertsch. diags Nat
Pet N 15:35-6+ Mr 28 '23

Fails to produce gasoline from peat in court.
Chem & Met Eng 25:1109 D 14 '21

Gasoline from oil shale. R. H. McKee. il J
Fr Inst 193:311-26 Mr '22; Same cond.
Chem Age 30:1-4 Ja '22

Gasoline recovery process improved by re-
cent invention. Am Soc Heat & V E J
28:719 O '22

Hoover aluminum chloride refining process.
diags Nat Pet N 14:20-1 Ap 26 '22

Methods for recovering gasoline from uncon-
densed still vapors. D. B. Dow. il diags
Nat Pet N 14:28-31 My 31; 87+ Je 7; 53-4+
Je 14 '22; Abstract. Chem & Met Eng 26:
1133-4 Je 14 '22

120,000,000 gallons of gasoline lost through
incomplete condensation of vapors. Comm
& Fin Chr 114:2307 My 27 '22

Production of gasoline. W. A. P. Schorman.
Can Chem & Met 6:55-8 Mr '22

Production of gasoline by cracking heavier
oils. E. W. Dean and W. A. Jacobs. bibliog
U S Bur Mines Tech Pa 258:1-56 '22; Sum-
mary. Chem & Met Eng 26:847-8 My 3 '22;
Summary. Nat Pet N 14:38 Je 14 '22

Refining of gasoline and kerosene by hypo-
chlorites. A. E. Dunstan and B. T. Brooks.
J Ind & Eng Chem 14:1112-15 D '22

Results of cracking Panuco topped crude by
the Dubbs process. G. Egloff. flow sheet
Nat Pet N 15:35+ Mr 21 '23

Synthetic gasoline production: what it means
to industry. R. Cross. Nat Pet N 14:41-2+
Mr 22 '22; Same cond., with diags. Mech
Eng 44:593-5+ S '22

Use of bleaching powder for sweetening gaso-
line. H. W. Young and A. W. Peake. diags
Chem & Met Eng 27:972-6 N 15 '22

Natural gas processes

Absorption of gasoline from natural gas. R.
C. Cantelo. Can Chem & Met 6:177-9, 196-
200 Ag-S '22

Cost of producing natural-gas gasoline. E.
G. Sievers. Chem & Met Eng 28:297-8 F 14
'23

Design and operation of a low-pressure ab-
sorption plant. W. P. Dykema and A. A.
Chenoweth. il diags plans U S Bur Mines
Tech Pa 263:1-42 '22

Development of the natural gasoline industry
in California. R. E. Beckley. Nat Pet N
15:91+ My 2 '23

Electric power for casing head process. il
Elec W 80:1455-6 D 30 '22

Evaluation of casinghead gas in the Okla-
homa fields. O. U. Bradley. Nat Pet N 15:
30-2 O 10 '23

Evaporation losses compared to natural
gasoline industry. J. H. Wiggins. il Nat
Pet N 14:31 D 20 '22

Four large natural gasoline plants building
in Burbank field. il Nat Pet N 14:49-51+
My 3 '22

Gasoline from natural gas. G. A. Burrell.
il diag plan Chem & Met Eng 29:544-5 S 17
'23

Gasoline from natural gas. G. E. Mitchell. il
Sci Am 128:238 Ap '23

Gasoline from natural gas—1921. E. G.
Sievers. Gas Age 51:821-4 Je 30 '23

Gasoline recovery from natural gas by the
use of charcoal. C. L. Voress. V. C. Canter
and R. W. Skoog. Nat Pet N 15:97-8+ My
2 '23

Improved methods for making, handling na-
tural gasoline discussed. V. B. Guthrie.
Nat Pet N 14:32 D 13 '22

Largest gas capacity absorption plant is com-
pleted at Casper. il Nat Pet N 15:37+ Ja
31 '23

Natural gas-gasoline blends. D. B. Dow. Gas
Age 48:565 N 5 '21; Same, without table.
Chem Age 29:464 N '21

Natural-gas gasoline in 1919. E. G. Sievers.
U S Geol S Min Res of U S 1919, pt 2:519-
34 '21

Natural gasoline industry is studying costs to
meet new conditions. J. B. Gambrell, jr. Nat
Pet N 13:35+ N 9 '21

New baffle for gasoline absorber towers is
meeting success in mid-continent plants.
Nat Pet N 14:31 S 27 '22

Process stabilizes natural gasoline. J. A. Raf-
ferty. il diag Nat Pet N 15:35-6+ Ap 25 '23

Proper utilization of natural gasoline. L. F.
Bayer. Soc Auto Eng J 12:273-5 Mr '23

Simplicity and good results claimed for new
casinghead process. il diag Nat Pet N 14:
43-4+ Mr 29 '22

Solid absorbents in the natural gas industry.
G. A. Burrell. Chem Age 30:154 Ap '22

Some recent developments in the manufac-
ture of natural gas gasoline. F. E. Hosmer
and F. M. Seibert. diags J Ind & Eng Chem
14:1106-11 D '22

Treatment of natural-gas gasoline to meet
doctor test. D. B. Dow. diags Nat Pet N
15:99+ My 16 '23

Unusual type of casinghead gasoline. C. E.
Coates and B. Y. Tims. J Ind & Eng Chem
14:219-20 Mr '22

Measurement

Temperature as a factor in the measurement
of gasoline. H. R. Estes. Nat Pet N 15:91-2
Jl 25 '23

See also Gasoline gages

Gasoline—Continued

Prices

- C. D. Chamberlin rebukes editor for tirade against gasoline. Nat Pet N 14:61 Je 28 '22
- Committee finds small companies suffer most by violent price changes. Nat Pet N 14:19-21 Ag 30 '22
- Dealers teach competitors by letters to avoid price wars. Nat Pet N 15:28 Ag 8 '23
- Erie motorists invited to invest \$25.00 to save \$15.00 on gasoline. Nat Pet N 13:23-4 D 21 '21
- Find Standard of Indiana discriminated in gasoline prices. Nat Pet N 14:19-20 Mr 22 '22
- Gasoline price war continues. Comm & Fin Chr 117:834-5, 1063 Ag 25, S 8 '23
- La Follette committee sees dollar gasoline. Automotive Ind 48:590+ Mr 8 '23
- Further reductions in gasoline—statements regarding the price war. Comm & Fin Chr 117:722-3 Ag 18 '23
- Independent jobbers urged to raise gasoline 2 cents on June 19. Nat Pet N 14:17-18 Je 14 '22
- Local price cut finishes competition of cold kerosene blends. W. K. Halbert. Nat Pet N 15:39 S 26 '23
- New York Standard quotes one price and sells at another. P. Truesdell. Nat Pet N 13:19 N 16 '21
- Ohio stage for next act in drama, gasoline prices and why. P. Truesdell. Nat Pet N 15:25 S 19 '23
- Refiners and jobbers are making contracts to try out Douglas schedule for a year. J. C. Chatfield. Nat Pet N 14:35-7 S 13 '22
- Refining and marketing of oil products done at loss during depression. A. E. Heiss. Nat Pet N 14:17-19 Ag 9 '22
- Standard oil company on fixing of gasoline prices. Comm & Fin Chr 115:400-1 J1 22 '22
- Statistical desk sheet for 1921 of the oil industry of the United States. Nat Pet N 14:supp F 8 '22
- Tank wagon gasoline prices are low in comparison with crude cost. F. Wagner. Nat Pet N 14:19-20 My 31 '22
- Tank wagon structure stays fickle since big reductions. W. K. Halbert. Nat Pet N 15:29-30 O 3 '23
- Will gasoline trend be up or down in next six years? A. N. Kerr. Nat Pet N 15:41-2+ S 5 '23

Specifications

- Problems involved in the development of specifications for motor gasoline. E. W. Dean. Am Soc T M Pro 21:1094-9 '21
- Specification changes in natural gasoline and blends are approved. Nat Pet N 14:22 D 6 '22
- Specifications for petroleum products. U S Bur Mines Tech Pa 323:1-3 '23
- Suggest elimination of provision on unsaturated hydrocarbons. Nat Pet N 15:22+ J1 18 '23
- Sweeping changes in government oil specifications proposed. Nat Pet N 15:22-3 J1 4 '23

Standards

- Great industries nearer agreement on gasoline problems. H. Chase. Automotive Ind 47:166-8 D 14 '22

Statistics

See Gasoline industry—Statistics

Taxation

- Carolina oil dealers enlist public in fight on gasoline tax. Nat Pet N 14:35+ O 11 '22
- Gasoline tax in several states. Pub Works 54:126-7 Ap '23
- Gasoline tax legislation. N. K. Brown. Eng & Contr (R. & S) 59:1269 Je 6 '23
- Gasoline taxes and their cost of collection. Eng & Contr (R. & S) 59:530 Mr 7 '23
- Gasoline taxes discriminatory without general sales tax. T. W. Thornhill. Nat Pet N 15:97+ F 14 '23
- Michigan jobbers defeat 2-cent gasoline tax law. Nat Pet N 15:80 My 2 '23

- New California vehicle laws. Aera 11:1664-7 J1 '23
- Oil men enlist aid of automobile clubs in gasoline tax fight. R. B. Stafford. Nat Pet N 15:115-16 Mr 14 '23
- Popular form of road taxation. Munic Eng 64:211 Je '23
- Proposed British motor-car gasoline tax. F. J. Richmond. Eng N 90:505 Mr 15 '23
- Synopsis of state bills now pending taxing the oil industry. Nat Pet N 15:87+ F 21: 99 F 28: 89 Mr 7; 116+ Mr 14; 51+ Mr 28; 107 Ap 11; 127 My 2; 57 My 16; 46 My 30; 99 Je 13 '23
- Taxes on gasoline exceed \$10,000,000 in 16 states during 1922. R. B. Stafford. Nat Pet N 15:27-8 Ap 11 '23; Abstract. Eng & Contr (R. & S) 59:1019 My 2 '23
- Taxing gasoline for highway improvement. Eng N 90:1038-40 Je 14 '23
- 36 states this year have gasoline taxes. map Automotive Ind 48:1351+ Je 21 '23

Bibliography

- List of references on the taxation of gasoline. 5 typew. p. U. S. Library of Congress '23 (obtained thru Public Affairs Information Service)

Testing

- Distillation curve becoming generally used as motor fuel index. J. C. Chatfield. Nat Pet N 15:34-6 Je 6 '23
- How to run accurate distillation test on motor fuel gasolines. Nat Pet N 15:37+ F 21 '23
- Lets the public in on what oil tests are and how they are made. V. B. Guthrie. II Nat Pet N 15:91-3 Ag 8 '23
- Pencil test for casinghead is crude but it helps jobber detect wild mixtures. Nat Pet N 14:22 S 13 '22
- Report of sub-committee XVII of A. S. T. M. on gasoline. Am Soc T M Pro 22 pt 1:445-51 '22

Transportation

- Advise against Colonel Dunn's rules for gasoline shipping. L. T. Doyle. Nat Pet N 14:21-2 Mr 22 '22
- Freight rate reduction alone won't give jobber living margin. J. C. Chatfield. Nat Pet N 14:22 Je 21 '22
- Institute protests changes in natural gasoline shipping rules. Nat Pet N 14:35 My 10 '22
- I.C.C. to hold another hearing on natural gasoline shipping. Nat Pet N 14:22 Je 28 '22
- Railroads, not oil industry, cause most gasoline accidents. B. W. Dunn. Nat Pet N 15:21-2 Mr 28 '23

See also Tank cars; Tank ships; Tank trucks

Volatility

- Domestic gasoline shows slight gain in volatility. chart Automotive Ind 48:616 Mr 15 '23
- Further data on the effective volatility of motor-fuels. R. E. Wilson and D. P. Barnard. diags Soc Auto Eng J 12:287-92 Mr '23

Gasoline, Substitutes for

- Substitutes for gasoline. Eng & Min J 113: 991 Je 10 '22

Gasoline engines. See Gas and oil engines

Gasoline filling stations. See Gasoline service stations

Gasoline fumes

- Effects of gasoline fumes on workers. Monthly Labor R 15:1350-1 D '22

Gasoline gages

- Air pressure regulates new gasoline gage; the Gasco scope. diags Automotive Ind 49:526 S 13 '23
- Gasoline depth gages and flowmeters for aircraft. J. A. C. Warner. II U S Nat Advisory Com for Aeronautics 1921:727-36 '23
- Laduna dashboard type of gasoline gage. diags Automotive Ind 48:323 F 15 '23
- National dash gasoline gage operates on hydrostatic principle. diags Automotive Ind 48:289 F 8 '23
- New K. S. gasoline gage operates on hydrostatic principle. diags Automotive Ind 49: 84 J1 12 '23

Gasoline handling

Agreement reached on operating rules for bulk gasoline stations. Nat Pet N 15:20 Ja 31 '23
 Best methods of using natural gasoline. O. P. Keeney. Nat Pet N 14:19-20 D 6 '22
 Hazards of home dry cleaning. Nat Safety N 8:53 Ag '23
 Proper handling of natural gasoline. D. E. Buchanan. Nat Pet N 14:32c-d Mr 15 '22
 Up-to-date distribution and accounting for gasoline; special 10,000 gallon cars and standard storage tanks on Missouri Pacific. L. V. Hyatt. diags Ry R 70:1008-10 Je 24 '22

See also Gasoline pumps; Gasoline service stations; Tank trucks

Gasoline industry

Canton jobbing company builds sound business in only one year. V. B. Guthrie. il Nat Pet N 15:35+ Ja 24 '23
 Following through independent program will win public confidence. L. V. Nicholas. Nat Pet N 15:32-3 O 31 '23
 Foreign conditions in oil marketing field. L. V. Stanford. Nat Pet N 15:29 Ap 18 '23
 Gasoline bootlegger, small but troublesome. W. K. Halbert. Nat Pet N 14:35+ Mr 8 '22
 General counsel of Midwest supplies information on marketing. Nat Pet N 14:47+ S 27 '22
 High cost of gasoline and other petroleum products. (U.S. Senate res. 295, pt. 2) 446p Govt. print. off., Washington '23
 Making the auto owner a fair judge of the oil industry. W. C. Platt. Nat Pet N 15:23+ Ag 22 '23
 Mid-continent refinery sales managers curtailing telegraph item of selling cost. J. C. Chatfield. Nat Pet N 14:93+ O 4 '22
 Personal missionary work urged to end unethical jobbing practices. R. B. Stafford. Nat Pet N 15:25-6 F 21 '23
 Put customer in good mood first, tank truck driver advises. V. B. Guthrie. il Nat Pet N 15:59 Ag 22 '23
 Service to customer in credits rule followed for distribution. P. Wagner. Nat Pet N 15:53+ My 16 '23
 Winter gallonage an accomplishment not a streak of luck. W. K. Halbert. Nat Pet N 14:23-4 Ja 11 '22

See also Gasoline—Prices; Oil inspection

Advertising

All phases of advertising used in Tide Water publicity campaign. Nat Pet N 14:45+ My 31 '22
 Auto suggestion copy sells gasoline. Ptr Ink 129:68+ S 14 '22
 Automobile dealer helps spread gasoline facts in Ohio. R. Atwood. Ptr Ink 120:141-2+ Ag 10 '22
 Car dealers asked to help teach motorists how to use gasoline. Nat Pet N 14:25-6 Ap 26 '22
 Changed from widely known gasoline to local product without loss; the Staebler oil co. Nat Pet N 15:37-8 Ap 4 '23
 Four methods of advertising that sell gasoline and oil. J. M. McLaughlin and others. Nat Pet N 15:35-7 O 31 '23
 Getting business in territory dominated by big national marketers. V. B. Guthrie. il Nat Pet N 15:35-6+ S 5 '23
 High standards set for jobbers entering advertising campaign. Nat Pet N 14:17-18 N 8 '22
 How Atlanta refining co. carried its case to its customers. Nat Pet N 15:91+ S 5 '23
 Independent jobbers start national advertising campaign. W. K. Halbert. Nat Pet N 14:19 S 20; 35 O 4 '22
 Jobber boosts premium gasoline trade in one day's sales campaign. W. K. Halbert. Nat Pet N 15:35-6 Ap 11 '23
 Lets the public in on what oil tests are and how they are made. V. B. Guthrie. Nat Pet N 15:91-3 Ag 8 '23
 Oil company's ads in newspaper keep reader watching for next. W. K. Halbert. Nat Pet N 14:37+ My 24 '22
 Showing them how to save to get them to buy. J. True. Ptr Ink M 5:94+ N '22
 Standard oil company helps lagging imaginations. Ptr Ink 124:95-6 Jl 5 '23

Three trustees named to handle jobbers' advertising campaign. W. K. Halbert. Nat Pet N 14:21 N 15 '22
 Union oil co. uses its stockholders to advertise its products. Nat Pet N 15:59+ My 9 '23

Uses quotations from the classics to point moral of quality; the Bartles-Maguire oil co. Nat Pet N 15:47-8 My 16 '23
 Wheat's ice cream but whose gasoline? W. C. Platt. Nat Pet N 14:17-18 Jl 26 '22

See also Gasoline service stations—Advertising

Contracts

Refiners and jobbers are making contracts to try out Douglas schedule for a year. J. C. Chatfield. Nat Pet N 14:35-7 S 13 '22

Coupon books

Coupon books or credit cards? both are successful. Nat Pet N 15:96 Ag 1 '23
 Coupon exchange making progress. H. C. Wurster. Nat Pet N 15:41+ O 31 '23
 Gasoline coupon books: how they should and should not be used; some companies' experiences. W. K. Halbert. Nat Pet N 14:25+ S 13 '22
 Jobbers adopt coupon exchange method for motor tourist trade. W. K. Halbert. Nat Pet N 15:21-2 My 23 '23
 Would lower discounts on coupon books. Nat Pet N 15:32i O 17 '23

Laws

See Gasoline pumps—Laws and regulations; Oil inspection

Records

Jobber keeps daily record of stock. W. K. Halbert. il Nat Pet N 15:37-8 F 14 '23

Statistics

Auto licenses forecast 1923 gasoline gallonage of over six billions. R. B. Stafford. Nat Pet N 15:17-18 Ja 31 '23
 Committee finds small companies suffer most by violent price changes. Nat Pet N 14:19-21 Ag 30 '22
 Gasoline production grows 5.5 per cent; consumption up 6.3 per cent. Nat Pet N 14:21 Mr 1 '22
 Law of supply and demand holds good in gasoline price advance. H. J. Struth. Nat Pet N 14:20 My 24 '22
 Natural-gas gasoline in the United States in 1920. Eng & Min J 113:65 Ja 14 '22
 9 months gasoline consumption, 1921, beats 1920 period 186 million gallons. Nat Pet N 13:21 N 30 '21
 Quantitative survey of the petroleum industry from the standpoint of production of motor fuel. V. H. Manning. Oil Paint & Drug Rep 100:9-10 sec 2 D 12 '21
 Refineries hold gasoline output down except in two districts. Nat Pet N 15:17-18 Jl 11 '23

California

California registers million cars; sets new gasoline consuming mark. P. Wagner. Nat Pet N 15:41-2 Je 6 '23
 Development of the natural gasoline industry in California. R. E. Beckley. Nat Pet N 15:91+ My 2 '23
 New automobiles likely to reduce oil flood from California. Nat Pet N 15:35-6+ My 23 '23

Canada

Shell company progresses slowly selling gasoline in Canada. L. E. Smith. Nat Pet N 13:25-6 N 16 '21

England

England gradually adopting pumps for sale of gasoline. C. W. Lovelace. Nat Pet N 15:131+ My 9 '23

Illinois

Illinois jobbers find good business selling kerosene for fuel. W. K. Halbert. Nat Pet N 14:17-18 Ja 18 '22
 Real and prospective business charted by Illinois jobber on wall map. Nat Pet N 15:39 Ap 11 '23

New York (state)

Jamestown, N.Y. manufacturers to sell gasoline only to selves. Nat Pet N 14:22 Je 7 '22

Gasoline industry—Continued**Ohio**

Ohio jobbers weathering depression by close collections. W. K. Halbert. Nat Pet N 14: 25+ Ja 4 '22

See also Pure oil company, Columbus, Ohio

Oklahoma

Evaluation of casinghead gas in the Oklahoma fields. O. U. Bradley. Nat Pet N 15: 30-2 O 10 '23

Oklahoma jobbers start clean-up of state marketing conditions. J. C. Chatfield. Nat Pet N 15:28 Jl 25 '23

Small runs and heavy sales cutting gasoline stocks. J. C. Chatfield. Nat Pet N 15:20-1 S 19 '23

Pennsylvania

Penn refiners hope greater gasoline demand will soon end distress. R. B. Stafford. Nat Pet N 15:23-4 My 23 '23

Southern states

Jobber works for good cotton crop to help gasoline trade. W. K. Halbert. Nat Pet N 14:23-4 Ja 25 '22

Texas

With runs curtailed, Texas refiners predict scarce gasoline. W. K. Halbert. Nat Pet N 14:17-18 F 22 '22

United States

Court exonerates Standard of Indiana on charge of rebating. W. K. Halbert. Nat Pet N 14:26 D 27 '22

Deeper drilling and better geology made gasoline plentiful in 1922. J. E. Pogue. Automotive Ind 48:461-5 F 22 '23

Gasoline war stirs entire nation. Bus Transportation 2:457-8 S '23

Mid-continent gasoline less disturbed than East by California. H. K. Davis. Nat Pet N 15:21-2 N 7 '23

Million gallons gasoline daily estimated amount to find outside market. L. E. Smith. Nat Pet N 14:19-20 D 13 '22

Price schedule should protect operator with small settled production. A. C. Bedford. Nat Pet N 15:29-30 Ag 29 '23

What will be the outcome of the gasoline price-war? Nation's Business 11:76+ O '23

See also Gasoline—Prices

Wisconsin

Quality and service have built business all over the Badger state. W. K. Halbert. Nat Pet N 15:37+ F 7 '23

Gasoline locomotives. See Locomotives, Gas and oil

Gasoline patents. See Petroleum refining—Patents

Gasoline pumps

Appareil doseur distributeur d'essence. diag Génie Civil 80:114 F 4 '22

Greater accuracy achieved in pumps as shown at St Louis. H. Markt. Nat Pet N 15:32c-e Mr 14 '23

How many gasoline pumps to the mile? Question facing oil companies. P. Truesdell. Nat Pet N 14:19-20 Ag 2 '22

How to operate gas pumps accurately. Nat Pet N 14:39 Ja 11 '22

Modern gasoline pumps gain headway over old methods in Europe. il Nat Pet N 14:43+ S 27 '22

Oklahoma City oil jobbers get their initial municipal probe. W. K. Halbert. Nat Pet N 14:23 Mr 29 '22

Standard and Sinclair abandon practice of putting out pumps. V. B. Guthrie. Nat Pet N 13:17+ N 30 '21

Tell pump owner and maker; not the press. W. S. Townsend. Nat Pet N 13:45+ N 9 '21

We can and should install all mechanical equipment in oil filling stations. il diags Sanitary & Heat Eng 99:389-92 Je 15 '23

Advertising

Runs series of ads to sell public on curb pump. Nat Pet N 15:39 S 19 '23

Laws and regulations

Gasoline pump case decided for lessors. Oil Paint & Drug Rep 103:20 Ap 16 '23
Highest New York state court rules out curb pumps in Buffalo. P. Truesdell. Nat Pet N 15:21-2 Je 20 '23

Gasoline savers, Automobile

Example of systematized production in the manufacture of gasoline-savers used in connection with Ford carburetors. F. R. Daniels. il diag plan Mach 30:189-93 N '23

Gasoline service stations

Bostonian can purchase his gasoline and not offend aesthetic sense; novel premiums given. V. B. Guthrie. il Nat Pet N 15:34-6+ Jl 25 '23

Build your stations to fit their surroundings. B. M. Marcus. Nat Pet N 15:32d O 31 '23

England gradually adopting pumps for sale of gasoline. C. W. Lovelace. Nat Pet N 15: 131+ My 9 '23

Four costly service stations are recently opened in Tulsa. il Nat Pet N 14:43 Je 14 '22
Grease handled by air pressure; searchlight to advertise station. il Nat Pet N 14:91+ Je 21 '22

Handsome service stations pay in Denver. il Nat Pet N 14:49-50 Ap 26 '22

How re-designing of a filling station doubled its business. P. Truesdell. il Nat Pet N 15:22-3+ Je 27 '23

Jobber uses advertising, not more equipment, to build trade. V. B. Guthrie. il Nat Pet N 15:51+ Ag 15 '23

Jobbers invite trouble by helping incompetents into business. W. B. Phillips. Nat Pet N 15:38+ O 31 '23

Jobbing company follows scientific system in selecting locations for filling stations. Nat Pet N 14:47 S 6 '22

Low cost station fits surroundings. V. B. Guthrie. il Nat Pet N 15:34-6+ Jl 11 '23

Making an oil business an institution. V. B. Guthrie. il Nat Pet N 14:35-9 D 6 '22

Making service stations pay—layout and construction. P. Truesdell. il plans Nat Pet N 15:23-6 Ag 29 '23

Making service stations pay—picking the right locations. P. Truesdell. plan Nat Pet N 15:22-3+ Jl 11 '23

Pennsylvania refiner beautifies town with landscaped filling station. R. B. Stafford. il Nat Pet N 14:35-6 N 8 '22

Petty thievery and other abuses cost service stations thousands. R. B. Stafford. Nat Pet N 14:35+ N 15 '22

Phone number and distinctive color carry oil company's message; 600 gas stations. V. B. Guthrie. il Nat Pet N 15:35-6+ Jl 18 '23

Sailor quits sailing seven seas to serve the motorist; Five Points service station, North Chicago. W. K. Halbert. il diag Nat Pet N 15:35-6 S 19 '23

Station type adopted by N.Y. Standard. il Nat Pet N 15:41 Jl 18 '23

Teaching motorists to ask for a lubricant by brand name. H. M. Hitchcock. Ptr Ink 125: 61-2+ O 18 '23

Unusual sideline of a Colorado ice company; gasoline filling station. Refrig W 58:21 Ag '23

See also Gasoline pumps

Accounting

Practical accounting for service and bulk stations. Nat Pet N 15:35+ O 10; 39-40+ O 24 '23

Translate all sales into gasoline for quick check on service stations. Nat Pet N 14: 35+ O 25 '22

Advertising

Baseball ticker and scoreboards attract motorists to stations. il Nat Pet N 14:20 Je 14 '22

New gas station established by advertising. Ptr Ink 119:77-8 My 11 '22

Gasoline service stations—Continued**Automobile accessories**

Automobile equipment thrown out of many service stations. W. K. Halbert. Nat Pet N 14:73-5 O 11 '22
 Oil station of the Vahey oil co. at Youngstown, O. gives extensive tire, battery and auto accessory service. R. B. Stafford. il Nat Pet N 15:27-8 Ja 10 '23

Equipment

Convention exhibits show improvements in jobbers' equipment. H. Markt. Nat Pet N 14:32f-g O 18 '22
 Gasoline filling stations prospects for plumbing. il Dom Eng 99:94-5 Ap 15 '22
 Helping to supply the need for public comfort stations. H. F. Ballet. il plan Sanitary & Heat Eng 99:35-7 Ja 26 '23
 Installs heaters to build winter business. V. B. Guthrie. il Nat Pet N 15:41-2 Ag 29 '23
 Modern Rip Van Winkle at exhibit. V. B. Guthrie. Nat Pet N 15:32m-n O 10 '23
 Past the quarter million; movement to build business by popularizing the International public comfort station mark. il Sanitary & Heat Eng 99:175-6 L Mr 23 '23
 Pattern for your recommendations to oil station owners. il plans Sanitary & Heat Eng 99:143-5 Mr 9 '23
 Public comfort station mark on gasoline filling stations. Sanitary & Heat Eng 99:1-3+ Ja 12 '23
 Pumps predominate in exhibits of equipment at Chicago. W. J. S. Ritscher. Nat Pet N 15:32g Mr 14 '23
 Upbuilding your industry. il Sanitary & Heat Eng 99:243-4 L Ap 20 '23
 We can and should install all mechanical equipment in oil filling stations. il diags Sanitary & Heat Eng 99:389-92 Je 15 '23
 What the oil station owner wants. il diags plan Sanitary & Heat Eng 99:209-11+ Ap 6 '23
 Your side of the modern oil and gas filling station. G. Turner. il plan Sanitary & Heat Eng 99:107-9 F 23 '23

See also Gasoline pumps

Fire protection

Fire extinguishing devices feature this station. V. B. Guthrie. il Nat Pet N 15:44 Ag 29 '23

Laws and regulations

See also Gasoline pumps—Laws and regulations

Lighting

Lighting of gasoline filling stations. R. E. Greiner. il Nat Pet N 15:26-8 My 23 '23
 Theatrical electrician plans lights for busy night station. W. K. Halbert. il Nat Pet N 15:35+ O 3 '23

Management

Biggest thing filling station can offer is service to customer. P. W. Ivey. Nat Pet N 15:105-6+ Ag 1 '23
 Bringing New York's attention to service stations. V. B. Guthrie. il Nat Pet N 15:34-6+ Ag 8 '23
 Making service stations pay—keeping down loss and overhead. P. Truesdell. Nat Pet N 15:37-8+ S 12 '23
 Making service stations pay—picking and training men. P. Truesdell. Nat Pet N 15:34-6 Ag 15 '23
 Marketer finds free oiling service fails to draw gasoline trade. R. B. Stafford. Nat Pet N 15:35+ Mr 7 '23
 Most independents fear gallonage loss and fail to boost price; reduce free service. Nat Pet N 14:17-18 Je 21 '22
 Paying for air service not objectionable to Chicago suburban trade. W. K. Halbert. Nat Pet N 15:101+ Ap 18 '23
 Personal element in station sales as one company works it. J. C. Chatfield. il Nat Pet N 14:23+ D 27 '22
 Reducing service to a definite code; Marland refining company. R. Dickinson. Ptr Ink 125:73-4+ N 1 '23

Gasoline storage

Effect of cooling systems on evaporation losses of gasoline. L. Schmidt. Nat Pet N 15:51-2+ O 17 '23
 Protection of gasoline storage by petticoats successful in Panama. R. Z. Kirkpatrick. il Nat Pet N 15:41 Ja 31 '23

See also Oil storage; Oil tanks—Fire protection

Gasometer. See Gas holders**Gasteropoda, Fossil**

Gastropod trails in Pennsylvanian sandstones in Texas. S. Powers. diags Am J Sci 5th ser 3:101-7 F '22

Gate lodges. See Lodges**Gates, Philetus W.**

Early engineer of Chicago. W Soc E J 27: [current news] 94-6 My '22

Gates, Hydraulic

Comparaison entre les portes roulantes et les portes glissantes pour la fermeture des grandes écluses maritimes. A. Bijls. diags Génie Civil 82:419-21 My 5 '23
 Design of storm sewer and flood gate, Wichita Falls, Tex. J. Montgomery. diags plans Eng N 89:980 D 7 '22
 Improvements in mechanical contrivances in connection with the storage and distribution of water. E. B. Ball. il diags Engineering 116:27-32 Jl 6 '23; Abstract. Engineer 136: 47-8 Jl 13 '23
 Rating curves for canal head gates. J. Hinds. diags Eng & Contr 58:45 Jl 12 '22
 Skimming rivers for irrigation water; abstract. F. V. Elsdon. diags plan Engineer 134:485-6 N 10 '22
 Standardized appliances for irrigation structures. J. L. Savage. diags Eng N 89:923-6 N 30 '22

See also Locks (hydraulic engineering)

Gates rubber company

Seeing it the customer's way has kept our business climbing. C. C. Gates. il System 43: 336-9+ Mr '23

Gateways

Entrance gateway. W. K. Rainsford. il Am Arch 122:530-6 D 20 '22

Gauze dish

Determination of solids (or moisture) by means of a gauze dish. A. Seidenberg. Ind & Eng Chem 15:737-41 Jl '23

Gear cutting

Appareil et machines pour le tracé, le tailage et la rectification de tous engrenages à développante, basés sur de nouveaux principes. diags plan Génie Civil 79:421-2 N 12 '21
 Commercial gear-cutting practice. F. D. Jones. il diags Mach 28:437-46 F '22
 Cutting bevel gears. F. D. Jones. il diags Mach 28:888-91, 968-71; 29:38-40, 116-22, 204-10 Jl-N '22
 Cutting double helical or herringbone gears. F. D. Jones. il diags Mach 29:548-53, 613-16 Mr-Apr '23
 Cutting helical gears in a lathe. M. Wright. il Am Mach 59:265 Ag 16 '23
 Cutting instrument gears. F. D. Jones. il diags plan Mach 29:951-5; 30:25-7 Ag-S '23
 Cutting internal spur gears. F. D. Jones. il diags Mach 28:776-9 Je '22
 Cutting large gears in a small milling machine. W. C. Schellenberger. il Am Mach 57:701 N 2 '22
 Cutting spur gears by hobbing. il Mach 28: 716-21 My '22
 Cutting spur gears on gear shapers. il diags Mach 28:645-50 Ap '22
 Cutting worm-gears. F. D. Jones. il diags Mach 29:784-9 Je '23
 Design of herringbone gears. N. Leerberg. diags Am Mach 57:597-604 O 19 '22
 Estimating modern gear production. G. E. Spies. Am Mach 56:799-804 Je 1 '22
 Gears and gear-cutting. il Eng & Ind Management 7:329+ Ap 6 '22
 Hobbing spiral bevel gears. N. Trbojevich. il diags Mach 30:165-76 N '23
 Hobbing tangent rack gears. il diags Engineering 115:106-7 Ja 26 '23

Gear cutting—Continued

- Maag gearing. L. J. Le Mesurier. *il diags Engineering* 112:801-5 D 9 '21
- Mass production in gear-cutting. J. Horner. *Engineering* 113:379-80, 443-5, 477 Mr 31, Ap 14-21 '22
- Methods of generating helical gears. F. D. Jones. *il diags Mach* 29:445-50 F '23
- Modern gear cutting shop at the Central gear works. F. H. Colvin. *il diags plan Am Mach* 57:326-30 Ag 31 '22
- Ein neues zahnradformverfahren. H. Verbeck. *diags Stahl & Eisen* 42:132-4 Ja 26 '22
- Practical example of helical gear cutting. M. Wright. *il Am Mach* 57:151 Jl 27 '22
- Principles and practice of toothed gear wheel cutting. G. W. Burley. 460p Scott, Greenwood & son, London '22
- Rack-cutting. F. D. Jones. *il diags Mach* 29:711-13 My '23
- Replacing a gear. S. R. Hunter. *diags Am Mach* 58:738-9 My 17 '23
- Roller chains and sprockets; report of the joint committee. *Mech Eng* 45:500-3+ Ag '23
- Shaving pinions in a safety punch press. H. Crawford. *il Am Mach* 57:658 O 26 '22
- Simmons method of hob making. C. O. Herb. *il diags Mach* 29:255-60 D '22; *Abstract. Mech Eng* 45:124-5 F '23
- Spherical gears. C. H. Logue. *diags Mech Eng* 44:713-19 N '22
- Spiral bevel gears which can be hobbled. N. Trbojevic. *il diags plan Am Mach* 59:647-52 N 1 '23
- Use of optical instruments in machine work. *il diags Am Mach* 56:697-701 My 11 '22

Tables, calculations, etc.

- How to use gear-cutting hobs. S. O. Bjornberg. *il charts Soc Auto Eng J* 12:181-5; *Discussion*. 185-7 F '23

Gear cutting machines

- British worm-gear generator; abstract. *diag Mech Eng* 44:322 My '22
- Brown & Sharpe spur and spiral gear hobbing machine. *il Am Mach* 59:635-6 O 25 '23; *Iron Age* 112:1115-16 O 25 '23; *Mach* 30:227-9 N '23
- Cincinnati simplified gear hobber. *il Iron Age* 111:1431 My 17 '23; *Automotive Ind* 48:1124-5 My 24 '23; *Mach* 29:733-5 My '23
- Commercial gear-cutting practice. F. D. Jones. *il diags Mach* 28:437-46 F '22
- Cross gear-tooth rounding machine. *il Am Mach* 56:680 My 4 '22
- Cutting bevel gears with formed cutters. F. D. Jones. *il diag Mach* 29:363-5 Ja '23
- Cutting slots in knitting machine parts with gear-cutting machines. F. R. Daniels. *diags Mach* 30:44-6 S '23
- Cutting spur gears on gear shapers. *il diags Mach* 28:645-50 Ap '22
- Device for gashing the teeth of bevel pinions. M. Wright. *il diag Am Mach* 57:495-6 S 28 '22
- Diamond universal hob for cutting sprocket teeth. *il Am Mach* 56:350-1 Mr 2 '22
- Fellows gear shaper designed for high speed production. *il Automotive Ind* 45:1218-20 D 22 '21; *Iron Age* 108:1607-8 D 22 '21; *Am Mach* 56:36-7 Ja 5 '22; *Automobile Eng* 12:174 Je '22; *Engineer* 133:700-1 Je 23 '22; *Mach* 28:407-9 Ja '22
- Gleason 8-inch bevel gear generator. *il Am Mach* 59:490-1 S 27 '23; *Iron Age* 112:850 S 27 '23; *Mach* 30:150-1 O '23
- Gleason 4-in. spiral bevel gear generator. *il Am Mach* 56:38 Ja 5 '22; *Mach* 28:411-12 Ja '22
- Gleason gear planer at Watertown arsenal. *il Am Mach* 57:344-5 Ag 31 '22
- Hobbing-machine operation. J. Edgar. *Soc Auto Eng J* 12:179-80 F '23
- How a shop saved by replacing old shop equipment with new equipment. H. F. Pusep. *diags Am Mach* 59:203-4 Ag 9 '23
- Improved rack cutting attachment. *il Automotive Eng* 11:369 N '21
- Improved spur gear generating machine. *il diag Engineer* 133:592 My 26 '22

- Improvised gear hobbing machine that paid for itself. R. Brainard. *il Am Mach* 57:778 N 16 '22
- Large Sykes gear generators. *Engineering* 115:69, 78, pl 5 Ja 19 '23
- Maag gearing. L. J. Le Mesurier. *il diags Engineering* 112:801-5 D 9 '21
- New herringbone gear planer. N. Leerberg. *diags plan Am Mach* 59:561-3 O 11 '23; *Abstract. Mech Eng* 45:707-8 D '23
- New spur gear grinder generates true involute tooth curve. *il diags Automotive Ind* 48:968-9 My 3 '23
- New worm gear generating machine made by Smith and Coventry, ltd. *il Engineer* 133:78-9 Ja 20 '22
- New worm gear generating machine made by William Muir & co. *il Engineer* 132:654 D 16 '21
- Old English machine for cutting spiral bevel gears. W. Owen. *il Am Mach* 56:556-7 Ap 13 '22
- Special hobbing attachment. O. S. Marshall. *il diags Am Mach* 57:970 D 21 '22
- Stevenson model 6-A multiple gear shaper. *il Am Mach* 56:347-8 Mr 2 '22; *Mach* 28:581-2 Mr '22
- Thread milling cutters and hobs. A. Nugent. *diags Am Mach* 57:934 D 14 '22
- Vertical-feed knock-off. O. S. Marshall. *il diag Am Mach* 58:83-4 Ja 11 '23

Manufacture

- Making hobs for cutting the teeth of gears. E. Sheldon. *il Am Mach* 59:623-7 O 25 '23

Testing

- Device for testing the tooth faces of hobs and gear cutters. A. W. Freeman. *il diags Am Mach* 59:29 Jl 5 '23
- Testing gear-hobbing machines. D. V. Waters. *il diags Mach* 29:304-6 D '22

Gear testing machines

- American gear tester built to check involute curves. *il diags Automotive Ind* 49:538-9 S 13 '23
- Davenport spiral-bevel gear testing machine. *il Mach* 29:237 N '22; *Am Mach* 57:711 N 2 '22; *Iron Age* 110:1140 N 2 '22
- Fixture for testing worms and worm gears. A. J. Cayouette. *diags Am Mach* 59:631 O 25 '23
- Gear-measuring machine. *il diags Engineering* 116:104-9 Jl 27 '23
- Gear-testing machines. *il Sci Am* 127:401 D '22
- Lees-Bradner gear-tooth testing machine. *il Mach* 29:649-51 Ap '23; *Am Mach* 58:610-1 Ap 26 '23
- Machine for measuring gear teeth, constructed by the Metropolitan-Vickers electrical co. *il diags Engineering* 114:410-11 S 29 '22
- New method for determining the effect of speed upon the strength of gear teeth. W. Lewis. *diags Mech Eng* 44:813-15 D '22
- Pitch line indicator attachment. E. C. Cooley. *diags Mach* 29:141 O '22
- Pratt & Whitney odontometer for testing gear teeth. *il Am Mach* 57:158 Jl 27 '22; *Iron Age* 110:204 Jl 27 '22; *Mach* 28:1010-11 Ag '22
- Saurer bevel gear testing machine. *il diags Engineering* 113:228-9 F 24 '22; *Same. Soc Auto Eng J* 11:193-4 Ag '22
- Spur-gear grinding and testing. A. J. Ott and C. L. Ott. *il diags Soc Auto Eng J* 13:401-6 N '23; *Discussion*. 13:473-5 D '23
- Testing involute spur gears; the Saurer gear testing machine and the odontometer. M. Estabrook. *il charts diag Mech Eng* 45:32-4+; *Discussion*. 81 Ja '23
- Testing machine developed to solve gear strength problem. W. Lewis. *diags Automotive Ind* 48:974-8 My 3 '23
- Testing spiral bevel gears in manufacture. *il Automotive Ind* 47:981-2 N 16 '22
- Use of the projection comparator in testing gear teeth. R. E. Flanders. *il Iron Age* 109:1137-8+ Ap 27 '22

See also Minimizers

Gearing

American gear manufacturers' association 7th annual convention, Cleveland, Iron Tr R 72:1250 Ap 26 '23; Iron Age 111:1189-92 Ap 26 '23

American gear manufacturers' association 7th annual convention, Cleveland, P. M. Heldt, Automotive Ind 18:932-6 Ap 26 '23

American machinist gear book, C. H. Logue, 3d ed., rev. 353p McGraw-Hill '22

Automatic variable gear, E. W. Walford, diags Automobile Eng 13:52-3 F '23; Same abr. Mech Eng 45:252-3 A '23; Discussion, Automobile Eng 13:105 Ap '23

Autopitch gear, diags Mech Eng 44:602-3 S '22

Differential mechanism for large speed reduction, E. E. Lakso, il diags Mach 29:559-60 Mr '23

Friction drive for rolling mills, il diags Engineer 133:247 Mr 3 '22; Same, Iron Age 109:1808 Je 29 '22

Gear cases modified to get better lubrication, Elec Ry J 62:380-1 S 8 '23

Gear economies through new tooth shapes, E. S. Sawtelle, il diags Elec Ry J 60:91-3 J 15 '22; Same, Coal Age 22:712-14 N 2 '22

Gear makers' convention of much technical interest, P. M. Heldt, diags Automotive Ind 46:901-6 Ap 27 '22

Gear makers discuss industry's problems at Buffalo meeting, Iron Age 109:1134-7 Ap 27 '22

Gear makers seek to expand industry by finding new uses for product, P. M. Heldt, diags Automotive Ind 49:903-7 N 1 '23

Gear makers urge better cost systems and discuss technical problems, P. M. Heldt, Automotive Ind 47:768-74 O 19 '22

Gear transmission with a mechanical shift; the Soden gear shift, H. O. Herzog, diags Am Mach 57:16-17 J 1 6 '22

Gear with only one tooth, il Sci Am 128:25 Ja '23

Gear without cogs hailed as engineering marvel, Pop Mech 40:413 S '23

Gears and gear-cutting, il Eng & Ind Management 7:329+ Ap 6 '22

Gears and pinions for electric railway and mine service, charts Am Mach 57:105-6 J 1 20 '22

Gears and speed reducers, G. A. Van Brunt, il Ind Eng 81:131-6+ Mr '23

H. R. reduction gear, diag Eng & Ind Management 8:56 Ag 10 '22

Hotchkiss-Taylor system of gearing, il diags Engineering 113:400, 401 Mr 31 '22

Interesting rack and gear movement, M. Wright, il Am Mach 57:769-71 N 16 '22

Mechanical transmission of power, F. E. Cardullo and F. D. Jones, Mach 29:201-3 N 2 '22

Method of selecting gearing for motor-driven cargo hoists and winches, J. A. Jackson, Gen Elec R 25:171-3 Mr '22

Methods of machine tool design, A. L. DeLeeuw, diags Am Mach 57:92-4, 137-40, 184-6, 223-7, 259-61 J 1 20-Ag 17 '22

Modern industrial gear, W. H. Phillips and L. F. Burnham, il diags Eng Soc W Pa 39: 19-35 F '23; Same cond. Iron Age 112:1037-8 O 18 '23; Discussion, Eng Soc W Pa 39: 36-43 F '23

Overhanging gear drives, J. T. Towlson, diags Am Mach 59:525 O 4 '23

Questions regarding the design and action of reduction gears, J. H. Macalpine, Engineering 114:58-62 J 1 14 '22

Ratchet mechanisms, C. M. Linley, diags Mach 29:536-7 Mr '23

Recent types of hydraulic transmission gear, il diag Eng & Ind Management 7:323-7 Ap 6 '22

Reciprocating motion mechanism, D: Ersson, diags Mach 28:746 My '22

Reduction and change-speed gear; abstract, diags Mech Eng 44:737 N '22

Reduction gear problem, Engineering 114:179-80 Ag 11 '22

Silent and friction ratchets, F. Franz, diags Mach 29:852 J 1 '23

Speed reduction by differential gearing, F. C. Penny, diags Mach 28:828-9 Je '22

Top-roll balancing gear, diags Iron Age 111: 1026 Ap 12 '23

Transmission of power through ball friction gearing, C. G. Nordstrom, il diags Am Mach 58:592-3 Ap 19 '23

Turbo gas booster; Matteucci patented speed transmission gear, il diags Engineer 135: 372-3 Ap 6 '23

See also Airship engines—Gearing; Automobiles—Gearing; Chain gear; Electric motors, Railway—Gearing; Gear cutting; Gear cutting machines; Gear testing machines; Locomotives—Gearing; Motor trucks—Gearing; Oil gear system; Planning machines—Gearing; Power transmission; Steam turbines, Marine—Gearing; Textile gear board; also American gear manufacturers' association

Inspection

Inspection methods, E. Fairbrother, il diags Eng & Ind Management 8:43-5 Ag 10 '22

Inspection of mill reduction units, R. H. Rausch, il diags Iron Age 109:1440-2 My 25 '22

Inspection of spur gears, D. V. Waters, il diag Mach 28:465-6 F '22

See also Gearing—Testing

Manufacture

Accuracy of gear wheels, Engineer 135:123-4, 193 F 2, 23 '23

American gear-tooth grinder, il diags Mach 30:225-6 N '23; Iron Age 112:1237-8 N 8 '23

American grinder co. spur gear grinding machine, A. J. Ott and C. L. Ott, il diags Am Mach 59:659-61 N 1 '23

Burnishing the teeth of gears, E. Sheldon, il Am Mach 58:325-6 Mr 1 '23

Chicago convention of American gear manufacturers' association, Iron Age 110:993-6 O 19 '22

Chipping and filing the teeth of gear wheels, J. T. Towlson, Am Mach 58:141 Ja 25 '23

Duralumin, R. W. Daniels, Soc Auto Eng J 11:477-80+ D '22; Same, Am Mach 57:62-5 J 1 13 '22; Abstracts, Iron Age 108:1020-1 O 20 '21; Mach 28:542-3 Mr '22

Forged or rolled steel for gears, Am Mach 56:485 Mr 30 '22

Forming gears by hot rolling, R. Trautschold, il Iron Tr R 70:396-9 F 9 '22

Gear grinding, il Automobile Eng 13:170-1 Je '23

Gear grinding, R. S. Drummond, il Soc Auto Eng J 12:173-6 F '23

Gear-grinding and tooth-forms, G. Muffly, il diags Soc Auto Eng J 12:545-55 Je '23; Abstracts, Automotive Ind 48:809 Ap 12 '23; Mech Eng 45:362-3 Je '23; Discussion, Soc Auto Eng J 12:555-9 Je '23; Correction, 13: 248+ S '23

Gear tooth grinding, F. D. Jones, il diags Mach 30:85-95 O '23

Gear tooth grinding process reduces heat treatment distortion dangers, il Automotive Ind 46:1162-4 Je 1 '22

Gears of a new material in place of steel, Sci Am 126:88 F '22

Grinding bevel gears true with pitch circle, M. Wright, il Am Mach 58:399-400 Mr 15 '23

Grinding hardened gear teeth; abstract, il diag Mech Eng 44:265 Ap '22

Grinding of gear teeth and its future in the industry, R. S. Drummond, il Am Mach 56: 737-9, 779-81 My 18-25 '22

Hot-rolled gears produced by new process, il Pop Mech 39:716 My '23

Hot rolling of gears, R. Trautschold, il Blast F & Steel Pl 10:270-3 My '22; Same cond. Mech Eng 44:458 J 1 '22

Improvised method of making small gears, C: Janney, diag Am Mach 58:347 Mr 1 '23

Making a large gear wheel under difficulties, K. Saldis, Am Mach 57:273 Ag 17 '22

Making gears on the punch press, F. Lux, diags Mach 29:453-6 F '23

Microscope aids steel selection, E. C. Smith, il Iron Tr R 73:673-7+ S 6 '23

Precautions for cast helical gears, J: S, Watts, diag Am Mach 59:656 N 1 '23

Gearing—Manufacture—Continued

Producing spur and bevel gears with hot-rolled teeth. *il* Automotive Ind 47:618-21 S 28 '22; Iron Age 110:361-3 O 5 '22; Automobile Eng 12:313-15 O '22

Quality control in gear manufacture. S. O. Bjornberg. *il* charts Mach 29:623-6 Ap '23

Rolling the teeth in hot gear blanks. F. E. Walker, Jr. *il* Am Mach 56:409-12 Mr 16 '22

Roughing bevel gears and pinions. F. D. Jones. *il* diag Mach 29:287-92 D '22

Some causes of gear-tooth errors and their detection. K. L. Herrmann. *diags* Soc Auto Eng J 11:391-7 N '22; Same. Automotive Ind 47:869-73 N 2 '22; Same cond. Am Mach 57:841-3 N 30 '22; Abstract. Mech Eng 45:50-1 Ja '23; Discussion. Soc Auto Eng J 12:26-7 Ja '23

Spur-gear grinding and testing. A. J. Ott and C. L. Ott. *il* diags Soc Auto Eng J 13:401-6 N '23; Discussion. 13:473-5 D '23

Tooth-forms of green, burnished, hardened and ground gears. K. L. Herrmann. *il* diags Am Mach 58:933-6; 59:5-9 Je 28-Jl 5 '23

Tooth rack checks accuracy of gear grinder. Pop Mech 39:568 Ap '23

Turbine reduction gearing and its production. J. H. Melloy. *il* diags Engineer 133:494-6, 498; Discussion. 496 My 5 '22

See also Gear cutting; Gear cutting machines

Repair

Building up gear teeth with the welding process. J. V. Romig. *diags* Am Mach 58:196 F 1 '23

Emergency repairs on a gold dredge gear. F. C. Hudson. *il* Am Mach 59:393-4 S 13 '23

Repairing broken gear wheel teeth. G. H. Radebaugh. *il* Brick & Clay Rec 60:617-20 Ap 18 '22

Specifications

Specifications for brass and bronze gears. Am Mach 56:71 Ja 12 '22

Standards

Gear makers discuss standards at semi-annual meeting, Lake Mohonk, N.Y. Iron Tr R 73:1248-9 N 1 '23; Iron Age 112:1182-3+ N 1 '23; Mach 30:187-8 N '23

Progress in gear standardization. Am Mach 59:699 N 8 '23

Progress in gear standardization; résumé of work accomplished by the sub-committees of the American gear manufacturers' association since October, 1922. Am Mach 58:917 Je 21 '23

Sectional committee on standardization of gears proposes five standards. *diags* Mech Eng 44:332-5 My '22

Standardization of herringbone gears. Am Mach 56:329-30 Mr 2 '22

Standardization work of the gear manufacturers. Mach 28:342 D '21

Stub tooth standard. P. M. Heldt. Automotive Ind 49:906-7 N 1 '23

See also Chain gear—Standards

Tables, calculations, etc.

Le calcul des pignons d'engrenages. G. Prudon. Génie Civil 82:373-6 Ap 21 '23

Calculating the horsepower of spur gears. F. R. Eberhardt. Mach 28:749 My '22

Chart to aid the figuring of helical gears. W. C. Stuart. *diags* Am Mach 56:630-3 Ap 27 '22

Computing pitch of bevel gears. G. F. Nordenholt. *diag* Mach 29:886-8 Jl '23

Design of bevel, helical and worm involute gears. A. B. Cox. *diags* Am Mach 56:104-7 Ja 19 '22

Designing change-gears for fixed centers. H. H. Manning. Mach 29:799-803 Je '23

Easy method for obtaining the diametral pitch of gears. Coal Age 23:677-8 Ap 26 '23

Epicyclic gears; the gear ratio diagram. P. Cormack. *diags* Engineering 114:511 O 27 '22; Same cond. Mech Eng 45:51 Ja '23

Factors governing the strength of gear teeth. D. T. Hamilton. *diags* Am Mach 58:681-5, 787-91, 907-11; 59:237-91 My 10, 31, Je 21, Ag 23 '23; Correction. 58:900 Je 21 '23; Discussion. 59:24, 43 Jl 5-12 '23

Finding the rate of gear tooth slippage. W. H. Jefferis. Am Mach 57:894 D 7 '22

Formula for determining the safe load for gears. V. Charushin. Am Mach 57:737 N 9 '22

Formulas for helical gears. V. L. Sherman. *diag* Am Mach 59:682 N 8 '23

Gear tooth parts; data sheets. Mach 29:942a Ag '23

Gear tooth shapes. E. W. Miller. *diags* Am Mach 56:129-32, 168-72 Ja 26-F 2 '22

Gleason works system of bevel gears. F. E. McMullen and T. M. Durkan. *diags* Mach 28:788-92 Je '22; Same. Automotive Ind 46:1064-8 My 18 '22; Same. Am Mach 56:849-53 Je 8 '22; Same. Iron Age 109:1670-3 Je 15 '22

Law of the involute curve. O. G. Simmons. *diags* Am Mach 57:801-3, 837-9 N 23-30 '22

Measuring the tooth thickness of helical involute gears. E. Wildhaber. *diags* Am Mach 59:587-8 O 18 '23

Measuring tooth thickness of involute gears. E. Wildhaber. *diag* Am Mach 59:551-2 O 11 '23

Methods of computing pitch of spur gears. G. F. Nordenholt. *chart* Mach 28:660-2 Ap '22

Nodal arrangements of geared drives. J. H. Smith. Engineering 113:438-40, 467-9 Ap 7-14 '22; Discussion. Engineer 133:419-20 Ap 14 '22; Abstract. Mech Eng 44:455-6 Jl '22

Normal pitch as a basic factor in computing involute gears. E. Sheldon. Am Mach 58:285-7 F 22 '23

On the magnitude of the forces of resonance in a turbine-driven steamship. A. Eagle. Engineering 114:290-1 S 8 '22; Discussion. 114:500-1, 673-5 O 20, D 1 '22

Problem in epicyclic gearing. A. L. De Leeuw. *diag* Am Mach 58:283-4 F 22 '23; Discussion. 59:202, 407-8 Ag 9, S 13 '23

Proportions of industrial gears. G. E. Katzenmeyer. *charts* *diags* Mach 28:798-802 Je '22

Rear-axle gear calculations by the compressive-stress method. J. Jandasek. *diag* Soc Auto Eng J 11:375-9 O '22

Simplified formula for strength of gear teeth. D. T. Maltpartida. Mach 28:736 My '22

Strength and proportion of industrial gears. G. E. Katzenmeyer. *charts* Am Mach 56:666-71 My 4 '22; Correction. 56:713 My 11 '22

Testing

Dial gage device used with success to test spiral bevel gears. P. M. Heldt. *il* *diags* Automotive Ind 48:1088-9 My 17 '23

Gage for testing spur gears. G. Phelps. *diags* Am Mach 55:1014 D 22 '21

Gear steel. *il* *diags* Automotive Eng 13:232-7 Ag '23

Hartness comparator for gaging gears. *il* Am Mach 56:790 My 25 '22

Inspection of gear teeth by enlarged projection. *il* Pop Mech 38:237 Ag '22

Investigation of tooth wear with automobile gear steels. E. R. Ross. *il* *diags* Automotive Ind 45:865-9 N 3 '21; Discussion. G. A. Ungar. Automotive Ind 46:188 Ja 26 '22; Same cond. Am Mach 56:515-19 Ap 6 '22

Mechanical gearing. C. A. Parsons, S. S. Cook and H. M. Duncan. *il* *diags* Engineering 115:408-11 Mr 30 '23; Same cond. Engineer 135:349-50 Mr 30 '23; Discussion. Engineering 115:388-9 Mr 30 '23; Engineer 135:335-6 Mr 30 '23

Method for finding Lewis factors. M. A. Durland. *diags* Mach 29:958 Ag '23

Methods of machine tool design. A. L. De Leeuw. *diags* Am Mach 57:287-9 Ag 24 '22

New instrument known as an odontometer for checking gear tooth profiles and spacing. *il* Automotive Ind 47:171 Jl 27 '22

New method for determining the effect of speed upon the strength of gear teeth. W. Lewis. *diags* Mech Eng 44:813-15 D '22

Quality control in gear manufacture. S. O. Bjornberg. *il* *charts* Mach 29:623-6 Ap '23

Shadow-testing of gear teeth. A. P. Child. *il* Sci Am 128:173 Mr '23

Gearing—Testing—Continued

Some causes of gear-tooth errors and their detection. K. L. Herrmann. diags Soc Auto Eng J 11:391-7 N '22; Same. Automotive Ind 47:869-73 N 2 '22; Same cond. Am Mach 57:841-3 N 30 '22; Abstract. Mech Eng 45:50-1 Ja '23; Discussion. Soc Auto Eng J 12:26-7 Ja '23

Strength of internal spur gear teeth. D. T. Hamilton. il diags Mach 29:109-11 O '22

Testing gear and gear-cutting teeth. R. E. Flanders. il Mach 28:817-19 Je '22; Same. Automotive Ind 46:1116-19 My 25 '22

Testing gears by micrometer measurement. S. O. Gordon. diag Am Mach 57:195-6 Ag 3 '22

Testing push fits by spring tension. H. Crawford. il Am Mach 57:582 O 12 '22

Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 59:481-3 S 27 '23

See also Gear testing machines

Gearing, Bevel

Bevel and spiral bevel gear practice. F. H. Colvin. diags Am Mach 56:304-5 F 23 '22

Bevel gear report at American gear manufacturers' association convention. Automotive Ind 47:769-72 O 19 '22

Chamfering ring bevel gears. il Mach 28:537 Mr '22

Computing pitch of bevel gears. G. F. Nordenholt. diag Mach 29:886-8 Jl '23

Cutting bevel gears. F. D. Jones. il diags Mach 28:888-91, 968-71; 29:38-40, 116-22 Jl-O '22

Cutting bevel gears with formed cutters. F. D. Jones. il diag Mach 29:363-5 Ja '23

Cutting spiral type bevel gears. F. D. Jones. il diags Mach 29:204-10 N '22

Dial gage device used with success to test spiral bevel gears. P. M. Heldt. il diags Automotive Ind 48:1088-9 My 17 '23

Gleason works system of bevel gears. F. E. McMullen and T. M. Durkan. diags Mach 28:738-92 Je '22; Same. Automotive Ind 46:1064-8 My 18 '22; Same. Am Mach 56:849-53 Je 8 '22; Same. Iron Age 109:1670-3 Je 15 '22; Additional tables. Mach 29:226-7 N '22

Hobbing spiral bevel gears. N. Trbojevich. il diags Mach 30:165-76 N '23

Manufacture of spiral bevel gears. il diags Engineering 115:32-6, 46 Ja 12 '23

Old English machine for cutting spiral bevel gears. W. Owen. il Am Mach 56:556-7 Ap 13 '22

Spherical gears. C. H. Logue. diags Mech Eng 44:713-19 N '22

Spiral bevel gears. diags Engineer 135:649-52, 677-8 Je 22-29 '23

Spiral bevel gears which can be hobbled. N. Trbojevich. il diags plan Am Mach 59:647-52 N 1 '23

Gearing, Helical. See Gearing, Spiral**Gearing, Herringbone**

Cutting double helical or herringbone gears. F. D. Jones. il diag Mach 29:548-53, 613-16 Mr-Apr '23

Design of herringbone gears. N. Leerberg. diags Am Mach 57:597-604 O 19 '22

Double helical or herringbone gears. H. H. Talbot. diags Iron Age 108:1469-73, 1531-3 D 8-15 '21

Electric winding engines and mine hoists; some notes on double helical gearing. H. H. Broughton. Electrician 88:6-7, 34-7 Ja 6-13 '22

New herringbone gear planer. N. Leerberg. diags plan Am Mach 59:561-3 O 11 '23

Proposed standards for herringbone gears. Am Mach 58:183-4 F 1 '23; Same. Mech Eng 45:145+ F '23

Standardization of herringbone gears. Am Mach 56:329-30 Mr 2 '22

Suggestion for herringbone gear standards. N. Leerberg. Am Mach 56:589 Ap 20 '22

Gearing, Non-metallic

Study of material and methods needed in non-metallic gear production. J. E. Schipper. il diags Automotive Ind 48:1084-6 My 17 '23; Discussion. 49:85 Jl 12 '23

Textoil gear board; a new material for making gears. il Ry Mech Eng 97:376-7 Je '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

Gearing, Spiral

Chart to aid the figuring of helical gears. W. C. Steuart. diags Am Mach 56:630-3 Ap 27 '22

Formulas for helical gears. V. L. Sherman. diag Am Mach 59:682 N 8 '23

Helical gears step up the speed of water turbines. diags Power 56:860-1 N 28 '22

High-ratio single-tooth pinion drive. il diags Engineering 113:195 F 17 '22

Measuring the tooth thickness of helical involute gears. E. Wildhaber. diags Am Mach 59:587-8 O 18 '23

Methods of generating helical gears. F. D. Jones. il diags Mach 29:445-50 F '23

New system of helical involute gearing for use on metal planers. F. E. Cardullo. diags Mech Eng 44:816-17+ D '22

One-tooth helical pinion. il Engineer 133:191 F 17 '22

Spiral bevel gears. diags Engineer 135:649-52, 677-8 Je 22-29 '23

See also Gearing, Herringbone

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American grinder co. spur gear grinding machine. A. J. Ott and C. L. Ott. il diags Am Mach 59:659-61 N 1 '23

Cutting internal spur gears. F. D. Jones. il diag Mach 28:776-9 Je '22

Cutting spur gears by hobbing. il Mach 28:716-21 My '22

Inspection of spur gears. D. V. Waters. il diag Mach 28:465-6 F '22

Method for finding Lewis factors. M. A. Durland. diags Mach 29:958 Ag '23

Planing large spur gears. F. D. Jones. il Mach 28:529-32 Mr '22

Some pointers on the use of gears and pinions. G. A. Van Brunt. il diags Ind Eng 81:81-4 F '23

Spherical gears. C. H. Logue. diags Mech Eng 44:713-19 N '22

Spur gears. J. W. Snarry. diags Automobile Eng 12:393-6 D '22

Strength of internal spur gear teeth. D. T. Hamilton. il diags Mach 29:109-11 O '22

Strength of spur gears. M. K. Akers. Ind Management 64:109-12 Ag '22

Testing involute spur gears; the Saurer gear testing machine and the odontometer. M. Estabrook. il charts diag Mech Eng 45:32-4+; Discussion. 81 Ja '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

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What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

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What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

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What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

What is the most logical location for non-metallic gears. T. C. Roantree. il Automotive Ind 49:284-5 Ag 9 '23

Gelatin—Continued

- Drying and swelling of gelatin; preliminary note. S. E. Sheppard and F. A. Elliott. *il Am Chem Soc J* 44:373-9 F '22
- Elasticity of purified gelatin jellies as a function of hydrogen-ion concentration. S. E. Sheppard, S. S. Sweet and A. J. Benedict. *Am Chem Soc J* 44:1857-66 S '22
- Evaluation of gelatin and glue. R. H. Bogue. *J Ind & Eng Chem* 14:435-40; Bibliography. 440-1 My '22; Abstract. *Chem & Met Eng* 26:123 Ja 18 '22
- Further studies of the physical characteristics of gelatin solutions. C. E. Davis and E. T. Oakes. *Am Chem Soc J* 44:464-79 Mr '22
- Gelatin in photography. S. E. Sheppard. Van Nostrand; Eastman kodak co., Rochester, N.Y. '23
- Gelatin in the photographic process. S. E. Sheppard. *il J Ind & Eng Chem* 14:1025-32 N '22
- Gelatin-tannin reaction. A. W. Thomas and A. Frieden. *bibliog Ind & Eng Chem* 15: 839-41 Ag '23
- Glue and gelatin. J. Alexander. 236p Chemical catalog co. '23
- Influence of gelatin on the transference numbers of sulfuric acid. A. L. Ferguson and W. G. France. *Am Chem Soc J* 43:2161-71 O '21
- Interfacial tension between gelatin solutions and toluene. S. E. Sheppard and S. S. Sweet. *Am Chem Soc J* 44:2797-2805 D '22
- Isoelectric condition of gelatin. S. O. Rawling and W. Clark. *Chem Soc J* 121:2830-43 D '22
- Jell strength and viscosity of gelatin solutions. E. T. Oakes and C. E. Davis. *diag J Ind & Eng Chem* 14:706-10 Ag '22; Discussion. J. Alexander. 14:1084 N '22
- New instrument for testing glue and gelatin jellies. W. D. Richardson. *diag Chem & Met Eng* 28:551-2 Mr 21 '23
- Recent chemical and technological advances in our knowledge of gelatin and glue. R. H. Bogue. *bibliog J Ind & Eng Chem* 14:795-7 S '22
- Significance of the iso-electric point for the preparation of ash-free gelatin. J. Loeb. *Am Chem Soc J* 44:213-15 Ja '22
- Sol-gel equilibrium in protein systems. R. H. Bogue. *Am Chem Soc J* 44:1313-22 Je '22
- Swelling and gelation of gelatin. R. H. Bogue. *J Ind & Eng Chem* 14:32-5 Ja '22
- Testing of glue and gelatin gels. A. M. Howald. *diags Chem & Met Eng* 28:1037 Je 11 '23
- Thermal expansion of gelatin gels. A. Taffel. *diag Chem Soc J* 121:1971-84 O '22
- Two forms of gelatin and their iso-electric points. J. A. Wilson and E. J. Kern. *Am Chem Soc J* 44:2633-6 N '22
- Use of lime in the glue and gelatin industry. R. H. Bogue. *Ind & Eng Chem* 15:736-7 Jl '23
- Uses of edible gelatin; chart. *Ind & Eng Chem* 15:602 Je '23
- Viscosity of gelatin sols. R. H. Bogue. *Am Chem Soc J* 43:1764-73 Ag '21

Analysis

- Determination of ash, arsenic, copper, and zinc in gelatin. R. M. Mehurin. *Ind & Eng Chem* 15:942-3 S '23; Discussion. 15:1197 N '23

Gelatinization

- Gelatinization of lignocellulose. A. W. Schorger. *Ind & Eng Chem* 15:812-14 Ag '23
- Substances that prevent the jelling of tung oil. F. H. Rhodes and T. J. Potts. *Chem & Met Eng* 29:533 S 17 '23

Gelometer

- New instrument for testing glue and gelatin jellies. W. D. Richardson. *diag Chem & Met Eng* 28:551-2 Mr 21 '23

Gelose

- Sources, preparation and properties of algal gelatins. I. A. Field. *Chem Age* 29:485-6 D '21

Gels. See Colloids

Genealogical libraries

- Highly specialized reference files: reference library of the Society, Sons of the Revolution in Los Angeles. P. W. Banning. *Special Lib* 13:91-3 Je '22

Genelite

- Genelite—a new bearing material. E. G. Gilson. *il Mach* 29:123-4 O '22
- Genelite: an improved bearing alloy. E. G. Gilson. *il Gen Elec R* 24:949-51 N '21; Same. *Metal Ind* 20:98-9 Mr '22
- Genelite and water jacket exhibit at the New York automobile show. *Gen Elec R* 25:51 Ja '22
- Self-lubricating material. *Brass W* 18:26 Ja '22

General asphalt company

- 20th annual report—year ended Dec. 31, 1922. *Comm & Fin Chr* 116:1890-1 Ap 28 '23

General electric company, Schenectady, New York

- Company finances brought home to employees. C. M. Ripley. *chart Management Eng* 4: 153-6 Mr '23
- Grading the General electric employees. J. O'Connor. *Iron Age* 112:1195-6 N 1 '23
- Supplementary campaign as a builder of goodwill. R. Cole. *Ptr Ink* 121:133-4+ N 2 '22
- Thirty years of the G. E. company. *Elec W* 82:158-9 Jl 21 '23
- 30th annual report for year ended December 31, 1921. *Comm & Fin Chr* 114:1675-6 Ap 15 '22
- 31st annual report—year ended December 31, 1922. *Comm & Fin Chr* 116:1557-9 Ap 7 '23
- See also Nela Park, Cleveland, Ohio

General electric company, Ltd., London

- Coming of age of Witton. *il Electrician* 88: 189-91 F 17 '22
- Les laboratoires de recherches de la General electric company Ltd. à Londres. P. Calfas. *il diag plan Génie Civil* 82:485-90 My 26 '23
- Research laboratories of the General electric co., Ltd. *il diag plans Engineering* 115:256-8, 271-6. *il 17-29 Mr 2 '23; Elec R (Lond)* 92:379-83 Mr 9 '23; *Engineer* 135:228-9, 232 Mr 2 '23; *Illum Engr* 16:53-4+ F '23
- Visit to the G.E.C. works at Witton. *il Engineer* 133:152-3, 156 F 10 '22
- Witton engineering works of the General electric co., Ltd. *il Elec R (Lond)* 90:219-21 F 17 '22
- Works of the General electric company at Witton. *il Engineering* 113:166-7 F 10 '22

General motors corporation, Detroit, Michigan

- Building for the General motors company. *Am Arch* 120:392b-1, 393-8 N 23 '21
- Eliminating needless cost and confusion. D. G. Baird. *Ind Management* 65:334-7 Je '23
- Ford and General motors assets half those of U.S. steel corp. *Automotive Ind* 49:534-5 S 13 '23
- General motors. L. Beech. 24p Forbes financial research, New York '22
- General motors building, Detroit, Mich. *Arch & Bldg* 53:88, pl 181-3 N '21
- General motors corporation to make partners of executives. *Comm & Fin Chr* 117:1998-9 N 3 '23
- Income account for the six months ended June 30, 1923. *Comm & Fin Chr* 117:564 Ag 4 '23
- Income account—six months ended June 30, 1922. *Comm & Fin Chr* 115:657 Ag 5 '22
- Meeting de luxe service requirements: mechanical features of the largest office building of its kind in the world. C. C. Wilcox. *il diags plans Power Pl Eng* 27:255-65 Mr 1 '23
- Report for the fiscal year ended December 31, 1921. *Comm & Fin Chr* 114:1672-4 Ap 15 '22
- Report to the stockholders for the year ended December 31, 1922. *Comm & Fin Chr* 116: 1300-4, 2409 Mr 24, My 26 '23
- General petroleum corporation, San Francisco
- 6th annual report for the fiscal year ended June 30, 1922. *Comm & Fin Chr* 115:1333-9 S 16 '22
- 7th annual report for year ended June 30, 1923. *Comm & Fin Chr* 117:1250-2 S 15 '23

General refractories company

Abstract of official statement in connection with the listing of its first mortgage six per cent sinking fund bonds. *Comm & Fin* Chr 117:2006-10 N 3 '23

Generators, Electric. See Electric generators**Gennevilliers super-power station.** See Electric plants (central stations)—France**Genoa conference.** See International economic conference, Genoa, 1922**Gentian violet**

L'action bactériostatique et sélective du violet de gentiane et d'autres colorants alcalins. J. W. Churchman. *bibliog il Chimie & Ind* 10:212-15 Ag '23

Geochemistry

Colloids in geologic problems. G. D. Hubbard. *Am J Sci* 5th ser 4:95-110 Ag '22

Concentration and circulation of the elements from the standpoint of economic geology. W. Lindgren. *Econ Geol* 18:419-42 Ag '23

See also Geology; Mineralogy; Rocks—Analysis; Soil analysis; Soils

Geodesy

Geodetic operations in the United States, January 1, 1912, to December 31, 1921. W. Bowie. (Special pub. no. 81) 26p U.S. Coast and geodetic survey, Washington '22

Operations of Geodetic survey, Canada. N. Ogilvie. *Can Eng* 45:127-8 Jl 10 '23

Present status of the geodetic work in the United States and its value to geology. W. Bowie. *Am J Sci* 5th ser 5:175-82 May '23

Scientific papers presented before the American geophysical union at its second annual meeting. *Nat Research Council Bul* 3 pt 2: 3-26 Mr '22

Geodynamics

See also Earthquakes

Geography

See also Surveying

Bibliography

List of manuscript bibliographies in geology and geography. H. P. Little. (Reprint & Circ. Ser. 27) 17p '22 25c National Research Council, 1701 Massachusetts av, Washington, D.C.

Geography, Commercial

Business geography. E. Huntington and others. 482p Wiley '22

Business man's geography. E. G. R. Taylor. 496p G. Philip & son, London '23

Gateways of commerce. J. Fairgrieve and E. Young. 271p G. Philip & son, London '21

Handbook of commercial geography. G. G. Chisholm. 9th ed. 824p Longmans '22

Markets of the world, United States and Canada series. 41 numb. 1. General drafting co., New York '22

Smaller commercial geography. G. G. Chisholm. 302p Longmans '23

See also Commercial products

Geological chemistry. See Geochemistry**Geological dip chart**

Slide-rule dip chart. W. E. Gaby. *Min & Met* 189:48-50 S '22

Geological institute of Mexico City

Geological institute of Mexico City; an interview with Leopoldo Salazar Salinas, Director. A. T. Benitez. *il Eng & Min* J 114: 942-7 N 25 '22

Geological instruments

See Eötvös balance; Protractors

Geological maps. See Geology—Maps**Geological research**

See National research council—Division of geology and geography

Geological survey—United States. See United States—Geological survey**Geological surveys**

See Geology—Maps; Great Britain—Geological survey; Protractors

Geological time

Geologic time scale. G. H. Ashley. *Eng & Min* J 115:1106-9 Je 23 '23; Same. *Coal Age* 24:102-4 Jl 19 '23

Geologists

Geological experts—what the judge thinks. D. W. E. Monical. *Eng & Min* J 113:1054-5 Je 17 '22

Geological mining. H. G. Nichols. *Min & Sci* P 123:809-10 D 10 '21

Mining law and the geologist. C. K. Leith. *Min & Sci* P 124:232-4 F 18 '22

See also Bell, J. Mackintosh; Camsell, Charles; also Society of economic geologists

Geologists, State**Directories**

State geologists and engineers. *Eng & Min* J 115:159-60 Ja 20 '23

Geology

Analysis of structure, below an unconformity. J. B. Mertie, jr. *Econ Geol* 17:572-4 N '22

Civil engineering geology. C. S. Fox. 144p C. Lockwood & son, London '23

Earth evolution and its facial expression. W. H. Hobbs. 178p Macmillan '21

Eötvös torsion balance and its application to the finding of mineral deposits. S. Rybar. *bibliog Econ Geol* 18:639-62 O '23

Field geology. F. H. Lahee. 2d ed., rev. & enl. 651p McGraw-Hill '23

Galvanic structures of geology. T. A. Rickard. *Eng & Min* J 114:269 Ag 12 '22

General economic geology. W. H. Emmons. 516p McGraw-Hill '22

Geologic structures. B. Willis. 285p McGraw-Hill '23

Geological methods of the Homestake mining co., Lead, S.D. L. B. Wright and J. O. Hosted. *il map Eng & Min* J 112:886-9 D 3 '21

Geology. C. I. Gardiner. 138p J. Murray, London '23

Geology in partnership with American industry. G. O. Smith. *J Fr Inst* 192:623-35 N '21

Geology of prospecting. W. H. Emmons. *Eng & Min* J 115:122-3 Ja 20 '23

Geology: the science of the earth's crust. W. J. Miller. 384p P. F. Collier & son co., New York '22

Handbook for field geologists. C. W. Hayes. 3d ed. 166p Wiley '21

Man as a geological agent; an account of his action on inanimate nature. R. L. Sherlock. 372p H. F. & G. Witherby, London '22

New features in structural geology of the anthracite basins; abstract. J. F. Kemp. *Min & Met* 181:29-30 Ja '22

The new geology. G. M. Price. 726p Pacific press publishing assn., Mountain View, Calif. '23

Structural geology. C. K. Leith. Rev. ed. 390p Holt '23

See also Abrasives; Asbestos; Asphalt; Coal; Conglomerate; Copper ores; Earth; Earthquakes; Erosion; Faults (geology); Folds (geology); Gas, Natural; Geochemistry; Geological time; Glacial epoch; Glaciers; Graphite; Gypsum; Hot springs; Isostasy; Lava; Limestone; Metals; Mineralogy; Mines and mineral resources; Mountains; Mud cracks; Ocean; Oil shales; Ore deposits; Paleobotany; Paleontology; Peat; Pebbles; Penepains; Petroleum—Geology; Phosphates; Precious stones; Quarries and quarrying; Rocks; Salt; Salt domes; Sand; Schists; Sedimentation and deposition; Shale; Soils; Sulfur; Volcanoes; also Grand Canyon of the Colorado; International geological congress

Bibliography

Bibliography of North American geology for 1919-1920. J. M. Nickles. *U S Geol S Bul* 731:1-282 '22

List of manuscript bibliographies in geology and geography. H. P. Little. (Reprint & Circ. Ser. 27) 17p '22 25c National Research Council, 1701 Massachusetts av, Washington, D.C.

Geology—Bibliography—Continued

List of the publications, not including topographic maps, 192p U.S. Geol. Survey, Washington Ag '21

Maps

Geology as an aid to air navigation. M. G. Christie. Aviation 14:609-11 Je 4 '23

Relation of topographic and geologic mapping of Illinois to professional engineering. F. W. DeWolf. maps W Soc E J 28:18-26; Discussion. 26-8 Ja '23

Study of geological maps. G. L. Elles. 74p Macmillan '21

Work of the geological department at a porphyry copper mine. X. B. Starnes. Min & Sci P 124:396-7 Mr 25 '22

See also Mine maps

Bibliography

Catalogue of geological maps of South America. H: B. Sullivan. (Research ser. no. 9) 191p Am geographical soc., New York '22

Tables, calculations, etc.

Determination of dip and strike. W. S. T. Smith. diags Econ Geol 17:207-13 My '22

Determination of dip and strike from any two components, and the inverse problem. D. F. Higgins. diags Econ Geol 18:26-52 Ja '23

General formulae for the determination of thickness and depth of strata. W. A. Price. diags Econ Geol 17:370-81 Ag '22

Graphic and mechanical computation of thickness of strata and distance to a stratum. J. B. Mertie, jr. charts U S Geol S Prof Pa 129-C:39-52 '22

Practical method for determining dip and strike. C. R. Longwell and E. O. Waters. diags Econ Geol 16:405-9 S '21

Terminology

Plain geology. G: O. Smith. Econ Geol 17:34-9 Ja '22; Same. Nat Pet N 14:95-6 Ap 5 '22

Alabama

Geology and mineral resources of Clay county. W: F. Prouty. 190p Alabama geol. survey.. University, Ala. '23

Alaska

Geology of the vicinity of Tuxedni Bay, Cook inlet, Alaska. F: H. Moffit. U S Geol S Bul 722-D:141-7, pl 2 '21

Geology of the York tin deposits, Alaska. E: Steidtmann and S. H. Cothart. diags maps U S Geol S Bul 733:1-130, pl 1-12 '22

Kotsina-Kuskulana district, Alaska. F. H. Moffit and J. B. Mertie, jr. il diags maps plans U S Geol S Bul 745:1-149, pl 1-19 '23

Arizona

Erosion and sedimentation in the Papago country, Arizona; with a sketch of the geology. K. Bryan. il diags maps (supp) U S Geol S Bul 730-B:19-90 '22

Geology of the lower Gila region, Arizona. C. P. Ross. il map (supp) U S Geol S Prof Pa 129-H:183-97 '21

Verde river lake beds near Clarkdale, Arizona. O. P. Jenkins. il map Am J Sci 5th ser 5:65-81 Ja '23

Australia

Geographical distribution of ore deposits in Australasia. E. C. Andrews. Econ Geol 18: 1-25 Ja '23

Geology of the Broken Hill district. E. C. Andrews. map Econ Geol 17:470-90 S '22

Bolivia

Geology of the Corocoro copper district of Bolivia. J. T. Singewald, jr. and E: W. Berry. 117p Johns Hopkins press, Baltimore '22

British Columbia

Gold-quartz veins of Bridge river district, B.C., and their relationship to similar ore-deposits in the Western Cordilleras. W. S. McCann. diags Econ Geol 17:350-69 Ag '22

Origin of the placer gold of the Barkerville area, Cariboo district, British Columbia, Canada. W. L. Uglov and W. A. Johnston. il Econ Geol 18:541-61 S '23

California

Geology of San Bernardino mountains north of San Geronimo Pass. F. E: Vaughan. (Bul. Dept. geol. sci. v. 13, no. 9) p 319-411 Univ. of Cal. press, Berkeley '22

Notes on a geological traverse from Mohave, California, to the mouth of San Juan river, Utah. H. E. Gregory and L. F. Noble. Am J Sci 5th ser 5:229-38 Mr '23

Canada

Elementary geology with special reference to Canada. A. P. Coleman and W. A. Parks. 363p J. M. Dent & sons, London & Toronto '22

Chile

Geology of the Huantajaya silver district. H. G. Officer. diags plan Eng & Min J 113:568-72 Ap 8 '22

Colombia

Geology and oil resources of Colombia; the coastal plain. E. Beck. maps Econ Geol 16:457-73 N '21

Colorado

Crustal shortening of the Colorado Rockies. R. T. Chamberlin. il map Am J Sci 5th ser 6:215-21 S '23

Geology and ore deposits of the Creede district, Colorado. W: H. Emmons and E. S. Larsen. il diags maps U S Geol S Bul 718: 1-198, pl 1-12 '23

Rock-alteration and ore-deposition at Telluride, Colorado. M. C. Hurst. il diags map Econ Geol 17:675-702 D '22

See also Coal—Colorado

Connecticut

Structural and stratigraphic relations of the great Triassic fault of Southern Connecticut. W: L. Russell. diags maps Am J Sci 5th ser 4:483-97 D '22

Structure of the Triassic rocks in southern Connecticut. C. R. Longwell. map Am J Sci 5th ser 4:223-36 S '22

Costa Rica

Miocene of northern Costa Rica. A. A. Olsson. (Bul. of Am. paleontology, v.9, no. 39) 167p Cornell university, Ithaca '22

Czechoslovakia

Zonal division and correlation of the Silurian of Bohemia. J. Perner and O. Kodym. Am J Sci 5th ser 4:53-72 Jl '22

Georgia

See also Petroleum—Georgia

Bibliography

Historical sketch of the Geological survey of Georgia. H. S. Cave. [Bul. no. 39] 154p Georgia Geol. survey, Atlanta '22

Greenland

Preliminary report upon the geology of Peary Land, Arctic Greenland. L. Koch. maps Am J Sci 5th ser 5:189-99 Mr '23

Idaho

Geology and ore deposits of Shoshone county, Idaho. J. B. Umpleby and E. L. Jones, jr. U S Geol S Bul 732:1-151, pl 1-16 '23

Illinois

Geology and the Decatur dam and reservoir project. M. M. Leighton. diag map Eng N 91:264-6 Ag 16 '23

Indiana

Handbook of Indiana geology. W. N. Logan and others. 1120p Indiana. Dept. of conservation, Indianapolis '22

Geology—Continued

Maryland

Sections of the Rose Hill and McKenzie formations of the Silurian of Maryland. W. F. Prouty, 104p Johns Hopkins press, Baltimore '23

Mexico

Camp of Guanacevi, A. T. Benitez, il map Eng & Min J 114:139-44 J1 '22 '22; Discussion. P. X. Stoffel, 114:580 S 30 '22

Vestiges of an ancient continent in northeast Mexico. E. Böse, map Am J Sci 5th ser 6: 127-36, 196-214, 240-37 Ag-O '23

Minnesota

Minnesota Devonian and its relationship to the general Devonian problem of North America. C. R. Stauffer, map Am J Sci 5th ser 4:396-412 N '22

Occurrence of ladder joints in Minnesota. F. F. Chout, diags Econ Geol 18:494-505 Ag '23

Montreal

Sub-soil of Montreal. A. Mailhot, Can Eng 12:496-5 My 16 '22

Nevada

Geology and ore deposits of the Santa Fé district, Mineral county, Nevada. C. W. Clark, (Bul. Dept. geol. sci. v. 14, no. 1) 75p Univ. of Cal. press, Berkeley '22

New Hampshire

Geology of a part of the Ashcroft mining district. C. P. Ross, il maps Am J Sci 5th ser 5:267-302 Ap '23

New Mexico

Geologic structure of parts of New Mexico. N. H. Darton, il diags maps U S Geol S Bul 726—E:173-275 '22

New York (state)

Engineering geology of the Catskill water supply. C. P. Berkey and J. F. Sanborn, il diags maps Am Soc C E Pro 48:1529-95, pl 21-3 S '22; Discussion, 48:1889-1900; 49:123-30, 568-74 D '22-F '23

North America

Fundamental lines of North American geologic structure. R. Ruedemann, maps Am J Sci 5th ser 6:1-10 J1 '23

Permian revolution in North America. J. R. Finlay, Eng & Min J 112:1058-9 D 31 '21

Bibliography

Bibliography of North American geology for 1919-1920. J. M. Nickles, U S Geol S Bul 731:1-282 '22

Norway

Tillite-like conglomerate in the "Eocambrian" sparagmite of southern Norway. O. Holte-dahl, diag map Am J Sci 5th ser 4:165-73 Ag '22

Oklahoma

Differentiation and structure of Glenn formation in Oklahoma. W. L. Goldston, jr, Nat Pet N 14:99-103 Ap 5 '22

Structure of the Madill-Denison area, Oklahoma and Texas; with notes on oil and gas development. O. B. Hopkins, S. Powers and H. M. Robinson, U S Geol S Bul 736—A:1-33, pl 1-6 '22

Underground stratigraphic characteristics of eastern Oklahoma. E. A. Trager, Am J Sci 5th ser 5:110-6 F '23

See also Petroleum—Oklahoma

Ontario

Genesis of the ores of the Cobalt district, Ontario, Canada. A. R. Whitman, (Bul. Dept. geol. sciences, v.13, no. 7) p253-310 Univ. of Cal. press, Berkeley '22

Oregon

Bibliography

Bibliography of the geology and paleontology of the John Day region, Oregon. W. R. Jillson, 13p State journal co., Frankfort, Ky. '23

Peru

Geology of the tertiary and quaternary periods in the north-west part of Peru. T. O. Bosworth, 434p Macmillan '22

Siberia

New aspects of the geology of the principal ore-bearing provinces of Siberia. P. P. Goudkoff, map Econ Geol 17:260-73 Je '22

Paleozoic beds of the Angara series of West Siberia. A. A. Stoyanow, Am J Sci 5th ser 6:22-36 J1 '23

South Dakota

Geology of a portion of the Badlands. F. Ward, 89p University of South Dakota, Vermillion '22

Geology of the Homestake mine. S. Paige, il diags maps Econ Geol 18:205-36; Discussion, 236-7 Ap '23

Geology of the Homestake orebodies and the Lead area of South Dakota. J. O. Hosted and L. B. Wright, il map Eng & Min J 115: 793-9, 836-43 My 5-12 '23

Tasmania

Economic geology of the Mount Bischoff tin deposits, Tasmania. J. G. Weston-Dunn, il plan Econ Geol 17:153-93, pl 3 My '22

Texas

Geology of the Ranger oil field, Texas. F. Reeves, U S Geol S Bul 726—E:111-77, pl 15-19 '22

Geology of the Wiles area ranger district, Texas. C. E. Dobbin, diags map plan U S Geol S Bul 736—C:55-69, pl 8-9 '22

Laurelburg, Rogers district, North-Central Texas. C. S. Ross, U S Geol S Bul 726—G: 303-14 '21

Structure of the Madill-Denison area, Oklahoma and Texas; with notes on oil and gas development. O. B. Hopkins, S. Powers and H. M. Robinson, U S Geol S Bul 736—A: 1-33, pl 1-6 '22

See also Petroleum—Texas; Salt domes

United States

Bibliography

Publications of the United States geological survey, 12th ed. (Price list 15) 44p U.S. Superintendent of documents, Washington '21

Utah

Economic geology of the Ophir mining district. S. G. Olmstead, Econ Geol 16:433-56 N '21

Vermont

Cambrian succession of northwestern Vermont. A. Keith, map Am J Sci 5th ser 5:97-139 F '23

Virginia

Contribution to the geology of the Virginia emery deposits. T. L. Watson, il diags map plan Econ Geol 18:53-76 Ja '23

Geology and coal resources of Dickenson county, Virginia. A. W. Giles, (Va. Geol. S. Bul. no. 21) 224p Univ. of Virginia, Charlottesville '21

Wisconsin

Geology of the Baraboo gneiss deposits. W. O. Hotchkiss, il diag map Am Cer Soc J 6: 1160-6 N '23

Geometrical drawing

Practical geometry for builders and architects. J. E. Tanyter, 409p Dutton '21

See also Graphic methods; Mechanical drawing

Geometrical optics. See Optics, Geometrical

Geometrical progression

Geometric progressions by short-cut methods; value to standardization. L. D. Burlingame, il Am Mach 56:743-5 My 18 '22

Geometry

Elements of geometry. N. Campbell, Philos Mag 6th ser 44:15-29 J1 '22

Higher geometry. F. S. Woods, 423p Ginn '22

Geometry—Continued

Plane and solid geometry. W. B. Ford and C. Ammerman. 2d ed., rev. 356p Macmillan '23

Plane and solid geometry. H. F. Hawkes, W. A. Luby and F. C. Touton. 496p Ginn '23

See also Ellipses

Geometry, Analytic

Analytic geometry. C. E. Love. 306p Macmillan '23

Analytic geometry. L. P. Sicheloff, G. Wentworth and D. E. Smith. 290p Ginn '22

Course in analytic geometry. P. P. Boyd, J. M. Davis and E. L. Rees. 252p Van Nostrand '22

Introduction to plane analytical geometry and differential calculus. C. N. Mills. 131p Blakiston '22

Prolegomena to analytical geometry in anisotropic Euclidean space of three dimensions. E. H. Neville. 367p Macmillan '23

Geometry, Descriptive

Descriptive geometry. L. E. Cutter. 244p McGraw-Hill '23

Descriptive geometry. E. Kenison and H. C. Bradley. Enl. ed. 407p Macmillan '23

Descriptive geometry. A. V. Millar. E. S. Maclin and L. J. Markwardt. 178p Tracy & Kilgore, Madison, Wis. '22

Descriptive geometry. G. Young, and H. E. Baxter. 310p Macmillan '21

Exercises in the elements of descriptive geometry. R. S. Kirby. 49p Wiley '22

Geometry, Plane

Plane geometry. W. B. Ford and C. Ammerman. 2d ed., rev. 232p Macmillan '23

Plane geometry. J. W. Young and A. J. Schwartz. Rev. ed. 278p Holt '23

Plane geometry; experiment, classification, discovery, application. C. A. Willis. 301p Blakiston '22

Geometry, Projective

Elements of projective geometry. G. H. Ling, G. Wentworth and D. E. Smith. 186p Ginn '22

Introduction to projective geometry. R. M. Winger. 443p Heath '23

Geophone

Application of the geophone to mining operations. A. Leighton. il diag U S Bur Mines Tech Pa 277:1-33 '22

Geophone. il Eng & Contr (Equip R) 60:438-9 Ag 29 '23

Geophone. F. W. Collins. Am Water Works Assn J 10:850-1 S '23; Same. Eng & Contr (W W) 60:785-6 O 10 '23

Locating leaks in underground pipe lines with the geophone. H. A. Ward. Eng & Contr (W W) 60:89 JI 11 '23; Same. Mech Eng 45:443 JI '23; Same. Heat & Ven 20:53 Ag '23

Locating leaks in water pipes with the geophone. diag Eng & Contr (W W) 58:24 O 11 '22

Use of geophone in locating compressed-air leaks. B. O. Pickard. Eng & Min J 114:635 O 7 '22; Same. Mech Eng 44:741-2 N '22; Same cond. Eng N 90:172 Ja 25 '23

Use of geophone in mine surveying. Eng & Contr (Ry) 59:171-2 Ja 17 '23

Geophysics

Change of the physical properties of materials with pressure. E. D. Williamson. il diag J Fr Inst 193:491-513 Ag '22

Les procédés géophysiques d'étude du sous-sol. J. Michaut. diag Génie Civil 81:215-16, 237-40 S 2-9 '22

Scientific papers presented before the American geophysical union at its second annual meeting. Nat Research Council Bul 3 pt 2: 1-108 Mr '22

Unsolved problems of cosmical physics. W. F. G. Swann. diag J Fr Inst 195:433-74 Ap '23

See also Atmospheric electricity; Auroras; Earth movements; Gravity; Magnetism, Terrestrial; Meteorology

Georgia

See also Electric plants (central stations)
—Georgia; Gold mines and mining—Georgia;
Hydroelectric plants—Georgia; Petroleum—Georgia; Water power—Georgia

Industries and resources

Georgia's clays and bauxites. il Brick & Clay Rec 61:637-9 O 31 '22

Georgia railway and power company

Annual report for the year 1921. Comm & Fin Chr 114:1076-7 Mr 11 '22

Annual report for the year 1922. Comm & Fin Chr 116:1310-11 Mr 24 '23

Georgian architecture. See Architecture, Georgian**Geraniol**

Odorous constituents of apples; evidence of the presence of geraniol. F. B. Power and V. K. Chesnut. Am Chem Soc J 44:2983-42 D '22

Gerhardt, Reginald Bernhard, 1884-

Portrait. Elec W 82:572 S 22 '23

German East Africa. See Tanganyika

German indemnities

Allied premiers' conference in London on German reparations. Comm & Fin Chr 115:2632-4; 116:15-19, 131-2 D 16 '22, Ja 6-13 '23

Allied reparations commission agrees to provisional moratorium for Germany. Comm & Fin Chr 114:2414-15 Je 3 '22

Allied reparations commission puts reparations payments at eight billion marks. Comm & Fin Chr 116:2338 My 26 '23

American war claims against Germany \$1,479,064,314. Comm & Fin Chr 116:2337-8 My 26 '23

Bankers commission under auspices of allied reparations commission considers German loan plans. Comm & Fin Chr 114:2296-7, 2415, 2528-9, 2658-9 My 27-Je 17 '22

Belgian-German treasury note negotiations. Comm & Fin Chr 115:1478-81 S 30 '22

British and French plan for settlement of reparations question. Comm & Fin Chr 116:19-21 Ja 6 '23

British and Italian reply to Germany on reparations. Comm & Fin Chr 116:2198-9 My 19 '23

British draft of Allied reply to German reparations proposals. Comm & Fin Chr 117:498-502 Ag 4 '23

Can Germany pay and not work? S. H. Strawn. Nation's Business 10:21-2 Je 5 '22

Certain measures of financial control agreed to by Germany. Comm & Fin Chr 115:361-2 JI 22 '22

Chancellor Wirth of Germany rejects 60,000,000,000 tax levy under allies' reparations terms. Comm & Fin Chr 114:1351-2 Ap 1 '22

Conditions essential to German loan. J. P. Morgan. Comm & Fin Chr 114:2660 Je 17 '22

La crise des réparations. Chimie & Ind 9: 199-205 Ja '23

Determination of German reparations is most important matter bearing on economic progress. J. McHugh. Comm & Fin Chr 116:217 Ja 20 '23

Financial control agreed to by Germany. Comm & Fin Chr 115:488-9 JI 29 '22

First three years of German reparations. Comm & Fin Chr 116:241-6 Ja 26 '23

France's needs; Europe's danger. J. Caillaux. Am Ind 23:38-40 Ap '23

General Smuts pleads for conference of powers on reparations. Comm & Fin Chr 117: 1811-2 O 27 '23

German reparations and need of credits to Germany by United States and Great Britain. F. C. Goodenough. Comm & Fin Chr 116:1839-41 Ap 28 '23

German reparations and the occupation of the Ruhr. S. Baldwin. Comm & Fin Chr 117: 147-8 JI 14 '23

German super-power stations for England. P. Rylands. Elec R (Lond) 89:775-6 D 9 '21; Discussion. 89:733-4, 813-14 D 2, 16 '21; Electrician 87:762-3 D 16 '21

German taxation and reparations. L. R. Gottlieb. Annalist 20:27-8 JI 10 '22

Germany unable to provide for forthcoming reparations payments. Comm & Fin Chr 113:2554 D 17 '21

Germany's capacity to pay. H. G. Moulton and C. E. McGuire. 384p McGraw-Hill '23

German indemnities—Continued

- Germany's dictators: internal and external, economic and political. E. A. Bradford. *Annalist* 22:503+ O 15 '23
- Germany's latest proposals to United States and allies respecting reparations. *Comm & Fin Chr* 116:2580-2 Je 9 '23
- Germany's new reparations proposals. *Comm & Fin Chr* 116:1951-4 My 5 '23
- Germany's payment of July reparations installment—two-year moratorium and resumption of foreign loans negotiations sought. *Comm & Fin Chr* 115:246-7 JI 15 '22
- Great Britain's modification of German reparations—Louis Barthou's plans—Reparations commission to confer in Berlin. *Comm & Fin Chr* 115:1888-90 O 28 '22
- How to solve the reparations problem. M. R. Beard. *Annalist* 21:411 Mc 19 '23
- Hughes proposal and readiness of United States to assist in re-establishment of stability of Europe. G. Harvey. *Comm & Fin Chr* 117:1840-1 O 27 '23
- Impossible task imposed on Germany; reparations bill will have to be reduced two-thirds. P. D. Cravath. *Comm & Fin Chr* 115:699-701 Ag 12 '22
- James M. Cox proposes that Herbert Hoover be named as member of reparations commission. *Comm & Fin Chr* 115:1152-3 S 9 '22
- Lloyd George and London conference. *Comm & Fin Chr* 115:701-2 Ag 12 '22
- London conference of allied premiers results in agreement to disagree. *Comm & Fin Chr* 115:1035-8 S 2 '22
- Lord Curzon outlines Great Britain's stand on reparations issue. *Comm & Fin Chr* 117:735-40 Ag 18 '23
- Nation's bread supply must be safeguarded before reparations obligations are met. J. Wirth. *Comm & Fin Chr* 115:923-4 Ag 26 '22
- New French reparations proposals. *Comm & Fin Chr* 115:2424-5 D 2 '22
- L'opinion allemande et le problème des réparations. H. Lichtenberger. *Chimie & Ind* 7:1012-15 My '22
- Overtures by German interests to U.S. Chamber of commerce for American commission to determine Germany's ability to pay reparations. *Comm & Fin Chr* 115:2848-9 D 30 '22
- Premier Baldwin's speech on the German reparations. *Annalist* 22:68+ JI 16 '23
- Premier Poincaré of France rejects Germany's Rhine guarantee proposals. *Comm & Fin Chr* 117:1305 S 22 '23
- Premier Poincaré's reply to Lord Curzon's note on reparations—French policy to remain unchanged. *Comm & Fin Chr* 117:843-4 Ag 25 '23
- Prime minister Baldwin of Great Britain appeals to France not to reject invitation to allied conference on reparations. *Comm & Fin Chr* 117:1842-3 O 27 '23
- Proposal for reparations settlement by Europeans with American financial co-operation. F. I. Kent. *Comm & Fin Chr* 116:1236 Mr 24 '23
- Reichsbank agrees to advance German government 500,000,000 gold marks toward loan. *Comm & Fin Chr* 115:2204-5 N 18 '22
- Rejection by France of British reparations proposal. *Comm & Fin Chr* 115:1780 O 21 '22
- Reparation and taxation. *Electrician* 87:700-1 D 2 '21
- Reparation problems: shipping. D. P. Myers. *Annalist* 19:533-4+ My 15 '22
- Reparations—and business. J. H. Barnes. *Nation's Business* 11:11-12 F '23
- Reparations and international debts. R. McKenna. *Comm & Fin Chr* 115:99-103 sec 2 O 21 '22
- Reparations commission grants respite to Germany on 1922 reparations payments. *Comm & Fin Chr* 115:1032-4 S 2 '22
- Reparations figures are larger than indicated by reparations commission. *Comm & Fin Chr* 115:1578 O 7 '22
- Reparations outlook. W. Dreher. *Annalist* 19:199 F 6 '22
- Return to Paris of Allied reparations commission—loan of 500,000,000 marks asked. *Comm & Fin Chr* 115:2096-2101 N 11 '22
- Sachlieferungsorganisationen in Deutschland und Frankreich. M. Halm. *Stahl & Eisen* 42:1742-1 N 23 '22
- Secretary Hughes's suggestion that commission of financiers work out reparations solution. *Comm & Fin Chr* 116:22-4 Ja 6 '23
- Suggested moratorium for Germany. *Comm & Fin Chr* 113:2355 sec 1 D 3 '21
- Text of Franco-Belgian note refusing Germany's proposal of reparations. *Comm & Fin Chr* 116:2071-2 My 12 '23
- United States aid toward adjustment of European problems. *Comm & Fin Chr* 115:2735-6 D 23 '22
- War debts and reparations questions must be settled before Europe can emerge from difficulties. C. E. Mitchell. *Comm & Fin Chr* 115:2320-1 N 25 '22
- Das Wiesbadener abkommen und die industrie. C. Klein. *Stahl & Eisen* 41:1533-9 O 27 '21
- Willingness of United States to join in conference on reparations. C. E. Hughes. *Comm & Fin Chr* 117:1839-40 O 27 '23
- Zum freien reparationsverkehr. J. Reichert. *Stahl & Eisen* 42:578-82 Ap 13 '22

German language**Dictionaries**

Commercial German dictionary. J. Bithell. 548p Pitman '22

German reparation dyes. See Dye industry—German reparation dyes

German silver. See Nickel silver

Germanium

Bad paint and good medicine. *Chem & Met Eng* 26:673, 964 Ap 12, My 24 '22

Crystal structures of vanadium, germanium and graphite. A. W. Hull. *Chem & Met Eng* 26:1024 My 31 '22

Germanium—extraction from germanium-bearing zinc oxide; direct preparation of germanium dioxide free from arsenic; detection of minute amounts of arsenic in germanium dioxide. L. M. Dennis and E. B. Johnson. *diag Am Chem Soc J* 45:1380-91 Je '23

Germanium; extraction from germanium-bearing zinc oxide; non-occurrence in samarskite. L. M. Dennis and J. Papish. *Am Chem Soc J* 43:2131-43 O '21

Germanium; metallic germanium; reduction of germanium dioxide; preparation of fused germanium; physical and chemical properties. L. M. Dennis, K. M. Tressler and F. E. Hance. *il Am Chem Soc J* 45:2033-47 S '23

New method for the gravimetric determination of germanium. J. H. Müller. *Am Chem Soc J* 44:2493-8 N '22

Resistance and thermo-electric power of metallic germanium. C. C. Bidwell. *diags Phys R* 19:447-55 My '22

Separation of germanium and arsenic. J. H. Müller. *Am Chem Soc J* 43:2549-52 D '21

Germanium dioxide

Germanium—extraction from germanium-bearing zinc oxide; direct preparation of germanium dioxide free from arsenic; detection of minute amounts of arsenic in germanium dioxide. L. M. Dennis and E. B. Johnson. *diag Am Chem Soc J* 45:1380-91 Je '23

Reduction of germanium dioxide. L. M. Dennis, K. M. Tressler and F. E. Hance. *il Am Chem Soc J* 45:2033-47 S '23

Germanium hydride

Germanium hydride. J. H. Müller and N. H. Smith. *Am Chem Soc J* 44:1909-18 S '22

Germanium hydride; abstract. R. Schenck and A. Imker. *Chem Soc J* 122 pt 2:855-6 D '22

Über germaniumwasserstoff. F. Paneth and E. Schmidt-Hebbel. *Deutsche Chem Gesell Ber* 55:2615-22 S '22; Abstract. *Chem Soc J* 122 pt 2:776-7 N '22

Germanium tetrabromide

Germanium; germanium tetrabromide and germanium tetrachloride. L. M. Dennis and F. E. Hance. *Am Chem Soc J* 44:299-307 F '22

Germanium tetrachloride

Germanium; germanium tetrabromide and germanium tetrachloride. L. M. Dennis and F. E. Hance. *Am Chem Soc J* 44:299-307 F '22

Germanium tetraiodide

Germanium; germanium tetra-iodide. L. M. Dennis and F. E. Hance. *Am Chem Soc J* 44:2854-60 D '22

Germany

Business men's impressions of Germany. *Am Mach* 56:200a F 2 '22

See also Canals—Germany; Hydroelectric plants—Germany; Radio broadcasting—Germany; Railroads—Germany; Street railroads—Germany

Aeronautics, Military

German air war plans. *Reboul. Aviation* 12: 483 Ap 24 '22

Commerce

American trade with Germany, 1914, 1921, and 1922. C. E. Herring and E. G. Eichelberger. *U S Bur For & Dom Com Trade Information Bul* 150:1-19 '23

Le controle du commerce extérieur allemand. *Saint-Gall. Chimie & Ind* 7:1231-3 Je '22

Die einrichtung des deutschen aussenhandels-nachrichtendienstes. F. Runkel. *Stahl & Eisen* 41:1690-3 N 24 '21

Les exportations allemandes. P. Petit. *Chimie & Ind* 7:585-7 Mr '22

Franco-German trade. D. S. Green. *U S Bur For & Dom Com Trade Information Bul* 23: 1-18 '22

German commerce in Italy. *J Ind & Eng Chem* 14:4-5 Ja '22

German competition as affected by the depreciation of the mark. E. A. Goldenweiser. *J Ind & Eng Chem* 14:1074-5 N '22

German foreign trade in first half of 1922. *Oil Paint & Drug Rep* 102:20 O 23 '22

German reparations, budget, and foreign trade. C. E. Herring, M. Parmelee and R. J. Scovell. *U S Bur For & Dom Com Trade Information Bul* 40:1-37 '22

German-United States competition in world markets. G. B. Roorbach. *J Ind & Eng Chem* 14:1072-4 N '22

Germany and her export trade. *Am Mach* 59: 36f-g Jl 5 '23

Germany's differential sale prices. *Elec R (Lond)* 92:9 Ja 5 '23

Germany's export business. *Am Mach* 59:642f O 25 '23

Germany's struggle for trade. F. Simpich. *il Nation's Business* 10:28-30 Mr '22

Has Germany come back? C. D. Snow. *Nation's Business* 10:22-3 Ap '22

Methods employed by American bankers and exporters to finance exports to Germany. *Annalist* 21:570+ Ap 23 '23

Year of German export & import. C. D. Snow. *Nation's Business* 11:49-50 + Ap '23

See also Advertising—Germany; Aeronautics, Commercial—Germany; Cotton trade—Germany; Merchant marine—Germany; Shipping—Germany; Tariff—Germany

Economic conditions

Business conditions in Germany. *Am Mach* 58:124b-c, 917-9, 37-91e-d, 980; 58:96c-d Mr 16 Je 22, D 14-21 '22, Ja 11 '23

Business is business in Germany. F. Simpich. *il Nation's Business* 11:21-2 My '23

Deutsche wirtschaftsfragen. A. Vögler. *diags Stahl & Eisen* 43:33-44 Ja 11 '23; Abstract (La situation économique de l'Allemagne avant et après la guerre). *Génie Civil* 82: 83-5 Ja 27 '23

Economic and financial conditions in Germany. *Engineering* 116:53 Jl 13 '23

Economic and financial conditions in Germany; trade review to March, 1923. *Chem Age (Lond)* 8:564-6 My 26 '23

Economic conditions in Germany. *Engineering* 113:558-9 My 5 '22

Economic conditions in Germany. J. W. F. Thelwall and C. J. Kavanagh. *Electrician* 88:587 My 5 '22

Effects of the price revolution on Germany. G. W. Edwards. *Annalist* 20:565+ N 27 '22

Effects on German industry of decline in exchange. *Iron Age* 110:294-5 Ag 3 '22

Establishing branch factories in Germany. *U S Bur For & Dom Com Trade Information*

Bul 52:1-11 '22

Eternal triangle in Germany. E. A. Bradford. *Annalist* 22:544+ O 22 '23

European conditions as I saw them. J. S. Negru. *Chem & Met Eng* 27:776-8, 822-3, 966-8, 1108; 28:220-2 O 18-25, N 15, D 6 '22, Ja 31 '23

German competition—the world's "bogey man." H. Obermeyer and A. L. Greene. *il Am Mach* 58:245-9 F 15 '23

German industrial situation. *Electrician* 88: 680-1 Je 9 '22

German industrial situation in June. C. E. Herring. *U S Bur For & Dom Com Trade Information Bul* 48:1-8 '22

German industry's unsound economic basis—will the mark collapse by fall? *Annalist* 21: 854 Je 25 '23

German steel makers on the Ruhr outcome. G. L. Carden. *Iron Age* 111:811-12 Mr 22 '23

Germany's views of Germany today. *Am Ind* 22:45+ Je '22

Germany and Russia—a chapter of uncertainties. B. M. Anderson. (*Chase econ. bul.* v.2, no. 2) 40p Chase national bank, New York '22

Germany must get back to solid basis before it can hope for world's help. G. Stressemann. *Comm & Fin Ch* 117:955-6 S 1 '23

Germany rolling in money has none. B. Miles. *Nation's Business* 10:72-3+ N '22

Germany set for harder times. *Iron Tr R* 71:299-301 Ag 3 '22

Germany seven years after. C. H. Hughland. *Electrician* 87:712 D 2 '21

Germany still is doing business. H. C. Estep. *il Iron Tr R* 72:363-70 F 1 '23

Germany's great locomotive works: the Borsig organization and methods. G. L. Carden. *Iron Age* 110:1623-4 D 21 '22

Germany's problems intensified. *Iron Tr R* 70: 1255-7 My 4 '22

Germany's production seriously curtailed by Ruhr occupation. *Am Mach* 59:350g-h Ag 30 '23

Help Germany to compete. M. C. Rorty. *Nation's Business* 9:18 D '21

How Germany can be saved. H. Stinnes. *Am Ind* 23:35-9 Mr '23

How the Ruhr seizure affects Germany. *Annalist* 21:153-4 Ja 22 '23

Industrial conditions in Germany. *Mach* 30: 176 N '23

Industrial Germany in 1921. *Elec R (Lond)* 90: 649-50 My 12 '22

Just how poor is Germany? *Am Mach* 59:678h-i N 1 '23

Necessary means for the economic reconstruction of Germany. H. Stinnes. *Annalist* 21: 157; Discussion. 157-8+ Ja 22 '23

Outlook in Europe. M. Toch. *J Ind & Eng Chem* 14:239-40 Mr '22

Recent changes in the distribution of wealth in Germany. *Monthly Labor R* 15:24-30 Jl '22

What I saw in Germany. R. H. McCready. *Chem Age* 29:519-20 D '21

Wholesale prices in Germany increase 617% between July 1 and August 1. *Comm & Fin Ch* 117:1073 S 8 '23

See also Cooperation—Germany; Cost of living—Germany; Finance—Germany; Housing—Germany; Immigration and emigration—Germany; Iron industry and trade—Germany; Labor and laboring classes—Germany; Money—Germany; Prices—Germany; Steel industry and trade—Germany; Taxation—Germany; Trade unions—Germany; Wages—Germany

Finance

See Finance—Germany

Foreign relations**France**

See Ruhr valley—French occupation

Germany—Continued

Indemnities

See German indemnities

Industries and resources

Une crise des matières premières en Allemagne. Saint-Gall. *Chimie & Ind* 7:179-81 Ja '22

Employers' organizations in Germany, 1921. Monthly Labor R 16:33-40 Ja '23

Flash period in German industry. Iron Tr R 69:1213-15 N 10 '21

German industries in 1922. Elec R (Lond) 92:802 My 25 '23

Germany trades steel for paper. H. C. Estep. il Iron Tr R 70:199-205 Ja 19 '22

Industrial Germany: how she beat us before the war. E. T. Good. Eng & Ind Management 6:622-3 D 1 '21

L'industrie allemande. V. Cambon. maps *Chimie & Ind* 9:597-614 Mr '23

L'institut central de recherches de Karlsruhe, pour l'organisation rationnelle du travail dans les différents corps de métiers. A. Antoine. il diags *Génie Civil* 81:196-200 Ag 26 '22

Standards in German industry. G. E. Hagemann. chart diags Management Eng 4:183-8 Mr '23

What Germany is doing. E. R. Murphey. System 41:50-1+ Ja '22

See also Aircraft industry—Germany; Automobile industry and trade—Germany; Building trades—Germany; Cement industry and trade—Germany; Ceramic industries—Germany; Chemical industries—Germany; Coal mines and mining—Germany; Coal trade—Germany; Cotton trade—Germany; Dye industry—Germany; Electric industries—Germany; Iron industry and trade—Germany; Iron ores—Germany; Iron works—Germany; Krupp works; Machine tool industry—Germany; Machinery industry—Germany; Mines and mineral resources—Germany; Paper industry and trade—Germany; Petroleum—Germany; Potash industry and trade—Germany; Ruhr valley—Industries and resources; Shipbuilding—Germany; Shipping—Germany; Steel industry and trade—Germany; Textile industry—Germany

National economic council

Giving business a voice in government. G. Bernhard. System 42:538-9+ N '22

Navy

See Warships—Germany

Politics and government

Germany's dictators: internal and external, economic and political. E. A. Bradford. Analyst 22:503+ O 15 '23

Reparations

See German indemnities

Taxation

See Taxation—Germany

Germination

Germination of light-sensitive seeds. Sci Am 126:108 F '22

Optimum temperatures for flower seed germination. G. T. Harrington. Sci Am 127:39 Jl '22

Gerson, Meyer

Sketch. E. M. Wickes. System 41:152-4+ F '22

Geysers

Geysers harnessed to furnish power. H. H. Dunn. il Pop Mech 39:705-6 My '23

See also Hot springs

Ghosh's theory

Anomaly of strong electrolytes with special reference to the theories of J. C. Ghosh. H. J. S. Sand Philos Mag 6th ser 45:129-44, 281-92 Ja-F '23

Ghosh's theory of electrolytic solutions. C. A. Kraus. Am Chem Soc J 43:2514-28 D '21

Gibbs, J. Willard

Pioneer Yale chemist. por Ind & Eng Chem 15:295-6 F '23

Gibbsite

Composition and properties of diasporé, bauxite and gibbsite. R. M. Howe and R. F. Ferguson. Am Cer Soc J 6:496-500 Mr '23

Gibraltar

Gibraltar as an aeronautical base. Aerial Age 16:84 F '23

Gibraltar dam

Repairing the spillway to the Gibraltar dam. R. A. Hill. il diags plan Eng N 89:798-801 N 9 '22

Gibson, Charles Dana

Portrait. Inland Ptr 71:554 Jl '23

Giethoorn, Netherlands

Floating land for home sites in Holland. il Pop Mech 39:674-6 My '23

Gift shops

Advertising

Gift shop with advertising initiative. Ptr Ink 121:33-4 N 23 '22

Gifts

See Bon voyage gifts; Christmas gifts

Gilboa dam

Aerial tramways serve mixing plant at Gilboa dam. C. K. Traber. il plan Eng N 89:604-6 O 12 '22

Experiments with models of the Gilboa dam and spillway. R. W. Gausmann and C. M. Madden. il diags plans Am Soc C E Pro 48:1503-28 S '22; Discussion. 48:1885-7; 49:240-50, 566-7 D '22, F-Mr '23

Gilboa dam construction. il Pub Works 52:205-8, 295-7, 319-21 Mr 25, Ap 29-May 6 '22

Schoharie development of the Catskill water system of the city of New York. J. W. Smith. il diags Am Water Works Assn J 10:805-19 S '23

Gilbreth, Frank B., inc.

Management methods and principles of Frank B. Gilbreth, inc. K. H. Condit. Am Mach 58:33-5, 293-5, 443-7, 665-7; 59:25-7, 329-34 Ja 4, F 22, Mr 22, My 3, Jl 5, Ag 30 '23

Gilchrist, Peter S.

Portrait. Chem Age 30:169 Ap '22

Gild socialism

Agriculture and the guild system. M. Fordham. 24p F. S. King & son, Ltd., London '23

Building guilds and the guild movement in England. Monthly Labor R 17:180-6 Jl '23

Guild movement in Great Britain. G. D. H. Cole. Int Labour R 6:185-99 Ag '22

Guild movement in Italy. O. Por. Int Labour R 7:669-94 My '23

Guild socialism. N. Carpenter. 350p Appleton '22

Guilds and co-operatives in Italy. O. Por. 197p Labour pub. co., London '23

Guilds and the salary earner. J. H. Lloyd. 15p Published for the National guilds league by the Labour pub. co., London '21

Guilds, trade and agriculture. A. J. Penty. 128p G. Allen & Unwin, London '21

Post-industrialism. A. J. Penty. 157p Macmillan '22

Gilding

Applying gold leaf to sheet metal. J. P. Harner. Sheet Metal Worker 13:646 O 27 '22

Chemistry of the terpene medium for ceramic liquid gold. P. P. Budnikoff and E. A. Shilov. Am Cer Soc J 6:1000-6 S '23

See also Electroplating; Gold plating; Metal coloring

Gilds

Gilds—old and new. S. F. Campbell. Am Inst Arch J 10:45-6 F '22

Printing house craftsmen, past and present. H. L. Bullen. il Inland Ptr 69:689-94 Ag '22

Then and now in business. L. K. Frankel and A. Fleisher. Administration 4:1-6 Jl '22

See also Building gilds; Gild socialism

Gill, Frank, 1866-

President of the Institution of electrical engineers, 1922-23. por Elec R (Lond) 91:593 O 27 '22

Gillette safety razor company

Gillette Christmas merchandising plan. *Ptr Ink* 121:105-6 O 26 '22

How Gillette safety razor company gets results in foreign trade. *T. W. Pelham. Ptr Ink* 122:105-6+ Mr 29 '23

When the advertiser opens his own store. *R. Dickinson. Ptr Ink* M 7:23-4 O '23

Advertising

Gillette's energetic advertising campaign for 1922. *il Ptr Ink* 119:101-2 Je 29 '22

Gilsonite

New dyestuffs from gilsonite. *Color Tr J* 11:103-4 S '22

Relation of shale-oil residue to other bitumens. *C. W. Botkin. Chem & Met Eng* 26:445-8 Mr 6 '22

Ginger ale

Automatic equipment and chemical control. *G. L. Montgomery. il Chem & Met Eng* 27:150-4 JI 26 '22

Gipsy moth

Gipsy moth and dead trees. *Sci Am* 129:99 Ag '23

Girders

Abaques pour la détermination des taux de travail dans une poutre rectangulaire en béton armé, soumise à la flexion composée. *V. Loup. Génie Civil* 80:154-7 F 18 '22

Beams with loads irregularly distributed. *T. Thompson. Engineering* 112:656-8, 686-8 N 11-18 '21; Discussion, *S. Timoshenko. Engineering* 113:196-7 F 17 '22

Le calcul des portiques continus. *Benabeng. Génie Civil* 79:167-71, 187-91, 203-7 Ag 20-S 3 '21

Le calcul des portiques continus. *L. Descans. diags Génie Civil* 79:439-43, 461-4 N 19-26 '21

Le calcul des poutres à diagonales croisées. *L. Descans. diags Génie Civil* 80:494-8 Je 3 '22

Calcul des poutres à treillis double avec membrures parallèles et montants verticaux à tous les nœuds d'attache. *L. Légens. diags Génie Civil* 80:125-9 F 11 '22

Calcul des poutres à treillis double avec membrures parallèles et montants verticaux sur les appuis seulement. *L. Légens. diags Génie Civil* 80:11-13 Ja 7 '22

Calcul général des pièces à deux appuis à encastrement partiel. *L. Gellusseau. Génie Civil* 80:377-8, 546-8, 564-7 Ap 29, Je 17-24 '22

Chart for determining the strength of wooden beams. *W. F. Schaphorst. Power Pl Eng* 26:803-4 Ag 15 '22; Same abr. *Textile World* 62:575 JI 29 '22

Deflections of beams by the conjugate beam method. *H. M. Westergaard. diags W Soc E J* 26:369-96 N '21

Détermination graphique des moments fléchissants maxima dans une poutre supportant des charges mobiles par l'intermédiaire des traverses. *Smoukovich et Barbillion. Génie Civil* 79:533-5 D 17 '21

Determining longitudinal shear in wooden beams. *G. A. Merrill. diag Eng N* 90:1056-7 Je 14 '23

Exact theory of flexure. *C. A. P. Turner. diags Concrete* 21:108-11 O '22

La fabrication des poutrelles à larges ailes du type Grey, aux usines de Differdange (Luxembourg). *J. Audigé. diags plan Génie Civil* 79:437-9 N 19 '21

How to make forms for concrete buildings; beams and girders. *W. F. Lockhardt. il diags Concrete* 20:191-7 My '22

Huge concrete girders and trusses in Grauman's new theater and office building in Los Angeles. *R. C. Mitchell. il diags plan Eng N* 91:4-9 JI 5 '23

I-beam chart. *W. F. Schaphorst. Textile World* 62:1129-30 Ag 26 '22; Same. *Iron Age* 109:1586 Je 8 '22

Nouvelle méthode de calcul de la poutre armée. *L. Légens. Génie Civil* 83:278-80 S 22 '23

Placing a 68-ton girder in floor of Straus building, Chicago. *il Eng & Contr (Bldgs)* 60:848 O 24 '23

Plate-girder design and detailing—notes from practice. *R. Fleming. diags Eng N* 90:1032-7 Je 14 '23

La poutre à treillis à membrures parallèles calculée comme système élastique. *L. Légens. diags Génie Civil* 82:8-12 Ja 6 '23

Rapid calculation of ferro-concrete beams. *A. Esnouf and L. J. Coutanceau. diags Engineering* 113:155-7, 193-5, 221-3, 273-4 F 10-Mr 3 '22; Discussion, *J. Botin. 113:390 Mr 31 '22*

Reciprocal load deflection relationships for structures. *C. E. Larard. Engineering* 116:287-8, 321-2 S 7-14 '23

Reinforced concrete beam design simplified. *T. D. Mylrea. diags Can Eng* 44:531-4 My 29 '23

Restraining value of beam connections. *P. L. Pratley. diags Can Eng* 43:631-4 D 19 '22

Rock Island uses long girders in new bridge. *il diags plan Ry Age* 75:389-92 S 1 '23

Simple method of reviewing concrete beams. *C. E. O'Rourke. diags Eng & Contr (Bldgs)* 59:196-9 Ja 24 '23

Structural design problems; a discussion of the present importance of the items of restraint, continuity and unbalanced moments. *Am Arch* 121:402-5, 445-7 My 10-24 '22

Théorie cinématique du treillis. *L. Légens. diags Génie Civil* 81:40-3 JI 8 '22

Theory of bending. *W. Hovgaard. Engineering* 116:478-80 O 12 '23; Excerpt. *Engineer* 136:275 S 14 '23

Universal concrete girders in garage roof. *il diags Concrete* 22:233 Je '23

See also Bridges; Bridges—Load; Building; Flexure; Roofs; Steel construction; Strains and stresses; Trusses

Testing

Comparative test of haydite and rock concrete beams. *B. S. Myers. Eng & Contr (Bldgs)* 60:198 JI 25 '23

Haunched steel I-beam tests analyzed. *Can Eng* 45:121-6 Je 10 '23; *Eng & Contr (Bldgs)* 60:1119-23 N 28 '23

New type of pre-cast concrete construction. *F. M. McCullough. diags Eng & Contr (Bldgs)* 60:175-8 JI 25 '23; Same. *Can Eng* 45:467-9 N 6 '23

Reinforcing value of gunite encasing for steel beams. *Can Eng* 44:361-2 Mr 27 '23

Strength of short concrete beams. *J. B. MacPhail. Eng & Contr (Bldgs)* 60:863-4 O 24 '23

Test two beams to determine strength of light-weight aggregate. *B. S. Myers. diag Eng N* 90:1089 Je 21 '23

Tests of I-beams encased in concrete. *diags Can Eng* 44:267-9 F 27 '23

Tests to determine distribution of stresses in flanges of T-beams. *W. A. Slater. diags Concrete* 21:145-7 N '22

Torsional strength of reinforced concrete beams. *C. R. Young, W. L. Sagar and C. A. Hughes. il diags Can Eng* 43:425-30 O 10 '22

When steel beams stretch; a new instrument for observing and photographing stresses in iron and steel. *P. J. Risdon. il Sci Am* 127:32 JI '22

Transportation

Transporting 68-ton girders for a Chicago building. *il Eng N* 91:523-4 S 27 '23; *Eng & Contr (Bldgs)* 60:635 S 26 '23

Girgenti, Sicily

Evening and the morning; Girgenti. *E. H. Lowher il (front) Am Inst Arch J* 11:383-5 O '23

Githens, Margaret

How a woman manufacturer advertises to industrial buyers. *R. Perry. Ptr Ink* 120:17-20 S 21 '22

Giza, Egypt. School of engineering

Work of the School of engineering, Giza, Egypt. *il Engineer* 134:69 JI 21 '22

Glacial epoch

Ice ages; the story of the earth's revolutions. *J. McCabe. 134p Putnam* '22

Recession of the last ice sheet in New England. *E. W. Antevs. 120p American geographical society, New York* '22

Timing an ice sheet. *Sci Am* 128:387 Je '23

Glaciers

- Glaciation of the mountains of Japan. N. Yamasaki. *Am J Sci* 5th ser 3:131-7 F '22
 Glaciology. C. S. Wright and R. E. Priestley. 581p Harrison & sons, London '22

See also Drift

Glands, Ductless

- Ductless glands; recent discoveries concerning these mysterious regulators of the human organism. H. Carrington. *Sci Am* 126: 330 My '22
 Fight to conquer old age; the rejuvenation theory and the results achieved from it by Steinach. J. Lachenbruch. *Sci Am* 128:22 Ja '23
 Internal secretions and general biology. *Sci Am* 129:116 Ag '23

Glare

- Calls glare a foe of mankind. *Safety Eng* 45: 154 My '23
 Glare and its relation to eye sight conservation. F. C. Caldwell. *Illum Eng Soc* 18: 513-8 Jl '23
 Glare in industrial lighting; abstracts. G. H. Miles. *Elec R (Lond)* 93:479 S 28 '23; *Engineer* 136:334-5 S 28 '23; *Gas J (Lond)* 164: 187 O 17 '23
 Light without glare. W. Harrison. *il diags Am Inst E E J* 41:609-15 Ag '22; *Excerpt. Textile World* 62:2641+ N 4 '22; *Discussion. Am Inst E E J* 41:964-5 D '22
 Report of the sub-committee on glare of the Research committee I.E.S. *Illum Eng Soc* 17:743-50 D '22
 Softening the summer glare in workrooms. *il Factory* 30:556-7 My '23
 What is glare? *Sci Am* 129:259 O '23

See also Lighting

Glasgow, Scotland

- Science and industry in old Glasgow. *Engineer* 135:623 Je 15 '23

See also Electric plants (central stations) —Glasgow

Rapid transit

- Glasgow tramways. *Engineer* 136:20 Jl 6 '23
 Liverpool, Glasgow, Edinburgh compared. D. L. Turner. *Elec Ry J* 61:1039-41 Je 23 '23

Sewerage

- Glasgow and the activated sludge process. F. W. Harris. *Engineer* 136:204-5 Ag 24 '23; *Same. Can Eng* 45:430-2 O 23 '23

Glass

- Chipped-glass work. J. S. Hagans. *il Pop Mech* 40:954-6 D '23
 Colloidal state in metals and alloys; molten metal; just prior to solidification, metal and glass show many similarities. J. Alexander. *Chem & Met Eng* 26:54-8 Ja 11 '22
 Dissociation of ferric oxide dissolved in glass and its relation to the color of iron-bearing glasses. J. C. Hostetter and H. S. Roberts. *Am Cer Soc J* 4:927-38 N '21
 Effect of absorbed gas on the conductivity of glass. V. Bush and L. H. Connell. *il diags J Fr Inst* 194:231-40 Ag '22
 Electrical properties of a flint glass of density 6.01. G. L. Addenbrooke. *Philos Mag* 6th ser 45:516-25 Mr '23
 Fluorescence and coloration of glass produced by β -rays. J. R. Clarke. *Philos Mag* 6th ser 45:735-6 Ap '23
 Glass. P. B. McDonald. *Min & Sci P* 124:337-8 Mr 11 '22
 Glass for artificial daylight. F. E. Lamplough. *Illum Engr* 14:219 N '21
 Glass that is opaque to the ultra-violet. *Sci Am* 126:390 Je '22
 Graded seal for joining pyrex to lead glass. W. C. Taylor and A. Bailey. *J Ind & Eng Chem* 13:1158 D '21
 Heat resisting glasses. W. E. S. Turner. *Am Cer Soc J* 6 (Cer A 2):149-51 Jl '23
 L'industrie des verres basiques. A. Bigot. *il diags Chimie & Ind* 9:851-62 My '23
 Measurements on the gases evolved from glasses of known chemical composition. J. E. Harris and E. E. Schumacher. *bibliog diags Ind & Eng Chem* 15:174-7 F '23

- Potential difference between glass and electrolytes in contact with the glass. W. S. Hughes. *diags Am Chem Soc J* 44:2860-7 D '22

- Resistivity of vitreous materials. L. L. Holaday. *J Fr Inst* 195:229-35 F '23

- Study of the conduction process in ordinary soda-lime glass. C. A. Kraus and E. H. Darby. *Am Chem Soc J* 44:2783-97 D '22

See also Glass blowing; Glass manufacture; Glassware; Plate glass; Pyrex; Silica, Fused; Stained glass; Windows; Wire glass

Joining to metal

- Art of sealing base metals through glass. W. G. Housekeeper. *il diags Am Inst E E J* 42: 954-60 S '23; *Discussion. 42:1350-1 D '23*
 Glass-to-metal joint. M. L. Dundon. *Am Chem Soc J* 45:716-17 Mr '23; *Discussion. C. H. Meyers. 45:2135-6 S '23*

Specifications

- Optical specifications for glass for balloon hangars. *Sci Am* 128:161 Mr '23

Testing

- Diffusion of hydrogen and helium through silica glass and other glasses. G. A. Williams and J. B. Ferguson. *Am Chem Soc J* 44:2160-7 O '22
 Disintegration of soda lime glasses in water. A. E. Williams. *il Am Cer Soc J* 5:504-17 Ag '22
 Étude comparative des verres de laboratoire préparés en France, en Angleterre, en Allemagne et en Autriche. P. Nicolardot. *Chimie & Ind* 9:233-4, 469-84 F-Mr '23
 Mechanical strength of glazing glass. A. E. Williams. *Am Cer Soc J* 6:980-8; *Discussion. (Bul)* 6:294-5 S '23
 Smashing dishes to solve their secrets. G. H. Dacy. *il Sci Am* 129:240 O '23
 Tests for laboratory resistance glassware; abstract. *Am Cer Soc J* 5(Cer A 1):47-8 F '22
 Tests on the resistive qualities of soda-lime glasses to water. L. A. Palmer. *Am Cer Soc J* 6:579-83 Ap '23

Glass, Colored

- Influence of temperature on the transmission-factor of colored glasses; abstract. M. Luckiesh. *Illum Eng Soc* 17:600-1 O '22

Glass, Optical

- Improved glass for industrial goggles. *Chem & Met Eng* 28:763 Ap 30 '23
 Manufacture of optical glass; abstracts. C. J. Peddle. *Am Cer Soc J* 5 (Cer A 1) pt 1:111-14 Ap '22; *Engineer* 133:496 My 5 '22
 Manufacture of reflecting telescope disks. D. E. Sharp and W. H. Rising. *il diags J Ind & Eng Chem* 14:511-15 Je '22
 Ophthalmic glass—a new American product. R. J. Montgomery. *Am Cer Soc J* 6:1140-7 N '23

- Some properties and limitations of optical material. W. B. Rayton. *Illum Eng Soc* 16: 438-47; *Discussion. 447-51 no 8 '21*

See also Optical instruments

Glass blowing

- Elements of glass-blowing. H. P. Waran. 116p G. Bell & sons, London '23

- Handbook of laboratory glass-blowing. B. D. Bolas. 106p Dutton '21

See also Bottles

Glass decoration

- Glass decorator's palette and its preparation. T. Lenchner. *Am Cer Soc J* 6:1040-3 O '23

Glass flowers

- Glass flowers rival nature's wonders. *il Pop Mech* 40:899-901 D '23

Glass handling

- Conveying window glass and similar fragile loads. *il Ind Management (Lond)* 8:163-4 S 21 '22

- Manutention mécanique des grandes glaces. G. Barot. *diags Génie Civil* 83:132 Ag 11 '23

Glass manufacture

- Balanced-toggle mechanism for pressing glassware; abstract. *diags Mech Eng* 44:662 O '22

Glass manufacture—Continued

Cold clean artificial gas and a discussion upon the general properties of gaseous fuels. A. E. Blake. *il diag Am Cer Soc J* 6:808-26; Discussion. 826-30 *Jl '23*

Diagnosing causes of cords in glass; with discussion. F. Twyman. *Am Cer Soc J* 5:289-93 *Je '22*

Effect of sulphate and carbonate of sodium on the heats of fusion of soda-lime glass batches; abstract. E. Pourcault. *Am Cer Soc J* 5 (Cer A 1):144-5 *My '22*

Effect of titania on the properties of glass; abstracts. A. R. Sheen and W. E. S. Turner. *Chem Age (Lond)* 9:457 O 27 '23; *Soc Chem Ind J (Chem & Ind)* 42:1035-6 O 26 '23

Effect on manganese in glass melted under reduced pressure. E. N. Bunting. *Am Cer Soc J* 5:594-6 S '22

Electrification of the Allegheny plate glass company. G. P. Wilson. *il diag plan Elec J* 20:120-7 *Ap '23*

L'étrage mécanique, en feuilles, des verres à vitres. J. Scory. *diag Génie Civil* 82:603 *Je 23 '23*

Evolution and development of glass house equipment. J. S. Herzog. *Am Cer Soc J (Bul)* 5:124-31 *Ag '22*

La fabrication du verre au four électrique à radiation. V. M. Sauvageon. *diags Chimie & Ind* 7:452-5 *Mr '22*

Feldspar for glassmakers. F. C. Flint. *Am Cer Soc J* 6:413-16 *F '23*

Glass and allied industries of Czecho-Slovakia. C. S. Winans. *U S Bur For & Dom Com Trade Information Bul* 47:1-8 '22

Glass industry in India. G. P. Ogale. *Am Cer Soc J (Bul)* 5:295-8 *N '22*

Glass technology. G. W. Morey. *J Ind & Eng Chem* 14:823-4 *S '22*

Importance of pure research on glass in American universities. A. Silverman. *Am Cer Soc J (Bul)* 6:206-10 *Jl '23*

Important developments in the glass industry. A. W. Kimes. *Am Cer Soc J* 6:250-3 *Ja '23*

Improvement in heat-resisting glasses; abstracts. W. E. S. Turner. *Chem Age (Lond)* 8:262 *Mr 10 '23*; *Soc Chem Ind J (Chem & Ind)* 42:235-6 *Mr 9 '23*

Lime specifications for glass manufacture. R. R. Shively. *Chem Age* 30:296 *Jl '22*

New automatic glass bottle machine. *Chem Age (Lond)* 9:371 O 6 '23

New developments in the American glass industry. G. L. Montgomery. *il Chem & Met Eng* 26:788-93 *Ap 26 '22*

New method of fusing glass. S. R. Winters. *il Sci Am* 127:105 *Ag '22*

Opal glass and alabaster glass, and their applications. K. Fuha and Y. Yoshioka. *Am Cer Soc J* 5 (Cer A 1):288-9 *N '22*

Operation of leers; with discussion. C. E. Frazier. *Am Cer Soc J* 5:37-42 *Ja '22*

Passing of king methane. S. R. Scholes. *Am Cer Soc J* 5:693-6; Discussion. 697-701 O '22

Physical defects in tank blocks. G. A. Loomis. *il Am Cer Soc J* 5:102-6 *F '22*; Discussion. (Bul) 5:239-47 O '22

Proposed tentative specifications for silica sand for glass-making. *Am Cer Soc J (Bul)* 6:182-4 *Je '23*

Recommended specification for limestone, quicklime, and hydrated lime for use in the manufacture of glass. *U S Bur Stand Circ* 118:1-7 '21; Same. *Am Cer Soc J (Bul)* 6:170-3 *Je '23*

Recuperative furnaces for the glass industry. W. B. Chapman. *il Am Cer Soc J* 6:258-62 *Ja '23*

Small glass tank. H. T. Bellamy. *diag Am Cer Soc J* 5:157-60 *Mr '22*; Discussion. (Bul) 5:250-3 O '22

Some practical notes on the manufacture of white glass in a tank furnace. F. W. Adams. *Engineering* 113:685-6 *Je 2 '22*

Study of the origin and cause of stones in glass. H. Insley. *il Am Cer Soc J* 6:706-16 *Je '23*; Discussion. (Bul) 6:296-8 *S '23*

Substituting fuel oil for producer gas in a continuous glass tank. F. S. Thompson. *Am Cer Soc J* 6:1050-5 O '23

Twenty-five years progress in the glass industry. E. W. Tillotson. *Am Cer Soc J* 6:244-8 *Ja '23*

Utilization of selenium. S. Sugie. *Am Cer Soc J* 5 (Cer A 1):287-8 *N '22*

Water cooling of glass tanks. *Am Cer Soc J (Bul)* 5:310-14 *N '22*

See also Coffins, Glass; Glass, Optical; Glass blowing; Glass pots; Glass workers; Plate glass; Silica, Fused

Patents

Decolorizing acidic boro-silicate glasses with neodymium oxide. *Chem & Met Eng* 28:865 *My 14 '23*

Study and teaching

Teaching and research in glass technology at the Department of glass technology, University of Sheffield. W. E. S. Turner. *Am Cer Soc J* 6:183-6 *Ja '23*

Glass painting. See Glass decoration; Stained glass

Glass pipes. See Pipes, Glass

Glass pots

Effect of various sizes of grog particles on clay pots. W. S. Williams. *diags Am Cer Soc J* 6:1148-9 *N '23*

Further studies on cast glass pots. R. F. Geller and A. N. Finn. *il Am Cer Soc J* 6:865-72 *Ag '23*

Glass pots and tank blocks. A. V. Bleininger. *Am Cer Soc J* 6:248-50 *Ja '23*

Handling, storing and setting of glass pots. W. M. Clark and J. H. Forsyth. *Am Cer Soc J* 5:146-50 *Mr '22*; Discussion. (Bul) 5:247-9 O '22

Glass research association

Glass research association. E. Quine. *Am Cer Soc J* 6:188-91 *Ja '23*

Glass rings

Glass rings—a new filling material for towers. F. C. Zeisberg. *Chem & Met Eng* 28:9-10 *Ja 3 '23*

Glass-to-metal joint. See Glass—Joining to metal

Glass trade

Indictments returned against members of window glass blowers' union and manufacturers' association. *Comm & Fin Chr* 116:138 *Ja 13 '23*

Window glass makers indicted for fixing prices and output. *Oil Paint & Drug Rep* 100:23+ *sec 1 D 5 '21*

Glass wool

Glass wool heat insulation in Europe. A. D. Saborsky. *il diags Am Cer Soc J* 6:674-84 *My '23*; Abstract. *Chem & Met Eng* 28:1116 *Je 25 '23*

Glass workers

Collective agreement affecting production in window-glass industry. *Monthly Labor R* 16:838-40 *Ap '23*

Window-glass industry—national agreement. *Monthly Labor R* 15:1295-6 *D '22*

Glassine paper

Introduction of glassine paper making in U. S. E. A. Van Winkle. *Paper Tr J* 74:69+ *Ap 13 '22*

Glassware

Artistic glassware. F. Carder. *Am Cer Soc J* 6:228-31 *Ja '23*

Artistic value of illuminating glassware. M. Luckiesh. *Elec R* 79:738 *N 12 '21*

Glass and glassware. H. M. Lehmann and B. E. Kennard. 221p *Ronald press '22*

Glass in chemical industry. J. F. Greene. *Chem & Met Eng* 28:689-90 *Ap 16 '23*

Making glass signs by sandblasting. J. Tate. *diags Pop Mech* 39:464-6 *Mr '23*

Weathering of glass containers. K. L. Ford. *il Am Cer Soc J* 5:837-54 *D '22*

See also Bottles; Lamp globes; Optical instruments; Tumblers; also Illuminating glassware guild

Standards

Standardization of glassware heels necessary. *Elec R* 79:892 *D 10 '21*

Glassware—Standards—Continued

Terminology and standardization of illuminating glassware. S: G. Hibben. Elec R 79:735-7 N 12 '21

Terminology

Terminology and standardization of illuminating glassware. S: G. Hibben. Elec R 79:735-7 N 12 '21

Testing

Putting glassware through the testing-mill. il Sci Am 127:325 N '22

Standardizing dishes to avoid breakage. G. H. Dacy. il Pop Mech 37:755-6 My '22

Glastonbury abbey

Glastonbury. S. F. Campbell and F. S. Campbell. il Am Inst Arch J 10:67-75 Mr '22

Glaucouite

Greensand as a source of fertilizer potash. R. N. Shreve. Chem & Met Eng 25:1056 D 7 '21

Plant and process of the Eastern potash corporation. R. N. Shreve. il Concrete 20:sup 43-7 Mr '22

Potash in the greensands of New Jersey. G. R. Mansfield. U S Geol S Bul 727:1-146. pl 1-10 '22

Glazes

Cold glazing of concrete in Germany. F. A. Brackmann. Concrete 21:107 O '22

Colored glazes in the ceramic industry. Am Cer Soc J 6 (Cer A 2):172-4 Ag '23

Control of glaze-fit by means of tensile test specimens. F. H. Riddle and J. S. Laird. Am Cer Soc J 5:500-3 Ag '22

Degree to which different glaze compositions take vapor lusters. R. T. Watkins. Am Cer Soc J 5:28-33 Ja '22

Earthenware bodies and glazes. H. H. Sortwell. Am Cer Soc J 4:990-8 D '21

Field of porcelain glazes maturing between cones 17 and 20. R. Twells, jr. diags Am Cer Soc J 5:430-9 Jl '22; Discussion. (Bul) 5:191-3 S '22

Further studies of porcelain glazes maturing at high temperatures. R. Twells, jr. diags Am Cer Soc J 6:1113-27 N '23

Hardness of glazes. G. Blumenthal, jr. diags Am Cer Soc J 4:896-901 N '21

High fire porcelain glazes. H. H. Sortwell. il U S Bur Stand Tech Pa 196:1-13 '21; Same. Brick & Clay Rec 60:622-5 Ap 18 '22

Mechanical strength of glazing glass. A. E. Williams. Am Cer Soc J 6:980-8; Discussion. (Bul) 6:294-5 S '23

Modification of the empirical formula in glaze and enamel calculations. J. E. Hansen. Am Cer Soc J 5:333-45 Je '22; Discussion. (Bul) 5:235-7 O '22

Problem of the turquoise alkaline glaze. M. M. French. Am Cer Soc J 6:405-8 F '23

Ratio of Al_2O_3 and SiO_2 to RO in porcelain glazes, fired at high temperatures. Y. Kitamura. Am Cer Soc J 5 (Cer A 1):281-2 N '22

Types of glazes suitable for decorative inlay processes. F. H. Rhead. Am Cer Soc J 5:259-62 My '22

Use of ox gall in prevention of crawling of glazes. H. Spurrier. Am Cer Soc J 5:937-8 D '22

Use of pulschrome from a manufacturer's standpoint. E. Clark; L. M. Munshaw. Am Cer Soc J 5:826-8; Discussion. 828-31 N '22

Witchery of glazes. P. E. Cox. Am Cer Soc J 5:939-41 D '22

See also Enamel and enameling

Gleason, Kate

New Gleason houses have unusual features. il plans Concrete 22:102-3 Mr '23

Gleason, William, 1836-1922

Appreciation. Am Mach 56:860 Je 8 '22

Glidden company

How the Glidden co. was made to order; twelve localized markets merged. A. D. Joyce. Ptr Ink 119:117-20 Ap 27 '22

Gliders

Aachen soaring monoplane. H. J. Nordman. diags Aerial Age 14:525, 596 F 6, 27 '22

American glider successful. Aviation 13:220 Ag 21 '22

Application of soaring machine practice to airplane design. B. R. Dierfeld. il diags Automotive Ind 48:332-6 F 15 '23

Astonishing progress made in motorless flight. il Pop Mech 37:212 F '22

British sailplane meet at Lewes. diags Aviation 13:684-6 N 20 '22

Curtiss develops hydro sailplane. il Aviation 13:284 S 4 '22

Curtiss glider a flying boat adaptation. il Automotive Ind 47:531 S 14 '22; Aerial Age 15:503 O '22

Description of the Hannover glider. diags Aviation 13:156-7 Ag 7 '22; Discussion. G: Madelung. 13:322 S 11 '22

Description of the Hannover glider Vampire. W. Bume. il diags Aviation 15:238-41 Ag 27 '23

Description of the M. I. T. sailplane. F. M. Gentry. il Aviation 13:280-1 S 4 '22

Development of the Hannover sailplane. G. H. Madelung. il diags Soc Auto Eng J 12:77-85 Ja '23

Equipping the soaring plane with a small engine. Sci Am 128:317 My '23

French pilots make new gliding records. Aviation 14:193 F 12 '23

Glider or aviette. Aerial Age 16:25 Ja '23

Glider results point way to sport plant development. E: P. Warner. il Automotive Ind 47:722-3 O 12 '22

Gliders and gliding; recent German and French gliding contests and their bearing on aeronautical progress. il Sci Am 127:298-9+ N '22

Gliders and soaring flight. R. C. Folger il Pop Mech 38:679-82 N '22

Gliders and their value to aeronautical progress. A. Ogilvie. Engineer 135:184 F 16 '23; Same. Aviation 14:296 Mr 12 '23

Gliders in recent European contests. il Automotive Ind 47:479 S 7 '22

Gliding and soaring flight. Aerial Age 15:613-14; 16:86 D '22-Ja '23

Gliding and soaring flight; a survey of man's endeavour to fly by natural methods. by I. B. Weiss. Review. Engineering 115:691 Je 1 '23

Gliding experiments in Europe, 1922. E: P. Warner. il diags map Aviation 13:376-80 S 25 '22

Gliding progress in Germany. Aviation 15:271 S 3 '23

Gliding theory and the operation of gliders. A. Klemin. diags Aviation 15:544-9 O 29 '23

Landing from the non-stop air express. R. C. Folger. il Pop Mech 38:510-11 O '22

Low powered airplanes and gliding experiments. L. d'Orey. il Aviation 14:640-2 Je 11 '23

Massachusetts institute of technology builds glider. il Aviation 12:477 Ap 24 '22

M. I. T. gliders at French competition. il Aviation 13:120 Jl 31 '22

M. I. T. soaring machine. F. M. Gentry. il Aerial Age 15:451-2 S '22

Motorless flight impossible as transportation means. E: P. Warner. Automotive Ind 47:530-1 S 14 '22

Motorless German airplane shows great stability. il Pop Mech 37:505 Ap '22

New gliding record made by French pilot. il Pop Mech 39:711 My '23

Nordman sailplane. il Aerial Age 16:344+ Jl '23

Remarkable glider flight in Switzerland. il Pop Mech 37:819 Je '22

Sailing the air with wind power. D. W. Starrett. Aerial Age 16:68 F '23

Sailplaning. E: P. Warner. Mech Eng 44:766 N '22

Soaring birdmen: a study of soaring birds and a review of recent glider experiments in Germany. L. d'Orey. il maps Sci Am 126:235-7 Ap '22

Soaring flight and soaring aircraft: review of the progress achieved. il Aviation 12:195-8, 224-5 F 13-20 '22

Soaring flight, its development and prospects. W. Knight. il Aerial Age 14:562-3 F 20 '22

Survey of soaring terrains. Aviation 14:164 F 5 '23

Gliders—Continued

- Three European gliding meets. E. T. Allen. *il Aviation* 13:712-14 N 27 '22
 Turkey Buzzard glider. *diags Aviation* 15:220 Ag 20 '23
 Upward currents of air help gliders. *diag Pop Mech* 40:110 JI '23
 Value of soaring flight experiments overestimated. M. Suffrin-Hebert. *Automotive Ind* 48:860 Ap 19 '23
 Vauville gliding meet. *Aviation* 15:399 O 1 '23
 Le vol a voile. A. Lesage. *il diags plans Génie Civil* 81:309-15, 367-70 O 7, 21 '22
 With the men who fly. A. Klemin. *il Sci Am* 129:326-7 N '23

Glove workers

- Glove workers—Minneapolis. *Monthly Labor R* 16:1320 Je '23

Gloves

- Dyeing of gloves. *Color Tr J* 10:238-9 Je '22

Advertising

- Dent's gloves—a new advertiser shrouded in the dust of antiquity. T. Russell. *Ptr Ink* 123:145-6 My 24 '23

Gloves, Rubber**Specifications**

- Tentative specifications for rubber gloves for electrical workers on apparatus or circuits not exceeding 3000 volts to ground. *Am Soc T M Pro* 21:805-10 '21

Testing

- Six gloves tested at once by Hartford company. *il Elec W* 80:615 S 16 '22
 Testing electricians' rubber gloves. R. W. Chadbourn. *il diag India Rubber W* 68:427-8 Ap '23; *Abstract. Elec W* 81:341 F 10 '23
 Testing rubber gloves with safety and ease. F. W. Wilder. *il Elec W* 80:1277-8 D 9 '22

Glucinum. See Beryllium**Glucinum aluminum silicate. See Beryl****Glucinum sulfate**

- Solubility of glucinum sulphate in water and sulphuric acid at 25°. H. T. S. Britton. *Chem Soc J* 119:1967-71 D '21

Glucodesose

- Über die ungesättigten reduktionsprodukte der zuckerarten und ihre umwandlungen; über 2-desoxyglucose (gluco-desose). M. Bergmann, H. Schotte and W. Lechinsky. *Deutsche Chem Gesell Ber* 55:158-72 Ja '22; *Abstract. Chem Soc J* 122 pt 1:227-3 Mr '22

Glucosamine

- Mutarotation and pseudo-mutarotation of glucosamine and its derivatives. J. C. Irvine and J. C. Earl. *Chem Soc J* 121:2370-6 N '22

- Salicylidene derivatives of d-glucosamine. J. C. Irvine and J. C. Earl. *Chem Soc J* 121:2376-81 N '22

Glucosan

- Constitution of polysaccharides; the relationship of l-glucosan to d-glucose and to cellulose. J. C. Irvine and J. W. H. Oldham. *Chem Soc J* 119:1744-59 N '21

Glucose

- Crystalline glucose-ammonia and isoglucosamine. A. R. Ling and D. R. Nanji. *Chem Soc J* 121:1682-8 S '22

- Glucose and dextrine; patent. *diag Chem & Met Eng* 28:178 Ja 24 '23

- Glucose anti-freeze action unreliable. *Automotive Ind* 48:820 Ap 12 '23

- Improved procedure in glucose manufacture. *Chem Age* 30:253-4 Je '22

See also Dextrose; Trimethyl glucose

Testing

- Determination of the pH value of commercial glucose as a substitute for the candy test. O. A. Sjostrom. *J Ind & Eng Chem* 14:941-3 O '22

Glucosides

- Optical rotations of the sugars; the methyl pentoses and the glucosides. J. G. Maltby. *Chem Soc J* 123:1404-9 Je '23

- Studies of the glucosides; arbutin. A. K. Macheth and J. Mackay. *Chem Soc J* 123:717-24 Mr '23

See also Capsularin; Castelin; Indican

Glue

- Analysis of glue. C. McKee. *Brass W* 17:52 F '22

- Blood-albumin glue. *Chem Age* 31:333-4 JI '23

- Chemistry and technology of gelatin and glue. R. H. Bogue. 644p McGraw-Hill '22;

- Review. *Engineering* 114:623-4 N 17 '22

- Contributions to the chemistry and technology of gelatin and glue. R. H. Bogue. *J Fr Inst* 193:795-825; 194:75-82 Je-JI '22

- Control of the gelling point of glue; with specific application to drying barrel linings in hot weather. R. E. Wilson and W. B. Ross. *Ind & Eng Chem* 15:367-70 Ap '23

- Evaluation of gelatin and glue. R. H. Bogue. *J Ind & Eng Chem* 14:435-40; *Bibliography*. 440-1 My '22; *Abstract. Chem & Met Eng* 26:123 Ja 18 '22

- Glue and gelatin. J. Alexander. 236p Chemical catalog co. '23

- Glue in polishing work. B. H. Divine. *Metal Ind* 21:234-5 Je '23

- History and development of the glue industry and grease extraction in America. L. A. Thiele. *Am Inst Chem Eng Trans* v 13 pt 2: 243-69; *Bibliography*. 269-71 '20-'21

- How glue makes things stick together. *il Sci Am* 128:105 F '23

- Hydroscopicity of hide glues and the relation of tensile strength of glue to its moisture content. E. Bateman and G. G. Town. *il Ind & Eng Chem* 15:371-5 Ap '23

- Improvements for production efficiency in the glue industry. J. Alexander. *Chem & Met Eng* 27:468 Ag 30 '22

- Modern glues and glue testing. C. H. Teesdale. 192p Periodical pub. co., Grand Rapids, Mich. '22

- New glue invented by A. C. Lindauer. *il Chem & Met Eng* 29:337 Ag 20 '23

- Padding composition. W. Stettler. *Inland Ptr* 70:409-10 D '22

- Preparation and use of glue. *Aviation* 12:202 F 13 '22

- Properties of glue for polishing wheels. B. H. Divine. *il Mach* 29:134-5 O '22

- Recent chemical and technological advances in our knowledge of gelatin and glue. R. H. Bogue. *bibliog J Ind & Eng Chem* 14: 795-7 S '22

- Use of lime in the glue and gelatin industry. R. H. Bogue. *Ind & Eng Chem* 15:736-7 JI '23

- Vegetable glue. C. K. Reiman. *J Ind & Eng Chem* 14:799-800 S '22

- Water-resistant cold press blood albumin glue. *Automotive Ind* 49:531 S 13 '23; *Same. Eng & Contr (Bldgs)* 60:880 O 24 '23

- Water resistant glues; casein and blood albumin. R. H. Bogue. *Chem Age* 30:103-6 Mr '22

- What makes glue stick? E. Gerry and T. R. Truax. *il Sci Am* 129:102+ Ag '23; *Same. Brass W* 19:293-4 S '23

See also Adhesives

Advertising

- Is it better to feature a few important uses for a product or many uses? *Ptr Ink* 120: 85-6+ S 7 '22

Patents

- Perkins glue patent not infringed. *Chem & Met Eng* 28:458-9 Mr 7 '23

- Perkins patent for process and product covering glue upheld in three cases. W. Gustin. *Chem & Met Eng* 28:124 Ja 17 '23

Testing

- New instrument for testing glue and gelatin jellies. W. D. Richardson. *diag Chem & Met Eng* 28:551-2 Mr 21 '23

- Testing of glue and gelatin gels. A. M. Howald. *diags Chem & Met Eng* 28:1037 Je 11 '23

Glutaconic acid

Addition of hydrogen cyanide to derivatives of glutaconic acid; the addition of hydrogen cyanide to ethyl- α -cyano- β -methylglutaconate and its homologues. E: Hope and W. Sheldon. *Chem Soc J* 121:2223-35 O '22

Chemistry of the glutaconic acids; the isomerism due to retarded mobility. J. F. Thorpe and A. S. Wood. *Chem Soc J* 123:62-4 Ja '23

Chemistry of the glutaconic acids; three-carbon tautomerism in the cyclopropane series. E. R. Goss, C. K. Ingold and J. F. Thorpe. *Chem Soc J* 123:327-61 F '23

Conditions underlying the formation of unsaturated and cyclic compounds from halogenated open-chain derivatives; products derived from halogenated glutaconic acids. E. H. Farmer and C. K. Ingold. *Chem Soc J* 119:2001-21 D '21

Experiments on the synthesis of polyacetic acids of methane; conditions of formation by the cyanoacetic ester method of stable methanetriacetic esters. C. K. Ingold and E: A. Perren. *Chem Soc J* 119:1865-8 N '21

Über α -Benzyl- β -methyl-glutaconsäuren. F. Feist and E. Rauterberg. *Deutsche Chem Gesell Ber* 55:3697-3705 D '22

Glutamine

Synthesis of amino acids in animal organisms; synthesis of glycocoll and glutamine in the human organism. G: J. Shipley and C. P. Sherwin. *Am Chem Soc J* 44:618-24 Mr '22

Glutaric acid

Abbau hydro-aromatischer säuren der glutarsäure-reihe. A. Windaus, F. Klänhardt and G. Reverey. *Deutsche Chem Gesell Ber* 55:3981-7 D '22

Formation and stability of spiro-compounds; the application of the Dieckmann reaction to esters of the glutaric series. G: A. R. Kon. *Chem Soc J* 121:513-26 Mr '22

Method for the preparation of $\alpha\beta$ -tri-alkylated glutaric acids. G: A. R. Kon and J. F. Thorpe. *Chem Soc J* 121:1795-1803 S '22

Gluten

Physico-chemical studies of strong and weak flours; the imbibitional properties of the glutes from strong and weak flours. P. F. Sharp and R. A. Gortner. *J Phys Chem* 26:101-36 F '22

Glutenin

Physico-chemical properties of strong and weak flours; relation between the maximum viscosity obtainable by the addition of lactic acid and the concentration of flour-in-water suspensions. P. F. Sharp and R. A. Gortner. *J Phys Chem* 27:771-88 N '23

Glyceraledehyde

Die überführung des aktiven glycerinaldehyds in die aktive glycerinsäure. A. Wohl and R. Schellenberg. *Deutsche Chem Gesell Ber* 55:1404-8 My '22

Glyceric acid

Die überführung des aktiven glycerinaldehyds in die aktive glycerinsäure. A. Wohl and R. Schellenberg. *Deutsche Chem Gesell Ber* 55:1404-8 My '22

Glycerides

Drying of oils. S: Coffey. *Chem Age (Lond)* 8:61 Ja 20 '23

Glycerin

Determination of glycerol in the presence of sugars. L. F. Hoyt and H. V. Pemberton. *J Ind & Eng Chem* 14:54-6 Ja '22

Equilibrium in systems composed of water and alcohols: methyl alcohol, pinacone, glycerol, and erythritol. N. A. Pushin and A. A. Glagoleva. *Chem Soc J* 121:2813-22 D '22

Historical development of the distillation of glycerine. C. H. Gray. *Chem & Met Eng* 27:158 J 26 '22

Nature of secondary valence; partition coefficients in the system glycerine:acetone. H. W. Smith. *J Phys Chem* 25:721-34 D '21

Present practice of dynamite and chemically pure glycerol distillation. J. W. Bodman. *Il diags J Ind & Eng Chem* 14:487-91 Je '22

Production of glycerin by fermentation. *Chem Age* 30:429-30 O '22

Recovery of glycerine from spent soap lyes. W. E. Sanger. *diag Chem & Met Eng* 26:1211-16 Je 28 '22

Refining of salt crude glycerine. W. E. Sanger. *diags Chem & Met Eng* 27:827-32 O 25 '22

Solving the evaporation problems of the soap industry. W. E. Sanger. *diags Chem & Met Eng* 29:478-81 S 10 '23

Studies in mutual solubility; introductory—the mutual solubility of glycerol and aliphatic and aromatic ketones. B. C: McEwen. *Chem Soc J* 123:2279-84 S '23

Studies in mutual solubility; the mutual solubility of glycerol and alcohols, aldehydes, phenols, and their derivatives. B. C: McEwen. *Chem Soc J* 123:2284-8 S '23

Third law of thermodynamics; evidence from the specific heats of glycerol that the entropy of a glass exceeds that of a crystal at the absolute zero. G. E. Gibson and W. F. Giauque. *diag Am Chem Soc J* 45:93-104 Ja '23

Glycerol. See Glycerin**Glyceryl triacetate**

Glyceryl triacetate as a camphor substitute in plastics. *Chem Age* 31:332-3 J 1 '23

Glycine

Characteristics of the two crystalline forms of glycine. C. A. Brautlecht and N. F. Eberman. *Am Chem Soc J* 45:1934-41 Ag '23

Synthesis of amino acids in animal organisms; synthesis of glycocoll and glutamine in the human organism. G: J. Shipley and C. P. Sherwin. *Am Chem Soc J* 44:618-24 Mr '22

Über die beiden modifikationen des glykokolls; zugleich ein beitrage zur technik des methylierens mit diazo-methan. H. Biltz und H. Paetzold. *Deutsche Chem Gesell Ber* 55:1066-73 Ap '22

Glycocoll. See Glycine**Glycogen**

Über inulin und glykogen. H. Pringsheim and M. Lassmann. *Deutsche Chem Gesell Ber* 55:1409-14 My '22

Glycols

Mechanism of the transformation of α -glycols by the action of dehydrating agents. S. Danilov. *Chem Soc J* 124 pt 1:786-8 Ag '23

Reduction of uric acid glycols; a contribution to the characterisation of their hydroxyls. H. Biltz and R. Lemberg. *Chem Soc J* 124 pt 1:955-7 S '23

Über die fähigkeit der 1,3-glykole zur bildung von acetone-verbindungen. J. Böeseken and P. H. Hermans. *Deutsche Chem Gesell Ber* 55:3758-60 D '22

Zur kenntnis der nitro- und amino-glykole. E. Schmidt and R. Wilkendorf. *Deutsche Chem Gesell Ber* 55:316-22 F '22

See also Monothioethylene glycol

Glyoxaline. See Imidazole**Glyoxaline-4-carboxyanilide**

Bromination of glyoxaline-4-carboxyanilide. H. King and W: O. Murch. *Chem Soc J* 123:621-9 Mr '23

Glyoxalane. See Imidazolone**Glyoximes**

Glyoximes and peroxides. D. Bigliavi. *Chem Soc J* 122 pt 1:352-3 Ap '22

Glyoxylyrea

5-oxy-hydantoin. H. Biltz and M. Kobel. *Deutsche Chem Gesell Ber* 54:1802-28 S '21. Abstract. *Chem Soc J* 120 pt 1:815-17 N '21

5-oxy-1,3-dimethyl-hydantoin. H: Biltz and D. Heidrich. *Deutsche Chem Gesell Ber* 54:1829-33 S '21

Goats

Boy scouts round up 10,000 goats. E. W. Marquart. *Il Pop Mech* 40:122-3 J 1 '23

Goggles

Goggle makers develop special types and maintenance service. *Il Safety Eng* 44:68-4 Ag '22

Goggles—Continued

- Improved glass for industrial goggles. Chem & Met Eng 28:763 Ap 30 '23
Preventing eye injuries in industry. il Nat Safety N 7:17-20 F '23

Goiter

- Iodine treatment of water to prevent goitre. B. C. Little. Eng & Contr (W W) 60:63-4 Jl 11 '23; Same. Am Water Works Assn J 10:556-8 Jl '23; Same. Munic Eng 65:60-2 Ag '23; Same cond. Eng N 90:964 My 31 '23

Gold

- English gold and silver markets. See weekly numbers of Commercial & financial chronicle Gold. H. N. Lawrie. Eng & Min J 115:151 Ja 20 '23

- Gold of the ancients. I: Taylor. Brass W 19:265 Ag '23

- Golden age of Peru. il Sci Am 127:246 O '22

- Is the extent of volatilization of metals realized? E. C. Jordan. Eng & Min J 114:710-11 O 21 '22

- Liesegang rings; silver chromate in gelatin and colloidal gold in silicic acid gel. E. C. H. Davies. Am Chem Soc J 44:2698-2704 D '22

- Liesegang rings; the effect of light and hydrogen-ion concentration on the formation of colloidal gold in silicic acid gel; rhythmic bands of purple of Cassius. E. C. H. Davies. Am Chem Soc J 45:2261-8 O '23
Mineral industry of the British empire and foreign countries. 366p Gt. Brit. Imperial mineral resources bur., London '22

- Oddie gives his argument for gold bounty; would conserve gold resources of the Nation by paying bonus of \$5 per ounce of new domestic gold. P. Wooton. Eng & Min J 114:1001 D 2 '22

- Ontario gold deposits. P. E. Hopkins. 73p (In Ontario. Dept. of mines. Annual report, 13th; v. 30; pt. 2, 1921) C. W. James, Toronto '22

- Protective action of potassium oleate on gold sols in water-alcohol mixtures. E. K. Rideal and L. L. Bircumshaw. Chem Soc J 123:1565-70 Je '23

- Rand strike imperils world gold supply. W. V. Fox. Annalist 19:178 Ja 30 '22

- Refinery production of gold and silver in the United States in 1922. Comm & Fin Chr 117:1079 S 8 '23

- Synthetic gold. Min & Met 183:45 Mr '22

- Thermoelectric properties of sputtered films of gold, platinum, and palladium; and of solid palladium containing occluded hydrogen. R. M. Holmes. diag Phys R 22:137-47 Ag '23

- Transvaal gold production; trend of Canadian gold production. Eng & Min J 113:747 Ap 29 '22

- Valuation of gold. H. R. Sleeman. Eng & Min J 113:517-19 Ap 1 '22

- Wetting and amalgamation. Min & Sci P 123:665, 772-3, 881-2, 919 N 12, D 3, 24-31 '21

- See also Assaying; Cyanide process; Gilding; Gold assaying; Gold dredging; Gold metallurgy; Gold milling; Gold mines and mining; Gold ores

Theft

- Amalgamation, all-cyanidation, and thievery. A. W. Allen. Eng & Min J 115:63-4 Ja 13 '23

Gold as money

- Absorption of Russian gold by federal reserve banks and central institutions of principal countries. Comm & Fin Chr 115:363-4 Jl 22 '22

- Activities of the United States Senate commission of gold and silver inquiry. Comm & Fin Chr 117:1190 S 15 '23

- Annual report for the year ended Oct. 31, 1922, of the comptroller of currency. D. R. Crissinger. Comm & Fin Chr 116:674-6 F 17 '23

- Can the world pay its gold debts? H. W. Seaman. Eng & Min J 116:596-7 O 6 '23

- Effect of gold on prices and currencies. R. Estcourt. Annalist 19:581+ My 29 '22

- Function of gold in foreign trade. W: T. Foster. Annalist 20:414+ O 23 '22

- Gold paradox. S. Morgan. il Nation's Business 11:41-2 S '23

- Impoverished Europe craves a new gold standard. F. Bardiani. Annalist 19:631-2 Je 12 '22

- India's menace to world gold standard restoration. J: Oakwood. Annalist 19:583-4 My 29 '22

- Money and foreign exchange after 1914, by Gustav Cassel. Review. Comm & Fin Chr 116:220-1 Ja 20 '23

- Necessity for the maintenance of the gold standard. D. R. Crissinger. Comm & Fin Chr 114:2421-2 Je 3 '22

- New swing in the world's gold currents. J: Oakwood. Annalist 19:392+ Ap 3 '22

- Proposals for stabilizing currencies at gold parity. A. W. Krech. Comm & Fin Chr 116:672-3 F 17 '23

- Prospect of a net gold loss no cause for alarm. J: Oakwood. Annalist 21:53+ Ja 8 '23

- Relation of gold imports and exports to volume of credit. P. Jay. Comm & Fin Chr 116:2584-5 Je 9 '23

- Relation of gold to currency. H. R. Sleeman. Eng & Min J 114:886-7 N 18 '22

- What the reserve ratio means—present high ratio due to flow of gold to U.S. Comm & Fin Chr 115:2542 D 9 '22

- Why stick to the gold standard? questions by T. A. Edison; answers by D. P. Kingsley. Nation's Business 10:16-18 Mr '22

- World's greatest gold movement. J: Oakwood. Annalist 19:45-6 Ja 9 '22

Gold assaying

- Assay of by-products of gold reduction works. J: Watson. Eng & Min J 114:199-200 Jl 29 '22

- Non-cupellation method of gold-bullion assay. A. W. Allen. Eng & Min J 113:1057 Je 17 '22

Gold chlorides

- Addition compounds of gold halides with benzyl sulfide. G: M. Smith. Am Chem Soc J 44:1769-75 Ag '22

See also Cesium auric chlorides

Gold Coast, Africa

See also Railroads—Gold Coast, Africa

Gold compounds

- Alleged variable composition of triple chlorides containing silver and gold. H. L. Wells. Am J Sci 5th ser 4:476-82 D '22

- Some complex chlorides containing gold. H. L. Wells. Am J Sci 5th ser 3:315-26, 414-16 My-Je '22

Gold dredges

- New dredges now running at Nome. Eng & Min J 115:320 Ag 25 '23

- New Zealand's giant dredge. Eng & Min J 115:763 Ap 28 '23

- Recent advance in design of gold-dredge bucket lips. G: J. Young. il Eng & Min J 112:932-4 D 10 '21

Manufacture

- Gold-dredge bucket and other work. F. A. Stanley. il Am Mach 55:1035-6 D 29 '21

Repair

- Emergency repairs on a gold dredge gear. F. C. Hudson. il Am Mach 59:393-4 S 13 '28

Gold dredging

- California gold dredges go to Nome. G: J. Young. il Eng & Min J 114:912-13 N 18 '22

- Comparison of estimates upon a gold-dredging orebody. Eng & Min J 115:934-6 My 26 '23

- Discrepancy between drilling and dredging results. R. G. Smith. Eng & Min J 112:812-15 N 19 '21

- Drill sampling of dredge ground. R. T. Hancock. Eng & Min J 114:330-1 Ag 19 '22

- Drilling results and dredging returns. E. H. Dawson. Eng & Min J 113:315-16 F 25 '22

- Drilling results and dredging returns. C: W. Gardner. Eng & Min J 112:646-9, 688-92 O 22-29 '21; Discussion. A. C. Ludlum. 112:845 N 26 '21

- Gold mining in eastern Siberia. F. L. Cole. il map Eng & Min J 116:185-90 Ag 4 '23

- Mechanical rocker. H: W. Turner. il diags Eng & Min J 116:334-5 Ag 25 '23

Gold dredging—Continued

Russian placer mining. L. A. Perret. *Min & Sci P* 122:458 Ap 2 '21; Discussion. 122:592; 123:460-2, 879-81; 124:184, 325-6 Ap 30, O 1, D 24 '21, F 11, Mr 11 '22
Valuation of placer deposits. W. H. Grant. *Eng & Min J* 113:329-31 F 25 '22

Gold dust (cleaning powder)

Gold dust's 28 uses lead the way to wider markets. R. Cole. *Ptr Ink* 118:3-4+ Mr 2 '22

Advertising

Gold Dust twins and the Little Fairy stage a return engagement. B. A. Grimes. *il Ptr Ink* 125:25-7 O 18 '23

Gold Dust corporation

American cotton oil transfers trade-marked brands to Gold Dust corporation. *Ptr Ink* 124:10+ S 27 '23

Gold halides

Addition compounds of gold halides with benzyl sulfide. G. M. Smith. *Am Chem Soc J* 44:1769-75 Ag '22

See also Gold chlorides

Gold leaf

See also Gilding

Manufacture

Manufacture of gold leaf in California still by ancient methods. A. W. Allen. *il diags Eng & Min J* 116:769-71 N 3 '23

Gold leaf cutter

Home-made machine for handling ribbon gold. E. R. Mason. *diag Inland Ptr* 69:550 Jl '22

Gold metallurgy

Concentration and cyanidation. C. Flury. *Min & Sci P* 123:771-2 D 3 '21

Concentration of Rossland, B. C., ores. D. Lay. flow sheets *il diags Eng & Min J* 114:1118-24 D 23 '22

Cyaniding gold ore at the Ashanti mine. flow sheets *Eng & Min J* 115:844-6 My 12 '23

Cyaniding pyritic ore. *Min & Sci P* 123:627-8 N 5 '21

Development of metallurgical practice at the Hollinger mine. P. A. Robbins. flow sheet *Eng & Min J* 113:1093-7 Je 24 '22

Economics of the Rand. F. Wartenweiler. *Min & Sci P* 124:367-70 Mr 18 '22

Fuel oil aids cyaniding at the Belmont Shawmut. flow sheet *Eng & Min J* 116:328 Ag 25 '23

Future of the low-grade gold mine; the Yellow Aster, at Randsburg, Calif. A. W. Allen. *Eng & Min J* 115:539-41 Mr 24 '23; Discussion. C. T. Du Rell. 115:700-1 Ap 21 '23

Gold Bullion mill and cyanide plant, Willow Creek, Alaska. O. A. Glaeser. flow sheet *il Min & Sci P* 123:601-5 O 29 '21

Gold-mining developments in the Black Hills. F. E. Wormser. *il flow sheets diags Eng & Min J* 114:757-72 O 28 '22

Gold precipitation at the Brakpan. *Eng & Min J* 115:888 My 19 '23

Jardine mining co. makes arsenious oxide. *il Eng & Min J* 115:859-60 My 12 '23

Metallurgy and economics of the Hollinger and of the New Modderfontein. A. W. Allen. *Eng & Min J* 115:667-9 Ap 14 '23

New treatment plant of the United Comstock mines. G. J. Young. *il diags plans Eng & Min J* 114:846-53 N 11 '22

Procedure at the new gold and silver refinery on the Rand. *Eng & Min J* 113:405 Mr 11 '22

Recent cyanide practice. *Eng & Min J* 115:1109 Je 23 '23

Recovery of gold on corduroy suggested in South Africa. *Eng & Min J* 114:684 O 14 '22

Refinery practice and flue losses in smelting cyanide precipitate at Buckhorn, Nev. E. R. Richards. *diags Eng & Min J* 113:865-7 My 20 '22

Refining gold bullion with chlorine at the Ottawa mint. A. H. W. Cleave and P. W. Bond. *il Eng & Min J* 115:236-7 F 3 '23

Treating surface residues for gold. *Eng & Min J* 114:200 Jl 29 '22

Trend of metallurgical practice on the Witwatersrand. A. W. Allen. map *Eng & Min J* 116:58-61 Jl 14 '23

Vandercook mercuric-cyanide system of ore treatment. M. J. Conover. flow sheet *diag Eng & Min J* 115:1004 Je 2 '23

Wilderness industry; how gold is extracted out of ores on a huge scale. F. E. Averill. *il Sci Am* 125A:126-7 D '21

See also Amalgamation; Crowe process; Cyanide process; Gold milling

Gold milling

Sampling custom ores; practice at the Tom Reed mill, at Oatman, Arizona. W. A. Linfesty. *diags Eng & Min J* 116:281-3 Ag 18 '23; Discussion. F. C. Bond and P. T. Bruhl. 116:641 O 13 '23

Gold mines and mining

Five dividend-paying gold mines. E. H. Robie. *Eng & Min J* 113:189-90 Ja 28 '22

Gold mining. S. J. Jennings. *Eng & Min J* 113:84-5 Ja 21 '22

Gold mining in 1922. S. J. Jennings. *Eng & Min J* 115:94-5 Ja 20 '23

Recent progress in the thawing of frozen gravel in placer mining. C. Janin. *diags U S Bur Mines Tech Pa* 309:1-34, pl 1-5 '22;

Excerpts. *Eng & Contr* 58:273 S 20 '22; Conclusions. *Eng & Min J* 114:499 S 16 '22

St John Del Rey mining company; Alaska Treadwell gold mining company. *Eng & Min J* 116:303-4 Ag 18 '23

Wilderness industry; how gold is extracted out of ores on a huge scale. F. E. Averill. *il Sci Am* 125A:126-7 D '21

See also Gold dredging; also Hollinger consolidated gold mines, Ltd.

Alaska

Gold Bullion mill and cyanide plant, Willow Creek, Alaska. O. A. Glaeser. flow sheet *il Min & Sci P* 123:601-5 O 29 '21

Gold lodes in the upper Kuskokwim region. G. C. Martin. maps *U S Geol S Bul* 722:149-61 '22

Arizona

Arizona gold placers. M. A. Allen. (State bur. of mines. *Bul.* 118) 24p Univ. of Arizona, Tucson '22

Geology of the Oatman gold district, Arizona. F. L. Ransome. *il U S Geol S Bul* 743:1-56, pl 1-12 '23

Oatman today; Arizona's principal gold camp. W. F. Boericke. *il Eng & Min J* 113:51-3 Ja 14 '22

Australia

Australian mining conditions. P. G. Tait. *il Eng & Min J* 113:289-92 F 18 '22

British Columbia

Nugget gold mines, at Salmo, British Columbia. G. H. Shepherd. flow sheet *il Min & Sci P* 124:51-4 Ja 14 '22

Origin of the placer gold of the Barkerville area, Cariboo district, British Columbia, Canada. W. L. Uglow and W. A. Johnston. *il Econ Geol* 18:541-61 S '23

Placer operations near Cariboo, B. C. D. D. Fraser. *Eng & Min J* 115:805 My 5 '23

California

Gold mining at Carson Hill, California. G. J. Young. *il Eng & Min J* 112:725-9 N 5 '21

Gold production in California. *Eng & Min J* 116:705-6 O 27 '23

Wilshire gold mine. H. W. Turner. maps *Eng & Min J* 114:888-90 N 18 '22

Canada

Canada as a gold producer. A. Gray. *Eng & Min J* 113:578-9 Ap 8 '22

Hollinger, H. J. Wolf. *Eng & Min J* 113:510-11 Mr 25 '22

Hollinger mine. A. Gray. *Eng & Min J* 112:1049 D 31 '21

Colombia

Gold mining in Colombia. E. K. Craig. *il Eng & Min J* 113:478-84 Mr 25 '22

Oroville dredging co., Ltd. *Eng & Min J* 116:570 S 29 '23

Gold mines and mining—Continued

Georgia

Deep veins in the Appalachian belt: three gold regions in Georgia in which veins have not degenerated. W. H. Fluker. *il Eng & Min J* 114:93-4 J1 15 '22

Guiana

Gold in Dutch and French Guiana. G: A. Laird. *il Min & Met* 190:11-13 O '22

Idaho

Development opens ore in Central Idaho gold region. E: M. Griffith. *Eng & Min J* 115:903 My 19 '23

Ore deposits of Gold Hill mine, at Quartzburg, Idaho. A. J. McDermid. *il diags map plan Eng & Min J* 114:537-40 S 23 '22

Japan

Mining company in Japan; Bajo gold mine, of Narukiyo company. N. Ishikawa and H. Kitamura. flow sheet *il Eng & Min J* 112:966-8 D 17 '21

Sado gold mine. C. W. Purington. *il map Eng & Min J* 114:1115-17 D 23 '22

Manitoba

Elbow Lake strike—another Porcupine? W. A. Rukeyser. *il Eng & Min J* 113:341-2 F 25 '22

Mexico

Las Minitas-Baucart gold belt. F. Montijo H. *Eng & Min J* 114:323-4 Ag 19 '22

Mining reconnaissance from Mazatlan. F. D. Pagliuchi. *il maps Eng & Min J* 115:542-6 Mr 24 '23

Old Tyopa. D. F. McCarthy. *Eng & Min J* 112:816-17 N 19 '21

Nevada

Bonanza ores of the Comstock Lode, Virginia City, Nevada. E. S. Bastin. *U S Geol S Bul* 735—C:41-63 '22

Placers of the Johnnie district, Nevada. C: Labbe. *Eng & Min J* 112:895-6 D 3 '21

Proposed mining methods of United Comstock mines company. J: R. Reigart. *diags Min & Met* 191:41-3 N '22

Résumé of geology of United Comstock mines. W. H. Grant. *Min & Met* 191:39-41 N '22

New Mexico

Aztec mine, Baldy, New Mexico. C: A. Chase and D. Muir. *diag Min & Met* 190:33-5 O '22

North Carolina

North Carolina gold mine. *Eng & Min J* 114:618 O 7 '22

Ontario

Ankerite development financed by private subscription. J. C. Murray. *il Eng & Min J* 115:1167 Je 30 '23

Gold in Keewatin. C: A. Bramble. *Eng & Min J* 116:367-8 S 1 '23

Gold mining in the Porcupine district of Ontario. *Eng & Min J* 114:397-8 S 2 '22

Kirkland lake gold district of Ontario. *Eng & Min J* 114:530-1 S 23 '22

Ontario produced \$3,000,000 worth of gold in first half of 1923. *Eng & Min J* 116:386 S 1 '23

Porcupine: premier gold district of northern Ontario. R. E. Hore. *il Eng & Min J* 115:359-63 F 24 '23

Quebec

Prospects for gold in northwestern Quebec. T. C. Denis. *map Eng & Min J* 115:674-5 Ap 14 '23

Russia

Russian placer mining. L. A. Perret. *il Min & Sci P* 122:391-5, 415-18, 449-50, 457-60 Mr 19—Ap 2 '21; Discussion. 122:592, 671-2, 806, 834; 123:389-91, 460-2 Ap 30, My 14, Je 11-18, S 17, O 1 '21; *Eng & Min J* 113:902-3 My 27 '22

Siberia

Gold mining in eastern Siberia. F. L. Cole. *il map Eng & Min J* 116:135-90 Ag 4 '23

Present status of gold mining in eastern Siberia. A. P. Sviridoff. *il map Eng & Min J* 116:620-8 O 13 '23

South Africa

Recent discoveries of gold. *Eng & Min J* 114:487 S 16 '22

Strike in the gold mines of South Africa. A. C. Key. *Int Labour R* 6:893-916 D '22

Transvaal and Rhodesia. *Eng & Min J* 115:136 Ja 20 '23

See also Gold mines and mining—Transvaal

South Dakota

Geology of the Homestake orebodies and the Lead area of South Dakota. J. O. Hosted and L. B. Wright. *il map Eng & Min J* 115:793-9, 836-43 My 5-12 '23

Gold-mining developments in the Black Hills. F. E. Wormser. *il flow sheets diags Eng & Min J* 114:757-72 O 28 '22

Transvaal

Improved condition of the Witwatersrand gold mines. *Eng & Min J* 114:544 S 23 '22

Rand ore reserves. A. C. Key. *Eng & Min J* 114:722-3 O 21 '22

Trend of metallurgical practice on the Witwatersrand. A. W. Allen. *map Eng & Min J* 116:58-61 J1 14 '23

United States

Largest gold and silver producers in the United States. *Eng & Min J* 115:720 Ap 21 '23

Wales

Gold in Wales. P. Dent. *Eng & Min J* 114:853 N 11 '22

Yukon region

Discovery of the Klondike. T. A. Rickard. *Eng & Min J* 114:48 J1 8 '22; Discussion. 114:1017-18; 115:305-6, 437, 832-3 D 9 '22, F 17, Mr 10, My 12 '23

Gold ores

Geology of the gold occurrences of Victoria, Australia. N. E. Junner. *il diags Econ Geol* 16:79-123 Mr '21; Discussion. F. L. Stillwell. 17:48-55 Ja '22

Geology of the Oatman gold district, Arizona. F. L. Ransome. *il U S Geol S Bul* 743:1-56, pl 1-12 '23

Gold ores of Porcupine. J. E. Spurr. *il diags Eng & Min J* 116:633-8 O 13 '23

Gold-quartz veins of Bridge river district, B. C., and their relationship to similar ore-deposits in the Western Cordilleras. W. S. McCann. *diags Econ Geol* 17:350-69 Ag '22

Pre-Cambrian veins of Kirkland lake, Ontario. J. E. Spurr. *map Eng & Min J* 116:671-2 O 20 '23

Sampling spotty gold ores. C: D. Demond and A. C. Halferdahl. *Eng & Min J* 114:948 N 25 '22; Discussion. 114:1063; 115:217-18 D 16 '22, F 3 '23

West Shining Tree gold prospects. W. H. Weed. *map Eng & Min J* 116:68-9 J1 14 '23

Gold plating

Gold on aluminum. C. H. Proctor. *Metal Ind* 20:431 N '22

Gold plating. C. H. Proctor. *Metal Ind* 20:110 Mr '22

See also Gilding

Gold reserve bank of the United States of Europe. See Credit, International

Goldbeaters' skins

Report on goldbeaters' skins for ZR1. M. Meadowcroft. *Aviation* 13:662-3 N 13 '22

Goldfish

From common carp to fanciest of gold fish. R. Howard. *il Sci Am* 126:180 Mr '22

Goldsmithing

See Gilding; Jewelry

Golf balls

Manufacture

Die cast golf ball molds. *il diags India Rubber* W 69:83-4 N '23

Golf ball tapes and windings. *il India Rubber* W 66:609-10 Je '22

Golf balls—Manufacture—Continued

- Golf-ball winding machines. il diags India Rubber W 66:343-5 F '22
Process for golf balls guarded as secret. il Pop Mech 40:833 D '23

Golf club heads

- Side line tides foundry over depression; sporting goods castings. M. A. Hall. il Iron Age 109:519-21 F '23 '22

Golf links

- Layout of sprinkler piping for a golf course. plans Dom Eng 105:21-2 O 6 '23
Nine-hole golf course with unusual hazards. H. A. Lane. il Pop Mech 37:67 Ja '22

Gooch, Frank Austin

- Sketch. P. E. Browning. por Ind & Eng Chem 15:1088-9 O '23

- Good roads show, National.** See National good roads show

Good will (in business)

- Commercial goodwill, its history, value, and treatment in accounts. P. D. Leake. 260p Pitman '21
Guarding the segments of good-will. R. Dickinson. Ptr Ink M 5:31-2+ Ag '22
Keeping old customers friendly. R. Bostick. Ptr Ink 121:121-2+ O 5 '22
Valuation of goodwill. J Account 36:231 S '23

- What is the value of trade lists as an asset? Ptr Ink 121:25-6 O 5 '22

- When the worst happens, make the most of it. D. Kirkland. Ptr Ink 123:183 My 17 '23
Why customers send their friends to us. F. B. Connelly. System 42:540-1+ N '22

- See also Advertising; Educational; Advertising, Institutional; Complaints; Public utilities—Advertising; Public utilities—Public relations; Publicity

Bibliography

- How to find the value of good-will. Ptr Ink 120:12 Ag 17 '22

Goodale, Charles Warren

- Medal awarded to Charles Warren Goodale for safety and welfare work. por Min & Met 182:18 F '22

Goodrich, Simon, 1773-

- Simon Goodrich and his work as an engineer; compiled from his Journals and Memoranda by E. A. Forward. Engineer 134:431-2 O 27 '22

Goodyear, William H.

- Sketch. W. S. Conrow. Am Inst Arch J 11: 226-7 My '23

Goodyear tire and rubber company

- Report for six months ending June 30, 1922. Comm & Fin Chr 115:772 Ag 12 '22

Gordon, George Phineas, 1810-1878

- George Phineas Gordon; famous inventor. H: L: Bullen. por Inland Ptr 70:91-2 O '22

Gosport, England

- New landing stage and wharf at Gosport. il map Engineer 135:166-8 F 16 '23

Gotham silk hosiery company

- Direct selling as a sales policy. S. E. Summerfield. Administration 4:169-72 Ag '22

- Gotham tries out another new idea of the consumer. R. Dickinson. Ptr Ink 124:33-4+ Ag 30 '23

- Our best sales ideas come from our customers. S. E. Summerfield. Ptr Ink M 6: 19-20+ F '23

Gothenburg, Sweden

- Gothenburg's jubilee exposition. il Sci Am 128:391 Je '23

Gothic architecture. See Architecture, Gothic**Gottsberger, B. Britton, 1874-**

- Mining engineers of note. por Eng & Min J 113:828 My 13 '22

Goudy, Frederic W.

- Observations on type designs and type designers and their press agents. H: L: Bullen. Inland Ptr 71:833-5 S '23; Discussion. R. O. Ballou. 72:267-8 N '23

Gould, George Jay, 1864-1923

- Sketch. por Ry Age 74:1230 My 19 '23

Government accounting

- See Municipal accounting

Government advertising

- Government of Formosa advertises tea. Ptr Ink 121:41-2 N 23 '22
A government uses advertising to solve business problems. R. Dickinson. Ptr Ink 122: 17-18 Ja 25 '23
Picture trains advertise communism. il Pop Mech 40:350 S '23
Ponderosity plays no part in this government advertising. Ptr Ink 124:133-4 Ag 23 '23
Senator Lenroot wants government to advertise legitimately. Ptr Ink 125:20 O 25 '23
Teaching consumers to buy eggs by government grade. Ptr Ink 121:169-70+ D 14 '22
See also Municipal advertising; State advertising

- Government aid to business.** See Export trade—Government aid; Industry and state; United States—Foreign and domestic commerce, Bureau of

- Government bonds.** See Bonds, Government; Municipal bonds

- Government contracts.** See Contracts, Government

Government employees

- Employees in manufacturing plants of the United States war and navy departments. Monthly Labor R 14:987-97 My '22
Federal service. L: Mayers. 607p Appleton '22
Increase in number of federal civil employees resulting from the war. Comm & Fin Chr 115:1276 S 16 '22
Principles of public personnel administration. A. W. Procter. 243p Appleton '21
Whole Sam family. H. Fergusson. il Nation's Business 11:24-5 Je '23; Discussion. G: R. Wales. 11:64+ S '23
See also Arsenals—Employees; Civil service; Civil service pensions; Municipal employees

Salaries

- Civil engineering positions in federal government service. Eng & Contr (R & S) 59:528-9 Mr 7 '23; Same. Eng N 90:623 Ap 5 '23
Federal department. L. B. Smith. Prof Eng 8:13-14 Ap '23
Government salary classification bill—dangerous innovations proposed. Comm & Fin Chr 116:10-11 Ja 6 '23
Haphazard method of fixing government salaries. Comm & Fin Chr 115:1777-8 O 21 '22
Higher pay for government engineers. Eng N 89:1055 D 21 '22
Safeguarding librarians in reclassification. D. W. Hyde, Jr. Special Lib 14:79-80 My '23
Salaries for professional and scientific workers in the government service. Chem Age 31:123 4 Mr '23
Salary standards in the federal government. W: E. Mosher. Special Lib 14:73-5 My '23
Schedule of wages for civil employees under the naval establishment. Monthly Labor R 17:338-40 O '23
Wages and salaries of manual workers and officials in the German government service. Monthly Labor R 13:1262-4 D '21
See also Municipal employees—Salaries

- Government expenditures.** See United States—Appropriations and expenditures

Government ownership

- Analysis of proposed power act of California. Elec W 79:280-1 F 11 '22
Discussion of contract vs. day labor system in the construction industry. C: A. Mullen. Munic Eng 65:189-92 O '23
Government in business. G: E. Roberts. Comm & Fin Chr 117:102-6 sec 2 O 13 '23
Incentives in the new industrial order. J: A. Hobson. 160p L. Parsons, London '22
North Dakota industrial program. 109p Industrial commission of North Dakota, Bismarck '21
Ownership and operation of utilities. Elec W 73:974-5 N 12 '21; Same. N E L A Bul 8: 635-7 N '21; Same. Elec Ry J 58:871-2 N 12 '21

Government ownership—Continued

Public ownership; what it has accomplished among the railroads and utilities of other countries. F. G. R. Gordon. Gas Age 52: 535-7 O 27 '23

Railways and the people. S. P. King. 170p Four Seas co., Boston '23

Should California reject the principle of utility regulation? E. O. Edgerton. J Elec 48: 351-2 My 1 '22

Socialisation in theory and practice. H. Ströbel. 341p P. S. King & son, London '22

State ownership of factories being abandoned in Australia. Ptr Ink 123:73-4+ Je 7 '23

State ownership of terminal elevators, flour mills and packing plants. 24p Hipple ptg. co., Pierre, S.D. '20

Threatened state control of water powers. P. S. Arkwright. Elec W 80:875-7 O 21 '22

Why government ownership is inefficient and destructive. H. N. Casson. Ry R 70:50-1 Ja 14 '22

See also Coal mines and mining—Government ownership; Electric utilities—Government ownership; Government regulation of industry; Municipal ownership; Plumb plan; Public utilities; Railroads and state; *also* Ontario—Hydroelectric power commission

Government paper. *See* Paper, Government

Government printing. *See* Printing, Public

Government printing office. *See* United States—Government printing office

Government publications

Difficulty in obtaining government publications. Eng & Min J 115:743 Ap 28 '23

Government aids to business; publications and other technical items. Nation's Business 11:66+ Je '23

Things one ought to know about government publications. Power 54:992 D 20 '21

U. S. government documents. J. I. Wyer. Rev. ed. 40p Am. library assn., Chicago '22

Use of statistical publications of the government in working out problems of commercial investigation. O. P. Austin. Administration 3:433-6 Ap '22

The Superintendent of Documents issues frequently revised price lists. He also furnishes coupons, 20 for \$1.00 to be used in payment for documents

Bibliography

Government publications on aeronautics.

Aerial Age 16:292-5 Je '23

Government services department. C. Carmody. Special Lib 12:214-15; 13:63, 75, 93 N '21, Ap-Je '22

Government purchasing. *See* Purchasing, Government; Purchasing, Municipal

Government regulation of industry

Appeal for less government interference in business. A. C. Bedford. Ptr Ink 123:41-2+ Je 14 '23

Business policy of next Congress; an interview with James Couzens. Ptr Ink 123:17-20+ My 31 '23

Government and industry. J. A. Emery. Textile World 61:3361-3 Je 3 '22

How much business freedom? H. Thompson. Nation's Business 10:14-15 Ja '22

Individualism—not governmental interference—source of progress and development. E. C. Stokes. Sanitary & Heat Eng 99:49-52+ Ja 26 '23

Legislative and departmental interference with industry and the common weal. H. E. Armstrong. Soc Chem Ind J (Chem & Ind) 42: 9-11, 23-6, 47-8, 91-3 Ja 5-19, F 2 '23

Radical group to sway Congress. El. C. Boehringer. Il map Iron Tr R 72:43-7 Ja 4 '23

Some recent federal trade cases. *See* monthly numbers of Nation's business

Why government command is opposed to public demand for lower prices. H. A. Call. chart Sanitary & Heat Eng 99:313-17+ My 18 '23

See also Coal trade—Regulation; Commercial policy; Electric utilities—Regulation; Federal trade commission; Gas companies—Regulation; Government ownership; industry and state; Interstate commerce

commission; Labor laws and legislation; Municipal ownership; Packing industry—Regulation; Public utilities—Regulation; Petroleum industry and trade—Regulation; Plumb plan; Priorities, Industrial; Public utilities—Regulation; Public utilities commissions; Railroads—Rates; Railroads and state; Trusts, Industrial; Waterworks—Laws and regulations

Government research

Making a partner of Uncle Sam. R. Kenton. Nation's Business 10:34+ O '22

The Institute for government research, Washington, D.C., is an association of citizens for cooperating with public officials in the scientific study of government with a view to promoting efficiency and economy in its operations and advancing the science of administration

See also Municipal research

Governors (machinery)

Adjusting a shaft governor. W. H. Wakeman. diag Power 57:375-6 Mr 6 '23

Adjustment of turbine governors. Elec W 79: 735-6 Ap 22 '22

Anticipating marine governors. diags Engineering 113:359-60 Mr 24 '22

Constant excess pressure governor. C. A. Underwood. Il diag Power Pl Eng 27:896-7 S 1 '23

Governing device for hydraulic impulse turbines. diags Power 56:538 O 3 '22

Governing devices of British steam-extraction engines. Il Power 57:173-4 Ja 30 '23

Governing mechanism for mixed-pressure turbine. diags Power 55:258 F 14 '22

Governor adjustments on hydro-electric generating units. R. Brown. Power 58:216 Ag 7 '23

Governor troubles. diags Power Pl Eng 26: 772-3 Ag 1 '22

Greater reliability required in steam turbine governors. H. M. Phillips. diag Power 55: 740-1 My 9 '22

Hydraulic turbine governors. W. R. Kepler. Il diags Elec J 19:60-8 F '22

Operation of over-speed governors on electric elevators. H. B. Cook. Il diag Power 58:651-2 O 23 '23

Pneumatic steam turbine governor. D. L. Barbour. diags Sibley J 36:7-8 Ja '22

Pump governor for fuel-oil system regulates pressure according to oil temperature. W. R. Pender. diags Power 57:599-600 Ap 17 '23

Speed regulation in the hydraulic plant. N. L. Devendorf. Il Power 54:764-7 N 15 '21

Steam-turbine emergency governors and trip valves. A. D. Palmer. diags Power 56:324-6 Ag 29 '22

Steam turbine governors and valve gears. E. H. Thompson. diags Power 57:675-8, 790-5, 898-901, 931-3, 984-6, 1018-20 My 1, 22, Je 5-26 '23

Supplementary governor. diag Power 55:1029 Je 27 '22

Two governors on hydraulic unit give advantageous regulation. Il Elec W 79:138-9 Ja 21 '22; Same. Power 55:60 Ja 10 '22

Use of turbine feed pumps affects governor design. diags Power Pl Eng 27:344-5 Mr 15 '23; Discussion. W: H. Burton. 27:842-3 Ag 15 '23

See also Gas governors

Testing

Recording hydraulic-turbine governor operation with an oscillograph; results of seventy-three tests. Il Power 58:446-7, 560-4 S 18, O 9 '23

Governors, Gas. *See* Gas governors

Grab buckets. *See* Buckets

Grade crossing accidents

Accident record summarized in careful crossing campaign by Pennsylvania railroad. Ry R 72:667-8 Ap 14 '23

Accidents at street and highway crossings. Safety Eng 46:203 O '23

Automobile grade crossing accidents. W. S. Williams. Eng & Contr (Ry) 60:135-6 JI 18 '23

Grade crossing accidents—Continued

- Folly of trying to beat the train. *il* Safety Eng 45:109-11 Ap '23
- Highway accidents at railway crossings. C: A. Holden. Eng N 91:732 N 1 '23
- How to avoid railroad crossing accidents. C: C. Van Kirk. Eng & Contr (Ry) 60:110 JI 18 '23
- Man in the cab and the grade crossing. C: J. Burnett. Nat Safety N 7:9-10 My '23
- Man in the car and the grade crossing. A. S. Olsson. Nat Safety N 7:8 My '23
- National safety council, at its twelfth annual convention, discusses highway safety. Bus Transportation 2:542-3 N '23
- Pennsylvania R.R. checks up on automobile drivers at crossings. Ry R 73:666-7 N 3 '23
- Railroads in a careful crossing campaign. J. G. Condon. Ptr Ink 119:64+ Je 1 '22
- Reducing railroad-highway crossing accidents. H. A. Rowe. Munic Eng 64:233-7 Je '23; Same. Eng & Contr (R & S) 59:1277-80 Je 6 '23; Same abr. Safety Eng 45:168-71 My '23
- Report of committee on safety regulations at R.R. crossings. Ry R 73:905-6 My 26 '23
- To increase safety of traffic on highways. Eng N 91:61 JI 12 '23
- Why grade crossing accidents? S. R. Winters. *il* Sci Am 128:320 My '23

Grade crossing elimination

- Concrete structures for D.L. & W.R.R. new grade crossings. M. Hirschthal. *il* diags plans Eng N 90:536-8 Mr 22 '23
- Eliminating three miles of grade crossings. R. G. Skerrett. *il* Sci Am 127:186-7 S '22
- Grade separation at railway and highway crossings. *il* Eng & Contr (R & S) 60:469-72 S 5 '23
- Illinois Central improves line near Chicago. *il* map plan Ry Age 73:1123-8 D 16 '22
- Industrial sidings that impede grade separation. Eng N 88:876-7 My 25 '22
- Nevada public service commission renders grade-crossing decision. Munic Eng 63:sup 18-20 JI '22
- Tentative program for elimination of grade crossings in New York city. Ry R 73:646-7 N 3 '23

See also Railroads—Track depression; Railroads—Track elevation

Bibliography

- Elimination of grade crossings. *In*: American ry. eng. assn., (Chicago) 22d annual convention. Proceedings p.303-7

Grade crossings

- A. R. E. A. report on signs, fences and crossings. *il* diags Ry Age 74:635-7 Mr 14 '23
- Automatic highway crossing signals authorized in place of gates. *il* Ry Age 73:835 N 4 '22
- Barriers at grade crossing safeguard vehicles. *il* Pop Mech 36:831 D '21
- Concrete slab highway grade crossings. *il* Eng & Contr (Ry) 60:590-2 S 19 '23
- Crossing protection on high-speed railway. *il* Elec Ry J 61:1047 Je 23 '23
- Device slows cars at rail crossings. *il* Automotive Ind 49:559 S 13 '23
- Flashing light highway crossing signal. *il* Elec Ry J 60:915-16 D 9 '22
- Highway crossing protection, theory and practice. J. A. Peabody. *il* Ry Age 73:641-4 O 7 '22
- Highway crossing signals on the N.Y.C.R.R. *il* diags *il* Ry R 73:647-9 N 3 '23
- Highway dips for preventing grade crossing accidents. A. R. Hipkoe. Eng & Contr (Ry) 58:118 D 20 '22
- New type of safety signal for railroad crossings. *il* Pop Mech 39:730 My '23
- Northern Pacific illuminated highway signs. *il* Ry Age 71:946 N 12 '21
- Novel safe-crossing device. *il* Aera 12:679 N '23
- Photograph started painted railroad gates. Am Ind 24:32-3 O '23
- Plan and construction of highway crossings. Eng N 90:543, 721 Mr 22, Ap 19 '23

- Positive-stop crossing gates. *il* Elec Ry J 58:1145 D 31 '21
- Problem of highway crossing protection. L. S. Brach. Ry Age 73:859 N 4 '22
- Redflex highway crossing signal. *il* Ry R 70:236 F 18 '22
- Report of signal section committee on highway crossing protection. diag Ry Age 74:651-2 Mr 14 '23
- Special equipment for repairing road crossings. C. A. Elliott. *il* Eng & Contr (Ry) 59:677-9 Mr 21 '23
- Specifications for highway grade crossing. diags Eng & Contr (Ry) 59:641 Mr 21 '23
- Unsatisfactory crossing whistle. Ry Age 75:417, 1045-6, 1144 S 8, D 8, 22 '23
- See also Grade crossing accidents; Grade crossing elimination; Railroads—Track; Railroads—Track elevation

Law

- Law for the motorist at railroad crossings: rights and duties of automobilists and others, as defined in recent state and federal court decisions. Ry Age 75:761-5 O 27 '22
- Need of uniform crossing-stop laws. Ry Age 75:372-3 S 1 '23
- New highway crossing rules of Illinois. Eng & Contr (Ry) 59:1364-5 Je 20 '23
- State laws regulating vehicles at crossings. Ry Age 75:825-6 N 3 '23
- Three states make stop, look, listen, a law. Nat Safety N 8:30 Ac '23

Grade separation. See Railroads—Track depression; Railroads—Track elevation

Graded products

- Grading for quality; plumbers' cast brass goods. F. W. Parks. Dom Eng 105:125-7 O 20 '23
- Pricing and costing graded product. N. E. Webster. Am Cer Soc J (Bul) 6:104-8; Discussion. 108-9 My '23

Grading

- Eleutriator for the rapid grading of powders. *il* Eng & Ind Management 8:93 Ag 24 '22

Grading (earthwork)

- Finished road grades produced by tractor outfits. J. R. McLean. *il* Eng N 90:304-6 F 15 '23
- Internal-combustion-engine power for road-grading machinery. C. O. Wold. *il* Soc Auto Eng J 11:323-6; Discussion. 326-7 O '22
- One-man road grader. *il* Sci Am 129:263 O '23
- See also Railroads—Grades; Roads—Grading; Roads—Subgrades

Cost

- Comparative cost of road grading with tractor and mule outfits. *il* Eng & Contr 57:195 Mr 1 '22
- Cost of grading for highways. Eng & Contr 57:336 Ap 5 '22; Same abr. Eng N 88:729 My 4 '22
- Costs of grading operations. Eng & Contr (R & S) 58:90-1 N 1 '22
- Road grading costs reduced by tractor hauling. E. R. Wiggins. *il* Eng N 90:200-1 F 1 '23

Graduating

- Circular graduating on dial faces. H: B. Flinn. *il* diags Mach 29:542-3 Mr '23
- Fixture for graduating beveled dials. *il* Iron Age 112:474 Ag 23 '23
- Unusual method of making graduated rods. D. A. Hampson. diag Am Mach 59:382 S 6 '23

Graffiti decoration

- Sgraffito and its application. M. Rice. *il* Arch Forum 35:205-9 D '21

Grafting

- Budding: the process by which nurserymen and fruit growers produce our best fruits. E. Bade. *il* Sci Am 128:384 Je '23

Graham, Texas**Sewerage**

- New system of sewage treatment at Graham, Texas: the Sept-aer-sed system. H: E. Elrod. *il* diags plan Eng N 90:620-3 Ap 5 '23

Grain

See also Barley; Corn; Wheat

Transportation

- Granary on wheels. *il* Ind Management (Lond) 10:19-21 JI 12 '23
 I.C.C. orders grain rate investigation. *Ry* Age 75:727-8 O 20 '23; Same. *Comm & Fin* Chr 117:1850-1 O 27 '23
 President Coolidge proposes that freight rates be cut on grain and coal. *Comm & Fin* Chr 117:1741 O 20 '23
 Ten per cent cut announced in railroad rates on farm products pending wage reduction—previous rate cuts. *Comm & Fin* Chr 113:2153 N 19 '21
 Western Canada's unsolved grain rate problem. *T: M. Fraser*. *Ry* Age 75:673-4 O 13 '23

Grain cars

- Coopering cars for grain. *E. F. Ford*. *Ry* Age 71:284 Ag 13 '21; *Ry Mech* Eng 95:694 N '21
 Freight-car liner. *il* *Sci Am* 126:190 Mr '22

How should grain door reclamation be handled? *Ry* Age 73:351-2 Ag 19 '22

See also Grain doors

Grain doors

- Grain door removable under load. *diags* *Ry* Mech Eng 96:289 My '22
 Reclamation of grain doors. *O. Maxey*. *Ry* Age 74:1223 My 19 '23
 Standardizing grain doors by law. *Ry* Age 72:166 Ja 14 '22

Grain effect (in rubber)

- Persistence of calender grain after vulcanization. *W. B. Weigand* and *H. A. Braendle*. *Ind & Eng Chem* 15:259-62 Mr '23

Grain elevators

- Australian grain elevators of American design. *il* *Pop Mech* 36:904-5 D '21
 B. & O. R. R. to construct new grain elevator at Locust Point. *Eng & Contr* (*Ry*) 58:108 N 15 '22
 Concrete grain elevator rebuilt at Chicago. *il* *Eng N* 89:483-5 S 21 '22
 Dust explosion and collection in grain elevators. *Eng N* 87:847 N 24 '21
 Dust removal by vacuum sweeping in grain elevator. *il* *Eng N* 89:1120 D 28 '22
 Grain elevator extension of the P.R.R. at Baltimore. *il* *Ry R* 70:708-9 My 20 '22
 Lesson of Chicago grain elevator explosion; 1921. *D: J. Price* and *H. R. Brown*. *Eng N* 88:327 F 23 '22
 Modern dock appliances. *D. Fife*. *diags* *Engineering* 116:32-4 JI 6 '23
 Monolithic concrete grain elevator poured in two weeks. *il* *diags* *Eng N* 87:974-6 D 15 '21
 New grain terminal, Locust Point, Baltimore & Ohio. *plan* *Ry R* 72:654-6 Ap 14 '23; Same. *Eng & Contr* (*Ry*) 59:1110-12 My 16 '23; Same cond. *Ry* Age 74:948-9 Ap 14 '23
 Northwestern elevator explosion. *D: J. Price*. *il* *plan* *W Soc E J* 26:401-17; *Discussion*. 417-19 D '21
 Prevention of dust explosions in grain elevators. *Eng N* 90:914 My 24 '23
 Progress of dust-explosion prevention. *D: J. Price*. *Chem & Met Eng* 26:1203-6 Je 28 '22; Same. *Safety Eng* 44:26-32 JI '22
 Proposed grain elevator at Baltimore. *Marine R* 53:265 JI '23
 Rebuilding and fireproofing wrecked elevator. *G: F. Paul*. *il* *Concrete* 21:77-9 S '22
 Rebuilding wrecked elevator is big task. *il* *Pop Mech* 38:104-5 JI '22
 Terminal elevator for State barge canal. *il* *diags* *Sci Am* 127:36-7 JI '22

Lighting

- Lighting of the food industries. *W. H. Rademacher*. *il* *Illum Eng Soc* 17:553-9 O '22; *Abstract*. *Am Inst E E J* 42:180-2 F '23

Grain handling

- Canadian National installs grain car unloaders. *F. Newell*. *il* *diags* *Ry* Age 73:498-501 S 16 '22

- Cargo handling at ports: British and American methods compared. *Ind Management* (Lond) 10:82 Ag 9 '23

- Electrically operated equipment for car handling; emptying grain cars. *R. M. Kintzing*. *il* *Elec R* 79:773-5 N 19 '21
 Floating pneumatic grain-handling plant. *il* *diags* *Engineering* 115:608-10, 622, pl 36-8 My 18 '23

L'Installation pour le déchargement et la manutention des grains, à Bordeaux-Bas-sens. *il* *diags* *Génie Civil* 79:529-32, pl 6 D 17 '21

Modern dock appliances at Glasgow harbour including the handling of grain in bulk; also dredging plant. *D. Fife*. *diags* *Engineering* 115:820-2 Je 29 '23

Pneumatic grain elevators. *R. E. Knight*. *diags* *plan* *Engineering* 112:864-6 D 23 '21; Same. *Engineer* 132:685-7 D 23 '21; Same, without table 1. *Eng & Ind Management* 7:175-9 F 9 '22; *Discussion*. *Engineering* 112:859-61 D 23 '21; *Engineer* 132:667 D 23 '21

Tug with grain ship discharging plant. *il* *diags* *plan* *Engineer* 133:106-9 Ja 27 '22

Grain storage

See also Grain elevators; Granaries

Grain trade

Federal trade commission on grain speculation. &c. *Comm & Fin* Chr 117:502-4 Ag 4 '23

Grain. See weekly numbers of the *Annalist*
 Hope of the grain trade. *J. P. Griffin*. *Anal-ist* 19:69 Ja 9 '22

See also Wheat; also United States grain growers, inc.

Consult the *Agricultural Index* for additional material

Laws and regulations

- General rules and regulations governing future trading in grain; text. *Comm & Fin* Chr 117:34-5 JI 7 '23
 House passes bill amending Grain futures act to meet Supreme court decision. *Comm & Fin* Chr 115:137 JI 8 '22
 New regulations governing future grain trading signed by Secretary of agriculture *Wallace*. *Comm & Fin* Chr 116:2950-1 Je 30 '23
 Restraining order in proceedings to test validity of Grain futures act. *Comm & Fin* Chr 115:2117-18 N 11 '22
 United States Supreme court upholds validity of Grain futures act. *Comm & Fin* Chr 116:1716 Ap 21 '23

Granaries

Ancient Spanish granary. *M. Stapley*. *il* *diags* *Arch Rec* 51:529-34 Je '22

Granby consolidated mining, smelting & power company, ltd.

Granby consolidated mining, smelting & power co., ltd. *Eng & Min J* 115:693 Ap 14 '23

Grand Canyon of the Colorado

Airplane lands in Grand Cañon. *R. C. Folger*. *il* *Pop Mech* 38:838-40 D '22
 Section of the Paleozoic formations of the Grand Canyon at the Bass trail. *L. F. Noble*. *diags* *maps* *U S Geol S Prof Pa* 131—B:23-73, pl 19-25 '22

Grand Central terminal, New York. See New York (city)—Railroads

Grand Rapids, Michigan**Rapid transit**

City commission approves grant of new franchise to Grand Rapids railway. *Elec Ry J* 60:23 JI 1 '22

\$15,103 behind return. *Elec Ry J* 61:578 Mr 31 '23

Voters of Grand Rapids approve new franchise. *Elec Ry J* 60:488 S 23 '22

Grand trunk railway

Railway development during the past year. *Can Eng* 42:249-51 F 21 '22

Review of the Grand Trunk railway arbitration. *J. P. Newell*. *maps* *Eng N* 90:211-15 F 1 '23

Grandstands

Concrete grandstand jacked up to allow enlargement. *E. Robinson*. *il* *plans*. *Eng N* 87:818-19 N 17 '21

Grandstands—Continued

- Iowa grandstand of steel assures permanence. il Pop Mech 39:901 Je '23
Two types of portable grandstands. il Eng N 90:1134 Je 28 '23

See also Stadia

Granette products company

- Concrete monuments by Granette process. il Concrete 21:155 N '22

Granite

- Commercial granites of New England. T. N. Dale. il diags maps U S Geol S Bul 738: 1-488, pl 1-34 '23
Dustiness of the air in granite-cutting plants. S. H. Katz and L. J. Trostel. il charts diags Am Soc Heat & V E J 28:421-42 My '22
Petrography of rock dust in Barre granite plants. H. Insley. il Am Soc Heat & V E J 28:442-7 My '22

Bibliography

- Bibliography of economic geology of granite. T. N. Dale. U S Geol S Bul 738:461-7 '23

Granite blocks

- Expansion joints and cemented beds for granite blocks. W. J. Healey. Eng N 90:760-1 Ap 26 '23

Testing

- Tests for granite paving blocks. C. D. Pollock. Pub Works 53:200-1 O '22; Same. Eng & Contr (R & S) 58:33-5 O 4 '22; Same. Munic Eng 63:135-7 O '22

Granite cutters

- Granite cutters—Barre, Vt. Monthly Labor R 14:973-8 My '22

Granite pavements. See Pavements, Granite**Granite workers**

- Granite industry—New England. Monthly Labor R 16:565-8 Mr '23
Problem of dust phthisis in the granite-stone industry. F. L. Hoffman. U S Bur Labor Statistics Bul 293:1-178 '22

Granolithic finish. See Concrete—Finishing**Grant, Ulysses S.****Memorials**

- Grant memorial. W. D. Blair. il Am Inst Arch J 11:206-9 My '23
Grant memorial at Washington, D.C. il Metal Ind 20:139 Ap '22

Grape fruit

- Experiments in grapefruit storage. L. A. Hawkins. Refrig W 58:15-16 My '23

Grape juice

See Grapes; Welch grape juice company

Grape-nuts**Advertising**

- How Grape-nuts is advertising to become a two-class product. B. Berfield. Ptr Ink 123: 17-18 My 17 '23

Grape sugar. See Dextrose**Grapes**

- Methyl anthranilate in grape beverages and flavors. R. D. Scott. Ind & Eng Chem 15: 732-3 Jl '23
Utilizing the waste of grape juice factories. Chem & Met Eng 28:356 F 21 '23

Graphalloy

- Graphalloy brushes and business. Ry R 72:628-9 Ap 7 '23

Graphic arts

- Architect and the graphic arts; some notes on rendering. F. Weitenkempff. il Arch Rec 53:464-72 My '23

Graphic arts exposition

- What the Graphic arts exposition offers craftsmen. Inland Ptr 69:721-2 Ag '22

Graphic meters

- Duplex graphic meter for power-factor studies. R. H. Wright. il diags Elec J 20:95-6 Mr '23

Graphic methods

- Auswertung statistischer unterlagen für betriebsüberwachung und forschung (gross-zahlforschung). K. Daeves. Stahl & Eisen 43:462-6 Ap 5 '23

- Calculus and graphs simplified for a first brief course. L. M. Passano. 167p Macmillan '21

- Charting as an aid in stabilizing profits. P. A. Bivins. Ind Management 63:257-65, 355-61; 64:33-42, 97-103, 175-9 My-S '22

- Charting the conditions of business. E. F. DuBrul. Mach 28:493 F '22

- Charts valuable in accounting. E. F. Evans. Iron Tr R 71:241-2+ Jl 27 '22

- Divergence charts and their uses. G. W. Greenwood. Management Eng 2:347-50; 3:46-7 Je-Jl '22

- Easily applied graphic method of determining power factor. W. L. Stevens. chart Ind Eng 81:318 Je '23

- Extensive use of charts. Elec Ry J 62:324-5 S 1 '23

- Filing the Z chart. A. R. Burnet. Management Eng 2:47-50 Ja '22

- Graphic charts for office and factory. A. C. Haskell. India Rubber W 65:178-80 D '21

- Graphic charts in business; how to make and use them. A. C. Haskell and J. G. Breaznell. 250p Codex book co., New York '22

- Graphic method for textile calculations. C. F. Goldthwait. Textile World 60:3717+ D 31 '21

- Graphic method for the exact solution of transmission lines. C. H. Holladay. bibliog diags Am Inst E E J 41:807-10 N '22; Discussion. 41:1026-30 D '22

- Graphic solution of lighting problems. C. W. Kinney. Elec R 80:244 My '22

- Graphical methods for schools, colleges, statisticians, engineers and executives. W. C. Marshall. 253p [Bibliography: p. 221-48] McGraw-Hill '21

- Graphical solution for power-factor problems. C. R. Riker. Elec J 19:338-40 Ag '22

- Graphical solution of cost and production problems. L. Weindling. Ind Management 64:151-2 S '22

- Graphical study of operating efficiency. A. R. Blakey. Chem & Met Eng 27:1259-61 D 27 '22

- Graphical treatment of stack gas analysis and flue gas analysis. W. Trinks. charts Blast F & Steel Pl 10:50-8 Ja '22

- Graphics applied to economic location of buildings. C. P. Dunn. diags Eng N 88:699-700 Ap 27 '22; Discussion. T. T. Cresswell. 88:969 Je 8 '22

- Graphs allow rapid yardage calculation. R. C. Hardman. diag Eng N 89:1129-30 D 28 '22

- Handy graphics. C. F. Goldthwait and J. E. Hoff. Am Dyestuff Rep 12:4-8, 81-4, 120, 122-5, 149-51, 173-5, 205-7, 273-5 Ja 1-F 26, Mr 12, Ap 9 '23

- Manual of charting. T. S. Adams and others. 106p Prentice-Hall '23

- Method of constructing charts from standardized materials. J. D. East. Management Eng 4:203-8 Mr '23

- New graphical methods needed. R. K. Annis. Power 57:379 Mr 6 '23

- Physical testing graphs; proposed standardized form for illustrating physical tests on vulcanized rubber. W. B. Wiegand. Can Chem & Met 6:214-16 O '22; Same. India Rubber W 67:224-5 Ja '23

- Right use of graphic charts. J. E. Bullard. Gas Age 51:443-4 Ap 7 '23

- Routine chart construction. G. C. Harrison. il Management Eng 4:389-94 Je '23

- Solving cost and economy problems by graphs. J. A. Brown. diags Management Eng 4:251-4 Ap '23

- Straight lines as rate curves. H. E. Eisenmenger. Elec W 81:1263-8 Je 2 '23

- Theoretical frequency curves and their application to engineering problems. H. A. Foster. Am Soc C E Pro 49:825-55 My '23; Discussion. 49:1292-5, 1751-61, 1860-73 Ag, O-N '23

- Use of graphs in commerce & industry. A. R. Palmer. 47p G. Bell & sons, London '21

- Utility of charts. H. H. Southworth. charts Ind Management (Lond) 9:390-2 Je 28 '23

- Wage analysis. R. Von Huhn. Management Eng 3:307-10 N '22

- See also Business charts; Charts (calculating); Control boards; Gantt charts; Nomography; String board graphics

Graphic methods—Continued

Bibliography

List of references on the graphic representation of engineering data. *In*: American ry. eng. assn., (Chicago) 22d annual convention Proceedings p.913-24

Graphic statics

Bending moments in pins or shafts determined graphically. A. M. Winslow. *diags Eng N* 89:568-9 O 5 '22

Charts covering design of abutment walls of horizontal beam type. W. B. Walraven. *diag Eng N* 89:708-9 O 26 '22

Détermination graphique des moments fléchissants maxima dans une poutre supportant des charges mobiles par l'intermédiaire des traverses. Smoukovitch and Barbillion. *Génie Civil* 79:533-5 D 17 '21

Elements of graphic statics. C. W. Hudson and E. J. Squire. 91p McGraw-Hill '23

Graphic representation of absorption of impact by springs. L. H. Mann. *Mach* 28:554-5 Mr '22

Graphical analysis. W. S. Wolfe. 374p McGraw-Hill '21

Graphical analysis of stresses involved in designing frame structures. G. P. Schubert. 139p G. P. Schubert, Hancock, Mich. '23

See also Bridges; Girders; Mechanical drawing; Roofs; Strains and stresses; Strength of materials

Graphite

Ceylon graphite industry improves. *Eng & Min J* 115:799 My 5 '23

Crystal structures of vanadium, germanium and graphite. A. W. Hull. *Chem & Met Eng* 26:1024 My 31 '22

Dr Edward G. Acheson and his work. F. A. J. FitzGerald. *Chem Age* 31:195-6 My '23

Domestic natural graphite sold, 1917-1921. *Foundry* 50:422 My 15 '22

Effect of field direction on magneto-resistance. C. W. Heaps. *Phys R* 19:7-19 Ja '22

Graphite and flotation. *Eng & Min J* 114:838 N 11 '22

Graphite controls gray iron. J. W. Bolton. *l Foundry* 51:405-7 My 15 '23

Graphite feeders. J. E. Noble. *diags Power Pl Eng* 26:183-4 F 1 '22

Graphite for steel and melting crucibles. R. T. Stull and G. A. Bole. *Brass W* 19:345-6 O '23

Graphite form in gray iron. J. W. Bolton. *Foundry* 51:658-64, 699-703 Ag 15-S 1 '23

Graphite in 1922. A. H. Redfield. *U S Geol S Min Res of U S* 15:22, pt 2:63-8 '23

Graphite industry of Alabama. G. H. Clark. *Eng & Min J* 113:397-9 Mr 11 '22; Discussion. 113:567, 710-11 Ap 8, 29 '22

Graphite industry shows little improvement. *Iron Tr R* 73:1106 O 18 '23

Graphite marketing. *Eng & Min J* 112:738 N 5 '21

Graphite production low in 1921. *Foundry* 50:601 J1 15 '22

Graphite rocks of Sleaford Bay, South Australia. C. E. Tilley. *il diags Econ Geol* 16:184-98 Ap '21; Discussion. T. H. Clark. 16:419-21 S '21

Graphite structure revealed: graphite grains in cast iron. H. E. Diller. *il Foundry* 50:704-6 S 1 '22

Graphitization in iron-carbon alloys; abstract. K. Honda and T. Murakami. *il Chem & Met Eng* 26:180-1 Ja 25 '22

Industry in Ceylon found depressed. *Foundry* 51:407 My 15 '23

Influence of graphite on iron. J. W. Bolton. *Foundry* 50:436-43 Je 1 '22

Milling graphite at Stockertown, Pa. A. B. Parsons. *il diags plans Eng & Min J* 114:325-9 Ag 19 '22

Mineral industry of the British Empire and foreign countries; war period, 1913-1919. 57p Gt. Brit. Imperial mineral resources bur., London '23

Origin of graphite. T. H. Clark. *Econ Geol* 16:167-83 Ap '21; Discussion. 16:561-3; 17:55-9 D '21-Ja '22

Origin of graphite. A. N. Winchell. *Econ Geol* 16:492-500 N '21

Production of graphite increased in 1922. *Eng & Min J* 115:1071 Je 16 '23

Some properties of graphite. R. M. Burns and G. A. Hulett. *Am Chem Soc J* 45:572-8 Mr '23

World production of graphite in 1922. A. H. Redfield. *Eng & Min J* 115:976 Je 2 '23

Graphology

Forgery or genuine; some new laboratory methods of the French handwriting experts. F. P. Mann. *il Sci Am* 127:404+ D '22

Grasses

New sources of paper fibers. *Paper* 29:20-3 D 14; 9 D 28 '21

See also Hay

Grates

Auxiliary grate for burning low-grade coal. *il Pop Mech* 38:52 J1 '22

Grates for moist fuel. Z. Kogan. *diags Power Pl Eng* 26:989-93 O 15 '22

See also Furnaces; Locomotive grates

Gravel

Imbricated structure in river-gravels. W. A. Johnston. *il Am J Sci* 5th ser 4:387-90 N '22

Methods and cost of thawing frozen gravel by means of cold water. E. E. Pearce. *diags plan Eng & Contr* 57:157-8 F 15 '22; Same. *Min & Sci P* 124:154-6 F 4 '22

Sand and gravel in 1921. L. M. Beach. *U S Geol S Min Res of U S* 1921, pt 2:147-54 '22

Systematic survey of gravel for road purposes. W. F. Furrington. *Good Roads* 62:100, 102-3 F 15 '22; Same. *Eng & Contr (R & S)* 58:47-9 O 4 '22; Excerpts. *Pub Works* 52:100-1 F 11 '22

Use of local material for concrete aggregate. H. J. Kuelling. *il Eng & Contr (R & S)* 59:334-1 F 7 '23; Same. *Munic Eng* 64:153-9 Ap '23; Same. *Concrete* 22:219-22 Je '23; Same cond. *Good Roads* 64:61-3+ F 14 '23; Same cond. *Eng N* 90:826-8 My 10 '23; Excerpts. *Can Eng* 44:429-31 Ap 24 '23

See also Concrete—Aggregate

Cost

Cost of sand, gravel and crushed stone; tabulation from 700 cities. *Pub Works* 52:128-30, 392-3 F 18, My 27 '22

Testing

Impact test for gravel. F. H. Jackson. *il diag Eng & Contr* 58:107-8 Ag 2 '22; Same. *Am Soc T M Pro* 22 pt 2:362-7; Discussion. 368-74 '22

Gravel plants

Illinois Central builds gravel washing plant at Forreston. W. A. Gelbach. *il Ry Age* 75:569-72 S 29 '23; Same. *Eng & Contr (Ry)* 60:806-11 O 17 '23; Same. *Ry R* 73:635-40 N 3 '23

Preparation of stone and gravel for road maintenance. A. H. Hinkle. *Munic Eng* 64:68-72 F '23; Same. *Eng & Contr (R & S)* 60:213-10 Ag 1 '23

Three Forks company operates new sand and gravel plant. E. U. Leh. *il Concrete* 21:sup 53-5 O '22

Gravel roads. See Roads, Gravel

Gravel washing

Shale removed from gravel by jigging. F. C. Lang. *diag Eng N* 88:1034 Je 22 '22

See also Gravel plants

Gravimetric analysis. See Chemistry, Analytic—Quantitative

Gravitation

Alleged mystery of gravitation. H. P. Gillette. *Eng & Contr (R & S)* 56:128-9 D 6 '22

Deflexion of a ray of light in the solar gravitational field. F. D. Murnaghan. *Philos Mag* 6th ser 43:580-8 Mr '22

Derivation of symmetrical gravitational fields. F. D. Murnaghan. *Philos Mag* 6th ser 43:19-31 Ja '22

Displacement interferometry applied to acoustics and to gravitation. C. Barus. 149p Carnegie institution of Washington. Washington '21

Gravitation—Continued

Effect of temperature on gravitative attraction. P. E. Shaw and N. Davy. *il diags* Phys R 21:680-91 Je '23

La gravitation dans la mécanique de Newton et dans la mécanique d'Einstein. P. Painlevé. *Génie Civil* 79:471-2 N 26 '21

Gravitation versus relativity. C. L. Poor. 277p Putnam '22

Gravitational absorption. *il Sci Am* 126:403 Je '22

Gravitational acceleration of bismuth. H. H. Potter. *Phys R* 19:187-8 F '22

Gravitational field of a particle on Einstein's theory. J. T. Combridge. *Philos Mag* 6th ser 45:726-32 Ap '23

Identical relations in Einstein's theory. G. B. Jeffery. *Philos Mag* 6th ser 43:600-3 Mr '22

Note on gravitation. O. W. Richardson. *diags* *Philos Mag* 6th ser 43:138-45 Ja '22

Significance of Einstein's gravitational equations in terms of the curvature of the world. A. S. Eddington. *Philos Mag* 6th ser 43:174-7 Ja '22

Unsolved problems of cosmical physics. W. F. G. Swann. *diags J Fr Inst* 195:467-74 Ap '23; Same. *Engineer* 135:616 Je 8 '23

See also Einstein theory; Falling bodies; Specific gravity

Gravity

Basic principles of gravity concentration—a mathematical study; abstract. T. Simons. *Min & Met* 187:33-4 Jl '22

Eötvös torsion balance and its application to the finding of mineral deposits. S. Rybar. *bibliog Econ Geol* 18:639-62 O '23

Measurement of gravity at sea. L. J. Briggs. *diags Nat Research Council Bul* 3 pt 2:3-11 Mr '22

Prospecting with the Eötvös balance. E. Wagner. *diags Eng & Min J* 116:583-9 O 6 '23

Ratio of mass to weight for bismuth and aluminum. H. A. Wilson. *Phys R* 20:75-7 Jl '22

Gravity, Specific. See Specific gravity

Gravity plane. See Mine haulage

Gravity railroad

Automatic railroad. *il Ind Management* (Lond) 9:307-9 My 17 '23

Gray, Samuel M., 1842-1921

Sketch. *por Eng N* 87:872 N 24 '21

Gray

Spectral distribution of energy required to evoke the gray sensation. I. G. Priest. *bibliog diags U S Bur Stand Sci Pa* 417: 231-65 '21

Grazing

Mapping vegetation with a pantograph; percentage of increase or decrease in vegetation due to grazing calculated. *il Pop Mech* 38:745 N '22

Grease. See Lubrication and lubricants

Grease guns. See Locomotives—Lubrication

Great Britain

See also Electric plants (central stations)—Great Britain; Engineering—Great Britain; Motor bus lines—Great Britain; Railroads—Great Britain; Street railroads—Great Britain; Telephone—Great Britain

Air ministry

Air estimates. *Engineering* 115:370 Mr 23 '23
British government justifies Royal air force. *Aviation* 12:448 Ap 17 '22

Commerce

Britain's foreign trade grows. *Am Ind* 22:44 Jl '22

British interests in Brazil. *Elec R* (Lond) 93: 631 O 26 '23

Development of the British Empire. F. C. Chappell. *Annalist* 22:79-80+ Jl 16 '23

English manufacturers adopt American merchandizing methods. W. F. Wyman. *Ptr Ink* 124:49-50+ Ag 30 '23

Foreign trade revival. E. T. Williams. *Elec R* (Lond) 90:508-11 Ap 14 '22

Inter-imperial trade. W. G. Newberry. *Elec R* (Lond) 92:1004-5; 93:31, 224-5, 407 Je 29-Jl 6, Ag 10, S 14 '23

Monthly record of British foreign trade, 1915-1921; chart. *Annalist* 19:67 Ja 9 '22

Our foreign electrical trade. *Elec R* (Lond) 91:692-3 N 17 '22

Value of colonial preference to British trade. *Annalist* 22:206+ Ag 13 '23

See also Aeronautics, Commercial—Great Britain; Coal trade—Great Britain; Cotton trade—Great Britain; Merchant marine—Great Britain; Petroleum industry and trade—Great Britain; Shipping—Great Britain; Tariff—Great Britain; Wool trade—Great Britain

Commercial policy

England's fight for trade. F. Simpich. *Nation's Business* 11:13-17 O '23

Economic conditions

Aspects of British business first half of 1922. W. S. Tower, C. C. Miller and A. Nutting. *U S Bur For & Dom Com Trade Information Bul* 57:1-16 '22

British financial and economic situation. *Annalist* 21:760-1 Je 4 '23

Hopeful for Britain's industrial future. R. Moldenke. *Iron Age* 112:895-6 O 4 '23

Rebuilding a nation's business. F. E. Powell. *Am Ind* 24:36-7+ S '23

Some aspects of recent British economics. J. A. Hobson, D. H. Macgregor and R. Lennard. 134p Univ. of Chicago press '23

See also Building trades—Great Britain; Coal miners—Great Britain; Cooperation—Great Britain; Cost of living—Great Britain; Finance—Great Britain; Housing—Great Britain; Labor and laboring classes—Great Britain; Prices—Great Britain; Taxation—Great Britain; Trade unions—Great Britain; Unemployment—Great Britain

Economic policy

Great Britain and the European crisis. R. Bean. *Annalist* 22:577-8 O 29 '23

Foreign relations*Russia*

British government note to soviet Russia threatening breaking off of relations. *Comm & Fin Chr* 116:2202-5 My 19 '23

Russian reply to British ultimatum. L. Krasin. *Comm & Fin Chr* 116:2346 My 26 '23

Geological survey

Geological survey of Great Britain; summary of progress for 1921. *Engineer* 135:178-9 F 16 '23

Industries and resources

Commercial and industrial developments at Hull. A. Tidman. *il Ind Management* (Lond) 10:212-19 O 18 '23

Factories and workshops in 1922. *Engineering* 116:179-80 Ag 10 '23

Great Britain to develop her tropical colonies. E. C. Chappell. *Annalist* 20:7 Jl 3 '22

New management in Great Britain. A. P. M. Fleming and J. P. Pearce. *Ind Management* 64:257-61 N '22

See also Airplane industry and trade—Great Britain; Automobile industry and trade—Great Britain; Building trades—Great Britain; Chemical industries—Great Britain; Coal—Great Britain; Cotton trade—Great Britain; Dye industry—Great Britain; Electric industries—Great Britain; Electric plants (central stations)—Great Britain; Electricity supply—Great Britain; Gas industry—Great Britain; Iron industry and trade—Great Britain; Machine tool industry—Great Britain; Mines and mineral resources—Great Britain; Oil industries—Great Britain; Shipbuilding—Great Britain; Steel industry and trade—Great Britain; Steel works—Great Britain; Textile industry—Great Britain; Tin mines and mining—Great Britain; Water power—Great Britain; Water supply—Great Britain

Navy

Activities of the Bureau of yards and docks. Navy department, world war, 1917-18. *Engineering* 114:479 O 20 '22

Great Britain—Navy—Continued

- Cost of admiralty. Engineering 115:529 Ap 27 '23
 Cruising ships of the navy. Engineer 136:425-6 O 19 '23
 Fulfilling the Washington naval treaty; scrapping a fleet of British dreadnoughts that fought at Jutland. *il Sci Am* 128:252-3+ Ap '23
 Henry VIII and national defense. A. W. Johns. Engineering 114:152-3, 168-9, 197-8, 229-30 Ag 4-25 '22
 Navy estimates. Engineering 113:330-1 Mr 17 '22
 Navy estimates. Engineering 115:335-6 Mr 16 '23; Engineer 135:289-90 Mr 16 '23
 Reduction of the navy. Engineer 133:304 Mr 17 '22
 Rise of the engineering branch of the royal navy. E. C. Smith. Engineering 114:576-8 N 10 '22
 Singapore naval base. Engineer 136:127-8 Ag 3 '23

See also Warships—Great Britain

Patent office

- Where British patents come from. H. C. Bywater. *il Sci Am* 128:250+ Ap '23

Politics and government

- Bonar Law principles and policy on which the Conservative party propose to conduct the government. Comm & Fin Chr 115:2003-6 N 4 '22
 British labor's part in politics. Nation's Business 11:29 Ja '23
 Lloyd George's speech at Glasgow. Comm & Fin Chr 115:2006-8 N 4 '22
 Lloyd George's speech at Leeds. Comm & Fin Chr 115:1898-90 O 28 '22
 Resignation of Lloyd George, British Prime Minister. Comm & Fin Chr 115:1784-9 O 21 '22

See also Labor party (Great Britain)

Post office department

- Post office engineering research station. Engineering 115:451-3, pl 28-9 Ap 13 '23

Trade boards

- Economic effects of the British trade boards system. D. M. Sells. *Int Labour R* 8:191-220 Ag '23
 Report of the Cave committee on working of British trade boards acts. Monthly Labor R 14:1117-21 Je '22

Great Lakes

- Enormous loss results from Chicago diversion. A. Beck. *Can Eng* 45:255-6 Ag 21 '23; Discussion. R. I. Randolph. 45:315 S 11 '23
 Nature's preparations for deep water harbors on the Great Lakes. J. Millis. map W Soc E J 27:26-32 Ja '22
 Traffic on Great Lakes in 1921. Marine R 52:80-1 F '22
 Water supply and sewage disposal around lakes. L. Pearse. *Can Eng* 44:150-3 Ja 16 '23
 Winds and barometric effects on the Great Lakes. J. F. Hayford. *Eng N* 90:665-8 Ap 12 '23

Great Lakes-Atlantic canal. See St Lawrence river

Great Northern railway

- Great Northern conditions show improvement. map Ry Age 75:721-3 O 20 '23
 Gr at Northern ore traffic will help 1922 net. Ry Age 73:213-14 Jl 29 '22
 Tentative valuations of the G.N. and the D. & H. Ry Age 74:960 Ap 14 '23
 33d report for the fiscal year ended December 31, 1921. Comm & Fin Chr 114:2604-9 Je 10 '22; Same abr. Ry Age 73:227-9 Jl 29 '22
 Thirty-fourth report, 1922. Comm & Fin Chr 117:220-5 Jl 14 '23

Great wall of China. See China—Antiquities

Greece

See also Labor laws and legislation—Greece

Antiquities

- Recent discovery in Greek lands; abstract. F. H. Marshall. *il map Sci Am* 126:36-7 Ja '22

Economic conditions

- Economic situation in Greece. Engineering 114:682 D 1 '22
 See also Cost of living—Greece

Foreign relations**Italy**

- Adjustments of dispute between Italy and Greece. Comm & Fin Chr 117:1519-21 O 6 '23
 Efforts of League of nations to adjust dispute between Italy and Greece. Comm & Fin Chr 117:1069-72 S 8 '23

Industries and resources

See also Mines and mineral resources—Greece

Green, George A.

- Sketch. por Bus Transportation 1:620 N '22
 Green

- Color in relation to dyeing. J. M. Matthews. Color Tr J 12:237-9 Je '23
 Fast green O and its related dyes. J. M. Matthews. Color Tr J 13:42-5 Ag '23
 National brilliant green B crystals. Color Tr J 9:186-7 N '21
 New green acid dyestuffs. Color Tr J 12:209-10 My '23
 New green dyestuff from alpha-naphthoquinone; patent. Color Tr J 12:18-19 Ja '23

See also Malachite green; Methyl green

Green river

- Green river as a source of power. R. R. Woolley. *il J Elec* 51:126-8 Ag 15 '23

Greenawalt, William E.

- Metallurgists of note. por Eng & Min J 114:756 O 28 '22

Greenawalt process. See Copper metallurgy—Electrometallurgy

Greenheart

- Greenheart as teredo resistant on Panama locks. C. J. Embree. *il Eng N* 89:619-21 O 12 '22; Discussion. 89:626, 714 O 12, 26 '22

Greenhouses

- Greenhouse construction and heating. J. H. Beattie. U S Agric Farmers' Bul 1318:1-38 '23

Heating and ventilation

- Correcting faulty heat distribution. J. K. Raymond. *diags Dom Eng* 104:284-5 Ag 11 '23
 Great greenhouse; the heating of rose house, 600 feet long and 81 feet wide, at Madbury, New Hampshire. J. K. Raymond. *diags plans Dom Eng* 104:587-90+ S 22 '23
 Greenhouse heating. J. Mackay. *diags Dom Eng* 100:404-6, 494-6 S 2, 16 '22
 Heating of greenhouses. *diags Dom Eng* 97:629-30 D 31 '21
 Heating, ventilating and humidifying one of the world's largest private conservatories; the Dupont horticultural buildings at Longwood, inc. *il plans Heat & Ven* 20:39-43 Je '23
 Hot water heating for a greenhouse. J. K. Raymond. *il diag Dom Eng* 100:229-30 Ag 5 '22

How to figure greenhouse heating equipment. Heat & Ven 20:53 Ap '23

Novel application of indirect heating. C. H. Thomas. *il diags Power Pl Eng* 27:1026-8 O 15 '23

Green's theorem

- Poisson's and Green's theorems in Riemann's *n*-manifold both when it is space-like and when time-space-like. A. McAulay. *diag Philos Mag* 6th ser 46:146-55 Jl '23

Greensand. See Glauconite

Grenades

- Process chart for loading rifle grenades. F. B. Gilbreth and L. M. Gilbreth. *Mech Eng* 44:40 Ja '22

Grids, Resistance

- Argument in favor of the steel grid. A. F. Phelps. *Coal Eng* 22:714 N 2 '22

Relative value of cast grids and grids of steel plate for use as resistors in mine locomotives. *il Coal Eng* 22:408-10 S 14 '22

Grignard reagent

Bemerkung zu der abhandlung der HHrn J. Meisenheimer und J. Casper; über die konstitution der Grignardschen verbindungen. J. v. Braun. Deutsche Chem Gesell Ber 54: 2687 N '21

Influence of hydrogen chloride on the enolising action of Grignard's reagent. V. K. Bhagwat. Chem Soc J 123:1803-7 JI '23

Luminescence of organo-magnesium halides. R. T. Dufford, S. Calvert and D. Nightingale. Il Am Chem Soc J 45:2058-72 S '23

New method for the introduction of an ethyl group; the reaction between organo-magnesium halides and diethyl sulfate. H: Gilman and R. E. Hoyle. Am Chem Soc J 44:2621-6 N '22

Organo-derivatives of thallium; action of thallium chlorides on the Grignard reagent and on organo-derivatives of tin, lead and bismuth. D. Goddard and A. E. Goddard. Chem Soc J 121:256-61 F '22

Permanence of the Grignard reagent. H: Gilman and C. H. Meyers. Ind & Eng Chem 15:61 Ja '23

Preparation of dialkyl mercury compounds from the Grignard reagent. C. S. Marvel and V. L. Gould. Am Chem Soc J 44:153-7 Ja '22

Preparation of dialkyl mercury compounds from the Grignard reagent; the relative stability of the carbon-mercury linkage in dialkyl mercury compounds. C. S. Marvel and H. O. Calvery. Am Chem Soc J 45: 820-3 Mr '23

Quantitative estimation of the Grignard reagent. H. Gilman and others. diag Am Chem Soc J 45:150-8 Ja '23

Quantitative study of the reaction between ethylenic hydrocarbons and the Grignard reagent. H: Gilman and H. M. Crawford. diag Am Chem Soc J 45:554-8 F '23

Study of the optimum condition for the preparation of ethylmagnesium iodide. H: Gilman and C. H. Meyers. diag Am Chem Soc J 45:159-65 Ja '23

Synthetische versuche in der indolgruppe; über den einfluss von lösungsmitteln auf die Grignardsche reaktion. R. Majima and M. Kotake. Deutsche Chem Gesell Ber 55: 3865-72 D '22

Über die reduzierende wirkung des Grignard-reagens und über die existenz von halogen-magnesium-wasserstoff. K. Hess and H. Rheinboldt. Deutsche Chem Gesell Ber 54:2043-55 S '21; Abstract. Chem Soc J 120 pt 1:777-8 N '21

Über synthesen einiger primäre alkoholde aus monomolekularem formaldehyd und Grignardschen verbindungen. K. Ziegler and P. Tiemann. diag Deutsche Chem Gesell Ber 55:3406-16 N '22; Abstract. Chem Soc J 124 pt 1:30-2 Ja '23

Yields of some Grignard reagents. H: Gilman and R. McCracken. Am Chem Soc J 45:2462-5 O '23

Bibliography

Organomagnesium compounds in synthetic chemistry. C. J. West and H. Gilman. (Reprint & Circ. Ser. 24) 103p '22 \$1.50 National research council, 1701 Massachusetts av., Washington, D. C.

Grilles

Italian renaissance details; a series of measured drawings. F. N. Breed. Il Arch Forum 36:49-52 F '22

Grinding (ores, etc.). See Crushing machinery**Grinding and polishing**

Abbott ball burnishing barrel. Il Mach 28: 496-7 F '22

Balancing polishing wheels. B. H. Divine. Metal Ind 21:366 S '23

Buffing. C. L. Buchanan. Metal Ind 21:233 Je '23

Burnishing automobile cylinders. Il diags Mach 30:98 O '23

Burnishing bolts in quantity. D. C. Oviatt. diag Mach 28:731 My '22

Burnishing machine for crankshaft bearings. J. E. Collins. diags Mach 29:772-3 Je '23

Centerless grinding methods. Il diags Mach 29:721-4 My '23

Centerless shoulder grinding. Il diags Am Mach 56:967-8 Je 29 '22

Computing offset for relief grinding. C. D. Scrom. diags Am Mach 59:709 N 8 '23

Dangers of dust in metal grinding. Engineering 116:104 JI 27 '23

Elements of production grinding. E. Sheldon. Il Am Mach 59:37-41, 131-3, 209-11, 277-80, 373-6, 443-7 JI 12, 26, Ag 9, 23, S 6, 20 '23

European grinding practice being extended. Il diags Ky Mech Eng 97:236-9 Ap '23

Finishing typewriter parts by grinding. Il Iron Tr R 69:1686-7 D 29 '21

Five interesting grinding operations. Il Am Mach 58:12 Ja '23

Foot-power grinder for small shop. C. Raber. diags Pop Mech 10:362 Ag '23

Gear tooth grinding. F. D. Jones. Il diags Mach 30:85-95 O '23

Gear tooth grinding process reduces heat treatment distortion dangers. Il Automotive Ind 46:1162-4 Je 1 '22

Glue in polishing work. B. H. Divine. Metal Ind 21:234-5 Je '23

Grinding a cam slot in a reference gage. W. H. Keefe. diags Mach 29:443-4 F '23

Grinding air cylinders. Il Ry Mech Eng 97: 331 Je '23

Grinding and inspecting stellite cutters. C. W. Metzger. Il diags Mach 30:125-7 O '23

Grinding and testing level vials. G. N. Saegmuller. diags Am Mach 56:405 Mr 16 '22

Grinding bevel gears true with pitch circle. M. Wright. Il Am Mach 58:399-400 Mr 15 '23

Grinding collector rings on 20,000-kva. generator. J. M. Jones. Il Power 56:24 JI 4 '22

Grinding commutators and collector rings. E. H. Thompson. Il diags Power 56:376-9, 529-31 S 5, O 3 '22

Grinding commutators by hand. Il Elec R (Lond) 93:124-5 JI 27 '23

Grinding commutators with artificial commutator stones. E. H. Martindale. Il Power 58:647-9 O 23 '23

Grinding data from the Pierce-Arrow shop. F. H. Colvin. Il Am Mach 57:997-8 D 28 '22

Grinding data on cream separator work. diags Am Mach 58:458-9 Mr 22 '23

Grinding differential spider arms. C. Kotersall. diags Am Mach 55:1009-10 D 22 '21

Grinding in the automotive industry. Il diags Mach 28:855-62, 946-51 JI-Ag '22

Grinding in the manufacture of leaf springs. Mach 29:272-3 D '22

Grinding in the railroad industry. Il Mach 29:174-7 N '22

Grinding in the small tool industry. Il diags Mach 29:45-51 S '22

Grinding keyways in multi-splined shafts. K. A. Munson. diags Am Mach 58:670 My 3 '23

Grinding large cylinders. Il Mach 29:347-8 Ja '23

Grinding locomotive parts. diags Mach 29:694 My '23

Grinding malleable castings. Mach 30:132 O '23

Grinding manganese-steel castings. H. Campbell. Il Am Mach 58:783-6 My 31 '23

Grinding multiple spline gages. C. F. Schlegel. diags Mach 28:393-4 Ja '22

Grinding of gear teeth and its future in the industry. R. S. Drummond. Il Am Mach 56: 737-9, 779-81 My 18-25 '22

Grinding practice in Great Britain. I. W. Chubb. Am Mach 56:451-3 Mr 23 '22

Grinding practice in railroad shops. Il Mach 29:814-15 Je '23

Grinding printers' rollers. B. W. Lewis. Il Am Mach 58:896 Je 21 '23

Grinding shears in New England plant. H. R. Simonds. Il Iron Tr R 70:754-6 Mr 16 '22

Grinding the eyes of leaf springs. Il Mach 30: 119 O '23

Grinding trimming dies used in shovel manufacture. C. F. George. diags Mach 28:900-2 JI '22

Grinding valve seats and cutting oil grooves. I. B. Rich. Il Am Mach 57:310 Ag 24 '22

Grinding, wheels, machines, methods. 387p Norton co., Worcester, Mass. '22

Hand- and machine-lapped surfaces as seen through a microscope. Il diags Mach 28: 638-9 Ap '22

Grinding and polishing—Continued

Internal grinding and its advantages. F. W. Curtis. *il* diags Am Mach 58:653-6 My 3 '23

Investigates grinding of steels. H. W. Wagner. diags Iron Tr R 71:444-6 Ag 17 '22

Lapping fountain pen points. J. A. Honegger. diags Mach 29:698-9 My '23

Lapping joints of locomotive steam pipes. R. Mawson. *il* Mach 29:810 Je '23

Lapping snap gages. C. E. Long. *diag* Mach 29:633 Ap '23

Machine for lapping angle valves. R. Mawson. *il* Mach 29:463 F '23

Machining and lapping very deep holes. J. B. Rose. *il* diags Mech Eng 44:807-12 D '22; Same. Engineering 115:91-2, 155-6 Ja 19, F 2 '23

Manufacture of buffing wheels. B. H. Divine. *il* Mach 29:881-5 Jl '23

Maximum production in flat bar grinding. H. Rekersdres. *il* Iron Age 111:1413-14 My 17 '23

Modern grinding practice; a review of the application of this process to automobile work. *il* chart diags Automobile Eng 13:11-15 Ja '23

Modern polishing machines. P. W. Blair. *il* *diag* Metal Ind 20:9-10 Ja '22

Morris crankshaft buffing machine. *il* Automotive Ind 48:25 Ja 4 '23; Am Mach 59:569 O 11 '23

Motion study in metal polishing. E. Farmer and R. S. Brooke. Eng & Ind Management 6:738-42 D 29 '21; Same. Metal Ind 20:133-6 Ap '22; Abstract. Mech Eng 44:195-6 Mr '22

Polishing aluminum and its alloys for metallographic study. E. H. Dix, jr. Chem & Met Eng 27:1217-20 D 20 '22

Polishing firearm parts. B. H. Divine. *il* Mach 30:141-5 O '23

Polishing of metals an art in itself. S. G. Koon. diags Iron Age 109:777-81 Mr 23 '22

Polishing room arrangement. B. H. Divine. *il* diags plan Mach 29:457-60 F '23

Polishing room layout. B. H. Divine. Metal Ind 21:108 Mr '23

Polishing wheels. B. H. Divine. *il* *diag* Mach 29:218-20, 301-3, 372-5 N '22-Ja '23

Practical hints for polishers. F. D. Bowman. *il* Foundry 51:860-1 N 1 '23

Preparation of buffing wheel. F. A. Livermore. Brass W 19:262 Ag '23

Principles of metal polishing. B. H. Divine. *il* Mach 29:12-13 S '22

Production grinding. F. B. Jacobs. 238p Penton pub. co. '22

Production of small parts by centerless grinding. H. Campbell. *il* Am Mach 58:357-9 Mr 8 '23

Properties of glue for polishing wheels. B. H. Divine. *il* Mach 29:134-5 O '22

Pulverizing materials in the metal industry. H. Hardinge. *il* diags Metal Ind 21:334-5 Ag '23

R. & C. lapping tools. *il* Am Mach 56:156 Ja 26 '22

Reducing costs by disk grinding. C. O. Herb. *il* diags Mach 30:109-12 O '23

Regrinding swing gate type valve. diags Ry Mech Eng 96:663 N '22

Rickenbacker adopts lapping process on piston pin bearing surfaces. J. E. Schipper. *il* Automotive Ind 49:22-4 Jl 5 '23

Roll grinding shows economy. S. S. Shoemaker. *il* Iron Tr R 71:1765-8 D 28 '22

Rotary surface grinder effectively used on air brake parts. *il* Ry Mech Eng 96:645-6 N '22

Rough grinding with special wheels. E. D. Bishop. Foundry 50:797 O 1 '22

Setting up polishing wheels. B. H. Divine. *il* *diag* Mach 29:556-8 Mr '23

Silicate bond wheels finish shears. B. K. Price. *il* Iron Tr R 71:452-3 Ag 17 '22

Some grinding operations at the Marmon plant. *il* Am Mach 57:538-9 O 5 '22

Some grinding operations on the Brown & Sharpe milling machine spindle. M. Wright. *il* Am Mach 58:173-7 F 1 '23

Some vertical grinding jobs. H. Crawford. *il* Am Mach 58:164 Ja 25 '23

Stellite cutters for milling; design of cutters for milling different metals, and directions for grinding clearance on teeth. C. W. Metzger. *il* diags Mach 29:589-93 Ap '23

To finish small holes accurately in an ignition cam. *il* Iron Tr R 72:377-8 F 1 '23

Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 57:178-82, 218-21 Ag 3-10 '22

Types of polishing machines. B. H. Divine. *il* Mach 29:675-8 My '23

Why work curls toward the wheel while beeing surface ground. E. A. Dixie. Am Mach 55:1006-7 D 22 '21

See also Abrasives; Grinding machines; Lubrication and lubricants (cutting and grinding); Machine shop practice; Sand blast

Costs

Grinding in foundry and steel mill. *il* plan Mach 29:126-30 O '22

Grinding machines

American gear grinder co. spur gear grinding machine. *il* diags Am Mach 58:599-601 Ap 19 '23

American gear-tooth grinder. *il* diags Mach 30:225-6 N '23; Iron Age 112:1237-8 N 8 '23

American grinder co. spur gear grinding machine. A. J. Ott and C. L. Ott. *il* diags Am Mach 59:659-61 N 1 '23

Automatic grinder for steam joints. *il* Ry R 70:471-2 Ap 1 '22

Automatic grinding machines. E. Viall. *il* Am Mach 58:577-80, 613-16 Ap 19-26 '23

Automatic machine co. frog and switch grinding machine. *il* Am Mach 59:33-4 Jl 5 '23

Automatic tilting work table chief feature of Osterholm automatic surface grinder. *il* Automotive Ind 49:850-1 O 25 '23

Badger automatic grinding machines. *il* Mach 29:405-4 Ja '23; Iron Age 110:1639-40 D 21 '22

Badger vertical spindle disk-grinding machine. *il* Am Mach 56:49 Ja 5 '22

Blanchard high-power vertical surface grinding machine. *il* Am Mach 56:641-2 Ap 27 '22; Iron Age 109:1145-6 Ap 27 '22; Mach 28:751-2 My '22; Ry Mech Eng 96:287-8 My '22

Blanchard no. 16-A automatic surface grinding machine. *il* Am Mach 55:349-50 Mr 1 '23; Iron Age 111:607 Mr 1 '23; Iron Tr R 72:669 Mr 1 '23

Bright internal grinding machine. *il* Am Mach 56:753-5 My 18 '22; Mach 28:838 Je '22

Browne & Sharpe no. 4 universal and crankshaft grinding machine. *il* Am Mach 56:642-3 Ap 27 '22; Iron Age 109:1143-4 Ap 27 '22; Mach 28:755-6 My '22

Bryant no. 2 double-head hole-grinding machine. *il* diags Am Mach 55:1053-5 D 29 '21; Iron Age 108:1668 D 29 '21; Mach 28:413-14 Ja '22

Bryant two-spindle internal grinder. *il* diags Automotive Eng 12:149-50 My '22

Centramatic cylinder hone. *il* Mach 29:830-1 Je '23

Chart for determining speeds and feeds for internal grinding. R. L. Morgan. Mach 29:815 Je '23

Cincinnati automatic centerless cylindrical grinding machine. *il* *diag* Am Mach 57:78-9 Jl 13 '22

Cincinnati automotive-parts grinding machine. *il* Am Mach 56:341 Mr 2 '22

Cincinnati centerless grinder. *il* Am Mach 59:339-40 Ag 30 '23; Automotive Ind 49:138 Ag 30 '23; Iron Age 112:479-80 Ag 23 '23; Iron Tr R 73:544 Ag 23 '23; Mach 30:65-7 S '23

Cincinnati 12-inch plain cylindrical grinding machine. *il* Am Mach 57:815 N 23 '22

Control valve and distributing valve cylinder grinder. J. D. Flinner. diags Ry Mech Eng 97:182 Mr '23

Cutter and hob grinding attachment brought out by the R. K. Le Blond machine tool co. *il* Iron Age 108:1604 D 22 '21

Detroit machine tool co. centerless grinder. *il* Automotive Ind 48:1180 My 31 '23; Am Mach 58:819-20 My 31 '23; Iron Age 111:1567 My 31 '23

Developments in production grinding in the automotive industry. O. A. Knight. *il* diags Soc Auto Eng J 13:387-92 N '23; Same. Am Mach 59:787-90 N 29 '23; Discussion. Soc Auto Eng J 13:475-8 D '23

Grinding machines--Continued

- Diamond pulley-grinding machine. diags Mach 29:74 S '22; Iron Age 110:590 S 7 '22; Am Mach 57:466 S 21 '22
- Elements of production grinding. E. Sheldon. il Am Mach 59:413-7 S 20 '23
- Eliminate costly hand fitting and filing; many operations more profitably done on modern milling or grinding machines than by filing. M. H. Williams. il Ry Mech Eng 96:584-7 O '22
- Experiment with high speed grinding head. E. Sheldon. il Am Mach 57:732 N 9 '22
- Face grinder with wheel of unusual size made by Diamond machine co. il Iron Age 111:967 Ap 5 '23
- Gardner automatic double-spindle grinding machine. il Mach 28:420 Ja '22; Iron Age 109:150 Ja 12 '22
- Gardner no. 2 automatic double grinding machine. il Am Mach 58:673-4 My 3 '23; Iron Age 111:1262-3 My 3 '23; Mach 29:735-7 My '23
- Gardner semi-automatic disk grinding machine. il Mach 30:67-8 S '23; Iron Age 112:519 Ag 30 '23
- Garvin vertical internal grinder. il Iron Age 109:1430-1 My 25 '22
- Getting results from modern grinding machines in railroad shops. M. H. Williams. il Ry Mech Eng 96:317-18 Je '22
- Giddings & Lewis automatic internal grinding machine no. 12. il Am Mach 57:662-3 O 26 '22; Iron Age 110:1219 N 9 '22
- Greenfield hydroil internal grinding machine. il Am Mach 56:192-3 F 2 '22; Iron Age 109:340 F 2 '22; Iron Tr R 70:542-3 F 23 '22; Mach 28:510-11 F '22
- Grinder finishes machine ways. A. R. Ludewigs. il diags Iron Tr R 71:1415-16 N 23 '22
- Grinding commutators and collector rings--types of grinding machines. E. H. Thompson. diags Power 56:455-8 S 19 '22
- Grinding fixture for universal joint cage. J. A. Honegger. diags Mach 30:99-100 O '23
- Grinding hardened gear teeth; abstract. il diags Mech Eng 44:265 Ap '22
- Grinding in foundry and steel mill. il plan Mach 29:126-30 O '22
- Grinding links and link blocks. J. M. Hamm. diags Ry Mech Eng 96:273-4 My '22
- Grinding machine in the railroad shop. F. A. Stanley. il Am Mach 56:64-6 Ja 12 '22
- Harris improved automatic hob grinding machine. il Mach 28:508-9 F '22; Iron Age 109:344 F 2 '22; Ry Mech Eng 96:111-12 F '22
- Harris no. 5 semi-automatic hob grinding machine. il Iron Age 111:891 Mar 29 '23
- Harris no. 10 semi-automatic hob and form cutter grinding machine. il Am Mach 57:502-3 S 28 '22
- Head hydraulically operated internal grinding machine. il Am Mach 58:311-12. 779 F 22, My 24. '23; Iron Age 111:608 Mr 1 '23; Mach 29:569-70. 825 Mr, Je '23
- Head no. 50 cylinder grinding machine. il Am Mach 56:975 Je 29 '22; Iron Age 109:1812 Je 29 '22; Automotive Ind 47:70 Jl 13 '22; Mach 28:915-16 Jl '22
- Head no. 25 automatic ring-grinding machine. il Am Mach 56:151-2 Ja 26 '22; Automotive Ind 46:184-5 Ja 26 '22; Iron Age 109:216 Ja 19 '22; Mach 28:495-6 F '22
- Heavy floor grinding machine. diags Foundry 50:76-7 Ja 15 '22
- High power surface grinder a useful shop tool. il Ry Mech Eng 96:95-7 F '22
- Home made car wheel grinder. il Ry Mech Eng 96:631 N '22
- Homemade utility bench grinder. J. V. Romig. diags Pop Mech 38:466-7 S '22
- Improved portable grinding devices for truing commutators. il Power 57:599 Ap 17 '23
- Internal grinding and its advantages. F. W. Curtis. il diags Am Mach 58:653-6 My 3 '23
- Internal-grinding machine for quantity production. il Pop Mech 38:420 S '22
- Landis heavy-duty roll grinding machine. il Am Mach 57:354 Ag 31 '22; Mach 29:65-6 S '22
- Lapping outfits for cylinder bores and crankshaft bearings. il Automotive Ind 45:31 Ja 5 '22
- Large grinding machine for chilled iron rolls constructed by Churchill machine tool co. Engineer 133:306, 307 Mr 17 '22
- Liberty Elteco portable bench cutter-grinding machine. il Am Mach 56:234 F 9 '22
- Lumsden twin-table surface grinder. il Engineering 115:459-60. 166 Ap 13 '23
- M.S.O. automatic internal cylinder grinding machine. il Am Mach 56:981 Je 29 '22
- Machines for grinding track work made by the Automatic machine co. il Iron Age 112:55-6 Jl 12 '22
- Madison cylinder grinding machine. il Am Mach 57:816 N 23 '22
- New machine grinds wrist pin holes simultaneously. P. M. Heldt. il diags Automotive Ind 45:1269-70 D 29 '21
- Newton radius link grinding machine. il Am Mach 56:984 Je 29 '22; Iron Age 109:1818 Je 29 '22; Ry Mech Eng 96:422 Jl '22
- Norton grinding machines. il Mach 28:926-7 Jl '22
- Norton model 81-B crankpin grinding machine. il Am Mach 57:37 Jl 6 '22
- Norton surface grinding machine. il Iron Age 109:1826 Je 29 '22
- Norton type G and L universal and openside surface grinders. il Ry Mech Eng 96:346 Je '22
- Pocket grinders and magazine grinders. J. J. Case. Paper 30:84-6+ Ap 19 '22; Same. Paper Tr J 74:261+ Ap 13 '22
- Pratt & Whitney gear tooth grinding machine. E. Sheldon. il Am Mach 59:535-40 O 11 '23
- Press feeding and grinding attachments. il Mach 29:464-5 F '23
- Railway shop grinding practice in England. Ry Mech Eng 96:325-6 Je '22
- Redesign grinding machines to increase rate of production. il Automotive Ind 48:526-7 Mr 1 '23
- Reed-Prentice engraver's cutter grinding machine. il Am Mach 58:955 Je 28 '23; Iron Age 111:1838 Je 28 '23
- Reed-Prentice planer-type grinding machine. il Am Mach 58:200-1 F 1 '23
- Rockford radius, internal and surface grinder for railroad shop work. il Iron Age 112:262 Ag 2 '23; Mach 29:955-6 Ag '23; Ry Mech Eng 97:659-60 S '23
- S.H.D. automatic universal tool-grinding machine. il diags Engineering 115:396-7 Mr 30 '23; Am Mach 57:120-1 Jl 20 '22
- Saphl portable electric grinding machines. il Iron Age 110:864 O 5 '22; Am Mach 57:899 D 7 '22
- Springfield mfg. co. develops two types of surface grinders. il Iron Tr R 71:1639 D 14 '22
- Systematic tool grinding conserves workers' time. il Iron Tr R 73:814 S 20 '23
- Twist drill grinders manufactured by Blau & co., Vienna. il Iron Age 111:1785-6 Je 21 '23
- Valve stem grinding attachment with magazine feed. il Mach 29:691 My '23
- Van Norman piston and valve grinding machine. il Am Mach 55:776-7 N 10 '21; Mach 28:326-7 D '21; Iron Age 108:1216 N 10 '21
- Van Norman Re-li-o no. 2 bench wet grinding machine. il Am Mach 56:570-1 Ap 13 '22
- Vertical grinder with 6-ft. rotary table. il diags Engineering 113:520-1. 524 Ap 28 '22
- Vertical-spindle type cylinder grinder brought out by Hy-way service co. il Iron Age 110:1315 N 23 '22
- Williams vertical cylinder grinding machine. il Am Mach 57:745-6 N 9 '22; Mach 29:235-6 N '22; Automotive Ind 47:1128-9 D 7 '22
- Williams. White & co. duplex rotary grinding machine. il Iron Age 112:8 Jl 5 '23

See also Burrs; Grinding wheels

Grinding wheels

- Cleaning steel castings. H. R. Simonds. il Foundry 51:486-90 Je 15 '23
- Difference between glazing and loading of a grinding wheel. il Brass W 19:12 Ja '23
- Dressing and truing of abrasive wheels for surface grinding machines. F. O. Wyse. il diags Am Mach 58:501-2 Ap 5 '23
- Economy in grinding wheel dressing and truing. M. L. Climo. Mach 30:201 N '23

Grinding wheels—Continued

- Efficiency of grinding wheels. Mach 29:468 F '23
 Elements of production grinding. E. Sheldon. il Am Mach 59:209-11, 277-80 Ag 9, 23 '23
 Grinding in foundry and steel mill. il plan Mach 29:126-30 O '22
 Grinding wheel breakage. H. W. Wagner. Brass W 19:326 O '23
 Satisfactory home-made wheel grinder. diags Elec Ry J 62:264 Ag 18 '23
 Selecting wheels for rough grinding. E. D. Bishop. Iron Tr R 71:586 Ag 31 '22
 Selection and use of diamonds for dressing grinding wheels. W. M. Robinson. diags Mach 30:133-6 O '23
 Setting grinding wheels for sharpening hobs. H. E. Harris. diag Mach 28:992-3 Ag '22
 Taking care of abrasive wheels. S. M. Howard. Factory 27:770+ D '21
 Truing and dressing grinding wheels. Brass W 18:324-5 N '22
 Turning vitrified abrasive wheels with a steel tool. A. Lambercier. diags Am Mach 56:952 Je 29 '22
 Wheel-truing attachment for screw-thread grinding. Engineering 113:76, 78 Ja 20 '22
See also Grinding machines

Accidents

- Grinding wheel breakage and its causes. H. E. Jenks. diags Am Mach 57:98-100, 144-6 JI 20-27 '22

Manufacture

- Elements of production grinding. E. Sheldon. il Am Mach 59:131-3 JI 26 '23
 Handling materials economically; eastern grinding wheel manufacturer uses special trucks and conveyors for transporting abrasives and wheels. B. A. Hildebrandt. il Iron Tr R 71:1069-71 O 19 '22
 Progress in grinding wheel manufacture. P. H. Walker. Mach 30:102-3 O '23

Safety devices and measures

- National grinding wheel code. G. E. Sanford. Safety Eng 45:166-8 My '23
 Revise safety code for abrasive wheels. Foundry 50:496 Je 15 '22
 Safety precautions in the use of manufactured abrasive wheels. diags Int Labour R 8:126-35 JI '23

Terminology

- Grinding wheel nomenclature. H. A. Plusch. Mach 28:979-80 Ag '22

Testing

- Firm conducts cast iron grinding tests. A. W. Forbes. Foundry 50:996 D 15 '22
 Testing abrasive wheels. H. H. Lavercombe. il Am Mach 57:961-2 D 21 '22

Grindstones

- Grindstone and pulpstone production in 1921. Iron Tr R 71:790 S 21 '22

See also Commutator stones

Grit chambers. See Sewage disposal—Activated sludge method**Grizzlies**

- Self-cleaning revolving grizzly which requires little power to drive. il diags Coal Age 23:822-3 My 17 '23

Grocery stores. See Company stores; Grocery trade**Grocery trade**

- Again, the wholesale grocer. Ptr Ink 121:20 D 7 '22
 Are grocery specialty salesmen altogether useless? Ptr Ink 122:89-90+ Ja 18 '23
 Building a big volume out of small opportunities. T. E. Burns. il System 42:144-6 Ag '22
 Building a food products market through demonstrators. Ptr Ink 123:8+ Ap 5 '23
 Can demonstrations pay where people buy mostly by phone? Ptr Ink 119:44+ Je 29 '22
 Eteria idea; self-service provides especially popular in the Far West. J. M. Castle. Ptr Ink 117:113+ D 29 '21
 Grocer as a side-line seller. Ptr Ink 117:162+ D 8 '21

- Grocer's window book. C. F. Brown. 4th ed. 182p Modern grocer pub. co., Chicago '23
 Handling a stock of 1,550 items with a one-man inventory. F. W. Albrecht. il System 44:610+ N '23

How salesmen are paid in the coffee roasting and grocery trades. Ptr Ink 120:145-6+ S 21 '22**Mail-order grocery chain stores advertised to farmer. G. A. Nichols. Ptr Ink 123:25-7+ Ap 19 '23****Management policies that keep our business growing. F. C. Letts. il System 43:21-5+ Ja '23****Men and methods; Fred W. Albrecht. F. B. Barton. System 41:687-9 Je '22****Men and methods; John R. Thompson. J. Mason. il System 42:151-3 Ag '22****Retail grocery stores. 30p New York State department of farms and markets, Albany '22****Sales that are lost by reason of neglected opportunities. Ptr Ink 123:69-70+ Je 28 '23****When it pays a salesman to talk quality; experience of a macaroni maker. G. A. Nichols. Ptr Ink 124:74+ JI 12 '23****Where does the wholesale grocer stand, nowadays? bibliog Ptr Ink 121:10+ O 26 '22****Wholesaler discusses distribution progress with retailers. J. H. McLaurin. Ptr Ink 123:162+ Je 28 '23****Why selling, rather than buying, is the retailer's problem. Ptr Ink 122:19-20 Mr 29 '23****Why the colossal grocery market is so difficult. P. Findlay. Ptr Ink M 5:33-4 D '22****Work of juniors in retail grocery stores. R. E. Berry. 59p Univ. of Cal., Div. of vocational educ., Berkeley '22**

See also Canned food; Chain stores; Company stores; also Calumet baking powder company

Accounting

- Grocers' primer. 4v v 1 74p International wholesale grocers' educational committee. O. J. Moore, Chairman, Sioux City, Ia., '23

Advertising**Advertised products are Americanizing immigrants. J. A. Murphy. il Ptr Ink M 7:38-9+ JI '23****Bigger business from co-operation in buying and advertising. H. E. Martin. Ptr Ink 118:77-8+ Ja 12 '22****Chain store supplies butter to navy and advertises it. Ptr Ink 124:81-2 JI 26 '23****Develops food label to combat grocery cut-price evil. Ptr Ink 122:25-6 F 15 '23****Hair nets as an advertising leader in grocery stores. J. True. Ptr Ink 120:49-50 JI 27 '22****How a grocery wholesaler is preparing for national advertising. S. C. Lambert. Ptr Ink 121:65-6+ N 16 '22****Plussing the value of the advertising. J. W. Herscher. Ptr Ink 121:170+ N 23 '22****Van Camp advertising to sell the complete line. A. Belden. Ptr Ink 124:125-6+ JI 5 '23****Wholesale grocer advertises his private brands. Ptr Ink 123:118+ My 10 '23**

See also Coffee—Advertising; Flour trade—Advertising

Bibliography**Merchandising low-price products through grocery stores. Ptr Ink 120:73-4+ JI 13 '22****Ground detector. See Electric distribution—Grounds and faults****Ground selectors****Ground selector for ungrounded three-phase distribution systems. P. Ackerman. diags Am Inst E E J 42:311-19 Ap '23; Discussion. 42:1087-92 O '23****Ground speed. See Aircraft—Ground speed****Grounded wire, Overhead****Questions on the economic value of the overhead grounded wire. E. E. F. Creighton. bibliog il Am Inst E E J 41:21-9 Ja '22; Abstract. Elec W 79:378-80 F 25 '22; Discussion. Am Inst E E J 41:825-7 N '22****Bibliography****Theory of the overhead grounded wire. Am Inst E E J 41:28-9 Ja '22**

Grounds and faults. See Electric distribution--
Grounds and faults

Group bargaining. See Trade agreements

Group insurance. See Insurance, Industrial

Group piece work. See Piece work, Collective

Grouting

Effects of grouting and gravel packing around tunnel. W. E. Thompson. *il diags Eng N* 90:617-19 Ap 5 '23; Discussion. J. F. O'Rourke. 90:762 Ap 26 '23

Grouting water-channels underground. T. A. Rickard. *il diags Eng & Min J* 114:286-7 Ag 12 '22

Home-made grout gun stops water flow into tunnel. J. L. Digby. *il Eng N* 90:1130-1 Je 28 '23

In regrouting cylinder foundation, use of sulphur was narrowly averted. F. C. Sin-back. *Coal Age* 21:527 Mr 30 '22

Methods of grouting in shaft sinking. R. G. Johnson. *diag Eng & Contr (Ry)* 60:315-16 Ag 15 '23

Sealing permeable foundation of dam with grout. W. S. Lea. *Eng & Contr (W W)* 60:548-50 S 12 '23

Use of grout in cut-off trenches, and concrete core walls for earthen embankments. H. J. F. Gourley. *diags Engineering* 114:812-15 D 29 '22

Guanidine

Ammono carbonic acids. E. C. Franklin. *Am Chem Soc J* 44:486-95 Mr '22

Disubstituted guanidines. W. Scott. *Ind & Eng Chem* 15:286-90 Mr '23

Mechanism of guanidine formation in fused mixtures of dicyandiamide and ammonium salts. J. S. Blair and J. M. Braham. *Am Chem Soc J* 44:2342-52 O '22

Über einige guanidoniumsalze. W. Marckwald and F. Struwe. *Deutsche Chem Gesell Ber* 55:457-63 F '22

Urea dearrangement. T. L. Davis and H. W. Underwood, jr. *Am Chem Soc J* 44:2595-2604 N '22

See also Diphenylguanidine; Nitroguanidine

Guanidine nitrate

Preparation of guanidine nitrate. T. L. Davis. *Am Chem Soc J* 43:2234-8 O '21

Quantanamo sugar company

16th annual report—for the fiscal year ending September 30, 1921. *Comm & Fin Chr* 113:2731 D 24 '21

17th annual report—for the fiscal year ending September 30, 1922. *Comm & Fin Chr* 115:2700 D 16 '22

Guaranties and sureties. See Suretyship and guaranty

Guaranty of deposits. See Banks and banking
—Guaranty of deposits

Guard rails

Acco guard rail. *il Ry R* 71:918-19 D 23 '22

Guard rails laid on side. *diags Eng & Contr (Ry)* 59:689 Mr 21 '23

New type of highway guards. *Pub Works* 53:232 N '22

Guiana

See Gold mines and mining—Guiana

Guild socialism. See Gild socialism

Guilds. See Gilds

Gulf coast lines. See New Orleans, Texas and Mexico railway (Gulf coast lines)

Gum drops

Advertising

Old goods supply the need of a novelty: Wallace & company gum drops. J. True. *Ptr Ink* 119:69-70+ Je 15 '22

Gumbotil

Some colloidal properties of pleistocene clays and their bearing on the chemical theory of the formation of the gumbotil. J. N. Pearce and L. B. Miller. *J Phys Chem* 26:1-24 Ja '22

Gummed cloth

Gummed cloth sealing and binding tapes. C. H. Crowell. *Paper* 30:7-8 Ap 5 '22; Same. *Paper Tr J* 74:36 Ap 6 '22

Gummy deposits in gas meters. See Gas meters
—Gummy deposits

Gums and resins

Determination of gums in sugar products. H. T. Ruff and J. R. Withrow. *J Ind & Eng Chem* 14:1131-4 D '22

Gums, shellac, waxes; market review and record of prices. *Oil Paint & Drug Rep* 103:81-5 Mr 29 '23

See also Bakelite; Balata; Betulin; Kava; Phenol condensation products; Resinous products; Rosin

Gumwood

Value of gum wood as tie material. J. R. Keig. *Ry Age* 74:332 F 3 '23

Gun metal

Copper—88, tin—10, zinc—2. R. R. Clarke. *diags Metal Ind* 20:56-7 F '22

Effect of increasing proportions of lead upon the properties of admiralty gun-metal. R. T. Rolfe. *il diags Engineering* 112:580-3 O 21 '21; Same cond. *Foundry* 49:901-6 N 15 '21

Guncotton

Étude de la déshydratation des cotonspoudres par déplacement au moyen de la presse hydraulique Champigneulle. M. Ponchon. *Chimie & Ind* 9:746-7 Ap '23

Études des cotons-poudre précipités et du mécanisme de décomposition du coton-poudre. M. Koehler and Marquoyrol. *Chimie & Ind* 8:625 S '22

Purification of cotton linters for the manufacture of guncotton and various pyroxylin products. W. Stark. *Chem & Met Eng* 26:167-9 Ja 25 '22

See also Nitrocellulose

Gunite

Concrete and gunite flumes on the King Hill project, Idaho. W. Ward. *il diags Eng N* 87:926-32, 1014-18 D 8-22 '21

Design and construction of a rectangular suspended gunite flume. W. A. Kunigk. *il diags Eng & Contr (W W)* 59:100-4 Ja 10 '23

Effect of locomotive blasts on concrete and gunite steel encasement. J. V. Schaefer. *il Can Eng* 43:641-2 D 19 '22

Extensive surface repairs to a concrete dry dock. *il Eng N* 88:102-3 Ja 19 '22

Fire tests on gunite walls. *Can Eng* 43:236-7 Ag 8 '22; Same cond. *Concrete* 21:106 O '22; Excerpts. *Eng & Contr* 58:292 S 27 '22

Gun-stone house at Watertown, Massachusetts; with cost table. H. W. Brown. *il diags plans Am Concrete Inst Pro* 18:131-40 '22; Abstract. *Concrete* 20:102-4 Mr '22

Gunite applied to fir piles for Tacoma pier. *il diag Eng N* 89:739-41 N 2 '22

Gunite in metal mines. *Eng & Min J* 114:890 N 18 '22

Gunite in the West. B. C. Collier. *Can Eng* 43:658-9 D 26 '22

Gunite stadium seats tested. *il diags Concrete* 21:147 N '22

Gunite used in construction of fertilizer plant. *il Eng & Min J* 113:895 My 20 '22

Gunite walls. *Am Inst Arch J* 10:XV S '22

Guniting an eight ft. flue. *il Can Eng* 43:505 O 31 '22

Mortar ejected from cement gun protects roof from injurious effects of mine atmosphere. *il diag Coal Age* 23:807-11 My 17 '23

Protecting steel bridges from locomotive blast; examination of gunite and reinforced-concrete casing of floor system. *il Eng N* 89:968-9 D 7 '22

Protection of piles by gunite. *diags Can Eng* 42:559 My 30 '22

Record of early guniting job; sea wall at Lynn, Mass., repaired in 1911. *il Can Eng* 45:135 Ji 10 '23

Reinforcing value of gunite encasing for steel beams. *Can Eng* 44:361-2 Mr 27 '23

Relining steel coal hoppers and bunkers with gunite. J. G. Melliush. *il Munic Eng* 63:241-2 D '22

Repairing concrete piers with gunite. *il diags Can Eng* 44:472-3 My 8 '23

Reservoir embankment protected by gunite reinforced slab. A. S. Holway. *il diag Eng N* 90:880-1 My 17 '23

Gunite—Continued

- Saving with hollow gunite walls. *diag Can Eng* 45:108 J1 3 '23
 Steel standpipe cleaned and reinforced by cement gun. *il Eng* N 88:314 F 23 '22
 Tacoma builds semi-circular conduit of gunite, with cost tables. *il diags Eng* N 88:906-9 Jc 1 '22
 Thin concrete revetments on the Sacramento river. *il Eng* N 90:1002 Je 7 '23
 Unusual features of a modern loft building. *il diag plans Am Arch* 124:28-30 J1 4 '23
 Viaduct repaired with gunite. *il Concrete* 23: 93 S '23

See also Cement gun

Gunnery

See Artillery; Guns (ordnance); Projectiles; Range finding

Guns

See also Rifles

Manufacture

- Special machines found economical; interesting methods developed for handling gun parts. L. S. Love. *diags Iron Age* 110:1625-6 D 21 '22

Guns, Anti-aircraft

- Anti-aircraft guns fired by electricity. *il Pop Mech* 40:756 N '23

Guns (ordnance)

- New army sixteen-inch gun. *il Sci Am* 125A: 98 D '21

See also Artillery; Machine guns; Naval guns

Manufacture

- Levallois works of the Hotchkiss company. *il diags Engineering* 113:710-11, pl 40 Je 9 '22
 Sulphur and oxides in ordnance steel. W. J. Priestley. *il Iron Age* 108:1658-61 D 29 '21;
 Same. *Blast F & Steel Pl* 10:96-100 Ja '22;
 Same cond. *Min & Met* 180:34-5 D '21; *Abstract. Chem & Met Eng* 26:393 Mr 1 '22

Gussets (metal work)

- Table for locating first rivet of a gusset connection. *diag Eng N* 91:313 Ag 23 '23

Gutenberg Bible

- Noble fragment being a leaf of the Gutenberg Bible. *Ptg Art* 39:136-44 Ap '22

Gutta percha

- Tijpetir gutta percha plantation. *il India Rubber W* 68:777-8 S '23

See also Rubber

Gutters

- Concrete curbs and gutters. J. Tate. *diags Pop Mech* 39:617-18 Ap '23
 Improved valley gutter design eliminates features objectionable to motorists. S. M. Cotten. *diag Eng N* 89:895-6 N 23 '22
 Steel bars tie combined curb and gutter to pavement at Libertyville, Ill. C. E. De Louw. *il Munic Eng* 65:59-60 Ag '23

Gutters (roof)

- Eliminating unnecessary sizes of conductor pipe, eaves trough, elbows and accessories. Sheet Metal Worker 13:851-2, 901 Ja 5-19 '23
 Proportioning roof gutters scientifically. M. W. Ehrlich. *diags Sheet Metal Worker* 12: 697-9 N 11 '21

Guye

- Le calcul des pylônes haubanés; application aux pylônes de la station radioélectrique de Sainte-Assise. M. Bourseire. *il Génie Civil* 83:97-105 Ag 4 '23

Gypsum

- Buttons from gypsum. *Chem Age* 30:559-60 D '22
 Dehydrating gypsum. *Chem & Met Eng* 29:411 S 3 '23; Same. *Chem Age* 31:476 O '23
 Effects of accelerators and retarders on calcined gypsum. F. C. Welch. *Am Cer Soc J* 6:1197-1207 N '23
 Fourteenth census of the United States; Mines and quarries: 1919; gypsum. 10p Bureau of the census. Washington '22
 Geology of gypsum and anhydrite. D. H. Newland. *Econ Geol* 16:393-404 S '21; Discussion. D. C. Barton. 17:141-3 Mr '22
 Gypsum in 1921. K. W. Cottrell. *U S Geol S Min Res of U S* 1921. pt 2:89-96 '22

Gypsum plaster and wall boards. J. M. Porter.

Am Soc T M Pro 22 pt 1:358-63 '22

Gypsum production in Canada. *Eng & Contr (Bldgs)* 60:867 O 24 '23

Modern electrical installation in plant of Nevada gypsum company. L. F. Leurey. *il J Elec* 50:218-19 Mr 15 '23

Report of committee C-11 of A.S.T.M. on gypsum. *Am Soc T M Pro* 22 pt 1:354-7 '22

See also Plaster of Paris

Advertising

- Plaster gets a broader market through educational advertising. C. M. Harrison. *Ptr Ink* 120:33-4+ J1 13 '22

Specifications

Gypsum plaster board. *Am Inst Arch J* 10: XV+ D '22

Gypsum wall board. *Am Inst Arch J* 10:XVII+ D '22

Tentative specifications for gypsum plaster board. *Am Soc T M Pro* 21:562-4 '21

Tentative specifications for gypsum wall board. *Am Soc T M Pro* 21:560-1 '21

Gypsum industries association

Decree entered against gypsum industries association in anti-trust case. *Comm & Fin Chr* 116:138-41 Ja 13 '23

Government's attitude toward trade associations expressed in gypsum case. *Ptr Ink* 122:10+ Ja 11 '23

Gyro compass

Direct course is a direct saving. R. B. Lea. *il Marine Eng* 28:361-3 Je '23

Mark VI Sperry gyro compass adapted from navy type. *il Marine Eng* 27:698 N '22

Gyroscope

Application of the gyroscope to the solution of the vertical problem on aircraft. J. G. Gray and J. Gray. *Mech Eng* 45:434-5 J1 '23

Biggest gyro put aboard ship. *Marine R* 52: 257 Je '22

Gyroscope for instructional purposes. *Engineering* 113:420 Ap 7 '22

Gyroscopic motion. L. A. Redman. *Sci Am* 129:124 Ag '23

Motor gyroscope for instructional demonstration. *il Engineer* 133:620 Je 2 '22

New gyroscopic construction in simple vectors. W. C. Baker. *diags Phys R* 19:323-8 Ap '22

Les récentes applications du gyroscope à la stabilisation des navires. *il diag Génie Civil* 82:389-92 Ap 28 '23

Sperigyro ship stabiliser. *il diag Engineer* 136:122-4 Ag 3 '23

Gyroscopic pumps. *See Pumps, Gyroscopic*

Gyro-stabilizers. *See Ships—Stability*

H

H acid. *See Aminonaphtholdisulfonic acid*

Haber process. *See Nitrogen fixation*

Hacksaws. *See Saws*

Hackworth, Timothy

Timothy Hackworth and the locomotive. R. Young. *Engineer* 133:251-2 Mr 3 '22; Discussion. 133:279, 296, 330 Mr 10-24 '22

Hafnium

Celium or hafnium; summary of the controversy. *See Chem Ind J (Chem & Ind)* 42:784-8 Ag 17 '23

Chemistry of hafnium. G. von Hevesy. *Soc Chem Ind J (Chem & Ind)* 42:929-30 S 28 '23

La découverte de hafnium et l'état actuel de nos connaissances sur cet élément. G. von Hevesy. *Chimie & Ind* 10:245 Ag '23

Hafnium or celium? B. Brauner. *Soc Chem Ind J (Chem & Ind)* 42:884-5 S 14 '23

New element hafnium. *Soc Chem Ind J (Chem & Ind)* 42:67 Ja 26 '23; *Chem & Met Eng* 28:350 F 21 '23; *Engineering* 115:180 F 9 '23;

Ind & Eng Chem 15:420 Ap '23; *Sci Am* 129:47 J1 '23

Hafnium—Continued

- New element hafnium. D. Coster and G. von Hevesy. *Soc Chem Ind J (Chem & Ind)* 42:258 Mr 16 '23; *Same. Eng & Min J* 115:1016 Je 9 '23
 Periodic law and hafnium. *Chem Age (Lond)* 9:316 S 22 '23
 Should the element of the atomic number 72 be called cerium or hafnium? G. Urbain. *bibliog Soc Chem Ind J (Chem & Ind)* 42:764-9 Ag 10 '23

The Hague, Netherlands

- Reinforced concrete boards for canal re-
 tlements. H. J. Harms. *il diags Concrete* 23:39-2 J1 '23

Palace of peace

- Plans of the Palace of peace at the Hague. T. H. Mawson. *il plans Arch Rec* 54:201-13 S '23

Hague, Permanent court of international justice. See Permanent court of international justice**Hague conference on Russian affairs, 1922**

- Conclusion of the Hague conference—agree-
 ment on Russian property. *Comm & Fin Chr* 115:489-92 J1 29 '22
 Note to allies regarding participation in the
 Hague conference. R. Poincaré. *Comm & Fin Chr* 114:2529-30, 2662-3 Je 10-17 '22
 Russian credits made primary discussion at
 the Hague conference. *Comm & Fin Chr* 115:18-20 J1 1 '22

Hair

- Human hair made into cloth resists heavy
 pressure. *Pop Mech* 40:355 S '23
 Human hair under the microscope. L. A.
 Hausman. *il diags Sci Am* 126:112-13 F '22
 Method of preparing sections of mammalian
 hair. J. A. F. Roberts. *diag Textile Inst J* 14:T114-16 Ap '23
 When justice hangs by a hair. J. A. Ford.
il Pop Mech 37:571-3 Ap '22

Dyeing and bleaching

- Bleaching and dyeing of hair. M. Bachstet.
Color Tr J 11:90-2, 191-2, 270-3; 12:43-6 Ag,
 N '22-Ja '23
 Color industry in the beauty parlor. L. W.
 Alwyn-Schmidt. *Color Tr J* 12:139-41 Ap '23

Hair nets**Advertising**

- Hair nets as an advertising leader in gro-
 cery stores. J. True. *Ptr Ink* 120:49-50 J1
 27 '22

Hair pins**Advertising**

- Selling hair pins in a bobbed-hair market.
 R. Cole. *Ptr Ink* 120:108-1 J1 27 '22

Manufacture

- Compact automatic machine for making hair-
 pins. *il Pop Mech* 38:386 S '22

Hair press cloth

- Tentative standard test methods and percen-
 tages of oil and moisture in hair press
 cloths. F. R. McGowan and C. W. Schoff-
 stall. *US Bur Stand Tech Pa* 231:257-76
 '23; *Abstract. Chem Age* 31:267-8 Je '23

Hale, Robert Sever, 1869-

- Portrait. *Elec W* 82:896 N 3 '23

Half holiday. See Hours of labor**Halides**

- Electrometric titration of the halides in the
 presence of one another. H. H. Willard and
 F. Fenwick. *Am Chem Soc J* 45:623-33 Mr
 '22
 Reaction of organic mercury compounds with
 halides; para-mercury diolyl and sulfonyl
 halides. F. C. Whitmore and N. Thurman.
Am Chem Soc J 45:1068-70 Ap '23
 Some compounds of piperidine with halides.
 C. S. Leonard. *Am Chem Soc J* 43:2618-
 26 D '21
 Structure of the halides and oxides of the 5th,
 6th and 7th groups. E. B. R. Prideaux. *Soc
 Chem Ind J (Chem & Ind)* 42:672-5 J1 6 '23

Über äthyl- und allyl-selenharnstoff und ihre
 halogenalkylate. H. Schmidt. *Deutsche
 Chem Gesell Ber* 54:2067-70 S '21
*See also Alkali halides; Beryllium halides;
 Gold halides; Magnesium halides; Thallium
 halides*

Hall, John Howe, 1881-

- Presentation of J. H. Whiting medal. *por Iron
 Tr R* 73:365 Ag 9 '23; *Foundry* 51:649 Ag 15
 '23

Hall effect

- Application of the electron theory to the Hall
 effect. J. A. Eldridge. *Phys R* 21:131-42 F
 '23
 Effect of tension on change of resistance
 and thermoelectromotive force by trans-
 verse magnetization. A. W. Smith. *Phys R*
 22:58-65 J1 '23
 Hall effect and specific resistance of evap-
 orated films of silver, copper and iron. J.
 C. Steinberg. *diags Phys R* 21:22-9 Ja '23
 Hall effect and specific resistance of silver
 films. G. R. Wait. *diags Phys R* 19:615-22
 Je '22

Halochromism

- Die halochromie der fulgide. H. Stobbe and
 R. Dietzel. *Deutsche Chem Gesell Ber* 55:
 3567-80 N '22; *Abstract. Chem Soc J* 124 pt
 1:39-40 Ja '23

Halochromism; halochromic phenomena of
 ethylenic hydrocarbons and their signifi-
 cance for the theory of halochromic com-
 pounds; abstracts. S. Skrap and L. Freund-
 lich. *Chem Soc J* 124 pt 1:667-9 J1 '23

Über das tris-[phenyl-äthynyl]-carbinol und
 seine analogen. K. Hess and W. Weltzien.
Deutsche Chem Gesell Ber 54:2511-21 O '21;
Abstract. Chem Soc J 122 pt 1:35-6 Ja '22

Über diaryl-styryl-carbinole und ihre um-
 wandlungsprodukte; über mehrfach aryl-
 substituierte vinyl-carbinole und ihre
 derivate. K. Ziegler and C. Ochs. *Deutsche
 Chem Gesell Ber* 55:2257-77 S '22; *Abstract.
 Chem Soc J* 122 pt 1:1047-9 N '22

Über die halochromie und solvatochromie des
 dibenzalacetons und einfacher ketone,
 sowie ihrer ketochloride. A. Hantzsch.
Deutsche Chem Gesell Ber 55:953-79 Ap
 '22; *Abstract. Chem Soc J* 122 pt 1:556-8
 Je '22

Über die sogenannte halochromie von tri-
 phenyl-methan-derivaten. A. Hantzsch.
Deutsche Chem Gesell Ber 54:2620-7 N '21

Über halochromie erscheinungen bei diaryl-
 styryl-carbinolen. K. Ziegler. *Deutsche
 Chem Gesell Ber* 54:3003-9 D '21; *Abstract.
 Chem Soc J* 122 pt 1:151-2 F '22

Zur kenntnis der halochromie-erscheinungen
 bei carbinolen. S. Skrap and L. Freundlich.
Deutsche Chem Gesell Ber 55:1073-80 Ap
 '22; *Abstract. Chem Soc J* 122 pt 1:539-40
 Je '22

Zur konstitution der carbonium-farbstoffe und
 zur halochromie. H. Kauffmann. *Deutsche
 Chem Gesell Ber* 55:1967-8 J1 '22

Halogen alkyl sulfonates

New type of synthesis; the reaction between
 halogen-alkyl sulfonates and organomag-
 nesium halides. H. Gilman and N. J. Beaver.
Am Chem Soc J 45:839-42 Mr '23

Halogen compounds

C₁₈ fatty acids; the relation of oleic and
 elaidic acids to their halogen addition
 products. B. H. Nicolet. *Am Chem Soc J*
 43:2122-5 S '21

Conditions underlying the formation of un-
 saturated and cyclic compounds from halo-
 genated open-chain derivatives; products
 derived from α -halogenated β -methylglutaric
 acids. C. K. Ingold. *Chem Soc J* 121:2676-95
 D '22

Conditions underlying the formation of un-
 saturated and cyclic compounds from halo-
 genated open-chain derivatives; products
 derived from halogenated glutaric acids.
 E. H. Farmer and C. K. Ingold. *Chem Soc
 J* 119:2001-21 D '21

Halogen compounds—Continued

- Conditions underlying the formation of unsaturated and cyclic compounds from halogenated open-chain derivatives; products formed from halogen derivatives of muconic acid; the constitution of muconic acid. J. F. C. Chandrasena and C. K. Ingold. *Chem Soc J* 121:1306-19 J1 '22
- Formation and dissociation of some polyhalogen compounds of hydrogen in aqueous solution. P. Käy and P. V. Sarkar. *Chem Soc J* 121:1449-55 Ag '22
- Investigation of the structure of the halogen salts based on their compressibility. I. Woodward. *diag Philos Mag* 6th ser 45:882-95 My '23
- Labile nature of the halogen atom in organic compounds; absorption spectra of the halogen derivatives of some cyclic compounds, and their bearing on the question of an oxygen-halogen linking. H. Graham and A. K. Macbeth. *Chem Soc J* 121:2601-8 N '22
- Labile nature of the halogen atom in organic compounds; action of hydrazine on nitrogen-halogen compounds and on bromomalonate esters. E. L. Hirst and A. K. Macbeth. *Chem Soc J* 121:904-11 My '22
- Labile nature of the halogen atom in organic compounds; action of titanous chlorides and of ammonia on representative halogen compounds. I. A. Black, E. L. Hirst and A. K. Macbeth. *Chem Soc J* 121:2527-33 N '22
- Labile nature of the halogen atom in organic compounds; the absorption spectra of bromomalonate derivatives and nitroparaffins, and their bearing on the question of an oxygen-halogen linking. H. Graham and A. K. Macbeth. *Chem Soc J* 121:1109-15 Je '22
- Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of acetoacetic and benzoylacetate esters and of benzoylacetone. A. K. Macbeth. *Chem Soc J* 123:1122-30 My '23
- Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of some esters and substituted cyclohexanes. E. L. Hirst and A. K. Macbeth. *Chem Soc J* 121:2169-78 O '22
- Labile nature of the halogen atom in organic compounds; the electrical conductivities and the reduction of derivatives of nitroform. T. Henderson, E. L. Hirst and A. K. Macbeth. *Chem Soc J* 123:1130-7 My '23
- Labile nature of the halogen atom in organic compounds; the tautomeric hydrogen hypothesis, and the removal of the halogen atom from aromatic nitro-compounds. A. K. Macbeth. *Chem Soc J* 121:1116-21 Je '22
- Labile nature of the halogen atom in organic compounds; titanium reductions of substituted nitroparaffins. T. Henderson and A. K. Macbeth. *Chem Soc J* 121:892-903 My '22
- New halogen derivatives of camphor. H. Burgess and T. M. Lowry. *Chem Soc J* 123:1867-78 Ag '23
- Organischer halogenverbindungen über phenoläther der tetraphenyl-butanreihe. K. Brand and F. Kercher. *Deutsche Chem Gesell Ber* 54:2007-17 S '21; Abstract. *Chem Soc J* 120 pt 1:787-8 N '21
- Organo-derivatives of bismuth; the preparation and properties of tertiary aromatic bismuthines and their interaction with organic and inorganic halogen compounds. F. Challenger and L. R. Ridgway. *Chem Soc J* 121:104-20 Ja '22
- Preparation of 1, 4-dihalogen derivatives of butane. C. S. Marvel and A. L. Tanenbaum. *Am Chem Soc J* 44:2645-50 N '22
- Quantitative reduction of hydriodic acid of halogenated malonyl derivatives; the *s*-tetra-substituted amides of bromo- and chloro-malonate acid. R. W. West. *Chem Soc J* 121:2196-2202 O '22
- Reactions of thiosemicarbazones; action of esters of α -halogenated acids. F. J. Wilson and R. Burns. *Chem Soc J* 123:799-804 Ap '23
- Reactions of thiosemicarbazones; action of halogen compounds. F. J. Wilson and R. Burns. *Chem Soc J* 121:870-6 My '22
- Reduktion organischer halogenverbindungen; über 1.1.4.4-tetraaryl-butine-2. K. Brand. *Deutsche Chem Gesell Ber* 54:2017-21 S '21
- Some delta ketonic nitriles and their relation to cyclic compounds. E. P. Kohler, A. Graustein and D. R. Merrill. *Am Chem Soc J* 44:2536-56 N '22
- Substitution in the pyrazole series; halogen derivatives of 3,5-dimethylpyrazole. G. T. Morgan and I. Ackerman. *Chem Soc J* 123:1308-18 My '23
- Synthese von halogen-verbindungen der butan-reihe. J. v. Braun and G. Lemke. *Deutsche Chem Gesell Ber* 55:3526-36 N '22; Abstract. *Chem Soc J* 124 pt 1:2-4 Ja '23
- Synthesen gemischt-acylierter halogen-zucker. K. Freudenberg and O. Ivers. *Deutsche Chem Gesell Ber* 55:929-41 Ap '22; Abstract. *Chem Soc J* 122 pt 1:523-5 Je '22
- Über die kondensation von α -halogenketonen mit aldehyden. K. H. Bauer and F. Werner. *Deutsche Chem Gesell Ber* 55:2494-2500 S '22
- Über halogenierte indazole und raumisomerie bei freien indazolen. K. v. Auwers and H. Lange. *Deutsche Chem Gesell Ber* 55:1139-73 My '22; Abstract. *Chem Soc J* 122 pt 1:684-7 J1 '22
- Über untersuchungen in der tetraarylbutanreihe und über das 1.1.4.4-tetraphenylbutatrien; über die reduktion organischer halogenverbindungen. K. Brand. *Deutsche Chem Gesell Ber* 54:1987-2006 S '21; Abstract. *Chem Soc J* 120 pt 1:783-5 N '21
- Umsetzung von *o*-halogenierten ketonen mit schwach basischen aminen und aufbau von *ms*-phenyl-acridin-abkömmlingen. F. Mayer and others. *Deutsche Chem Gesell Ber* 55:2049-58 J1 '22; Abstract. *Chem Soc J* 122 pt 1:865-7 S '22

See also Halides

Halogenation

- Catalytic synthesis of the acetals and their halogenation. J. S. Reichert, J. H. Bailey and J. A. Nieuwland. *Am Chem Soc J* 45:1552-7 Je '23
- Halogenation: the action of bromine and nitric acid on organic compounds; preparation of nitrosyl tribromide and the formation of tetrabromoquinone. R. L. Datta and N. R. Chatterjee. *Am Chem Soc J* 45:480-2 F '23
- Über chlor- und brom-derivate des phenolphthaleins. A. Thiel and F. Müller. *Deutsche Chem Gesell Ber* 55:1312-21 My '22

Halogens

- Emission and absorption of halogens in the visible and ultra-violet regions. A. L. Narayan and D. Gunnayya. *Philos Mag* 6th ser 45:827-30, pl 11 My '23
- Existence and reactions of positive halogen attached to carbon in aromatic compounds. B. H. Nicolet. *Am Chem Soc J* 43:2081-4 S '21
- Influence of nitro-groups on the reactivity of substituents in the benzene nucleus; elimination of halogen during the reduction of halogenated nitro-compounds. H. Burton and J. Kenner. *Chem Soc J* 121:675-82 Ap '22
- Die katalytische hydrogenisation organischer verbindungen mit unedlen metallen bei zimmer-temperatur; der einfluss der art und stellung der halogene in organischen halogenverbindungen auf die entfernung des halogens durch katalytische hydrogenisation. C. Kelber. *Deutsche Chem Gesell Ber* 54:2255-60 O '21
- Labile nature of the halogen atom in organic compounds. *Chem Soc J* 121:892-911, 1109-21, 2169-78, 2527-33, 2601-8 My-Je, O-N '22
- Method for the simultaneous determination of sulfur and halogen in organic compounds. C. S. Leonard. *diag Am Chem Soc J* 45:255-7 Ja '23
- Molecular refractions of chloro-, dichloro-, and chlorobromo-acetates. P. L. Vanderstichele. *Chem Soc J* 123:1225-9 My '23
- Radii of the alkali and halogen ions and of the atoms of inert gases. W. P. Davey. *Phys R* 22:211-20 S '23
- Replaceability of the halogen in halogen-substituted phthalic acids; abstract. A. Eckert and F. Seidel. *Chem Soc J* 120 pt 1:862-4 D '21

Halogens—Continued

Über den austausch des halogens in ungesättigten aliphatischen halogen-kohlenwasserstoffen. H. P. Kaufmann. Deutsche Chem Gesell Ber 55:249-67 Ja '22; Abstract. Chem Soc J 122 pt 1:213-15 Mr '22

See also Bromine; Chlorine; Fluorine; Iodine

Halohydrins

Studies of halogenohydrins and related derivatives in the cinnamic acid series. J. Read and A. C. P. Andrews. Chem Soc J 119:1774-86 N '21

Ham cookers

New ham boiler. il Gas J (Lond) 162:673-4 Je 13 '23

Hamburg, Germany**Rapid transit**

Ten years of the Hamburg elevated railway. W. Mattersdorff. il map plan Elec Ry J 58: 979-85 D 3 '21

Hamilton, Edward H.

Metallurgists of note. por Eng & Min J 115: 528 Mr 24 '23

Hamilton, Ontario**Sewerage**

Pumping and drainage systems. Hamilton. maps Can Eng 45:241-9 Ag 21 '23

Hammer-welding. See Welding

Hammers

Cutting costs with riveting hammers. F. R. Daniels. il diags Mach 28:474-6 F '22

Efficiency of the hammer blow, and its effects with reference to piling. A. Hiley. diags Engineering 113:673-4, 711-14, 745-6 Je 2-16 '22

General utility power smithing hammer. il Ry Mech Eng 97:724-5 O '23

High speed riveting hammers in automobile production. il Automotive Ind 45:1174-6 D 15 '21

Improvements in board hammer design. il Blast F & Steel Pl 11:217 Mr '23

New line of board drop hammers by the Erie foundry co. il Iron Age 111:1418 My 17 '23; Ry Mech Eng 97:663-4 S '23

Power hammer for farm shops. L. B. Robins. il diags Pop Mech 37:611-12 Ap '22

See also Electric hammers; Pneumatic hammers; Steam hammers

Safety devices and measures

Safety attachment for drop-hammer. diags Mach 29:543-4 Mr '23

Hammers, Electric. See Electric hammers

Hammond, Indiana**Sewerage**

Building intercepting sewers and siphon at Hammond, Ind. J. B. Murphy. il diags Eng N 91:58-9 Jl 12 '23

Hampton shops

Cultivating the consumer who has a minimum income of \$20,000 a year. E. Hayden. Ptr Ink 122:141-2 Mr 1 '23

Hancock, H. Lipson, 1867-

Sketch. por Eng & Min J 114:936 N 25 '22

Handicraft

Jolly tinker. F. M. Rich. 139p Appleton '23

Learning a trade. Am Inst Arch J 11:348 S '23

Handles, Machine. See Machine handles

Handling, Mechanical. See Mechanical handling

Handling of materials

Handling material. il diags Nat Safety N 7: 41-51, 42-53 Ap, Je '23

See also Coal handling; Conveying machinery; Freight handling; Mechanical handling

Hangars

Airship hangar could house large office building. il Pop Mech 40:92 Jl '23

Army airship shed at Belleville, Ill. il Aviation 13:383-4 S 25 '22

Concrete in surprising places; the aero-shed. il Sci Am 129:35 Jl '23

French bascule hangar door. diags Aviation 12:396 Ap 3 '22; Eng N 88:690 Ap 27 '22

Hangar en béton armé, pour avions, construit pour le Service technique de l'aéronautique, à Villacoublay (Seine-et-Oise). A. Lesage. il diags plan Génie Civil 82:217-20, pl 3 Mr 10 '23

Hangars à dirigeables en ciment armé en construction à l'aéroport de Villeneuve-Orly (Seine-et-Oise). Freyssinet. il diags Génie Civil 83:265-73, 291-7, 313-19 S 22-O 6 '23

Huge airship hangar for U. S. army: Scott field, Illinois. H. F. Smith. il diags plans Eng N 90:334-40 F 22 '23

Landing field buildings; types, sizes and cost of buildings for civil aeroplane landing fields. A. Black il diags Aerial Age 15:494-9 O '22

Making two dirigible sheds into one. il Sci Am 126:240 Ap '22

Navy dirigible balloon hangar at Lakehurst, N. J. Arch & Bldg 54:7, pl 10-11 Ja '22

Les nouveaux hangars à avions du port aérien du Bourget, près Paris. C. Dantin. il diags Génie Civil 80:465-8, pl 9 My 27 '22

Les nouveaux hangars métalliques pour avions du centre d'aviation d'Orly (Seine). F. Tayssier. il Génie Civil 81:189-91, pl 7 Ag 26 '22

Optical specifications for glass for balloon hangars. Sci Am 128:161 Mr '23

Portes basculantes, centrées et équilibrées, pour hangars d'aviation. diags Génie Civil 80:136-8 F 11 '22

Reinforced concrete ribs for roof of seaplane hangar. F. Johnstone-Taylor. diags Concrete 23:147-8 O '23

Seaplane hangar at Copenhagen. il diags Engineer 136:176, 180-3 Ag 17 '23

See also Aviation landing stations—Seadromes

Harbord, James Guthrie, 1866-

Radio corporation's new president. S. R. Winters. por Wireless Age 10:47-50 Ja '23

Harbors

Accommodation for ships at ports. Engineer 136:11 Jl 6 '23; Engineering 116:22-3 Jl 6 '23

Le congrès de l'aménagement hydraulique du Sud-Ouest (Bordeaux, 17-22 juin 1922). A. Pawlowski. Génie Civil 81:87-92 Jl 22 '22

L'extension du port de Marseille; l'aménagement de l'étang de Caronte. plan Génie Civil 80:529-30 Je 10 '22

Four years' developments at Fowey harbour, 1919-1923. F. Collins. Chem Age (Lond) 9: sup 16 O 20 '23

Harbour dues. Engineering 112:704-5 N 18 '21

Harbours and waterways in 1921. Engineer 133:16-18, 32-4 Ja 6-13 '22

Harbours and waterways in 1922. Engineer 135:29-30 Ja 12 '23

Lake rivers as harbors. Eng N 90:906-7 My 24 '23

Nature's preparations for deep water harbors on the Great Lakes. J. Millis. map W Soc E J 27:26-32 Ja '22

New Orleans' big port improvement. S. G. Roberts. il plan Sci Am 127:236 O '22

Le port de Dantzig. B. Nagorski. il map plan Génie Civil 82:145-50 F 17 '23

Le port de Saigon-Cholon (Cochinchine). Benabeng. il diags plans Génie Civil 81:481-6 N 25 '22

Port improvements at Buenos Aires. diags Engineering 114:97-8, pl 9-11 Jl 23 '22

Port improvements in Chile. Engineer 136:208 Ag 24 '23

Shore protection and harbor development work on the New England coast. F. W. Hodgdon. Am Soc C E Pro 48:1429-34; Discussion. 1439-49 Ag '22

Les travaux du port de Tanger; concours pour l'adjudication des travaux d'infra-structure. diags plan Génie Civil 81:179-81 Ag 19 '22

XIII^e Congrès international de navigation. P. Barrillon. diags Génie Civil 83:275-8, 297-300 S 22-29 '23

Harbors—Continued

Water terminal and transfer facilities. 2409p
U.S. Engineer dept., Washington '21

See also Breakwaters; Bulkheads; Docks; Dredging; Fenders (marine engineering); Free harbors; Jetties; Oil removal from harbors; Piers; Pilots and pilotage; Ports; Terminals; Wharves; also subdivision Harbor under names of cities, e.g. Algiers—Harbor; Chicago—Harbor; Hulutao, Manchuria—Harbor; Kope, Japan—Harbor; Montreal—Harbor; Mobile, Alabama—Harbor; New Orleans—Harbor; New York (city)—Harbor; Shanghai, China—Harbor; Valparaiso, Chile—Harbor

Hard woods

Hardwood lumber standardization. F. F. Murray. Soc Auto Eng J 12:62 Ja '23
Needless hardwood lumber waste. F. F. Murray. diags Soc Auto Eng J 12:95-9 Ja '23

See also Oak; Rosewood

Specifications

Simplified hardwood specifications. Soc Auto Eng J 12:248 F '23

Hardening

Discussion of the slip interference theory of hardening. P. D. Merica. Chem & Met Eng 26:881-4 My 10 '22

Hardness and hardening. W. Rosenhain. il diags Chem & Met Eng 28:899-901 My 21 '23

Hardness of solid solutions. A. St John. Chem & Met Eng 26:868 My 10 '22

Magnesium vs. iron for hardening a complex aluminum alloy. Chem & Met Eng 29:19 Jl 2 '23

On the theory of the hardening of metals. K. Honda. Chem & Met Eng 25:1001-3 N 30 '21

Properties of cold-worked metals. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:882-9 N 1 '22

Slip interference theory of the hardening of metals. Z. Jeffries and R. S. Archer. Chem & Met Eng 26:249-52 F 8 '22

Strain and fracture in metals; notes on Dr Rosenhain's lecture tour. il Chem & Met Eng 28:1024-30 Je 11 '23

Verfestigung und zugfestigkeit. F. Körber. il diags Stahl & Eisen 42:365-70 Mr 9 '22

What causes slip to halt? O. A. Knight. Chem & Met Eng 25:1036-7 D 7 '21

See also Case hardening; Cement—Setting; Hardness; Steel, Hardening of

Hardening of steel. *See Steel, Hardening of***Harding, Warren Gamaliel, 1865-1923**

Final rites in honor of the late President Warren G. Harding. Comm & Fin Chr 117:620-9 Ag 11 '23

Memorable journey of the Harding funeral train. il Ry Age 75:249-50, 304-6 Ag 11-18 '23

Message to Congress. Comm & Fin Chr 113:2460-3 D 10 '21

Portrait. Ptg Art 41:548c Ag '23
President Harding's annual message to Congress; text. Comm & Fin Chr 115:2528-31 D 9 '22

Hardness

Apparatus for comparing the hardness of pitches and bitumens. il diags Engineer 133:338-9 Mr 24 '22

Ball hardness tests; abstract. Moore. Mech Eng 44:670-1 O '22

Brinell ball test. Engineer 134:329-30 S 29 '22; Discussion. P. V. Vernon. 134:408 O 20 '22

Brinell hardness of cementite; abstract. Chem & Met Eng 26:562 Mr 22 '22

Brinell machine attachment for use with small specimens. E. D. Campbell. il Iron & Steel Inst J 106:193-200 no 2 '22; Same abr. Iron Age 111:490 F 15 '23

Contribution to the study of hardness. C. A. Edwards and C. R. Austin. Iron & Steel Inst J 107:323-42 no 1 '23

Elastic column dynamometer for hardness testing. H. A. Holz. il diags Chem & Met Eng 28:269-70 F 7 '23

Hardness and hardening. W. Rosenhain. il diags Chem & Met Eng 28:899-901 My 21 '23

Hardness and solid viscosity of metals. Engineer 135:449-50 Ap 27 '23

Hardness curves for copper-tin and copper-zinc alloys. G. K. Elliott. Foundry 50:278a Ap 1 '22

Hardness of brasses, with some experiments on its measurement by means of a strainless indentation; abstracts with discussion. Engineering 114:426 O 6 '22; Engineer 134:345-6 O 6 '22

Hardness testing on a commercial scale. E. F. Lake. diags Iron Age 109:913-16 Ap 6 '22; Discussion. H. A. Holz. 109:1085-6 Ap 20 '22

Härteprüfung durch die kugelfallprobe. P. Bardenheuer. il Stahl & Eisen 42:17-22 Ja 5 '22

Herbert pendulum hardness tester. il Am Mach 58:817 My 31 '23; Automotive Ind 48:1183-4 My 31 '23; Engineer 135:390-1; 136:21, 70 Ap 13, Jl 6, 20 '23; Iron Age 111:1570-1 My 31 '23; Mach 29:823-4 Je '23; Gas J (Lond) 162:538 My 30 '23; Eng N 91:132 Jl 26 '23; Brass W 19:257-9 Ag '23; Génie Civil 83:183-4 Ag 25 '23; Sci Am 129:187 S '23; Pop Mech 40:448 S '23

Our knowledge of hardness. Engineer 135:691-2 Je 29 '23

Pierlike tool for testing hardness of materials. il Pop Mech 36:892 D '21

Prism hardness. il Chem & Met Eng 27:271 Ag 9 '22

Quality of hardness. Engineering 115:527-8 Ap 27 '23; Same cond. Mech Eng 45:432-3 Jl '23

Relation between width of scratch and load on diamond in the scratch hardness test. G. A. Hankins. diags Engineering 115:587-40 Ap 27 '23; Abstract. Engineer 135:444-5 Ap 27 '23; Abstract. Mech Eng 45:433 Jl '23; Discussion. Engineering 115:519-20 Ap 27 '23; Engineer 135:445-6 Ap 27 '23

Scleroscope hardness of steel balls. A. L. Collins. diags Iron Age 108:1391-3 D 1 '21

Some recent developments in hardness testing. E. G. Herbert. il diags Engineer 135:686-7 Je 29 '23; Discussion. 136:244-5, 248 S 7 '23

Static indentation tests. R. G. C. Batson. Engineering 115:534-7 Ap 27 '23; Abstract. Engineer 135:444 Ap 27 '23; Abstract. Mech Eng 45:433-4 Jl '23; Discussion. Engineering 115:519-20 Ap 27 '23; Engineer 135:445-6 Ap 27 '23

Statische und dynamische kugeldruck-härteprüfung. M. v. Schwarz. diags Stahl & Eisen 42:582-8 Ap 13 '22

Steel treaters discuss technology at Pittsburgh. Chem & Met Eng 29:756-7 O 22 '23; Iron Age 112:1052-3 O 18 '23

Testing steel balls for hardness. F. Johnstone-Taylor. Am Mach 59:697 N 8 '23

Time element in hardness testing. il Engineer 133:424-5 Ap 14 '22

Uses scleroscope on thin sections. F. S. Tritton. il diags Foundry 50:225-7 Mr 15 '22

Vergleichende versuche über die härte verschiedener werkzeugstähle in der wärme; abstract. E. Schneider. Stahl & Eisen 43:951-2 Jl 19 '23

See also Brinell hardness test; Hardening; Scleroscope; Steel, Hardening of

Hardware
Buyer's prejudice against C.O.D. propositions. Ptr Ink 119:20 Je 15 '22

Hardware store as an outlet for side lines. R. F. Soule. Ptr Ink 123:116-18+ My 31 '23

When selling can be simplified by use of a standard unit. C. W. Dipman. Ptr Ink 123:93-4 Ap 12 '23

When the retailer fights for net-price catalogue. G. A. Nichols. Ptr Ink 119:81-2+ Je 1 '22

See also Bolts and nuts; Building fittings; Files and rasps; Locks; Nails; Saws; Screws; Tools

Hardware—Continued**Advertising**

Wholesale hardware company builds on advertising. *Ptr Ink* 118:85-6 F 2 '22

See also Hinges—Advertising

Directories

Hardware buyers directory. Hardware age, New York '22

Who makes what. Hardware dealers' magazine, New York '22

Hardwood. See Hard woods

Hardwood manufacturers' association, American. See American hardwood manufacturers' association

Harkness memorial quadrangle. See Yale university—Harkness memorial quadrangle

Harmaline

Harmine and harmaline; the synthesis of *N*-methyltetrahydronorharmine and the constitution of harmaline and of the alkylated harmines. W: O. Kermack, W: H. Perkin and R. Robinson. *Chem Soc J* 121:1872-96 S '22

Harmine

Harmine and harmaline; the synthesis of *N*-methyltetrahydronorharmine and the constitution of harmaline and of the alkylated harmines. W: O. Kermack, W: H. Perkin and R. Robinson. *Chem Soc J* 121:1872-96 S '22

Harmonic analysis

Harmonic analysis by selected co-ordinates. A. E. Clayton. *Electrician* 89:176-9 Ag 18 '22

Harmonic analysis of motion transmitted by Hooke's joint. P. Cormack. *diags Philos Mag* 6th ser 44:156-60 Jl '22

Torque components due to space harmonics in induction motors. K. L. Hansen. *Am Inst E E J* 41:928-32 D '22

Triple harmonics in transformers. G. Faccioli. *diags Am Inst E E J* 41:351-9 My '22

Zonal harmonics of the second type. J. W. Nicholson. *Philos Mag* 6th ser 43:1-19 Ja '22

See also Bessel's functions; Fourier's series

Harmonic analyzer

Another harmonic analyzer. F. S. Dellenbaugh, jr. *il diags Am Inst E E J* 42:58-61 Ja '23

Harmonics. See Electric waves

Harness industry**Advertising**

National mail-order business that succeeded without a price appeal; Walsh harness. J. M. Walsh. *Ptr Ink* 122:17-20+ Mr 1 '23

Harper method shops

Developing a personal service into a national business; Martha Matilda Harper discovers how to multiply her service. R. Cole. *Ptr Ink M* 6:90, 92 F '23

Harriman, Edward H.

He never commended—yet he never forgot good work; management characteristics of E. H. Harriman. S: M. Felton. *por System* 43:334-5 Mr '23

I'll be one of 15 men in a board-room—why Harriman got results. *por System* 44:279-82+ S '23

Mr. Business, meet the public! R. C. Mitchell. *Nation's Business* 10:22-4 N '22

Portrait. *System* 41:156 F '22

Harriman, Henry Ingraham, 1873-

Sketch. *por Elec W* 80:56 Jl 8 '22

Harrington, John Lyle, 1868-

New A. S. M. E. president. *por Power Pl Eng* 26:1183 D 1 '22

President of A.S.M.E. *por Power* 55:874 My 30 '22

Harrisburg, Pennsylvania**Architecture**

Capitol park. M. Price. *il plan Arch Rec* 53:287-306 Ap '23

Harrison, Ward, 1888-

Sketch. *por Illum Eng Soc* 17:330-2 Jl '22

Harrow

Method and cost of removing moss from irrigation canals with disk harrow. A. M. Rawns. *Eng & Contr (W W)* 58:7-8 O 11 '22

Hart, Edward, 1854-

Random recollections of an old professor. E: Hart. *por Chem Age* 30:401-5, 446-50, 505-8, 540-3 S-D '22

Sketch. E. C. Bingham. *por Ind & Eng Chem* 15:974-5 S '23

Hartel, Edouard Alfred

Faces death to explore wonders beneath surface of earth. J. Boyer. *por Pop Mech* 40:346-9 S '23

Hartford, Connecticut

See Electric plants (central stations)—Hartford, Connecticut

Hartford fire insurance company

Hartford fire insurance building, Hartford, Conn. *il plans Arch Forum* 36:223-6, pl 84-9 Je '22

Harvard advertising awards

Book offers annual awards to stimulate improvement in advertising. *Ptr Ink* 124:145-6+ S 20 '23

Harvard engineering school, Cambridge, Massachusetts

Mining instruction at Harvard. G: J. Young. *il Eng & Min J* 113:959-61 Je 3 '22

Harvest labor. See Farm labor

Harvesting machinery

Bean harvester threshes in same operation. *il Pop Mech* 39:855 Je '23

Harvesting sugar cane by machine. *il Sci Am* 127:251 O '22

Light corn harvester shocks stalks quickly. *il Pop Mech* 39:536 Ap '23

Machine harvests sugar cane. R. Grimshaw. *il Pop Mech* 37:494-6 Ap '22

Harwood house. See Annapolis, Maryland—Architecture

Haskell & Barker car company

Merger of the Pullman and Haskell-Barker companies. *il Ry R* 70:90-1 Ja 21 '22

Hastings, Thomas, 1860-

Thomas Hastings on small city parks. G: Burnap. *il Arch Rec* 51:281-3 Mr '22

Thomas Hastings receives the royal gold medal of the Royal institute of British architects. *Am Inst Arch J* 10:294-7 S '22; *Am Arch* 122:94-6 Ag 2 '22

Hat makers

Hat and cap industry—Chicago. Monthly Labor R 17:425-6 Ag '23

Hat and cap industry—New York; new two-year agreement. Monthly Labor R 15:615-18 S '22

Hatch, Frederick Henry

Mining engineers of note. E. P. Rathbone. *por Eng & Min J* 114:667 O 14 '22

Hats

Helping the retailer to analyze his own trade. *Ptr Ink* 125:94-5 O 18 '23

Simplification of lines gives Knox hat advertising opportunity. A: Belden. *Ptr Ink* 124:97-100+ S 27 '23

Technology of garment dyeing and cleaning. J. Loeb. *Color Tr J* 10:68-70 F '22

Truly Warner—a man who sells hats. R. Cole. *il Ptr Ink M* 5:39-40+ Ag '22

We turn stocks seven times as fast through simplification. F. H. Montgomery. *il System* 43:745-50+ Je '23

See also Straw hats

Advertising

Mallory enters straw-hat field and gets distribution in first season. G: H. Wicker. *Ptr Ink* 124:99-100 Jl 12 '23

Strong campaign behind a guarantee makes it principal selling argument. *Ptr Ink* 120:93+ Jl 27 '22

Hats, Felt. See Felt—Manufacture

Hats, Straw. See Straw hats

Haulage

Complications of transportation on Western power job. *il Eng N 89:843-4 N 16 '22*
Construction methods and plant on the Mar-seilles lock. *il diags plans Eng N 89:962-5 D 7 '22*

Heavy haulage in highway construction. C: H. Fry. *Can Eng 44:185 Ja 30 '23*

Stone hauling produces large profits. R. R. Hayes. *il map Elec Ry J 59:965-6 Je 17 '22*

See also Conveying machinery; Dump cars; Dumping appliances; Electric trucks; Loading and unloading; Locomotives; Mine haulage; Motor truck trailers; Motor trucks; Motor trucks in construction work; Motor trucks in freight service; Petroleum—Transportation; Snow motor; Tractors; *also* National team and motor truck owners' association

Cost

See Motor trucks—Cost of operation

Hausmannia

Pleuromeia and hausmannia in eastern Siberia. A. Kryshstofovich. *diags Am J Sci 5th ser 5:200-8 Mr '23*

Havana electric railway light and power company

Abstracts from the eleventh annual report for the year ended December 31, 1922. *Comm & Fin Chr 116:2284-5 My 19 '23*

10th annual report for the year ended December 31, 1921. *Comm & Fin Chr 114:2140-1 My 13 '22*

Havre, France**Harbor**

Le nouveau bassin de radoub du Havre. G: Hersent. *Soc Ing Civils Bul 74:659-76, pl 18 O '21; Abstract. Génie Civil 79:447-8 N 19 '21*

Hawaiian Islands

Periodic fluctuations of rainfall in Hawaii. J. B. Cox. *Am Soc C E Pro 49:1699-1721, pl 7 O '23*

Petrology of the Hawaiian Islands. H: S. Washington. *Am J Sci 5th ser 5:465-502; 6: 100-26, 338-67, 409-23 Je, Ag, O-N '23*

See also Architecture—Hawaiian Islands; Cement industry and trade—Hawaiian Islands; Floods—Hawaiian Islands; Labor and laboring classes—Hawaiian Islands; Printing—Hawaiian Islands

Hay

Electrical hay curing in Germany and Austria. *Elec R (Lond) 92:503 Mr 30 '23*

Little machine weighs and counts hay bales. *il Pop Mech 39:354 Mr '23*

Making hay without sunshine. R. B. Matthews. *il Electrician 89:241 S 1 '22; Same. Elec R (Lond) 91:287 Ag 25 '22*

See also Alfalfa

Head, Walter William, 1877-

Introducing President Head. J. B. Morrow. *por Nation's Business 11:19-20 N '23*

Men and methods. J. W. Hanbery. *System 41: 686-7 Je '22*

Heading machines

National 1-inch semi-hot automatic-feed bolt and rivet heading machine. *il Am Mach 58: 354-5 Mr 1 '23*

Headlights

Headlight designed for platform suspension. *il diag Elec Ry J 62:266 Ag 18 '23*

See also Automobiles—Lighting; Locomotive headlights

Headlights, Automobile. See Automobiles—Lighting**Headlines. See Advertisements—Headlines****Headway recorders. See Electric railroads—Headway recorders****Health, Public. See Public health****Health boards**

Engineers' plans for state health boards. *Pub Works 52:237-8, 286-7, 322-3, 341-2, 375, 386, 425-7, 440-1; 53:6-7, 27-9, 46, 62-3 Ap 8, 22, My 6-27, Je 10-17, Jl 1-22 '22*

See also Sanitary engineering, Bureaus of

Health insurance. *See* Insurance, Health

Hearing

Binaural location of pure tones. R. V. L. Hartley and T. C. Fry. *Phys R 18:431-42 D '21*

Frequency-sensitivity of normal ears. H. Fletcher and R. L. Wegel. *il diags Phys R 19:553-65 Je '22*

Minimum intensity for audition. F: W. Kranz. *diags Phys R 21:573-84 My '23*

Minimum sound energy for audition for tones of high frequency. C. E. Lane. *Phys R 19: 492-7 My '22*

Physical measurements of audition and their bearing on the theory of hearing. H. Fletcher. *J Fr Inst 196:289-323 S '23*

Sensibility of the ear to small differences of intensity and frequency. V. O. Knudsen. *diag Phys R 21:84-102 Ja '23*

Sensitivity of the ear as a function of pitch. F: W. Kranz. *diag Phys R 22:66-72 Jl '23*
See also Ear

Bibliography

Physical measurements of audition and their bearing on the theory of hearing. H. Fletcher. *J Fr Inst 196:323-6 S '23*

Heart

X-raying heart action of school children. *il Pop Mech 40:54 Jl '23*

Diseases

Cardiac disease and its relation to industrial efficiency. C. F. Coombs. *J Ind Hygiene 3:227-30 D '21*

Heart disease in industry. *Monthly Labor R 15:671-3 S '22*

Placing cardiac patients in regular industries. J: S. Sheppard. *J Ind Hygiene 5:189-204 O '23*

Problem of heart disease in the industrial worker. P: D. White. *bibliog J Ind Hygiene 3:219-26 D '21*

Heartwood

Differences between heartwood and sapwood timber. *Eng N 90:482 Mr 15 '23; Same. Eng & Contr (Bldgs) 59:510 F 28 '23; Same. Bldg Age 45:74 S '23*

Heat

By-product oven heat balance. D. S. Chamberlin and E. W. McGovern. *Gas Age 51: 199-202 F 17 '23*

Heat. W. J. R. Calvert. 336p Longmans '22

Heat balance of carbonization process. J. K. Munster. *diags Blast F & Steel Pl 11:389-92 Jl '23*

Practical heat. T. W: Croft, ed. 2v McGraw-Hill '23

See also Atmospheric temperature; Boiling points; Calorimeters and calorimetry; Chemical reaction, Heat of; Combustion; Evaporation; Expansion (heat); Flame propagation; Fusion, Latent heat of; Heating; Insulation (heat); Latent heat; Melting points; Pyrometers and pyrometry; Quenching; Specific heat; Steam; Temperature; Thawing; Thermochemistry; Thermodynamics; Thermoelectricity; Thermomagnetic analysis; Thermometers and thermometry; Waste heat

Heat, Atmospheric. See Atmospheric temperature**Heat as an insecticide**

Heat as a means of destroying mill insect pests. J. P. Calderwood. *Heat & Ven 19:25-6 Mr '22*

Heat conduction

Form of the temperature wave spreading by conduction from point and spherical sources; with a suggested application to the problem of spark ignition. E. T. Jones, J. D. Morgan and R. V. Wheeler. *Philos Mag 6th ser 43:359-68 F '22*

Heat transfer by conduction and convection. W. K. Lewis, W. H. McAdams and T. H. Frost. *Am Soc Heat & V E J 28:97-105 Mr '22; Discussion. 28:321-37 Ap '22*

Heat transfer by conduction and convection. W. H. McAdams and T. H. Frost. *bibliog J Ind & Eng Chem 14:1101-5 D '22*

Heat conductivity

Derivation of true thermal conductivity coefficient from overall test results. P. Nicholls. diags Am Soc Heat & V E J 28: 665-77; Discussion. 677-82 S '22

Effects of moisture on the thermal conductivity of soils. G. E. Shanklin. il diags Am Inst E E J 41:92-7 F '22; Abstract. Elec W 79:383 F 25 '22; Discussion. Am Inst E E J 41:599-600 Ag '22

Electron theory of metals in the light of new experimental data. P. W. Bridgman. Phys R 19:114-34 F '22

Further studies on the electron theory of solids: the compressibilities of a divalent metal and of the diamond; electric and thermal conductivities of metals. J. J. Thomson. Philos Mag 6th ser 44:657-79 O '22

Heat flow in armature coils. C. J. Fechheimer. diags Elec W 80:1145-8 N 25 '22

Need for more refractory heat insulators; proposed conductometers for measuring thermal conductivity. R. D. Pike. diags plan Am Cer Soc J 5:554-63 Ag '22

Status of thermal conductivity in specifications for refractories. W. A. Hull. Am Soc T M Fro 22 pt 1:309-16 '22; Same abr. Chem & Met Eng 27:538-40 S 13 '23

Thermal conductivities of some metals in the solid and liquid states. W. B. Brown. diags Phys R 22:171-9 Ag '23

Thermal conductivity of liquids. F. L. Kallam. il diags Mech Eng 45:479-82 Ag '23; Excerpt. Chem & Met Eng 29:238 Ag 6 '23

Thermal conductivity of some wearing materials. E. S. Rood. Phys R 18:356-61 N '21

Thermal properties of various pigments and of rubber. I. Williams. diags Ind & Eng Chem 15:154-7 F '23; Abstract. India Rubber W 68:568 Je '23

Transfer of heat through refractories and its determination. A. S. Watts and R. M. King. il diags Am Cer Soc J 6:1075-88; Bibliography. 1088-9 O '23

Variation with the temperature of the thermal conductivity of cast iron. E. E. Hall. Phys R 19:237-40 Mr '22

See also Heat transmission

Heat convection

Cooling power of a stream of viscous fluid. A. H. Davis. Philos Mag 6th ser 44:940-4 N '22

Forced convection of heat from a pair of fine heated wires. J. S. G. Thomas. diags Philos Mag 6th ser 43:277-87 F '22

Heat transfer by conduction and convection. W. K. Lewis, W. H. McAdams and T. H. Frost. Am Soc Heat & V E J 28:97-105 Mr '22; Discussion. 28:321-37 Ap '22

Heat transfer by conduction and convection. W. H. McAdams and T. H. Frost. bibliog J Ind & Eng Chem 14:1101-5 D '22

Mutual action of the convection currents arising from two fine heated platinum wires. J. S. G. Thomas. diags plan Philos Mag 6th ser 42:940-55 D '21

Natural convective cooling in fluids. A. H. Davis. diags Philos Mag 6th ser 44:920-40 N '22

Natural convective cooling of wires. A. H. Davis. Philos Mag 6th ser 43:329-39 F '22

Relative magnitude of radiation and convection heating in a muffle kiln. J. T. Littleton. diags Am Cer Soc J 6:771-6 J '23

Transmission of heat by radiation and convection. E. Griffiths and A. H. Davis. diags Engineering 114:672-3 D 1 '22

Heat engines

Modern practice in heat engines. P. T. Petrie. 264p Longmans '22

Suggested rotary heat engine requires no packing glands. J. C. Ten Eyck, jr. diags Power 58:63-4 JI 10 '23

See also Gas and oil engines; Steam engines; Steam turbines

Testing

New means of ascertaining mean pressure in a heat engine. H. E. Wimperis. il Engineer 135:238-9 Mr 2 '23

Heat interchangers

Effect of size and physical properties on the heat absorption of checkerbrick. O. A. Hougen and D. H. Edwards. Chem & Met Eng 29:800-3 O 29 '23

Experiments with heat interchangers. F. R. Bichowsky. il diags J Ind & Eng Chem 14: 62-4 Ja '22

Heat measurement

Measurement of heat. J. Mackay. Dom Eng 102:514-17 Mr 17 '23

See also Calorimeters and calorimetry; Heat units; Pyrometers and pyrometry; Temperature—Measurement; Thermometers and thermometry

Heat of activation. See Activation, Heat of

Heat of coagulation. See Coagulation, Heat of

Heat of combustion. See Combustion, Heat of

Heat of neutralization. See Chemical reactions, Heat of

Heat of solution. See Solution, Heat of

Heat of transformation

Heat of transformation of austenite to martensite and of martensite to pearlite. N. Yamada. diags Iron & Steel Inst J 105:409-27 no 1 '22

Heat of vaporization. See Vaporization, Heat of

Heat pumps

Experiences on evaporators with heat pumps. E. Wirth. Mech Eng 44:49-51 Ja '22

Heat pump. T. B. Morley. diags Engineer 134: 27-9 JI 14 '22

Heat radiation

Direct radiation tables. F. P. Anderson, F. C. Houghton and L. Ebin. Am Soc Heat & V E J 27:845-54 D '21

Electromagnetic waves in absorbing media. L. Page. Phys R 20:166-73 Ag '22

Furnace radiation losses. Power Pl Eng 26: 539, 675-6 My 15, JI 1 '22

Heat emitted by direct radiation. Heat & Ven 20:71-3 My; 80-3 Je; 74 JI '23

Influence of radiant heat on furnace design. A. G. Christie. Power 57:851-4 My 29 '23; Discussion. E. C. Wescott. 58:65-6 JI 10 '23

Mirrors for reflecting heat. C. Féry. Engineer 132:545 N 18 '21

Radiant heat versus a gale. Sci Am 129:83 Ag '23

Radiation computing charts. Heat & Ven 18: 62-3 D '21; 19:68-9 Je; 72-3 JI; 62-5 Ag; 68-71 S; 68-71 O; 78-81 D '22; 20:74-7 Ja; 80-1 F '23

Relative magnitude of radiation and convection heating in a muffle kiln. J. T. Littleton. diags Am Cer Soc J 6:771-6 JI '23

Some everyday problems in radiation. W. W. Coblentz. Arch & Bldg 55:93 S '23

Transmission of heat by radiation and convection. E. Griffiths and A. H. Davis. diags Engineering 114:672-3 D 1 '22

Variation of diathermancy with the temperature of the radiating source. S. L. Brown. diags Phys R 21:103-6 Ja '23

What it pays to know about heating. M. W. Ehrlich. diags Sanitary & Heat Eng 98: 96-8 Ag 25 '22

See also Heating—Tables, calculations, etc.; Radiators

Heat regulator company, Minneapolis

Leveling the peaks of seasonal sales. C. B. Sweatt. Ptr Ink 120:3-4+ S 14 '22

Heat regulators. See Temperature regulators

Heat transmission

Die abhängigkeit des wärmeüberganges von der geschwindigkeit. W. Nusselt. Stahl & Eisen 132:158-62 Ap 5 '23

Air space transmission. P. Nicholls. Am Soc Heat & V E J 27:783-5 N '21

Analysis of the process of heat loss from warmed buildings. S. H. Woodbridge. Heat & Ven 18:36-8 D '21

B.t.u. transmitted per hour per square foot of surface for various differences in temperature between inside and outside air. Am Arch 122:253 S 13 '22

Heat transmission—Continued

- Cost of heat losses from bare pipes. W. F. Schaphorst. *chart Heat & Ven* 18:43 N '21
- Cylinder efficiency of an engine reveals avoidable losses. W. Turnwald. *Power* 57:678-9 My 1 '23
- Effect of construction on heat losses from buildings. S. H. Woodbridge. *Heat & Ven* 19:38-40 Ap; 27-9 My '22
- Effect of size and physical properties on the heat absorption of checkerbrick. O. A. Hougen and D. H. Edwards. *Chem & Met Eng* 29:800-3 O 29 '23
- English method of figuring heat losses. W. W. Nobbs. *Heat & Ven* 19:43-5 O '22
- Figuring heating by the E. G. S. method. M. W. Ehrlich. *diags Sanitary & Heat Eng* 100:40-1 JI 27 '23; Same. *Sheet Metal Worker* 14:529-30 Ag 3 '23
- Flow of heat in buildings. F. E. Giesecke. *il diags Am Soc Heat & V E J* 29:481-90; Discussion. 491-2 S '23
- Great k_0 mystery. *il Chem & Met Eng* 28:1077-8 Je 18 '23
- Heat flow in a finite cylinder having variable surface temperature. G. E. Thompson. *Phys R* 20:601-6 D '22
- Heat-loss from elevated tanks in winter. *Eng N* 90:159-60 Ja 25 '23
- Heat loss through various types of building construction. L. A. Scipio. *Am Soc Heat & V E J* 27:637-43 S '21
- Heat losses accompany draft variation. J. L. Kimball. *Power Pl Eng* 27:237 F 15 '23
- Heat losses from steam line pipes. R. H. Heilman. *il Blast F & Steel Pl* 10:261-5 My '22; Same cond. *Mech Eng* 44:435-7 JI '22; Same. *Chem & Met Eng* 27:63-5 JI 12 '22; Abstracts. *Power* 55:783 My 16 '22; *Textile World* 62:73 JI 1 '22
- Heat-retaining properties of fabrics. F. R. McGowan and P. D. Sale. *il Textile World* 63:2607-8, 3041-4 Ap 2L My 5 '23
- Heat-retaining value of cloths. H. Priestman. *Textile World* 62:1426-7-8 S 9 '22; Abstract. *Heat & Ven* 19:60-2 D '22
- Heat transfer. W. H. McAdams and T. H. Frost. *J Ind & Eng Chem* 14:13-18 Ja '22
- Heat transference and combustion tests in small domestic boiler. J. Elizard and others. *il Am Soc Heat & V E J* 29:317-42 My '23
- Heat transference; with discussion. B. Heaslett. *Chem Age (Lond)* 8:282-3 Mr 17 '23
- Heat transferred in ammonia condenser. R. H. Hysom. *Power* 55:514-15 Mr 28 '22; Discussion. H. A. Leeuw. 56:26-7 JI 4 '22
- Heat transmission and evaporation. W. L. Badger. *J Ind & Eng Chem* 14:808-9 S '22
- Heat transmission by radiation, conduction and convection. R. Royds. 238p *Van Nostrand* '21
- Heat transmission in boilers, condensers and evaporators. R. Royds. 302p *Van Nostrand* '21
- Heat transmission in wall materials. *Eng & Contr* 58:307 S 27 '22; Same. *Can Eng* 44:114-15 Ja 2 '23
- Heat transmission investigation. P. Nicholls. *Am Soc Heat & V E J* 28:449-57 My '22
- Heat transmission through building structures. E. F. Mueller. *il Am Soc Heat & V E J* 29:69-72; Discussion. 72-3 Mr '23
- Heat transmission through concrete. A. P. Carman. *Concrete* 19:221 D '21
- Heat transmission through steel and glass. *diag Heat & Ven* 18:46-7 D '21
- Heat transmission through walls, concretes and plasters. Review. *Engineering* 116:338-9 S 14 '23; Same abr. *Eng & Contr (Bldgs)* 60:1148-50 N 28 '23
- Heat transmission, with special reference to the stoker fired boiler. R. M. Howe and S. M. Phelps. *Am Cer Soc J* 5:420-3; Discussion. 423-9 JI '22
- High pressure and temperature steam lines; abstracts. B. N. Broido. *Power Pl Eng* 27:221-4 F 15 '23; *Power* 56:913-14 D 12 '22; *Mech Eng* 45:289-93; Discussion. 293-4 My '23
- Hollow brick walls save heat. *Eng N* 90:709 Ap 19 '23
- House insulation and fuel consumption. H. J. Burt. *Concrete* 23:117-18 S '23
- How to prevent heat losses in small houses. J. D. Hoffman. *diags Eng & Contr* 57:611-12 Je 28 '22
- Interpretation of surface-condenser readings. B. C. Sprague. *il Power* 58:47-9 JI 10 '23
- Laws of heat transfer. *Engineering* 116:1-3, 69-70, 131-2, 228-30 JI 6, 20, Ag 3, 24 '23
- Measuring the flow of heat in buildings by means of resistance wires. F. E. Giesecke. *il diags Heat & Ven* 19:29-31 Ag '22
- New method of determining heat losses due to incomplete combustion in furnaces. O. I. Housey. *diags Blast F & Steel Pl* 11:117-22 Ja '23
- New methods and investigations for determining heat transmission. O. Knoblauch. *diag Mech Eng* 45:131-2 F '23
- New thermal testing plate for conduction and surface transmission. A. J. Wood. *Refrig Eng* 9:160-1 N '22
- Principles of heat transfer. H. C. Dickinson. *Refrig Eng* 10:130-3 O '23
- Principles of transference of heat. G. J. Greenfield. *Soc Chem Ind J (Chem & Ind)* 42:390-2, 417-19 Ap 20-27 '23
- Rate of heat transmission through tubes of water service heaters. *Heat & Ven* 19:48-9 O '22
- Rates of absorption and heat transfer between gases and liquids. W. G. Whitman and J. L. Keats. *J Ind & Eng Chem* 14:186-91 Mr '22
- Simplified scientific method of figuring leader sizes. P. J. Dougherty. *Sheet Metal Worker* 13:209-4 Ap 28 '22
- Study in heat transmission with special reference to building materials. F. C. Houghten. *il diags plan Am Soc Heat & V E J* 28:151-72 Mr '22
- Transfer of heat through refractories and its determination. A. S. Watts and R. M. King. *il diags Am Cer Soc J* 6:1075-88; Bibliography. 1088-9 O '23
- Ueber den einfluss der gas- und windgeschwindigkeit auf den wärmeübergang im gitterwerk von hochofen-winderhitzern. C. Schwarz. *Stahl & Eisen* 42:1385-92, 1424-30, 1456-60, 1519-23 S 7-21, O 5 '22
- Ueber die wärmeübergangszahlen Nusselts und ihren geltungsbereich. A. Schack. *Stahl & Eisen* 43:942-6 JI 19 '23; Abstract. *Mech Eng* 45:589-90 O '23
- Der wärmeübergang bei flüssigkeiten und gasen als funktion der geschwindigkeit. *Stahl & Eisen* 42:971-5 Je 22 '22
- What it pays to know about heating. M. W. Ehrlich. *Sanitary & Heat Eng* 97:272-4, 378-80 My 19, Je 30 '22

See also Heat conduction; Heat conductivity; Heat convection; Heat radiation; Insulation (heat)

Terminology

Definitions, nomenclature and symbols. E. F. Mueller. *Refrig Eng* 10:133-7 O '23

Heat treatment

- Case hardening and other heat treatments as applied to gray cast iron. H. B. Knowlton. *Am Mach* 59:695-7 N 8 '23
- Complete operation of a modern heat treatment department. T. B. Fordham. *il Factory* 28:31-4 Ja '22
- Contribution à l'étude des modifications thermiques de quelques fontes de moulage. J. Durand. *Génie Civil* 81:375 O 21 '22
- Effect of heat treatment on cast iron. J. Durand. *Automotive Ind* 47:1076 N 30 '22
- Effect of heat treatment on the hardness and microstructure of electrolytically deposited iron. N. B. Pilling. *il Am Electrochem Soc Trans v* 42 (preprint 6):35-43; Discussion. 43a-d S '22
- Electric heating by ironless induction. E. F. Northrup. *diags Gen Elec R* 25:656-66 N '22
- Field of electric heat treating extending rapidly. *Elec W* 79:130 Ja 21 '22
- Gas useful in heat treating room. J. W. Smith. *il Gas Age* 50:477-82, 517-19 O 14-21 '22
- Heat treating cold headed bolts. V. E. Hillman. *il diags Iron Tr R* 70:538-41 F 23 '22
- Heat treating motor castings. *il diags plan Foundry* 51:108-10 F 1 '23

Heat treatment—Continued

Heat treatment and mechanical properties of alloys of aluminum with small percentages of copper. D. Hanson and M. L. V. Gayler. *Engineering* 115:343-4 Mr 16 '23

Heat-treatment of aluminum bronze. A. A. Blue. *il diag Chem & Met Eng* 25:1043-8 D 7 '21; Correction. 25:1140 D 21 '21; Discussion. 26:388-9 Mr 1 '22

Heat-treatment of brass and brasses containing tin. L. Guillet. *il diag Chem & Met Eng* 25:1009-14 N 30 '21

Heat treatment of non-ferrous alloys. F. C. Thompson. *Engineering* 115:147 F 2 '23

New device for heat treating metals. *il Elec Ry J* 62:265-6 Ag 18 '23

L'obtention, par traitement thermique, d'alliages légers à haute résistance ne contenant pas de magnésium. A. Portevin and F. Le Chatelier. *Génie Civil* 83:136-7 Ag 11 '23

Les phénomènes de trempe et leur généralisation. L. Guillet. *il diags Chimie & Ind* 7:211-25 F '22

Practical heat treatment of duralumin. J. A. Binnie. *Am Mach* 58:221-4 F 8 '23

Preparation and properties of pure iron alloys: magnetic properties of iron-carbon alloys as affected by heat treatment and carbon content. W. L. Cheney. *U S Bur Stand Sci Pa* 463:609-35 '23

Production and heat treatment of chill-castings in an aluminum alloy (Y). W. Rosenhain, S. L. Archbutt and S. A. E. Wells. *il Engineering* 115:347-51; Discussion. 320-1 Mr 16 '23

Rockwell automatic rotary quenching tank. *il Am Mach* 58:313 F 22 '23

Temperature control in industries. L. O. Robertshaw. *Gas Age* 49:217-18 F 18 '22

Le traitement thermique de certains alliages complexes d'aluminium. L. Guillet. *Génie Civil* 79:520-1 D 10 '21

Le traitement thermique de quelques fontes de moulage. J. Durand. *Génie Civil* 80:302-3 Ap 1 '22

Ueber das weichglühen von grauguss. E. Piwowarsky. *il Stahl & Eisen* 42:1481-3 S 28 '22; Abstract. *Iron Age* 110:1499-1500 D 7 '22

Ueber versuche zur bestimmung der kritischen temperatur beim glühen von grauguss. E. Schütz. *il Stahl & Eisen* 42:1484-8 S 28 '22

See also Annealing; Electric furnaces, Heat treating; Furnaces, Heat treating; Steel, Heat treatment of

Heat units

Units of calorific value. R. J. Anderson. *Foundry* 50:720a S 1 '22

Heaters

Brûleur pour corps combustibles en métal-déhyde; patent. *diags Chimie & Ind* 8:1243-4 D '22

Double-combination idea as applied to English heating apparatus. *il diag Heat & Ven* 19:62-3 F '22

Thermogen storage heater. *il plan Heat & Ven* 19:62 Mr '22

See also Air heaters; Electric heaters; Electric water heaters; Feed water heaters; Gas heaters; Gas water heaters; Oil heaters; Sand heaters; Solar heaters; Steam heaters; Steam heaters, Industrial; Water heaters

Heaters, Fan blast

Combining economical heating with good ventilation. J. R. Rogers. *il Factory* 31:664+ N '23

Fan blast heating. M. Kimberly. *il diags Sanitary & Heat Eng* 98:349-51+ D 15 '22

Portable unit fan blast heaters. *il diag Heat & Ven* 19:68-9 J1; 50-1 Ag; 59-60 S; 58 O '22; 20:74 F; 59 My; 68 N '23

Solving heating and ventilating problems by means of unit heaters. J. Mackay. *il diag Dom Eng* 102:215-18, 416-18 F 3, Mr 3 '23

Three different methods of heating a large machine shop. J. Mackay. *diags plans Dom Eng* 102:557-60 Mr 24 '23

Types of heaters for hot-blast work. C. L. Hubbard. *il diags Power Pl Eng* 27:521-4, 626-9 My 15, Je 15 '23

Unit heater. C. L. Hubbard. *diags Power* 58:129-32 J1 24 '23

Heaters, Tubular

High temperatures in industrial processes. P. W. Foster, jr. *il diags Chem & Met Eng* 26:460-2 Mr 8 '22

Heating

Auxiliary heating equipment. C. L. Hubbard. *diags Dom Eng* 105:214-16 N 3 '23

Burning anthracite coal in house heaters. E. H. Lockwood. *Am Soc Heat & V E J* 27:855-8 D '21

Care of heating systems. *diags Power Pl Eng* 26:61-4 Ja 1 '22

Coal crisis creates popular interest in heating small homes by oil. A. V. Hutchinson. *il diags Bldg Age* 44:43-5 O '22

Combination heating systems for mild weather. C. L. Hubbard. *diags Bldg Age* 45:58-9 Mr '23

Construction features in their bearing on heat and fuel economy. S. H. Woodbridge. *Heat & Ven* 19:35-7 F '22

Converting artificial ice system into temporary heating plant. *Eng & Contr* 58:306 S 27 '22

Designing heating and ventilating systems. C. A. Fuller. 2d ed., rev. & enl. 245p U.P.C. book co. '23

Discussion of English heating practice. *Heat & Ven* 20:52-3 Ap '23

Eugene Peclet as a heating and ventilating engineer. P. Nicholls. *diags Am Soc Heat & V E J* 28:709-18 O '22; Same. *Sanitary & Heat Eng* 98:224-5, 283-5 O 20, N 17 '22

500 plain answers to direct questions on steam, hot water, vapor and vacuum heating. A. G. King. 2d ed., rev. & enl. 253p Henley '23

Fresh air and B.T.U.'s; American society of heating and ventilating engineers meeting. *Dom Eng* 103:430-8+ Je 2 '23

Les grands immeubles Américains commerciaux et d'habitation. J.-F. Audouin. *diags Soc Ing Civils Bul* 75:20-8 Ja '22

Guide containing reference data. American society of heating & ventilating engineers, New York '22

Heat and heating equipment in France. W. P. Mitchell. *Heat & Ven* 19:58-9 F '22

Heat losses from buildings as affected by methods of using the heat generated. S. H. Woodbridge. *Heat & Ven* 19:39-41 Ag '22

Heating and ventilation. J. R. Allen and J. H. Walker. 2d ed., rev. & enl. 330p McGraw-Hill '22

Heating installation. *diags Dom Eng* 104:533-5 S 15 '23

Heating practices in England. R. N. Trane. *il Dom Eng* 102:364-6 F 24 '23

Heating systems for cottages and bungalows. A. G. King. *diags plans Dom Eng* 105:8-12, 110-14 O 6, 20 '23

Heating the average home economically. P. J. Dougherty. *Am Soc Heat & V E J* 28:21-4 Ja '22; Discussion. 28:251-4 Mr '22

How to burn 30% less coal and still keep warm. *Heat & Ven* 20:59 S '23

Individual atmospheres made to order. *il Sci Am* 127:328-9 N '22

Lowering heating costs with fuel oil. W. T. Dean. *il diags Heat & Ven* 19:33-5 S '22

Mutual responsibility of the heating engineer and the architect. E. P. Bradley. *Am Soc Heat & V E J* 28:417-20 My '22; Discussion. 28:579-81 J1 '22

Oil as a fuel for house heating. Y. Adams. *il Sanitary & Heat Eng* 98:153-5 S 22 '22

Push-button ventilation in London building. H. S. White. *il Pop Mech* 38:660-1 N '22

Remodeling the heating system in the historic Independence Hall group of buildings in Philadelphia. W. E. Mair. *il plans Dom Eng* 101:88-90 O 21 '22

Science of house heating. F. E. Wilder. *Gas Age* 51:615-16 My 12 '23

Heating—Continued

Solid foundation for heating installation. J. K. Raymond. diags Dom Eng 104:484-7, 532-4 S 8-15 '23

See also Boilers, Heating; Building—Heating aspects; Car heating; Chimneys; Electric heaters; Electric heating; Fireplaces; Fuel; Furnaces, Warm air; Gas heaters; Gas heating; Heaters; Heating from central stations; Hot water heating; Insulation (heat); Radiators; Steam heaters; Steam heating; Stoves; Ventilation; Weatherproofing; also subdivision Heating and ventilation under special subjects, e.g. Bank buildings, Churches, Country houses, Department stores, Factories, Garages, Greenhouses, Hospitals, Hotels, Libraries, Office buildings, Paper mills, Prisons, Schoolhouses, Theaters

Bibliography

Bibliographies on heating and ventilation. Heat & Ven 19:59-60 O '22
Building and contracting leaders choose basic books of industry. Heat & Ven 19:54-5 O '22; Excerpt (Heating, ventilating and plumbing). Am Soc Heat & V E J 23:787-8 N '22

Continuous vs. intermittent

New data on intermittent heating. Heat & Ven 19:48 My '22

Cost

Cost of heating with gas. Dom Eng 105:222-3 N 3 '23
Domestic heating with oil and coal. J. Harrington. charts Am Soc Heat & V E J 29:275-81 Ap '23
House heating with gas, coal and oil. H. D. Valentine. Am Gas J 118:310-13 Ap 14 '23
How to determine in advance the cost of a heating and ventilating system. J. J. Maher. Heat & Ven 20:37-9 JI '23
Important ratios in house heating. F. E. Wilder. Gas Age 51:565-6 My 5 '23
Personal equation a great factor. H. O. Andrew. il Gas Age 51:589-90 My 5 '23
Summary of comparison of coal, kerosene and gas fuels for space heating to 70° F. through 1 sq. ft. cast iron radiation per heating season. Heat & Ven 19:68 N '22
Systems for building heating and domestic hot water supply. J. A. McHollan. Arch Forum 35:227-9 D '21

Estimates

Accurate plumbing and heating estimates—how made. H. A. Call. Sanitary & Heat Eng 98:3-5+, 72-4+, 129-31+, 195-7, 250-3, 315-17, 407-8 JI 14, Ag 11, S 8, O 6, N 3, D 1, 29 '22

Bibliography

Heating and ventilating cost data. Heat & Ven 19:41 Mr '22

Laws and regulations

Furnace code conference, Chicago, Oct. 25. Sheet Metal Worker 12:716 N 11 '21
Regulations on heater work at Pitman, N.J. Sheet Metal Worker 14:156 Mr 30 '23
Suggestion on preparing for a code; views on the subject of licensing furnace installers. Sheet Metal Worker 12:713 N 11 '21

Tables, calculations, etc.

Boiler capacities for direct radiation. Heat & Ven 18:66-7 N '21
Calculations in heating and ventilation. G. S. Coleman. 255p Longmans '23
Economic heating of industrial plants. M. C. W. Tomlinson. Management Eng 3:221-3 O '22
Effect of wind velocity on radiation losses and leakage. W. L. Fleisher. Am Soc Heat & V E J 28:141-4 Mr '22; Same abr. Dom Eng 98:439-40 Mr 11 '22; Discussion. Am Soc Heat & V E J 28:145-50 Mr '22
English method of figuring heat losses. W. W. Nobbs. Heat & Ven 19:43-5 O '22

Estimated heating requirements checked with the actual heat input of the Canadian cotton company's plant at Milltown, N. B. il Heat & Ven 20:40-1 Ag '23

Figuring heating by the E. G. S. method. M. W. Ehrlich. diags Sanitary & Heat Eng 100:40-1 JI 27 '23; Same. Sheet Metal Worker 14:529-30 Ag 3 '23

Garage heating. A. G. King. diags Dom Eng 104:332-5 Ag 18 '23

Heat emitted by direct radiation. Heat & Ven 20:71-3 My; 80-3 Je; 74 JI '23

Heating system changed from high pressure steam to hot water. P. Parker. chart diags plans Dom Eng 99:365-8 My 27 '22

Heating the livable home of English design. C. L. Hubbard. diags plans Bldg Age 45:92+ Ap '23

How to figure radiation of steam and hot water heating, for apartment houses and frame houses. Dom Eng 98:171-2 Ja 28 '22

More data on steam and electric demands in buildings. diags Heat & Ven 20:31-6 JI '23

New method proposed of arriving at heat losses due to wind. H. M. Hart. Heat & Ven 19:31-2 Je '22

Radiation computing charts. Heat & Ven 18:62-3 D '21; 20:74-7 Ja '23

Radiation computing charts; the Croney tables. Heat & Ven 19:64-5 My '22

Rapid scale easily solves heating problems. il Pop Mech 40:284 Ag '23

Systems for building heating and domestic hot water supply. J. A. McHollan. Arch Forum 35:227-9 D '21

What it pays to know about heating. M. W. Ehrlich. Sanitary & Heat Eng 97:87-8, 149-50, 215-16, 272-4, 378-80; 98:33-5, 96-8, 158-60, 221-3, 280-2, 352-4+ F 24, Mr 24, Ap 21, My 19, JI 30, JI 28, Ag 25, S 22, O 20, N 17, D 15 '22

See also Heat conductivity; Heat radiation; Heat transmission; Heating, Warm air—Tables, calculations, etc.; Hot water heating—Tables, calculations, etc.; Steam heating—Tables, calculations, etc.

Heating, Electric. See Electric heating

Heating, Fan blast

Fan blast heating for residences. E. L. Jaynes. Sheet Metal Worker 14:325-6+ My 25 '23

Fan furnace heating of a theatre. il diags plan Sheet Metal Worker 13:171-3 Ap 14 '22

Fan furnace system replaces a gravity. il plans Sheet Metal Worker 12:831-3+ Ja 6 '22

Fan helps a furnace heating system. il plans Sheet Metal Worker 13:677-9 N 10 '22

Heating the new navy gun shop. M. S. Cooley. il diags Am Soc Heat & V E J 29:100-6 Mr '23

Small blowers in combination with furnaces for domestic heating plants. F. E. Still. diags Am Soc Heat & V E J 27:659-63 S '21

Surprising accomplishments by fan furnace heating. Sheet Metal Worker 12:746 N 25 '21

Typical blower system in a machine shop. diags plans Heat & Ven 18:35-8 N '21

Underground fan blast heating of railroad round-houses. diags Heat & Ven 18:45-6 N '21

See also Heaters, Fan blast

Heating, Industrial

Control of industrial heating processes. J. A. Doyle. diags J Ind & Eng Chem 14:1005-8 N '22

L'exposition du chauffage industriel. 18-21 juin 1923. P. Dufour. Chimie & Ind 10:supl-6 JI '23

Gas fired steam boiler calculations. J. P. Leinroth. Gas Age 51:169-72 F 10 '23

High temperatures in industrial processes. F. W. Foster, jr. il diags Chem & Met Eng 26:458-62 Mr 8 '22

Ier Congrès et Ire exposition de chauffage industriel. Paris, 1-21 juin 1923. Génie Civil 83:37-9, 55-8 JI 14-21 '23

Heating, Industrial—Continued

Production economies through automatic temperature control. *il* Factory 31:37-40+ J1 '23

See also Electric heating; Industrial; Furnaces, Recuperative and regenerative; Gas heaters—Heating; Gas torch; Steam heaters, Industrial

Heating, Municipal. See Heating from central stations, Municipal

Heating, Warm air

Adapting pipeless to house designs; also Model installation for furnacemen. C. L. Hubbard, plans Sheet Metal Worker 11:613-4+, 674-5+ S 14-28 '23

Craftsmanship shines in furnace job. *il* plans Sheet Metal Worker 14:523-4 Ag 3 '23

Design of warm air heating plants. *Am Arch* 12:195-9 Ag 30 '22

Facts about induced air circulation. A. P. Mudgett, Sheet Metal Worker 14:495-6+ J1 20 '23

Furnace heating. W. G. Snow. 6th ed., rev. and enl. 259p U. P. C. book co. '23

Furnace heating on Pacific coast. B. C. Taylor, Sheet Metal Worker 14:604+ Ag 31 '23

Furnace practice worth following. E. E. Zideck, diags Sheet Metal Worker 14:358-9 Je 8 '23

Furnaces warm Baptist college in Arkansas. *il* plans Sheet Metal Worker 13:275-6 My 26 '22

House heating; the warm air heating system compared with hot water boilers. J. B. Allington. *Am Gas J* 119:70 J1 28 '23

Interesting owners in furnace heating. Sheet Metal Worker 14:255-6 Ag 27 '23

Old heating system rejuvenated. W. Hutton, diag Dom Eng 99:461 Je 10 '22

Putting the brakes on warm-air jobs. R. W. Menk, Sheet Metal Worker 13:618-19, 637 O 13, N 10 '22

Register temperatures in warm-air heating. V. S. Day, *Am Soc Heat & V E J* 29:367-9 My '23

Remodeling a school heating system, plan Sheet Metal Worker 13:721-2+ N 24 '22

Report of warm-air furnace committee. Sheet Metal Worker 14:464-5 J1 6 '23

Return-air trunk line job in bungalow. W. F. Laudenschlager, plan Sheet Metal Worker 14:488-9 J1 20 '23

Reversed heat engine as a means of heating buildings. T. B. Morley, diags Engineer 133:145-6 F 10 '22; Abstract. Mech Eng 44:320-1 My '22

Some facts on warm air heating. L. A. Bissette, *Arch Forum* 36:113-14, 155-6 Mr-Apr '22

Survey of present-day furnace practice. O. Geussenhainer, Sheet Metal Worker 14:214+ Ap 13 '23

Ventilation and warm-air heating. G. A. Voorhees, Sheet Metal Worker 13:715-17; 14:81-2, 249-50 N 24 '22, Mr 2, Ap 27 '23

See also Furnaces, Warm air; Furnaces, Warm air—Furnace installation code; Heating, Fan blast; Registers (heating)

Estimates

Heater estimate blank and baseboard registers. E. Byrum, Sheet Metal Worker 13:327 Je 9 '22

Specifications

Outline of tentative specifications for hot air heating system. *Am Arch* 123:sup12+ Je 20 '23

Tables, calculations, etc.

Designing furnace systems for 140-deg. register temperatures. V. S. Day, *il* Sheet Metal Worker 14:202-3 Ap 13 '23

Economy in modern furnace practice, plan Sheet Metal Worker 13:757-9 D 8 '22

Handy chart for proportioning warm-air furnace systems. M. W. Ehrlich, diag Sheet Metal Worker 14:116-18 Mr 16 '23

MacEnnical, expert engineer, diag plans Sheet Metal Worker 14:408-9, 445-7 Je 22-J1 6 '23

Model installation for furnacemen. C. L. Hubbard, diag plans Sheet Metal Worker 14:674-5+ S 28 '23

Recent developments in warm air furnace heating. F. R. Still, diags *Am Soc Heat & V E J* 28:385-95 My '22; Same, Sheet Metal Worker 13:325-6, 353-6 Je 9-23 '22; Same, *Am Arch* 122:333-7, 378-80 O 11-25 '22; Abstract. Heat & Ven 19:57-9 J1 '22

Report of committee on code for installation of warm air furnaces; discussion. *Am Soc Heat & V E J* 28:562-76 J1 '22

Simplified lessons in furnace heating. J. Lynch, *il* diags Sheet Metal Worker 13:45+, 107, 205-6, 422+, 450+, 509-10, 620, 649-51 F 17, Mr 17, Ap 28, J1 21, Ag 4, S 1, O 13-27 '22

Simplified scientific method of figuring leader sizes. P. J. Dougherty, Sheet Metal Worker 13:209+ Ap 28 '22

Sixty-five below zero and heating fine; an example of Canadian furnace practice, plans Sheet Metal Worker 13:103-4 Mr 17 '22; Discussion. 13:452-3, 479-81+ Ag 4-18 '22

Some comments on furnace installation. F. T. Giblin and F. K. Chew, *il* plan Sheet Metal Worker 14:3-5+ F 2 '23

Text of warm-air furnace code. Sheet Metal Worker 13:766+ D 8 '22

Wall stack size and heating effect at the register; tests at University of Illinois. V. S. Day, *Am Soc Heat & V E J* 29:407-12 J1 '23

What it pays to know about heating. M. W. Ehrlich, *Sanitary & Heat Eng* 98:280-2 N 17 '22

Heating and piping contractors' national association

33d annual convention, Buffalo, N. Y., May 31-June 3. Dom Eng 99:462-71 Je 10 '22; Heat & Ven 19:49-51 Je '22; Sanitary & Heat Eng 97:354-61 Je 16 '22

34th annual convention, Chicago, May 23-26. Dom Eng 103:415-27 Je 2 '23; Heat & Ven 20:61-5 Je '23; Sanitary & Heat Eng 99:362-6 Je 1 '23

Heating boilers. See Boilers, Heating**Heating contracts**

Contracts to install heating equipment. A. L. H. Street, Heat & Ven 19:37-8 O '22

Do the owners of a building reserve the right to have contractor place boilers in any position they see fit? Dom Eng 100:577-8 S 30 '22

Legal aspects of installation contracts. A. L. H. Street, Heat & Ven 20:42-3 Ag '23

Liability of heating contractor for representations made by agent as to boiler installation in case of a written contract. Dom Eng 104:543-4 S 15 '23

New effort to eradicate an old abuse. Heat & Ven 19:56-7 Ap '22

Proposition and contract. Sheet Metal Worker 14:367 Je 8 '23

Substantial performance of heating and ventilating contracts. J. Simpson, Heat & Ven 20:58-9 O '23

Heating drums

Four styles of heating drums, diags Sheet Metal Worker 13:46 F 17 '22

Heating from central stations

Analysis of some central station heating plant problems. Lund, *Munic Eng* 65:101-7 S '23

Central heat and power plant for group of office buildings; the Maryland casualty company. G. C. Stierhoff, *il* diag plan Power 57:316-18 F 27 '23

Central heating by steam, water or gas. S. R. Lewis, Power 55:267-8 F 14 '22; Same cond. Heat & Ven 19:48-50 Mr '22; Discussion. Power 55:438-9 Mr 14 '22

Central heating plant at North Battleford. M. D. Cadwell, *Can Eng* 42:103 Ja 3 '22

City of Detroit reduces heating cost. *il* Power 56:90 J1 18 '22

Community service plant. L. M. Emmet, diags plan Dom Eng 101:413-15, 472-4 D 9-16 '22

Consumers central heating company's new hog-fuel burning plant. *il* diags Power 54:750-3 N 15 '21

Difference between estimated and operating figures. T. Sheean, Power 54:983-4 D 20 '21

Heating from central stations—Continued

- District heating progress in Boston. D. S. Boyden. il map Am Soc Heat & V E J 29: 355-65 My '23; Abstract. Heat & Ven 20:56-8 Je '23
- Exhaust steam utilization in Britain. C. I. Haden. diag Power Pl Eng 27:225-8 F 15 '23
- Facts and figures on community or group heating. H. C. Kimbrough. Munic Eng 65: 146-8 O '23
- Features of central steam heat plant equipment. W. A. Scott. il Elec R 79:759-60 N 19 '21
- Handbook of the National district heating association. National district heating assn., Philadelphia '21
- Showing the heat consumer how to save money. Heat & Ven 20:50 Ap '23
- L'utilisation de l'énergie mécanique contenue dans la vapeur à très basse pression pour l'amélioration des installations de chauffage central. A. Nessi. Génie Civil 79:424-5 N 12 '21
- Utilization of exhaust steam from electric generating stations, and coal economy. C. I. Haden; F. H. Whysall. Inst E E J 60:265-72 Mr '22; Abstracts. Electrician 88:94-5 Ja 27 '22; Elec R (Lond) 90:139-40 Ja 27 '22; Discussion. Inst E E J 60:273-86, 552-61 Mr, My '22; Electrician 88:97 Ja 27 '22; Elec R (Lond) 90:140-1, 157, 223, 464 Ja 27-F 3, 17, Mr 31 '22; Engineer 133:109-10 Ja 27 '22
- Value and method of steam generating plant interconnection. J. C. Butler. diags Heat & Ven 19:35-9 Ag '22

Cost

- Co-operative heating for efficiency. W. Hutton. il plan Dom Eng 103:636-9 Je 30 '23
- Profitable sale of exhaust steam for municipal heating at Miles City, Mont. Munic Eng 64:237-9 Je '23

Rates

- Ready-to-serve charge in steam heating. M. C. W. Tomlinson. Heat & Ven 19:31-2 F '22

Heating from central stations, Municipal

- Municipal steam heating system at Cleveland, Ohio. H. W. Kaiser. il diags map Am Water Works Assn J 8:559-70 N '21
- Profitable municipal venture in the sale of exhaust steam for heating. D. D. Hayward. Heat & Ven 18:29-31 N '21
- Successful community heating at Arcade, New York, with exhaust steam from lighting plant. il Munic Eng 62:51-6 F '22

Heating industry

- Developing boiler and radiator heating business in suburbs. il Dom Eng 97:340-1 N 19 '21
- Peak heating business. J. K. Raymond. Dom Eng 104:636-8 S 29 '23
- Plumbing and heating business in 1922—what leading manufacturers think it will be. Dom Eng 98:50-6 Ja 14 '22
- Sales opportunities in the heating and piping industry. L. M. Emmet. Dom Eng 99:362-4+ My 27 '22
- Selling heating equipment on the installment plan. Heat & Ven 19:61-2 Je '22
- Selling heating goods. C. H. Bishop. Sanitary & Heat Eng 97:1-2 Ja 13 '22
- Sidelights on the sales features of the heating business. F. H. Williams. Sanitary & Heat Eng 100:71-2+ Ag 10 '23
- Three roads for success in the heating business. N. L. Danforth. Heat & Ven 19:64 J1 '22

See also Furnace industry; Heating contracts; Heating from central stations; Radiators

Advertising

- How to increase boiler and radiator heating business. I. Spear. Dom Eng 98:390-2+ Mr 4 '22

- Merchandising heating goods. B. C. Monet. il Sanitary & Heat Eng 97:123-4 Mr 10 '22

See also Furnace industry—Advertising

- Heating of soils. See Soils, Heating of

Heating pipes

See Furnaces, Warm air—Pipes and fittings; Steam heating; Steam pipes

Heating research

- Movement in France to establish heat research laboratories. W. P. Mitchell. Heat & Ven 19:54 Ap '22
- What the heating engineers' research laboratory is doing for the industry. F. P. Anderson. Heat & Ven 19:56-7 Je '22

Heaviside expansion theorem

- Applications of Heaviside expansion theorem. L. Cohen. J Fr Inst 195:319-26 Mr '23
- Heaviside expansion theorem. L. Cohen. J Fr Inst 194:765-70 D '22
- Solution of differential equations by a method similar to Heaviside's. J. J. Smith. J Fr Inst 195:815-50 Je '23

Heavisidion

- The heavisidion; a computing kinematic device for long transmission lines. V. Karapetoff. il charts diags Am Inst E E J 42: 127-38 F '23

Heckscher foundation for children

- Heckscher foundation for children. New York. Arch & Bldg 54:111-12, pl 199-204 D '22

Hederagenin

- Untersuchungen über die saponine; weitere studien am hederagenin. A. W. van der Haar and A. Tamburello. Deutsche Chem Gesell Ber 54:3148-53 D '21; Abstract. Chem Soc J 122 pt 1:160-1 F '22

Hederin

- Untersuchungen über die saponine; weitere studien am α-hederin und an seinem hederagenin. A. W. van der Haar. Deutsche Chem Gesell Ber 54:3142-8 D '21

Hedge, Lemuel

- Development of machine tools in New England; Lemuel Hedge, blacksmith. por Am Mach 59:311-15 Ag 30 '23

Heels, Rubber. See Rubber heels**Heinz, H. J., company**

- How Heinz advertises idea behind plant and product. R. Cole. Ptr Ink M 5:19-20+ J1 '22

Helaletes

- Helaletes redefined. E. L. Troxell. il Am J Sci 5th ser 3:365-70 My '22

Helicopters

- Air travel with special reference to the helicopter. F. M. Green. Aerial Age 16:268-70 Je '23; Same. Roy Aeronautical Soc J 27: 322-30; Discussion. 330-7 J1 '23
- Another helicopter. il Sci Am 127:338 N '22
- Berliner helicopter. il Aerial Age 15:395-6 Ag '22; Aviation 13:256 Ag 28 '22; Sci Am 127:160 S '22
- Berliner helicopter in flight. L. D. Seymour. Aviation 13:356 S 18 '22
- British air ministry's helicopter competition. Aviation 14:582-3 My 28 '23; Same. Aerial Age 16:278-9 Je '23
- Captive helicopters may displace observation balloons. Aerial Age 15:556 N '22
- De Bothezat helicopter. T. H. Bane. Aviation 14:645 Je 11 '23
- D.B. helicopter lifts two persons. Aviation 14:135 Ja 29 '23
- Helicopter and its uses. Engineering 115:306 Mr 9 '23
- Helicopter and the variable pitch propeller. il diag Mech Eng 44:575-8 S '22
- Helicopter calculations. Aviation 15:216 Ag 20 '23
- Helicopter competition. Engineer 135:527-8 My 18 '23
- Helicopter flight. C. C. Turner. Aerial Age 14:280 N 28 '21
- Helicopter progress. il Sci Am 126:134 F '22
- Helicopters. J. Case. diags Aeronautical J 26:390-407, 435-47 O-N '22
- Latest helicopter makes flight. il Pop Mech 39:331 Mr '23
- Man-carrying helicopter makes short flight. il Pop Mech 38:181 Ag '22
- New trials of de Bothezat helicopter. il Aviation 14:562 My 21 '23

Helicopters—Continued

- Oehmichen-Peugeot helicopter. Aviation 14: 399 Ap '23
 Our army's helicopter. *il Sci Am* 128:243 Ap '23
 Progress in helicopters. Aviation 14:209 F 19 '23
 Some notes on the helicopter. M. B. Sellers. *il Aviation* 12:228-30 F 20 '22
 Spanish helicopter rises 81 feet. *il Pop Mech* 39:685 My '25
 Successful helicopter trials at McCook field. *il Aviation* 14:97 Ja 22 '23
 Les vols de l'hélicoptère Oehmichen-Peugeot n° 2. E. Oehmichen. *Génie Civil* 82:627-8 Je 30 '23
 Will captive helicopters replace the observation balloon? *il Aerial Age* 16:9-11 Ja '23

Testing

- Tests on model propellers. J. L. Hodgson. *diags Roy Aeronautical Soc J* 27:337-41 Ji '23

Helium

- Breathing helium every day. *Am Ind* 23:17+ S '22
 Coefficient of viscosity of helium and the coefficients of slip of helium and oxygen by the constant deflection method. M. N. States. *Phys R* 21:662-9; Discussion. 669-71 Je '23
 Critical electron energies in helium, and the extreme ultra-violet spectrum. A. C. Davies. *Philos Mag* 6th ser 45:786-98 Ap '23
 Diffusion of hydrogen and helium through silica glass and other glasses. G. A. Williams and J. B. Ferguson. *Am Chem Soc J* 44:2160-7 O '22
 Dirigible accident hastens helium development. *Chem & Met Eng* 27:852 O 25 '22
 Employment of helium in airships. A. Crocco. *Aviation* 15:97+ Ji 23 '23; Same cond. *Soc Auto Eng J* 13:400 N '23
 Facts bearing on the structure of atoms, particularly of the helium atom. R. A. Millikan. *diag Phys R* 18:456-60 D '21
 Les gaz rares des gaz naturels. C. Moureu. *Chem Soc J* 122:1905-17 Ag '23
 Helium. *Brass W* 18:276 S '22
 Helium. R. B. Moore. *Aerial Age* 15:446-7 S '22; Same cond. *Mech Eng* 44:761 N '22
 Helium. R. B. Moore. *Brass W* 17:327-8 N '21
 Helium a success in airship tests. *Aerial Age* 16:316 D 12 '21
 Helium for airships. *Aviation* 11:635 N 28 '21
 Helium in the national defense. J. E. Raker. *il Aerial Age* 16:129-30 Mr '23
 Helium investigation. *Aviation* 12:74 Ja 16 '22
 Industrial production of helium. S. G. Roberts. *il Sci Am* 126:308-9 My '22
 Ionization by collision in helium. J. S. Townsend. *Philos Mag* 6th ser 45:1071-9 My '23
 Ionization of abnormal helium atoms by low-voltage electronic bombardment. F. Horton and A. C. Davies. *Philos Mag* 6th ser 44:1140-6 D '22
 Least advertised commercial earth product. *il Eng & Min J* 112:722-3 N 5 '21
 Motion of electrons in helium. J. S. Townsend and V. A. Bailey. *Philos Mag* 6th ser 46: 657-64 O '23
 New helium research laboratory. S. R. Winters. *il Gas Age* 43:881-2 D 31 '21
 New method of purifying helium provides aid for ZR-1. J. W. Kean. *il Pop Mech* 39:826-7 Je '23
 Normal helium atom and its relation to the quantum theory. J. H. Van Vleck. *Philos Mag* 6th ser 44:842-69 N '22
 Present state of the helium question. *Aviation* 13:745 D 4 '22
 Production of radiation and ionization by electron bombardment in pure and in impure helium. F. Horton and A. C. Davies. *diag Philos Mag* 6th ser 42:746-73 N '21
 Propriétés, fabrication et emplois de l'hélium. *Génie Civil* 80:41-2 Ja 14 '22
 Relative intensities of Stark effect components in the helium spectrum. J. S. Foster. *Phys R* 20:214-20, pl 5 S '22

- Solubility of helium in water. H. P. Cady, H. M. Elsey and E. V. Berger. *diag Am Chem Soc J* 44:1456-61 Ji '22
 Spectrum of the semi-circular helium model. H. O. Newbould. *Philos Mag* 6th ser 45:1085-7 My '23
 Thermodynamic treatment of the possible formation of helium from hydrogen. R. C. Tolman. *Am Chem Soc J* 44:1902-8 S '22
 Trials of helium filled airship C-7. *Aviation* 11:714 D 19 '21
 United States unique in possessing large helium resources. R. B. Moore. *Nat Pet N* 15:67-8+ S 26 '23

Bibliography

- Bibliography of scientific literature relating to helium. *U S Bur Stand Circ* 81:1-32 '22

Helium, Liquid

- Liquid helium coldest fluid known. *Refrig W* 58:23-4 Je '23
 Liquid helium production at the University of Toronto. *Can Chem & Met* 7:43-4 F '23

- Hell Gate station.** See Electric plants (central stations)—New York (city)

Helmets

- Utilizing new steel trench helmets. *il diags Pop Mech* 37:147-9 Ja '22

- Help wanted ads.** See Employment systems—Advertising

Helsingfors, Finland**Architecture**

- House of Parliament, railroad station, and other work of Eliel Saarinen, architect, Helsingfors, Finland; views. *Am Arch* 124:288a-g, illard S 26 '23

- Hematine.** See Logwood

Hematite

- Brown hematite ores of western North Carolina. W. S. Bayley. *U S Geol S Bul* 735—F:157-208, pl 4-6 '22
 Reduction of hematite by methane. *Chem & Met Eng* 28:592 Mr 28 '23

Hemellitenol

- Über 1,3-dimethyl-5-oxy-4-benzaldehyd, hemellitenol und isopseudocumenol. K. v. Auwers and K. Saurwein. *Deutsche Chem Gesell Ber* 55:2372-89 S '22; Abstract. *Chem Soc J* 122 pt 1:1031-3 N '22

Hemlock

- Ritter-Kellner hemlock pulp. *Paper* 31:7-9 N 22 '22
 Strong, quick cook, hemlock sulphite. L. Smith. *Paper Tr J* 75:53-4 N 9 '22

Hemp

- La différenciation du chanvre. M. Pontio. *il Chimie & Ind* 7:664-8 Ap '22
 Humidity in jute, hemp and flax mills. A. W. Thompson. *Textile World* 63:1167-8 F 10 '23
 New test for fibres. *Textile World* 64:973+ Ag 18 '23

See also Jute; Ramie; Rope; Sisal hemp

Henderson, M. W.

- Men and methods; renting automobiles. A. V. Levering. *por System* 42:698-9 D '22

Henderson, Paul

- New 2d Assistant postmaster general. *Aviation* 12:486 Ap 24 '22

Henequen

- To make paper in Mexico from henequen plant. *Paper Tr J* 74:58 Je 8 '22

Henry, Charles L.

- Founder of interurban, honored. *Am Ind* 22: 14+ F '22

Henry's law

- Apparent deviation from Henry's law for the system, ammonia-water. G. Calingaert and F. E. Huggins, jr. *Am Chem Soc J* 45: 915-20 Ap '23

Hepplewhite, George

- Sanity of Hepplewhite. W. A. Dyer. *il Arch Rec* 52:345-50 O '22

Heptane

- Action of nitrosyl chloride on normal heptane. E. V. Lynn and O. Hilton. *Am Chem Soc J* 44:645-8 Mr '22

Heptane—Continued

Method for expressing the value of mixing agents between hydrocarbons and 95 per cent. vol. alcohol. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 9:129-32 Ap '23

Herbert, James M., 1863-1922

Sketch. *por Ry Age* 73:293 Ag 12 '22

Hercoglossa

New hercoglossa from the eocene of Peru. E. W. Berry. *il Am J Sci* 5th ser 6:427-31 N '23

Heredity

Physical basis of heredity. J. B. Kelly. *diags Sci Am* 126:177-8 Mr '22

Hering, Carl, 1860-

Sketch. *por Elec W* 78:1008 N 19 '21

Hering, Rudolph, 1847-1923

Sketch. *por Eng N* 90:1017 Je 7 '23

Hernia

Causation or aggravation of hernia. A. M'Glannan. *U S Bur Labor Statistics Bul* 333:158-61; Discussion. 161-4 '23

Herring, Fossil

Description of a new species of fossil herring, *quisque bakeri*, from the Texas Miocene. D. S. Jordan. *il Am J Sci* 5th ser 3:249-50 Ap '22

Hertzian waves. See Electromagnetic waves

Hess, Frank L., 1871-

Geologists of note. *por Eng & Min J* 113: 57 Ja 14 '22

Hesselman engine

Development of the Hesselman solid-injection oil engine. E. Lundgren. *diags Power* 57: 927-9 Je 12 '23

Solid-injection oil engine investigations in Sweden. E. Lundgren. *diags Power* 57:666-9 My 1 '23

Hetch Hetchy water supply project

Building a 9-ft. siphon on the Hetch Hetchy aqueduct. N. A. Eckart. *il diag Eng N* 91: 100-1 Jl 19 '23

Cement handled in bulk on the Hetch Hetchy dam. N. A. Eckart. *il Eng N* 88:352-3 Mr 2 '22

Concreting of Hetch Hetchy dam progresses. *il Eng N* 88:973 Je 8 '22

Construction features of Hetch Hetchy dam. *il diag Eng & Contr* 57:225-7 Mr 8 '22

Construction progress of the Hetch Hetchy water supply of San Francisco, California. M. M. O'Shaughnessy. *il diags maps Am Soc C E Pro* 48:147-73 F '22; Discussion. 48:1305-10 My '22

Driving an eighteen-mile tunnel through the Sierra Nevada. A. E. Parsons. *il diags map Eng & Min J* 114:96-108 Jl 15 '22

Hetch Hetchy dam. *il diags maps Pub Works* 53:21-3, 43-5, 58-61 Jl 8-22 '22

Hetch-Hetchy dam completed. C. W. Geiger. *il Pub Works* 54:302-5 S '23

Hetch Hetchy nearly ready. *il Elec W* 81:882 Ap 14 '23

Hetch Hetchy project near power utilization stage. *Eng N* 88:905 Je 1 '22

Hetch Hetchy water power development. A. W. Copley. *il diags map Power Pl Eng* 27: 507-13 My 15 '23

Hetch Hetchy water supply of the city of San Francisco. M. M. O'Shaughnessy. *il diags map Am Water Works Assn J* 9:743-65 S '22

Hetch Hetchy's total future cost put at \$173,000,000. *Elec W* 82:624 S 22 '23

O'Shaughnessy dam and Hetch-Hetchy reservoir dedicated, July 7. *Elec W* 82:149 Jl 21 '23

O'Shaughnessy dam and its dedication. *Munc Eng* 65:109-16 S '23

O'Shaughnessy dam completed and reservoir storage begun. *il Eng N* 90:741-2 Ap 26 '23

O'Shaughnessy dam of San Francisco. *il Eng & Contr (W W)* 60:256-7 Ag 8 '23

Plant and program on the Hetch Hetchy dam. *il diags Eng N* 89:464-8 S 21 '22

San Francisco's water supply project. M. M. O'Shaughnessy. *il plan Sci Am* 127:18-19 Jl '22

Siphon spillway in the O'Shaughnessy dam. C. F. Stickney. *diag Eng & Contr (W W)* 60:574 S 12 '23

Unusual plant used in Hetch Hetchy dam construction. C. W. Geiger. *il Concrete* 21:75-6 S '22

Heterocyclic compounds

Influence of substituents on the formation and stability of heterocyclic compounds; hydantoin. C. K. Ingold, S. Sako and J. F. Thorpe. *Chem Soc J* 121:1177-98 Jl '22

Reaction involving the rupture of the ring in heterocyclic compounds; abstract. F. Petrenko-Kritschenko, E. Putiata and A. Gandelman. *Chem Soc J* 124 pt 1:480-2 My '23

Reactivity of methyl groups in hetero-cyclic bases. W. H. Mills and J. L. B. Smith. *Chem Soc J* 121:2724-37 D '22

Heterodyne beat method

Heterodyne beat method and some applications to physical measurements. M. H. Belz. *diags Philos Mag* 6th ser 44:479-501 S '22

Heusler alloys

Crystal structure of various Heusler alloys by the use of X-rays. J. F. T. Young. *Philos Mag* 6th ser 46:291-305, pl 4 Ag '23

Hevea brasiliensis. See Rubber

Hewlett, Edward Marriott, 1866-

Sketch. *por Elec W* 79:366 F 25 '22

Hexadecanesulfonic acid

Constitution of soap solutions; hexa-decane-sulphonic (cetyl-sulphonic) acid and other sulphonates. M. H. Norris. *Chem Soc J* 121:2161-8 O '22

Hexahydrodioxidiboron

Potassium salt of hexahydrodioxidiboron. R. C. Ray. *Chem Soc J* 121:1088-94 Je '22

Hexahydrodiphenylenoxyde

Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; hexahydrodiphenylenoxyd aus o-diphenol. J. v. Braun. *Deutsche Chem Gesell Ber* 55:3761-70 D '22; Abstract. *Chem Soc J* 124 pt 1:103-5 F '23

Hexamethyleneimine

Über hexamethylen-imin und sein verhalten bei der oxydation. F. Schmidt. *Deutsche Chem Gesell Ber* 55:1584-91 Je '22; Abstract. *Chem Soc J* 122 pt 1:761-2 Ag '22

Hexamethylenetetramine

Catalytic synthesis of hexamethylenetetramine. L. E. Rombaut and J. A. Nieuwland. *Am Chem Soc J* 44:2061 S '22

Crystal structure of hexamethylene-tetramine. R. G. Dickinson and A. L. Raymond. *diags Am Chem Soc J* 45:22-9 Ja '23

Vulcanization tests on hexamethylene tetramine. C. S. Williams. *India Rubber W* 66: 490 Ap '22

Hexammoniates

See Nickel halide hexammoniates

Hexane

Vapor pressure of volatile solvents. R. E. Wilson and E. P. Wyde. *diag Ind & Eng Chem* 15:801-9 Ag '23

Hexosamines

Hexosamines, their derivatives, and mucins and mucoids. P. A. T. Levene. 104p Rockefeller institute for medical research, New York '22

Hides and skins

Chemical constituents of skin. F. L. Seymour-Jones. *J Ind & Eng Chem* 14:130-2 F '22

Critical study of bating. J. A. Wilson and G. Daub. *il J Ind & Eng Chem* 13:1137-41 D '21

Pancreatin as an unhairing agent. J. A. Wilson and A. F. Gallun, jr. *il Ind & Eng Chem* 15:267-9 Mr '23

Pelt dyeing. O. Berthold. *Sci Am* 125A:134 D '21

Physiological and histological studies on flayed skins. A. Seymour-Jones. *Chem & Met Eng* 25:1051-4 D 7 '21

Le varron, parasite du bétail; pertes qu'il occasionne à l'agriculture et à la tannerie. G. Tainturier. *Génie Civil* 82:409-10 Ap 28 '23

See also Calfskin; Collagen; Leather; Tanning

High Bridge. See New York (city)—Bridges

High buildings

- Autobiography of an idea. L. H. Sullivan. Am Inst Arch J 11:335-42 S '23
- Concrete frame and exterior for high tower building. W. J. Knight. il diags plans Eng N 90:610-13 Ap 5 '23
- Economic problems of the skyscraper. Eng & Contr (Bldgs) 59:184 Ja 24 '23
- Eighteen-story concrete structure; the Hide and leather building, New York. R. C. Gautier. il diag plans Arch Forum 36:101-4 Mr '22
- English view of the disadvantages of high buildings. Eng & Contr 57:531-2 My 31 '22
- Esthetic import. I. K. Pond. il Am Inst Arch J 11:349-53 S '23
- Germany's forthcoming skyscrapers. il Sci Am 127:111 Ag '22
- Heckscher building, New York. il plans Arch & Bldg 54:17, pl 19-21 F '22
- High buildings and beauty. I. K. Pond. il Arch Forum 38:11-1, 179-82 F, Ap '23
- Highest reinforced concrete buildings. Concrete 19:sup57 D '21
- New emphasis in skyscraper design; exemplified in the recent work of Starrett & Van Vleck. J. T. Boyd, jr. il Arch Rec 52:496-509 D '22
- No limit now in sight for skyscrapers. il Pop Mech 40:573 O '23
- Passing of the skyscraper. G. C. Nimmons. Am Inst Arch J 10:356-61 N '22; Excerpt. Eng & Contr (Bldgs) 58:81-2 N 22 '22; Discussion. Am Inst Arch J 11:31-2 Ja '23
- Pershing Square building; its technique of materials. F. S. Laurence. il Am Arch 124:319-24 O 10 '23
- Pyramids of New York. J. W. Harrington. il Am Ind 24:5-9 Ag '23
- Rebuilding American cities; two notable New York examples. il Am Arch 124:145-8 Ag 15 '23
- Revenue from high buildings. Am Arch 123:89 Ja 17 '23
- Skyscrapers in America. G. C. Nimmons. Am Inst Arch J 11:370-2 S '23
- Skyscrapers in Germany. W. C. Behrendt. il diags Am Inst Arch J 11:365-70 S '23; Same. Eng & Contr (Bldgs) 60:666-71 S 26 '23; Discussion. W. S. Parker. Am Inst Arch J 11:372 S '23
- Tables and formulas for wind stresses in office buildings. C. Weiss. Eng N 89:510 S 28 '22
- Taller buildings for London. Am Arch 121:59-60 Ja 18 '22
- Water supply and pressure control in high buildings. L. M. Emmet. diags Dom Eng 97:346-7+ N 19 '21
- See also Office buildings; Steel construction; also Chicago tribune building; New York (city)—Architecture; Standard oil building, New York; Wrigley building, Chicago

High-priced products. See Advertisements—Quality appeal

High schools

- East high school, Cincinnati, Ohio. il diags plans Am Arch 121:340-5, 346a-j Ap 26 '22
- High-school buildings and grounds. U S Bur Educ Bul, 1922, no 23:1-49 '22
- Junior-senior high school, Roanoke Rapids, N. C. plans Am Arch 124:600-p, 61-2 Jl 18 '23
- Junior-senior high school, Waterloo, Iowa; views. Am Arch 124:378a-c O 24 '23
- New Washington Gladden high school of Columbus, Ohio. W. B. Ittner. il plans Am Arch 122:347-52 O 25 '22
- Senior high school, Bay City, Mich. il plans Am Arch 123:546f-j, 549-51 Je 20 '23
- Special room design and equipment. J. C. Llewellyn. il plans Arch Forum 37:57-62 Ag '22
- Winning design; competition for a proposed high school, Irvington, N.J. plans Am Arch 123:553-6 Je 20 '23

Highways

- American walnut highway, 1700-1710; drawings. Arch Forum 38:39 Ja '23

Highway accounting

- Accounting and cost records for county roads. E. L. Miles. Eng & Contr (R & S) 59:782-7 Ap 4 '23; Same. Can Eng 44:391-2 Ap 10 '23
- Accounting for highway equipment. R. F. Albert. Eng N 91:317 Ag 23 '23; Same. Eng & Contr (R & S) 60:706-7 O 3 '23
- Cost keeping on highway construction. A. R. Losh. Good Roads 62:62-5 Ja 25 '22; Same. Eng & Contr 57:111-12 F 1 '22; Same. Munic Eng 62:sup29-32 Mr '22; Same. Can Eng 42:440-2 My 2 '22; Same cond. Pub Works 52:83-4 F 4 '22; Excerpt. Eng N 88:203 F 2 '22
- Cost systems for road building. F. B. Trisko. Administration 3:693-8 Je '22
- Facing facts in highway estimates; standard estimate of cost forms prepared and advocated by the Kentucky association of highway contractors. Good Roads 62:51-2+ Ja 18 '22
- Highway accounting. G. F. Pineo. Can Eng 42:407 Ap 18 '22
- Highway administration**
- Business of a highway commission. C. M. Upham. Good Roads 62:114, 116-17 F 22 '22
- Centralized control of road building. J. T. Hallett. Eng N 90:81 Ja 11 '23
- Common sense and compromise needed in solving highway problems. J. Dalton. Automotive Ind 47:709-10 O 12 '22
- Conclusions reached at Pennsylvania conference of representatives of 25 state highway departments. Munic Eng 64:136-7 Ap '23
- Considerations for a road policy for Canada. M. A. Lyons. Eng & Contr (R & S) 58:103-8 N 1 '22; Same cond. Can Eng 43:584-6 N 28 '22
- Co-operation a new factor in highway development. Eng & Contr (R & S) 58:35 O 4 '22; Same abr. Good Roads 63:99-101+ S 20 '22
- Cooperation between state and county highway departments in Indiana. C. Gray. Munic Eng 62:91-4 Mr '22
- Developing a national transportation system. F. Terrace. Good Roads 63:111-12 S 27 '22
- Features of state highway work in Montana. J. N. Eddy. Munic Eng 61:205-6; 63:14-15 D '21, Jl '22
- Formulating a road policy. M. A. Lyons. Can Eng 44:574-5 Je 12 '23
- Highway progress and problems in the mid-South. Eng N 91:128-32, 168-70, 228-30, 256-7 Jl 26-Ag 16 '23
- How one state aids contractors in locating road materials. G. H. Henderson. Eng N 91:606-8 O 11 '23
- Necessity for strong county organizations. R. W. Davis. Good Roads 62:252-4+ My 3 '22
- Obligation of state highway departments to keep public sold on highways. H. E. Hilts. Munic Eng 64:43-7 F '23; Same. Eng & Contr (R & S) 59:353-7 F 7 '23; Same. Good Roads 64:99-101+ Mr 14 '23
- Planned publicity aids Missouri road program. il Eng N 91:11 Jl 5 '23
- Policy in advertising for highway bids. F. D. Messenger. Eng N 90:85 Ja 11 '23
- Political road control. Eng N 90:333 F 22 '23
- Resumé of federal aid work and future policies. T. H. MacDonald. Eng & Contr 57:13-16 Ja 4 '22; Same. Good Roads 62:95-100 F 15 '22; Same cond. Can Eng 42:603-5 Je 13 '22
- Road construction in Victoria county, Ont. E. L. Miles. Can Eng 44:513-16 My 22 '23
- Standard highway administration recommended. Good Roads 64:44 Ja 24 '23
- State engineering in the highway bridge field. S. B. Slack; M. W. Torkelson. Eng N 91:344-6 Ag 30 '23
- State highway maintenance in Massachusetts. Pub Works 52:382-4 My 27 '22
- State road maintenance through county organizations. J. T. Donaghey. Eng N 90:534-5 Mr 22 '23
- Traffic and transportation; 1921 report. Good Roads 62:20 Ja 11 '22

Highway administration—Continued

Use and abuse of highways. T. J. Wasser. Munic Eng 64:59-65 F '23; Same. Good Roads 64:39-41 46 Ja 24 '23; Same abr. Eng & Contr (R & S) 59:347-50 F 7 '23; Same cond. Eng N 90:158-9 Ja 25 '23; Same cond. Can Eng 44:273-4 F 27 '23; Excerpts. Nat Safety N 7:8+ F '23

See also Highway accounting; Highway departments; Highway inspection; Highway law; Highway research; Roads—Finance; Roads—Maintenance and repair

Highway contracts. *See* Roads—Contracts

Highway departments

Construction division of a highway department. J. H. Mullen. chart Eng & Contr (R & S) 59:34-8 Ja 3 '23

Fundamentals of highway department organization. A. R. Hirst. Eng N 89:1030-1 D 14 '22; Same. Eng & Contr (R & S) 59:16-19 Ja 3 '23

Maintenance department, its financing organization and operation. W. A. Van Duzer. Can Eng 42:166-9 Ja 24 '22; Same. Eng & Contr 57:196-8 Mr 1 '22

Pennsylvania highway department; developing a state highway system. Pub Works 51:389-91 N 19 '21

Pennsylvania state highway organization. charts Pub Works 53:1-5 Jl 1 '22

Putting business methods into state highway management; Pennsylvania develops theory of organization. Eng N 88:561-4 Ap 6 '22

Equipment

Economic aspects of road building equipment. F. L. Macpherson. Eng & Contr (R & S) 59:788-92 Ap 4 '23

From battlefield to road jobs; what the states have done with the surplus war supplies. D. H. George. Il Sci Am 128:227+ My '23

How North Carolina highway commission maintains motor equipment. C. D. Farmer. Munic Eng 63:sup28-9 S '22

Mechanical equipment of a highways department. A. Dryland. Can Eng 43:284-6 Ag 22 '22; Same cond. Good Roads 63:66-8 Ag 23 '22

Motor truck replacement policy. Munic Eng 63:sup17-18 Jl '22

Pennsylvania state highway equipment. Pub Works 53:41-2 Jl 15 '22

Table showing how surplus war material was distributed to the highway departments of the various states. Automotive Ind 47:103 Jl 20 '22

Use of motor vehicles by New Jersey state highway department. N. C. Applegate. Munic Eng 62:sup17-18 Ap '22; Same abr. Eng & Contr 58:14 Jl 5 '22

Highway engineering

Educating the public to highway construction needs. A. R. Hirst. Good Roads 63:166-7 N 8 '22

Efficient methods of providing for traffic during highway construction. A. R. Hirst. Good Roads 62:238-40+ Ap 26 '22; Same. Can Eng 42:683-5 Jl 4 '22; Same. Eng & Contr 58:108-10 Ag 2 '22

Elimination of traffic hazards in highway improvement. A. H. Blanchard. Good Roads 63:95+ S 13 '22

Highway congestion should be broken before reaching cities. P. Johnson. Automotive Ind 49:374-5 Ag 23 '23

Highway contractors' problems. H. H. Wilson. Eng & Contr 57:330-1 Ap 5 '22

Highway development lessons. A. W. Campbell. Can Eng 44:638-9 Je 26 '23; Same. Good Roads 65:1-2+ Jl 4 '23

Need for trained men in the field of highway engineering and highway transport. T. H. MacDonald. Good Roads 63:155-7 N 1 '22; Same. Eng & Contr (R & S) 56:137-9 D 6 '22

Opportunities in city planning for the highway engineer. E. F. Ayres. Eng & Contr (R & S) 59:571-4 Mr 7 '23

Progress made in highway engineering in 1922. Eng N 90:54-6 Ja 11 '23

Public works, roads and transport congress, London. Nov. 18-24, 1921. Engineering 112:737-8 N 25 '21; Engineer 132:571-2, 590 N 25-D 2 '21

Relation of motor-vehicle transportation to highway design. H. G. Shirley. Soc Auto Eng J 9:443-4 D '21

Some unsolved problems in highway economics. H. S. Fairbank. Good Roads 62:8-9 Ja 4 '22; Same. Automotive Ind 46:236-7 F 2 '22

Use of photography and other features in hastening road plan completion. G. H. Henderson. Eng N 90:82-3 Ja 11 '23

See also Bridges; Highway research; Highway transportation; Motor trucks and roads; Pavements; Roads

Bibliography

Highway engineering: roads and pavements. Am Soc C E Pro 48:[Soc aff] 57-91 Ja '22

Progress records

Co-operation between field and office on highway construction progress. A. W. Dean. Eng N 90:82 Ja 11 '23

Study and teaching

Conclusions on highway engineering course. Munic Eng 61:sup19 N '21

Education for highway engineering and highway transport. P. Johnson and W. C. John. U S Bur Educ Bul 47:1-20 '21

Education for highway engineering and highway transport; proceedings of 2d National conference. W. C. John, ed. 247p Highway educ. bd., Willard bldg., Washington '23; Abstract. Automotive Ind 47:874-91 N 2 '22

Graduate work in highway engineering and highway transport. Eng & Contr (R & S) 56:153-4 D 6 '22; Same. Good Roads 63:165-6 N 8 '22

Highway models for engineering colleges. S. R. Winters. Il Pop Mech 38:907-8 D '22

Sending the highways to school. G. M. Graham. Good Roads 64:170-3 My 2 '23

Training highway builders. R. de L. French. Can Eng 44:611-12 Je 19 '23; Same. Eng & Contr (R & S) 60:28-30 Jl 4 '23

Training of a highway engineer; an overseas view. G. S. Barry. Good Roads 63:139-41 O 18 '22

Trend in highway engineering education. T. R. Agg. Eng & Contr (R & S) 58:92-4 N 1 '22; Same. Good Roads 63:187-8 N 29 '22

Trend in highway transport education. A. H. Blanchard. Eng & Contr (R & S) 56:155-8 D 6 '22; Same. Good Roads 63:163-5 N 8 '22; Same. Munic Eng 63:242-5 D '22

Trend of highway engineering education. A. W. Campbell. Can Eng 43:582-3 N 28 '22

Tables, calculations, etc.

Determining tangential offsets for road crowns. E. M. Crawford. Eng N 88:143 Ja 26 '22

How to get circular right-of-way areas. M. E. Webster. diag Eng N 88:142 Ja 26 '22

Highway engineers

Engineers engaged in highway work. Eng N 90:953 My 31 '23

Minimum specifications for highway engineering positions. A. B. McDaniel. Prof Eng 8:9-13 My '23; Same. Eng & Contr (R & S) 59:1260-4 Je 6 '23; Excerpts. Eng N 90:793 My 3 '23

Training of a British highway engineer. G. S. Barry. Eng & Contr 58:215-17 Ag 30 '22

See also Highway engineering—Study and teaching

Salaries

Better pay for highway engineers. H. E. Spikard. C. Moriarty and C. E. Apple. Eng & Contr 57:546 Je 7 '22

Salaries of highway engineers. D. Q. McComb. Eng & Contr 57:422 My 3 '22

Highway finance. See Roads—Finance**Highway inspection**

Highway inspection. H. E. Hilts. Am Soc C E Pro 48:506-10 Mr '22; Same. Eng & Contr 57:550-1 Je 7 '22; Same. Good Roads 63:37-9 Ag 2 '22

Highway inspection—Continued

- Inspection of concrete paving jobs. J. H. Was-
son. Eng & Contr (R & S) 59:803-6 Ap 4
'23
Inspection of highway construction. W. G. B.
Thompson. Am Soc C E Pro 48:322-5 F '22
School for inspectors on asphalt work. Eng
& Contr 57:339 Ap 5 '22

See also Road making materials—Inspection

Highway law

- Brief summary of the principal provisions and
of financial effect of Wisconsin highway
bills 283-S and 284-S. Good Roads 65:17 JI
11 '23
Compilation of the road laws of Kentucky.
129p State journal co., Frankfort '23
Features of the new Minnesota road law
and work done under it. Eng & Contr 57:27-8 Ja
4 '22
Federal highway act. Pub Roads 4:17-21 D '21
Highway traffic inspection force authorized in
Pennsylvania. Munic Eng 65:8-9 JI '23
How Iowa levies assessments for surfacing
country roads. F. W. Parrott. Eng & Contr
58:239-40 S 6 '22
Importance of highway bridges to national
transportation; what New York state is
doing to solve the problem. D. Holbrook. Il
Good Roads 64:207-13+ Je 6 '23
Need for standardization of traffic laws grows
imperative. P. H. Smith. Automotive Ind
48:1081-3 My 17 '23
New highway law of Missouri. Il map Good
Roads 61:191-2 O 19 '21
New highways act for Alberta. Can Eng 42:
328 Mr 21 '22
President signs \$75,000,000 federal-aid road
bill. Eng N 87:831 N 17 '21
Road laws of Ohio, 1922. 3d ed. 560p F. J.
Heer ptg. co., Columbus, O. '22
Scientific road legislation. C. H. Claudy. Sci
Am 126:264 Ap '22
State, county and township road laws of Ok-
lahoma, including legislative acts 1923. 68p
Warden co., Oklahoma City '23
Take highways out of politics, demand of
engineers; far-reaching recommendations re-
sult of Governor Pinchot's conference. J.
Dalton. Automotive Ind 48:708-13 Mr 29 '23
Uniform legislation as affecting highway
traffic and highway transport. D. C. Fenner.
Good Roads 62:104-5 F 15 '22; Same. Eng
& Contr 57:107 F 1 '22; Same. Munic Eng
62:sup23-4 F '22

See also Automobile laws and regulations;
Grade crossings—Law; Highway admini-
stration; Motor trucks—Laws and regula-
tions; Traffic regulations

Highway lighting. See Roads—Lighting**Highway research**

- Abstract from the report of the director of
the Advisory board on highway research,
Division of engineering, National research
council, January 16th, 1922. Am Soc C E
Pro 48:[Soc aff]151-3 F '22
Apparatus used in highway research projects
in the United States. C. A. Hogentogler.
Il diag Nat Research Council Bul v 6, pt
4:1-91 Ag '23
Census of highway research; report of the
Advisory board on highway research of the
National research council. Good Roads 63:
39+ Ag 2 '22; Same. Eng & Contr 58:116
Ag 2 '22
Coordination of highway research. W. K.
Hatt. Good Roads 62:45-8 Ja 18 '22; Same
abr. Eng & Contr 57:332-3 Ap 5 '22
Economics of highway research demand at-
tention. Automotive Ind 46:186-7 Ja 26 '22
Highway and automotive engineer must join
in research. W. K. Hatt. Automotive Ind
47:890-1 N 2 '22
Highway research. W. K. Hatt. Eng & Contr
57:103 F 1 '22
Highway research brings economical trans-
portation. W. K. Hatt. Automotive Ind
46:1286-8 Je 8 '22
Highway research projects in the United
States. W. K. Hatt. Nat Research Council
Bul v 4, pt 3:1-103 O '22

Highway researches and what the results in-
dicate. A. T. Goldbeck. Good Roads 62:223-
6, 228-30, 233-8 Ap 19-26 '22

Highway transport research is foundation of
automotive progress. H. S. Fairbank. map
Automotive Ind 46:1239-46 Je 8 '22

How individual organizations can fit their
work into a broad highway research pro-
gram. W. K. Hatt. Munic Eng 64:239-44 Je
'23; Same cond. Good Roads 64:75-7+ F 28
'23

New committees for highway research. Eng
N 88:237 F 9 '22

Proceedings of 2d annual meeting of the Ad-
visory board on highway research division
of engineering, National research council,
Washington, Nov. 23, 1922. W. K. Hatt.
Nat Research Council Bul v 6, pt 1:1-89
My '23; Excerpts. Eng & Contr (R & S) 59:
6-8 Ja 3 '23

Recent progress in highway research. W. K.
Hatt. Good Roads 63:22-4 JI 19 '22; Same.
Eng & Contr 58:104-5 Ag 2 '22; Same cond.
Am Soc C E Pro 48:1382-4 Ag '22

Report of highway research at Pittsburg, Cal.,
1921 and 1922. Il diag 146p California state
ptg. off., Sacramento '23

Research foundation for the economic theory
of highway improvement. W. K. Hatt. Soc
Auto Eng J 12:294-5 Mr '23

Research in highway education. W. K. Hatt.
Good Roads 63:179-81 N 22 '22; Excerpt.
Eng N 90:154 Ja 25 '23

Research in highway transport. W. K. Hatt.
Can Eng 43:249-51 Ag 15 '22

Status of highway research. W. K. Hatt.
Eng N 88:62-4 Ja 12 '22

Work ahead in highway research. Eng &
Contr (R & S) 59:33 Ja 3 '23

See also Roads—Testing; also National re-
search council—Advisory board on highway
research

Highway surveying. See Roads—Surveying**Highway traffic. See Road traffic****Highway transportation**

Economics of highway transport. Automotive
Ind 46:627-8 Mr 16 '22

Education for highway engineering and
highway transport. P. Johnson and W. C.
John. U S Bur Educ Bul 47:1-20 '21

Educators map out course for teaching high-
way regulation and safety. Automotive Ind
47:889 N 2 '22

Function of streets and highways in national
transportation. J. R. Bibbins. Munic Eng
65:38-40 JI '23

Highway as a living force. P. Johnson. Munic
Eng 63:sup22-4 S '22

Highway traffic despatching. J. Lathrop. Sci
Am 128:168 Mr '23

Highway transport clearing houses. T.
Snyder. Munic Eng 64:247-8 Je '23

Highway transportation; a symposium. T. H.
MacDonald and others. Am Soc C E Pro
48:317-55, 505-15 F-Mr '22; Discussion. 48:
356-8, 516-22, 1001-2 F-Ap '22

Highway transportation correlated to highway
financing. H. G. Hotchkiss, jr. Aera 11:
1251-61 My '23

Military and commercial highway-transport.
B. Taylor. maps Soc Auto Eng J 12:413-32
My '23

Motor transportation of merchandise and
passengers. P. White. 486p McGraw-Hill
'23

Opportunities in the field of highway trans-
portation. C. C. Hanch. Good Roads 63:173-
4 N 15 '22

Possibilities of coordination disclosed in re-
port. A. H. Swayne. Automotive Ind 48:
1063-5 My 17 '23

Proceedings of the conference on Highway
economics and highway transport held at the
University of Tennessee, Knoxville, Oct.
10-11, 1921. 46p Highway education board,
Willard building, Washington '22

Province of the highways in the national
transportation plan. C. C. Williams. Munic
Eng 64:124-30 Mr '23; Same. Eng & Contr
(R & S) 59:1009-15 My 2 '23

Highway transportation—Continued

- Railroad as an operator of highway transport. A. H. Blanchard. Can Eng 42:561-2 My 30 '22; Same. Good Roads 63:8-9 Jl 5 '22; Same. Eng & Contr 58:148-9 Ag 16 '22
- Road surfaces and motor transport discussed by International road congress. Eng N 90: 1121-5 Je 28 '23
- Road transport. A. E. Berriman. Engineering 116:380-1 S 21 '23
- Survey proves highway transport economic necessity. Automotive Ind 46:897-8 Ap 27 '22
- What highway transport education means to the automotive industry. R. Chapin. Automotive Ind 47:379-81 Ag 24 '22
- See also Automobiles and roads; Highway engineering; Motor bus lines; Motor trucks and roads; Motor trucks in freight service; Motor vehicles; Road traffic; Roads

Bibliography

- Fuel and highway-problem bibliography. H. C. Dickinson. Soc Auto Eng J 9:441-2 D '21

Franchises

- Economic value of highway transport franchises. A. H. Blanchard. Eng & Contr (E & S) 58:182-4 D 6 '22; Same. Munic Eng 64:22-4 Ja '23; Same. Good Roads 63: 193-4 D 6 '22

Regulation

- California railroads seek to crush highway transport. Automotive Ind 47:202-5 Ag 3 '22
- Practical regulation of highway transport. E. J. Mehren. Eng N 88:871-3 My 25 '22

Hill school, Pottstown, Pennsylvania

- Memorial Hall, the Hill school; views and plans. Am Arch 124:pl 152k-p, 153-5 Ag 15 '23

Hillebrand, William Francis

- American contemporaries. C. E. Waters. por Ind & Eng Chem 15:752-3 Jl '23

Hilversum, Netherlands

- Some buildings in a Dutch housing community. W. M. Dudok. il plans Arch Forum 38: 235-8 My '23

Hinges**Advertising**

- Advertising changes a commonplace staple into an important specialty. R. Cole. Ptr Ink 119:109-10+ Je 29 '22

Hipolite company

- Starts in basement; made great through advertising. C. M. Harrison. Ptr Ink 117:41-2+ D 15 '21

Histamine

- Utilization of ethyl gamma-diethoxy-acetoacetate for the synthesis of derivatives of glyoxaline; an attempt to synthesize histamine by a new method. G. W. Pucher and T. B. Johnson. Am Chem Soc J 44:817-26 Ap '22

Histidine

- Study of the influence of arginine, histidine, tryptophan and cystine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. Am Chem Soc J 43:2469-76 N '21

Historic buildings

- See also Independence Hall, Philadelphia

Historic houses

- Report of A. I. A. committee on preservation of historic monuments and scenic beauties. Am Arch 123:494-5 Je 6 '23

- See also Hogarth house. London; Sulgrave Manor

Hobart, Henry Metcalf, 1868-

- Portrait. Elec W 82:846 O 27 '23

Hobbing machines. See Gear cutting machines**Hobs**

- Barber-Colman automatic hob-sharpening machine. il Am Mach 56:41-2 Ja 5 '22

- Do's and don'ts on the care of hobs. H. E. Harris. Mach 28:911-12 Jl '22

- Formed milling cutters and hobs with top and side rake. H. E. Harris. diags Mach 28: 527-8 Mr '22

- Harris automatic hob-sharpening machine. il

- Am Mach 56:190 F 2 '22; Mach 28:508-9 F '22

- Hobbing spiral bevel gears. N. Trbojevic. il

- diags Mach 30:165-76 N '23

- Hobbing sprocket teeth. G. M. Bartlett. il

- Iron Age 109:478 F 16 '22

- How to use gear-cutting hobs. S. O. Bjornberg. il charts Soc Auto Eng J 12:181-5

- Discussion. 185-7 F '23

- Setting grinding wheels for sharpening hobs.

- H. E. Harris. diag Mach 28:992-3 Ag '22

- Universal hobs for sprocket teeth. il Automotive Ind 46:459 F 23 '22

Manufacture

- Making hobs for cutting the teeth of gears. E. Sheldon. il Am Mach 59:623-7 O 25 '23

Hobs (die making)

- Hobbing process of mold making. il diags

- plan India Rubber W 67:285-7 F '23

- Making steel molds by hobbing. il Mach 29:

- 936-8 Ag '23

Hockenbeamer, August F., 1871-

- Portrait. Elec W 80:1028 N 11 '22

Hocking Valley railway

- Hocking Valley's place in the C. & O. system.

- Ry Age 72:1736-7 Je 24 '22

- 23d annual report for the fiscal year ended

- December 31, 1921. Comm & Fin Chr 114:

- 2730-1 Je 17 '22; Same abr. Ry Age 72:1759-

- 60 Je 24 '22

- 24th annual report, year ended December 31,

1922. Comm & Fin Chr 116:2279-81 My 19

- '23; Same abr. Ry Age 74:1246-7 My 19 '23

Hoe, Richard March

- Richard March Hoe and the evolution of fast

- printing presses. H: L: Bullen. por (front)

- il diags Inland Ptr 69:851-4 S '22

Hoesch process

- Ueber die arbeitsweise im Martinwerk des

- eisen- und stahlwerks Hoesch unter be-

- sonderer berücksichtigung des Hoeschver-

- fahrens und der beheizung der oefen mit

- koksofengas. O. Schweitzer. diags Stahl &

- Eisen 43:649-57; Discussion. 657-9 My 17 '23

Hoesch reaction

- Condensation of phenols with the hydro-

- chlorides of cyanamides and carbodi-imides,

- and its relation to the Hoesch reaction. W.

- F. Short and J. C. Smith. Chem Soc J

- 121:1803-8 S '22

Hoff, Jacobus Hendricus van't, 1852-1911

- Some cartoons of van't Hoff. il Ind & Eng

- Chem 15:192-3 F '23

Hofmann's reaction

- Application of the Hofmann reaction to sub-

- stituted carbamides. G. R. Elliott. Chem

- Soc J 123:804-13 Ap '23

- Application of Hofmann's reaction to substituted

- phthalimides. T: S. Moore, M. T.

- Marrack and A. K. Proud. Chem Soc J 119:

- 1786-91 N '21

Hog houses. See Swine houses**Hogarth house, London**

- Fittings of a famous English house; the interior of Hogarth house in London now re-

- assembled in this country. il Am Arch 123:

- 267-72 Mr 28 '23

Hogged fuel. See Wood as fuel**Hoisting**

- Block and tackle need close attention. E. A.

- McCann. Marine R 52:433-5 O '22

- Lifting a 225-ton engine frame with three

- cranes. F. W. Brady. diags Power Pl Eng

- 26:182-3 F 1 '22

- See also Mine hoisting; Wire rope fasten-

- ings

Cost

- Economical operation of hoist. Bldg Age 44:

- 45 Jl '22

Safety devices and measures

- Safety factors and ways of attaching hoist-

- ing ropes. Eng & Min J 113:584 Ap 8 '22

- Safety practice for hoisting ropes. R. M. Ray-

- mond. Eng & Contr 57:473-4 My 17 '22

Hoisting—Continued

Tables, calculations, etc.

Safe loads for ropes and chains. G: W. Childs. Foundry 50:332a Ap 15 '22

Hoisting engineers

Hoisting engineers' examination, Springfield, Ill., Mar. 19, 1923. Coal Age 23:1057; 24:21 Je 28-Jl 5 '23

Indiana hoisting engineers' examination, Indianapolis, 1922. Coal Age 23:62 Ja 11 '23

Hoisting machinery

Air hoists facilitate tank erection. il Iron Age 111:1320 My 10 '23

Air hoists have many applications. il Gas Age 50:439 O 7 '22

Air hoists speed up tank construction work. B. E. Davidson. il Eng & Contr (Ry) 59: 886-7 Ap 18 '23

Automatic skip hoists for the handling of coal and ashes. H. W. Stevens. diags Blast F & Steel Pl 11:173-7 F '23

Belt conveyors and belt elevators. F: V. Hetzel. 333p Wiley '22

Caisson hoist facilitates foundation work. il Pop Mech 39:847 Je '23

Chain-belt pivoted bucket carrier. il Power 56:323 Ag 29 '22

Chevalet de 100 tonnes, système Perbal, pour le levage des locomotives. diags plan Génie Civil 81:162 Ag 12 '22

Combined mechanical hoist and winch for trucks; Pyramid mechanical hoist-winch. diags Automotive Ind 47:611 S 28 '22

Conveying and elevating machinery. G. Mitchell. il Engineering 112:868-9 D 23 '21; Same. Eng & Ind Management 7:113 Ja 26 '22

Double-drum, compressed-air hoist. il Eng & Min J 114:703 O 14 '22

Electric winding engines and mine hoists; some notes on double helical gearing. H. H. Broughton. Electrician 88:6-7, 34-7 Ja 6-13 '22

Electrically driven winder. il Elec R (Lond) 90:112-13 Ja 27 '22

Elevating coke by skip hoist. il plan Gas Age 49:683-4+ Je 3 '22

Factors affecting installation of electric motors for hoisting. G. Fox. Elec W 79:171-3 Ja 28 '22

Improvements in hoisting machines. il Pop Mech 39:332 Mr '23

Ingersoll-Rand air motor hoist. il Am Mach 59:637 O 25 '23

Maintaining an electric hoist. H. S. Rich. Elec W 78:1129 D 3 '21

Mechanical features of automatic skip hoists. W: E. Hale. il Blast F & Steel Pl 11:294-8 My '23

Method of selecting gearing for motor-driven cargo hoists and winches. J. A. Jackson. Gen Elec R 25:171-3 Mr '22

Mitchell electrical grab. diags Eng & Ind Management 7:371-3 Ap 20 '22

Mono-rail hoist designed for low head room. il diags Ry Mech Eng 97:189-90 Mr '23

Motor operated hoist saves labor and valuable floor space. il Elec R 80:100 F '22

Motorhloc electrically operated chain hoist. il Am Mach 57:668 O 26 '22; Chem & Met Eng 27:1038 N 22 '22; Foundry 50:931 N 15 '22; Ry Mech Eng 96:730 D '22

New small electric hoist. il Iron Age 110: 1141 N 2 '22

Rotary pneumatic motor. il diag Engineer 133:478 Ap 28 '22

Single bucket blast furnace skip hoist characteristics. A. C. Cummins and A. R. Leavitt. il diags Ind Eng 81:513-14 O '23; Excerpt. Iron Age 112:962 O 11 '23

Small motor-driven foundation hoists. il Eng N 91:68 Jl '23

Specially designed hoisting equipment is part of efficient concrete plant. Eng N 89: 509 S 28 '22

Standard short head-room electric hoist. il Mach 28:928 Jl '22; Iron Age 109:1742 Je 22 '22

Transporter for Ireland. il diags Engineer 135: 94. 98-9 Ja 26 '23

Types of hoists. Eng & Min J 113:495 Mr 25 '22

Utilization of electric power about the blast furnace. G. Fox. Elec J 19:369-71 S '22

What it pays to know about material handling. W. T. Spivey. il diags Factory 30: 288-90+; 31:24-7+ Mr, Jl '23

What size hoist? W. F. Schaphorst. Textile World 64:1977+ O 6 '23

See also Air lifts; Buckets; Cableways; Conveying machinery; Cranes, derricks, etc.; Elevators; Lifting magnets; Mine hoisting; Mining machinery; Ore handling; Winches; Windlass; Wire rope

Advertising

Labor shortage a timely theme for industrial advertising. J: A. Murphy. Ptr Ink 123:8+ My 17 '23

Holding companies

See also International motor truck corporation

Holding devices (machine work)

Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 55:797-9, 843-6 N 17-24 '21

Work-holder for thread-milling operation. diags Mach 28:314 D '21

Work-holding surfaces of machine tools. F: Horner. diags Mach 29:594-7, 679-82, 763-8 Ap-Je '23

See also Arbors and mandrels

Holiday greetings. See Christmas printing**Holidays**

Bank and public holidays throughout the world, 1923. 89p Guaranty trust co., 140 Broadway, New York '23

Holland process. See Water purification—Electrolytic process**Hollanders.** See Paper making machinery**Hollinger consolidated gold mines, Ltd.**

Hollinger—an example of a mining investment. H. J. Wolf. Eng & Min J 113:510-11 Mr 25 '22

12th annual report. Eng & Min J 115:417-18, 473 Mr 3-10 '23

Hollow building tile association

Convention, Chicago, Jan. 25-26. Brick & Clay Rec 62:210-13 F 6 '23

4th annual meeting, Chicago, Jan. 25-26. Brick & Clay Rec 60:198-201 F 7 '22

Hollow tile

Details of hollow tile house construction. diags plans Bldg Age 45:67 Ap '23

Effect of grog additions on fire resistance of hollow tile. H. D. Foster. il Am Cer Soc J 6:748-52 Je '23

Hollow building tile manual for builders and masons. 63p Hollow bldg. tile assn., Chicago '20

Hollow tile construction. J: J. Cosgrove. 202p U.P.C. book co. '21

Hollow tile house of English design. il plans Bldg Age 43:40-1 D '21

Hollow tile investigation of U.S. Bureau of standards. Eng & Contr (Bldgs) 58:139 D 27 '22

Hollow tile school; design suitable for a small city. il plan Bldg Age 43:30 D '21

Proper method of loading tile. F. R. Hale. il Brick & Clay Rec 63:174-5 Ag 7 '23

Prices

Current prices of common building brick six inch drain tile and hollow building tile. Brick & Clay Rec 61:38, 565 Jl 11, O 17 '22

Specifications

Tentative specifications for clay hollow building tile. Am Soc T M Pro 21:547-52 '21

Standards

Cleaning house of useless tile sizes. Brick & Clay Rec 61:715-16 N 14 '22

Standard sizes and weights of hollow tile adopted. Brick & Clay Rec 63:625 O 30 '23

Same. Eng & Contr (Equip R) 60:915-16 O 31 '23

Hollow tile—Continued**Terminology**

Tentative definitions of terms relating to hollow tile. *Am Soc T M Pro* 21:602-3 '21

Testing

Capping for compression specimens. H. D. Foster. *il Am Cer Soc J* 6:623-9 My '23; Abstract. *Eng N* 90:1003 Je 7 '23

Effectiveness of different methods of making absorption determinations as applied to hollow building tile. H. D. Fosert. *Am Cer Soc J* 5:788-97 N '22

Loading test of a hollow tile and reinforced concrete floor of Arlington building, Washington, D.C. L: J. Larson and S. N. Petrenko. *il diags plan U S Bur Stand Tech Pa* 236:405-44 '23

Some compressive tests of hollow-tile walls. H. L. Whittemore and B. D. Hathcock. *il diags U S Bur Stand Tech Pa* 238:513-27 '23; Excerpt. *Eng N* 91:753 N 8 '23

Test of a hollow tile and concrete floor slab reinforced in two directions. W. A. Slater, A. Hagener and G. P. Anthes. *il diags plans U S Bur Stand Tech Pa* 220:727-93 '22

Testing hollow building tile. J. H. Griffith. *Eng N* 89:714-15 O 26 '22

Testing hollow building tile. W: B. Newhall. *diags Eng N* 89:396-7 S 7 '22

Transportation

What freight rates cost the public. H. S. Elkins. *Brick & Clay Rec* 61:391 S 19 '22

Holly

Making tea from holly. S. R. Winters. *il Sci Am* 126:181 Mr '22

Hollywood, California**Rapid transit**

Lower fares in Hollywood. *Elec Ry J* 60:373 S 9 '22

Holt-Christensen process

Holt-Christensen process. H. G. McClain and W. P. Clary. *Eng & Min J* 115:324 F 17 '23

Holy water bowl, Mont St Michel

Holy water bowl, Mont St Michel. *Am Arch* 123:326 Ap 11 '23

Home demonstration work

Tie up with the home demonstration agent. E. B. Weiss. *il Ptr Ink M* 4:42+ F '22

Home economics

Institutional household administration. L. Southard. 214p Lippincott '23

See also Budget; Household; Cookery; Cost of living; Domestic finance; Food; Furniture; Heating; House decoration; Laundry; Standard of living; Ventilation

Home labor

Industrial home work of children of Rhode Island. *Monthly Labor R* 15:626-8 S '22

See also Pinkham associates

Home owning

Broad study of home ownership. *Elec W* 79: 589 Mr 25 '22

Increasing opportunities for building contractors in the growth of home ownership. *Eng & Contr (Bldgs)* 58:112-13 D 27 '22

Our government is urging home ownership. *Bldg Age* 45:53-4 O '23

Own your home exposition. M. D. Morrill. *il Dom Eng* 102:505-7 Mr 17 '23

Single house or co-operative apartment? J. T. Beard, jr. *plans Bldg Age* 44:50-1 F '22

See also Apartment houses—Cooperative ownership

Homes

Forgotten fireside. M. K. Powers. *Ptr Ink* 119:132+ Ap 27 '22

Homes (institutions)

See Old age homes; Orphanages

Homestake mine.

See Mines and mineral resources—South Dakota

Homestake mining company

Facts for the stockholder. *Eng & Min J* 115: 606 Mr 31 '23

Hominy

Lye hominy: its discoloration and a new process for its manufacture. E: F. Kohman. *J Ind & Eng Chem* 14:415-18 My '22

Homogalax

Status of homogalax, with two new species. E: L. Troxell. *il Am J Sci* 5th ser 3:288-92 Ap '22

Honda, Kotaro

Kotaro Honda, Bessemer medalist. *por il Chem & Met Eng* 27:196-7 Ag 2 '22

Honduras

See also Debts, Public—Honduras

Industries and resources

British Honduras; a brief review of its resources, trade, and industry. L. W. James. *U S Bur For & Dom Com Trade Information Bul* 158:1-13 '23

See also Petroleum—Honduras

Honey**Advertising**

Advertising helps beekeepers solve problems. *Ptr Ink* 118:17-19 F 2 '22

Advertising to teach us what our ancestors knew about honey. *Ptr Ink* 118:93-4 Ja 12 '22

Honolulu

Honolulu's Chinatown turns to advertising. O. Atkinson. *Ptr Ink* 124:122+ Ag 2 '23

See also Electric plants (central stations) —Honolulu, Hawaii

Hook's joint.

See Joints, Universal

Hooks

Safety hoist hook. *il Iron Age* 109:795 Mr 23 '22

See also Crane hooks

Hookworm

Preventive medicine and sanitation in relation to human efficiency. C: A. Kofoid. *il W Soc E J* 28:195-212; Discussion. 212-13 My '23

Hoover, Herbert

James M. Cox proposes that Herbert Hoover be named as member of reparations commission. *Comm & Fin Chr* 115:1152-3 S 9 '22

Hoover refining process. See Petroleum refining

Hoover sweeper. See Vacuum cleaners

Hopkinson, Edward, 1859-1922

Sketch. *por Elec R (Lond)* 90:131 Ja 27 '22; Electrician 88:64 Ja 20 '22; Engineer 133: 74-5 Ja 20 '22; Engineering 113:82-4 Ja 20 '22

Hopkinson process. See Rubber—Manufacture

Hoppers, Ash. See Ash hoppers

Horn

Process for making the color of natural horn water-resistant. *diag Color Tr J* 10:249 Je '22

Horns

Photographic study of sound pulses between curved walls and sound amplification by horns. A. L. Foley. *il diag Phys R* 20:505-12 D '22

See also Telephone—Loud speaking apparatus

Horns, Automobile. See Automobile horns

Horns, Phonograph. See Phonograph horns

Hornung, Clarence Pearson

Decorative designer, not long out of his teens. S. H. Horgan. *por Inland Ptr* 68:640, pl 640a-h F '22

Horse collars

Saving mules from galled shoulders. *il Coal Age* 24:662 N 1 '23

Horse races

Adjudging horse races by photography. *il Pop Mech* 39:754-5 My '23

Horsepower

Calculation of horsepower required for unbalanced uncounterweighted hoist in shallow shaft. F. L. Stone. *il Coal Age* 22:577-80 O 12 '22

Horsepower—Continued

- Calculation of power required for a counter-weighted hoist and one in balance, shallow shaft. F. L. Stone. *il* Coal Age 22:625-8 O 19 '22
- Estimating H.P. of an engine. *Textile World* 62:751 Ag 5 '22
- Finding the developed horsepower of an engine. *diags* Power 55:735-6, 822-3 My 9, 23 '22
- Horsepower of engine. *Coal Age* 22:456 S 21 '22
- Horsepower of steam boilers. *Coal Age* 21:251-2 F 9 '22

Horses**Cost of maintenance**

- Cost of horse maintenance. *Pub Works* 53:83-4 J1 29 '22

Horseshoes

- Copper horseshoes to help prevent forest fires. *Pop Mech* 38:430 S '22
- Slippery road surfaces. H: Maybury. *Engineer* 132:601-2 D 2 '21

Advertising

- Poster advertising to create new interest in horses. *Ptr Ink* 122:53-4 F 15 '23

Horwood, Edward James, 1864-

- Engineers of note. *por Eng & Min J* 116:150 Ag 4 '23

Hose

- Covington hose dismantling and assembling machine. *il Ry Mech Eng* 95:780-2 D '21
- Hose and its use in the foundry. *Brass W* 18:304-5 O '22

See also Air brake hose; Air hose; Fire hose

Specifications

- Tentative specifications for steam hose. *Am Soc T M Pro* 21:792-4 '21

Hose connectors. See Connectors, Train line**Hose couplings**

- Robinson automatic air-hose coupling. *il Am Mach* 57:80-2 N 30 '22; *Iron Age* 110:1359 N 23 '22; *Ry Mech Eng* 96:727-8 D '22

See also Air brake hose

Standards

- Hose coupling standardization. J. H. Manning. *Can Eng* 43:484 O 24 '22
- Standardization of hose couplings. N. M. R. Wilson. *Am Water Works Assn J* 10:95-6 Ja '23; Same. *Can Eng* 42:502 My 16 '22

Hose machine

- Covington hose dismantling and assembling machine. *il Ry Mech Eng* 95:780-2 D '21

Hosiery

- Cloudiness in chiffon hosiery. *il Textile World* 64:1799+ S 29 '23
- Dyeing machine for hosiery. *diags Color Tr J* 11:245 D '22
- Dyeing of textile fibers for the hosiery trade. F. Asquith. *Am Dyestuff Rep* 12:500-5 J1 2 '23
- Embroiders seamless (closed) hose by means of patented spanning frames mounted on Swiss embroidery machines. *il Textile World* 62:2309+ O 21 '22
- Future of seamless hosiery. F. L. Miller, jr. *il Textile World* 63:2267-8 Ap 7 '23
- Heather effects on hosiery. L. G. Hayes. *Color Tr J* 11:202-5 N '22
- Hosiery dryer. *il Textile World* 62:2320 O 21 '22
- Machine for mercerizing hosiery; patent. *diags Color Tr J* 12:40-1 Ja '23
- Machines for drying stockings. E. O. Clemmons. *il Color Tr J* 11:174-5 O '22
- Novelties in knitted products. W: Davis. *Textile World* 61:2207+ Ap 15 '22
- Paranitraniline red in hosiery dyeing. S: Smith. *Am Dyestuff Rep* 12:573-6 J1 30 '23
- Stripe designs in hosiery. W: Davis. *il diags Textile World* 60:3607+ D 24 '21
- Three types of black hosiery. W. C. Dodson. *Textile Col* 45:355-9 Je '23

See also Gotham silk hosiery company

Labeling

- Uniform labeling of hosiery. *Textile World* 61:3131+ My 27 '22

Standards

- Bettering an entire industry's methods with simplification; work of National association of hosiery and underwear manufacturers. J: N. McCullaugh. *il System* 43:466-9, 623-6+ Ap-May '23

Hosiery and underwear manufacturers, National association of. See National association of hosiery and underwear manufacturers**Hosiery boxes****Standardization**

- Report on standardization of hosiery boxes. J: N. McCullaugh and E. M. Schenke. *il Textile World* 64:947-8+, 1069-70 Ag 18-25 '23
- Standard hosiery packing desirable. J: N. McCullaugh. *Textile World* 63:907+ F 3 '23

Hosiery machines

- Banner pointed heel hosiery machine. *il Textile World* 64:971 Ag 18 '23

Hosiery mills

- Durham's new dyehouse and steam plant. F. A. Hayes. *il plan Textile World* 60:2863+ N 12 '21
- Hosiery mill and throwing plant. J: R. Poteat. *il Textile World* 63:1017+ F 3 '23

Accounting

- Accounts of cotton hosiery manufacturers. A. A. Piper. *J Account* 33:348-53 My '22
- Costs in a hosiery mill. R. A. Thistle. *Textile World* 60:3005+ N 19 '21

Employees

- Wages and hours of labor in the hosiery and underwear industry, 1922. *Monthly Labor R* 15:1253-69 D '22

Hosiery trade

- Further readjustment in hosiery market. *Textile World* 63:903+ F 3 '23
- Hosiery manufacturer's survey. F. H. Williams. *Textile World* 63:3717+ Je 2 '23
- Hosiery selling combine; Weldrest associated mills, inc., representing fourteen plants. *Textile World* 63:3006 My 5 '23
- Our best sales ideas come from our customers. S. E. Summerfield. *Ptr Ink M* 6:19-20+ F 23
- Production, orders and stocks of hosiery for August, 1923. *Comm & Fin Chr* 117:1610 O 13 '23
- Proposed hosiery contract. *Textile World* 62:3064 N 25 '22
- Selling 60,000 pairs of hose a day direct to the wearer. G. A. Nichols. *Ptr Ink* 120:3-4+ Ag 21 '22
- Sweden's development as a hosiery market. W. H. Sholes. *Am Dyestuff Rep* 12:668-9 S 10 '23
- Year of gradual readjustment in hosiery market. *Textile World* 61:789 F 4 '22
- See also* Gotham silk hosiery company; Interwoven stocking company

Advertising

- Community publicity for full-fashioned hosiery. *Textile World* 63:1693+ Mr 10 '23
- Cultivating the new sales outlet: Everwear hosiery company's campaign to get shoe dealers to install hosiery departments. J: P. Wilder. *Ptr Ink* 120:69-70+ Ag 3 '22
- Full fashioned hosiery guild starts. *Textile World* 64:952 Ag 18 '23
- National advertising planned by group of full-fashioned hosiery manufacturers. *Ptr Ink* 122:12 Mr 29 '23
- What is the opportunity offered in hosiery? L. Allen. *Ptr Ink* 124:41-2+ J1 12 '23
- Whole line basks in reflected glory of an advertised leader; Quaker hosiery company introduces chiffon hosiery. J. True. *Ptr Ink* 123:113-14+ Je 14 '23

Hospital libraries

- Hospital libraries prove popular. C. Webster. *Special Lib* 13:89-90 Je '22

Hospital ships

Heating and ventilation

Hospital ship ventilation. R. C. Holcomb. *il*
Am Soc Heat & V E J 28:25-34 Ja '22

Hospitals

Administration building, New Haven hospital,
New Haven, Conn. plans Arch Forum 37:
37, pl 7-9 JI '22

Babies' hospital at Philadelphia. C. A. Ziegler.
il plans Am Arch 123:93-100 Ja 31 '23

Boston Lying-in hospital; views and plans.
Am Arch 124:pl 106g-m Ag 1 '23

Building a \$10,000,000 hospital. C. M. Niles.
il Pop Mech 38:421-3 S '22

Building the farthest-north hospital at
Point Barrow, Alaska. L. W. Pedrose. *il*
Pop Mech 37:49-51 Ja '22

Burke foundation hospital for convalescents,
White Plains, N.Y. (1914). Am Arch 121:
426j, 437 My 24 '22

Eutler & Rodman win first prize in the Mod-
ern Hospital's small hospital competition.
E. Olmsted. plans Arch Rec 53:569-73 Je '23

Concrete storage cellar for a state institu-
tion; South Dakota state hospital at Yank-
ton. il diags plan Concrete 23:16-18 JI '23

Details of planning general hospitals. E. F.
Stevens. il plans Arch Forum 37:263-9 D '22

Few fundamentals in the development of a
community hospital. F. E. Chapman. Arch
Rec 52:39-43 JI '22

Fifth Avenue hospital, New York. Arch &
Bldg 54:87-8, pl 142-6 S '22

Henry Ford hospital, Detroit, Mich.; views
and plans. Am Arch 122:274d-j, 294-5 S 27
'22

Hospital construction and costs. E. H. Hoyt.
Arch Forum 37:303-4 D '22

Hospital finish and decoration. W. B. Strat-
ton. il diags Arch Forum 37:283-5 D '22

Hospital floor. Am Arch 123:86-9 Ja 17 '23

Hospital for the Illinois Central railroad com-
pany, Paducah, Ky. plans Arch Forum 37:
37, pl 5-6 JI '22

Missouri Pacific hospital dedicated at St
Louis. *il* Ry Age 75:529-30 S 22 '23

Modern hospital design. R. E. Schmidt. *il*
diag plans Arch Forum 37:245-54 D '22

Mount Sinai hospital, Fifth avenue, New
York; views and plans. Am Arch 122:406a-h,
407-9 N 8 '22

New buildings for Mount Sinai hospital,
New York city. Arch & Bldg 54:88-9, pl 147-
53 S '22

Oldest hospital; St Bartholomew, London. *il*
Am Inst Arch J 11:354 S '23

Planning for occupational therapy. T. B. Kid-
ner. plans Am Arch 123:291-9 Mr 28 '23

Planning the small community hospital. C. A.
Erikson. il plans Arch Forum 37:310-14 D
'22

Preliminary survey for hospital design. S. S.
Goldwater. Arch Forum 37:255-7 D '22

Prevention of sound travel in hospitals. C.
Butler. plan Arch Forum 37:287-8 D '22

Providence maternity hospital. il plans Arch
Rec 51:170-4 F '22

Selection and development of hospital sites. *il*
plans Arch Forum 37:259-62 D '22

Some fundamentals in hospital planning. H.
C. Wright. plans Am Arch 120:424-7, 472-5
D 7-21 '21

Some of the special departments of a general
hospital. W. E. Woodbury. il plans Arch
Forum 37:271-6 D '22

Views and plans of various types of hospitals
thruout the U.S. See Architectural forum,
Hospital reference number, December '22

Visit to the Packers' hospital, Chicago. E. A.
Alliott. Can Chem & Met 6:87-8 Ap '22

See also Ambulances; Hospital libraries;
Hospital ships; Medical service, Industrial;
Nurses' homes; Tuberculosis, Hospitals and
sanatoriums for

Electric equipment

Electrical wiring and equipment for hospitals.
N. C. Ross. plans Arch Forum 37:297-300 D
'22

Equipment

Essential equipment for the general hospital.
W. D. Crow. il diags plans Arch Forum 37:
277-82 D '22

Hospital plant at Middleton. R. E. Dockam.
il plan Power Pl Eng 26:935-8 O 1 '22

Hospital refrigeration. J. F. Musselman. plan
Arch Forum 37:301-2 D '22

Lavatories and baths in English hospitals.
J. Y. Dunlop. il plan Sanitary & Heat Eng
98:93-5 Ag 25 '22

Modern hospital equipment requirements. W.
L. Durand. diag Sanitary & Heat Eng 96:
252-4 N 4 '21

Plumbing and sanitation in hospitals. M. J.
Sturm. diags plan Arch Forum 37:293-6 D '22

Plumbing in the largest fire-proof hospital in
the world; the Edward Hines, jr., Memo-
rial hospital at Broadview, Cook county, Il-
linois. il diags plans Dom Eng 98:60-5, 118-
20, 160-3 Ja 14-28 '22

Power and heating plant of Utica state hospi-
tal. il diags plans Power Pl Eng 26:449-56
My 1 '22

Power plant of the Provincial hospital, Wey-
burn, Sask., Canada. il diag Power 56:966-
8 D 19 '22

Heating and ventilation

Heating a modern hospital. C. L. Hubbard.
il diags Dom Eng 100:572-6+ S 30 '22

Heating and ventilating plant of a Kansas
City hospital. W. E. Gillham. il plans Am
Soc Heat & V E J 29:289-94 Ap '23

Hospital heating and ventilating. H. H. Angus.
il diags plans Arch Forum 37:289-92 D '22

Making hospital heating system work success-
fully; St Mary's hospital, Orange, N.J. il
plans Sanitary & Heat Eng 100:113-15 Ag 24
'23

Lighting

Use of light in hospitals. J. Darch. il diags
plan Illum Engr 15:165-72; Discussion. 173-
80 Je '22

Hot Springs, Arkansas

Cloudburst flood at Hot Springs. J. R. For-
dyce. il map Eng N 90:922-4 My 24 '23

Hot springs

Recent deposit of a thermal spring in Bolivia.
W. Lindgren. Econ Geol 17:201-6 My '22

Hot water heating

Air-bound hot water radiator. diags Dom
Eng 98:357-8 F 25 '22

Balanced type of open and closed hot water
heating system. J. Mackay. diag plans Dom
Eng 97:292-4 N 12 '21

Designing a hot water and gravity heating
system with mains below boiler tank. diags
Dom Eng 100:498-9 S 16 '22

Effect of pressure on hot water circulation.
F. B. Rowley. diags Am Soc Heat & V E J
29:271-4 Ap '23

Expansion tank connections. J. Mackay.
diags Dom Eng 98:258-61 F 11 '22

Garage heater works overtime. W. Hutton.
il plans Sanitary & Heat Eng 97:246-8 My
5 '22

Heating and ventilating U.S. National mu-
seum. C. R. Denmark. diags plans Am Soc
Heat & V E J 29:87-99 Mr '23

Heating hot water radiators below the
boiler and connecting up radiators to
please owners. J. K. Raymond. diags Dom
Eng 99:99-100+ Ap 15 '22

Heating system changed from high pressure
steam to hot water. P. Parker. chart diags
plans Dom Eng 99:365-8 My 27 '22

Heating the low-cost house; layout and cost.
C. L. Hubbard. diag plans Bldg Age 44:
48-9 Ap '22

Heating with condenser circulating water. J.
E. Williams. il diags Am Soc Heat & V E
J 29:399-406 JI '23; Abstract. Power 58:155-
6 JI 21 '23

Heating with condensing water reduces cost.
diags Power Pl Eng 27:139-40, 183 Ja 15-F
1 '23

Hot water circulation in a gravity heating
system. diag Heat & Ven 19:47-8 My '22

Hot water circulation problem. J. K. Ray-
mond. diag Dom Eng 105:166-7 O 27 '23

Hot water heating—Continued

- Hot water heating for a greenhouse. J. K. Raymond. *il diag Dom Eng* 100:229-30 Ag 5 '22
- Hot-water heating from open-grate fire. *il Pop Mech* 38:842-3 D '22
- Hot water heating system with mains reversed in relation to each other. J. Mackay. plans Dom Eng 97:531; 99:273-4 D 17 '21, My 13 '22
- Improved method of piping for an overhead hot water heating system. diags Dom Eng 104:130-2 S 1 '23
- Kinks for steam fitters. diags Dom Eng 97:526-7 D 17 '21
- Making distant radiators heat well. J. K. Raymond. *diag Dom Eng* 104:144-5 JI 7 '23
- Mechanical equipment for a machine shop; Kilbourne & Clarke mfg. co., Seattle, Wash. E. L. Weber. diags Heat & Ven 18:34-6 D '21
- Overhead hot water heating method considerably reduces unsightly piping. J. K. Raymond. *il diags plans Dom Eng* 98:526-8 Mr 25 '22
- Overhead system of hot water heating becoming more popular. F. Steele. diags Sanitary & Heat Eng 98:38-9 JI 28 '22
- Piping for systems of hot water heating. diags Dom Eng 98:441-3 Mr 11 '22
- Practical manual of steam, vapor and hot water heating. E. R. Pierce. 2d ed., rev. & enl. 316p Domestic engineering co., Chicago '22
- Problems in hot water heating. diags plans Dom Eng 100:531-4+ S 23 '22
- Relationship between cross sectional area of main and area of radiator valves supplied by it. diags plans Dom Eng 101:14-16 O 7 '22
- Schoolmaster and his class. R. M. Starbuck. diags Dom Eng 103:443-6 Je 2 '23
- Size of mains for hot water heating and methods of installing branches and risers. diags Dom Eng 97:399-401 N 26 '21
- Underground steam main construction; experiments in state institution with hot water heating through direct injection of high pressure steam. J. K. Raymond. diags plan Dom Eng 104:384-6 Ag 25 '23
- Unique hot water system. diags Sanitary & Heat Eng 97:281 My 19 '22
- Warming by hot-water circulation. T. F. C. Potterton. *il diag plans Gas J (Lond) sup* 2:23-4 F 28 '23
- What is the matter with hot water? F. B. Craig. diags Heat & Ven 18:27-9 N '21; Discussion. 19:46 Ag; 51-2 S; 64-5 D '22
- What it pays to know about heating. M. W. Ehrlich. Sanitary & Heat Eng 98:158-60 S 22 '22

See also Radiators

Tables, calculations, etc.

- Radiation computing charts. Heat & Ven 19:68-71 O; 70-3 N '22

Hot water supply

- Auxiliary domestic hot water supply heater connected to the riser of a hot water heating system. J. K. Raymond. diags Dom Eng 100:281-2 Ag 12 '22
- Domestic hot water supply in all gas house in England. J. Y. Dunlop. diags Dom Eng 97:355-6 N 19 '21
- Gas-heated hot-water supply. W. L. Westbrook. *Gas J (Lond) sup* 2:30-1; Discussion. 31-2 F 28 '23
- Heating water for wash rooms in manufacturing plants, foundries, etc. diags Dom Eng 97:626 D 31 '21
- Hot water—a present day necessity. *il Arch & Bldg* 55:87-8 Ag '23
- Hot water boilers. D. A. Heffernan. N E Water Works Assn J 37:52-3 Mr '23
- Hot water distribution by natural circulation. H. M. Phillips. diags Power 56:571-3 O 10 '22
- Improving hot water distribution in forced circulating systems. H. M. Phillips. diags Power 56:366-8 S 5 '22
- Increasing the supply of hot water. H. A. Jahnke. *diag Power Pl Eng* 27:190 F 1 '23

- Kinks for steam fitters; hot water supply service. diags Dom Eng 97:249-50 N 5 '21
- One-pipe hot water circulating system. P. J. Molloy. diags Power Pl Eng 27:442 Ap 15 '23
- Piping connections to a hot water storage tank. *diag Dom Eng* 103:634 Je 30 '23
- Prevention of corrosion in hot water supply systems and boiler economizer tubes. C. R. Texter. diags Am Water Works Assn J 10:764-72 S '23; Excerpt. *Gas Age* 52:532 O 27 '23; Excerpt. *Power* 58:588-9 O 9 '23
- Proper method of installing all types of gas-fired water heating equipment. N. T. Sellman. diags Dom Eng 100:273-6+ Ag 12 '22
- Proper pitch of piping in a small overhead hot water installation. *diag Dom Eng* 97:438 D 3 '21
- Pushing the gas-heated boiler or circulator. *il diags Gas J (Lond) sup* 2:20-1 F 28 '23
- Systems for building heating and domestic hot water supply. J. A. McHollan. *Arch Forum* 35:227-9; 36:9-10 D '21-Ja '22
- Various ideas on connecting up hot water domestic boiler. diags Dom Eng 103:640-2 Je 30 '23
- Water service and fire protection for an eleven-story office building. E. Cunningham. diags Dom Eng 98:206-10 F 4 '22
- Water supplies for city residences. A. E. Smith. diags Dom Eng 101:467-9, 578-80 D 16, 30 '22
- When hot water does not follow the arrows. T. W. Reynolds. diags Heat & Ven 20:56-7 Ag '23

See also Electric water heaters; Gas water heaters; Plumbing; Water heaters

Cost

- Gas fired hot water systems. A. A. Schuetz. *Gas Age* 48:639-41 N 12 '21; Same. *Am Gas J* 115:440, 450-3 N 12 '21; Same. *Sanitary & Heat Eng* 96:317-20 N 18 '21; Same. *Am Gas Assn Commercial sec v* 3:140-52 '21; Excerpts. *Am Soc Heat & V E J* 28:360-4 Ap '22; Discussion. *Am Gas Assn Commercial sec v* 3:152-7 '21

Hotel libraries

See McAlpin hotel—Library

Hotels

- Allerton House, New York city. *Arch & Bldg* 54:69-70, pl 114-17 JI '22
- Allerton house for women, New York. *Arch & Bldg* 55:25-6, pl 63-6 Mr '23
- Canoe Place Inn, Goodground, L.I. C. Fitz-Gibbon. *il plans Arch Rec* 53:451-63 My '23
- Construction of Prince Edward hotel, Windsor. R. E. W. Hagarty. *il plan Can Eng* 43:149-51 JI 18 '22
- Culinary department and what it means to architects. N. W. Aldrich. *Arch Forum* 37:189-90 O '22
- Grace Dodge hotel, Washington, D.C. *Arch & Bldg* 54:7, pl 6-9 Ja '22
- Haddon Hall hotel addition, Atlantic City. N.J. *Arch & Bldg* 54:103, pl 177-80 N '22
- Hotel Claman, New York city. S. L. Heidrich. *Arch & Bldg* 55:74-5, pl 151-4 JI '23
- Hotel or restaurant kitchen. N. W. Aldrich. *plan Arch Forum* 37:225-6 N '22
- Hotel Plaza addition, New York. *il Arch & Bldg* 54:16, pl 13-18 F '22
- Hotel Statler, Buffalo, N.Y. *plan Arch & Bldg* 55:60-1, pl 129-36, 143 Je '23
- New York leads as hotel city. *Am Arch* 122:456 N 22 '22
- Projects for hotels; two views. *Am Arch* 123:4980-p Je 6 '23
- Providence-Biltmore hotel, Providence, R. I. *Arch & Bldg* 54:68-9, pl 103-13 JI '22
- Shelburne hotel addition, Atlantic City, N.J. *Arch & Bldg* 54:104, pl 184-7 N '22
- World's finest hotel for Japan. *il Pop Mech* 40:30-1 JI '23
- World's largest hotel for Chicago. H: S. White. *il Pop Mech* 39:199-201 F '23

See also Restaurants

Advertising

- Bridging the gap between a local and a national reputation. P. I. Wellman. *Ptr Ink* 122:25-6 F 8 '23

Hotels—Advertising—Continued

4,000 executives are invited to manage a business. J. Henle. Ptr Ink M 5:39+ D '22
Hotels advertise to public over employees' shoulders. Ptr Ink 118:25-6 F 9 '22
Letters that keep us sold out. H. G. Creel. System 44:295-6 S '23
New twist on selling that held up sales. H. Latz. il System 41:692-6 Je '22
Waldorf-Astoria advertising scientific diet service. J. A. Murphy. Ptr Ink 118:33-4+ Mr 9 '22

Designs and plans

Chase hotel, St Louis, Mo.; views and plans. Am Arch 124:214a-h, 215 Ag 29 '23
Concerning the Imperial Hotel, Tokyo, Japan. L. H. Sullivan. il plans Arch Rec 53:332-52 Ap '23; Abstract. Concrete 22:223-4 Je '23
Embassy hotel, New York. il plans Arch Forum 37:123-4 S '22
Hotel for a small town; student work; Society of Beaux-Arts architects. Am Arch 123:134-8 Ja 31 '23
Hotel of modern design. il plans Bldg Age 44:32-3 Ag '22
Hotel Standish Hall, 45 West 81st street, New York city; view and plans. Arch & Bldg 55: pl 191-2 S '23
Hotel Statler, Buffalo. il plans Arch Forum 39:11-16, pl 1-6 Jl '23
Kansas City club, Kansas City, Mo.; views and plans. Am Arch 124:198a-203 Ag 29 '23
Melbourne hotel, St Louis, Mo.; views and plan. Am Arch 122:548-52 D 20 '22
Modern inn; Hotel Manchester, Middletown, Ohio. il plans Bldg Age 45:42-4 Mr '23
New Colonial hotel, Nassau, Bahamas. il plans Am Arch 123:511-6 Je 20 '23
New Hotel Statler, Buffalo, N.Y. il plans Am Arch 122:60-4 Jl 19 '22
Practical points in hotel planning. D. P. Ritchey. il plans Arch Forum 35:221-6 D '21
Sagamore hotel, Rochester, N.Y. Arch & Bldg 55:90, pl 182-7 S '23
Second preliminary competition for 16th Paris prize—a summer hotel. Am Arch 123:369-71 Ap '23
Wade Park Manor, Cleveland, Ohio. Arch & Bldg 55:82-3, pl 161-6 Ag '22
Winning design. Plym traveling competition, American Institute of Architecture, University of Chicago. See E. W. Barr. Am Arch 123:512-3 Je 20 '23

Electric equipment

Economics of complete electrification in large buildings. W. H. Whitton. il Elec W 81:1139-42 My 19 '23
Electrical equipment for modern hotels. O. E. Goldschmidt. il plans Am Arch 124:187-94 Ag 29 '23
Mechanical equipment of hotels. il plans Am Arch 124:186-214, 222-8 Ag 29 '23
Piping equipment for a hotel building. E. Cunningham. diags Dom Eng 99:410-12 Je 3 '22

Employees

Behind the scenes in a hotel. 47th Consumers' league of New York, New York city '22

Heating and ventilation

Heating and ventilating of hotels and clubs. A. L. Browne. Am Arch 124:222-5 Ag 29 '23
Heating, ventilating and mechanical equipment of the Hotel Pennsylvania in New York city. A. K. Ohmes. il diags plans Am Soc Heat & V E J 28:85-95 Mr '22; Same. Sanitary & Heat Eng 97:66-70 F 10 '22

Lighting

Lighting for public eating places. J. L. Stair. il diags plan Illum Eng Soc 17:621-41 N '22; Abstract. Am Arch 122:511-16 D 6 '22
Wiring systems for lighting of hotels and clubs. C. P. Trueax. plans Elec R 79:731-4 N 12 '21

Management

Hardest job in business. E. M. Statler. il System 41:270-2+ Mr '22

Hotel operation and management. M. E. Woolley. Standard business training institute, Buffalo, N.Y. '22
How we find what will sell best. J. McE. Bowman. il System 43:460-3+ Ap '23
How we fitted Ford's principles to our business. L. M. Boomer. System 44:421-4+ O '23
Profit in doing more than customers expect. J. L. Horgan. il System 42:38-40+ Jl '22
Where Statler looks for advertisable ideas. R. Cole. Ptr Ink M 6:21-2+ Je '23

Merchandizing

Chicago hotel prepares to market its food products nationally. Ptr Ink 120:10+ Ag 31 '22
Hotel market for trade-marked products. F. C. Russell. Ptr Ink 124:141-2+ Ag 9 '23

Power

Central-station service halves hotel's power costs. J. K. M. Harrison. Elec W 78:1279 D 24 '21
Purchased power proves expensive in hotel. chart Power Pl Eng 27:622-3 Je 15 '23

Printing

Specimens from the print shop of the Statler hotels. Ptg Art 39:314-d Je '22

Rates

Is it unfair to hotels to ask for lower rates? Ptr Ink 118:161+ Ja 12 '22

Houghton, Alanson Bigelow, 1864-Business man ambassador. J. B. Morrow. Por Nation's Business 10:18-19 Je '22

Houghton, E. F., & company
Building a six-million-dollar business with a house organ. C. E. Carpenter. Ptg Art 38: 221-33 N '21

Hours of labor

Address. E. H. Gary. Iron Age 112:1166-8 N 1 '23

American engineering council adopts report for 8-hour day. Iron Tr R 71:730-1 S 14 '22

Application of the eight-hour day in French industry. Monthly Labor R 15:321-3 Ag '22

Application of the three-shift system to the iron and steel industry. 156p International labour office, Geneva. '22

Changes in union scale of wages and hours of labor 1913 to 1923. Monthly Labor R 17: 625-50 S '23

Complete 12-hour day report of American iron and steel industry adopted. Iron Tr R 72: 1595+ My 31 '23; Same. Iron Age 111:1546-7 My 31 '23; Same. Comm & Fin Chr 116:2473-4 Je 2 '23; Abstract. Am Mach 58:822a My 31 '23

Effect of 48-hour week on cotton mill production. H. Cliff. Textile World 61:3659+ Je 17 '22

Eight hour day and the problem of overtime in Germany. Dr Leymann. Int Labour R 6: 327-33 S '22

8-hour day in Europe. H. C. Estep. il Iron Tr R 73:536-40 Ag 23 '23

8-hour day in Germany. A. Thyssen. Iron Age 110:216-17 Jl 27 '22

Eight-hour day summarily established by Carnegie steel co. Iron Age 112:399-400 Ag 16 '23

8-hour steel day brought nearer. Iron Tr R 70:1494-5 My 25 '22

Eight-hour versus the twelve-hour shift. J. Elec 48:280 Ap 1 '22

Eight hours in Germany. A. Thyssen. Iron Age 112:987 O 11 '23

English factory hours and the two-shift system for women. Monthly Labor R 17:841-2 O '23

Evasion of international 48-hour week. H. Cliff. Textile World 61:2213-4+ O 20 '23

F.A.E.S. report states facts on twelve-hour shift. Mech Eng 44:681-6 O '22

Federation report against 12-hour day. Eng N 89:953 N 30 '22

Five-day week in industry. Monthly Labor R 17:652-3 S '23

Germany may abolish 8 hour day. Am Mach 58:132b-c Ja 18 '23

Gradually reducing the hours of labor. Iron Age 112:559 Ag 30 '23

Hours of labor—Continued

- Have office hours become standardized? A. L. Prickett. Administration 3:66-9 Ja '22
- Hours and output. Engineer 134:443-4 O '27 '22
- Hours of employment. C. I. S. Smith. Eng & Ind Management 8:51-3 Ag 10 '22
- Hours of labor in the iron and steel industry. Iron Age 109:1515 Je 1 '22
- Hours of labour in the mercantile marine. Int Labour R 5:321-8 F '22
- Ideal work-curve. T. Bedford. bibliog J Ind Hygiene 4:235-45 O '22
- Inland steel co. and the shorter work day. Iron Age 112:333 Ag 9 '23
- Institute directors act on eight-hour day. Iron Age 112:71-3 Jl 12 '23; Comm & Fin Chr 117:38-9 Jl 7 '23; Iron Tr R 73:128 Jl 12 '23; Blast F & Steel Pl 11:444-5 Ag '23
- La journée de huit heures et sa répercussion sur la production. H: Ponçay. Génie Civil 82:133-6, 156-9 F 10-17 '23
- Judge Gary's statement to the press on the twelve-hour day. Comm & Fin Chr 117:163-4 Jl 14 '23
- Labour shifts in continuous industries in the United States. H. B. Drury. Int Labour R 7:189-208 F '23
- Length and distribution of working hours. E. Masl. Int Labour R 6:276-7 Ag '22
- Length of work periods on continuous-process work in the chemical industries. H. B. Drury. Ind & Eng Chem 15:84-5 Ja '23
- Lighting and ventilation of factories, hours of labor and health. J. S. Purdy. J Ind Hygiene 3:355-8 Mr '22
- Long-day problem submitted to industry. Iron Age 109:1491-3 Je 1 '22
- New regulation of hours of work on the French railways. Int Labour R 7:328-34 F '23
- One mill's experience with 8-hour day. E. T. Davis. Iron Age 112:491-2 Ag 23 '23
- One month's progress in reducing hours. Iron Age 112:750-1 S 20 '23
- Origin of the Saturday half holiday. E. H. Heinrichs. Ind Management 62:379 D '21
- Plants begin eight-hour shifts. Iron Tr R 73:437 Ag 16 '23
- Regular weekly hours of work in manufacturing industries of the United States, 1909, 1914, and 1919. Monthly Labor R 15:318-19 Ag '22
- Report of American iron and steel institute committee on the twelve-hour day. Monthly Labor R 17:92-5 Jl '23
- Report of the Netherlands commission of enquiry into hours of work in German industry. Int Labour R 5:784-98 My '22
- Results of the eight-hour day in Sweden. Int Labour R 7:321-7 F '23
- Seven-hour day in British coal mines. Coal Age 21:922-4 Je 1 '22
- Short day, problem for all. G: H. Charles. Iron Tr R 73:480 Ag 16 '23
- Short hours and the standard of living. E: Brown. Eng & Ind Management 8:124-6 S 7 '22
- Some practical experience slants on the five-day week. Factory 29:30 Jl '22
- Standard working hours of factory employees. Chem & Met Eng 26:1001-2 My 24 '22
- Steel men are White House guests; President Harding confers with leaders of the industry in regard to abolishing twelve-hour day. L. W. Moffett. Iron Age 109:1448-9 My 25 '22
- Steel works experience with the short day. B. Stoughton. Iron Age 112:325-8, 495-6 Ag 9, 23 '23
- Study of the office hours of 56,000 employees. A. L. Prickett. Ptr Ink 118:17-18 Mr 23 '22
- Three-shift day at steel works. Iron Age 110:657-8, 689-92 S 14 '22
- Three-shift system in the iron and steel industry. Int Labour R 6:547-58 O '22
- Three shifts more costly than two shifts. Iron Age 109:1353, 1402-4 My 18 '22
- Three shifts vs. two, in steel. B. Stoughton. Iron Tr R 71:791-5, 856-60, 923-9 S 21-O 5 '22
- Twelve hour day unnecessary. J: D. Rockefeller, jr. Comm & Fin Chr 115:2014 N 4 '22
- Twelve-hour shift. C: Wadsworth. Chem & Met Eng 27:1063-7 N 29 '22
- Twelve-hour shift in American industry. Management Eng 3:205-12 O '22
- Twelve-hour shift in industry. 302p Dutton '22; Excerpts. Brick & Clay Rec 62:502-4 Mr 20 '23; Abstract. Monthly Labor R 15:957-66 N '22; Review. C: M. Mills. Iron Age 111:689-90 Mr 8 '23
- 12-hr. shift in industry. L. W. Wallace. Iron Age 111:1604 My 31 '23
- 12-hour shift outside of steel. Management & Adm 6:359-60 S '23
- Unfair competition in labor hours. C: F. Smith. Textile World 63:3002+ My 5 '23
- Union scale of wages and hours of labor, May 15, 1920. U S Bur Labor Statistics Bul 286:1-280 '21
- Union scale of wages and hours of labor, May 15, 1921. U S Bur Labor Statistics Bul 302:1-219 '22
- Union scale of wages and hours of labor May 15, 1922. U S Bur Labor Statistics Bul 325:1-210 '23
- Wages and hours of labor. See monthly numbers of Monthly labor review
- Wages and hours of labor in anthracite coal mining in Pennsylvania in January, 1922. Monthly Labor R 14:855-62 My '22
- Wages and hours of labor in Canada. Monthly Labor R 14:694-6 Ap '22
- Wages and hours of labor in cotton-goods manufacturing, 1920. U S Bur Labor Statistics Bul 288:1-125 '21
- Wages and hours of labor in cotton-goods manufacturing, 1922. U S Bur Labor Statistics Bul 345:1-27 '23
- Wages and hours of labor in lumber manufacturing, 1921. U S Bur Labor Statistics Bul 317:1-55 '23
- Wages and hours of labor in the boot and shoe industry: 1907 to 1920. U S Bur Labor Statistics Bul 278:1-177 '21
- Wages and hours of labor in the boot and shoe industry: 1907 to 1922. U S Bur Labor Statistics Bul 324:1-118 '23
- Wages and hours of labor in the hosiery and underwear industry, 1922. U S Bur Labor Statistics Bul 328:1-33 '23
- Wages and hours of labor in the men's clothing industry, 1911-1922. U S Bur Labor Statistics Bul 329:1-39 '23; Abstract. Monthly Labor R 15:1269-74 D '22
- Wages and hours of labor in the petroleum industry, 1920. U S Bur Labor Statistics Bul 297:1-153 '22; Excerpt. Monthly Labor R 15:317-18 Ag '22
- Wages and hours of labor in the slaughtering and meat-packing industry, 1921. U S Bur Labor Statistics Bul 294:1-93 '22
- Wages and hours of labor in woolen and worsted goods manufacturing, 1920. U S Bur Labor Statistics Bul 289:1-97 '21
- Wages and hours of labor in woolen and worsted goods manufacturing, 1922. U S Bur Labor Statistics Bul 327:1-34 '23
- What are real evils of the long shift? A. D. Perley. Iron Age 110:1005-6 O 19 '22
- What are the best ways to run a plant 24 hours a day? il System 44:26-8+ Jl '23
- Work hours in Germany. Iron Age 109:1564 Je 1 '22
- Working hours; report of a special committee composed of representatives of the Engineering and national employers' federation, the Shipbuilding employers' federation, and the Unions' negotiating committee. Engineer 134:363-4, 377-9 O 6-13 '22; Editorial. Engineering 114:434 O 6 '22
- Working on abolition of the long day; conferences of iron and steel manufacturers held in New York and Cleveland. Iron Age 112:285-6 Ag 2 '23
- See also Daylight saving; Fatigue; Woman—Employment
- House approaches**
- Elevated house approaches. A. Marple. il Bldg Age 44:34 F '22
- House boats**
- City Island, N.Y., shipyard gets contract to build distinctive type of houseboat having oil engines. Marine Eng 27:69 Ja '22

House boats—Continued

Wood vs. steel for houseboat construction. Marine Eng 27:655-6 O '22

House decoration

Adapting the eighteenth century interior. H. Major. il diags plans Arch Forum 36:247-52, pl 96 Je '22

Art and business of interior decoration. B. R. Herts. 134p Small, Maynard & co., Boston '22

Art of home decoration. M. H. Northend. 292p Dodd '21

Be your own decorator. E. Burbank. 331p Dodd '22

Book of building and interior decorating. R. T. Townsend. 104p Doubleday '23

Chinoiserie in English decoration. W. F. Wheeler. il Arch Forum 36:162-8 Ap '22

Decoration and renovation of the home. A. S. Jennings. 220p Spon '23

Decoration of the modern renaissance interior. L. V. Solon. il Arch Rec 54:97-100 Jl '23

Early eighteenth century American interiors. E. J. Hipkiss. il Arch Forum 38:34-40 Ja '23

English decoration and furniture of the later XVIIIth century. M. Jourdain. 269p B. T. Batsford, London '22

English Georgian decorative precedent. S. Macomber. il diags Arch Forum 36:79-82, 120-6, pl 47-8 F-Mr '22

Fittings of a famous English house; the interior of Hogarth house in London now reassembled in this country. il Am Arch 123:267-72 Mr '23

House decorations and repairs. W. Prebble. 114p Pitman '22

House of Mrs William Hayward, New York. il plans Arch Forum 37:235, pl 73-80 N '22

Influence of the Empire style. A. M. Baldwin. il Arch Forum 39:189-92 O '23

Inside the house beautiful. H. C. Peabody. 70p Atlantic monthly press, Boston '21

Interior architecture of the house of medium cost. H. Major. il Arch Forum 38:107-14 Mr '23

Interior of the country house. A. R. Colton and A. W. Colton. il plans Arch Rec 50:275-94 O '21

Interiors adapted from the Italian. W. F. Wheeler. il plans Arch Forum 35:112-17, 154-9, 199-204, 241-6, pl 45-6 S-D '21

Living room of a brick house in Denver, Colorado; views. Am Arch 123:456f-g My '23

Modern American interiors and their correct furnishing. M. L. King. il Am Arch 124:31-7 Jl 4 '23

Modern interior decoration and museum modes. L. Mumford. Am Inst Arch J 11:174-6 Ap '23

Next-to-nothing house. A. V. Carrick. 252p Atlantic monthly press, Boston '22

Periods in interior decoration. H. Jeans. 118p Trade papers pub. co., London; Painters' magazine, New York '21

Plea for the architect's interest in fabrics. H. Moran. il Arch Forum 37:154-8, 198-202, 239-42 S-N '22

Practical book of furnishing the small house and apartment. E. S. Holloway. 296p Lip-pincott '22

Principles of interior decoration. B. C. Jakway. 289p Macmillan '22

Report of the Federal trade commission on house furnishings industries. U. S. Federal trade comm., Washington '23

Scale in interior architecture. J. T. Simpson. il Arch Forum 36:36-42, pl 15-16 Ja '22

Spanish influence in interior decoration and its expression in the United States. R. Cutajar. il Am Arch 123:433-8 My 9 '23

Spanish interiors and furniture. A. Byne. W. Helburn inc., New York '21

Style of early American interiors. A. M. Baldwin. il Arch Forum 38:245-50 My '23

Use of eighteenth century French precedent. il diags Arch Forum 37:40-4, pl 15-16 Jl '22

See also Architecture, Domestic; Carpets; Drapery; Fireplaces; Furniture; Paper hanging; Rugs; Tapestry; Wall paper; Woodwork

House drainage. See Drainage, House

House fittings. See Building fittings

House framing

Frame construction details. 28 pl National lumber manufacturers assn., Chicago '20

House moving. See Moving of structures

House organs

Building a six-million-dollar business with a house organ. C. E. Carpenter. Ptg Art 38:221-33 N '21

Control of customers and distributors through house organs. R. E. Ramsay. Administration 3:7-10 Ja '22

Critical survey of 'printers' house-organs. A. J. Fehrenbach. Inland Ptr 71:76-8, 228-30, 380-2, 541-2, 695-8, 844-6 Ap-S '23

Editing a house-organ. C. T. Fish. Inland Ptr 70:517-18 Ja '23

Electrical company magazine—past, present and future. N E L A Bul 9:143-52 Mr '22

House magazines to supplement advertising in Latin America. W. E. Aughinbaugh. Ptr Ink 118:137-8+ Mr 9 '22

House-organ as a salesman. T. Delohery. Inland Ptr 70:51-3 O '22

House-organ discords. H. Botsford. Inland Ptr 71:357-9, 517-18, 669-70, 823-4 Je-S '23

House organs for banks. E. H. Kittredge. Ptg Art 41:453-7 Jl '23

House organs—they do pay! H. Botsford. Nation's Business 10:50-1 D '22

House publications. C. Sloan. See monthly numbers of Printing art

Portland gas & coke company publishes magazine. Am Gas J 116:558-9 Je 17 '22

Post card house-organ at 12 cents a prospect. E. Berfield. Ptr Ink M 5:46 D '22

Putting the tunes of house-organs before prospects. C. T. Hubbard. Inland Ptr 71:49-51 Ap '23

Reviews of house-organs. A. J. Fehrenbach. Inland Ptr 72:285-6 N '23

Right or wrong? Ptg Art 39:251-5 My '22

Some facts regarding house organ sizes. G. A. Heintzemann. Ptg Art 40:52-3 S '22

Use of company publications. B. I. Budd. Elec Ry J 60:551-2 O 7 '22

We built our success on the neighborly spirit. H. Field. il System 42:138-40+ Ag '22

What should go into the printer's house organ? M. Droke. Ptg Art 39:341-3 Je '22

Who shall edit the house organ? C. Sloan. Ptg Art 41:499-503 Jl '23

See also Employees' magazines

Bibliography

Bibliography and selected references on house organs. N E L A Bul 9:157-9 Mr '22

Directories

List of current magazines issued by member companies of the National electric light association. N E L A Bul 9:153-7 Mr '22

House organs, Interior. See Employees' magazines

House painting

Household painter. A. A. Kelly. 202p McKay '23

See also Painting, Industrial

House work

Discussion of the method of A. D. Waller for computing energy output, and results of experiments determining energy expenditure during some household tasks. S. Cairns and M. K. O'Brien. J Ind Hygiene 4:283-91; Bibliography. 291-2 N '22

Houseboats. See House boats

Household budget. See Budget, Household

Household expenses. See Budget, Household; Cost of living; Domestic finance

Household management. See Home economics

Houses

Making bigger markets by adding rooms to homes. R. R. Updegraff. Ptr Ink 118:3-4+ Mr 9 '22

New systems of house construction. Eng & Contr 57:616-17 Je 28 '22

See also Apartment houses; Architecture, Domestic; Bungalows; Concrete houses; Cottages; Country houses; Farmhouses; Miners' houses; Tenement houses

Houses, Concrete. See Concrete houses

Houses, Fabricated

- Building better homes; factory-made houses. A. H. Scott. *il Sci Am* 126:110-11 F '22
Dog houses and dormers; possibilities in fabricated houses. W. H. Ham. *il Nation's Business* 10:18-20 Ag '22
Shop framed houses. A. H. Scott. *il plans Bldg Age* 44:40-1 My '22

Houses, Portable

- Factory built houses moved by truck. *il plan Concrete* 20:42-3 Ja '22

Houses, Remodeled

- Adobe buildings long in ruins remodeled. *il Pop Mech* 38:753 N '22
Art of remodeling buildings. *il Bldg Age* 45:50-3 Ag '23
Creating more business by moving and remodeling old buildings. E. W. La Plant. *il Bldg Age* 45:52-3 F '23
Ingenious and beautiful remodeling of old houses. H. D. Eberlein. *il plans Eng & Contr (Bldgs)* 59:701-4 Mr '23
New homes for old by modern Aladdins. *il Bldg Age* 44:24-6 O '22
Two houses for one. A. H. Scott. *il Bldg Age* 44:61 Mr '22

Housing

- Housing. See monthly numbers of Monthly labor review
Land question as related to city planning and housing. G. H. Gray. *diags plan Am Inst Arch J* 9:330-7 O '21; Excerpts. *Eng & Contr* 56:590-3 D 28 '21
Legislation and financing. W. H. Ham. *Am Soc C E Pro* 48:241-50 F '22
National housing problem; a symposium. L. Purdy and others. *Am Soc C E Pro* 48:195-257, 475-97, 1249-52 F-Mr, My '22; Discussion. 48:258-63, 498-503 F-Mr '22
Prettiness and discomfort—with some sociological implications. G. G. King. *il Am Inst Arch J* 10:43-4 F '22

See also Apartment houses; Building—Cost; City planning; Construction camps; Garden cities; Home owning; Housing finance; Housing laws; Housing projects; Landlord and tenant; Lodging houses; Lumber camps; Miners' houses; Model towns; Rent; Tenement houses

Bibliography

- Federal, state, and municipal aid to housing, 1913 to 1922; a selected bibliography. E. A. Hoffman. *Monthly Labor R* 16:418-36 F '23
Recent books and reports on housing and town-planning. F. W. Jenkins. (*In Housing Betterment*, Sept. 1921, p.288-304)
Short bibliography of city housing. J. T. Boyd, jr. *Arch Rec* 52:359-60 O '22

Amsterdam, Netherlands

- Amsterdam—old and new. C. S. Stein. *il diags plans Am Inst Arch J* 10:310-28 O '22

Australia

- State-assisted housing in Queensland and Victoria. *Monthly Labor R* 17:178-80 Jl '23

Chile

- Rental rates in Chile, 1913 to 1921, and extent of overcrowding. *Monthly Labor R* 16:1350-1 Je '23

Europe

- Recent housing work in western Europe. E. E. Wood. *il diag Arch Rec* 53:173-83 F '23

Finland

- Rent regulations and state aid to housing in Finland. *Monthly Labor R* 17:453-5 Ag '23

Germany

- German tax on rents to provide building fund. *Monthly Labor R* 16:1351-3 Je '23
Housing situation in Germany. H. Hecker. *il diags plans Am Inst Arch J* 11:159-71 Ap '23

Great Britain

- How Great Britain attempted to solve the housing shortage. R. W. Patmore. *Ind Management* 63:74-6 F '22

- Law and practice with regard to housing in England and Wales. K. Wood. 763p H. Frowde, Hodder & Stoughton, London '21
See also Building gilds; Housing laws—Great Britain

London

- House property & its management. O. Hill. 95p Macmillan '21

Louisiana

- Recommendations of Louisiana state housing commission. *Monthly Labor R* 15:391-2 Ag '22

Massachusetts

- Housing situation in Massachusetts in 1921. *Monthly Labor R* 13:1307-9; 14:548-50 D '21, Mr '22

Netherlands

- Recent housing in the Netherlands. E. E. Wood. *il plans Arch Forum* 38:171-8 Ap '23

New York (city)

- Amsterdam—old and new. C. S. Stein. *il diags plans Am Inst Arch J* 10:310-28 O '22
Broad economic phases of the housing problem. L. Purdy. *Am Soc C E Pro* 48:196-9 F '22
Effect of the tax-exemption ordinance in New York city on housing. M. Conynghton. *Monthly Labor R* 14:631-40 Ap '22
Housing conditions of employed women in the borough of Manhattan. 163p Bureau of social hygiene, New York '22
Legislation and financing. E. M. Bassett. *Am Soc C E Pro* 48:237-40 F '22
Legislation and financing. A. Robinson. *Am Soc C E Pro* 48:234-6 F '22
Report on conditions in the building industry in New York. *Monthly Labor R* 15:645-52 S '22
Tax exemptions and tax exempt dwellings in New York city. *Monthly Labor R* 15:1323-5 D '22

See also Metropolitan life insurance company

New York (state)

- Final report of the Joint legislative committee on housing. 152p J. B. Lyon co., Albany '23
Intermediate report of the [N. Y.] Joint legislative committee on housing. 257p J. B. Lyon co., Albany '22

Paris

- Housing crisis in Paris. E. H. Klaber. *il map plan Am Inst Arch J* 11:19-24 Ja '23
Housing situation in Paris. *Monthly Labor R* 15:652-7 S '22

Philadelphia

- Housing in Philadelphia. B. J. Newman. 52p Philadelphia housing assn., Philadelphia '21

Serbia

- Housing measures in Belgrade. *Monthly Labor R* 17:186-8 Jl '23

South America

- Housing situation in South America. *Monthly Labor R* 16:438-45 F '23

Spain

See Housing laws—Spain

Sweden

- Housing situation in Sweden. *Monthly Labor R* 17:457-8 Ag '23

United States

- Building operations in representative cities in 1921. *Monthly Labor R* 14:766-87 Ap '22
Building permits in principal cities of the United States in 1922. H. B. Byer. *Monthly Labor R* 17:164-73 Jl '23
Building permits in principal cities of the United States, January to June, 1923. *Monthly Labor R* 17:868-85 O '23
Housing: broad economic aspects. J. M. Gries. *Am Soc C E Pro* 48:200-7 F '22

Housing—United States—Continued

National housing trend for three decades.
G. H. Bruns. *Annalist* 18:560 D 12 '21

Zurich, Switzerland

Housing activities of the municipality of Zurich, Switzerland. *Monthly Labor R* 14: 551-4 Mr '22

Housing, Cooperative

Community planning and housing. C. S. Steindl. *diag plan Am Inst Arch J* 11:119-21 Mr '23
Cooperative housing. F. L. Ackerman. *Am Inst Arch J* 10:388-90 D '22
Cooperative housing in Milwaukee. *Monthly Labor R* 15:1325-8 D '22

See also Apartment houses—Cooperative ownership

Housing finance

Community planning and housing. F. L. Ackerman. *plans Am Inst Arch J* 9:361-3 N '21

Financing home construction. *il plans Bldg Age* 44:54-5 Mr '22

Housing investments permitted to life insurance companies in New York. *Monthly Labor R* 14:1019-20 My '22

How Great Britain attempted to solve the housing shortage. R. W. Patmore. *Ind Management* 63:74-6 F '22

Legislation and financing. W. H. Ham. *Am Soc C E Pro* 48:247-50 F '22

Legislation and financing. J. Ihlder. *Am Soc C E Pro* 48:251-7 F '22

Legislation and financing. A. Robinson. *Am Soc C E Pro* 48:234-6 F '22

Methods of financing the building of homes. K. V. Haymaker. *Bldg Age* 44:31-2 S '22

Milwaukee squarely faces the housing problem; the first copartnership housing venture in the United States. C. S. Steindl. *Am Inst Arch J* 10:21-2 Ja '22; Same. *Eng & Contr* 57:95-6 Ja 25 '22

Subsidized housing. F. L. Ackerman. *Am Inst Arch J* 11:219-20 My '23

See also Apartment houses—Cooperative ownership; Building—Finance; Building loans; Housing projects; also Warde-Landsboro company

Housing laws

Legislation and financing. J. Ihlder. *Am Soc C E Pro* 48:251-7 F '22

See also Building laws and regulations; City planning—Zone system; Rent

Denmark

New housing loan law of Denmark. *Monthly Labor R* 16:784-5 Ap '23

Great Britain

English rent control and housing acts. *Monthly Labor R* 17:891-3 O '23

New York (state)

New York rent laws of 1920 upheld by United States Supreme court. *Comm & Fin Chr* 114:1494 Ap 8 '22

See also Housing—New York (city)

Spain

Spanish housing law and provisional regulations for the law. *Monthly Labor R* 17:188-91 Jl '23

Uruguay

House-rents law of June 20, 1921, Uruguay. *Monthly Labor R* 13:1103-4 N '21

Housing problem. See Housing**Housing projects**

Departure in housing finance; the Metropolitan life to build four blocks of apartments in New York city. J. T. Boyd, Jr. *diag plans Arch Rec* 52:132-42 Ag '22

Economy and advantages of group development. H. P. Zoller. *il plans Bldg Age* 43:24-7 D '21

From carpenter to large scale speculative builder. H. R. Horton. *il plans Bldg Age* 45: 58-61 O '23

Great city planning project on Pacific coast near Los Angeles. C. H. Cheney. *Eng N* 88:1041 Je 22 '22

Housing program of the Metropolitan life insurance co. *Arch Forum* 36:229-30 Je '22

Housing project of the Metropolitan life insurance company. *il plans Am Inst Arch J* 10:225-8 Jl '22; *Arch Forum* 37:29-30 Jl '22; *Am Arch* 122:89-93 Ag 2 '22

Modern apartment buildings. *Bldg Age* 44:41 Jl '22

Pomander Walk; an interesting court development of quaint two family houses built in the heart of New York. *il plan Bldg Age* 43:19-21 D '21

See also Whiteley village, Burhill, England

Housing projects, Company

Colorado company erects houses for employees. E. J. Strock. *il diag plans Concrete* 23:sup 43-5 S '23

Community service plant. L. M. Emmet. *diag plan Dom Eng* 101:413-15, 472-4 D 9-16 '22

Industrial housing in the steel industry. C. S. Wooldridge. *il Iron Age* 109:1560-2 Je 1 '22; Same, without *il Iron Tr R* 70:1559+ Je 1 '22

Low-cost workmen's houses; possibilities of standardized construction. O. P. Hipple. *il plans Management Eng* 4:395-8 Je '23

Minnesota steel co. extends community development; Morgan Park. *il Iron Tr R* 69: 1680-3 D 29 '21

Overlook colony; a housing development at Claymont, Delaware. *il plans Arch Forum* 36: 197-200, pl 73-4 My '22

See also Company towns; Mining towns; Model towns

Housing projects, Cooperative

See Apartment houses—Cooperative ownership

Housing projects, Government

British housing collapse. *Concrete* 19:193-4 N '21

Government housing for the working classes in Bombay. *Monthly Labor R* 16:786 Ap '23

Municipal housing scheme in Buenos Aires. *Monthly Labor R* 13:1097 N '21

Recent housing in the Netherlands. E. E. Wood. *il plans Arch Forum* 38:471-8 Ap '23

Houston, Texas**Harbor**

Houston becomes a big ocean port. *il Maritime R* 52:148 Ap '22

Ports of the nation—Houston. B. Rule. *il Am Ind* 23:19-21 Jl '23

Rapid transit

Fare controversy in Houston (Texas) settled by compromise. *Elec Ry J* 60:796 N 11 '22

Houston jitneys to be rerouted. *Elec Ry J* 61:564-5 My 19 '23

Jitneys menace Houston. *Elec Ry J* 60:725 O 23 '22

Seeks increased fares. *Elec Ry J* 60:530 S 30 '22

Howe, Henry Marion, 1848-1922

Professor Pupin's tribute to Henry Marion Howe. M. I. Pupin. *Iron Age* 112:1168-9 N 1 '23

Sketch. *por Chem & Met Eng* 26:1016-18 My 31 '22; *Iron Tr R* 70:1425+ My 18 '22;

Foundry 50:471 Je 1 '22

Sketch. B. Stoughton. *por Min & Met* 186:41-3 Je '22

Hubbell, Harvey, 1857-

Sketch. *por Elec W* 78:1158 D 10 '21

Hudson bay

Hudson's bay, the neglected sea. J. T. Rowland. *map Sci Am* 128:365+ Je '23

Transportation routes. H. Holgate. *Can Eng* 45:250-3 Ag 21 '23

Hudson Bay railroad

Hudson Bay railroad gets a new appropriation. *il Ry R* 71:423-4 S 23 '22

Hudson river

Hudson river ice harvest—1923. *Refrig W* 58: 25-6 Mr '23

Regulating the Hudson. *Elec W* 82:95 Jl 14 '23

Hudson river—Continued

Would save coal by developing Hudson river power. Power 56:550-1 O 3 '22

Hudson river bridge, Bear Mountain

Bridging the Hudson river at Bear Mountain. W. F. Smith. il diags plan Eng N 90:829-30 My 10 '23

Design of Bear Mt. bridge attacked as ugly. il Eng N 91:156 J1 26 '23

Hudson river bridge at Bear Mountain. il Sci Am 128:324-5 My '23

New highway link between the East and West; the proposed Bear Mountain-Hudson river bridge. il map Automotive Ind 47:224-5 Ag 3 '22

Plan to bridge Hudson river at Anthony's Nose. il map Eng N 88:326-7 F 23 '22

Weatherproofing Hudson river bridge to save \$400,000 annually. Munic Eng 62:87-8 Mr '22

Hudson river bridges

Convenience of bridge and tunnels compared. diags Sci Am 128:330 My '23

Hudson river tunnels

Convenience of bridge and tunnels compared. diags Sci Am 128:330 My '23

More vehicular tunnels under the Hudson proposed. Comm & Fin Chr 116:758 F 24 '23

Hudson river vehicular tunnel

Driving 250-ft. piles for Hudson river tunnel shaft. il diags plans Eng N 90:242-8 F 8 '23;

Abstract. Engineering 115:266-7 Mr 2 '23

Hudson river vehicular tunnel. Can Eng 42:521 My 23 '22

Hudson river vehicular tunnel. diags Eng & Contr 57:367 Ap 19 '22

Hudson river vehicular tunnel. il Pub Works 54:3-4 Ja '23

Involves iron and steel tonnage. il diags Iron Tr R 70:1263-5 My 4 '22

Launch caisson for N. Y. vehicle tunnel shaft. il Eng N 89:1042 D 11 '22

Making castings for Hudson river tunnel. il diags Iron Age 111:663-7 Mr 8 '23; Same. Foundry 51:260-3 Ap 1 '23; Same. Iron Tr R 72:1160-3 Ap 19 '23

Record job of pile driving. il Sci Am 128:396-7 Je '23

Research fundamental for Hudson tunnel design. diags plans Mech Eng 118:26-8 D '22;

Same. Eng & Contr (Rv) 58:149-53 D 20 '22

Research settles the problem of tunnel ventilation. R. G. Skerrett. il diags plan Sci Am 126:169-70 Mr '22

Research work that solved the problem of ventilating the Hudson river tunnel. R. G. Skerrett. il diags plan Heat & Ven 19:29-35 My '22; Same, without il. Eng & Contr 57:476-8 My 17 '22

Specification details of Hudson river vehicle tunnel. diags Eng N 88:574-5 Ap 6 '22

Tunnel segment casting methods; cast-iron lining for the vehicular tunnel under the Hudson. il diags Foundry 50:137-41 F 15 '22

Vehicular tunnel shaft's deep foundation. F. W. Skinner. il diags Eng & Contr (Rv) 59:155-40 Ja 17 '23

Ventilation of Hudson vehicular tunnel. diag Automotive Ind 48:227 F 1 '23

Ventilation of the Hudson river vehicular tunnel. diags Engineer 134:542-4 N 24 '22

World's largest vehicular tunnel. J. B. Walker. il Sci Am 128:108-9+ F '23

Hull, England

Commercial and industrial developments at Hull. A. Tidman. il Ind Management (Lond) 10:212-19 O 18 '23

Port of Hull. Ind Management (Lond) 10:209-11 O 18 '23

Hulutao, Manchuria**Harbor**

Hulutao harbour, Manchuria. Engineer 134:192 Ag 25 '22

New port of Hulutao in Gulf of Liaotung. Engineer 134:42 J1 14 '22

Human engineering. See Employment management; Industrial betterment**Human engineering.** Foundation of. W. N. Polakov. Management Eng 4:345-8 My '23**Humble oil and refining company building, Houston, Texas**

Humble oil and refining co. building, Houston, Tex. il Am Arch 121:346k-p, 351, 355 Ap 26 '22

Humic acid. See Humus**Humidifiers**

Air fountain humidifiers. Engineering 115:141-2, 144 F 2 '23

Humidifying devices for the home. il diag Heat & Ven 18:55 My; 56-7 Je; 52-4 Ag; 56-7 S; 56 O; 54-5 N '21; 19:55 Ja '22

Importance of pure water supply in humidifying systems. F. F. Bahnson and L. Maloney. diags Am Soc Heat & V E J 28:35-44 Ja '22; Discussion. 28:242-5 Mr '22

Improvised humidifier. diag Sheet Metal Worker 14:8 F 2 '23

Low temperature steam humidifier. C. H. Fuller. diags Power Pl Eng 26:239 F 15 '22

Manufacture

Replacing castings with stampings. il diags Mach 29:873-5 J1 '23

Humidity

Aerology for amateurs and others. E. V. Hill. Heat & Ven 20:37-40 Ap '23

Air conditioning. J. Mackay. il diags Dom Eng 100:52-5 J1 8 '22

Automatic control of humidity in shops; abstract. Am Inst Arch J 9:367-8 N '21

Back to first principles; humidification of air for breathing. R. Davies. Heat & Ven 18:40-1 D '21; 19:39 F '22

Calculating weight of water in air current. Coal Age 23:61-2 Ja 11 '23

Certain details in humidifying. Coal Age 23:455 Mr 15 '23

Effect of atmospheric humidity in the physical testing of paper. P. L. Houston, F. T. Carson and R. S. Kirkwood. Paper Tr J 76:237+ Ap 12 '23; Same. Tech Assn Pa ser 6:64-71 Je '23

Heat and humidity. Sheet Metal Worker 13:720 N 24 '22

Humidifying air currents by means of steam. Coal Age 22:497-8 S 28 '22

Humidity equilibria of various common substances. R. E. Wilson and T. Fuwa. J Ind & Eng Chem 14:913-18 O '22

Humidity in jute, hemp and flax mills. A. W. Thompson. Textile World 63:1167-8 F 10 '23

Humidity in silk mills. A. W. Thompson. Textile World 63:2299-3171 Ap 7, My 12 '23

Humidity in woolen and worsted mills. A. W. Thompson. il Textile World 62:2893+, 3185-6+, 3315+ N 18, D 2-9 '22

Humidity requirements for residences. A. P. Kratz. charts Sheet Metal Worker 14:10-11+ F 2 '23; Same. Am Soc Heat & V E J 29:14-18 Ja '23; Same. Sanitary & Heat Eng 99:116-17+ F 23 '23; Same abr. Heat & Ven 20:43 F '23; Discussion. Am Soc Heat & V E J 29:226 Mr '23

Humidity test with return air in home. il diag Sheet Metal Worker 13:416-18 J1 21 '22

Hygrometry. Engineering 112:890-1 D 30 '21

Keeping the mine safe. O. H. Jones. Coal Age 22:719-20 N 2 '22

Moisture absorptive power of different sugars and carbohydrates under varying conditions of atmospheric humidity. C. A. Browne. J Ind & Eng Chem 14:712-14 Ag '22

Moisture content of air; humidity of air used for heating and ventilation has an important bearing on the effectiveness and efficiency of the system. chart plan Power Pl Eng 26:1057-8 N 1 '22

Moisture indoors and out. G. J. O'Connor. map Heat & Ven 20:54-5 O '23

Novel scheme for regulating humidity in an airplane propeller factory. A. C. Knauss. il diag plans Heat & Ven 19:33-6 Ja '22

Production economies through automatic temperature and humidity control. il diags Factory 31:461-3+ O '23

Some physiological reactions to high temperatures and humidities. W. J. McConnell and F. C. Houghten. il charts Am Soc Heat & V E J 29:131-63 Mr '23

Temperature and humidity in our class-rooms. J. Howatt. Am Soc Heat & V E J 28:805-8 N '22

Humidity—Continued

Tests of humidity conditions in a residence heated by a warm-air furnace using recirculated air. A. P. Kratz. *il Am Soc Heat & V E J* 28:11-20 Ja '22; Discussion. 28:254-60 Mr '22

What cotton does when it's thirsty. E. H. Davis. *Am Dyestuff Rep* 12:147-8 F 12 '23

When mines are moistened by steam it may be necessary to do it split by split. F. C. Cornet. *diags Coal Age* 22:169-70 Ag 3 '22; Discussion. 22:497-8, 921, 1000-1, 1043-4 S 28, D 7, 21-28 '22

See also Air drying; Humidifiers; Hygrometer

Humin

Origin of the humin formed by the acid hydrolysis of proteins; hydrolysis in the presence of ketones. R. A. Gortner and E. R. Norris. *Am Chem Soc J* 45:550-3 F '23

Humor

See also Advertisements, Humorous

Humorous advertisements. Advertisements, Humorous

Humus

L'autooxydation de la lignine, des substances humiques naturelles et du charbon. H. Schrader. *Chimie & Ind* 9:71-3 Ja '23

Humic acids; preparation and properties of artificial and natural humic acids. W. Eller and others. *Chem Soc J* 124 pt 1:542-5 Je '23

La structure et la formation des acides humiques et du charbon. J. Marcussen. *Chimie & Ind* 9:909-11 My '23

See also Humin

Hungary

See also Commercial law—Hungary; Railroads—Hungary

Economic conditions

Economic outlook for Austria and Hungary. J. Moritzen. *Annalist* 19:150 Ja 23 '22

See also Finance—Hungary; Prices—Hungary

Hunt, Robert Woolston, 1838-1923

Sketch. *por Eng N* 91:116 Jl 19 '23; *Iron Age* 112:151-2 Jl 19 '23; *Iron Tr R* 73:194-6 Jl 19 '23; *Mech Eng* 45:509 Ag '23

Huntington, Collis P.

I find that business can lead to kings and wars. C. R. Flint. *por System* 40:696-9+ D '21

Huntington, David Lynde, 1870-

Portrait. *Elec W* 82:690 O 6 '23

Huntington, George R., 1868-

New president of the Soo. *por Ry Age* 72:1242 My 27 '22

Huntington, West Virginia**Rapid transit**

Two southern cities to have entirely new rolling stock. *il Elec Ry J* 62:179-81 Ag 4 '23

Hurricanes

Steering line of hurricanes. A. McAdie. *maps Nat Research Council Bul* 3 pt 2:102-8 Mr '22

See also Storms

Hutchinson, W. Spencer, 1870-

Mining engineers of note. R. H. Sweetser. *por Eng & Min J* 115:352 F 24 '23

Huyghens's principle

Simplified proof for the retarded potentials and Huyghens's principle. E. H. Kennard. *diag Philos Mag* 6th ser 43:1014-17 My '22

Hvid engine

Balancing the cylinders of the Hvid oil engine. I. H. Morrison. *diag Power* 57:25-6 Ja 2 '23

Hyænodontidae

New genus of oligocene hyænodontidae. M. R. Thorpe. *il Am J Sci* 5th ser 3:277-86 Ap '22

Hydantoins

Influence of substituents on the formation and stability of heterocyclic compounds; hydantoins. C. K. Ingold, S. Sako and J. F. Thorpe. *Chem Soc J* 121:1177-98 Jl '22

Researches on hydantoins; synthesis of the soporific, 4,4-phenylethyl-hydantoin (nirvanol). W. T. Read. *Am Chem Soc J* 44:1746-55 Ag '22

Synthesis of polypeptide hydantoins; tyrosyl-alanine hydantoin. D. A. Hahn, L. Kelley and F. Schaeffer. *Am Chem Soc J* 45:843-57 Mr '23

Hydrants

Fire service as it relates to water supply. D. R. Gwinn. *Munic Eng* 62:148+ Ap '22; Excerpt. *Eng & Contr* 58:49 Jl 12 '22

Secondary uses of fire hydrants. J. W. Toynce. *Munic Eng* 64:245-6 Je '23; Same. *Eng & Contr* (W W) 59:1320-1 Je 13 '23

See also Fire service (water supply); Hose couplings

Hydrates

Determination of the dissociation pressures of hydrated salts by a dynamical method. J. R. Partington and D. B. Huntingford. *Chem Soc J* 123:160-70 Ja '23

Dissociation pressures of certain salt hydrates by the gas-current saturation method. W. C. Schumb. *diag Am Chem Soc J* 45:342-54 F '23

See also Carbohydrates

Hydration

Density and hydration in gelatin sols. T. Svedberg and B. A. Stein. *Am Chem Soc J* 45:2613-20 N '23

Determination of the degree of hydration of salts by a radioactive method. H. Terrey and V. G. Jolly. *diag Chem Soc J* 123:1979-82 Ag '23

Hydration of acetic and hydrochloric acids and the factors determining the activity of hydrogen ion. W. C. M. Lewis, D. E. Merriam and T. Moran. *Am Chem Soc J* 45:702-12 Mr '23

Hydration of sucrose in water solution as calculated from vapor-pressure measurements. G. Scatchard. *Am Chem Soc J* 43:2406-18 N '21

Hydracones

Discussion of draft tube designs; with special reference to recent forms known as the hydracone regainer and the spreading draft tube. W. K. Ramsey. *diags Mech Eng* 44:171-6 Mr '22

Largest low-head turbines installed in siphon settings at Green Island, N.Y. *il diags plan Power* 57:784-8 My 22 '23

Regainer for colliery fan. *diags Engineering* 112:659 N 11 '21

Hydraulic bending. See Bending, Hydraulic

Hydraulic brakes. See Brakes, Hydraulic

Hydraulic engineering

Address at the annual convention of A.S.C.E., June 21, 1922. J. R. Freeman. *Am Soc C E Pro* 48:1356-80 Ag '22

Forces hydrauliques. El. Garnier. 200p C. Béanger, Paris & Liège '21

Hydraulic design of bridge waterways. I. E. Houk. *Eng N* 88:1071-5 Je 29 '22; Discussion. G. Ribeiro. 89:534 S 28 '22

Hydraulic principles governing river and harbor construction. C. M. Townsend. 189p Macmillan '22

Marine works. E. Latham. 174p C. Lockwood & son, London '22

Method of locating hydraulic gradient in a water tunnel. *diag Eng & Contr* (W W) 60:786-7 O 10 '23

See also Aqueeducts; Artesian wells; Breakwaters; Bridges—Foundations and piers; Caissons; Canals; Cofferdams; Culverts; Dams; Dikes; Docks; Draft tubes; Drainage; Dredging; Embankments; Fire service (water supply); Flood control; Flumes; Gates, Hydraulic; Harbors; Hydraulic excavation; Hydraulic filling; Hydraulic laboratories; Hydraulic machinery; Hydraulic mining; Hydraulic presses; Hydraulic transmission; Hydraulics; Hydrodynamics; Hydroelectric plants; Irrigation; Irrigation canals; Jetties; Levees; Lighthouses; Locks (hydraulic engineering); Mattresses (hydraulic engineering); Penstocks; Piers; Pumping; Pumping machinery; Pumping stations; Pumps; Reclamation of land; Res-

Hydraulic engineering—Continued

ervoirs; Retaining walls; Rivers—Regulation; Siphons; Spillways; Stream measurement; Surge tanks; Tide power; Tunnels and tunneling, Subaqueous; Turbines; Water; Water flow; Water power; Water supply; Water supply engineering; Water wheels; Waterworks; Weirs; Wells; Wharves; also Chicago drainage canal

Study and teaching

Conference on highway engineering and highway transport education, Washington, D.C., Oct. 26-28. Eng N 89:761 N 2 '22

Tables, calculations, etc.

See Hydraulics—Tables, calculations, etc.; Sewage flow; Water flow

Hydraulic engineers**Directories**

List of members of American water works association. Am Water Works Assn J 10:sup 1-94 S '23

Hydraulic excavation

Hydraulic excavation of peat. Can Eng 44:342 Mr 20 '23

Hydraulic filling

Damaged earth dam repaired by hydraulic fill. M. E. Bunker. il plans Eng N 91:674-6 O 25 '23

Dry fill and hydraulic sluice methods on same dam. il diags plan Eng N 89:1073-5 D 21 '22

Hydraulic dam construction with electric dredge. Pub Works 54:158 My '23

Hydraulic-fill dams safe to construct. Eng N 88:820 My 18 '22

Leveling Morro do Castelo in Rio de Janeiro. il plan Eng N 91:558-60 O 4 '23

Lockington hydraulic fill dam completed. Pub Works 51:456 D 10 '21

See also Hydraulic mine filling

Hydraulic jacks

Vérin hydraulique pour le démontage des essieux de locomotives ou d'automotrices électriques. H. Bosshard. il diag Génie Civil 82:575-6, pl 5 Je 16 '23

Hydraulic jump

Early report on the hydraulic jump. R. F. Ewald. Eng N 88:748 My 4 '22; Discussion. 88:923-4; 89:855 Je 1, N 16 '22

Hydraulic laboratories

Cabinet members give views on hydraulic laboratory. Eng N 89:328 Ag 24 '22

Descriptive directory of hydraulic laboratories in U.S.A. A. D. Flinn. 84p United eng. soc., New York '22

French endowed hydraulic laboratory. C. Herschel. Eng N 90:272 F 8 '23

Hydraulic laboratories in the United States. Eng N 89:507, 988 S 28, D 7 '22

Need of a national hydraulic laboratory for the solution of river problems, etc. J. R. Freeman. il diags maps plans Am Soc C E Pro 49:1185-1249; Discussion. 1250-63 Ag '23

Specifications for a federal hydraulic laboratory. J. R. Freeman. Eng N 89:316-17 Ag 24 '22

Well-designed hydraulic testing laboratory of the S. Morgan Smith co., of York, Pa. J. S. Carpenter. il Power 57:331-2 F 27 '23; Same cond. Eng N 90:512-13 Mr 15 '23

Hydraulic machinery

Hydraulic helps in the factory. il Factory 31:34-5 Jl '23

Hydraulic pressure intensifier. J. N. Sioussa. diags Mach 29:948-9 Ag '23

Hydro-electric bloom shear. il diags Iron Age 109:1078-9 Ap 20 '22

Modern pumping and hydraulic machinery as applied to all purposes. E. Butler. 2d ed., rev. 482p C. Griffin and co., ltd., London '22

Moving river sand by hydraulic elevator. R. F. Mundorff. il diags Eng N 90:1131 Je 28 '23; Same. Eng & Contr (W W) 60:88-9 Jl 11 '23

See also Hydraulic motors; Hydraulic presses; Hydraulic rams; Hydraulomat; Turbines; Valves, Hydraulic; Water wheels

Hydraulic mine filling

Flooding with silt is extinguishing fire. Coal Age 21:490-1 Mr 23 '22

Hydraulic mining

Magnetometric determinations applied to placer mining. A. Gibson. diags Eng & Min J 114:1064-9 D 16 '22

Mining Alabama coal with stream of water. il Pop Mech 39:891 Je '23

Placer operations near Cariboo, B.C. D. D. Fraser. Eng & Min J 115:895 My 5 '23

Placering in tropical countries. A. D. Akin. Eng & Min J 114:500-2 S 16 '22

Placers of the Johnnie district, Nevada. C. Labbe. Eng & Min J 112:895-6 D 3 '21

Recent progress in the thawing of frozen gravel in placer mining. C. Janin. diags U S Bur Mines Tech Pa 309:1-34, pl 1-5 '22;

Excerpts. Eng & Contr 58:273 S 20 '22; Conclusions. Eng & Min J 114:499 S 16 '22

Russian placer mining. L. A. Perret. il Min & Sci P 122:391-5, 415-18, 449-50, 457-60 Mr 19-Ap 2 '21; Eng & Min J 113:902-3 My 27 '22

See also Gold dredging

Hydraulic motors

Forces hydrauliques. E. Garnier. 152p C. Béranget, Paris & Liège '21

Motor for low waterhead with swift current. il Pop Mech 38:678 N '22

New water engine utilizes low heads efficiently. il Pop Mech 39:118-19 Ja '23

Hydraulic presses

Automatic control valve for hydraulic presses. il diags Engineer 133:308 Mr 17 '22

Builds large press for locomotive boiler work. il Iron Tr R 73:612-13 Ag 30 '23; Iron Age 112:671-2 S 13 '23; Ry Mech Eng 97:725 O '23

Chambersburg hydro-pneumatic convertible wheel press. il Ry Mech Eng 97:368 Je '23

History indicates forging was ancient art. F. Somers. il diags Iron Tr R 73:463-6 Ag 16 '23

Hydraulic and hand forcing presses in a locomotive shop. J. V. Hunter. il Am Mach 56:108-9 Ja 19 '22

Hydraulic flanging press has simple control. il Pop Mech 39:117 Ja '23

Hydraulic plastic molding presses. il Mach 28:1014 Ag '22

Hydraulic rod bushing press. J. H. Hahn. diags Ry Mech Eng 95:776 D '21

Hydraulic shearing machine and wheel press. il Engineering 115:330 Mr 16 '23

Large hydraulic press for body work forming automobile bodies. il Iron Tr R 70:409 F 9 '22

Motion work bushing press. il diags Ry Mech Eng 97:173 Mr '23

Shop-constructed hydraulic press. C. A. Elliott. il Elec Ry J 61:484-5 Mr 17 '23

Testing axles for flaws by hydraulic pressure. il Elec Ry J 61:775 My 5 '23

Vulcanizing troubles on multiple-platen hydraulic presses. W. J. Bitterlich. India Rubber W 65:272 Ja '22

Hydraulic rams

Automatic pumping and notes on water analysis and filtration. W. W. Fyfe. 112p C. Griffin & co., London '22

Essential requirements of the hydraulic ram. diags Coal Age 24:673-4 N 1 '23

New form of hydraulic ram. diags Engineering 113:762 Je 16 '22; Same. Eng & Contr 58:209 Ag 30 '22

Hydraulic regulators

See Arca regulator

Hydraulic transmission

Foettinger transmission on a liner. (supp) Engineer 134:4-5 Jl 7 '22; Abstract. Mech Eng 44:668-9 O '22

Gasoline switching locomotive with hydraulic drive. il diags plan Ry Age 73:323-6 Ag 19 '22; Same. Ry Mech Eng 96:503-6 S '22;

Excerpts. Mech Eng 44:666-7 O '22

Recent types of hydraulic transmission gear. il diags Eng & Ind Management 7:323-7 Ap 6 '22

See also Oil gear system

Bibliography

Bibliographies on hydraulic and wave transmission. Mech Eng 45:622-3 O '23

Hydraulic turbines

See Turbines

Hydraulic valves

See Valves, Hydraulic

Hydraulics

- Eddies in liquids flowing through pipes of uniform section. F. W. Medaugh. *Eng & Contr* (W W) 59:591 Mr 14 '23
- Elementary hydraulics for technical students. F. C. Lea. 224p Longmans '22
- Hydraulics. H. W. King and C. O. Wisler. 237p Wiley '22
- Hydraulics of pipe lines. W. F. Durand. 271p Van Nostrand '21; Review. *Engineering* 113: 511-12 Ap 28 '22
- Hydraulics with working tables. E. S. Bellasis. 3d ed. 348p Dutton '22
- Note on hydraulics. *diag Engineering* 115:424 Ap 6 '23
- L'œuvre de Bazin et la relativité en hydraulique. C. Rabut. *Génie Civil* 82:343-6 Ap 14 '23
- See also* Fluids; Hydraulic engineering; Hydrodynamics; Hydrometers; Intakes; Jets; Kutter's formula; Liquids; Nozzles; Oil flow; Pitot tube; Siphons; Stream flow; Stream measurement; Turbines; Water; Water flow; Water power

Tables, calculations, etc.

- Analytical and experimental investigations relating to water turbines. H. Mawson. *diags Engineering* 116:539-42 O 26 '23
- Application of the drop-down curve in Chicago sewers. C. D. Hill. *Eng N* 90:707-9 Ap 19 '23
- Chart solution of hydraulic formulas. J. B. Cutler. *charts Power* 56:768-70 N 14 '22
- Computing reservoir outflow and height from inflow and capacity. J. C. Stevens. *Eng N* 87:1031-2 D 22 '21
- Derivation of hydraulic equation for gauge relations and discharges. D. K. C. Strathearn. *Can Eng* 44:338-41 Mr 20 '23
- La diamètre le plus économique d'une conduite forcée. P. J. Cathala. *Génie Civil* 83: 228-31 S 8 '23
- Le diamètre le plus économique d'une conduite forcée. A. Lombardi. *Génie Civil* 79: 583-4 D 31 '21
- Discharge through orifices in series. H. W. Dietart. *diag Mech Eng* 44:764-5 N '22
- Efficiency tests made on 55,000-horse-power hydro-electric units. H. G. Acres. *Power* 58: 137-40 Jl 24 '23
- Experiments on loss of head in valves and pipes of one-half to twelve inches diameter. C. I. Corp and R. O. Ruble. *il diags plans Wis U Bul Eng S v 9, no 1:1-143 '22*
- Features of hydroelectric power plant designs: development and application of back-water suppressor. J. A. Sirtin. *diags plan Eng & Contr* (W W) 59:105-10 Ja 10 '23; Same cond. *Elec W* 79:1161-4 Je 10 '22; Same cond. *Eng N* 88:961-6 Je 8 '22
- Flow in Tennessee checked against hydraulic formulas. B. E. Jones. *map Eng N* 89:610-12 O 12 '22; Discussion. 89:1132 D 28 '22
- Fluctuation of water-level in a tidal reservoir. S. Chapman. *Philos Mag* 6th ser 46: 101-8 Jl '23
- Hydraulic and excavation tables. 5th ed., rev. and enl. p 48-168 U.S. Reclamation service, Washington '21
- Hydraulic diagrams for the discharge of conduits and canals. T. Horton and C. H. Swan. 3d ed., rev. & enl. 53p McGraw-Hill '22
- Loss of head for pipe discharging under water into reservoir. C. O. Wisler. *Eng N* 87:886-7 D 1 '21
- Low friction loss in twenty-five-year old cast-iron pipe. T. F. Wolfe. *Eng N* 88:118 Ja 19 '22
- New charts for calculating pipe sizes for water flow. F. E. Giesecke. *il diags Heat & Ven* 20: 46-51 My '23; Same. *Sanitary & Heat Eng* 99:395-400 Je 15 '23
- New formula for computing pipe losses. C. I. Corp. *diags Eng & Contr* (W W) 59:402-5 F 14 '23
- Non-uniform flow and significance of drop-down curve in conduits. H. E. Babbitt. *Eng N* 89:1067-9 D 21 '22
- Nouvelle méthode pour la détermination des courbes de remous. E. Baticle. *diags plan Génie Civil* 79:488-92, 515-16 D 3-10 '21

- Principal features in design of open ditches. G. A. McCubbin. *Can Eng* 44:416-19 Ap 17 '23; Same. *Eng & Contr* (W W) 59:1077-83 My 9 '23; Excerpt. *Eng N* 90:552 Mr 22 '23
- Pumps. E. Cunningham. *Dom Eng* 100:536-9; 101:130-1+ S 23, O 28 '22
- Rating curves for canal head gates. J. Hinds. *diag Eng & Contr* 58:45 Jl 12 '22
- Slide rule for solving Manning's formula. H. B. Muckleston. *Eng N* 90:1052-3 Je 14 '23
- Slide rule solving Manning formula. T. Kiang. *Eng N* 89:806 N 9 '22
- Some notes on the hydraulics of wells. M. L. Enger. *Am Water Works Assn J* 10:199-203 Mr '23
- Surge-tank problem. R. D. Johnson. *Mech Eng* 44:541-2 Ag '22
- Use of chart in measuring tail water. L. W. Wyss. *Power Pl Eng* 27:192 F 1 '23
- Use of the air lift. E. Cunningham. *il diags Dom Eng* 101:371-4 D 2 '22
- Utilization of surplus flood water to suppress backwater upon water power developments. F. A. Nagler. *il diags Gen Elec R* 25:598-602 O '22
- Water-power studies. W. T. Taylor. *Elec R* (Lond) 92:204-6, 409-11, 444-6, 924-6, 991-3; 93:52-3, 84-5, 261-3, 297-9, 524-6 F 9, Mr 16-23, Je 15-22, Jl 13-20, Ag 17-24, O 12 '23
- Hydraulomat**
- Allen hydraulomat. *il Engineer* 133:674-5; 134: 21 Je 16, Jl 7 '22; *Mech Eng* 44:601-2 S '22
- New water-lifting machine self-operating. *il Pop Mech* 38:332 S '22
- Novel method of pumping water. *il diag Sci Am* 127:403 D '22
- Hydrazides**
- Ringschlüsse an schwefelhaltigen dicarbonhydraziden; dithio-urazol und iminothio-urazol. F. Arndt and E. Milde. *Deutsche Chem Gesell Ber* 54:2089-2110 S '21; Abstract. *Chem Soc J* 120 pt 1:813-15 N '21
- Ringschlüsse an schwefelhaltigen dicarbonhydraziden; thio-urazol. F. Arndt, E. Milde and F. Tschenschner. *Deutsche Chem Gesell Ber* 55:341-56 F '22; Abstract. *Chem Soc J* 122 pt 1:375-7 Ap '22
- Hydrazine**
- Action of hydroxylamine and of hydrazine on the aryl monothio-amides of ethyl acetylmalonate. D. E. Worrall. *Am Chem Soc J* 44:1551-7 Jl '22
- Labile nature of the halogen atom in organic compounds; action of hydrazine on nitrogen-halogen compounds and on bromomalonate esters. E. L. Hirst and A. K. Macbeth. *Chem Soc J* 121:904-11 My '22
- Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of acetoacetic and benzoylacetate esters and of benzoylacetone. A. K. Macbeth. *Chem Soc J* 123:1122-30 My '23
- Labile nature of the halogen atom in organic compounds; the action of hydrazine on the halogen derivatives of some esters and substituted cyclohexanes. E. L. Hirst and A. K. Macbeth. *Chem Soc J* 121:2169-78 O '22
- Preparation of hydrazine by Raschig's method. R. A. Joyner. *Chem Soc J* 123:1114-21 My '23
- Untersuchungen über isatin und verwandte Verbindungen: über die einwirkung von hydrazin auf isatin und N-methyl-isatin. W. Borsche and R. Meyer. *Deutsche Chem Gesell Ber* 54:2844-53 N '21; Abstract. *Chem Soc J* 122 pt 1:53-5 N '21
- Hydrazine dihydrochloride**
- Crystal structure of hydrazine dihydrochloride. R. W. G. Wyckoff. *diags Am J Sci* 5th ser 5:15-22 Ja '23
- Hydrazines**
- Preparation of optically-active hydrazines: the preparation of dl-p-secondary-butylphenylhydrazine; the resolution of dl-p-secondary-butyl-aniline. J. W. E. Glattfeld and E. Wertheim. *Am Chem Soc J* 43:2682-7 D '21
- Preparation of p-nitrophenylhydrazine and other aromatic hydrazines. W. Davies. *Chem Soc J* 121:715-21 Ap '22

Hydrazines—Continued

- Symmetrical di-isopropyl-hydrazine and its derivatives. H. L. Lochte, J. R. Bailey and W. A. Noyes. *Am Chem Soc J* 43:2597-2603; 44:2556-67 D '21, N '22
- Über eine neue klasse ditiärer aromatischer hydrazine; abhandlung über hydrazine. H. Wieland and A. Wecker. *Deutsche Chem Gesell Ber* 55:1804-15 Je '22; *Abstract. Chem Soc J* 122 pt 1:779-81 Ag '22

Hydrazino compounds

- Erweiterung und ausbau der Kishner-Wolffschen reduktions-methode. E. Thielepape and G. Sprackelsen. *Deutsche Chem Gesell Ber* 55:2023-39 S '22; *Abstract. Chem Soc J* 122 pt 1:1191-2 D '22

Hydrazo compounds

- Isomeric changes of hydrazo-compounds; abstract. P. Jacobsen. *Chem Soc J* 122 pt 1:589-96 Je '22
- Ring closure of hydrazodithio- and -monothio-dicarbonamides with acetic anhydride. P. C. Guha. *Am Chem Soc J* 45:1036-42 Ap '23

Hydrazoic acid

- Some new lecture experiments with hydronitric acid and the trinitrides. A. W. Browne and A. B. Hoel. *Am Chem Soc J* 44:2116-19 O '22

- Über die anlagerung von stickstoffwasserstoffsäure an carbodimid-abkömmlinge. R. Stollé. *Deutsche Chem Gesell Ber* 55:1289-97 My '22

Hydrazones

- Alkylhydrazones. O. L. Brady and G. P. McHugh. *Chem Soc J* 121:1648-52 Ag '22
- Tetrazones from hydrazones and azo-compounds. M. Busch, H. Müller and E. Schwarz. *Chem Soc J* 124 pt 1:861-7 Ag '23
- See also Phenylhydrazones

Hydrazyls

- Zweiwertiger stickstoff; über das α,α -diphenyl- β -trinitrophenyl-hydrazyl. S. Goldschmidt and K. Renn. *Deutsche Chem Gesell Ber* 55:428-43 Mr '22
- Zweiwertiger stickstoff; über diaryl-acyl-hydrazyle. S. Goldschmidt and K. Euler. *Deutsche Chem Gesell Ber* 55:616-28 Mr '22

Hydrides

- Hydrogen as a halogen in metallic hydrides. D. C. Bardwell. *diags Am Chem Soc J* 44:2499-2504 N '22
- Studies on metal hydrides; the electrolytic formation of stibine in sulphuric acid and in sodium hydroxide solution. H. J. S. Sand, E. J. Weeks and S. W. Worrell. *Chem Soc J* 123:456-70 Mr '23
- Über die darstellung gasförmiger metallhydride aus legierungen und lösungen. F. Paneth, A. Johannsen and M. Matthies. *Deutsche Chem Gesell Ber* 55:769-75 Mr '22
- Über die darstellung gasförmiger metallhydride durch glimmentladung. F. Paneth, M. Matthies and E. Schmidt-Hempel. *diags Deutsche Chem Gesell Ber* 55:775-89 Mr '22

Hydridene. See Indan**Hydrindone. See Indanone****Hydriodic acid**

- Quantitative reduction by hydriodic acid of halogenated malonyl derivatives; the *s*-tetra-substituted amides of bromo- and chloro-malonic acid. R. W. West. *Chem Soc J* 121:2196-2202 O '22
- Über die reduktion von lignin und von kohlehydraten mit jodwasserstoffsäure und phosphor. R. Willstätter and L. Kalb. *Deutsche Chem Gesell Ber* 55:2037-52 S '22; *Abstract. Chem Soc J* 122 pt 1:1986-90 N '22

Hydrobromic acid

- Catalytic decomposition of hydrogen peroxide in a bromine-bromide solution; rate measurements in dilute solutions and in the absence of sulfate, and their interpretation as a function of the activity product of hydrobromic acid. R. S. Livingston and W. C. Bray. *Am Chem Soc J* 45:2048-58 S '23
- Formation of bromine derivatives of carbon compounds without the production of hydrogen bromide. B. M. Gupta and J. F. Thorpe. *Chem Soc J* 121:1896-1904 S '22

- Significance of the density of hydrogen bromide with reference to the atomic weight of bromine. G. F. Baxter. *Am Chem Soc J* 44:595-600 Mr '22
- Studies in cellulose chemistry; the action of dry hydrogen bromide on carbohydrates and polysaccharides. H. Hibbert and H. S. Hill. *Am Chem Soc J* 45:176-82 Ja '23

Hydrocarbons

- Action of ozone on hydrocarbons with special reference to the production of formaldehyde. E. W. Blair and T. S. Wheeler. *Soc Chem Ind J* 42:347-50 Ag '23
- Action of selenium oxychloride upon ethylene, propylene, butylene and amylene. C. E. Frick. *Am Chem Soc J* 45:1795-1800 JI '23
- Aluminum chloride used in the conversion of high boiling point hydrocarbons into low boiling point hydrocarbons. E. C. R. Marks. *Chem Age (Lond)* 8:241 Mr 3 '23
- Approvisionnement de la France en hydrocarbures; fixation du pouvoir calorifique. P. Mallet. *Soc Ing Civils Bul* 74:321-36 JI '21
- Die bestimmung der kohlenwasserstoffe in technischen gasen; with discussion. G. Wolters. *diag Stahl & Eisen* 42:1449-56 S 21 '22
- Catalytic gas from heavy oil. J. F. Shadgen. *Gas Age* 30:897-8 D '22
- Chemistry of the non-benzenoid hydrocarbons and their simple derivatives. B. T. Brooks. 612p Chemical catalog co. '22
- Chlorinated derivatives of hydrocarbons. *Chem Age* 30:562 D '22
- Chlorinating gaseous hydrocarbons. *Chem Age* 30:422-3 S '22
- Decomposition processes applicable to certain products of coal carbonization; an experimental study with mixed xylenes. M. J. Bradley and S. W. Parr. *bibliog il Chem & Met Eng* 27:737-44 O 11 '22
- Detonation characteristics of blends of aromatic and paraffin hydrocarbons. T. Midgley, jr. and T. A. Boyd. *diag J Ind & Eng Chem* 14:589-93 JI '22
- Detonation characteristics of some blended motor-fuels. T. Midgley, jr. and T. A. Boyd. *diag Soc Auto Eng J* 10:451-6 Je '22; *Same. Nat Pet N* 14:559-60+ JI 5 '22; *Same cond. Automotive Ind* 47:23-7 JI 6 '22
- Effect of pressure on the limits of inflammability of mixture of the paraffin hydrocarbons with air. W. Payman and R. V. Wheeler. *Chem Soc J* 123:426-34 Mr '23
- Examination of low-temperature coal tars. J. J. Morgan and R. P. Soule. *bibliog Ind & Eng Chem* 15:587-91, 693-7 Je-JI '23
- Further investigations into the physico-chemical significance of flash-point temperatures. W. R. Ormandy. *diags Inst Pet Tech J* 9:33-60; *Discussion. 60-8 F '23*
- Genesis of hydrocarbons and their localization in certain zones of the earth's crust. R. d'Andrimont. *Inst Pet Tech J* 9:287-91 Ag '23
- Hydrocarbons of the semibenzene group; abstract. K. von Auvers and K. Ziegler. *Chem Soc J* 122 pt 1:119-21 F '22
- New cracking process expected to get more gasoline from heavy crude. *diag Nat Pet N* 15:37+ Je 20 '23
- Oxidation of hydrocarbons, with special reference to the production of formaldehyde. T. S. Wheeler and E. W. Blair. *Soc Chem Ind J* 42:81-6, 87-92, 260-2, 263-6, 415-17 Mr 9-16, Je 15-22, O 26 '23
- Pressure-temperature chart for hydrocarbon vapors. E. R. Cox. *Ind & Eng Chem* 15:592-3 Je '23
- Production of hydrogen by the thermal decomposition of oil. E. R. Weaver. *diags Chem & Met Eng* 28:764-8, 939-45, 1072-5 Ap 30, My 28, Je 18 '23
- Quantitative study of the reaction between ethylenic hydrocarbons and the Grignard reagent. H. Gilman and H. M. Crawford. *diag Am Chem Soc J* 45:551-5 F '23
- Relation between alcohol-water solubility and spontaneous ignition temperatures. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 7:325-34 O '21

Hydrocarbons—Continued

- Royal aircraft establishment report on methods of determining the calorific values of certain unsaturated hydrocarbons. *Inst Pet Tech J* 7:339-42 O '21
- Simple distillation of hydrocarbon mixtures. W. K. Lewis and C. S. Robinson. *diags J Ind & Eng Chem* 14:481-4 Je '22
- Some properties of hydro-carbon refrigerants. H. D. Edwards. *A S R E J* 8:488-95 My '22
- Speed of the uniform movement of flame in mixtures of the paraffins with air. W. Mason. *il Chem Soc J* 123:210-14 F '23
- Study of gas from destructive distillation of a mixture of water-gas tar and coal. R. L. Brown. *Chem & Met Eng* 26:363-5 F '22 '22; Same. *Am Gas J* 116:186-8+ F '25 '22
- Systems ethyl alcohol—water—paraffins from +30°C. to -30°C. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 8:181-93 Ap '22
- Über den austausch des halogens in ungesättigten aliphatischen halogen-kohlenwasserstoffen. H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55:249-67 Ja '22; *Abstract. Chem Soc J* 122 pt 1:213-15 Mr '22
- Über die bildung von kohlenwasserstoffen bei der einwirkung von kalium auf essigester. H. Scheibler, H. Ziegner and E. Pfeffer. *Deutsche Chem Gesell Ber* 55:3921-31 D '22
- Über die stereoisomerie der cyclischen kohlenwasserstoffe. A. Skita and A. Schneek. *Deutsche Chem Gesell Ber* 55:144-52 Ja '22; *Abstract. Chem Soc J* 122 pt 1:240-1 Mr '22
- Über kuppelung von benzol-kohlenwasserstoffen mit diazoverbindungen. K. H. Meyer and H. Tochtermann. *Deutsche Chem Gesell Ber* 54:2283-5 O '21
- Unsaturation and molecular compound formation. O. Maass, E. H. Boomer and D. M. Morrison. *Am Chem Soc J* 45:1433-8 Je '23
- See also *Cyclic compounds; Petroleum; Petroleum refining; also names of hydrocarbons, e.g. Acetylene, Benzene, Cymene, Ethylene, Heptane, Hexane, Methane, Naphthalene, Pentane, Phenanthrene, Sesquiterpenes, Terpenes, Tetrapropyl-ethane, Toluene*
- Hydrocarbons, Aromatic**
- Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit phenoläthern und mit diphenyl-methan. R. Scholl and C. Seer. *Deutsche Chem Gesell Ber* 55:330-41 F '22
- Determination of aromatic hydrocarbons. E. Berl, K. Andress and W. Mueller. *diag Am Gas J* 116:440-1 My 13 '22
- Existence and reactions of positive halogen attached to carbon in aromatic compounds. B. H. Nicolet. *Am Chem Soc J* 43:2081-4 S '21
- Friedel and Crafts' reaction; the carbomethoxy-benzoyl chlorides with aromatic hydrocarbons and aluminum chloride. M. E. Smith. *Am Chem Soc J* 43:1920-4 Ag '21
- Molecular configurations of polynuclear aromatic compounds; diphenyl-3:5:3':5'-tetracarboxylic acid. H. Burton and J. Kenner. *Chem Soc J* 123:1043-5 My '23
- Molecular configurations of polynuclear aromatic compounds; resolution of γ -6:6'-dinitro- and 4:6:4':6'-tetranitro-diphenic acids into optically active components. G. H. Christie and J. Kenner. *Chem Soc J* 121:614-20 Ap '22
- Polynuclear heterocyclic aromatic types; some indenoquinoline derivatives. J. W. Armit and R. Robinson. *Chem Soc J* 121:827-39 My '22
- System ethyl alcohol—water—aromatic hydrocarbons from 30°C. to -30°C. W. R. Ormandy and E. C. Craven. *diag Inst Pet Tech J* 7:422-39 D '21
- Über den umsatz von azoverbindungen und ihren salzen mit aromatischen kohlenwasserstoffen und aluminiumchlorid. R. Pummerer and J. Binapf. *Deutsche Chem Gesell Ber* 54:2768-84 N '21

- Über die abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid. R. Scholl, C. Seer and H. Neumann. *Deutsche Chem Gesell Ber* 55:109-26 Ja '22
- Über die molekularrefraktion aromatischer kohlenwasserstoffe und den aromatischen kohlenstoff. K. v. Auwers. *Deutsche Chem Gesell Ber* 54:3188-94 D '21
- Über die reaktion zwischen azobenzol-chlorhydrat und aromatischen kohlenwasserstoffen. R. Pummerer and others. *Deutsche Chem Gesell Ber* 55:3095-3104 O '22
- Zur graphit-auffassung des aromatischen kohlenstoffs. A. L. v. Steiger. *Deutsche Chem Gesell Ber* 55:1968-79 Ji '22
- See also *Phenanthrene*

Hydrocellulose

- Constitution of hydrocellulose; abstract. H. Ost and R. Bretschneider. *Paper* 29:11 F 8 '22

Bibliography

- Hydrocellulose, a summary of the literature. P. H. Clifford. *Textile Inst J* 14:T69-77 Mr '23

Hydrochloric acid

- Action of concentrated hydrochloric acid on different celluloses. E. C. Sherrard and A. W. Froehke. *Am Chem Soc J* 45:1729-34 Ji '23
- Activity coefficient of hydrochloric acid in aqueous salt solutions. H. S. Harned and N. J. Brumbaugh. *Am Chem Soc J* 44:2729-48 D '22
- Behaviour of the stannic acids towards hydrochloric acid. G. E. Collins and J. K. Wood. *Chem Soc J* 121:1122-33 Je '22
- Concentrated HCl as metallographic etching reagent for nickel. H. S. Rawdon and M. G. Lorentz. *il Chem & Met Eng* 25:955-6 N 23 '21
- Conductance of dilute aqueous solutions of hydrogen chloride. H. C. Parker. *diags Am Chem Soc J* 45:2017-33 S '23
- Electrolytic oxidation of hydrochloric acid to perchloric acid. H. M. Goodwin and E. C. Walker. *bibliog Am Electrochem Soc Trans v 40 (preprint 30):377-86 S '21; Same. Chem & Met Eng* 25:1093-5 D 14 '21
- Hard-rubber lined steel tanks for transporting hydrochloric acid. F. C. Zeisberg. *il diags Ind & Eng Chem* 15:157-8 F '23
- Hydration of acetic and hydrochloric acids and the factors determining the activity of hydrogen ion. W. C. M. Lewis, D. E. Merriam and T. Moran. *Am Chem Soc J* 45:702-12 Mr '23
- Hydrochloric acid by the direct union of hydrogen and chlorine. H. K. Moore. *diag Chem Age* 30:273-4 Je '22
- Influence of hydrogen chloride on the enolising action of Grignard's reagent. V. K. Bhagwat. *Chem Soc J* 123:1803-7 Ji '23
- Manufacture of hydrochloric acid and salt-cake by A. C. Cumming. *Review by P. Parrish. Chem Age (Lond)* 8:561-2 My 26 '23
- New vessel for the absorption of hydrochloric acid. S. L. Tyler. *diags Chem & Met Eng* 27:223-5 Ag 2 '22
- Oxonium compounds in the vapor state; methyl ether—hydrogen chloride. O. Maass and D. M. Morrison. *diag Am Chem Soc J* 45:1675-82 Ji '23
- Precision measurement of the composition of the constant-boiling mixture of hydrogen chloride and water. C. W. Foulk and M. Hollingsworth. *diags Am Chem Soc J* 45:1220-8 My '23
- Refractive indices of solutions of hydrochloric acid, acetic acid and ethanol in water at 25° and 30°. H. M. Elsey and G. L. Lynn. *J Phys Chem* 27:342-5 Ap '23
- Townsend hydrochloric acid process. *diag Chem Age* 30:275-6 Je '22
- Hydrochlorides**
- Action of ferrous chloride on the hydrochlorides of some organic amines. W. M. Cumming. *Soc Chem Ind J* 42:166-8 Ap 20 '23

Hydrochlorides—Continued

- Condensation of phenols with the hydrochlorides of cyanamides and carbodi-imides, and its relation to the Hoesch reaction. W. F. Short and J. C. Smith. *Chem Soc J* 121:1803-8 S '22
- Isomerism of the oximes; hydrochlorides. O. L. Brady and F. P. Dunn. *Chem Soc J* 123: 1783-1803 J1 '23

Hydrocyanic acid

- Addition of hydrogen cyanide to derivatives of glutaric acid; the addition of hydrogen cyanide to ethyl α -cyano- β -methylglutamate and its homologues. E. Hope and W. Sheldon. *Chem Soc J* 121:2223-35 O '22
- Beiträge zur erhöhung der ammoniakausbeute bei der destillation der steinkohle; die gewinnung des im koksofengase enthaltenen zyanwasserstoffs durch umwandlung in ammoniumsulfat. F. Sommer. *diags Stahl & Eisen* 41:852-9 Je 23 '21; Abstract (Increasing ammonia output in coal distillation). *Am Gas J* 116:271-2 Mr 25 '22
- Benzil rearrangement. A. Lachman. *Am Chem Soc J* 45:1522-9 Je '23
- Extraction of hydrogen cyanide. J. G. Taplay and W. L. Galbraith. *Gas J* (Lond) 163:751 S 12 '23
- Formation of hydrogen cyanide from nitrogen and hydrocarbons in the electric arc; abstract. A. Koenig and W. Hubbuch. *Chem Soc J* 122 pt 1:642-3 J1 '22
- Hydrocyanic acid; an ammono carbonous acid, an ammono formaldehyde and a formic ammonide. E. C. Franklin. *J Phys Chem* 27:167-86 F '23
- Hydrocyanic corrosion of gas mains. W. Bertelsmann and A. Thau. *Gas Age* 49:225-6 F 25 '22
- Recovery and utilization of cyanide from by-product coke ovens. E. V. Espenhahn. *flow sheet Chem & Met Eng* 26:938-41 My 17 '22
- Tautomerism of dyads; detection of tautomeric equilibria in hydrocyanic acid. E. H. Usherwood. *Chem Soc J* 121:1604-12 Ag '22
- Tests for hydrocyanic acid gas in air. S. H. Katz and E. S. Longfellow. *bibliog il J Ind Hygiene* 5:97-104 J1 '23
- Über die konstitution des cyanwasserstoffes. K. H. Meyer and H. Hopff. *diag Deutsche Chem Gesell Ber* 54:1709-14 S '21

Hydrodynamics

- Applications of modern hydrodynamics to aeronautics. L. Prandtl. *diags U S Nat Advisory Com for Aeronautics* 1921:157-214; Bibliography. 214-15 '23
- Decay of oscillation of a solid body in a viscous fluid. T. H. Havelock. *Philos Mag* 6th ser 42:628-34 N '21
- Flow of fluids through commercial pipe lines. R. E. Wilson, W. H. McAdams and M. Seltzer. *il diags J Ind & Eng Chem* 14:105-19 F '22; Same cond. *Eng N* 89:690-3 O 26 '22
- Fluid motion relative to a rotating earth. G. Green. *Philos Mag* 6th ser 44:52-62 J1 '22
- Reaction of the air to a circular disk vibrating about a diameter. E. T. Hanson. *diag Philos Mag* 6th ser 16:431-41 S '23
- Solution of an integral equation occurring in certain problems of viscous fluid motion. T. H. Havelock. *Philos Mag* 6th ser 42:620-8 N '21
- Unsteady motion produced in a uniformly rotating cylinder of water by a sudden change in the angular velocity of the boundary. A. R. McLeod. *Philos Mag* 6th ser 44:1-14 J1 '22

See also Drops; Heat convection; Hydraulics; Ship resistance; Steam; Viscosity; Wave motion, Theory of; Waves

Hydroelectric plants

- Analyzing interruption to hydro-electric service. F. A. Allner. *Elec W* 81:1417-18 Je 16 '23; Same cond. *Power* 57:872 My 29 '23
- Auxiliary electrochemical developments for hydro-electric plants. H. K. Benson. *Chem & Met Eng* 25:1004 N 30 '21

- Closing 42 in. outlet pipes in Shoshone dam under 200 feet of water, with wooden balls. J. S. Longwell. *Eng & Contr* 58:257-8 S 13 '22
- Conference on hydro-electric development is held in Philadelphia. *Elec W* 79:597 Mr 25 '22; *Power* 55:518-19 Mr 28 '22
- Design of power canals, headworks and surge tanks. T. H. Hogg. *Can Eng* 42:582 Je 6 '22
- Eddy troubles in the flumes of hydraulic turbines. C. Voetsch. *diags plan Power* 54:985-7 D 20 '21
- Electric system for small water-powers. W. T. Taylor. *diags Elec R* (Lond) 92:5-8 Ja 5 '23
- Factors affecting quality of hydro-electric service. F. A. Allner. *Power* 57:511-13 Ap 3 '23
- First 220,000-volt station completed. *il diags Elec W* 78:1115-19 D 3 '21
- Highest head hydroelectric power installations of the world. A. T. Parsons. *J Elec* 48:155 F 15 '22
- How to increase the efficiency of water-power plants. C. M. Allen. *il diags Tech Assn Pa* ser 4:1-6 Je '21
- How twenty-four years ago compared with today in hydroelectric projects. C. Bernston. *J Elec* 49:83 Ag 1 '22
- Hydraulic accumulation of energy by means of pumps. J. Godin. *Elec W* 79:292 F 11 '22
- Hydraulic equipment as affecting power house design. M. V. Sauer. *Can Eng* 42:287-8 Mr 7 '22; Same abr. *Eng & Contr* 58:143-4 Ag 9 '22
- Hydroelectric development. W. L. Barrows. *Paper* 30:7-9 Mr 15 '22
- Hydro-electric power development. W. T. Taylor. *Elec R* (Lond) 91:819-21 D 1 '22
- Hydroelectric power-plant design. J. A. Sinit. *diags plan Mech Eng* 44:505-8 Ag '22
- Hydroelectric power supply. A. Tustin. *Inst E E J* 61:174-8 Ja '23
- Hydroelectrical engineering. R. Muller. 431p G. E. Stechert & co., New York '21
- Intense interest in hydro-electric development. *Power* 55:10-11 Ja 3 '22
- Mechanical storage of water power as a factor in textile production; Walkersburn hydroelectric scheme. *il diags plans Electrician* 88:229-33 F 24 '22; Same. *Elec R* (Lond) 90:327-30 Mr 10 '22; Same cond. *Engineering* 113:189-93, 219 F 17-24 '22; Excerpt. *Eng & Contr* 57:291-3 Mr 29 '22
- Minimum number of hydro-electric units to have in service. R. Brown. *Power* 55:722-3 N 6 '23
- New design increases power-plant efficiency. *il diag Pop Mech* 38:526-7 O '22
- New records for size of hydro-electric units have again been established. *il Power* 57: 12-14 Ja 2 '23
- Pointers on oil systems in hydroelectric plants. R. C. Denny. *Power* 55:530 Ap 4 '22
- Re-development of small water power. *il Textile World* 63:985-+ F 3 '23
- Utilisation of scattered water power. I. M. E. Aitken. *Elec R* (Lond) 92:10 Ja 5 '23
- See also Dams; Penstocks; Surge tanks; Turbines

Automatic operation

- Adapting a small hydro-electric plant to semi-automatic operation. I. W. Phillips. *diag Elec W* 78:1179 D 10 '21
- Automatic hydro-electric generating station. *Power* 55:900 Je 6 '22
- Automatic hydro-electric generating stations. D. Libby, jr. *il Eng & Contr* 57:45-6 Ja 11 '22
- Automatic hydroelectric plant. C. E. von Sothen. *il Power Pl Eng* 27:88-9 Ja 1 '23
- Automatic operation of hydro-electric plants. L. W. Wyss. *diag Elec W* 81:694 Mr 24 '23
- Automatic plant permits development of small power site. C. M. Gilt. *il diag map Elec W* 78:1213-14 D 17 '21
- Automatic plant replaces cable drive. R. B. Purinton. *il plan Elec W* 80:977-9 N 4 '22
- Automatic plants and western water-power development. E. R. Stauffer and G. Clinwald. *il diag Elec W* 81:1257-9 Je 2 '23

Hydroelectric plants—Automatic operation**—Continued**

- Economies effected by installation of automatic generating plants. R. C. Denny. il diag J Elec 50:435-8 Je 1 '23
- Full-automatic hydro-electric station at Searsburg, Vt. E. B. Collins. il plan Elec W 81:1143-7 My 19 '23
- Hydroelectric plant runs without attendants. il Pop Mech 39:874 Je '23
- Largest automatic hydro-electric station at Searsburg, Vt. il Power 57:789 My 22 '23
- Novel method of control for automatic hydro-electric station; Johnson Falls development. Power Pl Eng 26:758-9 Ag 1 '22; Same. Engineering 114:176 Ag 11 '22; Same cond. Eng N 89:228 Ag 10 '22
- Remote control for small plants. E. S. Lincoln. il diags Elec W 80:1201-4 D 2 '22
- Remote control made possible economical development of a small water power. R. P. Hart. il plan map Power 57:162-5 Ja 30 '23
- Remote supervisory control. J. L. McCoy. il diag Elec J 20:69-72 F '23
- Remotely controlled generating stations. A. T. Parsons. il J Elec 49:203-5 S 15 '22
- Station at Wilmington, Vt., operates automatically. il plan map Power Pl Eng 27:403-7 Ap 15 '23
- Two-unit automatic hydro-electric plant installed on site of old mill. S. B. Mott. il Power 57:369-70 Mr 6 '23
- Use and operation of automatic hydro-electric stations. F. R. Culp. il diag Power 56:520-2 O 3 '22

Auxiliary plants

- Co-ordinating steam and hydro operation; "U" transmission lines of the Consumers' power company. F. W. Pollock. il map Elec W 81:1033-6 My 12 '23
- High efficiency oil-burning station. C. H. Delany. il Elec W 81:735-8 Mr 31 '23
- Michigan a leader in interconnection of hydro and steam plants. H. J. Burton and W. W. Tefft. il diag Elec W 79:329-31, 770-3 F 18, Ap 22 '22
- Paradox of hydro-steam. G. H. Moore. Eng N 91:354-6 Ag 30 '23
- Operating interconnected hydro plants for best system economy. J. W. Andree. il map Elec W 79:933-6 My 13 '22
- Supplementing steam plants with hydro. Elec W 82:712-13 O 6 '23
- 2,500-kva. Diesel-engine plant for stand-by service. H. I. Steffa. il diags plan Power 55:804-9 My 23 '22

Construction

- Amoskeag manufacturing company hydro-electric development. A. T. Safford. il plans Boston Soc C E J 10:95-128 Mr '23; Abstract. Power 57:430-4 Mr 20 '23; Discussion. Boston Soc C E J 10:223-6 My '23
- Complications of transportation on western power job. il Eng N 89:843-4 N 16 '22
- Extension to Shawinigan hydro-electric plant. J. C. Smith. il diags plans Can Eng 42:299-306 Mr 14 '22
- Hydro-electric developments near Bathurst. N. B. J. Dick. il diags plans Can Eng 42:181-5 Ja 31 '22
- Hydro-electric engineering, by A. H. Gibson, v 1. Review. Engineering 112:736-7 N 25 '21
- Preliminary developments on a hydro-electric project. H. K. Fox. il maps Eng N 90:696-8 Ap 19 '23
- Transportation problem paramount in plant construction. il diag Eng N 88:475-7 Mr 23 '22

Cost

- Cost of automatic hydro plant at Searsburg. Elec W 82:761 O 13 '23
- Detailed estimate of the cost of Davis bridge development. Elec W 82:532-3 S 15 '23
- Supplementing steam plants with hydro. Elec W 82:712-13 O 6 '23

Equipment

- Arrangement for handling 500,000-kw. load from Queenston plant. il diags Elec W 79:1260-3 Je 24 '22

- Asynchronous and synchronous generating plants for small watersheds; abstract. H. Kyser. Elec W 78:1284 D 24 '21
- Calculation of high-pressure penstocks. A. Hruschka. Elec W 81:51 Ja 6 '23
- Design of sand box for Kern river hydro-electric plant. H. L. Doolittle. il plans Eng N 88:616-17 Ap 13 '22
- Electrical equipment of hydro-electric plants. N. L. Devendorf. Power 55:455-7 Mr 21 '22
- Features of hydroelectric power plant designs; development and application of backwater suppressor. J. A. Sinit. diags plan Eng & Contr (W W) 59:165-10 Ja 10 '23; Same cond. Elec W 79:1161-4 Je 10 '22; Same cond. Eng N 88:961-6 Je 8 '22
- Features that increase reliability in hydro-electric plants. R. C. Denny. il Power 55:408-10 Mr 14 '22
- Hydraulic power report; designs of penstocks, etc. Power 57:954-5 Je 12 '23
- Les installations électriques de la Basse-Isère. il diags Génie Civil 81:113-15 J1 29 '22
- Mechanical trash-rack rake. J. W. Jones. il diag Power 55:131-2 Ja 24 '22
- Operation of hydraulic power plants; removing ice and trash from water. il diags plan Power Pl Eng 26:363-5 Ap 1 '22
- Power rake handles trash in large quantities. il diags Elec W 82:183-4 J1 28 '23
- Queenston-Chippawa development. il diags map plan Power Pl Eng 26:760-7 Ag 1 '22
- Queenston-Chippawa 600,000-hp. hydro-electric station. il diags plans Power 56:270-8 Ag 22 '22
- Reducing bend as venturi meter in hydro-electric plant. E. A. Dow. il diags Eng N 88:366-8 Mr 2 '22
- Removing sand from water going to hydro-electric turbines. J. S. Carpenter. Power 57:207 F 6 '23
- Selection of auxiliaries for hydro-electric power stations. F. H. Rogers. il diags Power 55:775-7 My 16 '22
- Use of small water powers simplified by induction-generator plant. il map Elec W 79:573-6 Mr 25 '22
- Usine hydro-électrique de la Basse-Isère à Beaumont-Montoux (Drôme) et transport de l'énergie produite à St-Étienne (Loire). A. Dumas. il diags map plans Génie Civil 80:169-80, pl 6-7 F 25 '22
- Utilization of surplus flood water to suppress backwater upon water power developments. F. A. Nagler. il diags Gen Elec R 25:598-602 O 22
- Water intake protected against severe conditions. il Eng N 88:235-6 F 9 '22

See also Screens**Failures**

- Accidents cripple 159,000 hp. of Ontario hydro units. il Elec W 79:895-6 My 6 '22; Same. Locomotive 34:86-7 J1 '22
- Hydro-electric unit wrecked at Niagara Falls. il Power 55:747-8 My 9 '22

Finance

- Economics of water-power development. C. A. Mees. Mech Eng 44:431-4 J1 '22; Same. Eng & Contr 58:130-3 Ag 9 '22; Same cond. Engineering 114:261-3 S 1 '22; Excerpts. Power Pl Eng 26:558-61 Je 1 '22

Ice protection

- Guniting steel penstocks to eliminate trouble due to ice formation. J. A. McCrory. il Can Eng 14:125 Ja 9 '23
- Hydraulic works to relieve ice troubles. Power 55:948-9 Je 13 '22
- Ice prevention on trash racks by electric heating. C. N. Anderson. Elec W 82:340 Ag 18 '23
- Operation of hydraulic power plants; removing ice and trash from water. il diags plan Power Pl Eng 26:363-5 Ap 1 '22
- Reducing ice pressures with compressed air. R. G. Skerrett. il diags plan Can Eng 45:181-5 J1 31 '23
- Tiny air bubbles and giant dams; how air jets protect a great dam against the destructive fields of ice. S. G. Roberts. il Sci Am 128:232+ Ap '23

Hydroelectric plants—Ice protection—Continued
 Why let ice close power plants? D. D. Eames.
 Textile World 61:429+ Ja 28 '22

Inspection

Inspection of hydro-electric plants. E. S.
 Lincoln. Elec W 80:26-7 J1 1 '22

Layout

Roomy design for small hydro development.
 K. R. Robertson. diags Elec W 82:918 N 3
 '23

Location

Aspects of study and selection of water-power
 sites. W: T. Taylor. Elec R (Lond) 91:474-6
 O 6 '22; Same. Can Eng 43:614-16 D 12 '22

Management

Economical use of water in hydro-electric
 plants. R. Brown. Power 58:538 O 2 '23
 Operating instructions for hydro-electric sta-
 tions. R. Brown. Power 56:830-2; 58:363-6,
 614-16 N 28 '22, S 4, O 16 '23; Discussion. C.
 M. King. 56:1033 D 26 '22
 Unified standards for hydro plants. F: Krug.
 Elec W 82:662-3 S 29 '23

Models

Model built to study water-power problems.
 S. E. Conner. il Pop Mech 37:275-6 F '22

Outdoor location

Outdoor and semi-outdoor hydro-electric
 power stations. Power 55:872-3 My 30 '22

Reconstruction

How a 3,000-kw. hydroelectric plant was re-
 built to develop 9,000 kw. H. K. Fox and
 B. F. Jacobsen. il diags plan Elec W 80:
 315-18 Ag 12 '22

Safety devices and measures

Hazards in hydroelectric plants. A. E. Bauhan.
 il Gen Elec R 25:526-34 S '22; Excerpt. Elec
 W 78:978 N 12 '21

Safeguarding workmen in hydro-electric sta-
 tions. R. Brown. il Power 57:280-4 F 20 '23

Service

Quality of hydro-electric service, yesterday
 and to-day. A. E. Bauhan. il Gen Elec
 R 25:365-72 Je '22

Testing

Efficiency tests made on 55,000-horse-power
 hydro-electric units. H. G. Acres. Power 58:
 137-40 J1 24 '23; Correction. 58:235 Ag 7 '23
 Test code for hydraulic power plants and
 their equipment. diags plan Mech Eng 44:
 248-58 Ap '22

Alabama

L'usine hydro-electrique de Muscle Shoals
 (Alabama) pour la fixation de l'azote. J:
 Frazer. il Chimie & Ind 9:615-21 Mr '23
See also Muscle Shoals project

Arkansas

Hydroelectric development in Arkansas. T.
 Shiras. il Pop Mech 37:574-5 Ap '22

Austria

Development of Austrian water powers under
 way. map Elec W 82:127 J1 21 '23
 Hydroelectric plant in Partenstein, Austria.
 A. Kvetensky. Elec W 80:336 Ag 12 '22
 Large Styrian hydro-electric scheme. Elec R
 (Lond) 90:41-2 Ja 13 '22
 Water power as a substitute for coal in the
 Austrian republic. J. A. G. Pennington. map
 Power 56:492-3 S 26 '22

Bolivia

Hydro-electric development in Bolivia. W: T.
 Taylor. il diags Elec R (Lond) 90:616-19
 My 5 '22

Brazil

Increasing capacity of Parnahyba plant. H.
 P. Quick. il Power 55:212-13 F 7 '22
 Some notes on a Brazilian hydro-electric plant.
 Eng N 91:263 Ag 16 '23

British Columbia

Developments at Stave Lake. B. C. J. Light-
 body. map Can Eng 45:391-2 O 9 '23
 Stave river development. plan Elec W 81:
 1489 Je 23 '23

California

Behind the scenes at Big Creek-San Joa-
 quin. E. R. Collins. il N E L A Bul 10:656-
 8 N '23
 Big Creek no. 3, largest Western hydro
 plant starts up. il Elec W 82:830 O 20 '23;
 J Elec 51:311 O 15 '23; Power 58:671 O 23
 '23; Power Pl Eng 27:1110-11 N 1 '23
 Caribou hydroelectric plant; thirty-thousand
 horsepower impulse turbines, under one
 thousand and eight feet head. il diag map
 Sci Am 127:84 Ag '22
 Caribou 165,000-volt development. J. A. Koontz.
 il diags Elec W 80:648-52 S 23 '22
 Changing miner's inches to kilowatt hours.
 G: C. Tenney. il J Elec 50:49-53 Ja 15 '23
 Difficulties of transportation to mountain
 power projects; Kerckhoff development
 finished in record time by ingenuity in
 handling and forwarding materials. R. C.
 Starr. il J Elec 48:53-4 Ja 15 '22
 Discussion on the water power problem. J.
 M. Howells and M. M. O'Shaughnessy. Am
 Soc C E Pro 48:1879-83 D '22
 Don Pedro hydroelectric plant. C: W. Geiger.
 il Power Pl Eng 27:770-3 Ag 1 '23
 Don Pedro power plant. il Elec W 81:1487 Je
 23 '23
 Don Pedro project of the Turlock irrigation
 district. R. W. Shoemaker. il Gen Elec R
 26:736-40 N '23
 El Dorado plant progressing rapidly. Power Pl
 Eng 26:1182 D 1 '22
 Electrical and industrial West. R. Sibley. il
 charts Mech Eng 45:457-62 Ag '23
 First Pit river power project is completed.
 il Eng N 89:570-1 O 5 '22
 General features of design of the Caribou
 plant. A. A. Northrop. il diags plan Eng N
 88:472-5 Mr 23 '22
 Growth of the use of electric power in south-
 ern California and probabilities of its future
 growth with reference to sources of hy-
 draulic power. H. W. Dennis and H. A.
 Barre. Am Soc C E Pro 48:1865-71 D '22
 Harnessing California's waters; the comple-
 tion of the first stage of the Pit river power
 project. C: W. Geiger. il Sci Am 128:254 Ap
 '23
 Hetch Hetchy water power development. A.
 W. Copley. il diags map Power Pl Eng 27:
 507-13 My 15 '23
 How a 3,000-kw. hydroelectric plant was re-
 built to develop 9,000-kw. H. K. Fox and
 B. F. Jacobsen. il diags plan Elec W 80:
 315-18 Ag 12 '22
 Hydro-electric development involves unusual
 tunnel job; reconstruction of Kern river
 plant. H. K. Fox. il diags plans Eng N
 89:50-5 J1 13 '22
 Hydro-electric developments in California. En-
 gineering 116:210-12 Ag 17 '23
 Hydroelectric growth on Pacific coast. Elec W
 81:649 Mr 17 '23
 Hydroelectric installation on the Kern river.
 E. C. Hutchinson. il plan Mech Eng 44:
 239-41 Ap '22
 Hydroelectric power development on the
 Kings river. Cal. Mech Eng 44:312 My '22
 Hydroelectric power systems of California
 and their extensions into Oregon and
 Nevada. F: H. Fowler. maps U S Geol S
 Water-supply Pa 493:1-1276, pl 1-72 '23
 Insuring California's industrial and agricul-
 tural growth; how the Pacific gas and
 electric company is meeting power demands
 by developing 600,000 horsepower on the Pit
 river. N. S. Gallison. il chart map J Elec
 49:123-30 Ag 15 '22
 Methods and progress in constructing the 13-
 mile Florence lake tunnel in California. D.
 H. Redinger. il map Eng N 90:776-9 My 3 '23
 Midway plant of the San Joaquin light &
 power corporation. E. A. Quinn. il J Elec
 50:288-91 Ap 15 '23
 More than a million horsepower. G: C. Ten-
 ney. il maps J Elec 50:244-53 Ap 1 '23

Hydroelectric plants—California—Continued

- Pit river hydroelectric power project. C. W. Geiger, il diags map Power Pl Eng 26:105-11 Ja 15 '22
- Pit river power and 220,000-volt transmission problem. F. G. Baum, il diags maps plans Elec W 81:205-12, 262-7 Ja 27-F 3 '23
- Pit river 70,000-kVA hydro-electric development. F. A. Talbot, il Elec R (Lond) 92:19-23 Ja 5 '23
- Recent hydroelectric developments of Southern California Edison company. H. L. Doolittle, Am Inst E E J 42:1132-3 N '23
- Report on hydro-electric power development in California. G. R. Martin, Comm & Fin Chr 115:1311 O 21 '22; Abstract. Power 56:627-8 O 17 '22
- San Joaquin river to have big new power house, il Power 57:657 Ap 24 '23
- See also Hetch Hetchy water supply project

Canada

- Hydro-electric development in Canada. A. Beck, il Elec R (Lond) 91:701-2 N 17 '22
- Hydroelectric power development in Canada. Engineering 114:607-9 N 17 '22
- Hydro-electric progress in Canada during 1922. Elec W 81:800 Ap 7 '23
- Review of hydro-electric progress in Canada. il Can Eng 42:241-4 F 21 '22; Same cond. Elec R (Lond) 90:748-9 My 26 '22
- Water power resources of Canada. J. T. Johnston, Can Eng 42:343-6 Mr 28 '22
- Winnipeg hydro-electric plant under construction. Elec W 80:91 Jl 8 '22
- See also Hydroelectric plants—Manitoba; Hydroelectric plants—Ontario; Hydroelectric plants—Quebec

Chile

- Hydroelectric development in Chile, il Engineering 114:297-8, 300 S 8 '22
- Hydro-electric plants for central Chile. Elec W 80:243 Jl 29 '22
- Hydro-electricity in the Cordilleras. N E L A Bul 10:303 My '23

Colorado

- Future of hydro-electric generation in Colorado. H. B. Dwight, il map Elec W 80:215-18 Jl 29 '22

Czechoslovakia

- Electrification schemes in Czecho-Slovakia. W. Leavis, Elec R (Lond) 91:572-3 O 20 '22

England

- City of York hydro-electric power station, il diags plans Engineer 136:148-50 Ag 10 '23; Engineering 116:153-4 Ag 3 '23; Elec R (Lond) 93:249-51 Ag 17 '23
- Linton Lock station of the City of York. Ind Management (Lond) 10:188+ O 4 '23
- Nidd Valley hydro-electric installation, il plan Engineering 112:817-18, 824, pl 44 D 16 '21
- Scar House hydro-electric installation, il diags plans Engineer 132:639-42, 650 D 16 '21
- Scar House hydro-electric scheme; Bradford waterworks 300-kva installation, il diag Elec R (Lond) 89:810-12 D 16 '21; Same. Electrician 87:756-8 D 16 '21
- Tisbury hydro-electric scheme. Elec R (Lond) 91:624 N 3 '22

Europe

- Europe is developing more new water power than the United States. Power 57:735-6 My 8 '23
- Hydraulic power plant practice in northern Europe. C. N. Anderson, il diags Elec W 81:86, 91-6 Ja 13 '23

France

- L'aménagement hydraulique du Haut-Rhone; projet de dérivation Grésin-Monthoux, avec usine électrique à Grésin. C. Gémont, diags map plan Génie Civil 80:105-10 F 4 '22
- Le congrès de l'aménagement hydraulique du Sud-Ouest (Bordeaux, 17-22 juin 1922). A. Pawlowski, Génie Civil 81:69-70 Jl 15 '22

- Excursion de la Société des ingénieurs civils en Dauphiné, en Provence et à Marseille; partie électricité. L. Bellot, diags map Soc Ing Civils Bul 74:520-41 O '21
- Hydro-electric development and steam equipment; abstract. J. Reyval. Elec W 80:1170 N 25 '22
- Hydro-electric power on the River Bés, in France. G. Lefèvre. Elec W 81:1424 Je 16 '23
- Les installations électriques de la Basse-Isère, il diags Génie Civil 81:113-15 Jl 29 '22
- Pictureque hydroelectric plant in France, il Pop Mech 38:923-6 D '22
- Usine électrique installée dans un barrage près de Belle-Isle-en-Terre (Côtes-du-Nord), il diags plan Génie Civil 81:529-32, pl 12 D 9 '22; Abstract (Hydro-electric station built into a dam). Elec W 81:113 Ja 13 '23
- Usine hydro-électrique de la Basse-Isère à Beaumont-Monteux (Drôme) et transport de l'énergie produite à St-Étienne (Loire). A. Dumas, il diags map plans Génie Civil 80:169-80, pl 6-7 F 25 '22

Georgia

- Georgia company's expansion program, il Elec W 81:204, 234-6 Ja 27 '23
- Water power development on the Tugalo river, il N E L A Bul 9:86-7 F '22

Germany

- Hydro-electric development and steam equipment. C. Liebisch. Elec W 80:31 Jl 1 '22

India

- Hydroelectric power in India. A. T. Arnall. Electrician 88:237-8 F 24 '22; Abstract. Elec R (Lond) 90:318 Mr 3 '22

Ireland

- Barr hydroelectric scheme, map Elec R (Lond) 92:515 Mr 30 '23; Same. Engineer 135:350 Mr 30 '23

Italy

- Hydroelectric development in southern Italy. Am Inst E E J 42:722 Jl '23
- Hydro-electric problem in Italy. D. Civita. Elec W 79:893 My 6 '22
- Intimate notes from Italy. M. Brooks, il Elec W 80:1099-1101 N 18 '22
- Sila hydro-electric project, diag map Engineer 134:304-5 S 22 '22; Same. Eng & Contr 58:38 N 29 '22

Japan

- Great Japanese power system; the Ohi hydro-electric plant. E. V. Pannell, il Elec R (Lond) 93:359-61 S 7 '23
- Power developments in Japan. W. W. Lewis, il diags map Gen Elec R 26:500-11 Jl '23

Java

- Government hydro-electric plant in the Tjatoer valley near Madioen. P. A. Roelofsen, il Elec J 19:160-2 Ap '22

Maine

- Remote control for small plants. E. S. Lincoln, il diags Elec W 80:1201-4 D 2 '22

Manitoba

- Combined hydro and semi-Diesel plant at Minnedosa, Manitoba, il Power 55:92-3 Ja 17 '22
- Great Falls development of Manitoba power co. F. H. Martin, il plan Can Eng 43:337-41 S 12 '22
- Manitoba hydro-electric scheme, il map Elec R (Lond) 91:644-5 N 3 '22
- Manitoba power co's new plant at Great Falls, il Can Eng 44:465-6 My 8 '23

Massachusetts

- Multiple sources of power; conditions at Ludlow manufacturing associates, Ludlow, Mass. R. A. Packard, il diags Textile World 62:2163+ O 14 '22

Mexico

- Hydro-electric development in Mexico, il Engineering 116:166-8 Ag 10 '23

Hydroelectric plants—Continued

Michigan

Michigan a leader in interconnection of hydro and steam plants. H. J. Burton and W. W. Tefft. *il diag Elec W* 79:329-31, 770-3 F 18, Ap 22 '22

System and operating methods of Consumers power co., Jackson, Mich., hydroelectric plants and steam plant auxiliaries. W. W. Tefft. *il diag Power* 55:526-30 Ap 4 '22

Nebraska

Design reduces cost of small hydro plant. *il diags Elec W* 81:114-6 Ja 20 '23

New Brunswick

Hydro-electric developments near Bathurst, N.B. J. Dick. *il diags plans Can Eng* 42:181-5 Ja 31 '22

Hydroelectric power situation at St John. *Can Eng* 42:364-9 Ap 4 '22

New Hampshire

Amoskeag hydro-electric development. A. S. Baker. *il Textile World* 63:1559-60+ Mr 3 '23

Amoskeag manufacturing company hydroelectric development. A. T. Safford. *il plans Boston Soc C E J* 10:95-128 Mr '23; Abstract. *Power* 57:430-4 Mr 20 '23; Discussion. *Boston Soc C E J* 10:223-6 My '23

Amoskeag power development. A. T. Safford. *il Textile World* 63:979-80+ F 3 '23

New York (city)

Requirements of service for hydro-electric power in the Metropolitan area. G. A. Orrok. *Power* 57:510-11 Ap 3 '23

New York (state)

Beaver river hydroelectric system. R. T. Livingston. *il diags map plans Power Pl Eng* 27:1015-19 O 15 '23

International paper company completes power plant on the Hudson. *il diags plans Eng N* 91:470-6 S 20 '23

Proposed 450,000-hp. development at Niagara falls. *diags maps Power* 56:636-7 O 24 '22

Three 70,000 hp. hydraulic turbines to be installed at Niagara falls. *il diags plan Power* 55:894-5 Je 6 '22

Water power development; installation of International paper co. at Sherman Island, N.Y. *il Paper* 31:7-8+ Mr 7 '23

New Zealand

Electrical development in New Zealand. *Elec R (Lond)* 90:858-9 Je 16 '22

Hydro-electric projects in New Zealand. *Can Eng* 43:345 S 12 '22

New Zealand's electrical development. R. W. Dalton. *Elec R (Lond)* 91:776-7 N 24 '22

Niagara falls

See Hydroelectric plants—New York; Hydroelectric plants—Ontario; Niagara-Queenston canal

Norway

Herlandsfossen hydroelectric plant. *il diags Engineering* 112:497-8, 531-5 O 7-14 '21; Excerpt. *Eng & Contr* 56:506 N 30 '21

Hydroelectric installation in Norway and Sweden. E. Newman. *J Elec* 47:418 D 1 '21

Hydro-electric plant within the arctic circle. G. Troeltsch. *Elec W* 81:276 F 3 '23

Hydroelectric power plant north of Arctic circle. *Pop Mech* 39:759 My '23

Hydro-electric station at Herlandsfossen; abstract. A. Traber. *Elec W* 80:1283 D 9 '22

Low-head hydroelectric plant of 84,000 hp. in Norway. W. F. Lloyd. *il diag Eng N* 89:873-4 N 23 '22

Solberg Falls hydro electric development. *Eng & Contr* 59:294 Ja 31 '23

Water powers of Norway. C. N. Anderson. *il diag Elec W* 81:676-82 Mr 24 '23

Nova Scotia

Hydro-electric power development in Nova Scotia. *Can Eng* 44:433 Ap 24 '23

Ontario

Arrangement for handling 500,000-kw. load from Queenston plant. *il diags Elec W* 79:1260-3 Je 24 '22

California should profit by the experience of Ontario. R. Sibley. *il chart map J Elec* 48:229-33 Mr 15 '22

Costs of electric energy in California compared with Ontario. R. Sibley. *diags J Elec* 48:269-71 Ap 1 '22

Economic factors in power development in Ontario. T. G. Wood. *Power* 56:179-81 Ag 1 '22

Extension to Shawinigan hydro-electric plant. J. C. Smith. *il diags plans Can Eng* 42:299-306 Mr 14 '22

55,000-h.p. turbines for the Queenston power station, Ontario. F. H. Rogers. *il diags Engineering* 114:31-5, pl 7 Jl 14 '22; Same cond. *Power* 56:40-4 Jl 11 '22; Same cond. *Elec J* 19:317-26 Ag '22

First unit for Queenston-Chippawa water power plant opened. *il Eng N* 88:110-11 Ja 19 '22

How California has outdistanced Ontario in economic growth. R. Sibley. *J Elec* 48:310-12 Ap 15 '22

Hydro revenue increases. *Can Eng* 43:273-4 Ag 22 '22

Hydro-electric development on the Abitibi river. J. Dick. *il plan Can Eng* 43:509-13 N 7 '22

Hydroelectric developments in Ontario; abstracts. F. G. Gaby. *il map Mech Eng* 45:410-15 Jl '23; *Can Eng* 44:595-9+ Je 19 '23; Discussion. *Mech Eng* 45:416 Jl '23

Hydro-electric system of Province of Ontario investigated; Murray's report. *il Elec W* 79:471-4 Mr 11 '22; *Eng N* 88:453-4 Mr 16 '22; *J Elec* 48:247 Mr 15 '22; *N E L A Bul* 9:131-6 Mr '22

More Ontario hydro losses. *Elec W* 80:1463 D 30 '22

Moving Niagara into Canada. J. F. Springer. *il Sci Am* 126:162-3 Mr '22

Nipigon hydro-electric power development. *il maps Can Eng* 43:214-16 Ag 1 '22

La nouvelle usine hydro-électrique du Niagara à Queenston (Canada); groupes turbo-alternateurs de 55 000 chevaux. P. Calfas. *il diags map Génie Civil* 82:49-53 Ja 20 '23

Queenston-Chippawa development. *il diags map plan Power Pl Eng* 26:760-7 Ag 1 '22

Queenston-Chippawa development of the hydro-electric power commission of Ontario. F. A. Gaby. *il diags map plan Am Inst E E* J 41:508-26 Jl '22; Discussion. 41:890-3 N '22

Queenston-Chippawa hydro development largest in the world. *il diags maps plan Power* 55:1000-6 Je 27 '22

Queenston-Chippawa hydro-electric development. F. A. Gaby. *il diags map Elec J* 19:312-17 Ag '22

Queenston-Chippawa hydro power development. *il Can Eng* 42:676-80 Jl 4 '22

Queenston-Chippawa 600,000-hp. hydroelectric station. *il diags plans Power* 56:270-8 Ag 22 '22

Smoky Falls development on the Sturgeon river. C. C. Irvine. *il diag Can Eng* 42:377-9 Ap 11 '22

Oregon

Hydro development on the Clackamas river. *map Elec W* 82:199 Jl 28 '23

Insuring the growth of Portland. W. C. Hesston. *il J Elec* 50:9-12 Ja 1 '23

Putting the snows of Mount Hood to work. L. A. McArthur. *il J Elec* 50:482-5 Je 15 '23

Pennsylvania

Hydroelectric power development in Pennsylvania. E. H. Sniffin. *il Elec R* 79:847-8 D 3 '21; Same abr. *Power* 54:864 N 29 '21

Peru

Hydro-electric power-plant at Oroya, Peru. A. W. Allen. *il Min & Sci P* 124:90-2 Ja 21 '22

Quebec

Hydro development at Chute des Galets. H. Cimon. *il diag Can Eng* 45:361-2 O 2 '23

Hydroelectric plants—Quebec—Continued

Hydroelectric possibilities of Quebec; abstracts. J. C. Smith. map Mech Eng 45:407-9 J1 '23; Can Eng 45:281-4 S 4 '23; Power 53: 171-5 J1 31 '23; Discussion. Mech Eng 45:416 J1 '23

Power development at High Falls, Quebec. A. Langlois. il Can Eng 42:319-20 Mr 21 '22

Russia

Hydro-electric plant near Petrograd. M. Kadinsky. diags Eng N 90:781 My 3 '23

St Paul, Minnesota

St Paul's new power house. Elec W 81:117-18 Ja 13 '23

Scotland

Electric power station of the Clyde valley electrical power co. Elec R (Lond) 90:795-6 Je 9 '22

Grampian hydro-electric scheme. map Engineer 133:571-3 My 26 '22

Hydroelectric resources of the Scottish Highlands. M. Maclean. Inst E E J 60:902-8 Ag '22; Same cond. Engineer 133:675-6 Je 16 '22; Abstracts. Engineering 113:724-5 Je 9 '22; Elec R (Lond) 90:796-7 Je 9 '22

Model small water-power installation. il Elec R (Lond) 91:805-6 N 24 '22

Scottish hydro-electric plant with pumped storage. il diags Engineer 133:173-6, 184 F 17 '22

Water-power at Barnaline; the Loch Awe, Argyllshire, installation. il map Elec R (Lond) 93:251-3 Ag 17 '23

Southern states

Power development in the Southeast. C. G. Adsit. Power 55:794-5 My 16 '22

Spain

Building the highest dam in Europe; features of the Camarasa hydro-electric development in Cataluna, Spain. W. Ranney. il diags maps Eng N 89:260-7 Ag 17 '22

Hydro-electric installations of the Barcelona traction light and power co. H. F. Parshall. Engineer 133:270 Mr 10 '22; Same. Engineering 113:167-8 F 10 '22; Same. Eng & Contr 57:455 My 10 '22; Same cond. Electrician 88: 188 F 17 '22

Sweden

Electric railway within the Arctic circle. il diags Engineer 132:676-7, 680 D 23 '21

Hydroelectric installation in Norway and Sweden. E. Newman. J Elec 47:418 D 1 '21

Les usines hydro-électriques de l'Etat suédois. Génie Civil 82:138-9 F 10 '23

Water-power development in Sweden. W. Borgquist. il diags map Elec W 82:850-5 O 27 '23

Switzerland

Amsteg station in Switzerland. H. L. Geissel. il Elec W 82:285-7 Ag 11 '23

Fully hydro-electric power station, Switzerland. il diags maps Engineering 114:635-9, 665-70, 731-4, pl 42, 44 N 24-D 1, 15 '22

Hydro-electric plant at Goesgen, Switzerland. Elec W 80:948 O 28 '22

Hydro-electric plant with head of over one mile. F. A. Noetzi. il diags Eng N 91:395-6 S 6 '23

Les ouvrages de prise d'eau de l'usine électrique du lac Ritom, sur la ligne suisse du Gothard. diag map Génie Civil 83:256-7 S 15 '23

Switzerland's hydro-electric plants rated at 504,500 kw. as of 1919. H. L. Geissel. Elec W 78:1277 D 24 '21

Usine hydro-électrique de Fully (Valais, Suisse), utilisant une chute de 1 650 mètres. C. Dantin. il diags plan Génie Civil 80:393-7, 423-7, pl 8 My 6-13 '22; Abstract. Engineer 134:88-90 J1 '23

Les usines hydro-électriques suisses, de construction récente. F. Gurewitsch. Génie Civil 79:543-4 D 17 '21

Tasmania

Hydroelectric development in Tasmania. F. A. Talbot. il Elec R (Lond) 91:856-8, 892-3 D 8-15 '22

Tennessee

Small municipal hydro-electric plant in Tennessee. il diags plan Eng N 89:1076-8 D 21 '22

When water power paves the streets; Lawrenceburg discovered a mint on the local creek. L. McClung. il Sci Am 129:244 O '23

United States

Additions and extensions during 1923 estimated at \$602,143,000. Elec W 81:569-70 Mr 10 '23

Federal water power projects up to December, 1921. Eng N 88:24-6 Ja 5 '22

Getting power and saving coal; tremendous development of hydro-electric systems. C. H. Huntley. il map Am Ind 22:7-10+ Ja '22

Hydro-electric developments involve an expenditure of \$150,000,000. maps Elec W 79: 951-3 My 13 '22

Hydro projects will total \$778,300,000. Elec W 81:37-8 Ja 6 '23

See also Muscle Shoals project

Vermont

Building a 6,500 hp. water power plant at Searsburg, Vt. J. A. Garrod. il diags plan Eng N 89:1017-20 D 14 '22

Davis Bridge development of the New England power company. A. C. Eaton and E. B. Collins. diags maps Elec W 81:1410-13 Je 16 '23

Unusual features in New England hydro plant. il map Power Pl Eng 27:592-4 Je 1 '23

Wales

Cwm Dyli station, North Wales. il Engineering 115:751-3 Je 15 '23

Hydro-electric installation at Denbigh Asylum. il diags plan Engineer 133:50 Ja 13 '22

Hydro-electric station at Cynwdd, North Wales. il diags Engineering 116:279-80 Ag 31 '23

Hydroelectric supply to Colwyn Bay. T. V. Hughes. Engineering 116:71-3, pl 8 J1 20 '23; Same cond. Elec R (Lond) 93:19-23 J1 6 '23

Water power developments in North Wales. J. B. C. Kershaw. il diags maps plan Electrician 89:65-8 J1 21 '22

Washington (state)

Tacoma-Seattle power exchange line. R. E. Towne. il diags Elec J 20:206-10 Je '23

Upper Falls development of the Washington water power company in Spokane, Wash. L. J. Pospisil. il diags map Am Inst E E J 42:1134-40 N '23

See also Skagit river power project

Western states

Hydro-electric developments on the Pacific coast. J. D. Galloway. Am Soc C E Pro 48: 1846-58 D '22

1923 hydroelectric development program involves 185,500 kilowatts. J Elec 50:96 F 1 '23

Outstanding features of western waterpower development in 1922. il Eng N 90:14-16 Ja 4 '23

Power projects planned for the West. J Elec 48:495 Je 15 '22

Present status of western hydroelectric power developments. J Elec 47:386 N 15 '21

Some western hydroelectric projects under way in 1921 or definitely scheduled for 1922. J Elec 48:60-1 Ja 15 '22

Thirty-four years of hydroelectric development in the West. N. S. Gallison. il J Elec 50:91-2 F 1 '23

Western hydroelectric development meets special problems. F. O. Dolson. J Elec 48: 400-2 My 15 '22

Wisconsin

Big Falls development on Flambeau river. L. B. Breedlove. il diag map Power 58:84-7 J1 17 '23

Increased capacity at Prairie du Sac. il diags plans Power Pl Eng 26:687-93 J1 15 '22

New hydroelectric development at Big Falls. il map Power Pl Eng 27:286-7 Mr 1 '23

Hydroelectric plants, Municipal

Municipal hydro electric plant at Fort Dodge, Ia., earns 12% net. R. E. McDonnell. *il Munic Eng* 61:240+ D '21

Small municipal hydro-electric plant in Tennessee. *il diags plan Eng N* 89:1076-8 D 21 '21

When water power paves the streets: Lawrenceburg discovered a mint on the local creek. L. McClung. *il Sci Am* 129:244 O '23

See also Skagit river power project

Hydroelectric power

Agricultural and industrial features of Priest Rapids; the largest possible hydro-electric development in the United States west of Niagara Falls. H. J. Pierce. *il map Gen Elec R* 26:291-1 My '23

American continent hydroelectric power scheme. *Mech Eng* 45:547 S '23

Co-ordinated statement of the problem of hydro-electric power in the Metropolitan district. F. W. Scheidenhelm. *Power* 57:508-9 Ap 3 '23

Development of small water-powers and low falls. A. H. Gibson. *Elec R (Lond)* 91:730-2 N 17 '22

Fallacies concerning power development. O. C. Merrill. *Power* 55:311 Ag 21 '23

Ferroalloys and hydroelectric power. F. A. J. Fitzgerald. *Iron Age* 111:24-5 Ja 4 '23

From coal and steam power to water and electricity; the effect on the copper industry. G. L. Walker. *Annalist* 20:386+ O 16 '22

Graphic analysis of economy of developing water powers. G. R. Kenny and P. Golsan. *Elec W* 82:119-22 J1 21 '23

Hydro-electric power development. W. T. Taylor. *Can Eng* 44:186-8 Ja 30 '23

Hydro-electric power development as related to the electrification of railroads. C. F. Loweth. *Am Soc C E Pro* 48:1872-8 D '22; Same. *Eng & Contr (Ry)* 58:141-5 D 20 '22; Same. *Can Eng* 44:413-15 Ap 17 '23

Hydro-electric progress in Canada during 1921. *Elec W* 79:876 My 6 '22

Possibilities of water power for New York city; discussion by New York engineers. *il Power Pl Eng* 27:448-9 Ap 15 '23; *Mech Eng* 45:322-3 My '23

Proposed electrification of the Augusta, Georgia, power canal. N. Wingfield. *Munic Eng* 65:121-6 S '23

Reliability of long-distance transmission. L. E. Inlay. *Power* 57:513-14; Discussion. 514 Ap 3 '23

St Lawrence navigation and power investigation. *Can Eng* 42:139-45 Ja 17 '22

Social and economic aspects of hydro-electric power. C. D. Marx. *Am Soc C E Pro* 48:1781-7 N '22; Same. *Can Eng* 43:665-7 D 26 '22

Water-power studies; reporting on a water-power project. W. T. Taylor. *Elec R (Lond)* 93:261-3, 297-9 Ag 17-24 '23

See also Hydroelectric plants; Niagara falls; Tide power; Water power

Hydroelectric power bill, New York (state)

Hydro-electric power bill introduced in New York legislature. *Power* 57:539-40 Ap 3 '23

Hydroelectric power commission of Ontario. See Ontario, Canada—Hydroelectric power commission

Hydroelectric railways. See Ontario commission on hydro-electric railways

Hydroferrocyanides

Hydroferrocyanides and hydroferricyanides of the organic bases. W. M. Cumming. *diags Chem Soc J* 121:1287-98; 123:2457-64 J1 '22, O '23

Hydrofluoric acid

Titration of hydrofluoric and hydrofluosilicic acids in mixtures containing small amounts of hydrofluosilicic acid. P. H. M.-P. Brinton, L. A. Sarver and A. E. Stoppel. *Ind & Eng Chem* 15:1080-1 O '23

Über die in flusssäure lösliche modifikation des siliciums. W. Manchot. *Deutsche Chem Gesell Ber* 54:3107-11 D '21

Hydrofluosilicic acid

Titration of hydrofluoric and hydrofluosilicic acids in mixtures containing small amounts of hydrofluosilicic acid. P. H. M.-P. Brinton, L. A. Sarver and A. E. Stoppel. *Ind & Eng Chem* 15:1080-1 O '23

Hydrogen

Absorption of hydrogen by elements in the electric discharge tube. F. H. Newman. *diags Philos Mag* 6th ser 44:215-26 J1 '22

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit phenolithern und mit diphenyl-methan. R. Scholl and C. Seer. *Deutsche Chem Gesell Ber* 55:330-41 F '22

Activation of hydrogen. *J Fr Inst* 194:73-4 J1 '22

Active modifications of hydrogen and nitrogen produced by a rays. F. H. Newman. *diags Philos Mag* 6th ser 43:455-62 Mr '22

Adsorption of carbon monoxide and hydrogen by platinized asbestos. F. H. Pollard. *diag J Phys (Chem)* 27:356-75 Ap '23

Atomic hydrogen and the Balmer series spectrum. R. W. Wood. *Philos Mag* 6th ser 44:538-46 S '22

Available hydrogen in coal and a direct method for its estimation. J. D. Davis. *diag Ind & Eng Chem* 15:594-7 Je '23

Catalytic combination of ethylene and hydrogen in the presence of metallic copper. R. N. Pease. *diags Am Chem Soc J* 45:1196-1210, 2235-42 My, O '23

Collisions of a particles with hydrogen nuclei. J. Chadwick and E. S. Bieler. *diags Philos Mag* 6th ser 42:923-40 D '21

Combustion of complex gaseous mixtures; mixtures of carbon monoxide and hydrogen with air. W. Payman and R. V. Wheeler. *il Chem Soc J* 123:1251-9 My '23

Conditions of reaction of hydrogen with sulphur. R. G. W. Norrish and E. K. Rideal. *diag Chem Soc J* 123:696-705, 1689-1705 Mr, J1 '23

Crystal structures of the system palladium-hydrogen. L. W. McKeehan. *Phys R* 21:334-9; Bibliography. 339-42 Mr '23

Decarburization of ferrochromium by hydrogen. L. Jordan and F. E. Swindells. *U S Bur Stand Sci Pa* 448:327-34 '22; Same cond. *Chem & Met Eng* 27:1071-2 N 29 '22

Diffusion of hydrogen and helium through silica glass and other glasses. G. A. Williams and J. B. Ferguson. *Am Chem Soc J* 44:2160-7 O '22

Dissociation of molecular hydrogen, from the entropies of diatomic and monatomic hydrogen. G. Edgar. *Am Chem Soc J* 45:673-6 Mr '23

Distribution of energy in the lines of the Balmer series of hydrogen. R. T. Beatty. *Philos Mag* 6th ser 45:1080-1 My '23

Distribution of intensity in the broadened Balmer lines of hydrogen. E. O. Hulburt. *il diags Phys R* 22:24-36 J1 '23

Effect of hydrogen pressure on the electromotive force of a hydrogen-calomel cell. W. R. Hainsworth and D. A. MacInnes. *diags Am Chem Soc J* 44:1021-32 My '22

Effect of nascent hydrogen on hard steel magnets. J. Coulson. *il Phys R* 20:51-8 J1 '22

Gaseous combustion at high pressures. W. A. Bone. *il diags Gas J (Lond)* 163:363-5, 415-16, 475-7 J1 25-Ag 8 '23; Abstracts. *Chem Age (Lond)* 8:541 My 19 '23; *Engineering* 115:625-6 My 18 '23; Discussion. *Soc Chem Ind J (Chem & Ind)* 42:519-21 My 25 '23

Grouping of the lines of the secondary spectrum of hydrogen. K. Basu. *Philos Mag* 6th ser 46:417-20 S '23

Hydrogen as a halogen in metallic hydrides. D. C. Bardwell. *diags Am Chem Soc J* 44:2499-2504 N '22

Hydrogen decarburisation of carbon steels with considerations on related phenomena. C. R. Austin. *Iron & Steel Inst J* 105:93-140, pl 4-9a; Bibliography. 141-2; Discussion. 143-55 no 1 '22

Hydrogen electrode in alkaline solutions. A. H. W. Aten. *Am Electrochem Soc Trans v* 43 (preprint 21):261-70 My '23

Hydrogen—Continued

- Hydrogen molecule. A. C. Crehore. diags Philos Mag 6th ser 43:1025-38 Je '22
- Hydrogen spectra from long vacuum tubes. R. W. Wood. diag Philos Mag 6th ser 42:729-45, pl 21-2 N '21
- Industrial hydrogen. H. S. Taylor. 210p Chemical catalog co., New York '21
- Influence of foreign gases on the secondary spectrum of hydrogen. S. Barratt. Philos Mag 6th ser 46:627-9 O '23
- Intensities in the hydrogen spectrum. A. L. Hughes and P. Lowe. Phys R 21:292-300 Mr '23
- Low voltage arcs in diatomic gases. O. S. Duffendack. diags Phys R 20:665-87 D '22
- Mobilities of electrons in hydrogen. L. B. Loeb. diags Phys R 20:397-404 N '22
- Motion of electrons in argon and in hydrogen. J. S. Townsend and V. A. Bailey. diags Philos Mag 6th ser 44:1033-52 N '22
- Motion of electrons in hydrogen under the action of crossed electric and magnetic fields. R. N. Chaudhuri. Philos Mag 6th ser 46:553-64 S '23
- New evidence regarding the interpretation of critical potentials in hydrogen. P. S. Olmstead. diags Phys R 20:613-30 D '22
- Number of radiating atoms of various dimension within gaseous hydrogen, studied from the point of view of Bohr's atom model. P. Lasareff. Philos Mag 6th ser 45:430-2 Mr '23
- Occlusion of hydrogen in palladium. M. Yamada. Philos Mag 6th ser 45:241-3, pl 2 Ja '23
- Preferential catalytic combustion of carbon monoxide in hydrogen. A. B. Lamb, C. C. Scalione and G. Edgar. diag Am Chem Soc J 44:738-57 Ap '22
- Propagation of the explosion-wave; hydrogen and carbon monoxide mixtures. H. B. Dixon and N. S. Walls. Chem Soc J 123:1025-37 My '23
- Reduction of copper oxide by hydrogen. R. N. Pease and H. S. Taylor. diags Am Chem Soc J 43:2179-88 O '21
- Science for the sheet metal worker. T. Newton. Sheet Metal Worker 14:493-4 JI 20 '23
- Significance of industrial hydrogen. H. S. Taylor. Chem & Met Eng 28:931 My 28 '23
- Simple method of extending the Balmer series of hydrogen in a vacuum tube. R. Whiddington. Philos Mag 6th ser 46:605-7 O '23
- Simultaneous combustion of hydrogen and carbon monoxide. R. T. Haslam. bibliog Ind & Eng Chem 15:679-81 JI '23
- Some properties of hydrogen desorbed from platinum and palladium. P. Anderson. diags Chem Soc J 121:1153-61 Je '22
- Specific heats of gases with special reference to hydrogen. C. K. Ingold and E. H. Usherwood. Chem Soc J 121:2286-91 O '22
- Spectra of hydrogen, nitrogen and oxygen in the extreme ultraviolet. J. J. Hopfield. diag pl Phys R 20:573-88 D '22
- Spontaneous ignition of escaping hydrogen. Engineering 113:502 Ap 21 '23
- Studies of electrovalency: co-ordinated hydrogen. T. M. Lowry and H. Burgess. Chem Soc J 123:2111-24 S '23
- Study of the luminous discharges in hydrogen and in mercury and a new method of measuring ionization potentials. G. E. Gibson and W. A. Noyes, jr. diags Am Chem Soc J 44:2091-2106 O '22
- Theory of the temperature variation of the specific heat of hydrogen. E. C. Kemble and J. H. Van Vleck. Phys R 21:653-61 Je '23
- Thermodynamic treatment of the possible formation of helium from hydrogen. R. C. Tolman. Am Chem Soc J 44:1902-8 S '22
- Transfer of hydrogen from an alcohol to an aldehyde. C. H. Milligan and E. E. Reid. Am Chem Soc J 44:202-5 Ja '22
- Triatomic hydrogen. G. L. Wendt and R. S. Landauer. diag Am Chem Soc J 44:510-21 Mr '22
- Uniqueness of hydrogen. T. M. Lowry. Soc Chem Ind J (Chem & Ind) 42:43-7 Ja 19 '23
- Zur katalytischen wasserstoff-anlagerung: einfluss des sauerstoffs auf den katalysator. W. Normann. Deutsche Chem Gesell Ber 55:2193-7 JI '22

Zur kenntnis der sauerstoff-wasserstoff-katalyse durch platinmetalle und über die potenziale der kontakte bei gegenwart wässriger elektrolyte. K. A. Hofmann. diags Deutsche Chem Gesell Ber 55:573-88 F '22

See also Hydrogen sulfide; Hydrogenation; Water—Analysis

Analysis

- Analysis of hydrogen for traces of nitrogen. R. L. Dodge. diag. Am Chem Soc J 45:1688-91 JI '23
- Method of determining traces of oxygen in hydrogen. A. T. Larson and E. C. White. diags Am Chem Soc J 44:20-5 Ja '22
- Zur mikro-elementaranalyse des kohlenstoffs und wasserstoffs. F. Wrede. diags Deutsche Chem Gesell Ber 55:557-63 F '22

Manufacture

- Electrolytic generation of hydrogen and oxygen with special reference to the utilization of off-peak power. W. G. Allan. il Am Electrochem Soc Trans v 41 (preprint 10):89-123 Ap '22
- Electrolytic methods of hydrogen gas production. J. B. C. Kershaw. il diags Engineer 134:315-18 S 29 '22
- Electrolytic oxygen-hydrogen production. E. A. Lof. il diag Chem Age 31:109-14 Mr '23
- La fabrication de l'hydrogène par liquéfaction partielle du gaz à l'eau. G. Claude. diag Génie Civil 79:376-7 O 29 '21
- La fabrication électrolytique de l'oxygène et de l'hydrogène, par le procédé Zorzi. il diags plan Génie Civil 79:416-17 N 12 '21
- La fabrication industrielle de l'hydrogène; le procédé, fer-vapeur d'eau. M. Verneuil. il diags plan Génie Civil 81:453-61 N 18 '22
- La fabrication industrielle de l'hydrogène; procédé par catalyse du gaz à l'eau, et procédé de la Société l'oxhydrique française. M. Verneuil. diags Génie Civil 83:340-6 O 13 '23
- Hydrogen; patent. Chem Age 31:44 Ja '23
- Manufacture of hydrogen by the partial liquefaction of water gas and coke oven gas. G. Claude. diags Engineering 114:506-7 O 20 '22; Same. Chem Age 30:537-8 D '22; Same. J Ind & Eng Chem 14:1118-19 D '22
- Manufacture of hydrogen—patent no. 195,798. diags Gas J (Lond) 162:488-9 My 23 '23
- Preparation of active hydrogen. Y. Venkataramahiah. diags Am Chem Soc J 45:261-4 F '23
- Production of hydrogen by the thermal decomposition of oil. E. R. Weaver. diags Chem & Met Eng 28:764-8, 939-45, 1072-5 Ap 30, My 28, Je 18 '23
- Production of hydrogen by the use of silicon and sodium hydroxide. E. R. Weaver. Am Electrochem Soc Trans v 41 (preprint 3):15-25 Ap '22
- Production of nitrogen and hydrogen for synthetic ammonia manufacture. H. S. Taylor. flow sheet diags Chem & Met Eng 27:1263-6 D 27 '22
- Simple hydrogen generator for use in making hydrogen-ion concentration measurements. P. H. Cathcart. diag J Ind & Eng Chem 14:278 Ap '22
- Study of the separation of the gases formed in the *n*-butyl alcohol-acetone fermentation process. E. W. Blair, T. S. Wheeler and J. Reilly. diags Soc Chem Ind J 42:235-9; Discussion. 239-40 Je 1 '23
- Hydrogen, Liquid**
- Near approach to absolute zero in Bureau of standards test. Heat & Ven 20:60 Je '23; Same. Refrig W 58:38 Ap '23
- Production of liquid hydrogen by Bureau of standards. Refrig Eng 9:355-6 My '23
- Where the temperature is 434 degrees below zero; the work of the Bureau of standards in liquefying and freezing hydrogen, lightest of gases. S. R. Winters. il Sci Am 129:106 Ag '23
- Hydrogen bromide. See Hydrobromic acid
- Hydrogen cyanide. See Hydrocyanic acid

Hydrogen hexasulfide

Hydrogen hexasulfide and the solubility of sulfur in the presence of hydrogen. J. H. Walton and E. L. Whitford. *diags Am Chem Soc J* 45:601-6 Mr '23

Hydrogen iodide. See Hydriodic acid**Hydrogen ion**

Determination of hydrogen ions. W. M. Clark. 2d ed. 480p Williams & Wilkins co., Baltimore '22

Hydrogen ion concentration

Acidity of nickel depositing solutions. M. R. Thompson. *il Am Electrochem Soc Trans v* 41 (preprint 17):233-58 Ap '22

Application of ion concentration measurements to the control of industrial processes. E. A. Keeler. *diags J Ind & Eng Chem* 14:395-8 My '22

Applied hydrogen-ion concentration—a study of its merits in practical filter plant operation. A. Wagner and L. H. Enslow. *Am Water Works Assn J* 9:373-91 My '22

Coagulation control by hydrogen ion concentration. G. F. Catlett. *Eng & Contr (W W)* 60:281-5 Ag '23

Color and harmless bacteria in water supplies. *Eng N* 89:624-5; 90:86-7 O 12 '22, Ja 11 '23

Determination of hydrogen ion concentration. F. H. McCrudden. 16p Reprint no. 730 from Public health reports, v. 37, no. 7 '22

Determination of the pH value of commercial glucose as a substitute for the candy test. O. A. Sjostrom. *J Ind & Eng Chem* 14:941-3 O '22

Determining hydrogen ion concentration for filter plant operation. W. D. Hatfield. *Am Water Works Assn J* 10:293-303 Mr '23

Effect of change of acidity upon the rate of diffusion of tan liquor into gelatin jelly. J. A. Wilson and E. J. Kern. *J Ind & Eng Chem* 14:45-6 Ja '22

Effect of changing hydrogen-ion concentration on the potential of the zinc electrode. T. W. Richards and T. Dunham, jr. *Am Chem Soc J* 44:678-84 Ap '22

Effect of deaeration of natural waters on the carbonate equilibrium. D. H. Jackson and J. R. McDermet. *Ind & Eng Chem* 15:959-61 S '23

Effect of hydrogen-ion concentration on adsorption of dyes by wool and mordants. O. Reinmuth and N. E. Gordon. *Am Dyestuff Rep* 12:622 Ag 27 '23; Same. *Ind & Eng Chem* 15:818 Ag '23

Effect of hydrogen ion concentration upon clay suspensions. F. P. Hall. *Am Cer Soc J* 6:989-99 S '23

Effect of hydrogen-ion concentration upon the analysis of vegetable tanning materials. J. A. Wilson and E. J. Kern. *J Ind & Eng Chem* 14:1128-9 D '22

Effect of iron on the electrodeposition of nickel. M. R. Thompson. *il Am Electrochem Soc Trans v* 43 (preprint 16):175-208 My '23; Same. *Brass W* 19:183-5, 227-30, 247-52 Je-Ag '23

Effect of sucrose on the activities of the chloride and hydrogen ions. J. W. Corran and W. C. M. Lewis. *Am Chem Soc J* 44:1673-84 Ag '22

Effect of temperature and the concentration of hydrogen ions upon the rate of destruction of antiscorbutic vitamin (vitamin C). V. K. LaMer, H. L. Campbell and H. C. Sherman. *Am Chem Soc J* 44:172-81 Ja '22

Elasticity of purified gelatin jellies as a function of hydrogen-ion concentration. S. E. Sheppard, S. S. Sweet and A. J. Benedict. *Am Chem Soc J* 44:1857-66 S '22

Experiments in water coagulation with aluminum sulphate; relation of hydrogen-ion concentration to precipitation and dissolution of aluminum hydroxide. F. E. Daniels. *Eng N* 91:93 Jl 19 '23

Hydration of acetic and hydrochloric acids and the factors determining the activity of hydrogen ion. W. C. M. Lewis, D. E. Merriam and T. Moran. *Am Chem Soc J* 45:702-12 Mr '23

Hydrogen-ion and other electrical measurements as applied to process control. E. A. Keeler. *il diags J Ind & Eng Chem* 14:1010-12 N '22

Hydrogen ion concentration and the properties of the emulsoid colloids. R. H. Bogue. *J Phys Chem* 26:801-11 D '22

Hydrogen ion concentration and water purification. F. C. Mortensen. *Eng & Contr (W W)* 58:160-2 D 13 '22

Hydrogen-ion concentration and water supply problems. F. Hannan. *bibliog Am Water Works Assn J* 9:39-45 Ja '22

Hydrogen-ion concentration as a means for preventing corrosion. J. R. Baylis. *Am Soc C E Pro* 47:680-2 D '21; Abstract. *Eng & Contr* 57:51 Ja 11 '22

Hydrogen-ion determination as a method of refinery control. H. Z. E. Perkins. *Ind & Eng Chem* 15:623-4 Je '23

Indicators for pH control of alum dosage. B. Cohen. *Eng & Contr (W W)* 59:1336 Je 13 '23

Influence of hydrogen-ion concentration in the fixation of vegetable tannins by hide substance. A. W. Thomas and M. W. Kelly. *bibliog Ind & Eng Chem* 15:1148-53 N '23

Liesegang rings; the effect of light and hydrogen-ion concentration on the formation of colloidal gold in silicic acid gel; rhythmic bands of purple of Cassius. E. C. H. Davies. *Am Chem Soc J* 45:2261-8 O '23

Limits of hydrogen ion concentration as determined by electromotive titrations in water solutions of carbon dioxide, calcium sulphate, and calcium carbonate. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:311-19 Jl 27 '23

March of hydrogen-ion concentration in bread doughs. C. H. Bailey and R. C. Sherwood. *Ind & Eng Chem* 15:624-7 Je '23

Meaning of pH value in testing. Paper 32:7 O 18 '23

Modification of Gillespie's methods for the determination of hydrogen-ion concentrations. W. D. Hatfield. *Am Chem Soc J* 45:940-3 Ap '23

Physico-chemical properties of strong and weak flours; viscosity as a measure of hydration capacity and the relation of the hydrogen ion concentration to imbibition in the different acids. R. A. Gortner and P. F. Sharp. *J Phys Chem* 27:481-92 My '23

Plea for rational interpretation of hydrogen ion measurements. W. C. Moore. *Am Electrochem Soc Trans v* 41 (preprint 4):27-34 Ap '22

Potential difference between glass and electrolytes in contact with the glass. W. S. Hughes. *diags Am Chem Soc J* 44:2860-7 D '22

Preparation of water for filtration. F. A. Dallyn and A. V. Delaporte. *Can Eng* 44:474-6 My 8 '23; Same, without table. *Eng & Contr (W W)* 60:271-4 Ag 8 '23; Discussion. *Can Eng* 44:290-1 Mr 6 '23

Reactions of culture media. G. C. Bunker and H. Schubert. *Am Water Works Assn J* 10:672-85 Jl '23

Reactions of culture media. G. C. Bunker and H. Schubert. *bibliog il diags plan Am Water Works Assn J* 9:63-116; Discussion. 125-9 Ja '22

Relation of hydrogen-ion concentration to filter-plant operation. W. D. Hatfield. *J Ind & Eng Chem* 14:1038-40 N '22

Relation of hydrogen-ion concentration to the flocculation of a colloidal clay. R. Bradfield. *Am Chem Soc J* 45:1243-50 My '23

Report of committee no. 4, on colloidal chemistry, of the Council on standardization. *Am Water Works Assn J* 10:273-80 Mr '23

Revue de chimie analytique. A. Kling and A. Lassieur. *il diags Chimie & Ind* 10:221-44 Ag '23

Rôle of hydrogen- and hydroxyl-ion diffusion in nerve and muscle action. E. Q. Adams. *J Phys Chem* 26:639-46 O '22

Role of hydrogen-ion concentration in the precipitation of colloids. H. V. Tartar and Z. J. Gailey. *Am Chem Soc J* 44:2212-18 O '22

Hydrogen ion concentration—Continued

- Significance of hydrogen-ion concentration in water purification. H. P. Eddy. Eng & Contr 56:354-5 O 12 '21; Same. N E Water Works Assn J 35:385-9 D '21; Same. Can Eng 42:122-3 Ja 10 '22; Same. Pub Works 52:28-30 Ja 14 '22; Same cond. Eng N 87:498 S 22 '21; Discussion. N E Water Works Assn J 35:389-93 D '21
- Some practical aspects of hydrogen electrode measurements. P. E. Klopsteg. diag J Ind & Eng Chem 14:399-406 My '22
- Source of trouble in electrometric measurements of hydrogen-ion concentration. W. T. Bovie and W. S. Hughes. diag Am Chem Soc J 45:1904-5 Ag '23
- Studies in catalysis; the inversion of sucrose by hydrogen ion. T. Moran and W. C. M. Lewis. Chem Soc J 121:1613-24 Ag '22
- Treatment of hard, impure water with aluminium sulphate. W. Gore. Can Eng 42:519-21 My 23 '22; Same. Eng & Contr 55:134-5 Ag 9 '22
- Tungsten wire for hydrogen-ion determinations. J. R. Baylis. diag Ind & Eng Chem 15:852-3 Ag '23
- Two forms of gelatin and their iso-electric points. J. A. Wilson and E. J. Kern. Am Chem Soc J 44:2633-6 N '22
- Use of acids with alum in water purification and the importance of hydrogen-ion concentration. J. R. Baylis. Am Water Works Assn J 10:365-91; Bibliography. 392 My '23; Abstract. Eng N 90:963 My 31 '23
- Use of phthalate solutions for hydrogen electrode standards. E. T. Oakes and H. M. Salisbury. Am Chem Soc J 44:948-51 My '22
- Velocity of inversion of sucrose as a function of the thermodynamic concentration of hydrogen ion. H. A. Fales and J. C. Morrell. Am Chem Soc J 44:2071-91 O '22

Hydrogen peroxide

- Action of hydrogen peroxide upon certain phenyl-substituted uric acids. F. J. Moore and E. S. Gatewood. Am Chem Soc J 45:135-45 Ja '23
- Behaviour of activated sugar carbon in contact with hydrogen peroxide solution. J. B. Firth and F. S. Watson. Chem Soc J 123:1750-5 Jl '23
- Catalysis of hydrogen peroxide by finely divided platinum; the influence of inhibitors. E. B. Maxted. Chem Soc J 121:1760-5 S '22
- Catalytic decomposition of hydrogen peroxide by ferric salts. V. L. Bohnson and A. C. Robertson. Am Chem Soc J 45:2493-2503 N '23
- Catalytic decomposition of hydrogen peroxide in a bromine-bromide solution. W. C. Bray and R. S. Livingston. Am Chem Soc J 45:1251-71, 2048-58 My, S '23
- Catalytic decomposition of hydrogen peroxide solution by carbons prepared from carbohydrates. J. B. Firth and F. S. Watson. Soc Chem Ind J 42:371-2 S 14 '23
- Colorimetric determination of hydrogen peroxide. M. L. Isaacs. Am Chem Soc J 44:1662-3 Ag '22
- Einwirkung von Hydroperoxyd auf formaldehyd; zur theorie der oxydationsvorgänge. A. Bach and A. Generoso. Deutsche Chem Gesell Ber 55:3560-6 N '22
- Hydrogen peroxide—a novel process for its manufacture. H. A. Doerner. Chem & Met Eng 26:1111-12 Je 14 '22
- Hydrogen peroxide bleaching. I. E. Weber. Soc Dyers & Col J 39:209-14 J '23
- Hydrogen peroxide; its manufacture and preservation. P. Poetschke. J Ind & Eng Chem 14:181-5 Mr '22
- Inhibition of the photochemical decomposition of hydrogen peroxide solutions. W. T. Anderson, jr. and H. S. Taylor. Am Chem Soc J 45:650-62, 1210-17 Mr, My '23
- Manufacture of hydrogen peroxide. H. B. Goetschius. Chem & Met Eng 27:148-9 Jl 26 '22
- Oxidation of sabinene with hydrogen peroxide. G. G. Henderson and A. Robertson. Chem Soc J 123:1849-55 Ag '23

- Promoter action in homogeneous catalysis; copper salts as promoters in the iron salt catalysis of hydrogen peroxide. V. L. Bohnson and A. C. Robertson. Am Chem Soc J 45:2512-22 N '23
- Properties of pure hydrogen peroxide. O. Maass and W. H. Hatcher. Am Chem Soc J 44:2472-80 N '22
- Studies in photographic sensitivity. S. E. Sheppard and E. P. Wightman. J Fr Inst 195:337-47 Mr '23
- Über die beeinflussung der platin-katalyse des hydroperoxyds durch röntgenstrahlen. R. Schwarz and W. Friedrich. Deutsche Chem Gesell Ber 55:1040-51 Ap '22; Discussion. 55:2492-4 S '22
- Über die einwirkung von alkalischem wasserstoffsperoxyd auf ungesättigte verbindungen. E. Weitz and A. Scheffer. Deutsche Chem Gesell Ber 54:2327-44 O '21; Abstract. Chem Soc J 120 pt 1:868-9 D '21
- Über die einwirkung von wasserstoffsperoxyd auf china-alkaloide. E. Speyer and A. G. Becker. Deutsche Chem Gesell Ber 55:1321-9 My '22

Hydrogen sulfide

- Determination of hydrogen sulfide. C. H. Stone and E. O. Wiig. Gas Age 51:649-50+ My 19 '23
- Determination of hydrogen sulphide in illuminating gas. C. W. Jordan and W. H. Fulweiler. Am Gas Assn Technical sec v 3:386-403 '21; Same. Am Gas J 115:526-9+ D 10 '21; Discussion. Am Gas Assn Technical sec v 3:404-7 '21
- Errors in the determination of hydrogen sulfide. F. H. Heath and F. A. Lee. Am Chem Soc J 45:1643-7 Jl '23
- Hydrogen sulphide as an industrial poison. Chem Age (Lond) 9:124-5 Ag 4 '23; Abstract. Monthly Labor R 17:706-7 S '23
- Hydrogen sulfide precipitations in hydrochloric acid solution. A. Craig. Chem Age 31:365-6 Ag '23
- Interaction of hydrogen sulphide, thiocyanogen, and thiocyanic acid with unsaturated compounds. F. Challenger, A. L. Smith and F. J. Paton. Chem Soc J 123:1046-55 My '23
- Manufacture of hydrogen sulphide. H. Howard. Chem Age 30:525 D '22
- Method for determining hydrogen sulfide evolved by foods when cooked at various temperatures; its application to steam distillation under pressure. E. E. Kohman. diag J Ind & Eng Chem 14:527-9 Je '22
- On the viscosities and molecular dimensions of methane, sulphuretted hydrogen, and cyanogen. A. O. Rankine and C. J. Smith. Philos Mag 6th ser 42:615-20 N '21
- Precipitation of metals by hydrogen sulfide. G. M. Smith. Am Chem Soc J 44:1500-2 Jl '22
- Preparation and properties of the persulfides of hydrogen. J. H. Walton and L. B. Parsons. Am Chem Soc J 43:2539-48 D '21
- Reactions of accelerators during vulcanization. C. W. Bedford and H. Gray. Ind & Eng Chem 15:720-4 Jl '23
- Über die verhinderung der schwefelwasserstoff-fällung durch neutrale chloride. L. Dede and P. Bonin. Deutsche Chem Gesell Ber 55:2327-31 S '22

See also Hydrogen hexasulfide

Hydrogenation

- Catalytic hydrogenation and the potential of the hydrogen electrode. J. B. Conant and H. B. Cutter. Am Chem Soc J 44:2651-4 N '22
- Catalytic hydrogenation of dextro glucose; preliminary notice. W. E. Cake. Am Chem Soc J 44:859-61 Ap '22
- Catalytic hydrogenation of oils. E. J. Lush. Soc Chem Ind J 42:219-24; Discussion. 224-5 My 25 '23
- Experiments with a growth-impregnated charcoal catalyst. A. Pickles. Chem Age (Lond) 8:166 F 17 '23
- Hydrogénation de quelques huiles d'animaux marins. H. Marcellet. Chimie & Ind 6:765-8 D '21

Hydrogenation—Continued

- Hydrogenation flavour. K. H. Vakil. Soc Chem Ind J (Chem & Ind) 42:788-90 Ag 17 '23
- Hydrogenation of ethylene in contact with nickel. E. K. Rideal. Chem Soc J 121:309-18 F '22
- Hydrogenation of fats; discussion. Engineering 114:472 O 13 '22
- Hydrogenation of naphthalene; tetra and decahydro naphthalenes as new industrial products. R. G. Furness. Chem Age 30:173-6 Ap '22
- Industrial uses of hydrogenated oils. W. W. Myddleton. Chem Age (Lond) 8:448-50 Ap 28 '23
- Isoprene and caoutchouc: the hydrogenation of caoutchouc and its constitution. H. Staudinger and J. Fritsch. Chem Soc J 122 pt 1:1043-4 N '22
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; chinolinbasen. J. v. Braun, A. Petzold and J. Seemann. Deutsche Chem Gesell Ber 55:3779-92 D '22; Abstract. Chem Soc J 124 pt 1:136-8 F '23
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; der carbazol-komplex. J. v. Braun and H. Ritter. Deutsche Chem Gesell Ber 55:3792-3803 D '22; Abstract. Chem Soc J 124 pt 1:141-3 F '23
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; hexahydro-diphenylenoxyd aus o-diphenol. J. v. Braun. Deutsche Chem Gesell Ber 55:3761-70 D '22; Abstract. Chem Soc J 124 pt 1:103-5 F '23
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; inden und acenaphthen. J. v. Braun and G. Kirschbaum. Deutsche Chem Gesell Ber 55:1680-6 Je '22
- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; phenetidin. J. v. Braun and E. Hahn. Deutsche Chem Gesell Ber 55:3770-9 D '22; Abstract. Chem Soc J 124 pt 1:102-3 F '23
- Die katalytische hydrogenisation organischer verbindungen mit unedlen metallen bei zimmertemperatur; der einfluss der art und stellung der halogene in organischen halogenverbindungen auf die entfernung des halogens durch katalytische hydrogenisation. C. Kelber. Deutsche Chem Gesell Ber 54:2255-60 O '21
- Die katalytische hydrogenisation organischer verbindungen mit unedlen metallen bei zimmertemperatur; die aktivität der bei verschiedenen temperaturen hergestellten nickel-katalysatoren; der einfluss des sauerstoffes auf den nickel-katalysator. C. Kelber. Deutsche Chem Gesell Ber 54:1701-5 S '21
- Selective hydrogenation. T. P. Hilditch and C. W. Moore. Soc Chem Ind J 42:15-17 Ja 12 '23
- Some hydrogenation products of benzene and naphthalene. N. Heaton. Chem Age (Lond) 8:486-7 My 5 '23
- Studies in the hydrogenation of benzene. G. Dougherty and H. S. Taylor. diags J Phys Chem 27:533-57 Je '23
- Syntheses in the cinchona series; the hydrogenation of dihydrocinchonine, cinchonine and dihydroquinine. W. A. Jacobs and M. Heidelberger. Am Chem Soc J 44:1079-90 My '22
- Technical hydrogenation of hydrocarbon, nitrobenzene and coal; abstract. Chem & Met Eng 26:370 F 22 '22
- Über den mechanism der katalytischen hydrierung. A. Skita. Deutsche Chem Gesell Ber 55:139-43 Ja '22
- Über die hydrierung des iso-kodeins und pseudo-kodeins. E. Speyer and H. Wieters. Deutsche Chem Gesell Ber 54:2647-50 N '21
- Über die hydrierung des 1,6-dimethyl-naphthalins. F. Mayer and T. Schulte. Deutsche Chem Gesell Ber 55:2164-7 JI '22

Hydrogliders

- Some new hydrogliders. R. C. Folger. il Pop Mech 39:56-7 Ja '23

- Speed and comfort on the hydroglider. H. S. White. il Pop Mech 37:243-5 F '22

See also Sea sleds

Hydrographic surveying

- Alaska—rich prize for U.S. ships. A. M. Sutton. il Marine R 52:319-24 Ag '22
- Hydrographic survey in Canada. R. W. Bent. Can Eng 41:216-17 F 6 '23
- Marine surveys. E. Latham and P. Harrison. Engineer 133:614-15 Je 2 '22; Same. Eng & Contr 58:203-5 Ag 30 '22

Hydrolysis

- Acceleration of the hydrolysis of mustard gas by alkaline colloidal solutions. R. E. Wilson, E. W. Fuller and M. O. Schur. Am Chem Soc J 44:2762-83 D '22
- Catalysis of the formation and hydrolysis of acetamide by acetic acid. W. A. Noyes and W. F. Goebel. Am Chem Soc J 41:2286-95 O '22
- Electrometric method of following certain inorganic hydrolytic reactions. G. S. Tilley and O. C. Ralston. Am Electrochem Soc, Trans v 44 (preprint 1):1-11 S '23
- Fixation by hydrolysis? K. G. Falk and R. H. McKee. bibliog Chem & Met Eng 29:224-5 Ag 6 '23
- Further investigation of the velocity of sugar hydrolysis. R. H. Clark. Am Chem Soc J 43:1759-64 Ag '21
- Hydrolysis and polymerization of cyanamide. H. C. Hetherington and J. M. Braham. Am Chem Soc J 45:821-9 Mr '23
- Hydrolysis of $\beta\beta$ -dichlorodiethyl sulphide; synthesis of divinyl sulphide and the preparation of a non-vesicant isomeride of $\beta\beta$ -dichlorodiethyl sulphide. S. H. Bales and S. A. Nickelson. Chem Soc J 121:2137-9 O '22
- Hydrolysis of collagen by trypsin. A. W. Thomas and F. L. Seymour-Jones. Am Chem Soc J 45:1515-22 Je '23
- Hydrolysis of methyl ortho-nitrobenzoate in acid solution. G. E. K. Branch and D. S. McKittrick. Am Chem Soc J 45:321-7 F '23
- Hydrolysis of platinum salts; potassium platinitobromide. E. H. Archibald and W. A. Gale. Chem Soc J 121:2849-57 D '22
- Influence of neutral salts on the hydrolysis of ethyl formate. A. B. Manning. Chem Soc J 119:2079-87 D '21
- Origin of the humin formed by the acid hydrolysis of proteins; hydrolysis in the presence of ketones. R. A. Gorner and E. R. Norris. Am Chem Soc J 45:550-3 F '23
- Rate of hydrolysis of methyl acetate by hydrochloric acid in solutions containing sucrose. G. J. Burrows. Chem Soc J 119:1798-1802 N '21
- Reactions in fused salt media; studies in solvolysis. J. F. G. Hicks and W. A. Craig. J Phys Chem 26:563-76 Je '22
- Solubility and specific rates of hydrolysis of mustard gas in water. R. E. Wilson, E. W. Fuller and M. O. Schur. Am Chem Soc J 44:2867-78 D '22
- Some of the products obtained in the hydrolysis of white spruce wood with dilute sulfuric acid under steam pressure. E. C. Sherrard and G. W. Blanco. diags Ind & Eng Chem 15:611-16 Je '23
- Study of the velocity of hydrolysis of ethyl acetate. H. S. Harned and R. Pfanstiel. Am Chem Soc J 44:2193-2205 O '22
- Umlagerung oder (und) versetzung der toluol-p-sulfonsäure verbindungen einiger p-substituierter aniline und ihrer N-alkylderivate. J. Halberkann. Deutsche Chem Gesell Ber 54:1833-49 S '21; Abstract. Chem Soc J 120 pt 1:779-81 N '21

Hydromagnesite

- Crystallography of hydromagnesite. A. F. Rogers. diags Am J Sci 5th ser 6:37-47 JI '23

Hydrometallurgy

- Ammonia leaching of zinc ores. J. F. Cullen and T. E. Harper. Eng & Min J 114:232-3 Ag 5 '22
- Conference on leaching and evaporating. Chem Age (Lond) 8:168-70 F 17 '23
- Development of the disc-crusher and leaching practice. A. W. Allen. il diags Min & Sci P 123:849-54 D 17 '21
- Extraction of nickel and alumina from Cuban iron ores. C. R. Hayward. flow sheet diags Chem & Met Eng 26:261-6 F 8 '22

Hydrometallurgy—Continued

Ferric salts as solvents in the leaching of roasted copper ores. P. R. Middleton. flow sheets Eng & Min J 114:451-4 S 9 '22; Discussion. 114:709-10, 933 O 21, N 25 '22

Fundamentals of gravity leaching; principles developed in metallurgical practice offer constructive suggestions to chemical engineers. A. W. Allen. *il Chem & Met Eng* 29:471-2 S 10 '23

Heap leaching of low-grade copper ores. J. Irving. *il Eng & Min J* 113:714-21, 774-7 Ap 29-My 6 '22

Hydrometallurgy; gold and silver—copper—lead—zinc—iron—nickel. R. Gahl. Eng & Min J 115:117-19 Ja 20 '23

Hydro-metallurgy of low-grade zinc ores. M. Namba. *Min & Sci P* 124:301-6 Mr 4 '22

Leaching a copper mine. F. E. Wormser. *il Eng & Min J* 116:665-70 O 20 '23

Leaching nonsulphide copper ores with sulphur dioxide. C. E. van Barneveld and E. S. Leaver. flow sheets *diags U S Bur Mines Tech Pa* 312:1-91, pl 1-5 '23

Metallurgical leaching methods offer suggestions for chemical engineers. A. W. Allen. *il Chem & Met Eng* 29:671-5 O 8 '23

Résumé of copper leaching in Australia. H. R. Sleeman. Eng & Min J 116:193-6 Ag 4 '23

Hydrometers

Hydrometers unsuited to electrolytic bleaching. G. B. Sanderson. *Textile Col* 45:98-101, 168-70 F-Mr '23

Hydron blue

Hydron blue for cotton, linen and artificial silk; abstract. *Color Tr J* 10:33-4 Ja '22

Hydronitric acid. See Hydrazoic acid**Hydronodynast**

Hydronodynast. H. E. Armstrong. *Chem Age (Lond)* 9:278-9, 306-7 S 15-22 '23

Hydrophone

L'écoute sous-marine et quelques-uns de ses progrès récents. *diags plan Génie Civil* 79:393-5 N 5 '21

Marine sounding by sound: the sonic depth finder. Eng & Contr (W W) 59:592 Mr 14 '23

New process of piloting ships by sound. *Sci Am* 126:101 F '22

Hydroplanes

Experiment with gliding boats. *Sci Am* 127:416 D '22

Queer stream-lined craft that may be used as a hydro-plane, racing automobile, amphibious boat, or non-sinkable lifeboat. *il Sci Am* 129:324-5 N '23

See also Hydrogliders; Sea sleds; Sea-planes

Hydroquinone

Manufacture of hydroquinone. *Color Tr J* 13:18 Jl '23

Hydrosols. See Colloids**Hydrostatic separation of ores**

Screen-sorting analyses by hydrostatic separation. S. Bagnara. *il Eng & Min J* 116:51-4 Jl 14 '23

Hydrostatics

Hydrostatique; manomètres—baromètres—pompes. H. P. M. Bouasse. 479p Delagrave, Paris '23

Hydro-steam plants. See Hydroelectric plants—Auxiliary plants

Hydrosulfites

Method of analysis of hydrosulphites and sulphydates; abstract. E. L. Helwig. *Am Dyestuff Rep* 12:327-8 Ap 23 '23

Hydrous oxides. See Oxides**Hydroxamic acids**

New hydroxamic acids derived from cyclopropane carboxylic acid, isobutyric acid and dibenzyl-acetic acid; a comparative study of the Beckmann rearrangement of their derivatives. L. W. Jones and A. W. Scott. *Am Chem Soc J* 44:407-23 F '22

Reactions of alpha-phenyl-beta-hydroxy-urea, and of alpha-alpha-diphenyl-beta-hydroxy-urea interpreted from the standpoint of their hydroxamic acid structures. C. D. Hurd. *Am Chem Soc J* 45:1472-89 Je '23

Rearrangements of some new hydroxamic acids related to heterocyclic acids and to diphenyl- and triphenyl-acetic acids. L. W. Jones and C. D. Hurd. *Am Chem Soc J* 43:2422-48 N '21

Study of the formation of hydroxamic acids from ketene. C. D. Hurd and P. B. Cochran. *diag Am Chem Soc J* 45:515-21 F '23

Hydroxides

Influence of metallic hydroxides on fastness to light of indigo. R. Haller. *Am Dyestuff Rep* 12:723-5 O 8 '23

Studies in adsorption; charge reversal of some colloids. N. R. Dhar and K. C. Sen. *J Phys Chem* 27:376-83 Ap '23

See also Alkali hydroxides

Hydroxy acids

Die Konfiguration der einfachen α -Oxysäuren. K. Freudenberg and F. Brauns. *Deutsche Chem Gesell Ber* 55:1339-53 My '22

Hydroxyaldehydes. See Aldehydes**Hydroxyalkylamines**

Beziehungen zwischen Konstitution und pharmakologischer Wirkung bei Benzoesäure und Tropasäure-estern von Alkalinen. J. v. Braun, O. Braunsdorf and K. Röh. *Deutsche Chem Gesell Ber* 55:1666-80 Je '22; Abstract. *Chem Soc J* 122 pt 1:759-61 Ag '22

Hydroxyanthraquinones

Reduction products of the hydroxyanthraquinones. J. Hall and A. G. Perkin. *Chem Soc J* 123:2029-37 Ag '23

Some products of the reduction of 2-hydroxyanthraquinone. A. G. Perkin and T. W. Whattam. *Chem Soc J* 121:289-300 F '22

Studies in the anthracene series; behavior of some hydroxyanthraquinones treated with bromine. E. deB. Barnett and J. W. Cook. *Chem Soc J* 121:1376-91 Jl '22

Über die Borsäure-ester der oxy-anthracinone. O. Dimroth and T. Faust. *Deutsche Chem Gesell Ber* 54:3020-34 D '21; Abstract. *Chem Soc J* 122 pt 1:155-7 F '22

Hydroxyazo compounds

Facts and theories in the constitution of the hydroxyazo compounds; abstract. E. Pux-eddu and M. Gennari. *Chem Soc J* 122 pt 1:587-9 Je '22

Hydroxybenzaldehydes

Mercury compounds of hydroxybenzaldehydes. T. A. Henry and T. M. Sharp. *Chem Soc J* 121:1055-60 Je '22

Hydroxybenzanthrone

Derivatives of 2-hydroxybenzanthrone. G. G. Bradshaw and A. G. Perkin. *Chem Soc J* 121:911-22 My '22

Hydroxybenzoates

Solubility of the alkali salts of benzoic and the hydroxybenzoic acids in water. N. V. Sidgwick and E. K. Ewbank. *Chem Soc J* 121:1844-53 S '22

Hydroxybenzotriazoles

Triazole compounds; some substituted hydroxybenzotriazoles and their methylation products. O. L. Brady and J. N. E. Day. *Chem Soc J* 123:2258-67 S '23

Hydroxybenzoylbenzoic acid

Para-hydroxybenzoyl-ortho-benzoic acid and some of its derivatives. W. R. Orndorff and L. Kelley. *Am Chem Soc J* 44:1518-27 Jl '22

Hydroxybenzoylphloroglucinols

Hydroxybenzoylphloroglucinols. H. Nishikawa and R. Robinson. *Chem Soc J* 121:839-43 My '22

Hydroxybenzylamine

Diacyl derivatives of ortho-hydroxybenzylamine. L. C. Raiford and E. P. Clark. *Am Chem Soc J* 45:1738-43 Jl '23

Über neue stickstoff-haltige Derivate des Salicins und über mehrkernige oxybenzylamine. G. Zemplén and A. Kunz. *Deutsche Chem Gesell Ber* 55:979-92 Ap '22; Abstract. *Chem Soc J* 122 pt 1:564-5 Je '22

Hydroxycodoinone

Hydroxycodoinone series. E. Speyer, S. Selig and M. Heil. *Chem Soc J* 124 pt 1:127-9 F '23

Hydroxydeoxybenzoins

Di- and tri-hydroxydeoxybenzoins. E. Chapman and H. Stephen. *Chem Soc J* 123:404-9 F '23

Hydroxydimethylhydantoin

5-oxy-1,3-dimethyl-hydantoin. H. Biltz and D. Heidrich. *Deutsche Chem Gesell Ber* 54: 1829-33 S '21

Hydroxylactones

Über α -oxy-lactone. B. Helferich and J. A. Speidel. *Deutsche Chem Gesell Ber* 54:2634-40 N '21; Abstract. *Chem Soc J* 122 pt 1:6-7 Ja '22

Hydroxylamine

Action of hydroxylamine and of hydrazine on the aryl monothio-amides of ethyl acetylmalonate. D. E. Worrall. *Am Chem Soc J* 44:1551-7 JI '22

Hydroxylamin; eine einfache darstellungsweise des freien hydroxylamins. H. Lecher and J. Hofmann. *Deutsche Chem Gesell Ber* 55:912-19 Ap '22

Hydroxylamino-anthraquinone

Study of 1-hydroxylamino-anthraquinone and some of its derivatives. W. H. Beiser and L. W. Jones. *Am Chem Soc J* 44:2296-2306 O '22

Hydroxymethyleneacetophenone

Products of the reduction of hydroxymethylene-acetophenone [phenyl β -hydroxyvinyl ketone] and of α -hydroxymethylene- α -benzylacetone [β -phenyl- α -hydroxymethylene-ethyl methyl ketone]. H. Rupe and H. Müller. *Chem Soc J* 122 pt 1:40-1 Ja '22

Hydroxynaphthoic acids

Hydroxynaphthoic acids. C. Butler and F. A. Royle. *Chem Soc J* 123:1649-57 JI '23

Hydroxynaphthoic acids. F. A. Royle and J. A. Schedler. *Chem Soc J* 123:1641-7 Je '23

Hydroxynaphthoquinone

Hydroxy-naphthoquinone studies; derivatives of 2-bromo-5-hydroxy-1,4-naphthoquinone (monobromo-juglone). A. S. Wheeler and B. Naiman. *Am Chem Soc J* 44:2331-4 O '22

Hydroxy-naphthoquinone studies; new derivatives of 2,3,8-tribromo-5-hydroxy-1,4-naphthoquinone. A. S. Wheeler and T. M. Andrews. *Am Chem Soc J* 43:2582-7 D '21

Hydroxynaphthoquinone studies; the chlorination of juglone. A. S. Wheeler, P. R. Dawson and J. L. McEwen. *Am Chem Soc J* 45:1970-5 Ag '23

Hydroxyphenylarsonic acid

Arsonation of phenol. W. G. Christiansen and A. J. Norton. *Am Chem Soc J* 45:2188-92 S '23

Hydroxypyridines

Vitamines from the standpoint of structural chemistry; β -hydroxypyridine. R. R. Williams. *J Ind & Eng Chem* 13:1107-8 D '21

Hygiene

See Air conditioning; Air pollution;

Disinfection and disinfectants; Exercise; Fatigue; Humidity; Nutrition; Sanitation; Ventilation; Water pollution; Water purification

Hygiene, Industrial

Exhibits which get results. L. D. Peaslee. *Factory* 29:346-5 S '22

Health and the workers. R. Sand. *Int Labour R* 7:507-14 Ap '23

Health of the industrial worker, by E. L. Collis and M. Greenwood. *Review. Engineering* 112:877-8 D 30 '21

Health protection against dust and fumes. R. C. Williams. *Nat Safety* N 7:13-15 My '23

L'hygiène du travail dans l'industrie chimique. F. Bordas. *Chimie & Ind* 8:188-91 JI '22

Industrial hygiene. See monthly numbers of International labour review

Industrial hygiene and medicine. E. W. Hope, and others. 766p William Wood & co., New York '23

Industrial hygiene and safety. See monthly numbers of Monthly labor review

Industrial hygiene of fur cutting and felt hat manufacture. A. Hamilton. *biolog J Ind Hygiene* 4:137-53 Ag '22

Industrial sanitation. S. D. Hubbard. *U S Bur Labor Statistics Bul* 333:217-21; Discussion. 221-4 '23

Influence of industrial employment upon general health; abstract. Major Greenwood. *J Ind Hygiene* 4:99-100 N '22

Keeping workers well. *Factory* 28:108+; 29: 352-4 Ja, S '22

Maintaining the health of the worker. C. H. Northcott. *Management Eng* 3:167-9 S '22

Maintenance of men. H. E. Fisher. *Elec Ry J* 62:600-2 O 13 '23

Medical aspect of women's ills in industry. C. P. Seippel. *Monthly Labor R* 13:945-50 N '21

Notes on industrial hygiene. *Int Labour R* 4:351-61; 5:649-58, 985-94; 6:104-14 N '21, Ap, Je-JI '22

Occupation hazards and diagnostic signs. L. I. Dublin and P. Leiboff. *U S Bur Labor Statistics Bul* 306:1-31 '22

Occupational morbidity statistics of Norwegian sick funds. *Monthly Labor R* 17:713-15 S '23

Occupational sickness: a review; with bibliography. E. A. Rusher. *J Ind Hygiene* 4:125-35 JI '22

Promoting health in industry. C.-E. A. Winslow. *Iron Tr R* 72:298-9, 371-2, 440-1, 511+, 593+ Ja 25-F 22 '23; Same cond. *Power Pl Eng* 27:186-8, 233-5, 283-4 F 1-Mr 1 '23

Studies on undernourishment in industry. W. H. Bunn. *biolog J Ind Hygiene* 4:93-9; 5: 149-52 JI '22, S '23

See also Air conditioning; Air purification; Back strain; Coal miners—Diseases and hygiene; Deafness; Dental service, Industrial; Diseases, Industrial; Drinking fountains; Dust; Dust removal; Eye—Examination; Eye—Protection; Eye strain; Factories—Heating and ventilation; Factory sanitation; Fatigue; Foot strain; Medical service, Industrial; Mental hygiene, Industrial; Metal workers—Diseases and hygiene; Miners—Diseases and hygiene; Noise; Occupations, Dangerous; Physical examinations; Poisons, Industrial; Refrigerants, Physiological effects of; Rock dust; Safety devices and measures; Tuberculosis; Water supply for factories; also Joint board of sanitary control in the New York ladies' garment industries

Bibliography

Bibliography of industrial hygiene. nos. 1 & 2 47p; 39p International labour office, Geneva '23

Medical features of factory inspection together with a review of the literature on industrial hygiene and industrial disease in Germany in 1922. L. Teleky. *J Ind Hygiene* 5:210-19 O '23

Recent literature on industrial hygiene. *Int Labour R* 5:847-52, 1028-35; 6:852-68 My-Je, N '22

Hygiene, Public. See Public health

Hygrometer

Hygrometry. *Engineering* 112:890-1 D 30 '21

Temperature control in the dye house and bleachery. B. F. Wadsworth. *Textile Col* 45:644-7 O '23

Hygroscopicity

Hygroscopicity of picric acid. L. G. Marsh. *J Ind & Eng Chem* 14:321-2 Ap '22

Hygroscopicity of tetryl and tetranitraniline. L. G. Marsh. *Chem & Met Eng* 27:1261-2 D 27 '22

Hyoid bones

Hyoid apparatus of merycoidodon. M. R. Thorpe. *diags Am J Sci* 5th ser 5:225-8 Mr '23

Hyperbolic functions. See Functions, Exponential

Hypergeometric functions. See Functions, Hypergeometric

Hyperthyroidism. See Thyroid gland

Hypertragus

Primitive *pocora* in the Yale museum. R. S. Lull. *biolog J Am J Sci* 5th ser 4:111-19 Ag '22

Hypnotism

Hypnotism—fact or fake? D. A. Laird. *Sci Am* 127:326+ N '22

Hypo. See Sodium thiosulfate

Hypochlorites

Big saving through treating light oils with hypochlorite. *Nat Pet N* 11:18 N 1 '22

Chlorates and hypochlorites; patent. *diag Chem & Met Eng* 27:994 N 15 '22

Hypochlorite bleaching agents. B. De Puyster. *Color Tr J* 13:29-32 J1 '23

New method of making hypochlorite bleach liquor. *Color Tr J* 11:179-80 O '22

Hypochlorous acid

Action of hypochlorous acid on bornylene. G. G. Henderson and J. A. Mair. *Chem Soc J* 123:1155-61 My '23

Bleaching of cotton with hypochlorous acid. R. L. Taylor. *Soc Chem Ind J* 42:79-80 Mr 2 '23

Comparisons of the bleaching action of hypochlorous acid and chlorine. R. L. Taylor. *Color Tr J* 11:30-3 J1 '22

Effect of hypochlorous acid solutions and of bleaching liquors on cellulose. E. Knecht and J. P. Egan. *Soc Dyers & Col J* 39:67-72; Discussion. 72-3 Mr '23

Ionization constant of hypochlorous acid; evidence for amphoteric ionization. W. A. Noyes and T. A. Wilson. *Am Chem Soc J* 44:1630-7 Ag '22

Hypoderma bovis. See Warble flies

Hypophosphites

See Uranyl-hypophosphites

Hypophosphorous acid

Studies in hypophosphorous acid; its reaction with silver nitrate. A. D. Mitchell. *Chem Soc J* 123:629-35 Mr '23

Studies on hypophosphorous acid; its reaction with cupric chloride. A. D. Mitchell. *Chem Soc J* 121:1624-38 Ag '22

Hyposulfites

Hydrosulfites and their technical applications. N. Chappell. *Color Tr J* 9:246-9 D '21

Zinc dust, its uses in the manufacture and application of dyestuffs. J. M. Matthews. *Color Tr J* 10:58-61 F '22

Hyrachyus

Genus *hyrachyus* and its subgroups. E. L. Troxell. *bibliog il Am J Sci* 5th ser 4:38-49, pl 1 J1 '22

Hysteresis

Characteristics of magnetically active iron. A. Turner. *il diags Phys R* 21:74-83, pl 1 J '23

Type of oscillation-hysteresis in a simple triode generator. E. V. Appleton and E. van der Pol. *diags Philos Mag* 6th ser 43:177-93 Ja '22

I

Iberian-American exposition

Iberian-American exposition to be held in Seville, Spain, 1925-1926. E. Olmsted. *il Arch Rec* 53:396-406 My '23

Ice

Harvesting and storing ice on the farm. J. T. Bowen. *U S Agric Farmers' Bul* 1078:1-31 '22

Melting point of ice on the absolute temperature scale. L. B. Smith and R. S. Taylor. *Am Chem Soc J* 45:2124-8 S '23

See also Cold storage; Ice harvesting; Ice houses; Ice industry; Ice on rivers, lakes, etc.; Icebergs; Railroads—Ice supply; Thawing

Manufacture

Advantages to be gained by electrification of ice plants. W. H. Feldmann. *N E L A Bul* 9:475-9 Ag '22; Same. *Refrig W* 57:13-16 F '22

Air agitating systems for raw water ice. H. R. Halterman. *diags Power Pl Eng* 27:179-81 F 1 '23

Circulation of brine in freezing tanks. E. A. Burrows. *Refrig Eng* 9:80-1 Ag '22

Clear ice without agitation. V. H. Greene. *Refrig W* 58:13-14 My '23

Comparative costs with different types of prime movers used in ice manufacture. *Elec W* 82:86 J1 14 '23

Establishing icing facilities on a large scale on Southern Pacific and Union Pacific. W. C. Phillips. *diag plan Ry Age* 72:533-4 Mr 4 '22

Freezing tank design. H. I. Lewis. *diags Refrig Eng* 9:301-6 Ap '23

Handling water in the distilled water ice plant. A. G. Solomon. *Power Pl Eng* 26:532-3 My 15 '22

Ice machine small enough to carry in hands. *il Pop Mech* 40:581 O '23

Ice making by the center-freeze system. A. G. Solomon. *Power Pl Eng* 26:279-81 Mr 1 '22

Ice-making with the unafrow engine. S. H. Bunnell. *il Power* 55:505-6 Mr 28 '22

Ice publicity that pays; how educational lectures on ice and ice making proved of direct benefit. F. P. Peel. *diags Refrig W* 57:19-21 D '22

Lime is basis of water treatment for ice making. *Power Pl Eng* 27:535-7 My 15 '23

Making of clear ice. J. E. Starr. *Refrig W* 57:11-12+ J1 '22

Manufactured ice. *U S Bur Census* 15p '22

Natural ice, artificially produced. R. H. Hemphill. *A S R E J* 8:408-15; Discussion. 415-19 Mr '22

New hand ice machine of Paris make. F. P. Mann. *il Sci Am* 126:268-9 Ap '22

Preparing water to be frozen. M. P. Robinson. *Refrig W* 58:15-16+ Je '23; Same. *Refrig Eng* 10:61-3 Ag '23

Railway car-icing plant to serve refrigerator trains. *diags Eng N* 89:657-8 O 19 '22

See also Electric driving—Ice plants; Ice plants; Refrigeration and refrigerating machinery; also Eastern ice manufacturers' association

Ice boats

Building an ice yacht. J. S. Bird. *il diags Pop Mech* 36:947-50; 37:152-4 D '21-Ja '22

Ice boats that rival speed of hydro-gliders. *il Pop Mech* 37:490-1 Ap '22

Ice cream

Book of ice-cream. W. W. Fisk. new ed. 302p Macmillan '23

Milk and ice cream as fatty foods. J. Alexander. *Ind & Eng Chem* 15:254 Mr '23

Sandy ice cream. *il Sci Am* 127:29 J1 '22

Advertising

Advertising is increasing the per capita consumption of ice cream. A. Belden. *Ptr Ink* 123:153+ My 24 '23

Appeal of novelty in ice cream. *Ptr Ink* 118:69-70+ Ja 5 '22

Eskimo pie campaign brings 100,000 customers in sixty days. *Ptr Ink* 118:41-2 F 2 '22

Midwinter ice cream boom; Eskimo pie. W. Bishop. *Nation's Business* 10:32 Ap '22

72,000 embattled farmers sell ice cream. J. Henle. *Ptr Ink* 120:33-4+ Ag 24 '22

Analysis

Méthode rapide d'estimation du gras dans la crème glacée. P. P. Le Cointe. *Can Chem & Met* 7:208 Ag '23

Manufacture

Ice cream factory; how this industry has been taken out of the "domestic" category. W. A. McGarry. *il Sci Am* 127:28-9 J1 '22

New ice-cream machines are sanitary and economical. *il Pop Mech* 37:81 Ja '22

Text book of the ice cream mix. J. F. Ruff. 136p John F. Ruff, Port Huron, Mich. '22

Transportation

Electric trucks most desirable for ice-cream deliveries. L. T. Carpenter. *Elec W* 79:538 Mr 18 '22

Ice cutters

Railroads use cutting machines to harvest ice. F. L. Clark. *il Pop Mech* 37:373 Mr '22

Ice handling

Car icing station for the Belt railway of Chicago. *diags plan Eng N* 89:240-2 Ag 10 '22; *Some Refrig W* 57:21-3 S '22

Ice harvesting

Cable-ferry system floats ice across river. *il Pop Mech* 37:192 F '22
Harvesting natural ice. B. B. Phillips. *Refriger W* 57:23-5+ Je '22
Natural ice harvest. *Refriger W* 58:25-7 F '23
Norwegian ice harvest. G. Cecil. *Refriger W* 58:22-3 Je '23

Ice houses

Ice house wrecked by overturning ice due to flood. C. W. Lusk. *il Eng N* 91:18 J1 5 '23

Ice industries, National association of. See National association of ice industries

Ice industry

Ice delivery. W. R. Sanders. 318p Nicker-son & Collins co., Chicago '22
Manufacturer should deliver ice. W. Stradley. *Refriger W* 58:19-20 Je '23
Natural ice harvest. *Refriger W* 57:17-18 F '22
Outlook for the ice business. J. W. Scott. *Refriger W* 58:21-2 Mr '23
Selling ice. W. R. Sanders. 266p Nicker-son & Collins co., Chicago '22
Unusual sideline of a Colorado ice company; gasoline filling station. *Refriger W* 58:21 Ag '23

See also Ice—Manufacture

Advertising

Good-will helps ice company sell by-products. *Ptr Ink* 120:113-14 J1 20 '22
Ice industry advertises to thaw out its market. *Ptr Ink* 119:25-6 Ap 6 '22
Ice publicity that pays; how educational lectures on ice and ice making proved of direct benefit. F. P. Peel. *diags Refrig W* 57:19-21 D '22
National advertising of ice. P. H. Harris. *Refriger W* 57:33-4 Ag '22
Steady advertising produces steady employment. R. Dickinson. *Ptr Ink M* 7:48+ N '23

Safety devices and measures

Here comes the ice man. G. E. Wallis. *il Nat Safety N* 8:9-12 J1 '23

Statistics

Census of manufacturers, 1921, manufactured ice. *Refriger Eng* 10:124-8 O '23
Hudson river ice harvest—1923. *Refriger W* 58:25-6 Mr '23

Ice on rivers, lakes, etc.

Dynamite frees ice-bound boats. C. M. Niles. *il Pop Mech* 39:578-9 Ap '23
Effect of ice on flow of Mississippi river at Keokuk, Iowa. *Power* 58:72-3 J1 10 '23
Method of breaking up ice gorges with dynamite. *Eng & Contr (W W)* 59:364 F 14 '23
Method of breaking up ice gorges with explosives. S. R. Russell. *Eng & Contr* 57:186 F 22 '22
Winter overflow from ice gorging on shallow streams. J. C. Stevens. *il map Am Soc C E Pro* 47:583-602 D '21; Discussion. H. B. Muckleston. 48:385-6 F '22

See also Hydroelectric plants—Ice protection; Ice harvesting; Waterworks—Ice protection

Ice patrol. See United States—Coast guard

Ice plants

Abilene (Tex.) gas and electric co. complete model plant. *Munic Eng* 64:101-3 Mr '23
Conditions and operating results of two ice plants compared. D. E. Gate. *Power* 56:891-2 D 5 '22
Electrically-driven ice-making plant; the Poynerhook (Aberdeen) installation. *il Elec R (Lond)* 93:357-8 S 7 '23
Ice-plant problem. T. Mitchell. *diag Power* 57:639 Ap 24 '23
Japanese ice plant. L. H. Jenks, jr. *il Refrig W* 57:14-16 Ap '22

Kosmos ice plant is electrically operated; other equipment. *il diag plans Power Pl Eng* 27:455-60 My 1 '23

New state ice company. *il Refrig W* 58:17-20 S '23

Oil-engine-driven ice plant. *il plan Power* 58:375-7 S 4 '23

1000-ton raw water ice plant. *il Refrig W* 57:39 D '22

Overhauling the ice plant. *diags Power Pl Eng* 26:69-74 Ja 1 '22

Refrigerating plant. *il Elec R (Lond)* 89:760 D 2 '21

Remodelled ice plant; business men's Hygeia ice company of Kearney, N.J. *il Refrig W* 57:16-17 My '22

Spray cooling equipment for ice plants. B. R. Sausen. *Refriger Eng* 10:94-6 S '23

Steam driven ice plant. A. J. Volk. *il Refrig W* 58:18-20 Mr '23

300-ton electric ice factory at Grimsby. *il (supp) diag plans Engineer* 133:171-3 F 17 '22

Why the ice plant bought ice. R. L. Tullis. *diags Power* 57:560-2 Ap 10 '23

See also Ice—Manufacture

Construction

Melting ice allows heavy tank to settle slowly to place. *il Eng N* 90:1132 Je 28 '23

Electric equipment

Electric drive found best for ice plants. J. R. McCoy. *Elec W* 81:1461-2 Je 23 '23

Ice plant electrical equipment. H. P. Hill. *Refriger W* 57:21-3 F '22

Ice plant electrification. H. L. Lincoln. *il J Elec* 61:45-8 J1 15 '23

See also Electric driving—Ice plants

Management

Economical operation of ice plants. H. P. Hill. *Refriger W* 58:16-18 My '23

Economics of ice plants. V. J. Azbe. *Refriger W* 58:17-18 F '23

Ice plants, Municipal

Operation of municipal ice plant of Omaha. *Eng & Contr (W W)* 60:768 O 10 '23

Ice scoring machines

Ice scoring machines. B. B. Phillips. *Refriger W* 58:13-14 Je '23

Ice yachts. See Ice boats

Icebergs

Fighting icebergs and derelicts in battle to rob the sea of hidden perils. *il Pop Mech* 40:680-4 N '23

North Atlantic ice patrol. *il charts Sci Am* 126:370-2+ Je '22

Wireless warnings of iceberg danger; United States coast guard ice patrol functions exclusively by radio. O. Gordon. *il Wireless Age* 11:28-9 O '23

Iceland

See Prices—Iceland

Ichthyosaurus

How did the ichthyosaurus live? *il Sci Am* 126:52 Ja '22

Icosahedron

Regular icosahedron as a substitute for the Ulbricht sphere. K. S. Weaver and B. E. Shackelford. *il diags Illum Eng Soc* 18:290-300; Discussion. 300-4 Mr '23

Idaho

Central Idaho—a rugged mining region. G. J. Bancroft. *il Eng & Min J* 113:438-41 Mr 18 '22

Southern Idaho, an engineers' creation. W. W. De Berard. *il Eng N* 89:473-5 S 21 '22

See also Copper mines and mining—Idaho; Irrigation—Idaho; Mines and mineral resources—Idaho; Petroleum—Idaho

Ideas (in business)

Find your big idea—then plug it. E. M. Wicks. *Ptr Ink M* 4:58+ Ja '22

Giving away one idea brings back three or four. N. G. Shidle. *Automotive Ind* 48:1028-9 My 10 '23

My best ideas come from other lines. D. R. Cohen. *il System* 42:552-3 N '22

Ideas (in business)—Continued

There's something wrong with every business. S. C. Lambert, *Ptr Ink* 118:142+ F '23 '22

Tired products and new ways to sell them. R. Dickinson, *Ptr Ink* 123:3-4+ Ap 19 '23

See also Advertisements—Copy

Identification

Improvements in detection and identification means. *il Pop Mech* 37:72 Ja '22

See also Blood stains, Photography of; Finger prints

Idleness, Industrial

Cost of mismanagement. E. A. Lucey, *Management Eng* 2:25-8 Ja '22

Handling expenses of idleness. T. W. Dinlocker and A. W. Wainwright, *Iron Tr R* 70:1047-9 Ap 13 '22

How does idleness affect profits and selling prices? F. P. Mullaney, *Chem & Met Eng* 28:531-3 Mr 21 '23

Ido

Ido, the new universal language. E. W. Sutton, *Chem & Met Eng* 26:966; 27:5-6 My 24, Jl 5 '22

Igneous rocks. See Rocks, Igneous**Ignition**

Experiments on the ignition of gases by sudden compression. H. T. Tizard and D. R. Pye, *diags Philos Mag* 6th ser 44:79-121, pl 1 Jl '22

Ignition temperature of coal. R. W. Arms, *il diags Ill U Eng Exp Sta Bul* 128:1-69 '22

Relation between alcohol-water solubility and spontaneous ignition temperatures. W. R. Ormandy and E. C. Craven, *Inst Pet Tech J* 7:325-34 O '21

See also Airplane engines—Ignition; Automobile engines—Ignition devices; Electric ignition; Flash point; Gas—Ignition; Gas and oil engines—Ignition; Inflammable mixtures

Ignition, Electric. See Electric ignition**Ignition of gases.** See Gas—Ignition; Inflammable mixtures**Ilion, New York**

Forestation to help city reduce indebtedness. *Pop Mech* 39:688 My '23

Illinois

See Automobile industry and trade—Illinois; Coal—Illinois; Coal miners—Illinois; Drainage—Illinois; Electric plants (central stations)—Illinois; Electric railroads—Illinois; Gasoline industry—Illinois; Petroleum—Illinois; Petroleum industry and trade—Illinois; Potash—Illinois; Roads—Illinois; Water supply—Illinois

Illinois building investigation commission

Report. *Monthly Labor R* 17:886-9 O '23

Illinois Central railroad

Chicago terminal improvements, Illinois Central railroad. D. J. Brumley, *Am Soc C E Pro* 49:1526-34 S '23; Same, *Ry R* 73:299-303 S 1 '23; Excerpt, *Eng & Contr (Ry)* 60:622-5 S 19 '23; *Elec Ry J* 62:822 N 10 '23

Grade reduction and widening on Illinois Central Rr. *il diags Eng N* 90:432-4 Mr 8 '23

Illinois Central cut-off line approved by I.C.C. *Ry Age* 75:293-4 Ag 18 '23

Illinois Central improves line near Chicago. *il map plan Ry Age* 73:1123-8 D 16 '22

Illinois Central preparing to build big cut-off. *map Ry Age* 74:278-9 Ja 27 '23

Illinois Central shows record gross and net. *Ry Age* 74:1061-3 Ap 23 '23

Illinois Central suburban business boomed by a strike. *il Ry R* 71:376 S 16 '22

Illinois Central suburban operation and equipment. *il diags Ry R* 69:669-77 N 19 '21

Maintenance reserve items hurt I. C.'s showing for 1921. *il Ry Age* 72:1075-6 My 6 '22

72d annual report—for the year ended December 31, 1921. *Comm & Fin Chr* 114:1901-5 Ap 29 '22; Excerpts, *Ry Age* 72:1093-4 My 6 '22

73d annual report—for the year ended December 31, 1922. *Comm & Fin Chr* 116:1779-83 Ap 21 '23; Excerpts, *Ry Age* 74:1078-9 Ap 28 '23

Illinois electric railways association

Illinois associations meet in Chicago, March 15-16. *Elec Ry J* 59:514-15 Mr 25 '22

Illinois gas association

Illinois associations meet in Chicago, March 15-16. *Elec Ry J* 59:514-15 Mr 25 '22

Illinois mining institute

Busy technical meeting held cruising from St Louis to Keokuk on Mississippi. E. W. Davidson, *Coal Age* 21:1013-14 Je 15 '22

Illinois traction company

18th annual report for the year ending Dec. 31, 1921. *Comm & Fin Chr* 115:880-1 Ag 19 '22

Illinois. University

University of Illinois—a land-grant college. R. Newcomb, *il Eng Educ* 12:331-47 Ap '22

College of engineering

College of engineering of the University of Illinois. H. F. Moore, *il Eng Educ* 12:387-97 My '22

Engineering experiment station

Scientific research carried on for benefit of industry in general by institution provided by the state. *Elec R* 79:776 N 19 '21

School of music

Soundproofing a building; study of results at Smith Memorial Hall, University of Illinois. F. R. Watson, *plans Arch Forum* 35:178-82 N '21

Western school of music; Smith Memorial Hall at University of Illinois. W. M. Stanton, *Arch Forum* 35:177, pl 62-4 N '21

Illuminating engineering. See Lighting**Illuminating engineering society, London**

Illuminating engineering movement in England (1908-1922). *Illum Engr* 15:203-4 Jl '22

Meeting, January 16. *Illum Engr* 16:33-48 F '23

Proceedings at the opening meeting, London, Nov. 15. *Illum Engr* 14:233-46 D '21

Proceedings at the annual meeting, London, May 25. *Illum Engr* 15:187-202 Jl '22

Report of the council for the session (November, 1921—May, 1922). *Illum Engr* 15:189-93 Jl '22

Work of the Illuminating engineering society. *Illum Engr* 15:205-16 Jl '22

Illuminating engineering society, New York

Annual convention, Swampscott, Mass., Sept. 25-28. *Elec W* 80:733, 757-61 S 30-O 7 '22

General secretary's report for the fiscal year 1921-1922. C. L. Law, *Illum Eng Soc* 17:751-9 D '22

Illuminating engineering society; its ideals and character. G. S. Crampton, *Illum Eng Soc* 17:484-7 O '22

List of members. *Illum Eng Soc* 18:supl-61 Jl '23

Illuminating glassware guild

Advertising to spread light in the illuminating field; the Illuminating glassware guild. A. Belden, *Ptr Ink* 124:121-2 Ag 16 '23

Fixture manufacturers, dealers and glassware guild hold successful conventions at Milwaukee, Jan. 30-Feb. 4. *Elec W* 79:310-11 F 11 '22

Illumination. See Lighting**Ilsemannite**

Ilsemannite at Ouray, Utah. F. L. Hess, *il map U S Geol S Bul* 750-A:1-16 '23

New occurrence of ilsemannite. C. W. Cook, *Am J Sci* 5th ser 4:50-2 Jl '22

See also Molybdenum

Imbibition

Physico-chemical studies of strong and weak flours; the imbibitional properties of the gluters from strong and weak flours. P. F. Sharp and R. A. Gortner, *J Phys Chem* 26:101-36 F '22

Imhoff, Karl

A half day with Karl Imhoff. W. W. DeBerard. Eng N 91:686 O 25 '23

Imhoff tanks

Cost of building flow partition walls in Imhoff tanks by cement gun method. G. B. Gascoigne. il diags plan Munic Eng 63:233-8 D '22

A half day with Karl Imhoff. W. W. DeBerard. Eng N 91:686 O 25 '23

Imhoff tank and sprinkling filter studies at Plainfield works. W. Rudolfs. Eng N 90:779-81 My 3 '23; Same. Can Eng 45:329-31 S 18 '23

Imhoff tank results. J. R. Downes. Pub Works 52:304-5 Ap 29 '22

Mechanical agitation of scum in vent chamber of Imhoff tanks. diags Eng N 91:301 Ag 23 '23

New Imhoff tank. Pub Works 52:289 Ap 22 '22
Operations of Imhoff tanks at Fitchburg, Mass. D: A. Hartwell. Eng & Contr 56:439-41 N 9 '21

Sewage treatment in Imhoff tanks. R. Riker. diags Pub Works 52:39-42, 59-62, 89-91, 106-7 Ja 21-F 11 '22; Discussion. 52:146, 228, 230-1, 318 F 25, Ap 1, My 6 '22

Utilization of methane gas from Imhoff tanks. K. Imhoff. il diags Eng N 91:512-14 S 27 '23

Winter concrete work on large sewage plant. R. A. Lingley. il Eng & Contr (W W) 59:823-4 Ap 11 '23

Imidazoles

Über das Verhalten einiger aus imidazolen bereiteter bis-[acyl-aminol]-äthylen-derivate. A. Windaus, W. Dörries and H. Jensen. Deutsche Chem Gesell Ber 54:2745-55 N '21; Abstract. Chem Soc J 122 pt 1:60-1 Ja '22

Utilization of ethyl gamma-diethoxy-acetoacetate for the synthesis of derivatives of glyoxaline; an attempt to synthesize histamine by a new method. G. W. Pucher and T. B. Johnson. Am Chem Soc J 44:817-26 Ap '22

Imidazolone

Decomposition occurring in the acylation of 5:5-diphenyltetrahydro-4-glyoxalone; abstract. H: Biltz, K. Seydel and E. Hamburger-Glazer. Chem Soc J 122 pt 1:871-2 S '22

Imido esters

Imino-aryl ethers; the thermal decomposition of N-arylaryliminoaryl ether hydrochlorides. A. W: Chapman. Chem Soc J 123:1150-5 My '23

Spontaneous decomposition of imido esters. T. B. Johnson and L. W. Bass. Am Chem Soc J 44:1341-3 Je '22

Imido thiol esters

Production of imido thiol esters by the condensation of thiocyanates with resorcinol or phloroglucinol. R. J. Kaufmann and R. Adams. Am Chem Soc J 45:1744-52 Ji '23

Iminothiourazole

Ringschlüsse an schwefelhaltigen dicarbonhydraxiden; dithio-urazol und iminothio-urazol. F. Arndt and E. Milde. Deutsche Chem Gesell Ber 54:2089-2110 S '21; Abstract. Chem Soc J 120 pt 1:813-15 N '21

Iminovioluric acids

Farbisoimerie und salzbildung bei imidoviolur-säuren. J. Lifschitz and B. B. Hepner. Deutsche Chem Gesell Ber 55:1619-31 Je '22; Abstract. Chem Soc J 122 pt 1:767-8 Ag '22

Immigrants in the United States

Advertised products are Americanizing immigrants. J: A. Murphy. il Ptr Ink M 7:38-9+ Ji '23

Immigration and emigration

Emigration and immigration; legislation and treaties. 439p International labour office, Geneva '22

Migration. See monthly numbers of International labour review

Migration; a general survey. Int Labour R 8:414-36, 561-85 S-O '23

Migration movements throughout the world in 1913, 1920, and 1921. Int Labour R 7:515-40 Ap '23

Views on immigration. E. H. Gary. Comm & Fin Chr 116:1856 Ap 28 '23

See also International emigration commission

Bibliography

Recent publications on migration problems. Int Labour R 8:576-85 O '23

Statistics

Migration statistics for 1922. Int Labour R 7:933-47 Je '23

Brazil

Agreement on labor and emigration between Italy and Brazil. Monthly Labor R 14:1071-3 My '22

Brazil's provisions for rural immigrants. Monthly Labor R 17:253-4 Ji '23

Canada

Canadian need of immigration. Comm & Fin Chr 115:2423 D 2 '22

China

Chinese migrations, with special reference to labor conditions. Ta Chen. maps U S Bur Labor Statistics Bul 340:1-211; Bibliography. 212-37 '23

Czechoslovakia

Emigration from Czechoslovakia, first quarter, 1922. Monthly Labor R 16:669-73 Mr '23
New Czechoslovak emigration law. Monthly Labor R 15:415-17 Ag '22

Germany

German emigration. Int Labour R 5:309-14 F '22

Great Britain

Migration in the British Empire. Int Labour R 5:119-23 Ja '22
Policy within the British Empire. Int Labour R 7:755-8 My '23

Italy

Agreement on labor and emigration between Italy and Brazil. Monthly Labor R 14:1071-3 My '22

Jugoslavia

Emigration law of Yugoslavia. Monthly Labor R 14:1262-5 Je '22

United States

America's immigration problem. Comm & Fin Chr 115:2012 N 4 '22
Can we sort them at the gate? V. Kellogg. il Nation's Business 11:19-21 Je '23
Constructive immigration policy. Am Ind 23:9-10 Ja '23

Disregard need for immigrants. Iron Tr R 72:173-4 Ja 11 '23

Economic aspects of immigration. R. Estcourt. Annalist 22:392-3 S 24 '23

Economist's support of restricted immigration. H: R. Seager. Management Eng 4:49-50 Ja '23

How let in the men we need. W. W. Hubbard. Nation's Business 11:17-18 Ja '23

Immigrant aid; legislative safeguards, and activities of Bureau of immigration. M. T. Waggaman. Monthly Labor R 16:248-61 F '23
Immigration. R. A. Peebles. map Management Eng 4:41-6 Ja '23

Immigration. T. A. Rickard. Eng & Min J 115:172, 260 Ja 27, F 10 '23

Immigration, a legislative point of view. A. Johnson. il Nation's Business 11:26-8 Ji '23
Immigration and labor. I. A. Hourwich. 2d ed., rev. 574p Huebsch '22

Immigration and the factory manager. Factory 30:285-7 Mr '23

Immigration and the labor supply. D. F. Garland. System 43:587-90 My '23

Immigration as affecting the labor situation. M. W. Alexander. Eng N 90:11-13 Ja 4 '23

Immigration during the year ending June 30, 1923. maps Monthly Labor R 17:533-59 Ag '23

Immigration issue stirs nation. E. C. Boehringer. map Iron Tr R 71:1339-43 N 16 '22
Immigration—or machinery? K. H. Condit. diags Am Mach 58:393-5 Mr 15 '23

Immigration and emigration—United States

—Continued

- Immigration problem. W: H. Barr. Metal Ind 21:70 F '23
- Immigration problem. F. C. Biggert, jr. Iron Age 112:972 O 11 '23
- Immigration problem. R. S. Lewis. Eng & Min J 115:570 Mr 31 '23
- Immigration quota for 1924. Monthly Labor R 17:247 Jl '23
- Immigration under the per centum limit act. W. W. Husband. maps Monthly Labor R 15:231-40 Ag '22
- Keen interest in coming of immigrants. L. W. Moffett. Iron Age 111:1573 My 31 '23
- Look ahead for the immigrant; civic development department group meeting of the U.S. Chamber of commerce. Nation's Business 11:58-9+ Je 5 '23
- Migration, 1914-1921; chart. Annalist 19:64 Ja 9 '22
- Newcomer as a citizen. J. W. O'Leary. Nation's Business 11:19-20 Ja '23
- Our immigration needs. J. A. Emery. Am Mach 59:185 Ag 2 '23
- Our labor shortage and immigration. J. J. Davis. Ind Management 65:321-3 Je '23
- Our restrictive immigration law and the shortage of common labor. Comm & Fin Chr 116:557-8 F 10 '23
- Problems of our immigration; symposium. Am Ind 23:5-40 F '23
- Scarcity of common labor in industry. A. Smith. Iron Age 110:717-18 S 21 '22
- Shall we let down the bars? C. C. Brinley. Ind Management 65:247-9 Ap '23
- Slight gain in alien arrivals. Iron Tr R 71:1613 D 14 '22
- Sources of our immigration. A. G. Wandmay-er. Am Ind 23:34+ Jl '23
- Statistics of immigration for six months ending December 31, 1921. Monthly Labor R 14:586-92, 837-42 Mr-Ap '22
- Statistics of immigration for the fiscal year ended June 30, 1922. Monthly Labor R 15:692-7 S '22
- Strong support for selective immigration. Iron Age 111:163-4 Ja 11 '23
- Taking stock of the immigrant. Am Ind 22:29-30 Jl '22
- Threatens to cut alien quotas; House committee reports out 2 per cent restriction bill. Iron Tr R 72:601-2 F 22 '23
- Views of Secretary Davis on immigration. Monthly Labor R 16:1401-3 Je '23
- Views on immigration. Iron Tr R 71:1683-4 D 21 '22
- Where do the immigrants go? Am Mach 59:220 Ag 9 '23
- Why foreigners are needed in steel plants. G. Walter. Iron Age 112:331-2 Ag 9 '23
- See also Americanization; Immigrants in the United States; Immigration law

Bibliography

- University debaters' annual. E. M. Phelps, ed. p.99-103 H. W. Wilson co. '21

Immigration law

- Change needed in immigration law. J. M. Larkin. Iron Tr R 71:1484 N 30 '22
- Constructive immigration policy. M. R. Davie. 46p Yale university press, New Haven '23
- Need change in immigration law. A. H. Jans-son. il Marine R 53:323-30 S '23
- Regulation of immigration in the United States. Int Labour R 5:113-18 Ja '22

Impact

- Accelerometer for measuring impact. E. B. Smith. il diag Eng N 91:26 Jl 5 '23
- Bultman Izod impact testing machine. il Am Mach 58:677 My 3 '23
- Deformation of material by impact test. Chem & Met Eng 27:752-3 O 11 '22
- Duration of impact of bars. E. W. Tschudi. diag Phys R 18:423-30 D '21
- English impact measurements analyzed. F. E. Turneure. Eng N 88:104-6 Ja 19 '22
- Graphic representation of absorption of impact by springs. L. H. Mann. Mach 28:554-5 Mr '22
- Highway researches and what the results indicate. A. T. Goldbeck. il Good Roads 62:223-6, 228-30 Ap 19 '22

- Impact test for gravel. F. H. Jackson. il diag Eng & Contr 58:107-8 Ag 2 '22; Same. Am Soc T M Pro 22 pt 2:362-7; Discussion. 368-74 '22
- Impact testing. J. M. Lessells. Soc Auto Eng J 12:117 Ja '23
- Impact tests of metals. D. J. McAdam, jr. diags Am Soc T M Pro 22 pt 2:37-54 '22
- Impact tests on tableware. H. H. Sortwell. Am Cer Soc J 6:349-55 F '23
- Influence de la vitesse d'impact dans le tarage des ressorts dynamométriques. Génie Civil 82:66 Ja 20 '23
- Mathematical law of impact between cars; a study of the time of partial and full draft gear closures. E. M. Richards. Ry Mech Eng 97:760-2, 817-19 N-D '23
- Measurement of impact. E. B. Smith. diags Am Soc T M Pro 21:1073-80 '21; Same. Good Roads 61:149-51+ S 21 '21; Discussion. Am Soc T M Pro 21:1081-5 '21
- Motion and forces between wheel and road. Soc Auto Eng J 13:171 Ag '23
- Motor truck impact tests of the Bureau of public roads. E. B. Smith. il diags Pub Roads 4:1-16+ D '21
- New impact strain gage. E. B. Smith. il diag Eng & Contr (R & S) 59:759-61 Ap 4 '23; Same. Good Roads 64:217-18 Je 6 '23
- Photo-recording extensometer for impact tests. il diag Eng N 90:544-5 Mr 22 '23
- Pittsburgh impact testing machine. il Am Mach 59:676-7 N 1 '23
- Progress report of the special committee on impact in highway bridges. il diags Am Soc C E Pro 49:457-87 Mr '23
- Savage impact register on the Baltimore & Ohio. il Ry Age 74:344 F 3 '23; Ry R 71:800 D 2 '22
- Some experiments on the impact of hydraulic jets. A. H. Gibson and F. Heywood. il diags Philos Mag 6th ser 45:229-38 Ja '23
- Structural design of pavements. A. T. Goldbeck. Can Eng 42:223-6 F 14 '22
- Symposium on impact testing of materials. Am Soc T M Pro 22 pt 2:5-149 '22; Abstracts. Chem & Met Eng 27:16 Jl 5 '22; Eng N 89:29-30 Jl 6 '22; Iron Age 110:16-17 Jl 6 '22; Iron Tr R 71:48 Jl 6 '22
- Test of impact on pavements by the Bureau of public roads. C. A. Hogentogler. il Pub Roads 4:3-18 O; 1-18+ N '21; Same. Good Roads 61:225-8+, 235-6+, 246-8+, 255-6+, 267-9+, 278-80+, 289-92; 62:1-4+ N 16 '21- Ja 4 '22; Excerpts. Automotive Ind 46:277-8 F 9 '22; Abstract. Eng N 87:944-7 D 8 '21
- What happens when the tire hits the road. Sci Am 129:172 S '23
- See also Bridges—Load; Elasticity; Notched bar testing

Bibliography

- Bibliography on impact testing. Am Soc T M Pro 22 pt 2:9-32 '22

Impact recorders

- Impact recorder and pilferage detector. il Ry Age 74:908 Ap 7 '23; Ry Mech Eng 97:245-6 Ap '23

Imperial Valley, California

- Problems of Imperial Valley and vicinity. 326p [bibliog. p. 223-33] U.S. Reclamation service, Washington '22

Implements. See Tools**Implements, Agricultural. See Agricultural machinery****Imports. See United States—Commerce****Improvement of products. See Manufactures—Improvements of products****Impurities. See Chemistry, Analytic****Incandescent electric lamps. See Electric lamps, Incandescent****Incandescent gas lighting. See Gas lighting, Incandescent****Incas**

- Golden age of Peru. il Sci Am 127:246 O '22

Incentives (in industry). See Bonus system; Employment management—Incentives; Profit sharing; Wage payment plans

Inch, Sydney Richard, 1879-
Sketch. por Elec W 82:268 Ag 11 '23

Inclinometers

- Hot-wire inclinometer: its sensitivity in air and in carbon dioxide. J. S. G. Thomas. Philos Mag 6th ser 45:945-57 My '23
- Inclinometers and banking indicators. W. S. Franklin and M. H. Stillman. il diags U S Nat Advisory Com for Aeronautics 1921: 597-611 '23
- Mutual action of the convection currents arising from two fine heated platinum wires. J. S. G. Thomas. diag plan Philos Mag 6th ser 42:940-55 D '21
- Precision inclinometer. il Sci Am 125A:141 D '21
- Stevens-Prentice universal inclinometer. il Am Mach 57:505 S 28 '22
- Twin-dial inclinometer of great precision. il Pop Mech 36:854 D '21

Income

- Higher production by a bonus on national output. D. Milner. 127p G. Allen & Unwin, London '20
- How count a community's wealth? Nation's Business 11:56-7 Ag '23
- Income analysis in United States. O. W. Knauth. Mech Eng 44:729 N '22
- Income in the United States. W. Bishop. Nation's Business 10:60+ Mr '22
- Income in the United States. R. Estcourt. Annalist 19:509-10 My 8 '22
- Income in the United States. W. R. Ingalls. Am Ind 22:9-10+ F '22
- Income in the United States, its amount and distribution, 1909-1919, by the staff of the National bureau of economic research. Harcourt, Brace & co., New York '21; Review, by R. C. Epstein. System 44:459-60+ O '23

See also Capital; Profit

Income tax

- Amortization under the income tax laws. W. A. Staub. Administration 5:309-19 Mr '23
- Current problems in taxation. L. T. Beman, comp. p. 207-12, 223-350 H. W. Wilson co. '21
- Income tax calculations; how they bear on income from taxable bonds. E. F. Magruder. Annalist 22:533+ O 22 '23
- Income-tax department. S. G. Rusk. See monthly numbers of Journal of accountancy
- Inventories and their valuation for income tax purposes. L. C. Haugh. Administration 3: 732-6 Je '22
- State taxation of personal incomes. A. P. Comstock. 246p Longmans '21
- Tax on living expenses. J. A. Cull. J Account 36:339-42 N '23
- Taxation of capital gains. G. O. May. J Account 34:321-33 N '22
- Treatment of appreciation of fixed assets in the accounts and balance-sheet and for income-tax purposes. A. G. Moss. J Account 36:161-79 S '23

See also Amortization; Corporations—Taxation

Bibliography

- Current problems in taxation. L. T. Beman, comp. p. 213-22 H. W. Wilson co. '21

Commission problems

- Commission problems simplified. J. F. Mahoney. J Account 33:269-82 Ap '22

Records

- Income tax records and their care. E. R. Hudders. Administration 5:713-18 Je '23
- Simplifying income tax records. F. H. Shevit. Sanitary & Heat Eng 99:157+ Mr 9 '23; Same. Sheet Metal Worker 14:88+ Mr 2 '23

Canada

- Treatise on the Dominion income tax law. C. P. Plaxton and F. P. Varcoe. 368p Carswell co., Toronto '21

France

- Les doctrines des deux C. G. T. en matière fiscale. R. Roure. Génie Civil 80:277-9 Mr 25 '22

Modifications apportées à l'impôt général et aux impôts cédulaires sur les revenus par la loi du 30 mars 1923. A. Lainé. Génie Civil 82:448-9 My 12 '23

Great Britain

- Dictionary of income tax and super-tax practice. W. E. Snelling. 5th ed. 578p Pitman '23
- Treatise on the law of income tax, designed for the use of the taxpayer and his advisers. E. N. Konstam. 519p Stevens & sons, Sweet & Maxwell, London '21

New York (state)

- Corporation trust company's 1921-1922 New York state income tax service. Corporation trust co., New York '21
- New York state income tax laws. 64p Irving Bank-Columbia trust co., New York '23
- Personal income tax regulations. 103p New York state. Tax commission. Albany '22
- Taxation of personal income in New York. H. M. Powell. 436p Boyd press, New York '22

North Carolina

- North Carolina income tax act held constitutional as to railroads. Ry Age 74:1664 Je 23 '23

United States

- Adventures of a tax return. S. Bent. Nation's Business 9:16-17 D '21
- Allowable deductions in computing income tax. F. H. Shevit. Sheet Metal Worker 13: 899-900 Ja 19 '23; Same. Sanitary & Heat Eng 99:46+ Ja 26 '23
- Amendment to Federal income tax regulations modifying rules regarding filing of ownership certificates. Comm & Fin Chr 117:238-9 Jl 21 '23
- Bad debts under the new tax law. N. F. Ross. Annalist 19:125-6 Ja 16 '22
- Capital assets, capital gains and losses under the revenue law of 1921. M. E. Prager. Administration 3:351-4 Mr '22
- Commenting upon the revenue act of 1921. J Account 33:107-13 F '22
- Consolidated United States income tax laws since 1909. W. Kixmiller and A. R. R. Baar. 1511p Commerce clearing house, New York, Washington '23
- Contingent liability of corporations on past tax returns. M. Goldstein. Administration 5: 83-5 Ja '23
- Corporation trust company's 1913-1922 income tax service. Corporation trust co., New York '22
- Corporations under the new tax law. M. Rindler. Administration 3:223-9 F '22
- Cost or market in pricing inventories. F. Lowson. Administration 4:721-4 D '22
- Decrease in revenue from income and excess profits taxes. Comm & Fin Chr 115:2421-2 D 2 '22
- Deduction account of stock losses. Comm & Fin Chr 114:270-1 Ja 21 '22
- Digest of the Federal revenue act of 1921. 99p National city co., New York '21
- Dividends in securities. W. A. Paton. Administration 4:394-402 O '22
- Farmers not required to keep books of record: inventories of live stock raisers and other farmers. Comm & Fin Chr 115:2345 N 25 '22
- Federal income statistics for 1920, corporate and personal. Comm & Fin Chr 115:1534-5 O 7 '22
- Federal income tax. G. E. Holmes. 1922 ed. 1508p Bobbs '22
- Federal income tax as applied to gas companies. H. W. Forbes. Am Gas Assn Accounting sec v 3:55-64; Discussion. 64-70 '21
- Federal income tax laws correlated and annotated. W. E. Barton and C. W. Brown. 450p J. Byrne & co., Washington, D.C. '22
- Federal income tax primer based on Revenue act of 1921 and on 1922 regulations. C. Silbert. 164p Financial pub. co., Boston '22
- Federal income tax problems—1922. E. E. Rossmore. 541p Dodd '22

Income tax—United States—Continued

- Federal income tax procedure, 1921-1922. 4th ed., rev. 116 numb. I. E. J. Hickey, Boston '21
- Federal tax problems that particularly affect the paper industry. C. O. Wellington. Paper Tr J 77:53-6 J 19 '23
- Federal taxation of state and municipal bonds. C. Heer. Administration 4:331-8 S '22
- Federal taxes and employee's bonus. H. A. Finney. J Account 34:457-63 D '22
- Federal taxes and the application of the various relief sections. Paper Tr J 77:53-5 Ag 30 '23
- Goad the weary taxpayer. H. Corey. Nation's Business 11:13-15 My '23
- Handy-digest, 1922 ed. 63p A. Brown & sons, Baltimore '21
- How great is the national fund from which taxes must be paid? F. W. Thornton. Paper Tr J 77:55-6 O 11 '23
- Importance of income tax. F. H. Shevit. Sheet Metal Worker 13:805 D 22 '22; Same. Sanitary & Heat Eng 99:13 Ja 12 '23
- Income and excess profits taxes. 72p (Modern business rep. no. 7) Alexander Hamilton institute, New York '22
- Income from long term contracts. E. J. Brosnan. Eng & Contr (R & S) 60:55-6 J 14 '23
- Income tax law, analysis and comment. 6th ed., 1921 law. 208p Harris, Forbes & co., New York '21
- Income tax—new provisions affecting returns of corporations. Comm & Fin Chr 114:805 F 25 '22
- Income tax procedure, 1922. R. H. Montgomery. 1911p Ronald press '22
- Income tax procedure, 1923. R. H. Montgomery. 1750p Ronald press '23
- Income tax shrinks \$1,000,000,000. Am Ind 22:29-30 Ap '22
- Income tax status of bonuses and donations. F. H. Shevit. Sheet Metal Worker 14:19 F 2 '23; Same. Sanitary & Heat Eng 99:87 F 9 '23
- Income tax suggestions. R. H. Montgomery. Administration 4:641-6 D '22
- Income taxes drop \$195,000,000. Am Ind 22:15-16 J 1 '22
- Investment stock costs under the 1921 revenue act. E. L. Kohler. Administration 5:86-94 Ja '23
- Legal side of federal income tax; can public utilities charge this tax as an operating expense. J. Simpson. Gas Age 49:493-4 Ap 22 '22
- Liability of cooperative societies for federal income tax. Monthly Labor R 17:513-16 Ag '23
- Net income from operated oil lease within meaning of 1921 law. E. J. Dowling. Nat Pet N 15:85-6 Mr 14 '23
- New income tax law—some timely cautions about returns. R. H. Montgomery. Administration 3:113-16 Ja '22
- Newly enacted bill to stop tax evasions through exchange of securities; text. Comm & Fin Chr 116:1131-2 Mr 17 '23
- Nonresident alien income under United States revenue act of 1921. 60p National city bank, 55 Wall st., New York '22
- Oil valuation and taxation. J. I. Tucker. 332p Gulf pub. co., Houston, Texas '23
- Patent valuations as affected by federal taxation. R. H. Allen. Administration 4:189-98 Ag '22
- Practical federal income tax procedure, 1923. J. V. Giblin. 5th ed., rev. 177p Seaver-Howland press, Boston '23
- Practical questions and answers on the federal tax laws affecting individual partnerships and corporations, January 1923. 144p Irving bank-Columbia trust co., New York '23
- Prentice-Hall federal tax service for 1922. 2v. Prentice-Hall, New York '21
- Prentice-Hall federal tax service for 1923. 2v. Prentice-Hall '22
- Receipt of certificates of capital stock as taxable income. O. B. Thayer. J Account 35:430-7 Je '23
- Revenue act of 1921 approved November 23, 1921. B. Mohun. 164p Press of Byron S. Adams, Washington, D.C. '22

- Secretary Mellon, in annual report, advocates reduction in surtaxes to overcome evasions through tax exempt securities, &C. Comm & Fin Chr 115:2533-4 D 9 '22
- Secretary of the treasury Mellon renews recommendations regarding lower surtaxes. Comm & Fin Chr 116:1604-5 Ap 14 '23
- Simplification of federal income taxation. W. A. Paton. Paper Tr J 77:57-8 S 6 '23
- Soil exhaustion in relation to the federal income tax laws. P. Chandler. Administration 4:461-5 O '22
- Some business aspects of the 1921 revenue act. R. M. Haig. Chem & Met Eng 25:1130 D 21 '21
- Summary of income tax rates and requirements. Eng & Contr 57:174 F 22 '22
- Surtaxes must be reduced to restore normalcy. O. H. Kahn. Comm & Fin Chr 114:593-4 F 11 '22
- Three federal tax facts it pays to keep in mind. H. A. Harris. System 43:764-5+ Je '23
- Who are the tax dodgers? D. H. Blair. il Nation's Business 10:25-6 D '22
- Why should we have a new federal tax law? R. H. Montgomery. J Account 34:334-45 N '22
- Why should we have a new federal tax law? F. W. Thornton. J Account 34:427-31 D '22
- See also Revenue act of 1921

Wisconsin

- Wisconsin income tax law. 5th ed. 104p Wisconsin tax comm., Madison '22
- Wisconsin income tax law. H. B. Nelson. 175p Trade press pub. co., Milwaukee '23
- Wisconsin income tax law, analyzed. J. A. Lonsdorf. 269p West pub. co., St Paul '22
- Incorporated municipal electrical association**
Annual convention, Wolverhampton, June 20. Elec R (Lond) 90:867-8, 903-7; 91:6-9, 63-6, 78-9 Je 23-Jl 21 '22; Electrician 78:788-98 Je 30 '22; Engineer 133:725 Je 30 '22
- Incubators, Electric**
Small electric incubator regulated by thermostat. il Pop Mech 37:578 Ap '22
- Indan**
Über benzo-polymethylen-verbindungen; dehydrierungsversuche bei tetralin-, hydrinden- und tetrahydro-acenaphthen-(tetraphthen-)derivaten. J. v. Braun, E. Hahn and J. Seemann. Deutsche Chem Gesell Ber 55:1687-1700 Je '22; Abstract. Chem Soc J 122 pt 1:728-30 Ag '22
- Indanone**
Beiträge zur kenntnis der hydrindone; über das hydrindon der vanillin-reihe. F. von Konek and N. Szamák. Deutsche Chem Gesell Ber 55:102-9 Ja '22
- Indanthrene**
Reduction of an indanthrene dye by means of sodium hydrosulfite. J. H. Yoe and G. Edgar. diag J Phys Chem 27:65-73 Ja '23
- Über benzo-polymethylen-verbindungen; oxybasen und β -ketone der tetralin- und hydrinden-reihe. J. v. Braun, O. Braunsdorf and G. Kirschbaum. Deutsche Chem Gesell Ber 55:2648-63 D '22; Abstract. Chem Soc J 124 pt 1:105-7 F '23
- Indazole**
Über halogenierte indazole und raumisomerie bei freien indazolen. K. v. Auwers and H. Lange. Deutsche Chem Gesell Ber 55:1139-73 My '22; Abstract. Chem Soc J 122 pt 1:684-7 J 1 '22
- Über N-alkylderivate und N-carbonsäureester des indazols. K. v. Auwers and W. Schaich. Deutsche Chem Gesell Ber 54:1738-70 S '21; Abstract. Chem Soc J 120 pt 1:806-8 N '21
- Indemnities**
See German indemnities
- Indene**
Action of bromine water on indene. J. Read and E. Hurst. Chem Soc J 121:2550-4 N '22
- Indene and styrene—constituents of carburetted water-gas tar. R. L. Brown and R. D. Howard. Ind & Eng Chem 15:1147 N '23

Indene—Continued

Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; inden und acenaphthen. J. v. Braun and G: Kirschbaum. Deutsche Chem Gesell Ber 55:1680-6 Je '22

Mobility of symmetrical triad systems; the conditions relating to systems terminated by the *o*-phenylene group; derivatives of indene. C. K. Ingold and H: A. Piggott. Chem Soc J 123:1469-1509 Je '23

Über indigoide farbstoffe der phenanthren- und inden-reihe. P. Friedländer, W. Herzog and G. v. Voss. Deutsche Chem Gesell Ber 55:1591-6 Je '22; Abstract. Chem Soc J 122 pt 1:764 Ag '22

Indenoquinoline

Polynuclear heterocyclic aromatic types; some indenoquinoline derivatives. J. W. Armit and R. Robinson. Chem Soc J 121: 827-39 My '22

Independence, Missouri**Sewerage**

Curing a sick sewer system; an example of paralysis of purpose due to lack of use and neglect. L. B. Reynolds. *Il Eng & Contr* (W W) 59:631-4 Mr 14 '23

Independence Hall, Philadelphia

Protection of historic public buildings. *Il diags plan Arch & Bldg* 54:13-15+ F '22
Restoration of Independence Hall, our country's shrine. *Il Bldg Age* 45:35-7 JI '23

Independent oil men's association

13th annual convention, Chicago, Oct. 11-14. *Oil Paint & Drug Rep* 100:9-12 sec 2 O 24 '21

Index numbers (economics)

Annalist business index line. *Annalist* 22:355 S 17 '23 [continued monthly]

Average building cost index still almost double 1913. *Elec W* 78:1197-8 D 10 '21

Conspectus of indexes for Nov., 1922, compiled by Albert S. Richey. *Elec Ry J* 60: 863 N 25 '22 [continued monthly]

Criticism of approximate index numbers for cement as set by National unemployment conference. *Comm & Fin Chr* 113:2467-8 D 10 '21

Details of index number construction and comparison of indices. E. E. George. *Eng & Contr* 56:431-4 N 9 '21

Food cost of living—Annalist index number—weekly averages, 1914-1921. *Annalist* 19: 72-3 Ja 9 '22

Index numbers—1921 and 1922—original and revised. *Eng & Contr* 57:606 Je 28 '22

Index numbers of wholesale prices. Published every month in *Engineering and contracting* (buildings)

Index numbers of wholesale prices in the United States and foreign countries. charts U S Bur Labor Statistics Bul 284:1-350 '21

Index numbers of wholesale prices Jan., 1913, to Aug., 1922. *Eng & Contr* 58:309 S 27 '22

Index numbers with pre-war base period. *Int Labour R* 6:758-62, 948-52 N-D '22

Making of index numbers. I. Fisher. 526p Houghton '22

Methods of recording retail prices and measuring the cost of living in Italy. U. Giusti. *Int Labour R* 4:257-74 N '21

Problem of estimation. C. M. Walsh. 144p P. S. King & son, London '21

Revised index numbers—changes in weightings and classifications. *Eng & Contr* 58:77-9 JI 26 '22

Secretary of agriculture explains index numbers used by Department. *Comm & Fin Chr* 116:2207-8 My 19 '23

Ten year résumé of construction cost. *Eng N* 90:42-3 Ja 4 '23

Indexes

American society for testing materials; index to proceedings (1913-1920). 189p Am. soc. for testing materials, 1315 Spruce st., Philadelphia, Pa. '23

Classified analytical index to the proceedings of the United States naval institute, March 1902-October 1919. J. M. Saunders. 171p United States naval institute, Annapolis, Md. '21

Indexes and compendiums. *Engineering* 116: 271-2 Ag 31 '23

Journal of accountancy index, vols. XVII-XXXIV inclusive, January, 1914-December, 1922. 221p Journal of accountancy, inc., 135 Cedar st., New York '23

Monthly labor review subject index, volumes I to XI, July, 1915, to December, 1920. 176p U.S. Bur. of labor statistics, Washington '23

Physical review: general index, 1893-1920. 200p Am. physical soc., Lancaster, Pa., Ithaca, N.Y.

Indexing

How to keep magazine articles and find them. H. W. Craver. *Management & Adm* 6:79-83 JI '23

How to use the indexing system of Management engineering. *Il Management Eng* 3:48-9 JI '22

Indexing of scientific journals. G. S. Fulcher. (Reprint & Circ. Ser. 34) 16p '20-'21 20c National research council, 1701 Massachusetts av., Washington, D.C.

Indexing system for advertising data. *Ptr Ink* 119:125-6+ My 18 '22

L-m-n-r-t... the key to the indexing of public records. 12p Library bureau, New York '22

See also Files and filing (documents)

Indexing (machine work)

Attachment for indexing degrees and minutes. E: J. Rantsch. *diags Am Mach* 57:855 N 30 '22

Indexing fixture for grinding master cams. R. Delrue. *diags Am Mach* 58:669 My 3 '23

Indexing fixture for milling Geneva star-wheels. J: A. Honegger. *diags Mach* 29:980-2 Ag '23

Indexing fixtures for hand milling machine. D. A. Nevin. *diag Mach* 28:907 JI '22

Indexing mechanism for die-holder. *diags Mach* 29:725-6 My '23

Indexing mechanism with automatic pawl release. *diags Mach* 28:626 Ap '22

Ordinary rotary table as an indexing device. J. M. Henry. *il Am Mach* 57:542 O 5 '22

See also Graduating

India

Historical notes on regional planning; ancient India. N. Hammarstrand. *il diags plan. Am Inst Arch J* 11:289-92 JI '23

India as seen by an American manufacturer. A. F. Bemis. *il Textile World* 62:867-8+, 995-6+ Ag 12-19 '22

See also Electric plants (central stations)
—India; Finance—India; Hydroelectric plants—India; Irrigation—India; Radio communication—India; Railroads—India; Roads—India

Commerce

British India—imports of metal working machinery. *Am Mach* 58:188 F 1 '23

British trade with India. *Electrician* 88:77 Ja 20 '22

Conditions and prospects of British trade in India. *Engineering* 114:776-7 D 22 '22

Engineering trade of India. *Elec R* (Lond) 91:844-5 D 1 '22

Import trade of India during period April—December, 1922. *Engineer* 135:362 Ap 6 '23

Imports of electrical and similar goods into British India in the year ended March 31st, 1920. *Elec R* (Lond) 89:694 N 18 '21

Opportunities in India expanding. F. Runkel. *Iron Tr R* 70:469-70 F 16 '22

Selling American goods in British India. C. C. Batchelder. U S Bur For & Dom Com Trade Information Bul 85:1-25 '23

Trade of British India with the United States, Japan, and Germany. C. C. Batchelder and C. B. Spofford, jr. U S Bur For & Dom Com Trade Information Bul 87:1-25 '23

Trading with British India. C. B. Spofford, jr. *Am Ind* 22:49-2 Ap '22

See also Electric industries—India; Tariff—India

India—Continued

Economic conditions

Industrial and other conditions in India. W. Wyld. Chem Age (Lond) 9:336 S 29 '23

See also Cooperation—India; Labor and laboring classes—India

Industries and resources

Amalgam fuel possibilities in the Orient. J. V. McCartney. il map Blast F & Steel Pl 11: 434-8 Ag '23

Electric light and power in India. Elec W 79: 175-6 Ja 28 '22

Electrical progress in India. Electrician 87: 563 N 4 '21

Hydroelectric power in India. A. T. Arnall. Electrician 88:237-8 F 24 '22

Indian iron and steel industry and its probable development. J. V. McCartney. il map Blast F & Steel Pl 11:140-1 F '23

Industrial future in India. J. F. Crowley. Electrician 88:222-5, 282-5 F 24, Mr 10 '22

Rise of factory labor in India. R. K. Das. Monthly Labor R 14:417-37 Mr '22

See also Cement industry and trade—India; Electric industries—India; Forests and forestry—India; Iron industry and trade—India; Machinery industry—India; Mines and mineral resources—India; Petroleum industry and trade—India; Textile industry—India; Water power—India

Politics and government

Indian fiscal commission and the future of industry. Engineering 115:294-5 Mr 9 '23

India's demand for revision of Treaty of Sevres and resignation of Edwin Samuel Montagu. Comm & Fin Chr 114:1138-40 Mr 18 '22

Sanitary affairs

Sanitation in India. Engineering 116:324-6 S 14 '23

Indian muslin. See Cotton fabrics

Indiana

See also Coal—Indiana; Electric plants (central stations)—Indiana; Motor bus lines —Indiana; Oil shales—Indiana; Petroleum —Indiana; Roads—Indiana

Economic conditions

Economic geography of Indiana. S. S. Visser. 225p Appleton '23

Natural resources of Indiana, a survey. C. H. Parrish, comp. 162p Fort Wayne ptg. co., Fort Wayne, Ind. '21

Public service commission

Lew Shank of Indianapolis in a new mob scene staged in protest to commission decision. il Elec Ry J 59:293 F 18 '22

Indianapolis, Indiana

Churches

Tabernacle Presbyterian church, Indianapolis, Indiana. I. T. Frary. il plans Arch Rec 54: 169-76 Ag '23

Railroads

Construction of Union passenger station at Indianapolis. il diags plans Ry R 72:605-14 Ap 7 '23

Rapid transit

Indianapolis street railway has good year. Elec Ry J 61:700-1 Ap 21 '23

Interstate earnings up. Elec Ry J 61:659 Ap 14 '23

Sewerage

Design features of the Indianapolis activated-sludge plant. C. H. Hurd. il diags plan Eng N 91:258-62 Ag 16 '23

Water supply

Performance of the De Laval pumps at the pumping stations of the Indianapolis water company. Munic Eng 61:231-2 D '21

Indians as printers

Printing among Indians. A. V. Jensen. Inland Ptr 71:372 Je '23

Indians of North America

Reservations

Indian as a lumber baron. E. P. Allen. il Am Ind 23:27-9 Jl '23

Social life and customs

Pacific-coast Indians fighting to retain ancient rights. F. Dickie. il Pop Mech 38:87-90 Jl '22

Strange Indian rites recall glory of the old frontier days. il Pop Mech 40:550-2 O '23

White brother of the snake; citizens of Prescott, Arizona, reproduce the rain ceremonial of the Hopi Indians. L. Abbott. il Pop Mech 39:525-8 Ap '23

Indian

Studies of the glucosides; the constitution of indian. A. K. Macbeth and J. Pryde. Chem Soc J 121:1660-8 Ag '22

Indicator diagrams

Analysis of steam-engine diagrams. M. L. Barker. Power 58:691-3 O 30 '23

Comparison of valve setting with indicator diagram. Power 58:703 O 30 '23

Determining water rate with indicator cards. C. A. Joerger. Power Pl Eng 27:817-18 Ag 15 '23

Errors introduced in indicator cards by use of cotton cord. E. Bartholomew. diags Power Pl Eng 27:315-16 Mr 15 '23

Expansion in the steam-engine cylinder. M. L. Barker. Power 58:567-9 O 9 '23

Expansion line on the indicator diagram. il Power 55:331-4 F 28 '22

Finding the mean effective pressure from the indicator diagram. diags Power 55:658-9 Ap 25 '22

Finding the mean effective pressure of an engine by computation. diags Power 55:896-8 Jo 6 '22

Ideal expansion in the steam engine. diags Power 55:378-80 Mr 7 '22

Indicating opposed piston engines. H. A. D. Acland. Engineer 134:188 Ag 25 '22

Indicator diagrams from Corliss engines, Unaflo engines and non-releasing four-valve engines. Power 55:574-6 Ap 11 '22

Indicator diagrams of compound engines. diags Power 56:55-8 Jl 11 '22

Making a chart to show the addition and rejection of heat in engines. diags Power 56: 91-3 Jl 18 '22

Measuring area of indicator diagram. il diags Power 55:693-6 My 2 '22

Point of cutoff running non-condensing or condensing. diags Power 58:625 O 16 '23

Point of release on the indicator diagram. diags Power 55:424-6 Mr 14 '22

Practical way to study engine performance. P. H. Schweitzer. diags Power 57:553-6, 640-2 Ap 10, 24 '23; Discussion. 57:908-9; 58:421-2, 430, 621-2 Je 5, S 11, O 16 '23

Real mean effective pressure. W. H. Wakeman. diags Power 55:851-2 My 30 '22

Reasons for distorted admission lines on indicator diagrams. Power 55:538-9 Ap 4 '22

Reasons for the peculiar shapes of the back pressure line of the indicator diagram. diags Power 55:464-5 Mr 21 '22

Reconstruction of indicator diagram to different spring scale. Power 56:859 N 28 '22

Steam consumption accounted for by indicator diagram. diags Power 55:935-7 Je 13 '22

Steam-engine indicator; securing the diagram from the engine. diags Power 55:252-5 F 14 '22

Steam line on the indicator diagram. diags Power 55:299-301 F 21 '22

Taking indicator diagrams. P. A. Baumeister. diags Power 54:551-2 O 11 '21; Discussion. 54:653, 904, 942 O 25, D 6-13 '21

Transformation of the indicator diagram into the T-N diagram. diags Power 56:244-6 Ag 15 '22

Why complete compression is not economical. diags Power 55:496-9 Mr 28 '22

Why you can measure the area of an indicator diagram by a planimeter. diags Power 58:524-5 O 2 '23

Indicator diagrams—Continued

Air compressors

Compressor faults revealed by the indicator.
R. McLaren. diags Power 57:255-6 F 13 '23

Ammonia compressors

Effect of clearance on an ammonia compressor. diags Power 56:418-20 S 12 '22
Indicating the ammonia compressors. diags (supp) Power 56:369-71 S 5 '22
Use of the indicator on the modern ammonia compressor. G. E. Porce. diags Power 58:212-14 Ag 7 '23

Gas and oil engines

Errors to avoid in indicating a Diesel engine. diags Power 56:798-9 N 21 '22
Gas-engine indicator diagrams. Power 57:808; 58:65 My 22, J1 10 '23
Indicator diagrams from solid-injection oil engines. diags Power 57:593 Ap 17 '23
Interpretation of Diesel engine cards. H. F. Birnie. diags Power Pl Eng 27:674-7 J1 1 '23
Mean effective pressures of internal-combustion engines. R. Matthews. chart Power 57:403-4 Mr 13 '23
Oil engine operation studied by special cards. H. F. Birnie. diags Power Pl Eng 27:880-2 S 1 '23
Peculiar Diesel indicator diagram. diag Power 55:70, 356 Ja 10, F 28 '22
Practical way to detect afterburning in oil engines. H. F. Shepherd. il diags Power 57:249-51 F 13 '23
Pressure-volume-quantity indicator-card. T. Midgley, jr. and R. Janeway. il Soc Auto Eng J 12:105-10 Ja '23
What the Diesel indicator diagram shows. diags Power 56:758-60 N 14 '22

Indicators

Boiler load indicator uses rubber diaphragm. diags Power Pl Eng 27:384-5 Ap 1 '23
Collins micro-indicator for high-speed engines. il diag Engineering 113:716 Je 9 '22
Detection of errors in the steam-engine indicator. diags Power 55:103-5 Ja 17 '22
Engine indicators. il diags Engineer 135:236-7 Mr 2 '23
Getting ready to indicate the Diesel engine. diags Power 56:714-15 N 7 '22; Discussion. G. Grow. 56:951 D 12 '22
High-speed engine indicators. L. Pendred. Engineering 115:119-21 Ja 26 '23; Discussion. 115:202-3 F 16 '23
Indicators for engine speeds above 2000 R.P.M. il diags Power Pl Eng 27:421-3 Ap 15 '23
Indicators for high-speed engines. Engineering 115:31-2 Ja 12 '23
Indicators; symposium at the Institution of mechanical engineers. diags plan Engineer 135:87-8 Ja 26 '23; Discussion. 135:168-9 F 16 '23
Kent boiler load-indicator. diags Engineering 115:234-5 F 23 '23
Micro-indicator for high-speed engines. W. G. Collins. il diags Engineering 115:123-5 Ja 26 '23; Same. Engineer 135:100 Ja 26 '23; Discussion. Engineering 115:202-3 F 16 '23
Modern steam-engine indicators. il diags Power 55:62-4 Ja 10 '22
New form of optical indicator. F. W. Burstall. il diags plan Engineering 115:121-3 Ja 26 '23; Discussion. 115:202-3 F 16 '23
Photographic recording of engine data. A. Trowbridge. il diags Soc Auto Eng J 10:351-6; Discussion. 356+ My '22
Problem of the high-speed engine indicator. Engineering 115:210-11 F 16 '23
R.A.E. electrical indicator for high-speed internal-combustion engines, and gauge for maximum pressures. H. Wood. diags Engineering 115:125-6 Ja 26 '23; Same. Engineer 135:100-2 Ja 26 '23; Discussion. Engineering 115:202-3 F 16 '23
Recording indicator of balanced diaphragm type now in use. il diags Automotive Ind 49:184-6 S 6 '23
Steam-engine indicator. diags Power 55:142-4, 182-4, 224, 252-5 Ja 24-F 14 '22
Steam-engine indicators designed to meet special conditions. il diags Power 55:622-3 Ap 18 '22

What the indicator will tell. diags Power 55:16-18 Ja 3 '22

See also Air speed indicators; Carbon dioxide recorders; Tachograph; Water gages

Indicators, Electric

Cambridge remote indicator. il diags Elec R (Lond) 53:608-9 O 26 '23
Relay operation indicator. H. P. Sleeper. il diag Elec J 20:113-14 Mr '23
Transformer load indicator. il Power Pl Eng 26:883-4 S 1 '22

Indicators and test papers

Modified methyl-orange indicator. K. C. D. Hickman and R. P. Linstead. il Chem Soc J 121:2562-6 N '22
Sodium salts of phenolphthalein. H. Bassett and P. Halton. Chem Soc J 123:1291-1304 My '23
Tests of an iodine pentoxide indicator for carbon monoxide. S. H. Katz and J. J. Bloomfield. J Ind & Eng Chem 14:304-6 Ap '22
Use of mixed indicators. A. Cohen. Am Chem Soc J 44:1851-7 S '22
Use of the newer indicators in titrations of alkaloids. W. J. McGill. Am Chem Soc J 44:2156-60 O '22

See also Chemical reagents; Potassium permanganate

Indigo

Alterations of indigo colors when exposed to light and subjected to laundering. il. Haller. Color Tr J 12:58-60 F '23
Changes in indigo colors. I. Ginsberg. Textile World 64:2417+ O 27 '23
Dyeing of linen, half-linen and cotton fabrics in blue shades. J. Werner. Color Tr J 11:25-6 J1 '22
Indigo and its application. P. S. Clarkson. Am Dyestuff Rep 12:707-13, 739-42, 892-8, 905-8 S 24-O 8, D 3-17 '23
Indigo dyeing in China. Woo Dong Chi. Am Dyestuff Rep 12:579-82 Ag 13 '23
Influence of metallic hydroxides on fastness to light of indigo. R. Haller. Am Dyestuff Rep 12:723-5 O 8 '23
Investigations in the preparation of natural indigo. W. A. Davis. Color Tr J 12:253 Je '23
New dyestuff of the indigo series. Chem Age (Lond) 8:595 Je 2 '23
New form of dyeing machine for indigo. diag Color Tr J 12:234 Je '23
New method for dyeing indigo. diags Color Tr J 13:166-7 N '23
New process for preparation of sulfite compounds of isatin. Color Tr J 12:115-16 Mr '23
New process for the color discharge of indigo prints. H. Haller. Color Tr J 12:195-7 My '23; Same. Am Dyestuff Rep 12:380-2 My 21 '23
Preparation of 6,6'-di(alpha hydroxyisopropyl) indigo from para-cymene. M. Phillips. diag Am Chem Soc J 44:1775-80 Ag '22
Some notes on the early indigo industry in the South. B. B. Ross. J Ind & Eng Chem 14:1153-4 D '22; Same. Textile Col 45:28 Ja '23
Synthesis of indigo from fumaric acid and aniline. Am Chem Soc J 44:215 Ja '22
Use of zinc dust in dyeing with synthetic indigo. B. De Puyster. Color Tr J 13:48-50, 160-1 Ag, N '23
Use of zinc dust in indigo dyeing. Color Tr J 12:193-4 My '23
Vat colours. J. F. Thorpe and C. K. Ingold. 491p Longmans '23
Indigoid dyes. See Dyes and dyeing
Indigotin
Indigotin; abstract. W. Madelung. Chem Soc J 120 pt 1:810-11 N '21
Über komplexe metallverbindungen des indigblaus. K. Kunz. Deutsche Chem Gesell Ber 55:3688-91 D '22
See also Deoxyindigotin
Indirect advertising. See Advertising, Indirect
Indo China
See Canals—Indo-China; Coal mines and mining—Indo-China; Finance—Indo-China; Irrigation—Indo-China

Indole

- Mechanism of the Fischer indole synthesis. C. Hollins. *Am Chem Soc J* 44:1598-1600 J1 '22
 Syntheses of β -diketones in the indole group. G. Sanna. *Chem Soc J* 124 pt 1:57-60 Ja '23
 Synthetische versuche in der indol-gruppe; eine neue synthese des *racem.* tryptophans. R. Majima and M. Kotake. *Deutsche Chem Gesell Ber* 55:3859-65 D '22

Inductance

- Inductive alternating-current circuits. E. K. McDowell. *diags Power Pl Eng* 27:1037-40 O 15 '23

See also Mutual inductance; Self inductance

Inductance coils

- Calculation and measurement of inductance. *diags Wireless Age* 10:71-2 S '23
 Capacity effects in inductance coils. *Sci Am* 126:252 Ap '22
 Coil data for accurate design of wavemeter and receiver inductances. M. Wolf. *Wireless Age* 10:63-4 My '23
 Design of inductances for high-frequency circuits. C. L. Fortescue. *Inst E E J* 61: 933-9; Discussion. 939-43 Ag '23
 Dimensions of inductances. C. M. Grabson. *Wireless Age* 9:34-5 F '22
 Effective capacity of a pancake coil. G. Breit. *il Philos Mag* 6th ser 44:729-40 O '22
 Effective capacity of multilayer coils with square and circular section. G. Breit. *diags Philos Mag* 6th ser 43:963-92 My '22
 Effective self-capacity, inductance, and resistance of coils. G. W. O. Howe. *diags Inst E E J* 60:67-72 D '21
 Flat spiral inductance data. M. Wolf. *diags Wireless Age* 10:67-8 F '23
 Formulas and tables for the calculation of the inductance of coils of polygonal form. F. W. Grover. *U S Bur Stand Sci Pa* 468: 737-62 '23
 High frequency resistance of inductance coils. G. Breit. *U S Bur Stand Sci Pa* 430:569-87 '22
 Honeycomb and other coils. G. W. O. Howe. *Electrician* 89:149 Ag 11 '22
 Practical tables for inductance and coil calculations. A. Reisner. *Wireless Age* 10: 70 Ag '23
 Some effects of the distributed capacity between inductance coils and the ground. G. Breit. *diags U S Bur Stand Sci Pa* 427:521-7 '22
 Some helpful inductance curves. S. Solomon. *Wireless Age* 10:73 F '23
 Tables for the calculation of the inductance of circular coils of rectangular cross section. F. W. Grover. *U S Bur Stand Sci Pa* 455: 451-87 '22

Induction (electricity)

- Reversible inductivity of Rochelle salt crystals and its relation to frequency and temperature. J. G. Frayne. *diags Phys R* 21:348-59 Mr '23

Induction coils

- Theory of the induction coil. E. Taylor-Jones. 217p Pitman '21

See also Condensers (electricity); Mutual inductance; Self inductance

Induction motors. See Electric motors, Induction**Inductive interference.** See Electric lines—Inductive interference**Indumor**

- Indumor; a kinematic device which indicates the performance of a polyphase induction machine. V. Karapetoff. *il diags Am Inst E E J* 41:107-17 F '22; Discussion. 41:670-1 S '22

Industrial accident boards and commissions, International association of. See International association of industrial accident boards and commissions**Industrial accidents.** See Accidents, Industrial**Industrial arbitration.** See Arbitration, Industrial**Industrial arts**

- Art work, its trade influence. R. F. Bach. *Brass W* 13:8 Ja '22
 Elementary industrial arts. L. L. Winslow. 335p Macmillan '22
 Industrial arts. H. Elliott. *Am Inst Arch J* 10: 243-5 Ag '22

See also Agriculture; Architecture; Book-binding; Building; Business; Canning and preserving; Chemical engineering; Chemistry, Technical; Commerce; Design; Dyes and dyeing; Electric engineering; Engineering; Engraving; Factories; Foundry practice; Glass manufacture; Industrial education; Industry; Inventions; Machine shop practice; Machine shops; Machinery; Machinery in industry; Manual training; Manufactures; Masonry; Metal work; Metallurgy; Occupations, Dangerous; Painting, Industrial; Paper making; Patents; Photography; Plumbing; Pottery; Printing; Production; Rubber; Shipbuilding; Tanning; Technical education; Technology; Textile industry; Waste products; Weaving; Wood-work

Bibliography

- List of the books, bulletins, journal contributions, and patents by members of Mellon institute of industrial research, 1911-22. 37p Pittsburgh univ., Pittsburgh, Pa. '22

See also Technology—Bibliography

Study and teaching

- Industrial arts in our elementary schools. A. H. Edgerton. 31p Manual arts press '22
 Teaching of industrial arts in the elementary school. O. L. McMurry, G. W. Eggers and C. A. McMurry. 357p Macmillan '23
 Training required for the industrial arts. F. N. Levy. *Arch Rec* 51:308-12 Ap '22

See also Industrial education

Industrial association of San Francisco

- San Francisco moves for industrial peace. W. H. McBryde. *il J Elec* 49:237-40 O 1 '22

Industrial betterment

- Human factor in industry. C. H. Northcott. *Ind Management* 63:36-41 Ja '22
 Principles of the industrial policy. A. S. Rowntree. *Eng & Ind Management* 7:200-1 F 16 '22
 Progress in human engineering. W. D. Scott. *Chem Age* 30:151-4 Ap '22

See also Company stores; Employees; Employees' associations; Hours of labor; Housing; Housing projects, Company; Industrial councils; Industrial education; Industrial management; Industrial relations; Industrial research; Insurance, Industrial; Labor and capital; Labor and laboring classes; Profit sharing; Safety devices and measures; Unemployment—Relief measures; Welfare work in industry; Workmen's compensation

Industrial buildings

- Building for Crane, limited, Montreal; views and plans. *Arch Forum* 39:pls 66-7 O '23
 Buildings from the manager's viewpoint. G. L. H. Arnold. *diags Management Eng* 4:177-82, 229-34, 417-21 Mr-Apr, Je '23; [cont. as] *Management & Adm* 6:43-7 J1 '23
 Craftsman type architecture for industrial buildings. *diag Eng N* 91:233 Ag 9 '23
 Development of an industrial group—new buildings at Nela Park in Cleveland. M. Price. *il plans Arch Rec* 53:382-95 My '23
 Establishing of plant base lines as an aid to the engineer. J. L. Underhill. *diags Can Eng* 42:490-1 My 16 '22; Same. *Eng & Contr* 58: 181-2 Ag 23 '22
 Industrial building reference number. *Arch Forum* 39:83-151 S '23
 Maintenance engineering in large industrial plants. S. E. Bird. *Eng N* 89:1106-8 D 23 '22
 Maryland casualty co.'s development, Baltimore, Md. *il plan Arch & Bldg* 54:36-7, pl 47-51 Ap '22

Industrial buildings—Continued

Tentative standard recommended practice for treatment of exterior surfaces of industrial reinforced concrete buildings. *Am Concrete Inst Pro* 19:164-70 '23; Same. *Eng & Contr (Bldgs)* 59:476-80 F '23 '23
To build or not to build. *F. A. Waldron. Management Eng* 4:101-5 F '23

See also Automobile factories; Concrete construction; Department stores; Factories; Foundries; Loft buildings; Machine shops; Mercantile buildings; Packing houses; Publishing buildings; Store buildings; Warehouses

Industrial chemistry. See Chemistry, Technical**Industrial cost association**

2d national industrial cost conference. Pittsburgh, Pa., Nov. 2-4. *Am Mach* 55:783 N 10 '21; *Elec R* 79:782-3 N 19 '21; *Iron Age* 108:1212-13 N 10 '21; *Iron Tr R* 69:1228-9 N 10 '21

Industrial councils

Are Whitley councils a success? *Elec R (Lond)* 90:614-15 My 5 '22
Joint industrial councils in Great Britain. *Int Labour R* 4:563-78 D '21
Progress of joint industrial councils in Great Britain. *Int Labour R* 8:537-44 O '23
Psychological effects of the Whitley councils. *Electrician* 88:628 My 26 '22
Whitley system in electricity supply; works committees. *Elec R (Lond)* 90:364 Mr 17 '22
Whitleyism and the E.P.E.A. dispute. *W. H. Stoker. Elec R (Lond)* 92:549-50 Ap 6 '23

See also Council on industrial relations for the electrical construction industry in the United States and Canada; Germany—National economic council

Industrial courts. See Courts, Industrial**Industrial diseases.** See Diseases, Industrial**Industrial education**

Antagonism between practical operatives and college trained men disappearing. *T. L. Crossley. Paper* 33:14-15 O 25 '23
Contribution of correspondence-instruction methods to industrial education. *W. T. Bawden. (Ind. educ. circ. 9) 11p U.S. Bur. educ., Washington '22*
Education and industry. *H. C. Link. 265p Macmillan '23*
Education and training in the industries. *R. L. Sackett. Mech Eng* 44:87-91 F '22
Education in relation to industry. *G. H. Lord. Textile Inst J* 14:P129-31; Discussion. P131-2 Je '23
Higher standards for teachers of industrial subjects. *W. T. Bawden. (Ind. educ. circ. 7) 22p U.S. Bur. educ., Washington '22*
How labor can be made more productive. *H. C. Smith. Am Mach* 58:792-6 My 31 '23; Excerpt. *Am Ind* 23:11 Je '23; Excerpt. *Iron Tr R* 72:1749-50+ Je 14 '23; Discussion. *H. D. Harper. Am Mach* 59:398 S 13 '23

Means for vocational training for the industries. *Mech Eng* 45:169-79 Mr '23

9th annual proceedings. 946p [bibliogs.] *Nat. assn. of corp. training. New York '21*

Russian Central institute of work. *il Management Eng* 4:241-4 Ap '23

Training apprentices in industry. *R. L. Sackett. Iron Tr R* 71:1769-71 D 28 '22; Same. *Mech Eng* 45:173-5 Mr '23

Unemployment as seen by an employment manager. *E. C. Gould. Ind Management* 63:102+ F '22

See also Apprentices; Art industries and trade—Study and teaching; Corporation schools; Employees, Training of; Engineering education; Evening and continuation schools; Foremen, Training of; Printing, Practical—Study and teaching; Salesmen, Training of; Technical education; Trade schools; Vocational education

Federal aid

Using government money in training apprentices. *E. L. Field. il Dom Eng* 101:84-7 O 21 '22

Industrial education, Cooperative

Education scheme. *W. Hole. Gas J (Lond)* 163:577, 629-30; 164:56-7 Ag 22-O 3 '23; Discussion. 164:128-9 O 10 '23
Ten years of cooperative education, Springfield, Vt. *H. D. Casey. Mach* 29:861-2 Jl '23
See also Antioch college

Industrial efficiency. See Efficiency, Industrial**Industrial electric service of Erie, Erie, Pa.**

How to figure rates for industrial maintenance service. *G. W. Bartholomew. il Ind Eng* 81:288-92+ Je '23

Industrial engineering**Study and teaching**

Industrial engineering education at the University of Kansas. *P. F. Walker. Management Eng* 3:225-6 O '22
Shop visits by industrial engineering students at New York University. *W. F. Turnbull. Eng Educ* 13:147-52 N '22

Industrial engineers

Consultant and the manager of tomorrow. *R. J. Andersen. Ind Management* 66:246-8 O '23
Production engineer. *H. E. Honer. Ind Management (Lond)* 8:373-5 D 28 '22
What the industrial engineer can do for you. *Factory* 29:20-3+, 394+ Jl. O '22
Which management engineer shall we consult; twelve leading consulting management engineers tell what they can do to solve your management problems. *Am Mach* 58:21-7 Ja 4 '23

Industrial engineers, Society of. See Society of industrial engineers**Industrial fatigue.** See Fatigue**Industrial heating.** See Electric heating, Industrial; Gas as fuel; Heating, Industrial**Industrial hygiene.** See Hygiene, Industrial**Industrial insurance.** See Insurance, Industrial**Industrial laws and legislation**

Cours élémentaire de législation industrielle. *G. E. Bry. 6th ed., rev. 942p L. Tenin, Paris '21*
Die entwicklung des rechts der grossindustrie in den jahren 1920-21. *R. Schmidt-Ernsthausen. Stahl & Eisen* 42:13-17, 55-8 Ja 5-12 '22

See also Competition, Unfair; Factory laws; Labor laws and legislation; Oil industries—Fire regulations; Patent laws and legislation; Restraint of trade; Trade marks

Industrial lighting. See Factories—Lighting; Foundries—Lighting**Industrial loan system.** See Loans, Small**Industrial management**

L'application de la méthode Taylor au travail du vendeur. *C. de Fréminville. Chimie & Ind* 7:789-91 Ap '22
Basis of management engineering. *C. L. Queen. Management Eng* 2:43-6 Ja '22
Bosses I have met. *Ind Management* 63:30-3 Ja '22
Le contrôle. *J. Wilbois. Chimie & Ind* 10:368-70 Ag '23
Czecho-Slovakia adopts American methods of scientific management. *Am Mach* 58:130 Ja 18 '23
Development of management in the United Kingdom. *J. F. Whiteford. Mech Eng* 44:703-4 N '22
Development of scientific industrial organization in Germany. *G. Schlesinger. Mech Eng* 44:704-5 N '22
Economy and human effort in industry. *E. Farmer. Eng & Ind Management* 6:535-7 N 10 '21
Economy morale as a factor in readjustment. *J. H. Van Deventer. Ind Management* 63:193-5+ Ap '22
Education and management. *S. Freed. Ind Management* 64:231 O '22
Establishing a rational basis for industrial analyses. *H. Emerson. Chem & Met Eng* 27:644-6 S 27 '22
Facts considered as industrial stabilizers. *R. H. Booth. Iron Age* 111:673-7 Mr 8 '23

Industrial management—Continued

Industrial administration. D. T. Farnham. Administration 3:587-97 My '22
 Industrial management today. A. M. Oliver. Ind Management 63:91+ F '22
 L'institut central de recherches de Karlsruhe, pour l'organisation rationnelle du travail dans les différents corps de métiers. A. Antoine. il diags Génie Civil 81:196-200 Ag 26 '22
 Introduction to the principles of industrial administration. A. P. M. Fleming and H. J. Brocklehurst. 140p Pitman '22
 Is management falling down on the job? C. M. Wright. Ptr Ink 121:170+ O 26 '22
 Looking management engineering in the eye. E. H. Schell. Management Eng 2:233-6 Ap '22
 Management: a review of ten years' progress. L. P. Alford. Management Eng 3:277-82 N '22; Same. Mech Eng 44:699-703 N '22; Same. Iron Tr R 71:1564-9 D 7 '22
 Management and methods audit. F. A. Waldron. Management & Adm 6:479-81 O '23
 Management: methods and principles of Frank B. Gilbreth, inc. K. H. Condit. Am Mach 58:33-5, 293-5, 443-7, 665-7; 59:25-7, 329-34 Ja 4, F 22, Mr 22, My 3, Jl 5, Ag 30 '23
 Managerial control through costs. J. P. Jordan. Management Eng 4:81-6, 169-76, 335-40, 399-404 F-Mr, My-Je '23
 Manual of procedure. P. H. Myers. Administration 2:748-54 D '21
 Modern scientific management from manufacturing to retailing. J. M. Van Voris. Administration 3:613-18 My '22
 National leadership. D. S. Kimball. Mech Eng 45:1-3 Ja '23; Same. Sibley J 36:171-4 D '22; Same cond. Iron Tr R 71:1631-2 D 14 '22; Excerpts. Eng N 89:1013 D 14 '22; Discussion. Mech Eng 45:10-13 Ja '23
 New era of scientific management. H. Baker. Eng & Ind Management 6:604-5 N 24 '21; Same. Eng & Contr 57:296-7 Mr 29 '22
 New management in Great Britain. A. P. M. Fleming and J. G. Pearce. Ind Management 64:257-61 N '22
 Organization and operation of the cost control committee plan. J. H. Van Deventer. Ind Management 63:267-72 My '22
 Organisation of production. J. W. Curtis. Eng & Ind Management 7:127-30 F 2 '22
 Organization personnel planning. B. A. Franklin. Ind Management 64:181-3 S '22
 L'outillage du chef d'entreprise. J. Carlioz. Génie Civil 83:11-13 Jl 7 '23
 Phases of industrial management. Mech Eng 45:617-21 O '23
 Place of management in industry. G. M. Verity. Am Mach 58:525 Ap 5 '23
 Present-day tasks of management. P. L. Burkhard. Administration 2:673-80 N '21
 Principles of organization and management. W. Attwood. Chem Age 30:107-10 Mr '22
 Principles of organisation and management. W. Attwood. Ind Management (Lond) 9: 109-11, 137-9, 174-6, 202-4 F 22-Ap 5 '23
 Production costs more important than wage rates. H. Tipper. Automotive Ind 47:782-3 O 19 '22
 Putting morale to work for profits. D. B. Gauchet. Ind Management 63:295-6 My '22
 Reduction of waste in industry. Eng & Ind Management 6:665-70 D 8 '21
 Relieving industry of burden. W. Clark. Mech Eng 44:819-20 D '22
 Responsibility of management for industrial leadership. S. A. Lewisohn. Chem Age 31: 241-3 Je '23
 Scientific management. H. Atkinson. il Eng & Ind Management 5:162-5, 569-71, 629-31; 6:6-8, 97-8+, 119-21, 286-9, 400-1+, 529-31 F 10, My 19, Je 2, Jl 7, 28-Ag 4, S 15, O 13, N 10 '21
 Scientific management. H. B. Drury. (Columbia univ. studies in history, economics and public law) 3d ed., rev. & enl. 271p Longmans '22
 Scientific management and the engineering situation. W. J. Ashley. 28p Oxford '22

Scientific method for executives. W. Attwood. Ind Management (Lond) 9:267-9, 301-3, 337, 339+; 10:11-13, 46 My 3-31, Je 28-Jl 26 '23
 Shaping management to meet developing industrial conditions. H. S. Person. Chem & Met Eng 27:1165-9 D 13 '22
 Some problems of modern manufacturing. P. J. Pybus. Electrician 88:616-17 My 26 '22
 Standardising production in industry. R. Stelling. il Eng & Ind Management 7:164-5 F 9 '22
 Three divisions of management. J. Mayer. Management Eng 4:255-7 Ap '23; Same abr. Ind Management (Lond) 9:367-8 Je 14 '23
 Topic of management at the annual meeting of the A. S. M. E. Management Eng 2:51-2 Ja '22
 Visualized management control. C. B. Lord. il Management & Adm 6:319-22 S '23
 What is personnel research. R. M. Yerkes. Monthly Labor R 14:11-18 Ja '22
 What makes the general manager successful? E. H. Fish. Management Eng 4:387-8 Je '23

See also Automobile service stations—Management; Bedaux system; Bonus system; Branch management; Budget; Business; Business management; Chemical plants—Management; Company stores; Efficiency; Industrial; Employees as stockholders; Employees' representation in management; Employment management; Employment systems; Factory management; Foremen; Foundry management; Garages—Management; Gas companies—Management; Hotels—Management; Housing projects; Company; Hygiene, Industrial; Industrial engineers; Industrial relations; Inspection; Insurance; Business; Inventories; Job analysis; Machine shop management; Mine management; Motion study; Motor trucks—Management; Office management; Organization in industry; Piece work; Planning; Power plants—Management; Printing offices—Management; Process charts; Railroads—Management; Routing systems; Service (in industry); Shipyards—Management; Simplification in industry; Specialization; Suggestion systems; Time study; Waste

Measurement

Measurement of management. J. W. Roe. bibliog Mech Eng 45:632-6+ N '23
 Measurement of management. F. J. Schlink. Management & Adm 6:173-8 Ag '23
 Measuring administrative efficiency. W. N. Polakov. charts Chem & Met Eng 27:404-6 Ag 30 '22; Same. Ind Management (Lond) 8:156-8 S 21 '22
 Standardisation and assimilation. H. Varley. Eng & Ind Management 7:3-5 Ja 5 '22

Societies

Management as a whole. W. W. Kincaid. Management Eng 4:209-10 Ap '23
 Society of industrial engineers 8th national convention, Detroit. Iron Age 109:1211-12 My 4 '22; Iron Tr R 70:1270-2 My 4 '22
 Society of industrial engineers 10th annual convention, Cincinnati. Iron Age 111:1193-4 Ap 26 '23
 Taylor society annual meeting, New York. Iron Age 108:1463-7 D 8 '21

See also American management association

Staff committees

Committee work in management. R. J. Baker. Ind Management 64:263-4 N '22

Study and teaching

Practical laboratory and drawing-room course in industrial engineering at Cornell university. M. A. Lee. il charts Mech Eng 45:475-7 Ag '23; Same. Ind Management (Lond) 10:124-7 S 6 '23; Same. Sibley J 37: 180-3 N '23; Discussion. Mech Eng 45:477-8 Ag '23; Sibley J 37:183-4+ N '23
 Russian Central institute of work. il Management Eng 4:241-4 Ap '23
 Training for administration in industry. H. R. Sankey. Ind Management (Lond) 8:215-16 O 19 '22

Industrial management—Study and teaching
—Continued

What are the universities and technical schools doing to train their undergraduates in industrial relations? D. S. Kimball. *Chem & Met Eng* 26:106-8 Ja 18 '22

What constitutes a good manager? N. H. Daniels. *Ind Management* 62:329-32 D '21

See also Industrial engineering—Study and teaching

Industrial medical service. See Medical service, Industrial

Industrial museums

See Paris, France—Conservatoire national des arts et métiers

Industrial pensions. See Pensions, Industrial

Industrial poisons. See Poisons, Industrial

Industrial publishing. See Trade journals

Industrial railroads. See Electric railroads, Industrial; Railroads, Industrial

Industrial relations

American rolling mill co. takes the mystery out of business. V. B. Guthrie. *Nat Pet N* 15:29 Ap 1 '23

Capital's duty to management. J. Calder. *Textile World* 63:361-2 Ja 6 '23

Capital's duty to the wage-earner. J. Calder. 326p Longmans '23

Carnegie and labor. *System* 42:267-9+ S '22

Corporation and the workers; telling them where the company's money goes. C. M. Ripley. *it diags Am Ind* 23:15-17 S '22; Same cond. *Elec W* 79:1281-2 Je 24 '22

Creation of interest and good-will through general education in industry; the responsibility of the industry. H. C. Link. *Administration* 3:335-47 Mr '22

Dealing with the labor problem. B. I. Budd. *it Elec Ry J* 60:425-7 S 23 '22

Development of satisfactory relationship between employer and employee in construction industry. E. T. Trigg. *Eng & Contr* 56:479-81 N 23 '21

Disarmament in industry. J. J. Davis. *Monthly Labor R* 14:5-11 Ja '22

Education vs. propaganda in the cultivation of good-will in industry. H. C. Link. *Administration* 3:57-65 Ja '22

Employment. S. Rolle. *Min & Met* 186:29 Je '22

Engineer and labor problems. E. Lee. *Eng & Contr (Ry)* 59:165-7 Ja 17 '23

Ethical impulse to better industrial relations. J. Calder. *Textile World* 62:3541-2 D 23 '22

Experiments in industrial co-operation; constructive solutions presented at meeting of the Academy of political science. *Iron Age* 108:1207-8 N 10 '21

Fundamentals of industry; attitude of the Master builders association of Boston. *Am Arch* 123:518 Je 6 '23

Fundamentals of labor question ignored. H. Tipper. *Automotive Ind* 46:878-9 Ap 20 '22

Human element neglected factor. F. S. Sibley. *Textile World* 63:2833+ Ap 28 '23

Human factors in industry. H. Tipper. 280p Ronald press '22

Human problems of modern industry. S. O. Dunn. *Ry Age* 73:977-80 N 25 '22; Same. *Ry Mech Eng* 97:20-2 Ja '23

Industrial relations. C. F. Brown. *Ind Management* 64:185-8 S '22

Industrial relations. J. Calder. *it Textile World* 63:2837+ Ap 28 '23

Industrial relations and the churches. (*Annals v. 103, no. 192*) 234p Am. Acad. of Pol. and Soc. Sci. S '22

Industrial relations policy that makes production cost less at the Dayton engineering laboratories co. H. Tipper. *Automotive Ind* 47:473-6 S 7 '22

Interpreting the corporation to the workers. C. M. Ripley. *it Elec W* 79:1281-2 Je 24 '22

Is industrial democracy a misnomer? *Textile World* 61:1659-60 S 22 '23

It pays us to tell our business secrets. R. W. Stewart. *it System* 40:568-70+ N '21; Same. *Nat Pet N* 13:37+ N 30 '21

Labor problems of to-day. E. A. Johnson and J. Gauld. *Boston Soc C E J* 8:325-36; Discussion. 336-51 D '21

Labor situation and the Landis building trade agreements. F. L. Ackerman. *Am Inst Arch J* 10:22-3 Ja '22

Manufacturers are largely responsible for labor troubles. H. F. Perkins. *Automotive Ind* 46:82-3 Ja 12 '22

Methods of industrial negotiation in Great Britain. *Monthly Labor R* 16:514-18 Mr '23

New England at the crossroads. H. R. Simonds. *Iron Tr R* 70:464-7 F 16 '22

New era for industrial relations. A. H. Rodrick. *Am Mach* 56:214-15 F 9 '22

Paterson industrial conference plan. *Monthly Labor R* 16:771-2 Ap '23

Present-day tasks of management. P. L. Burkhard. *Administration* 2:673-80 N '21

Progress in human relations in industry. R. H. Weitzel. *Iron Age* 110:541 Ag 31 '22

Promotion of better industrial relations by a Chamber of commerce. A. C. Brown. *Administration* 3:169-73 F '22

Quest of industrial peace, by W. M. Clow. *Review. Comm & Fin Chr* 116:451-3 F 3 '23

Report of the New Jersey Chamber of commerce industrial relations committee. *Monthly Labor R* 14:874-5 My '22

Sees principle of democracy gaining ground. H. R. Fitzgerald. *it Textile World* 63:205-6+ Ja 13 '23

Story of a Quaker meeting; how one group of employers is working to improve industrial relations. *Nation's Business* 11:56-7 S '23

Struggle for industrial liberty. W. G. Merritt. *Textile World* 61:2720a My 6 '22

Symposium on industrial management. *Chem & Met Eng* 25:959 N 23 '21

Telling the world stuff. K. M. Coolbaugh. *Ind Management* 66:179-81 S '23

Western labor relations on the way to sound solution. G. L. Bell. *J Elec* 48:346-7 My 1 '22

What are the universities and technical schools doing to train their undergraduates in industrial relations? D. S. Kimball. *Sibley J* 35:162-4+ D '21

Why men strike. E. S. Filene. *Ind Management* 64:376-80 D '22

See also Arbitration, Industrial; Coal miners—United States; Courts, Industrial; Employees; Employees' representation in management; Employment management; Industrial betterment; Industrial councils; Industrial management; Labor and capital; Profit sharing; Railroad labor board; Trade agreements; Welfare work in industry; also Council on industrial relations for the electrical construction industry in the United States and Canada; Industrial association of San Francisco; Industrial relations association of America

Industrial relations association of America

Annual convention, New York city, Nov. 1-4. *Am Mach* 55:822-4 N 17 '21

Merged with the American management association

Industrial relations conference, Harrisburg

Harrisburg industrial conference, Oct. 24-27. *Safety Eng* 42:241-2 N '21

Industrial research

Canadian plan to build National research institute. *Can Eng* 42:426-7 Ap 25 '22

Cooperative industrial research; leather belting manufacturers establish research department at Cornell university. L. W. Army. *it Textile World* 62:77+ J1 1 '22

Cooperative research. *Am Cer Soc J (Bul)* 5:326-31 N '22

Développements récents des institutions de recherches scientifiques et industrielles à l'étranger et en France. J. P. Lehalleur. *Chimie & Ind* 6:833-41 D '21

Earning power of research as demonstrated by the experience of the American rolling mill company. D. M. Strickland. *it Ind & Eng Chem* 15:78-9 Ja '23

Finding the better way. C. E. Ruby. *it Ind Management* 62:303-8, 375-8; 63:26-9 N '21-Ja '22

Future of industrial research. F. P. Sexton. *Electrician* 88:627-8 My 26 '22

How they do it in England. *Chem & Met Eng* 28:528-9 Mr 21 '23

Industrial research—Continued

- Industrial research. C. E. Skinner. W Soc E J 28:279-92 JI '23; Same. Elec J 20:241-7, 390-4 JI-Ag '23
- Industrial research and patents. C. L. Jenks. Chem & Met Eng 26:394-7 Mr 1 '22
- Industrial research must justify itself in economies. F. A. Wardenburg. Chem Age 30:57-8 F '22
- Industrial silk researches. W. F. Edwards. Textile World 63:4075+ Je '23
- National research council to coordinate research throughout country. Mech Eng 44:114-18 F '22
- Personnel research agencies. J. D. Thompson. U S Bur Labor Statistics Bul 299:1-207 '21
- Progress in industrial research. Electrician 88:129 F 3 '22; Elec R (Lond) 90:177-8 F 3 '22
- Progress of research in Canada. Can Eng 43:218-21 Ag 1 '22
- Rational works management in factories. J. A. Davenport and J. I. Emery. Ind Management (Lond) 10:181-2 O 4 '23
- Relation of research to production efficiency. C. G. Derick. Chem & Met Eng 27:425-7 Ag 30 '22
- Relation of the technical school to industrial research. A. D. Flinn. Am Soc Heat & V E J 27:791-3 N '21; Same. Chem Age 29:487-8 D '21
- Report of the committee of the Privy council for scientific and industrial research for the year 1922-23. Engineer 136:398-9 O 12 '23; Chem Age (Lond) 9:390-1 O 13 '23; Elec R (Lond) 93:554-5 O 12 '23; Gas J (Lond) 164:186 O 17 '23
- Report of the proceedings of the committee of the Privy council for scientific and industrial research, August 1, 1921, to July 31, 1922. Engineer 134:268, 304, 330-1 S 15-29 '22; Elec R (Lond) 91:467-8 S 29 '22; Engineering 114:368-9 S 22 '22
- Research as a business proposition. F. R. Still. Am Soc Heat & V E J 27:878-80 D '21
- Research co-operation between universities and utilities. H. J. Ryan. Elec W 79:8 Ja 7 '22
- Research from the business man's standpoint. E. P. Hyde. Chem Age 30:289-91 JI '22
- Research in industry the basis of economic progress. A. P. M. Fleming and J. G. Pearce. 244p Pitman '22
- Research in the steel industry. J. A. Mathews. Min & Met 180:11-13 D '21
- Research laboratories in industrial establishments of the United States. A. D. Flinn, revised by R. Cobb. Nat Research Council 3 pt 1:1-120 D '21
- Research must be sold. C. E. Skinner. Elec W 79:690-1 Ap 8 '22
- Rôle of research. W. R. Whitney. Il Sci Am 125A:88-9 D '21
- Science and industry in America. W. Rosenhain. Engineer 136:270-1, 298-9, 312, 330-1, 358-9, 384-5, 412-13, 440-1, 468-9, 494-6, 522-4 S 14-N 16 '23
- Selling research. C. E. Skinner. Am Inst E E J 41:307-9 Ap '22; Excerpts. Chem Age 30:168 Ap '22
- Some research problems of the canning industry. W. D. Bigelow. J Ind & Eng Chem 14:375-9 My '22
- Value of research in industry. H. E. Yarrow. diag Eng & Ind Management 6:590-2 N 24 '21
- What is personnel research? R. M. Yerkes. Monthly Labor R 14:11-18 Ja '22
- See also Automobile research; Chemical research; Cotton research; Electric research; Foundry research; Gas research; Laboratories; Paper research; Petroleum research; Scientific research; Textile research; Wool research; also British cast iron research association; National research council; Pittsburgh university—Mellon institute of industrial research

Bibliography

- Research in industry. A. P. M. Fleming and J. G. Pearce. p.221-36 Pitman '22

Industrial safety museum. See New Jersey—Industrial safety museum

Industrial statistics

Trade associations and business statistics. A. R. Burnet. Administration 2:775-92 D '21

Industrial towns. See Model towns**Industrial unionism**

Industrial unionism in America. M. D. Savage. 344p Ronald press '22

Industrial unionism in America. M. D. Savage. Management Eng 2:302-5, 354-6 My-Je '22

See also Amalgamated clothing workers of America

Industrial wastes. See Trade waste

Industrial water. See Water supply for factories

Industrial workers of the world

Membership in I.W.W. a criminal offense under California statute. Monthly Labor R 16:471-3 F '23

Industries. See Industrial arts; Industry; also names of industries, e.g. Chemical industries, Clay industries, Dye industry, Electric industries, Gas industry, Iron industry, Mineral industries, Oil industries, Petroleum industry, Steel industry, Textile industry

Industry

Control of industry. D. H. Robertson. 169p Nisbet & co., London '23

Co-ordination, co-operation & conference, inc. C. T. Hutchinson. Min & Sci P 124:18-21 Ja 7 '22

Economic axioms of industry. E. W. Petter. Eng & Ind Management 6:500-2 N 3 '21

L'industrie nouvelle. V. Cambon. Soc Ing Civils Bul 74:547-69 O '21

Interdependence of industry. G. E. Roberts. Il Nation's Business 11:42-4 My '23

Modern industrial organisation. H. Hirst. Electrician 88:625-6 My 26 '22

Modern industrialism. F. L. McVey. 2d ed. 358p Appleton '23

Organization of modern industry. D. S. Kimball. Il diag Management & Adm 6:17-24, 165-71, 333-9, 437-43, 599-604, 743-9 JI-D '23 (to be cont)

Relation of the technically trained man to the promotion, organization and development of industry. L. W. Wallace. Chem Age 30:81-3 F '22

Romance of business. W. C. Forbes. 258p Houghton '21

See also Efficiency, Industrial; Government regulation of industry; Labor and laboring classes; Machinery in industry; Manufactures; Service (in industry); Woman—Employment; Work; also headings beginning Industrial; also subdivision Industries and resources under names of countries

Fluctuations

Broad industrial movements. E. S. Bradford. Management Eng 3:327-32 D '22

History

Industry and human welfare. W. L. Cheney. 169p Macmillan '22

Many phases of the industrial span from Waterloo to the armistice. J. A. Emery. Am Ind 22:21+ JI '22

Industry and state

Constitution or soviet? a denunciation of the domination by a minority of the people that urban growth has made possible in this country. L. Bell. Elec W 80:652-3 S 23 '22

Economic basis of public interest. R. G. Tugwell. 138p George Banta pub. co., Menasha, Wis. '22

Giving business a voice in government; how Germany is organizing to supplement individual industrial initiative. G. Bernhard. System 42:538-9+ N '22

Government aids to business; publications and other technical items. Nation's Business 11:66+ Je '23

Let government study business. E. H. Gary. Iron Tr R 70:1544-5+ Je 1 '22

Industry and state—Continued

North Dakota industrial program. 109p Industrial commission of North Dakota, Bismarck '21

What the Department of commerce is doing for industry. F. M. Feiker. Elec W 79:71-3 Ja 14 '22

See also Commercial policy; Economic policy; Government ownership; Government regulation of industry; Industrial councils; Labor laws and legislation; Priorities, Industrial; Public utilities; Tariff

Infants' foods**Advertising**

Glaxo profits by community service. T. Russell. Ptr Ink 118:105-6+ F 16 '22

Infectious arthritis. See Arthritis, Infectious**Infectious diseases**

See Chemotherapy; Influenza; Typhoid fever

Infinite

Elements of the theory of infinite processes. L. L. Smail. 336p McGraw-Hill '23

Infinities

Split infinities. F. H. Teall. Inland Ptr 70: 516-17 Ja '23

Inflammable liquids

Concrete tanks for inflammable liquids. il Concrete 23:154 O '23

Flash and burning points of kerosene-gasoline mixtures. J. T. Robson and J. R. Withrow. (Bul. no. 18) p.129-55 Eng. exp. sta. of the Ohio state univ., Columbus '21

Handling solvents safely. A. G. Smith. Chem & Met Eng 29:714-16 O 15 '23

La manipulation pneumatique des liquides inflammables, par les procédés Maucière. il diags plan Génie Civil 81:512-16 D 2 '22

See also Flash point; Gasoline; Oil industries—Fire regulations; Oil inspection; Petroleum

Inflammable mixtures

Ascertaining explosibility of methane in oxygen. Coal Age 23:904 My 31 '23

Burning explosive gas to prevent the explosion. il diags Sci Am 127:415 D '22

Calculation of flash points for pure organic substances. E. Mack, C. E. Boord and H. N. Barham. diags Ind & Eng Chem 15: 963-5 S '23

Combustion of complex gaseous mixtures. W. Payman and R. V. Wheeler. Chem Soc J 121:363-79 Mr '22

Combustion of complex gaseous mixtures: mixtures of carbon monoxide and hydrogen with air. W. Payman and R. V. Wheeler. il Chem Soc J 123:1251-9 My '23

Effect of pressure on the limits of inflammability of mixtures of the paraffin hydrocarbons with air. W. Payman and R. V. Wheeler. Chem Soc J 123:426-34 Mr '23

Explosion-proof process of solvent recovery. B. F. Dodge. flow sheet il diags Chem & Met Eng 26:416-19 Mr 1 '22

Fire hazards at quenching tanks. Chem & Met Eng 26:1220 Je 28 '22

Gaseous combustion at high pressures. W. A. Bone. il diags Gas J (Lond) 163:363-5, 415-16, 475-7 Jl 25-Ag 8 '23; Abstracts. Chem Age (Lond) 8:541 My 19 '23; Engineering 115:625-6 My 13 '23

Hazards of explosive gas mixtures reduced. diags Pop Mech 39:118 Ja '23

Ignition of gases; ignition by a heated surface: mixtures of methane and air. W. Mason and R. V. Wheeler. Chem Soc J 121:2079-91 O '22

Limits for the propagation of flame in vapour-air mixtures. A. G. White. Chem Soc J 121: 1244-70, 2561-77 Jl, N '22

New invention eliminates accidental explosion in gas mixtures. H. C. P. Weber. il diags Chem & Met Eng 27:942-3 N 8 '22

Propagation of flame from a spark in a closed tube through a homogeneous inflammable mixture. O. C. de C. Ellis. il Chem Soc J 123:1435-52 Je '23

Propagation of flame in complex gaseous mixtures. W. Payman. Chem Soc J 123:412-20 Mr '23

Rate of detonation in complex gaseous mixtures. W. Payman and N. S. Wallis. Chem Soc J 123:120-6 Mr '23

Relative influences of water vapour and hydrogen upon the explosion of carbon monoxide-air mixtures at high pressures. W. A. Bone, D. M. Newitt and D. T. A. Townsend. Chem Soc J 123:2008-21 Ag '23

So-called pre-pressure interval in gaseous explosions. J. D. Morgan. diags Chem Soc J 123:1304-8 My '23

Solvent recovery from the fire hazard standpoint. W. D. Milne. Chem Age 31:201-5 My '23

Study of explosions of gaseous mixtures. A. P. Kratz and C. Z. Rosecrans. il diags Ill U Eng Exp Sta Bul 133:1-74; Bibliography. 75-96 '22

See also Dust explosions; Explosions; Flame propagation; Flash point

Inflation (finance)

Building prosperity on the sands of inflation; some lessons from Germany. E. E. Agger. Annalist 22:597+ N 5 '23

Currency inflation and public debts, by E. R. A. Seligman; comments by A. W. Krech. Comm & Fin Chr 113:2470-2 D 10 '21

No inflation; only fear of it. A. D. Welton. Nation's Business 11:30-1 My '23

See also Money; Paper money

Influenza

Further tests on chlorine as a preventive of influenza. H. Hale. Ind & Eng Chem 15: 746 Jl '23

Influenza germ. Sci Am 128:321 My '23

Municipal sanitary precautions during epidemic of influenza. W. P. Gerhard. Munic Eng 62:130-2, 166-70 Ap-My '22

Information service

Business information services. Special Lib 13: 53-62 Ap '22

Government services department. C. Carmody. Special Lib 12:214-15; 13:63, 75 N '21, Ap-My '22

Informational needs in science and technology. C. L. Reese. J Ind & Eng Chem 14: 364-8 My '22

Library of Congress as a source of business information. J. True. Ptr Ink M 7:68+ N '23

See also Libraries, Special; also American chamber of economics; Associated general contractors of America—Service bureau; Columbia university—College of pharmacy library; National association of building owners and managers—Building planning service; National research council—Research information service; Personnel research federation; Tel-U-Where company of America, Boston, Massachusetts

Infra-red rays

Effect of certain dissolved substances on the infra-red absorption of water. J. R. Collins. diags Phys R 20:486-98 N '22

Infusorial earth. See Diatomaceous earth**Ingersoll, Robert H., & brother**

Ingersoll bankruptcy not an advertising failure. Ptr Ink 118:10+ Ja 5 '22

Ingots

Analysis of ingot molds important factor. J. Thomas. Foundry 50:157 F 15 '22

Ingots, Steel. See Steel ingots**Inheritance tax**

Treatise on the Ohio law of inheritance taxation. J. R. Cassidy. 172p W. H. Anderson co., Cincinnati '23

Injectors

Cleaning inspirator tubes produced different results. H. D. Yoder. Power 55:1015-16 Je 27 '22

Design, use and care of injectors. diags Marine R 53:357-9 S '23

Injectors: principle of operation, troubles and their remedies. diags Power Pl Eng 26:27-8 Ja 1 '22

Metcalfe's exhaust steam injector for locomotives. diags Engineering 113:71-2 Ja 20 '22; Engineer 133:366 Mr 31 '22

Practical information about injectors. T. Croft. diags Power 55:460-3 Mr 21 '22

Injectors—Continued

Renewing the blow-off pipes of steam boilers, and piping and exhaust steam injector. W. H. Wakeman. *diags Dom Eng* 97:440-1 D 3 '21

Injunctions

Anti-injunction law of Arizona held unconstitutional. *Monthly Labor R* 14:364-8 F '22
Daugherty's law sound; error was in tactics. B: Baker. *Annalist* 20:243-4 S 11 '22

Department of justice and the injunction against railroad shopmen; Daugherty's Canton speech. *Comm & Fin Chr* 115:1907-10 O 28 '22

Injunction against strike violence made permanent. *Ry Age* 75:112 J1 21 '23; *Ry R* 73:114 J1 21 '23

Injunction against striking shop craft unions. *Comm & Fin Chr* 115:1050, 1165-73, 1279-82, 1393-4, 1495-7 S 2-30 '22

Injunction against the railroad shopmen. *Monthly Labor R* 15:888-90 O '22

Injunctions in the building trades. *Monthly Labor R* 14:812-18 Ap '22

Leaders of shopmen's strike enjoined for conspiracy. *Ry R* 71:443-6 S 30 '22

Legal battle over Daugherty injunction opens. *Ry Age* 73:507-9, 560, 611-12 S 16-30 '22

Opinion and comment on the strike injunction. *Ry R* 71:351-2 S 9 '22

Strike injunction's legal basis. P. Bakewell. *Am Ind* 23:9-10+ N '22

United States court acts to protect railway operation. *Ry R* 71:342-5, 387, 421-2 S 9-23 '22

U.S. gets blanket injunction against shopmen. *Ry Age* 73:469-75 S 9 '22

Ink

Bits of early history concerning inks. J: J. Fisher. *Inland Ptr* 70:868 Mr '23

Cheap way to make printing ink. *Chem Age* 30:172 Ap '22

Examination of writing inks. F. F. Rupert. *Ind & Eng Chem* 15:489-93 Mv '23

Ineradicable ink. *Chem Age* 31:81-2 F '23

Ink. C. A. Mitchell. 128p Pitman '23

Inks; ancient and modern. C. A. Mitchell. *Color Tr J* 11:160-2, 212-14; 12:23-6, 84-6 O-N '22, Ja-F '23

Manufacture and properties of writing inks. F. F. Rupert. *Chem Age* 30:345-8 Ag '22

Manufacture of printing ink. B. G. Ransom. *Chem Age* 31:63-7 F '23

Manufacture of printing-inks. T. W. Anstead. *il Chem & Met Eng* 27:304-8 Ag 16 '22

Practical hints on presswork. E. St John. *Inland Ptr* 71:535-6, 681-5 J1-Ag '23

Reading between the lines; methods of invisible writing employed during the war and their detection. J. Boyer. *il Sci Am* 126:32 Ja '22

Standard conditions for the printing ink industry adopted by the color standardization committee. *Color Tr J* 11:114-15 S '22

Writing ink; patent. *Chem Age* 31:188-9 Ap '23

See also Carter's ink company

Inland printer (periodical)

Fortieth anniversary number. *Inland Ptr* 72:65-154 O '23

Inns. See Hotels**Inquiries. See Advertising—Inquiries****Insane**

Radio aid for muddled minds. W. Seeley. *il Wireless Age* 9:35-6 S '22

Insecticide and disinfectant manufacturers' association

7th annual convention, New York, Dec. 12-13. *Oil Paint & Drug Rep* 100:23+ sec 1 D 19 '21

Insecticides

Chemistry in the control of plant enemies. W. C. O'Kane. *Ind & Eng Chem* 15:911-13 S '23

Improved arsenical insecticide. *Chem Age* 30:250 Je '22

Organic compounds as commercial insecticides. *Chem Age* 31:278 Je '23

See also Bordeaux mixture; Calcium arsenate; Flyosan (insecticide); Heat as an insecticide; also Bowker chemical company

Insectivorous plants

Biochemical observations on certain insectivorous plants. J. S. Heppburn. *il J Fr Inst* 194:771-80; Bibliography. 780-1 D '22

Insects

Age of insects. E. P. Felt. *Sci Am* 127:247 O '22

Insect-eating insects; some glimpses of the eternal struggle for survival. E. Bade. *il Sci Am* 129:96 Ag '23

Mysteries of invisible world are portrayed on movie screen by insect actors. *il Pop Mech* 40:173-15 N '23

Senses of insects. N. E. McIndoo. *Sci Am* 129:172 S '23

See also Ants; Cocoons; Moths

Insects, Fossil

Fossil insects from the eocene of Texas. T. D. A. Cockerell. *il Am J Sci* 5th ser 5:397-400 My '23

Kansas Permian insects; paleolimulus, a new genus of paleozoic xiphosura, with notes on other genera. C. O. Dunbar. *il Am J Sci* 5th ser 5:443-54 Je '23

Insects, Injurious and beneficial

Extirmination of insects. E. P. Felt. *Sci Am* 128:81 F '23

New cooperative movement; Crop protection institute. *Sci Am* 126:56 Ja '22

War against insects. L. O. Howard. *il Chem Age* 30:5-6 Ja '22

See also Boll weevils; Heat as an insecticide; Insecticides; Japanese beetles; Mosquitoes; Termites

Inspection

Advantages of scheduled inspection over individual responsibility. E. W. Baker. *Elec W* 81:223-4 Ja 27 '23

Belts as inspection tables. F. L. Prentiss. *il Iron Age* 108:1414 D 1 '21

Control of quality of manufactured goods as affected by size of plant. G. S. Radford. *il Management Eng* 3:193-8 O '22

Establishing a small engineering works. A. Whitehead. *Eng & Ind Management* 8:3-6 J1 27 '22

Factory organisation; inspection department. *Ind Management (Lond)* 8:312-13 N 30 '22

Improving inspection methods. H. H. Armstrong. *Mach* 29:303 D '22

Inspection methods. E. Fairbrother. *il diag Eng & Ind Management* 7:509-12, 577-80; 8:8-12, 42-5, 78-81, 113-15, 159-61 Je 15, J1 13-S 21 '22

Inspection the keynote in axle plant. *il Iron Age* 110:987-90 O 19 '22

Inspectors' reports, examples and methods. *Eng & Ind Management* 6:570-3 N 17 '21

Management and methods audit. F. A. Waldron. *Management & Adm* 6:479-81 O '23

Rational works management in factories. J. A. Davenport and J. I. Emery. *Ind Management (Lond)* 10:119-20 S 6 '23

Some whys and hows of maintenance analyses and procedure. G. A. Van Brunt. *il Ind Eng* 81:48-51+ Ja '23

See also Asphalt plants—Inspection; Boiler inspection; Bridge inspection; Car inspection; Coal inspection; Electric inspection; Electric motors—Inspection; Electric plants (central stations)—Inspection; Elevators, Electric—Inspection; Factory inspection; Gages—Inspection; Gearing—Inspection; Highway inspection; Locomotives—Inspection; Locomotives, Mine—Inspection; Oil inspection; Plumbing inspection; Road materials—Inspection; Screw threads—Testing; Steel—Inspection; Steel, Structural—Inspection; Tires, Automobile—Inspection; Yarn—Inspection

Installment plan

How a New York master plumber secures business on the deferred payment plan. B. Lehor. *il Dom Eng* 100:92-3 J1 15 '22

How New York city views the installment payment plan. F. Wall. *Dom Eng* 98:23+ Ja 7 '22

Installment sales and collections. B. W. Griffin. 205p [bibliog. p. 202] Prentice-Hall, New York '22

Make it easy for prospects to become customers. *J Elec* 50:298-9 Ap 15 '23

Instalment plan—Continued

- Part payment plans in plumbing and heating.
Dom Eng 97:296-8, 614-20; 99:182-5, 275-7;
100:98 N 12, D 31 '21, Ap 29, My 13, JI 15 '22
- Practical part payment plan operated by the Whalen-Crosby electric co. T. P. Farrell.
Dom Eng 98:116-17 Ja 21 '22
- Selling by deferred payment plan. W: H. Matlack. Gas Age 49:235-6 F 25 '22
- Selling heating equipment on the instalment plan. Heat & Ven 19:61-2 Je '22
- Time sales of automobiles have reached enormous proportions. Automotive Ind 49:160-2 JI 26 '23

Bibliography

- Consignment and instalment. Ptr Ink 124:141+ S 27 '23

Institute for government research

- Institute for government research, its organization, work and publications. 31p Institute for govt. research, Washington, D.C. '22

Institute for research in land economics. See Wisconsin. University—Institute for research in land economics**Institute of British foundrymen (formerly Institution of British foundrymen)**

- 19th annual conference, Birmingham, England, June 21-23. Engineering 113:821-2; 114:6-7 Je 30-Jl 7 '22; Iron Tr R 70:1880-1 Je 29 '22; Foundry 50:584-7 JI 15 '22

- Opening sessions of Birmingham conference devoted to discussion of malleable and semisteel. H. C. Estep. Foundry 50:554-5 JI 1 '22

- 20th annual meeting, Manchester, England, June 13-15. Iron Tr R 72:1894-5 Je 28 '23; Iron Age 112:17-18 JI 5 '23; Foundry 51:536, 568-70 JI 1-15 '23

Institute of chemistry of Great Britain

- Economic chemical segregation. Chem Age 31:419-22 S '23

- Institute of chemistry of Great Britain. Chem Age 31:325-6 JI '23

Institute of economics

- Establishment to supply to private individuals, business concerns and to government officials reliable information on all economic questions. Min & Met 186:18 Je '22

Institute of metals

- Autumn meeting, Birmingham (England), Sept. 21-23. Metal Ind 19:431-3, 477-81 N-D '21; Brass W 17:319-22 N '21

- Autumn meeting, Manchester, Sept. 10-15. Engineer 136:287-9, 317-19 S 14-21 '23; Engineering 116:340-2 S 14 '23; Brass W 19:331-4 O '23; Metal Ind 21:394-7 O '23

- Autumn meeting, Swansea, Sept. 19-22. Engineer 134:806-7, 319-20, 345-7 S 22-O 6 '22; Engineering 114:369-72, 394-6, 426-7 S 22-O 6 '22; Iron Age 110:865-6 O 5 '22; Metal Ind 20:382-5 O '22; Brass W 18:290-5 O '22

- 14th annual general meeting, March 8-9. Engineer 133:265-6, 295-6, 324-6, 351-2 Mr 10-31 '22; Engineering 113:301-3, 317-20 Mr 10-17 '22; Iron Age 109:787-8, 869-71 Mr 23-30 '22; Brass W 18:112-15 Ap '22; Metal Ind 20:137-9 Ap '22

- 15th annual general meeting, March 7-8. Metal Ind 21:119-50 Ap '23

Institute of metals, American. See American institute of mining and metallurgical engineers**Institute of naval architects**

- Summer meeting with the Sheepvaartkundig instituut en museum and the Koninklyk instituut van ingenieurs, Holland, Sept. 1-7. Engineer 136:256-8, 272, 274-6, 282 S 7-14 '23; Engineering 116:307-8, 322-4 S 7-14 '23

Institute of politics, Williams college, 1923

- Williamstown institute of politics. Comm & Fin Chr 117:1056-8 S S '23

Institute of transport

- Institute of transport's educational program; courses of study to be required of applicants for admission. Ry Age 75:395-7 S 1 '23

- Motor and inland water versus rail transport discussed at the British Institute of transport congress. S: O. Dunn. Ry Age 72:1271-3 Je 3 '22

- 2d annual congress, London, May 17-20. Engineer 133:556-7, 581-2, 602-3 My 19-Je 2 '22; Engineering 113:615-17, 649-52 My 19-26 '22; Elec R (Lond) 90:751-2 My 26 '22

- Third congress, Sheffield, June 13-16. Engineer 135:654-6 Je 22 '23; Engineering 115:764-7 Je 22 '23

Institution of British foundrymen. See Institute of British foundrymen**Institution of chemical engineers**

- First annual corporate meeting, June 8. Gas J (Lond) 162:737-41 Je 20 '23
- Inaugural meeting, London, May 2. Engineer 133:523 My 12 '22

Institution of electrical engineers

- Annual report of the council. Inst E E J 60:526-44 My '22; Electrician 88:658-9 Je 2 '22; Elec R (Lond) 90:790 Je 2 '22

- Annual report of the council for 1922-23. Inst E E J 61:594-609 My '23

- Institution of electrical engineers. W. Cramp. Inst E E J 61:136-40 Ja '23

- Jubilee. Elec R (Lond) 90:233-4, 257-60, 268-70, 319-21, 352-3, 371 F 17-Mr 17 '22; Electrician 88:254-7, 286-9 Mr 3-10 '22; Engineer 133:207-8, 234-6 F 24-Mr 3 '22; Am Inst E E J 60:377-500 Ap '22

- Meeting, Nov. 17. Electrician 87:680-1 N 25 '21

- Summer meeting, Manchester, June 5. Engineer 135:601-2, 623-8, 634 Je 8-15 '23; Engineering 115:719-21, 749-53 Je 8-15 '23; Elec R (Lond) 92:897-8, 937-8, 977-9, 1007-9 Je 8-29 '23

- Summer meeting, Scotland, May 30-June 3. Engineer 113:606, 646-8 Je 2-9 '22; Elec R (Lond) 90:761-3, 795-7, 833-5 Je 2-16 '22; Electrician 88:690-1 Je 9 '22; Engineering 113:691-2, 724-6 Je 2-9 '22

Institution of engineers of Australia

- Institution of engineers of Australia. Engineer 135:573-4 Je 1 '23

Institution of gas engineers

- Annual meeting, London, Oct. 11-13. il diags Gas Age 48:661-5, 781-3 N 19, D 10 '21

- Annual general meeting, London, June 20-23. Engineering 113:788-90, 808-9 Je 23-30 '22; Gas Age 50:69-70+ JI 15 '22

- Annual report of the council upon the work during the year 1922-23. Gas J (Lond) 162:659-61 Je 13 '23

- Proceedings at the annual general meeting, Belfast, June 26-28. il Gas J (Lond) 163:65-76 JI 4 '23

Institution of mechanical engineers

- Activities of the Institution of mechanical engineers. Engineering 114:527-8 O 27 '22

- Institution of mechanical engineers; excerpts from the address by the president. H. S. Hele-Shaw. Engineer 134:434-6 O 27 '22; Engineering 114:538-9 O 27 '22

- 65th annual general meeting, London, Feb. 17. Engineer 133:218-19 F 24 '22; Engineering 113:236-7 F 24 '22

- 66th annual general meeting. Engineering 115:229-30 F 23 '23; Engineer 135:206-7 F 23 '23

- Summer meeting. Engineer 136:685-6, 714-15 Je 23-30 '22; Engineering 115:371-4, 388-92 Je 23-30 '22

- Summer meeting, Glasgow, June 26-29. Engineering 115:809; 116:15-16 Je 29-JI 6 '23; Engineer 135:694-6 Je 29 '23

Institution of naval architects

- Annual meeting, April 5. Engineering 113:427-30, 445-52, 483-5 Ap 7-21 '22; Engineer 133:381-2, 418-20, 445-6, 462+ Ap 7-28 '22

- Annual meeting, London, March 21-23. Engineer 135:309-10, 334-6, 365-6, 396-8 Mr 23-Ad 13 '23; Engineering 115:371-4, 388-92, 421-3 Mr 23-Ad 6 '23

- Summer meeting, Paris, July 4. Engineer 134:14, 43, 63-4 JI 7-21 '22; Engineering 114:19-21, 36-7, 70-2 JI 7-21 '22

Institution of welding engineers

- Opening meeting, London, Oct. 10. Engineer 136:430 O 19 '23; Elec R (Lond) 93:595 O 19 '23

Institutions, Public

- Conservation of coal by large consumers. G. B. Nichols. Heat & Ven 20:55-6 S '23
 Institutional household administration. L. Southard. 214p Lippincott '23
 Underground steam main construction; experiments in state institution with hot water heating through direct injection of high pressure steam. J. K. Raymond. diags plan Dom Eng 104:384-6 Ag 25 '23

See also Hospitals; Old age homes; Orphanages; Prisons; also Heckscher foundation for children

Instruction manuals. See **Manuals and rule books****Instructions**

- Illustrated instructions; a control system for machine development. J. Spielvogel. il Management Eng 3:365-9 D '22
 Method of preparing new instruction sheets from old time study data. C. W. Lytle. diags Management Eng 4:281-4 Ap '23
 Preparation of standard practise instructions. M. R. Lott. Factory 27:760-1 D '21
 Why each man knows his job. System 44:49-50 JI '23
 Why odd jobs get done on time. H. M. Sutton. System 42:568-9+ N '22

See also Employees, Training of

Instruments, Aeronautic. See **Aeronautic instruments****Instruments, Drawing.** See **Drawing instruments****Instruments, Electric.** See **Electric instruments****Instruments, Engineering.** See **Engineering instruments****Instruments, Measuring.** See **Measuring instruments****Instruments, Negotiable.** See **Negotiable instruments****Instruments, Optical.** See **Optical instruments****Instruments, Scientific.** See **Scientific apparatus and instruments****Instruments, Surgical.** See **Surgical instruments and apparatus****Instruments, Surveying.** See **Surveying instruments****Insulating porcelain.** See **Porcelain, Insulating****Insulating tape**

- How to apply tape to make a good insulating job. C. M. King. il Power 58:214-15 Ag 7 '23

Specifications

- Tentative specifications for rubber insulating tape. Am Soc T M Pro 21:802-4 '21

Insulating yarn

- Test methods for electrical yarns. Textile World 64:1664-5 S 22 '23

Insulation (electric)

- Aerial insulators for wireless telegraphy. il Elec R (Lond) 90:551 Ap 21 '22

- Arc action on some liquid insulating compounds. C. J. Rodman. diags Am Electrochem Soc Trans v 42 (preprint 7):45-56; Discussion. 56a-b S '22

- Cable insulation—dielectric strength; discussion at A.I.E.E. convention. Elec W 80:74-8 JI 8 '22

- Characteristic values of properties for several insulating materials. Elec W 81:291 F 3 '23

- Chemistry in the electrical industry. A. A. Drummond. Soc Chem Ind J (Chem & Ind) 42:769-70 Ag 10 '23

- Cold molded hard plastics. il diag India Rubber W 67:350-2 Mr '23

- Commutator insulation failures. J. L. Rylander. Elec J 18:554-5 D '21; Same. Power Pl Eng 26:176-8 F 1 '22

- Composite insulator strings improve distribution of dielectric stress. D. F. Miner. il diag Elec W 80:468-72 S 2 '22

- Composition and aging of insulating varnishes. H. C. P. Weber. Am Electrochem Soc Trans v 44 (preprint 16):167-70 S '23

- Dielectric strength of solid insulating materials. W. S. Flight. diags Elec R (Lond) 90:39-41, 76-9 Ja 13-20 '22

- Direct current armature windings; methods of calculation and details regarding construction and method of insulating. M. Phillips. diags Power Pl Eng 26:463-72 My 1 '22
 Directions for the study of pressboard for electrical insulating purposes. diags Inst E E J 61:486-95 Ap '23

- Effect of continued heating on the power factor and resistance of impregnating compounds. D. E. Howes. Am Electrochem Soc Trans v 44 (preprint 15):161-5 S '23

- Effect of insulation on design. R. E. Ferris. diags Elec J 20:360-5 O '23

- Effects of the composite structure of impregnated paper insulation on its electric properties. W. A. Del Mar and C. F. Hanson. Am Inst E E J 41:439-45 Je '22; Discussion. 41:965-81 D '22

- Electrical insulators from powdered talc. Chem & Met Eng 28:1126 Je 25 '23

- Electrical porcelain manufacture. C. H. Jones. il Chem & Met Eng 26:438-42 Mr 8 '22

- Electrical porcelain research. M. H. Hunt. il Elec J 19:94-6 Mr '22

- Failure of disk insulators on high-tension transmission lines. H. D. Pantan. Am Inst E E J 41:819-21 N '22; Discussion. 41:1016-17 D '22

- Improving the insulation of gas-engine igniters. H. W. Los. diags Power 56:733 N 7 '22

- Industrial research on pressboard. A. P. M. Fleming and A. Monkhouse. il Electrician 87:672-4 N 25 '21; Abstract. Elec W 79:143 Ja 21 '22

- Influence of temperature on insulating materials used in electrical machinery. E. Vannotti. diag Am Inst E E J 41:933-4 D '22

- Insulating materials. Elec R (Lond) 91:297-8 S 1 '22

- Insulation design of anchors and tower supports for 110,000-volt 4427-foot span over Carqueize Straits. L. J. Corbett. il diags plan Am Inst E E J 42:887-90 S '23

- Insulation failure—a pyroelectric effect. J. L. R. Hayden and C. P. Steinmetz. Elec W 80:865-8 O 21 '22; Discussion. 80:1049, 1273; S:161-2 N 11, D 9 '22, Ja 20 '23

- Insulation of bare wire. il Electrician 89:73 JI 21 '22

- Insulation of high voltage transmission lines; conception of a million volt line. F. W. Peek, jr. il Gen Elec R 25:111-19 F '22

- Insulation phenomena. A. Reisner. diags Wire-less Age 11:59 O '23

- Insulation resistance can be measured by use of ordinary direct-current voltmeter. E. J. Gealy. diag Coal Age 23:757-8 My 10 '23

- Insulator service records. M. J. Idail. Elec W 80:1164-6 N 25 '22

- Maconite; a new insulating material. Electrician 88:388 Mr 31 '22

- Mechanical electrical construction of modern power transmission lines—insulators for high-voltage lines. C. B. Carlson and W. R. Battey. il diags Am Inst E E J 42:1126-8 N '23; Abstract. Elec W 82:801 O 20 '23

- Method of comparing value of insulating varnishes. Elec W 80:230-1 JI 29 '22

- Methods of measurement of properties of electrical insulating materials. J. H. Dellinger and J. L. Preston. il diags U S Bur Stand Sci Pa 471:39-72 '23

- Minimum stress theory of cable breakdowns. D. M. Simons. Am Inst E E J 41:433-8 Je '22

- New type of suspension insulator. diag Elec W 78:1336 D 31 '21

- Notes on insulators. G. L. E. Metz. Elec R (Lond) 92:629-30 Ap 20 '23

- Ohio brass gets the final decision in suspension-insulator case. Elec W 79:149-50 Ja 21 '22

- Phenolic electrical insulating material. Chem Age 30:495-6 N '22

- Physical nature of the electrical breakdown of solid dielectrics. K. W. Wagner. diags Am Inst E E J 41:1034-44 D '22

Insulation (electric)—Continued

- Pillar-type insulator for 150-kv. bus structure. *il Elec W* 82:546 S 15 '23
- Pin insulators on 90,000-volt line. P. Ackerman. *il diags Elec W* 80:1439-14 D 30 '22
- Porcelaines électrotechniques. O. Boudouard. *Chimie & Ind* 6:533-91 N '21
- Problem of insulation; report of the committee on electrical insulation division of engineering. National research council. *Am Inst E E J* 42:618-22 Je '23
- Properties and characteristics of insulating materials. R. T. Fleming. *Inst E E J* 60:58-64 D '21
- Properties of composite insulating materials. *diag Electrician* 89:183-4 Ag 18 '22
- Properties of electrical insulating materials of the laminated phenol-methylene type. J. H. Dellinger and J. L. Preston. *il diags U S Bur Stand Tech Pa* 216:501-627 '22; Abstract. *J Fr Inst* 195:109-13 Ja '23; Summary. *Elec W* 82:545 S 15 '23
- Reliability and cost of catenary insulators. A. O. Austin. *Elec Ry J* 61:209-12 F 3 '23
- Report on researches on the chemical and physical properties of insulating oils; British electrical and allied industries research association. *diags Inst E E J* 61:661-74 Je '23; Abstract. *Elec R (Lond)* 93:127-8 JI 27 '23
- Rugged dead-end assembly for 1,700-ft. span. *diags Elec W* 80:434 Ag 26 '22
- Safety factors for different types of suspension insulators; abstract. P. Testard. *Elec W* 79:1182 Je 10 '22
- Some development in insulating materials and processes in Great Britain with special reference to thermal consideration. A. P. M. Fleming. *Am Inst E E J* 41:924-8 D '22; Same cond. *Electrician* 89:211-13 Ag 25 '22
- Stopping the leaks; how asbestos insulation improves the performance of electrical apparatus. *il Sci Am* 127:38 JI '22
- Study of chain-type insulators for highest voltages; abstract. A. Fontville. *Elec W* 78:1135 D 3 '21
- Use of rubber products as dielectrics. W. S. Flight. *Elec R (Lond)* 92:996-7 Je 22 '23
- Voltage limits in impregnated paper cable. W. A. Del Mar. *Elec W* 80:1257-8 D 9 '22
- See also Dielectric losses; Dielectrics; Electric cables; Electric resistance; Electric wiring; Porcelain, Insulating

Bibliography

- Rating of cables in relation to voltage; bibliography on dielectrics. D. M. Simons. *Am Inst E E J* 41:617-26 Ag '22
- Rating of cables in relation to voltage; summarized history of published knowledge bearing upon the performance of insulation under electric stress. *Am Inst E E J* 41:418-22 Je '22

Testing

- Action and effect of moisture in a dielectric field. D. Du Bois. *diags Am Inst E E J* 41:689-98 S '22; Discussion. 41:965-81 D '22
- Breakdown tests on insulating materials. N. A. Allen. *diags Elec R (Lond)* 89:876 D 30 '21
- Corona in air spaces in a dielectric. J. E. Shrader. *diags Am Inst E E J* 41:702-9 S '22; Discussion. 41:965-81 D '22
- Dielectric strength ratio between alternating and direct voltages. J. L. R. Hayden and W. N. Eddy. *diags Am Inst E E J* 42:706-12 JI '23; Same. *Gen Elec R* 26:645-52 S '23; Discussion. *Am Inst E E J* 42:1206-11 N '23
- Directions for determining the electric strength of fibrous insulating materials. *diags Inst E E J* 60:794-802 JI '22; Abstract. *Electrician* 89:447 O 20 '22
- Directions for the study of electrical insulating papers (untreated) for purposes other than the manufacture of cables. *il diags Inst E E J* 60:657-70 Je '22; Abstract. *Electrician* 89:126-7 Ag 4 '22
- Directions for the study of electrical insulating papers (unvarnished) for purposes other than the manufacture of cables; revised report of the British electrical and allied industries research association. *il diags Inst E E J* 61:982-96 S '23

- Directions for the study of hard composite dielectrics (insulating materials); report of the British electrical and allied industries research association. *diags Inst E E J* 60:565-74 My '22
- Directions for the study of vulcanized fibre for electrical purposes; report of the British electrical and allied industries research association. *diags Inst E E J* 61:964-81 S '23
- Effect of heat on the electric strength of some commercial insulating materials. W. S. Flight. *diags Inst E E J* 60:218-35 F '22; Abstract. *Elec R (Lond)* 91:227-8 Ag 18 '22; Discussion. *Inst E E J* 60:825-7 JI '22
- Electrical tests for porosity of electrical porcelain. J. E. Shrader. *diag Elec J* 19:118-19 Mr '22
- Field testing of insulators essential to good service. *il Elec W* 81:283 F 3 '23
- Five hundred tests on the dielectric strength of oil. J. L. R. Hayden and W. N. Eddy. *Am Inst E E J* 41:138-9 F '22; Discussion. 41:600-4 Ag '22
- Important considerations in making insulation tests. *Coal Age* 24:143 JI 26 '23
- Measurement of insulation resistance. T. R. Warren. *diags Elec R (Lond)* 93:151-2 JI 27 '23
- Meg insulation tester. *il diag Engineer* 134:391-2 O 13 '22; *Elec R (Lond)* 91:537-8 O 13 '22; *Engineering* 114:458-9 O 13 '22
- New method for the routine testing of alternating-current high-voltage paper-insulated cable. H. S. Phelps and E. D. Tanzer. *diags Am Inst E E J* 42:247-54 Mr '23; Abstract. *Elec W* 81:440-1 F 24 '23; Discussion. *Am Inst E E J* 42:971-3 S '23
- Overpotential test for insulators. G. W. Lapp. *il diags Am Inst E E J* 41:491-5 JI '22; Discussion. 41:1018-21 D '22
- Progress in field testing of insulators. F. C. Doble. *il diags Elec W* 81:1397-1401 Je 16 '23
- Proper handling, care and testing of insulating oils. *Coal Age* 22:491-3 S 28 '22
- Renewal of the fibre insulation for insulated rail joints; signal section report on d.c. automatic block signaling. *Ry Age* 74:736-7 Mr 16 '23
- Report of committee D-9 of A. S. T. M. on electrical insulating materials. *Am Soc T M Pro* 21:392-6 '21; 22 pt 1:472-8 '22
- Simple insulation-testing apparatus with 6,000-volt range. E. C. Soares. *diags Elec W* 79:288-9 F 11 '22
- Standardized insulator tests by the insulator subcommittee of the A.I.E.E. standards committee. *Am Inst E E J* 42:739-43 JI '23; Discussion. 42:1334-8 D '23
- Tentative methods of testing electrical porcelain. *diags Am Soc T M Pro* 21:727-36 '21; Same. *Am Cer Soc J* 5 pt 2:67-77 Ap '22
- Tentative methods of testing insulating varnishes. *Am Soc T M Pro* 21:722-6 '21
- Test and investigations on extra high-tension insulators. C. C. Farr and H. E. R. Philpott. *il diags Am Inst E E J* 41:711-24 O '22; Discussion. 41:1014-16 D '22; Abstract. *Elec W* 80:426-8 Ag 26 '22
- Test for dielectric strength of sheet insulation. F. M. Farmer. *il Elec W* 80:669-70 S 23 '22
- Testing of materials used in the manufacture of electrical equipment. C. Dawson. *diag Inst E E J* 61:59-64 D '22
- Three thousand tests on the dielectric strength of oil. J. L. R. Hayden and W. N. Eddy. *Am Inst E E J* 41:495-9 JI '22; Discussion. 41:883-6 N '22
- See also Dielectrometer
- Insulation (heat)**
- Cement kiln insulation. P. C. Durbin. *il diags Concrete* 22:sup2-4 Ja '23
- Cold storage warehouse has unusual design. S. T. Smith. *il diags plans Eng N* 91:633-5 O 18 '23
- Cutting fuel costs. G. F. Swetnam. *Power* 57:818 F 6 '23
- Designing and operating a slag wool plant. H. Lang. *plan Chem & Met Eng* 29:363-7 Ag 27 '23

Insulation (heat)—Continued.

Economic thickness of insulation in the refrigerating field. P. Nicholls. *Am Soc Heat & V E J* 28:343-53 Ap '22; Same. *Refriger Eng* 9:152-7+ N '22; Discussion. 9:254-8 F '23

Economic value of insulation. J. H. Stone. *Refriger Eng* 10:137-9 O '23

Finish applied to insulation. J. H. Stone. *Refriger W* 57:16-17+ Ja '22; Abstract. *Power Pl Eng* 26:382-3 Ap 1 '22

Flow of heat in buildings. F. E. Giesecke. *il diags Am Soc Heat & V E J* 29:481-90; Discussion. 491-2 S '23

Glass wool heat insulation in Europe. A. D. Saborsky. *il diags Am Cer Soc J* 6:674-84 My '23; Abstract. *Chem & Met Eng* 28:1116 Je 25 '23

Heat insulating materials for electrically heated apparatus. J. C. Woodson. *il Am Electrochem Soc Trans v* 43 (preprint 1):1-20 My '22

Heat insulators; abstract of special report of the Food investigation board of Great Britain. *Refriger W* 57:21-2 Ap '22; *Engineer* 133:311 Mr 17 '22

House insulation and fuel consumption. H. J. Burt. *Concrete* 23:117-18 S '23

How to apply heat insulation. P. W. Swain. *diags Power* 56:354-7 S 5 '22

Improved method of analysis for 85 per cent magnesia covering. H. W. Greider. *Ind & Eng Chem* 15:50-3 Ja '23

Increasing heating furnace efficiency through the use of insulation. *Chem & Met Eng* 27:441 Ag 30 '22

Insulated kiln saves 17% in fuel. J. H. Kruson. *il Brick & Clay Rec* 63:22-6 Ji 10 '23

Insulating lumber from sugar mill bagasse. A. G. Wikoff. *il Chem & Met Eng* 29:360-2 Ag 27 '23

Insulating materials for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:515-20, 579-83 Ag-S '22

Insulation for fuel conservation. E. F. Davis. *il diags Gas Age* 49:769-70+; 50:13-17 Je 24-Ji 1 '22

Insulation in power plants. L. B. McMillan. *diags Blast F & Steel Pl* 11:447-9+ Ag '23

Insulation of boilers and heated surfaces. W. N. Allman. *Ry Mech Eng* 97:8 Ja '23

Insulation of cold surfaces to prevent sweating. L. L. Barrett. *Am Soc Heat & V E J* 29:263-70 Ap '23; Same cond. *Power Pl Eng* 27:870-2 S 1 '23; Abstract. *Heat & Ven* 20:58-9 Je '23

Insulation of dwellings. G. D. Brown. *diags Arch Forum* 39:63-6 Ag '23

Insulation of furnace walls. H. T. Matthew. *Power* 56:209-11 Ag 8 '22; Discussion. 56:428-9, 545, 581-2 S 12, O 3-10 '22

Insulation of heating furnaces. J. T. Gower. *diags Gas Age* 50:905-8 D 30 '22

Insulation of periodic kilns. J. H. Kruson. *il Am Cer Soc J* 6:1069-74 O '23

Insulation of roof structures. J. H. Bracken. *Refriger Eng* 9:373-5 Je '23

Making the technical product of general interest; Johns-Manville, inc., succeeds in making the public think about insulation. R. Cole. *Ptr Ink* 121:25-8+ D 21 '22

Need for more refractory heat insulators; proposed conductometers for measuring thermal conductivity. R. D. Pike. *diags plan Am Cer Soc J* 5:554-63 Ag '22

New heat insulating material. G. H. Katz. *il Am Soc Heat & V E J* 28:733-8 O '22

New heat insulator—balsam-wool. H. F. Weiss. *il Chem & Met Eng* 29:534-6 S 17 '23; Same. *Concrete* 23:149-50 O '23

New house insulating material. *il Eng & Contr (Equip R)* 60:419-20 Ag 29 '23

New type segmental still and oil field boiler insulation proves successful in practice. *il Nat Pet N* 13:29-30 N 9 '21

Oil tank protected from fire by cork insulation. *il Chem & Met Eng* 26:990 My 24 '22

Savings by insulating hot tanks. W. L. Stef-fens. *il Gas Age* 49:138 F 4 '22

Small insulated containers; with discussion. M. E. Pennington. *A S R E J* 8:393-7 Mr '22

See also Asbestos; Cold storage; Pipe coverings; Refrigeration and refrigerating machinery; Steam pipe coverings

Terminology

Definitions, nomenclature and symbols. E. F. Mueller. *Refriger Eng* 10:133-7 O '23

Testing

Plate method of testing insulating materials. M. S. Van Dusen. *Refriger Eng* 10:140-1 O '23

Testing of thermal insulators; abstract. H. C. Dickinson and M. S. Van Dusen. *Am Soc Heat & V E J* 27:285-90 N '21

Insulin

Sharks may furnish cure for diabetes. *Pop Mech* 40:75 Ji '23

Source of insulin. J. J. R. Macleod. (Physiological ser. no. 55) 24p University library, Toronto '23

Insurance

Elements of actuarial science. R. E. Underwood. 140p Pitman '22

Insurance a printer should carry. C. T. Hubbard. *Inland Ptr* 63:617-18 F '22

Insurance and the public interest; meeting of the insurance advisory committee of the U. S. Chamber of commerce. *Nation's Business* 11:64-6 Je 5 '23

Insurance facts. 107p Tifft, Layer & co., Philadelphia '23

Insurance for electric railways. *Elec Ry J* 59:73-8 Ja 14 '22

Job ahead in insurance; discussion by the insurance group at the convention of the U. S. Chamber of commerce. *Nation's Business* 10:53+ Je 5 '22

Possible economies in the cost of insurance. *Elec W* 78:1215 D 17 '21

Property insurance. S. S. Huebner. *Rev. & enl.* ed. 601p Appleton '22

Purposes and results of safety inspection work from the insurance companies' point of view. W. J. Venning. *Safety Eng* 42:214-16 N '21

Report of the A.E.R.A. committee on insurance. *Elec Ry J* 62:627-8 O 13 '23

Risk and risk-bearing. C. O. Hardy. 400p Univ. of Chicago press '23

Utility insurance an exacting science now-a-days. W. Fish. *Elec Ry J* 60:433-4 S 23 '22

What kind of insurance should gas companies carry? H. M. Eaton. *Gas Age* 52:345-6 S 22 '23; Same. *Am Gas J* 119:241-2+ S 22 '23

See also Benefit societies

Rates and tables

Standard table of short term calculations. N. D. Sterling. 81 l Nelson D. Sterling, 400 Convent av., New York '22

Insurance, Accident

Compulsory accident insurance in Switzerland, 1921. *Monthly Labor R* 16:1088-92 My '23

Compulsory accident insurance of agricultural workers in Italy. *Monthly Labor R* 16:26-32 Ja '23

When sickness stops wages, what? *Elec Ry J* 62:334-5 S 1 '23

See also Insurance, Electric equipment; Insurance, Workmen's compensation

Insurance, Aircraft

Facts on aircraft insurance. E. S. Martin. *Aviation* 12:10 Ja 2 '22

Status of aircraft insurance. E. Ely. *Aviation* 13:599-600 O 30 '22

Insurance, Automobile

Automobile insurance. *Am Mach* 58:27 Ja 4 '23

Automobile insurance manual. Ben P. Branham co., Chicago '23

Fire hazards of automobiles. G. D. Becker. *Soc Auto Eng J* 13:247 S '23

Motor insurance. W. F. Todd. 166p Pitman '22

Western automobile insurance manual. Ohio valley pub. co., Parkersburg, W.Va. '23

Insurance, Automobile—Continued

Why your automobile insurance comes high. W. Bishop. *il Nation's Business* 11:29-31 S '23

Advertising

When the buyers set you right. R. Dickinson. *Ptr Ink M* 4:33-4+ My '22

Insurance, Business

Insuring management. W. J. Donald. *Administration* 3:480-6 Ap '22

Insuring the executive asset. W. A. Day. *Management & Adm* 6:161-4 Ag '23

When a head of the business dies. T. W. Blackburn. *Nation's Business* 11:62+ N '23

Insurance, Casualty

Protection from loss by breakdown of electrical equipment and extent of coverage that is afforded by insurance policies. B. K. Spencer. *il Ind Eng* 80:486-91+ O '22

See also Underwriters' laboratories

Bibliography

Selected list of books and pamphlets on casualty insurance subjects in the library of the Insurance society of New York. 14p Insurance soc. of New York, New York '22

Insurance, Electric equipment

Electrical insurance. K. A. Reed. *il Locomotive* 34:195-206 Jl '23; Excerpt. N E L A Bul 10: 205-6 Ap '23

Report of N.E.L.A. insurance committee recites progress in policy formulation to cover electrical equipment. N E L A Bul 10:495-9 Ag '23

Insurance, Employers' liability

See also Insurance, Workmen's compensation

Insurance, Fire

Common hazards of fire insurance. W. G. K. Ridley. 86p Pitman '22

Essentials of the fire insurance business. E. A. Ketcham and M. Ketcham-Kirk. Rev. ed. 386p E. A. Ketcham, Springfield, S.D. '22

Fire insurance in New England for ten years, Dec. 31, 1911-Dec. 31, 1920, inclusive. 22d ed. 304p Standard pub. co., Boston '21

Fire insurance inspection and underwriting. C. C. Dominge and W. O. Lincoln. 3d ed 1018p Spectator co., New York, Chicago '23

Fire insurance on the Burlington. *Ry Age* 73:905 N 11 '22

Interest essential in insurance. *Am Mach* 58: 35 Ja 4 '23

Railroad insurance and fire prevention. C. N. Rambo. *Ry Age* 73:739-40 O 21 '22

Report of N. E. L. A. insurance committee recites progress in policy formulation to cover electrical equipment. N E L A Bul 10:495-9 Ag '23

Report of N.W.D.A. committee on fire insurance. *Oil Paint & Drug Rep* 104:38-9 O 17 '23

Savings in fire insurance. *Elec W* 81:1162-3 My 19 '23

Accounting

Fire insurance company accounting. W. B. Wiegand. *Administration* 3:713-22; 4:81-7, 217-28, 339-48 Je-S '22

Advertising

Association advertises after sixty years' silence; Cincinnati fire underwriters. *Ptr Ink* 122:100 Mr 8 '23

Fire insurance agent advertised nationally by his home office. G. G. Nearing. *il Ptr Ink* 119:33-4+ Je 22 '22

Fire insurance company in localized campaign. *Ptr Ink* 118:97+ Ja 26 '22

Showing the fire insurance agent how to advertise. *Ptr Ink* 120:57-8 Ag 17 '22

Agents

Agents key to fire insurance. R. P. Barbour. 456p Spectator co., New York, Chicago '22

Bibliography

Index of current fire insurance and related subjects literature; published in quarterly Bulletin of the Insurance library assn. of Boston, 141 Milk st., Boston [annual cumulation in October]

Rates

Fire insurance rate adjustment through elimination of existing hazards. J. T. Staub. *Aera* 11:1410-13 Je '23

Fire insurance rates; report of 1921 committee. *Am Gas Assn Accounting* sec v 3:35-8; Discussion. 38-43 '21

Oil fire risk rates reduced in Oklahoma. *Nat Pet N* 14:52+ Mr 29 '22

Securing a favorable insurance rate. W. C. Campbell. *il Elec Ry J* 62:367-8 S 8 '23; Same. N E L A Bul 10:667-8 N '23

Specific things we did to reduce fire insurance costs. *Factory* 29:390+ O '22

Super-standard construction deserves a credit on insurance rates. L. K. Comstock. *Elec W* 82:836-7 O 20 '23

Insurance, Group. See Insurance, Industrial**Insurance, Health**

Health insurance in Ireland, 1917 to 1920. *Monthly Labor R* 13:1118-19 N '21

National health insurance in Great Britain, 1911-1921. H. J. Harris. *U S Bur Labor Statistics Bul* 312:1-103 '23

National health, invalidity, and maternity insurance conference in Spain. *Monthly Labor R* 16:1376-8 Je '23

Preventive measures against infirmity and sickness. L. Devoto. *Int Labour R* 6:272-6 Ag '22

Public relief of sickness. G. Morgan. 195p Macmillan '22

When sickness stops wages, what? *Elec Ry J* 62:334-5 S 1 '23

Insurance, Industrial

Employee welfare work that pays. H. A. Ley. *Am Ind* 22:33-4 Mr '22

Getting the heart into the job. J. E. Kavanaugh. *Nation's Business* 10:11-12 Ag '22

Group insurance and labor turnover. H. E. Critchfield. *Elec W* 80:610-11 S 16 '22

Group insurance as an aid to reducing mine accidents. T. A. Walsh. *Coal Age* 24:665-8 N 1 '23

Group insurance as applied to railroads. W. F. Chamberlin. *Ry Age* 72:1061-2 My 6 '22

Group insurance as used by railway companies. W. F. Chamberlin. *Elec Ry J* 60:352-3 S 9 '22

Group insurance for New Haven's subordinate officers. *Ry Age* 73:501 S 16 '22

Group insurance on the Delaware & Hudson. *Ry Age* 74:1051 Ap 28 '23; Same. *Ry R* 72: 781-2 My 5 '23

Group insurance: what it is and its advantages to employer and employee. R. W. Sparks. *Coal Age* 24:247-9 Ag 16 '23

Group insurance wins good will. W. F. Chamberlin. *Iron Tr R* 73:887-8 S 27 '23

Group life insurance applied to public utilities. T. S. Lowry, jr. *Gas Age* 52:523-6+ O 27 '23

Group life insurance on the L. & N. E. *Ry Age* 74:224 Ja 20 '23

He's a better workman now. H. E. Niesz. *System* 43:750-2+ Je '23

Insurance for electric railways. *Elec Ry J* 59:73-8 Ja 14 '22

Putting group insurance to work. E. C. Gould. *Textile World* 64:2110 O 13 '23

Rapport fait au nom de la Commission d'assurance et de prévoyance sociales chargée d'examiner le projet de loi sur les assurances sociales. E. Grinda. 512p Impr. de la Chambre des députés, Martinet, Paris '23

Southern Pacific provides insurance for employees. *Ry Age* 75:827-8 N 3 '23; Same. *Ry R* 73:658-9 N 3 '23

Workmen's insurance law of Yugoslavia. *Monthly Labor R* 14:1265-72 Je '22

See also Benefit societies; Insurance, Health; Insurance, Unemployment; Insurance, Workmen's compensation; Old age pensions; Workmen's compensation

Insurance, Life

- Analyzing life situations for insurance needs. G. M. Lovelace. 220p Harper '22
- Business insurance instructor. C. H. A. Forbes-Lindsay. 2v Forbes Lindsay sales service, San Gabriel, Cal. '22
- Great movement in life insurance. Comm & Fin Chr 117:369 J1 28 '23
- Increase in life insurance sales in United States. Comm & Fin Chr 117:1832 O 27 '23
- Industrial selection of life insurance risks. A. D. Reiley. Safety Eng 42:229-30 N '21
- Insurance companies unite in effort to solve problems of selling. A. Belden. Ptr Ink 125: 97-8+ O 11 '23
- Insurance management. W. J. Donald. Administration 3:480-6 Ap '22
- Life insurance. S. S. Huebner. Rev. & enl. 496p Appleton '23
- Life insurance and aeronautics. R. R. Blythe. Aerial Age 15:102 Ap 10 '22
- Life insurance fundamentals. G. M. Lovelace. 345p Harper '23
- Life insurance in business. Am Mach 58:80 Ja 11 '23
- Short lessons in life insurance. W. Thornton. 118p Spectator co., Chicago, New York '23
- See also Insurance, Business

Advertising

- Gigantic industry that needs the help of advertising. J. B. Watson. Ptr Ink 123:125-6+ Ap 5 '23
- How advertising helped double life insurance business. H. Guck. Ptr Ink 121:73-4+ N 30 '22
- How life insurance is being merchandised. Ptr Ink 119:156 My 18 '22
- How Metropolitan life promotes health through advertising. R. L. Cox. Ptr Ink 123:179-80 Je 7 '23
- Insurance company that advertises price. Ptr Ink 121:104 N 16 '22
- Life underwriters of Canada find advertising pays. Ptr Ink 119:82+ Je 8 '22
- Sales co-operation with direct-mail advertising. L. A. Soper. Ptr Ink 123:142+ My 10 '23
- When will life insurance reach its ultimate consumer? J. H. Collins. Ptr Ink 124:17-20 J1 19 '23
- Why the Metropolitan life insurance company is using advertising. A. E. Haase. Ptr Ink 120:25-8 Ag 3 '22

Agents

- Art of insurance salesmanship. W. Alexander. 154p Spectator co., Chicago, New York '22
- Chief teaches a drastic lesson in selling. S. Willis. System 42:161-3+ Ag '22
- Empire of life insurance. E. C. May. 286p E. Hine & co., Peoria, Ill. '23
- Gigantic industry that needs the help of advertising. J. B. Watson. Ptr Ink 123:125-6+ Ap 5 '23
- Psychology of selling life insurance. E. K. Strong. 489p Harper '22
- Sales methods of 222 life insurance field men, told by themselves. 224p Mutual underwriter co., Rochester, N.Y. '23
- Selling life insurance. J. A. Stevenson. 296p Harper '22
- Selling the \$800,000 prospect. D. M. Baker. Ptr Ink M 5:21-2+ Je '22
- What induces men to become salesmen? F. Hansen. Ptr Ink 122:25-6 F 1 '23
- What's the best way to make salesmen? D. A. Day. System 41:148-50+ F '22

Aviation risks

- Flying vs. life insurance. Aviation 15:447 O 8 '23

Insurance, Marine

- Attack marine insurance clause. Marine R 52:489-90 D '22
- Developments in marine insurance. Marine Eng 26:731-2+, 805-6, 886-7; 27:13-14, 89-90, 165-6, 288-90, 358-9, 420-1, 479-80, 709-10, 753-5; 28:9-11, 147-8, 205-6 O '21-Mr, My-Ag, N '22-Ja, Mr-Ap '23
- Marine insurance. H. B. Hurd. 104p E. Wilson, London '22

- Marine underwriting conditions unsatisfactory. Marine Eng 28:501-2 Ag '23
- Reports show losses and gains in annual statements of marine insurance companies. Marine R 53:137 Ap '23

Insurance, Plate glass

- Insurance of plate glass against breakage. W. F. Moore. 14p The Insurance society of New York, 84 William st., New York

Insurance, Railroad. See Insurance, Fire**Insurance, Roof**

- Experience in tin roofing insurance. Sheet Metal Worker 14:613 Ag 31 '23

Insurance, Social

- Public opinion on the new French insurance bill. Int Labour R 5:131-8 Ja '22
- Le rapport de la commission d'assurance et de prévoyance sociales. R. Joisson. Chimie & Ind 10:371-3 Ag '23
- Selected articles on social insurance. J. E. Johnsen. 381p [bibliog. p. xix-xliv] H. W. Wilson co. '22
- Social insurance and transportation companies. Elec Ry J 59:229-32 F 11 '22
- Social insurance bill of the French government. G. C. Ramon. Int Labour R 5:889-910 Je '22

See also Insurance, Industrial; Insurance, Unemployment; Old age pensions

Insurance, Surety and fidelity

- Keeping legal tangles out of the factory. L. Childs. Factory 30:222+ F '23
- Law and practice as to fidelity guarantees. C. Evans and F. H. Jones. 164p Pitman '22

Insurance, Unemployment

- Amendment of Austrian unemployment insurance law. Monthly Labor R 16:596-8 Mr '23
- Die arbeitslosenversicherung. H. Schoppen. Stahl & Eisen 41:1853-6 D 22 '21
- Compulsory unemployment insurance and its effect on the machinery industry. E. F. DuBrul. Am Mach 57:205-7 Ag 10 '22
- Future of unemployment insurance. J. L. Cohen. Elec R (Lond) 91:425-6 S 22 '22
- Insurance against unemployment. J. L. Cohen. 536p P. S. King & son, London '21
- Insurance by industries. Engineer 134:601-2 D 8 '22; Same. Monthly Labor R 16:467-9 F '23
- Insurance by industry examined. J. L. Cohen. 120p P. S. King & son, London '23
- Netherlands' governmental expenditures for the benefit of labor. Monthly Labor R 15: 396-7 Ag '22
- Payments to the unemployed. Int Labour R 7:302-11, 898-912 F Je '23
- Plan for safeguarding the worker's job. Monthly Labor R 15:1212-13 D '22
- Policy of the Dutch government as to unemployment allowances. Monthly Labor R 14: 542 Mr '22
- Prevention and compensation of unemployment. S. Rowntree. Int Labour R 4:461-7 D '21
- Unemployed workers' insurance act of 1922, Queensland. Monthly Labor R 16:594-6 Mr '23
- Unemployment—a management problem; basis for public insurance not yet developed in United States. Am Mach 57:208-9 Ag 10 '22
- Unemployment insurance. Engineer 135:423-4 Ap 20 '23
- Unemployment insurance. Nation's Business 10:50-1+ S '22
- Unemployment insurance. H. A. Hatch. Textile World 61:804+ F 4 '22
- Unemployment insurance. J. J. H. Stansfield. Elec R (Lond) 90:547-8 Ap 21 '22
- Unemployment insurance; an international survey. Int Labour R 6:365-74 S '22
- Unemployment insurance by industries. Int Labour R 8:404-13 S '23
- Unemployment insurance goes into effect in Chicago clothing market January 1. Comm & Fin Chr 117:1830 O 27 '23
- Unemployment insurance in Great Britain, 1921 and 1922. Monthly Labor R 14:1229-30 Je '22
- Unemployment insurance in Great Britain, 1923 and 1924. Monthly Labor R 16:1347-9 Je '23

Insurance, Unemployment—Continued

Unemployment insurance in theory and practice. (National industrial conference board Research rep. no. 51) 127p Century co. '22
University debaters' annual. E. M. Phelps. p 53-105 H. W. Wilson co. '22
University debaters' annual. 1922-1923. p.1-52 H. W. Wilson co. '23

Bibliography

Unemployment insurance in Great Britain. Library J 48:562 Je 15 '23

Insurance. Workmen's compensation

Accident insurance law for agricultural workers in France. Monthly Labor R 16:640-3 Mr '23
Amendment of German workmen's insurance code and of insurance law for salaried employees. Monthly Labor R 16:827-30 Ap '23
Comparison of workmen's compensation insurance and administration. C. Hookstadt. U S Bur Labor Statistics Bul 301:1-194 '22
Compensation costs. U S Bur Labor Statistics Bul 281:173-272 '21
Doubtful claims for compensation. S. Ingham. Safety Eng 45:186-8 Je '23
Safety and accident prevention service. Safety Eng 45:4-5 Ja '23
Study of workmen's compensation insurance laws and service. 1016p Cincinnati Chamber of commerce, Cincinnati, O. '23
Workmen's compensation insurance. C. E. Golding. 104p Pitman '22

See also Workmen's compensation

Insurance agents

See also Insurance, Fire—Agents; Insurance, Life—Agents

Advertising

Advertising interprets insurance agent to his community. Ptr Ink 119:115-16 Je 15 '22
Lifting the insurance broker out of the nuisance class. J. Henle. Ptr Ink 118:121-2+ Ja 19 '22

See also Insurance, Fire—Advertising; Insurance, Life—Advertising

Insurance companies

Common problem of public utilities and insurance companies. M. H. Aylesworth. N E L A Bul 10:582-7 O '23
Putting your premium to work. Nation's Business 11:32-3 Ap '23

See also Metropolitan life insurance company

Advertising

Twelve-month campaign to popularize one word: Aetna-ize. D. M. Hubbard. Ptr Ink 125:10+ O 4 '23

Taxation

Hidden tax in your premium. W: P. Helm. Nation's Business 11:20-2 F '23

Insurance company buildings

Aetna life insurance company building, Hartford, Conn. il plans Am Arch 122:159-63 Ag 16 '22
Annex to Metropolitan life insurance company building, New York city; views and drawings. Am Arch 121:472a-e, 473-6 Je 7 '22
Central states life insurance co. building, St Louis, Mo. Am Arch 124:60c-g Jl 13 '23
Final study, London guarantee & accident building, Chicago, Ill. Am Arch 123:498m Je 6 '23
Hartford fire insurance building, Hartford, Conn. il plans Arch Forum 36:223-6, pl 84-9 Je '22
Illinois life insurance company building, Chicago; views and plans. Arch Forum 39:81, pl 17-21 Ag '23
John Hancock mutual life insurance co., Boston, Mass. Arch & Bldg 55:45-6, pl 103-5 My '23
Mechanical plant of the John Hancock building. C: L. Hubbard. il diag plans Power Pl Eng 27:659-64 Jl 1 '23
Metropolitan life insurance co. annex, New York. il Arch & Bldg 53:85-6, pl 170-3 N '21

National life insurance company building, Montpelier, Vt. Arch Forum 38:205, pl 37-41 Ap '23

Insurance law

Law makers and your insurance. J. Hughes. Nation's Business 11:18-19 Mr '23
Laws controlling the investment of insurance funds. S: Spring. 410p Financial pub. co., Boston '21
Mississippi supreme court upholds penalties against fire insurance companies. Comm & Fin Chr 115:2443-4 D 2 '22
New insurance law of Costa Rica. H: S. Waterman. U S Bur For & Dom Com Trade Information Bul 77:1-14 '22
Right of an insurance company to cancel a fire policy for any reason. Dom Eng 102: 277-8 F 10 '23

Insurance libraries

Insurance libraries. C. Van Dyne. Special Lib 13:56-7 Ap '22
Insurance libraries in the United States. D. N. Handy. 18p Insurance institute of America, 110 William st., New York '22

Insurance trusts

Report of A.B.A. committee on insurance trusts. Comm & Fin Chr 117:126 sec 2 O 13 '23

Intakes

Auxiliary submerged intake alongside tower to prevent the entry of ice. C. M. Daily. diag plan Eng N 89:875-6 N 23 '22
Clogging of screens by fish. L. Metcalf. Am Water Works Assn J 10:595-602 Jl '23; Excerpt. Eng & Contr (W W) 60:274-6 Ag 8 '23; Discussion. H. F. Dunham. Am Water Works Assn J 10:1119-20 N '23
Departure in water-works intakes. C. M. Daily. il Eng N 90:884 My 17 '23
Factors in construction of water works intakes. R. W. Angus. diag Can Eng 44: 500-2 My 15 '23; Same. Eng & Contr (W W) 60:97-100 Jl 11 '23
Littleton reservoir for the Metropolitan water board. il diag maps Engineering 114:417-19, pl 32 O 6 '22
Method of constructing intake line with spiral riveted pipe. il Eng & Contr (W W) 58: 107 N 8 '22
Les ouvrages de prise d'eau de l'usine électrique du lac Ritom, sur la ligne suisse du Gothard. diag map Génie Civil 83:256-7 S 15 '23
River intake difficulties; report on extension of the water supply of Memphis. Pub Works 53:196-7 O '22
Water intake protected against severe conditions. il Eng N 88:235-6 F 9 '22

See also Water—Temperature

Integral equations

Solution of an integral equation occurring in problems of viscous fluid motion. T. H. Havelock. Philos Mag 6th ser 42:620-8 N '21

Integrator, Amsler's. See Amsler's integrator**Intellectual workers**

Intellectual workers and the labour market. V. Castrilli. Int Labour R 8:361-6 S '23
International labour directory, 1923. p.821-979
International labour office, Geneva '23
Organisation syndicale des travailleurs intellectuels. 103p M. Rivière, Paris '21

Intelligence

Us morons as seen through an advertiser's eyes. S. Norvell. Ptr Ink 124:53-4+ S 27 '23

Intelligence tests. See Ability tests

Interborough rapid transit company. See New York (city)—Rapid transit

Interchangeable mechanism

Interchangeable manufacture. C. B. Lord. Soc Auto Eng J 10:143-4 F '22
Interchangeable threaded work. diag Engineering 114:320-1, 352-4 S 15-22 '22
Principles of interchangeable manufacturing. E. Buckingham. 254p Industrial press, New York '21
Tolerance system in interchangeable manufacture. C. W. Ham. diag Sibley J 36:66-7+ Ap '22

See also Gages

- Interchangeable mileage tickets.** See Electric railroads—Tickets; Railroads—Tickets
- Interchangers, Heat.** See Heat interchangers
- Interconnection of electric plants.** See Electric plants—Interconnection
- Intercoolers.** See Air compressors—Cooling
- Interest**
 Ford's four production principles. S: Crowther. Factory 29:16-17 J1 '22
 Treating interest as a cost. C. H. Scovell. Factory 29:125-7 Ag '22
 Will interest rates continue to fall? D: Friday. System 42:133-5+ Ag '22
- Interest tables**
 Haight's accrued interest tables. F. J. Haight. 173p Rough notes co., Indianapolis '22
 Lundberg's perpetual accrued interest calendar. A. J. Lundberg. 408p A. J. Lundberg, San Francisco '21
 Tables of compound interest functions and logarithms of compound interest functions. J. W. Glover and H. C. Carver. 77p G. Wahr, Ann Arbor, Mich. '21
- Interfacial tension**
 Aspects of the physical chemistry of interfaces. F. G. Donnan. Soc Chem Ind J (Chem & Ind) 42:892-901 S 21 '23; Same cond. Chem Age (Lond) 9:282-4 S 15 '23; Abstract. Engineering 116:487-8 O 19 '23
 Interfacial forces and phenomena in physiology. W: M. Bayliss. 196p Dutton '23
 Interfacial tension. J. R. Pound. Chem Soc J 123:578-99 Mr '23
 Interfacial tension between gelatin solutions and toluene. S. E. Sheppard and S. S. Sweet. Am Chem Soc J 44:2797-2805 D '22
 Interfacial tension measurements and some applications to flotation. R. B. Elder. (Idaho Bur. of mines and geology, Pamphlet 1) 33p Univ. of Idaho, Moscow '21
 See also Capillarity; Surface tension
- Interference (light)**
 Displacement interferometry applied to acoustics and to gravitation. C. Barus. 149p Carnegie institution of Washington, Washington '21
 Interference measurements in the spectra of argon, krypton, and xenon. W. F. Meggers. U S Bur Stand Sci Pa 414:193-202 '21
 Interferences. H. P. M. Bouasse and Z. Carrière. 462p Delagrave, Paris '23
 See also Electric waves
- Interference elimination.** See Radio communication—Interference elimination
- Interferometer**
 Interferometer for testing camera lenses. F. Wyman. diags plan Philos Mag 6th ser 42:777-93, pl 24 N '21
 Interferometer method of determining the phase difference resulting from metallic reflexion. H. P. Waran. diags Philos Mag 6th ser 43:471-7, pl 8 Mr '22
 Osmotic pressures of concentrated solutions of sucrose as determined by the water interferometer. P. Lotz and J. C. W. Frazer. diags Am Chem Soc J 43:2501-7 D '21
 Talbot's bands and the theory of the Lummer-Gehrcke interferometer. N. K. Sethi. Phys R 18:389-95, pl 1 N '21
 Use of the water interferometer as a pressure gage. L. van Doren, H. K. Parker and P. Lotz. diags Am Chem Soc J 43:2497-2501 D '21
- Interfolding machine.** See Folding machines
- Interior decoration.** See House decoration
- Interlocking plants**
 Chicago L interlocking plant speeds train movement. il plan Elec Ry J 62:435-8 S 22 '23
 Interlocking practice of the Interborough rapid transit Ry. W. A. Bartley. Ry R 70:113-15 Ja 28 '22
 Report of signal section committee on mechanical interlocking. Ry Age 74:644-6 Mr 14 '23
 Report of signal section committee on power interlocking. Ry Age 74:652-3 Mr 14 '23
- Report of signal section committee on the drawing up of contracts for interlocking plants. Ry Age 74:649-51 Mr 14 '23
- Intermediate credit banks**
 Functions of the Federal intermediate credit banks. M. H. Gossett. Comm & Fin Chr 116:2341 My 26 '23
 How the Agricultural credits act affects advertisers. Ptr Ink 125:17-20 O 11 '23
 Intermediate credit banks a big stick in the farmer's hands? co-operative marketing of farm products. R. Bean. Annalist 22:69+ J1 16 '23
 Intermediate credit banks to float \$10,000,000 of bonds. Comm & Fin Chr 117:23 J1 7 '23
 Intermediate credit for the farmer. Comm & Fin Chr 117:1617-18 O 13 '23
 Preliminary regulations governing purchase of paper and making of loans by intermediate credit banks. Comam & Fin Chr 116:1366, 1600, 1713 Mr 31, Ap 14-21 '23
- Intermediates, Dye.** See Dye intermediates
- Intermittent heating.** See Heating—Continuous vs. intermittent
- Internal combustion engines.** See Gas and oil engines
- Internal pressure.** See Pressure, Internal
- International, The**
 Les internationales socialistes et syndicalistes. R. Roure. Génie Civil 80:383-4 Ap 29 '22
- International aeronautical foundation**
 International aeronautical foundation. (I. A. F.) W: Knight. Aerial Age 16:64-7 F '23
- International air congress.** See Aeronautics—Congresses
- International air traffic association**
 Meeting, The Hague. Aviation 12:666 Je 5 '22
 Regulations. Aerial Age 14:252-3 N 21 '21
- International & Great Northern railway**
 Frisco buys International-Great Northern. map Ry Age 73:1191 D 23 '22
 New officers for International—Great Northern. Ry Age 73:811-12 O 28 '22
 Present position and prospects. T. A. Hamilton. Comm & Fin Chr 116:577-8 F 10 '23
 Reorganized I. & G.N. will need much improvement. C: W. Foss. Ry Age 72:1347-50 Je 10 '22
- International association of electragists.** See Association of electragists international
- International association of garment manufacturers**
 26th annual meeting, Chicago, May 16-18. Textile World 61:3125+ My 27 '22
 28th annual convention, Chicago. Textile World 63:3473-4, 3674 My 26-Je 2 '23
- International association of industrial accident boards and commissions**
 Proceedings of the seventh annual meeting, San Francisco, Calif., Sept. 20-24, 1920. U S Bur Labor Statistics Bul 281:1-447 '21
 Proceedings of the 8th annual meeting, held at Chicago, Sept. 19-23, 1921. U S Bur Labor Statistics Bul 304:1-254 '22; Summary. Monthly Labor R 13:1110-14 N '21
 Proceedings of the ninth annual meeting, Baltimore, Maryland, Oct. 9-13, 1922. U S Bur Labor Statistics Bul 333:1-336 '23; Summary. Monthly Labor R 15:1117-20 N '22
- International association of printing house craftsmen**
 Development and growth of the craftsmen's movement. J. J. Deviny. Inland Ptr 69:667-8 Ag '22
 Printing house craftsmen, past and present. H: L. Bullen. il Inland Ptr 69:689-94 Ag '22
 3d annual convention. Inland Ptr 70:99-101 O '22
 What the craftsmen's movement means to the printing industry. W: R. Goodheart. Inland Ptr 69:665-6 Ag '22
- International association of public employment services**
 9th annual meeting, Buffalo, Sept. 7-9. Monthly Labor R 13:1083-5 N '21
 Proceedings of the 9th annual meeting held at Buffalo, New York, Sept. 7-9, 1921. U S Bur Labor Statistics Bul 311:1-78 '22

- International association of public employment services**—Continued
 10th annual meeting, Washington, Sept. 11-13. Monthly Labor R 15:794-7 O '22
- International association of street sanitation officials**
 3d annual conference, Chicago, Oct. 9-10. Eng N 89:672 O 19 '22
- International associations**
 Handbook of international organisations; (associations, bureaux, committees, etc.). 167p League of nations, Geneva '21
 List of permanent international organizations. 12p International chamber of commerce, Woolworth bldg., New York '23
- International cement corporation**
 3d annual report—for the period ended December 31, 1921. Comm & Fin Chr 114:2135-6 My 13 '22
 4th annual report for the period ended December 31, 1922. Comm & Fin Chr 116:2283-4 My 19 '23
- International chamber of commerce**
 Annual meeting, Rome, March 17-23. J. H. Barnes. Nation's Business 11:53-5 My '23
 Business factor in world affairs. W. H. Booth. Nation's Business 11:16-17 Je 5 '23
 Commercial league of nations. C: Hodges. Annalist 21:762 Je 4 '23
 Le congrès de Rome, 1923. A. de Lavergne. Chimie & Ind 9:801-5 Ap '23
 International chamber of commerce. F: P. Keppel. 24p American assn. for international conciliation, New York '22
 Organization of the International chamber of commerce, Feb. 1922. 80p International chamber of commerce, Paris '22
 Perfection of plans for establishment of court of arbitration for settlement of trade disputes. Comm & Fin Chr 115:2114 N 11 '22
 What the International plans to do. Nation's Business 10:72-3+ D '22
- Committee on construction**
 Great clearing house of construction information. Eng & Contr 57:495-6 My 24 '22
- International commission for air navigation**
 Proceedings, London, Oct. 27. Aviation 13:718 N 27 '22; Aerial Age 15:608-9 D '22
- International competition.** See Competition, International
- International confederation of Christian trade unions**
 2d congress, Innsbruck, Austria, June 21-23. Int Labour R 6:201-11 Ag '22
- International conference of pure and applied chemistry**
 Report of the American delegation to the 3d meeting, Lyons, France, June 27-July 2. J Ind & Eng Chem 14:1079-80 N '22
 La troisième Conférence internationale de la chimie. J. Gérard. il Chimie & Ind 8:1-11 Jl '22
 4th meeting, Cambridge, June 17-20. Soc Chem Ind J (Chem & Ind) 42:826-7 Ag 31 '23
 La quatrième Conférence internationale de la chimie. J. Gérard. Chimie & Ind 10:1-12 Jl '23; Ind & Eng Chem 15:1082-5 O '23
- International conference on psychology as applied to vocational guidance**
 Conference on psychology and vocational guidance. Int Labour R 6:1004-5 D '22
- International congress of architects**
 10th International congress of architects, Brussels, 4-11 September, 1922. G: O. Totten, jr. Am Inst Arch J 11:109-10 Mr '23
- International congress of master printers, Goteborg, Sweden**
 International congress of master printers, Gothenburg., Sweden, June 4-6, 1923. A. E: Sahlin. Inland Ptr 71:75 Ap '23
 1st meeting, Sweden, June 4-6. A. E: Sahlin. Inland Ptr 71:564 Jl '23
- International congress of navigation**
 International navigation congress. Engineer 136:10-12, 38-40, 65-7 Jl 6-20 '23; Engineer 116:20-5, 42-6, 73-8 Jl 6-20 '23; Can Eng 45:274-5 Ag 23 '23
 International navigation congress held at London. F. T. Chambers. Eng N 91:175-6 Ag 2 '23
- XIII^e Congrès international de navigation.** Londres, 2-7 juillet 1923. P. Barrillon. Génie Civil 83:253-6, 273-8, 297-300, 320-3 S 15-O 6 '23
- International congress of railroads.** See International railroad association
- International congress of refrigeration, London, 1924**
 Congress of refrigeration. J. Raymond. Refriger W 58:23-6+ Ap '23
- International congress of working women**
 Meeting, 1921, Genoa. Monthly Labor R 14:352 F '22
- International cooperation**
 American standard of living and world cooperation. R. Jones. 329p Cornhill pub. co., Boston, New York '23
 America's relation to the European situation. C. Kelsey, ed. 234p Am. acad. of pol. and soc. sci. '23
 International relations in chemistry; a plea for the resumption of international comity in chemistry. W. A. Dyes. Chem Age 30:466-7 O '22
 International standardization. P. G. Agnew. il Am Mach 57:633-8 O 26 '22
 Introduction to the study of international organization. P. B: Potter. 647p Century co. '22
 Race and national solidarity. C: C. Josey. 227p Scribner '23
 Significance in ore distribution. R. C. Allen. map Iron Tr R 72:1751-4 Je 14 '23
 Study of international government. J. W. Hughan. 401p Crowell '23
 See also Credit, International; Finance, International; Money, International
- International cooperative alliance**
 Congress of the International co-operative alliance. C: Gide. Int Labour R 4:215-26 N '21
 Meeting, 1921, Basel, Switzerland. Monthly Labor R 13:1349 D '21
- International cooperative trade.** See Coöperation—International trading
- International correspondence schools**
 Follow-up methods that bring the reply you want. J: C. Sweeney. Ptr Ink 125:53-4+ N 1 '23
- International court of arbitration.** See Arbitration
- International credit.** See Credit, International
- International economic conference, Genoa, 1922**
 Accomplishments of Genoa conference. L. George. Comm & Fin Chr 114:2300-2 My 27 '22
 Economic conference opens in Genoa. Comm & Fin Chr 114:1600-7 Ap 15 '22
 Genoa and the restoration of commerce. R. Estcourt. Annalist 19:483-4 My 1 '22
 Genoa, clinic not conference. F. A. Vanderlip. Nation's Business 10:20-1 Je 5 '22
 Genoa economic conference. Comm & Fin Chr 114:1718-20, 1841-2, 1847-52, 1959-63, 2076-7, 2195-2200, 2302-4 Ap 22-My 27 '22
 No lack of sympathy in Genoa refusal. R. Bean. Annalist 19:315 Mr 13 '22
 Review of Genoa conference by Premier Lloyd George in House of Commons. Comm & Fin Chr 114:2422-5 Je 3 '22
 Soviet recognition blocks Genoa acceptance. R. Bean. Annalist 19:147-8 Ja 23 '22
 U. S. declines invitation to participate in Genoa economic conference. Comm & Fin Chr 114:1008-9 Mr 11 '22
 What the Genoa conference means to business. J. A. M. de Sanchez. Ptr Ink 119:103-4+ Ap 20 '22
- International electrotechnical commission**
 Meeting, Geneva, Nov. 20-26. Engineering 114:751-2 D 15 '22; Elec R (Lond) 91:952-3 D 22 '22; Elec W 80:1230 D 2 '22; Am Inst E E J 42:70-1 Ja '23
- International emigration commission**
 International emigration commission. Int Labour R 4:537-58 D '21

International engineering congress

Congress, Rio de Janeiro, Brazil, Sept. 17-30.
Am Inst E E J 41:sup218 N '22; Elec W
80:1122 N 18 '22; Eng N 89:579+ O 5 '22;
Mech Eng 44:768-9 N '22

International engineering congress, Rio de
Janeiro, Sept. 17-30. C. W. Rice. *il* Mech
Eng 45:72-4 Ja '23

10th International congress, Brussels, Sept. 4-
11. Arch Rec 52:168 Ag '22

International exchange. See Foreign exchange

International federation of trade unions. See
International trade union congress

International finance. See Finance, Interna-
tional

International foundrymen's congress

American foundrymen to visit the Paris con-
gress. Iron Age 112:32-3 J1 5 '23

Congress and exhibition, Paris, Sept. 12-16.
Iron Tr R 73:114-17, 460-1, 792-3+, 898-9,
1040-1 J1 12, Ag 16, S 20-27, O 11 '23; Found-
ry 51:650-2+, 758-9, 770-5, 817-21, 828-9 Ag
15, S 15-O 15 '23; Iron Age 112:741-3, 837+,
897-8 S 20-O 4 '23

Foundrymen tour France and Belgium. H. M.
Lane. Iron Age 112:1013-14 O 11 '23

**International garden cities and town planning
federation**

Conference in Paris, Oct. 21. Am Inst Arch
J 11:25-7 Ja '23

Conference, Olympia, London and Welwyn
Garden City, March 14-15. E. E. Wood. Am
Inst Arch J 10:165-6 My '22

International geological congress, Brussels

13th International geological congress, Brus-
sels, Belgium, Aug. 10-19. Econ Geol 17:
626-9 N '22

13th International geological congress,
Brussels, Aug. 1922. R. A. F. Penrose, jr.
Eng & Min J 114:676 O 14 '22

International harvester company

Annual report—for the fiscal year ending De-
cember 31, 1921. Comm & Fin Chr 114:1545-
6 Ap 8 '22

Annual report for the fiscal year ending Dec.
31, 1922. Comm & Fin Chr 116:1076-7 Mr 10
'23

Glimpse into the works of the International
harvester company. *il* Ind Eng 81:70-1 F '23

Government sues to dissolve International
harvester co. Comm & Fin Chr 117:282-3
J1 21 '23

International illumination commission

Summary of proceedings at the first techni-
cal session held in Paris, July 4-8, 1921.
Illum Engr 14:169-78, 189-91 S-O '21

International labor conference, Third

International labour conference, J. S. Ed-
ström. Int Labour R 5:377-80 Mr '22

Third International labour conference, Gen-
eva, Oct. 25-Nov. 18. Int Labour R 5:179-208
F '22; Monthly Labor R 14:51-6 Ja '22

Work of the Geneva conference. L. Jouhaux.
Int Labour R 5:381-4 Mr '22

International labor conference, Fourth

4th conference, Geneva. Monthly Labor R 16:
192-5 Ja '23

Fourth session of the International labour
conference. Int Labour R 6:871-92 D '22

International labour conference, fourth ses-
sion, Geneva, 1922. 2v 1166p League of na-
tions, Geneva '22

International labor office

World action on labor problems. A. Thomas.
il System 43:447-9+ Ap '23

International labor organization

International labor organization of the Leag-
ue of nations. (Nat. ind. conference bd.
Research report no. 48) 159p Century co.
'22

International ladies' garment workers union

Cleveland garment plan. F. C. Butler. Ind
Management 65:314-17 My '23

Injunction against employers by striking
cloakmakers of New York city. Monthly
Labor R 14:217-20 Ja '22

Ladies' garment industry—New York city.
Monthly Labor R 15:1077-9 N '22

International law and relations

Weltpolitik und weltwirtschaft im besonderen
hinsichtlich auf den Osten. M. Spahn. maps
Stahl & Eisen 42:205-15 F 9 '22

See also Trade-marks (international law)

International mining convention, Nelson, B. C.

Nelson convention. T. A. Rickard. Eng & Min
J 114:157-8 J1 22 '22

International molders union of North America

International molders union of North Amer-
ica. F. T. Stockton. (Studies in Historical
& Political Sci. ser.39, no.3) 222p Johns
Hopkins University Press, Baltimore '21

International money. See Money, International**International motor truck corporation**

Annual report and consolidated balance sheet,
December 31, 1921. Comm & Fin Chr 114:
1197 Mr 18 '22

International navigation congress. See Inter-

national congress of navigation

International nickel company

Facts for the stockholder. Eng & Min J 115:
869 My 12 '23

International people's college

International people's college. Int Labour R
7:432-3 F '23

International petroleum commission

Presidential address. J. S. S. Brame. Inst Pet
Tech J 8:300-11 J1 '22

International petroleum exposition and congress

First international petroleum congress, Tulsa,
Oct. 8-14. Oil Paint & Drug Rep 104:20+ O
22 '23; Nat Pet N 15:23-4 O 3 '23

Permanent organization proposed for Tulsa
exposition. L. B. Jackson. Nat Pet N 15:26
O 10 '23

**International railroad master blacksmiths' as-
sociation**

27th annual convention, Chicago, Aug. 21-23.
Ry Mech Eng 97:647-53 S '23

International railway association

Le congrès international des chemins de fer
(Rome 18-28 avril 1922). Génie Civil 80:571-7
Je 24 '22

9th congress, Rome. Engineer 133:362-4, 391-
2, 405-6, 434-6, 472, 502 Mr 31-May 5 '22; En-
gineering 113:528, 544-7, 575-8, 608-12, 643-6,
676-80 Ap 28-Je 2 '22; Ry R 70:719 My 20
'22; Elec Ry J 59:975-6 Je 17 '22; Electrician
88:652-4 Je 2 '22

9th congress, Rome. S. O. Dunn. Ry Age 72:
1105-9, 1163-7 My 13-20 '22

Summary of the discussions at Rome. En-
gineer 134:302-3, 324, 347 S 22-O 6 '22

International railway fuel association

14th annual convention, Chicago, May 22-25.
Coal Age 21:894 My 25 '22; Ry Age 72:1233-8,
1283-91 My 27-Je 3 '22; Ry R 70:735-41 My 27
'22; Ry Mech Eng 96:387-93 J1 '22

14th annual convention, Chicago, May 22-25.
E. W. Davidson. Coal Age 21:937 Je 1 '22

15th annual convention, Cleveland, Ohio, May
21-24. Ry Age 74:1282-9, 1333-7 My 26-Je
2 '23; Ry Mech Eng 97:361-3, 560-4 Je, Ag
'23

**International railway general foremen's asso-
ciation**

17th annual convention, Chicago, September
4-7. Ry Age 75:440-2 S 8 '23; Ry R 73:336-8,
391+ S 8-15 '23; Ry Mech Eng 97:707-13
O '23

International road congress

British view of the fourth International road
congress. Eng & Contr (R. & S) 60:4 J1
4 '23

International roads congress at Seville. Engi-
neer 135:494, 522-3 My 11-18 '23; Engineer-
ing 115:590-1, 626-7 My 11-18 '23; Auto-
motive Ind 48:1281 Je 14 '23; Eng N 90:
1121-5 Je 28 '23

Permanent international association of road

congresses will hold fourth congress in Sev-
ille, Spain, early in May, 1923. Good Roads
63:40-1+ Ag 2 '22; Excerpt. Eng & Contr
58:106 Ag 2 '22

International seamen's union of America

International seamen's union of America; a study of its history and problems. A. E. Albrecht. U S Bur Labor Statistics Bul 342: 1-120 '23

International shipping conference

First international shipping conference since 1914, London, Nov. 23-25. H. C. Estep. Marine R 52:15-16 Ja '22

International shipping conference committee reports. Marine Eng 27:643-8+ O '22

International silver company

Anniversary year offers big advertising opportunities to International silver co. R. Cole. Ptr Ink 118:97-8+ Mr 16 '22

International socio-economic congress and exhibition

Meeting at Buenos Aires, 1924; announcement. Monthly Labor R 17:244-6 JI '23

International street and interurban railway and bus association

18th International congress, Brussels, Oct. 2-6. Il Elec Ry J 60:750-3, 982-4 N 4 D 23 '22
Officers and directors. Elec Ry J 60:883 D 2 '22

International telephone and telegraph company

Official statement to the New York stock exchange in connection with the listing of its capital stock. Comm & Fin Chr 116:1909-11 Ap 28 '23

International trade union congress, Rome

Report of the International trade union congress held in the Theatre Argentina, Rome, April 20-26, 1922. 110p International federation of trade unions, Amsterdam '23

3d congress, Rome, April 20-26. Monthly Labor R 15:425-6 Ag '22

Third International trade union congress, Rome, April 20-26. Int Labour R 5:911-27 Je '22

International typographical union

Forty years! eh! M. L. Crawford. Inland Ptr 72:65-7 O '23

Forty years of progress in organized labor. J. W. Hays. Inland Ptr 72:116-17 O '23

International union of pure and applied chemistry

International union of pure and applied chemistry and Canadian chemists. A. T. Charron and G. H. Baril. Can Chem & Met 7:127-9 My '23

See also International conference of pure and applied chemistry

International union of railways

Meeting, Paris, Oct. 17-21. Ry Age 73:961 N 18 '22

Internationalism

America first. W. A. Noyes. J Ind & Eng Chem 14:1170-1 D '22

Inter-provincial good roads conference

Conference, Montreal and Quebec, October 19-21. Can Eng 43:544-6 N 14 '22

Interstate commerce

Cumulative edition of the Interstate commerce act. Simplex index system, inc., 900 20th st., N.W., Washington '23

Interstate commerce act. 298p U.S. Interstate commerce commission, Washington '21

Not all coal is coal for taxing. Nation's Business 11:20 Ja '23

Pennsylvania coal tax decision. Comm & Fin Chr 115:2422-3, 2444-5 D 2 '22

Rights and status of employees injured in commerce. L. D. Clark. Monthly Labor R 15:399-409 Ag '22

Selection of cases under the Interstate commerce act. F. Frankfurter. 2d ed. 789p Harvard univ. press, Cambridge '22

Uncle Sam's transportation offices. Nation's Business 10:61+ Ap '22

See also Transportation act, 1920

Interstate commerce commission

Appropriation for additional service and safety inspection. Ry Age 73:566-7 S 23 '22

Appropriations recommended for I.C.C. and Labor board. Ry Age 74:184-5 Ja 13 '23

Bureau of accounts and statistics, I.C.C. Ry Age 72:194 Ja 14 '22

Further reports of I.C.C. work for 1921. Ry Age 72:234-5 Ja 21 '22

Interstate commerce commission. J. Bernhardt. 169p [bibliog. p. 155-66] Johns Hopkins press, Baltimore, Md. '23

I.C.C. accounting and statistical requirements. W. J. Cunningham. Ry Age 74: 1463-5 Je 16 '23; Excerpt. Ry R 72:1179 Je 30 '23

I.C.C. and State commissions adopt plan of co-operation. Ry Age 72:1076-7 My 6 '22

I. C. C. issues new service orders. Ry Age 73:576-7 S 23 '22; Ry R 71:420 S 23 '22

I.C.C. regulation of security issues. H. F. Lane. Il Ry Age 72:27-30 Ja 7 '22

I.C.C. to prescribe depreciation charges. Ry Age 73:383-8 S 1 '23

Regional offices for the I.C.C. J. R. Postlethwaite. Ry R 70:876-8 Je 10 '22

Regulation of securities under section 20a; an analysis of the decisions. R. Walker. Il Ry Age 72:21-6 Ja 7 '22

35th annual report. Ry R 69:802-7, 847-50 D 10-17 '21; Excerpts. Ry Age 71:1157-9 D 10 '21

36th annual report. Ry R 71:822-4, 875-8, 911-18 D 9-23 '22; Ry Age 73:1089-93 D 9 '22

Bureau of finance

Annual report of the Bureau of finance I.C.C. Ry Age 71:1317-18 D 31 '21

Bureau of locomotive inspection

11th annual report for year ended June 30, 1922. Il Ry Age 74:473-4 F 24 '23; Ry Mech Eng 97:152-4 Mr '23

Locomotive inspection bureau submits annual report. Ry R 70:127-31 Ja 28 '22; Ry Age 72:331-3 F 4 '22; Ry Mech Eng 96:63-5 F '22

Bureau of safety

Annual report. Ry R 71:950-3 D 30 '22; Ry Age 73:1135 D 16 '22

Annual report of the Bureau of safety. W. P. Borland. Ry R 69:833-6 D 17 '21

Interstate cottonseed crushers' association

Story of Reporter trade association. R. Gibson. Oil Paint & Drug Rep 101:21+ Mr 28 '22

26th annual meeting, New Orleans, June 7-10. Oil Paint & Drug Rep 101:20+ Je 19 '22

27th annual convention, Hot Springs, Ark., May 2-4. Oil Paint & Drug Rep 103:21+ My 14 '23

Interstate harbor commission (Illinois-Indiana)

Organization of the Interstate harbor commission. Ry R 71:9-10 JI 1 '22

Interurban cars. See Cars, Electric railroad

Interurban railroads

Annual statements of electric interurban railroads operating in Utah. Elec Ry J 61:741 Ap 28 '23

Charles L. Henry, founder of interurban, honored. Am Ind 22:14+ F '22; Same. Aera 10:697-9 Mr '22; Same. Eng & Contr 57:472 My 17 '22

Cleveland and interurbans agree. Elec Ry J 61:382 My 26 '23

Economics of operation of interurban lines. C. E. Morgan. Elec Ry J 60:555-6 O 7 '22

High-class interurban service in Utah. M. L. Cummings, jr. Il map Elec Ry J 59:225-8 F 11 '22

How light-weight cars improve interurban earnings. F. E. Wynne. Elec Ry J 60:49-51 JI 8 '22

Interurban service de luxe between San Francisco and Chico. Elec Ry J 59:71-2 Ja 14 '22

New facilities for Kansas interurban improve earnings. C. M. Morrison. Il Elec Ry J 59: 593-5 Ap 8 '22

New Texas interurban line opened. Elec Ry J 61:218-19 F 3 '23

One-man interurban cars used in Spokane. Il plan Elec Ry J 60:76 JI 15 '22

Problems of interurban roads. Aera 11:1-7 Ag '22

Section 15a of the Commerce act. C. L. Henry. Aera 11:396-8 N '22

See also Electric railroads; Street railroads

Interwoven stocking company

How Interwoven weathered the storm. J: W. Mettler. *Ptr Ink* 117:3-4+ N 10 '21

Intrusive rocks. See **Rocks, Igneous****Inulin**

Analysis of the Jerusalem artichoke. A. T. Shohl. *Am Chem Soc J* 45:2754-6 N '23
Constitution of polysaccharides; inulin. J. C. Irvine, E. S. Steele and M. I. Shannon. *Chem Soc J* 121:1060-78 Je '22
Über inulin. H. Pringsheim and A. Aronowsky. *Deutsche Chem Gesell Ber* 55:1414-25 My '22; *Abstract. Chem Soc J* 122 pt 1:635-6 JI '22
Über inulin und glykogen. H. Pringsheim and M. Lassmann. *Deutsche Chem Gesell Ber* 55:1409-14 My '22

Invar

Invar and related nickel steels. il diags U S Bur Stand Circ 581:93 '23
Les propriétés et les applications de l'invar et de l'élinvar, pour les étalons du mètre. *Génie Civil* 80:88-90 Ja 28 '22

Inventions

Abraham Lincoln and the repeating rifle; other inventions of C. N. Spencer. *il Sci Am* 125A:102-3 D '21
Can change of proportions ever constitute invention? *Sci Am* 126:164-5 Mr '22
Government and inventors. *Engineering* 113: 203-4 F 17 '22; Same. *Eng & Contr* 57:510-11 My 31 '22
Invention, the master-key to progress. B. A. Fiske. 356p Dutton '21
Inventors, inventions and patent practice. C. L. Jenks. Published in monthly numbers of *Chemical age*
Inventorship. *Engineering* 115:767-8 Je 22 '23
Marvels of mechanical invention. T: W. Corbin. 248p Seeley, Service & co., London '22
Nation and its inventors. *Elec R (Lond)* 92: 964-5 Je 22 '23; Discussion. 93:111, 274-5 JI 20, Ag 24 '23
New advertisers created by marketable inventions of fond fathers; Poll Parrot swings. A. H. Van Voris. *Ptr Ink* 125:33-4+ O 11 '23
Report of the Inter-departmental committee appointed to consider the methods of dealing with inventions made by workers aided or maintained from public funds. 25p Printed and pub. by H. M. Stationery off., London '22
Sur l'invention et la recherche scientifiques. G: Claude. diags *Chimie & Ind* 9:1009-22 My '23
Turning war discoveries to peace-time uses. *Ptr Ink* 124:129+ S 6 '23
Twenty years ago in Popular mechanics contrasted with the luxuries of today. *il Pop Mech* 40:372-3 S '23
See also **Patents**

Advertising

Factory inventive genius as an aid to advertising. A. L. Townsend. *Ptr Ink* 119:41-2+ Je 15 '22

Inventories

Advantages of a perpetual inventory. *Sheet Metal Worker* 13:447 Ag 4 '22
Cards that show plant values. L. G. Williams. *Factory* 29:25-6 JI '22
Continuous inventory of fixed capital. H. C. Davidson. *Am Gas Assn Accounting* sec v 4: 205-13 '22; Same. *Gas Age* 50:623-4 N 4 '22; Same. *Am Gas J* 117:488-90 O 27 '22; Discussion. *Am Gas Assn Accounting* sec v 4: 213-16 '22
Continuous inventory of fixed capital; report of 1921 committee. E. Johnston. *Am Gas Assn Accounting* sec v 3:71-8; Discussion. 78-90 '21
Cost or market in pricing inventories. F. Lowson. *Administration* 4:721-4 D '22
Getting the perpetual inventory started right. B. M. Maynard and J. Heywood. *Factory* 29:247-9+ S '22
Going value of inventories. G: H. Johnson. *J Account* 35:202-3 Mr '23

Handling a stock of 1,550 items with a one-man inventory. F. W. Albrecht. *il System* 44:610-4 N '23

How to cut cost corners through inventory. W. M. Romig. *Ind Management* 63:86-7 F '22

Inventories and their valuation for income tax purposes. L. C. Haugh. *Administration* 3:732-6 Je '22

Inventories—methods of taking—perpetual versus annual—cost or market. E. C. Grimsley. *Paper Tr J* 76:55-6 F 8 '23

Inventory. D. C. Curtis. *Ry R* 70:1010-11 Je 24 '22

Inventory valuation. W: A. Paton. *Administration* 3:291-302 Mr '22; Same. *J Account* 34:432-50 D '22

Many causes for shortages in inventories. M. C. Maizie. *Office Management* 8:47 O '22

Mechanical accounting for stores inventories. L. H. Angstadt. *Management Eng* 4:267-8 Ap '23

One dollar a year for inventory. G: R. Doyle. *Sanitary & Heat Eng* 96:366-7+ D 16 '21; Same. *Dom Eng* 98:217-18 F 4 '22

Organizing for taking inventory. O. C. Kiehne. *Iron Tr R* 71:1125-7 O 26 '22; Same. *Foundry* 51:147-9 F 15 '23

Plant inventories offer field for structural engineer. F. W. Wilson. *plan Eng* N 89:96-8 JI 20 '22

Ratio chart applied to inventory control. B. E. Holmes. *Ind Management* 63:243-5 Ap '22

Retail inventory shortages and remedies. 47p Boston chamber of commerce, Retail trade board, Boston, Mass. '22

Standard inventory manual. F: W. Kilduff. 227p Accounting stand. corp., Chicago '22

Stores and inventory methods. S. P. Farwell. *Elec Ry J* 61:519-21 Mr 24 '23

Taking a two-weeks' inventory in a day and a half. H. F. Olmsted. *il Factory* 30:558-60 My '23

Treasury regulations relating to inventories. F. Lowson. *Administration* 3:330-4 Mr '22

See also **Stores systems**

Inventors

See Edison, Thomas Alva; Inventions; Women as inventors

Invertase

Activity of adsorbed invertase. J. M. Nelson and D. I. Hitchcock. *Am Chem Soc J* 43: 1956-61 Ag '21

Invertase; abstract. R: Willstätter and F. Racker. *Chem Soc J* 120 pt 1:823-4 N '21

Studies of enzyme action; the spontaneous increase in sucrose activity of banana extracts. G. McGuire and K. G. Falk. *Am Chem Soc J* 45:1539-51 Je '23

Über eine silberverbindung der saccharase. H. v. Euler and K. Josephson. *Deutsche Chem Gesell Ber* 55:2416-20 S '22

Uniformity in invertase action. J. M. Nelson and D. I. Hitchcock. *Am Chem Soc J* 43: 2632-55 D '21

Use of invertase in cane sirup manufacture. *Chem Age* 30:156 Ap '22

Investment (accounting term)

What is investment? C: W. McKay. *Ind Management* 63:282-6 My '22

Investment bankers' association of America Annual convention, Del Monte, Cal., Oct. 9-12. *Comm & Fin Chr* 115:1692-3, 1792-1811 O 14-21 '22

12th Annual convention, Washington, D.C., Oct. 20-31. *Comm & Fin Chr* 117:1932-51, 2066-75 N 3-10 '23

12th annual convention, Washington, D.C., Oct. 29-31. *R. Bean. Annalist* 22:599 N 5 '23

Investment companies

Budgeting in a bond house. L: C. West. charts *Administration* 5:177-80 F '23

Investment trust companies

British investment trusts. L. R. Robinson. *U S Bur For & Dom Com Trade Information* Bul 88:1-34 '23

Investments

Another word to utility stock salesmen. W. R. Voorhis. *Elec W* 81:159-60 Ja 20 '23

Investments—Continued

- Art of investment. M. W. Gaines. 231p Ronald press '22
- Art of investment. M. W. Gaines. Administration 2:623-40, 799-810; 3:37-51 N '21-Ja '22
- Banking cooperation in the protection of investors. J. Westerfield. Annalist 20:317 O 2 '22
- Chamber of commerce proposes educational movement against fraudulent investments. Comm & Fin Chr 115:2420-1 D 2 '22
- How I trade and invest in stocks and bonds. R. D. Wyckoff. 190p Magazine of Wall street, New York '22
- Investment analysis. W. E. Lagerquist. 792p Macmillan '21
- Investment credit returning to normal channels. J. Oakwood. Annalist 18:488-9 N 21 '21
- Investment problems prepared to cover in detail each chapter of "Jordan on investments", a text for investors and students of finance. D. F. Jordan. 150p Prentice-Hall, New York '22
- Science of investing. G. C. Cox. Annalist 22: 565, 598+, 630+, 661-2+, 693-4+ O 29-N 26 '23
- Two great fields for American capital. C. R. Noyes. Eng & Contr 57:272 Mr 22 '22
- See also Bonds; Brokers; Building loans; Interest; Morris plan banks; Municipal bonds; Public utilities—Securities; Railroads—Securities; Securities; Stock exchange; Stocks

Accounting

See also Interest tables

Advertising

- Bond house advertises to overcome the youth handicap. Ptr Ink 118:126+ Mr 16 '22
- Daily newspaper and financial advertising. L. Wiley. Ptr Ink 123:188-9 Je 7 '23
- Don't lend your name! S. H. Adams. Nation's Business 10:14-15 S '22
- Increasing the market for investment securities. bibliog Ptr Ink 121:97+ N 16 '22
- Milwaukee mobilizes to fight fake promoters with advertising. Ptr Ink 120:10 Jl 6 '22
- Rehabilitating a word by advertising; the Lawyers title and trust company sells mortgage participation certificates. A. E. Haase. Ptr Ink 119:49-50 Ap 13 '22
- Uncle Sam's advertising style changes. S. C. Lambert. Ptr Ink 120:85-6+ Ag 3 '22
- See also Bonds—Advertising; Securities—Advertising

Investments, Foreign

- America as the world's banker. F. McGrann. Annalist 21:51 Ja 8 '23
- Financial status of Germany. G. W. Edwards. Annalist 21:412+ Mr 19 '23
- Foreign investment securities. W. E. Lagerquist. Administration 4:513-24 N '22
- Foreign investments as trade assets. A. B. Cook. Administration 4:306-10 S '22
- Investment of foreign capital in Germany. Annalist 21:377-8 Mr 12 '23
- Investment value of South American securities. W. E. Lagerquist. Administration 5: 470-4, 576-86 Ap-May '23
- Our dollars go guarded overseas. F. Simpich. il Nation's Business 10:11-13 D '22
- Some aspects of the relation of foreign securities to the monetary systems. W. E. Lagerquist. Administration 4:647-55; 5:59-67 D '22-Ja '23
- South American investment field. Annalist 19:126 Ja 16 '22
- See also Loans, Foreign

Invoice forms

- Cost accountants indorse standard invoice form of purchasing agents. Iron Age 109: 210 Ja 19 '22
- Seventh tentative form of the national standard invoice. Iron Tr R 71:380 Ag 10 '22

Involute curves. See Curves, Involute**Iodic acid**

- Conductance of aqueous solutions of iodic acid and the limiting value of the equivalent conductance of the hydrogen ion. C.

A. Kraus and H. C. Parker. diags Am Chem Soc J 44:2429-44; Discussion. 2444-9 N '22

Iodides, Alkyl. See Alkyl iodides**Iodine**

- Adsorption of iodine by silver iodide. F. E. E. Germann and R. N. Traxler. Am Chem Soc J 44:460-4 Mr '22
- Behaviour of the principal cellulose towards iodine and dyestuffs. J. Huebner and J. N. Sinha. Soc Chem Ind J 42:255-60 Je 15 '23
- Comparative values of different specimens of iodine for use in chemical measurements. C. W. Foulk and S. Morris. diags Am Chem Soc J 44:221-9 F '22
- Distribution of iodine between chloroform and starch solution, with and without the addition of potassium iodide. J. B. Firth and F. S. Watson. Soc Chem Ind J 42:308-10 Jl 20 '23
- Emission spectrum of monatomic iodine vapour. St Landau-Ziemecki. diags Philos Mag 6th ser 44:651-6 S '22
- Low voltage arcs in diatomic gases. O. S. Duffendaek. diags Phys R 20:665-87 D '22
- Purity of atomic weight silver; gases in pure silver and iodine. G. P. Baxter and L. W. Parsons. diags Am Chem Soc J 44:577-91 Mr '22
- Reaction between iodine and sulphurous acid. R. M. Macaulay. Chem Soc J 121:552-6 Mr '22
- Reaction between phosphorous acid and iodine. A. D. Mitchell. Chem Soc J 123:2241-54 S '23
- Reaction between potassium trinitride and iodine in the presence of carbon disulfide. A. W. Browne and A. B. Hoel. Am Chem Soc J 44:2106-16 O '22
- Reaction between silver perchlorate and iodine; chlorine tetra-oxide. M. Gomberg. diags Am Chem Soc J 45:398-421 F '23
- Some factors governing the complete sorption of iodine by carbon from chloroform solution. J. B. Firth and F. S. Watson. Chem Soc J 123:1219-22 My '23
- Sorption of iodine by carbons prepared from carbohydrates. J. B. Firth. Chem Soc J 123: 323-7 F '23
- Study of the luminous discharge in iodine; a determination of the ionization potential of iodine. W. A. Noyes, jr. diags Am Chem Soc J 45:337-42 F '23
- Über die einwirkung von jod auf N,N'-dialkyl-[tetrahydro- γ,γ' -dipyridyle]. B. Emmert and P. Parr. Deutsche Chem Gesell Ber 54:3168-76 D '21
- World's supply of iodine in relation to the prevention of goitre. Sci Am 128:323 My '23
- See also Halogens; Iodometry; Periodides; Water supply—Iodine treatment

Analysis

- Estimation of iodine by sodium thiosulfate. F. O. Rice, M. Kilpatrick, jr. and W. Lemkin. Am Chem Soc J 45:1361-5 Je '23

Iodine numbers

- Iodine and bromine values of petroleum products. E. M. Johansen. bibliog J Ind & Eng Chem 14:288-92 Ap '22

Iodine pentoxide

- Solubility of iodine pentoxide in sulfuric acid. A. B. Lamb and A. W. Phillips. Am Chem Soc J 45:108-12 Ja '23

- Tests of an iodine pentoxide indicator for carbon monoxide. S. H. Katz and J. J. Bloomfield. J Ind & Eng Chem 14:304-6 Ap '22

Iodochlorides

- Spontaneous decomposition of unsaturated aliphatic iodochlorides. L. B. Howell. Am Chem Soc J 45:182-7 Ja '23

Iodoform

- Zur kenntnis organischer arsenverbindungen: über anlagerungsprodukte von jodoform an salze von organischen basen dreiwertiger elemente. W. Steinkopf and G. Schwen. Deutsche Chem Gesell Ber 54:2969-75 D '21; Abstract. Chem Soc J 122 pt 1:118 F '22

Iodometry

Comparative values of different specimens of iodine for use in chemical measurements. C. W. Foulk and S. Morris. diags Am Chem Soc J 44:221-9 F '22

Direct iodometric estimation of lead peroxide. S. Glasstone. Chem Soc J 119:1997-2001 D '21

Rapid iodometric estimation of copper and iron in mixtures of their salts. I. W. Wark. Chem Soc J 121:358-63 Mr '22

Standardization of solutions used in iodimetry. S. Popoff and F. L. Chambers. Am Chem Soc J 45:1358-60 Je '23

Iodophenols

Action of potassium iodide and iodate on some hydroxy-acids. S. Krishna and F. G. Pope. Chem Soc J 121:798-800 My '22

Ionomines

Ionomines: a new class of dyestuffs for acetate silk. A. G. Green and K. H. Saunders. Soc Dyers & Col J 39:10-16 Ja '23; Same. Am Dyestuff Rep 12:375-8, 387-8 My 7-21 '23; Abstract. Color Tr J 12:67-9 F '23

Ionium

Über den ionium-gehalt in radium-rückständen. E. Rona. Deutsche Chem Gesell Ber 55:294-301 F '22

Ionization

Abnormality of strong electrolytes and the ionization theory of Ghosh. J. Kendall. Am Chem Soc J 44:717-38 Ap '22

Application of the law of mass action to strong electrolytes, and the derivation of the general equation of the ionization isotherm. W. Hughes. Philos Mag 6th ser 42:428-31, 776 S, N '21

Compound formation and conductivity in systems of the types formic acid:metal formate and sulfuric acid:metal sulfate. J. Kendall, H. Adler and A. W. Davidson. Am Chem Soc J 43:1846-53 Ag '21

Compound formation and viscosity in solutions of the types acid:ester, acid:ketone, and acid:acid. J. Kendall and E. Brakeley. Am Chem Soc J 43:1826-34 Ag '21

Degree of ionization of ethyl alcohol; from measurements of conductivity. F. S. Danner and J. H. Hildebrand. diags Am Chem Soc J 44:2824-31 D '22

Degree of ionization of ethyl alcohol; from measurements of electromotive force. F. S. Danner. diags Am Chem Soc J 44:2832-41 D '22

Dibenzylideneacetone [distyryl ketone] and triphenylmethane; ionogenically linked halogen atoms. F. Straus and A. Dützmänn. Chem Soc J 122 pt 1:148-51 F '22

Electronic theory of valency—intramolecular ionization. T. M. Lowry. Philos Mag 6th ser 45:1105-18 Je '23

Ionization constant of hypochlorous acid; evidence for amphoteric ionization. W. A. Noyes and T. A. Wilson. Am Chem Soc J 44:1630-7 Ag '22

Ionization of alcohols. R. J. Williams and R. W. Truesdail. Am Chem Soc J 45:1348-53 Je '23

Newer aspects of ionization problems. H. S. Taylor. Am Electrochem Soc Trans v 43 (preprint 23):283-300 My '23

See also Electric conductivity

Ionization, Gaseous

Absorption of the K X-rays of silver in gases and gaseous mixtures. P. W. Burbidge. diags Philos Mag 6th ser 43:381-9 F '22

Chemical action produced by radon; characteristics of the alpha-ray bulb as a source of ionization. D. C. Bardwell and H. A. Doerner. Am Chem Soc J 45:2593-9 N '23

Chemical action produced by radon; the determination by a chemical method of the mean effective path of alpha particles in small spheres. S. C. Lind and D. C. Bardwell. Am Chem Soc J 45:2585-92 N '23

Coefficient of recombination of the natural ions in air, and allied phenomena associated with weak atmospheric ionization. A. D. Power. diag J Fr Inst 196:327-52 S '23

Comparison of processes of ionization which give rise to currents in gases. E. W. B. Gill. Philos Mag 6th ser 42:852-6 N '21

Electrochemistry of gases. S. C. Lind. Am Electrochem Soc Trans v 44 (preprint 7):61-9 S '23

Energy losses accompanying ionization and resonance in mercury vapor. J. A. Eldridge. diag Phys R 20:156-75 N '22

Formation of gaseous ions in the oxidation of nitric oxide. A. K. Brewer and F. Daniels. diag Am Electrochem Soc Trans v 44 (preprint 17):171-82 S '23

Impact ionization by low-speed positive H⁺ ions in hydrogen. A. J. Saxton. diags Philos Mag 6th ser 44:809-23 N '22

Ionic oscillations in the striated glow discharge. E. V. Appleton and A. G. D. West. diag Philos Mag 6th ser 45:879-81 My '23

Ionics, or electricity in gases as a branch of engineering. W. M. Thornton. Inst E E J 60:10-13 D '21

Ionization and activation of gases. K. T. Compton. Am Electrochem Soc Trans v 44 (preprint 11):115-23 S '23

Ionization and resonance phenomena. C. B. Bazzoni. diags J Fr Inst 196:627-51 N '23

Ionization by collision. J. S. Townsend. Philos Mag 6th ser 45:444-56 Mr '23

Ionization by collision in helium. J. S. Townsend. Philos Mag 6th ser 45:1071-9 My '23

Ionization by collision of hydrogen, nitrogen, and argon. T. L. R. Ayres. diags Philos Mag 6th ser 45:353-68 F '23

Ionization of abnormal helium atoms by low-voltage electronic bombardment. F. Horton and A. C. Davies. Philos Mag 6th ser 44:1140-6 D '22

Ionization of potassium vapor by light. R. C. Williamson. diag Phys R 21:107-21, pl 1 F '23

Ionization potential of selenium vapor. A. D. Udden. diag Phys R 18:385-8 N '21

Ionized strata. H. de A. Donisthorpe. diags Wireless Age 10:61 Je '23

Ionizing potential of positive ions. J. S. Townsend. Philos Mag 6th ser 44:1147-8 D '22

Measurement of the resonance, radiation, and ionization potentials of several gases and vapors. P. E. Boucher. diags Phys R 19:189-209 Mr '22

Method for the neutralization of electron space charge by positive ionization at very low gas pressures. K. H. Kingdon. Phys R 21:408-18 Ap '23

Multiple-valency in the ionization by alpha rays. T. R. Wilkins. Phys R 19:210-20 Mr '22

New evidence regarding the interpretation of critical potentials in hydrogen. P. S. Ohnsted. diags Phys R 20:613-30 D '22

Occurrence of ionization by cumulative effects. F. Horton and A. C. Davies. Philos Mag 6th ser 43:1020-3 My '22

Photographing the ionization tracks of the rest atoms of radioactive elements. D. M. Bose and S. K. Ghosh. diag Philos Mag 6th ser 45:1050-4, pl 14 My '23

Physical properties of elements at high temperatures. Megh Nad Saha. Philos Mag 6th ser 46:534-43 S '23

Production of radiation and ionization by electron bombardment in pure and in impure helium. F. Horton and A. C. Davies. diag Philos Mag 6th ser 42:746-73 N '21

Radiation and ionization potentials of the rare gases and the singlet and enhanced series of argon. W. M. Hicks. Philos Mag 6th ser 45:480-96 Mr '23

Remarks on ionization by cumulative action. K. T. Compton. Philos Mag 6th ser 43:531-7 Mr '22

Studies on the low-voltage arc in mercury vapor and its relation to fluorescence. Y. T. Yao. diags Phys R 21:1-21 Ja '23

Study of the luminous discharge in bromine; a possible determination of the ionization potential of bromine. W. A. Noyes, jr. Am Chem Soc J 45:1192-5 My '23

Study of the luminous discharge in hydrogen and in mercury and a new method of measuring ionization potentials. G. E. Gibson and W. A. Noyes, jr. diags Am Chem Soc J 44:2091-2106 O '22

Study of the luminous discharge in iodine; a determination of the ionization potential of iodine. W. A. Noyes, jr. diag Am Chem Soc J 45:337-42 F '23

Ionization, Gaseous—Continued

Temperature ionization of elements of the higher groups in the periodic classification. M. N. Saha. *Philos Mag* 6th ser 44:1128-39 D '22

Theory of ionization by cumulative action and the low voltage arc. K. T. Compton. *Phys R* 20:283-99 O '22

Theory of ionization by swiftly moving electrified particles and the production of characteristic X-rays. S. Rosseland. *Philos Mag* 6th ser 45:65-83 Ja '23

Thermal ionization of gaseous elements at high temperatures. A. A. Noyes and H. A. Wilson. *Am Chem Soc J* 44:2806-15 D '22

Variation of the residual ionization in air with pressure, for a range of 57 atmospheres. K. M. Downey. *Phys R* 20:186-93 Ag '22

Variation with pressure of the residual ionization of gases. H. F. Fruth. *diag Phys R* 22:109-21 Ag '23

Ions

Absolute mobilities of negative ions in air. L. B. Loeb. *J Fr Inst* 196:537-46 O '23

Absolute sizes of certain monovalent and bivalent ions. W. P. Davey. *Phys R* 19:248-51 Mr '22

Activities of the ions of potassium hydroxide in aqueous solution. M. Knobel. *diags Am Chem Soc J* 45:70-6 Ja '23

Activity coefficient of hydrochloric acid in aqueous salt solutions. H. S. Harned and N. J. Brumbaugh. *Am Chem Soc J* 44:2729-48 D '22

Activity coefficients and colligative properties of electrolytes. H. S. Harned. *Am Chem Soc J* 44:252-67 F '22

Adsorption of ions. J. N. Mukherjee. *Philos Mag* 6th ser 44:321-46 Ag '22

Adsorption of ions by freshly precipitated manganese dioxide. P. B. Ganguli and N. R. Dhar. *J Phys Chem* 26:836-44 D '22

Ageing effect in the mobility of positive gas ions. H. B. Wahlen. *diag Phys R* 20:267-71 S '22

Determination of hydrogen ions. W. M. Clark. 2d ed. 480p Williams & Wilkins co., Baltimore '22

Effect of sucrose on the activities of certain ions. J. W. Corran. *Am Chem Soc J* 45:1627-36 Jl '23

Effect of sucrose on the activities of the chloride and hydrogen ions. J. W. Corran and W. C. M. Lewis. *Am Chem Soc J* 44:1673-84 Ag '22

Existence of high mobility ions. O. Blackwood. *diags Phys R* 20:499-504 N '22

Free energy of dilution and the activities of the ions of potassium bromide in aqueous solutions. J. N. Pearce and H. B. Hart. *Am Chem Soc J* 43:2483-92 D '21

Influence of gelatin on the transference numbers of sulfuric acid. A. L. Ferguson and W. G. France. *Am Chem Soc J* 43:2161-71 O '21

Influence of the earth's potential-gradient upon measurements of the mean ionic density of the atmosphere by the Ebert ion-counter. J. F. Mackell. *diag Phys R* 21:436-48 Ja '23

Interesting case of mechanical disintegration caused by positive ions. H. P. Waran. *il diags Philos Mag* 6th ser 43:226-9 Ja '22

Ion activities in homogeneous catalysis; the formation of parachloro-acetanilide from acetylchloro-amino-benzene. H. S. Harned and H. Seltz. *Am Chem Soc J* 44:1475-84 Jl '22

Ionic equilibria of strong electrolytes. A. E. Stearn. *Am Chem Soc J* 44:670-8 Ap '22

Ionic theory and its application to plating. O. P. Watts. *Brass W* 19:153-5 My '23

Nature of the negative and positive ions in air, oxygen and nitrogen. H. A. Erikson. *diags Phys R* 20:117-26 Ag '22

Origin of ions in the unsustained glow discharge. K. T. Compton and T. E. Foulke. *il Gen Elec R* 26:755-7 N '23

Positive ion currents in the positive column of the mercury arc. I. Langmuir. *Gen Elec R* 26:731-5 N '23

Radii of the alkali and halogen ions and of the atoms of inert gases. W. P. Davey. *Phys R* 22:211-20 S '23

Studies on solubility; the principle of the specific interaction of ions. J. N. Brönsted. *Am Chem Soc J* 44:877-98 My '22

Study of the moving boundary method for determining transference numbers. D. A. MacInnes and E. R. Smith. *diags Am Chem Soc J* 45:2216-55 O '23

Theory of the action of the earth's potential-gradient in measurements with the Ebert ion-counter. W. F. G. Swann. *Phys R* 21:449-55 Ap '23

Transference experiments with electrometric derivatives of hydroxylamine. W. A. Noyes and J. H. Hibben. *Am Chem Soc J* 45:355-9 F '23

Transference numbers of potassium hydroxide in aqueous solution. M. Knobel, D. K. Worcester and F. B. Briggs. *diag Am Chem Soc J* 45:77-9 Ja '23

Transference numbers of sodium and potassium in mixed chloride solution. R. F. Schneider and S. A. Braley. *Am Chem Soc J* 45:1121-34 My '23

Transference numbers of sulfuric acid by the concentration cell method. A. L. Ferguson and W. G. France. *diag Am Chem Soc J* 43:2150-60 O '21

See also Dissociation; Electrochemistry; Electrolysis; Electrons; Hydrogen ion concentration; Ionization; Solution (chemistry)

Iowa

See also Roads—Iowa

Social conditions

Hours and working conditions of women in industry in Iowa. *Monthly Labor R* 14:543-6 Mr '22

Iowa electric railway association

Annual convention, Lake Okoboji, Ia., June 20. *Elec Ry J* 60:16 Jl '22

Mid-year meeting, Sioux City, Nov. 2-3. *Elec Ry J* 60:782-7 N 11 '22

Ireland

Ireland as a world market. W. M. Benney. *Am Ind* 22:39-40 Ja '22

See also Coal mines and mining—Ireland; Mines and mineral resources—Ireland; Railroads—Ireland; Water power—Ireland

Economic conditions

Modern Irish trade and industry. E. J. Rioridan. 335p Dutton '21

Politics and government

Agreement for settlement of Irish problems—De Valera's opposition. *Comm & Fin Chr* 113:2577-81 D 17 '21

Irish free state—ratification of agreement for settlement of Irish problems. *Comm & Fin Chr* 114:259-63 Ja 21 '22

Irrescence. See Color

Iridium

Occurrence, uses and prices of palladium, iridium, and osmium. *Eng & Min J* 112:981 D 17 '21

Iridium compounds

Complex iridium compounds; abstract. M. Delépine. *Chem Soc J* 122 pt 1:859-60 S '22

Iridium pentamines

Equilibria between the acido- and aquo-iridium pentamines. A. B. Lamb and L. T. Fairhall. *diag Am Chem Soc J* 45:378-95 F '23

Iron

Change of density of iron due to overstrain. J. W. Landon. *Iron & Steel Inst J* 107:455-63 no 1 '23

Changes in iron and steel below 400° C. A. Goffey and F. C. Thompson. *bibliog diags Iron & Steel Inst J* 107:465-90 no 1 '23

Colloidal state in metals and alloys; iron and steel. J. Alexander. *il diag Chem & Met Eng* 26:201-7 F 1 '22

Commercially pure Armco ingot iron. *il Gas J (Lond)* 164:55-6 O 3 '23

Corrosion of electrolytic iron. W. E. Hughes. *il Chem & Met Eng* 29:536-7 S 17 '23

Die diffusion der begleitende des technischen eisens in festes Eisen. A. Fry. *il Stahl & Eisen* 43:1039-44 Ag 9 '23

Iron—Continued

Effect of iron on the electrodeposition of nickel. M. R. Thompson. *il Am Electrochem Soc Trans v 42* (preprint 16):175-208 My '23; Same. *Brass W 19:183-5, 227-30, 247-52 Je-Ag '23*

Electrodeposition of iron. H. D. Hine. *il Am Electrochem Soc Trans v 43* (preprint 2):21-7 My '23; Same. *Brass W 19:89-91 Mr '23*
How ancient empires built of bronze were overthrown by iron age. *il Pop Mech 40:554 O '23*

Importance of iron emphasized. J. S. Unger. *Iron Tr R 71:852-3 S 28 '22*; Same. *Iron Age 110:859-60 O 5 '22*

Iron and the lower oxides of iron. J. B. Ferguson. *Can Chem & Met 7:175-6 Ji '23*
Magnetostriction and magnetoelectric effects in iron, nickel and cobalt. P. McCorkle. *Phys R 22:271-3 S '23*

Manganese, aluminum, and iron ratio as related to soil toxicity. R. H. Carr and P. H. Brewer. *Ind & Eng Chem 15:634-7 Je '23*

Mechanical properties of commercial iron. Z. Jeffries and R. S. Archer. *Chem & Met Eng 27:694-7 O 4 '22*

New type of transformation in iron. G. Borélius and F. Gunneson. *J Fr Inst 194:211-12 Ag '22*

Physical and chemical properties of iron and steel; abstracts. *Iron & Steel Inst J 107:693-742 no 1 '23*

Rate of solution of iron in dilute sulphuric acid both when stationary and under rotation. J. A. N. Friend and J. H. Dennett. *Chem Soc J 121:41-4 Ja '22*

Relation of iron to activated sludge. G. H. W. Lucas. *Can Chem & Met 6:131-4 Je '22*

Researches on the electrodeposition of iron. W. E. Hughes. *Am Electrochem Soc Trans v 40* (preprint 2):15-53 O '21; Same. *Brass W 18:80-5, 182-7 Mr '22*

Resistivity of iron and its application to the chemical industry. D. M. Strickland. *il Ind & Eng Chem 15:566-9 Je '23*

Saving worn parts by electro-deposition. J. D. Alley. *il Mach 30:202-4 N '23*; Same cond. *Brass W 19:373-5 N '23*

Scientific washing—iron—as you find it in your water. F. H. Guernsey. *Am Dyestuff Rep 12:496-7 Ji 2 '23*

Separation of iron and aluminum from manganese and certain other elements. G. E. F. Lundell and H. B. Knowles. *Am Chem Soc J 45:676-81 Mr '23*

Study effect of arsenic in iron ore. F. Clements. *Iron Tr R 71:723 S 14 '22*

Ueber blaubrückigkeit und altern des eisens. F. Körber. *Stahl & Eisen 42:707-9 My 4 '22*

Ueber die diffusion des kohlenstoffs in metalle und die misch-kristalle des eisens. G. Tamman. *il Stahl & Eisen 42:654-9 Ap 27 '22*

Zur weihe des Kaiser-Wilhelm-instituts für eisenforschung. *il Stahl & Eisen 42:81-90 Ja 19 '22*

See also Annealing; Blast furnaces; Cast iron; Chilled iron; Corrosion and anti-corrosives; Foundry practice; Galvanizing; Iron, Stainless; Iron alloys; Iron founding; Iron industry and trade; Iron metallurgy; Iron mines and mining; Iron ores; Iron works; Ironwork, Architectural; Magnetostriction; Meteorites; Pickling (metals); Pig iron; Sheet iron; Steel; Wrought iron

Analysis

Analytical methods for iron and steel. P. V. Kline. *Foundry 50:725 S 1 '22*; Same. *Iron Tr R 71:1124 O 26 '22*

Analyzer for determining amount of magnetic iron in concentrate. *il Eng & Min J 112:919 D 3 '21*

Bestimmung der gase in eisen und stahl. A. Vita; E. Maurer. *diags Stahl & Eisen 42:445-52*; Discussion. 452-6 Mr 23 '22

Chemical and metallographic examination of iron, steel and brass. W. T. Hall and R. S. Williams. 501p McGraw-Hill '21

Determination of metallic iron in sponge iron. C. E. Williams and A. E. Anderson. *J Ind & Eng Chem 14:1057-60 N '22*

Determine sulfur by evolution method. V. E. Hillman. *Foundry 50:837-8 O 15 '22*

Estimation of tin in iron and steel. *Chem Age (Lond) 8:647-8 Je 16 '23*

Gases in metals: the determination of combined nitrogen in iron and steel and the change in form of nitrogen by heat treatment. L. Jordan and F. E. Swindells. *diags U S Bur Stand Sci Pa 457:499-511 '22*; Same. *Chem & Met Eng 27:1135-6, 1170-1 D 6-13 '22*
Les méthodes de dosage du carbone dans les fers, fontes et aciers. A. Travers. *il diag Chimie & Ind 7:3-12, 442-51 Ja, Mr '22*

Rapid iodometric estimation of copper and iron in mixtures of their salts. I. W. Wark. *Chem Soc J 121:358-63 Mr '22*

Routine analytical methods. J. W. Bolton and W. T. Sheffield. *diags Foundry 49:856a, 900a, 942a, 984a; 50:238a, 76a, 106a, 158a, 206a, 232a, 404a, 456a, 498a, 548a N 1 '21-Mr 15, My 15-Ji 1 '22*

Successive electrometric titration of iron, vanadium and uranium. R. G. Gustavson and C. M. Knudson. *Am Chem Soc J 44:2756-61 D '22*

Trivalent titanium; the estimation of copper and iron in the presence of each other. W. M. Thornton, jr. *Am Chem Soc J 44:998-1001 My '22*

Ueber ein neues verfahren zur bestimmung des sauerstoffs im eisen. P. Oberhoffer and O. von Keil. *Stahl & Eisen 41:1449-53 O 13 '21*

Zur bestimmung der gase im eisen. P. Oberhoffer and E. Piwowarsky. *il diags Stahl & Eisen 42:801-6 My 25 '22*

Zuschriften an die schriftleitung; symposium. *il Stahl & Eisen 41:1772-5, pl 10 D 8 '21*

See also Iron ores—Analysis; Steel—Analysis

Bibliography

Determination of sulfur in iron and steel. H. B. Pulsifer. 160p [Bibliog. p.53-155] Chemical pub. co. '22

Review of iron and steel literature for 1921. E. H. McClelland. *Blast F & Steel Pl 10:4-8 Ja '22*

Review of iron and steel literature for 1922. E. H. McClelland. *Blast F & Steel Pl 11:7-11 Ja '23*

Corrosion

See Corrosion and anti-corrosives

Metallography

Cast iron and its chemical composition. O. Smalley. *il diags Engineering 114:277-81 S 1 '22*

Close and open grain in same metal. *il Foundry 50:279-80 Ap 1 '22*; Discussion. 50:394-5 My 15 '22

Constitutional diagram of the iron-carbon system based on recent investigations. K. Honda. *Iron & Steel Inst J 105:381-90*; Discussion. 391-2 no 1 '22

Controlling cast iron hardness. S. J. Felton. *Foundry 51:321-2 Ap 15 '23*; Same. *Iron Tr R 72:1382-3 My 10 '23*

Controlling structure of iron. E. Adamson. *il Foundry 51:732-4 S 15 '23*; Same. *Iron Tr R 72:1156-8 Ap 19 '23*

Effect of oxidising gases at low pressures on heated iron. H. C. H. Carpenter and C. F. Elam. *il diags Iron & Steel Inst J 105:83-9, pl 2 no 1 '22*; Same. *Engineering 113:605-6 My 12 '22*; Same. *Blast F & Steel Pl 10:317-19 Je '22*; Discussion. *Iron & Steel Inst J 105:90-2 no 1 '22*; *Engineering 113:594 My 12 '22*; *Engineer 133:519 My 12 '22*

Experiments on grain growth in iron and steel. L. E. Benson and F. C. Thompson. *Iron & Steel Inst J 107:525-43, pl 20 no 1 '23*

Das ferrit-graphit-eutektikum als häufige erscheinung in gewissen gusseisensorten. E. Schütz. *il Stahl & Eisen 42:1345-6 Ag 31 '22*

Graphite controls gray iron. J. W. Bolton. *il Foundry 51:405-7 My 15 '23*

Graphite form in gray iron. J. W. Bolton. *Foundry 51:658-64, 699-703 Ag 15-S 1 '23*

Graphite structure revealed; graphite grains in cast iron. H. E. Diller. *il Foundry 50:704-6 S 1 '22*

Iron—Metallography—Continued

Heat treating—its principles and applications. C: H. Fulton, H. M. Henton and J. H. Knapp. *Iron Tr* 73:1099-1102, 1240-4 O 18, N 1 '23

Hydrogen decarburisation of carbon steels with considerations on related phenomena. C: R. Austin. *Iron & Steel Inst J* 105:93-140, pl 4-9a; Bibliography. 141-2; Discussion. 143-55 no 1 '22

Microscopy of cast iron. J. W. Bolton. *Foundry* 50:884a, 910a, 960a, 990a; 51:26a, 62a, 116a, 146a, 200a N 1 '22-Mr 1 '23

Phosphorus formations in iron. J. W. Bolton. *il Foundry* 50:786-91 O 1 '22

Reactions in malleablizing. A. Phillips and E. S. Davenport. *il Foundry* 50:185-94 Mr 1 '22
Die rekristallisation des technischen eisens. P. Oberhoffer and H. Jungbluth. *il diags Stahl & Eisen* 42:1513-19 O 5 '22

Röntgenstruktur-untersuchungen an blöcken und knüppeln. F. Heinrich. *il Stahl & Eisen* 42:540-2 Ap 6 '22

Solid solutions of oxygen in iron; abstracts of papers. J. E. Stead and J. H. Whiteley. *il Chem & Met Eng* 25:960 N 23 '21

Stickstoff in eisen, stahl und sonderstahl; ein neues oberflächenhärtungsverfahren. A. Fry. *il Stahl & Eisen* 43:1271-9 O 4 '23

Structure of white-heart malleable. R. Stotz. *il Foundry* 50:286-91 Ap 1 '22

Umgekehrter hartguss und verwandte. erscheinungen. W. Heike. *il diags Stahl & Eisen* 42:325-32 Mr 2 '22; Abstract (Black fractures and graphitized cementite). *Chem & Met Eng* 26:848-9 My 3 '22; Discussion. *Stahl & Eisen* 42:1906-8 D 28 '22

Zerstörbarkeit des primärgüses in technischen eisensorten. P. Oberhoffer and A. Heger. *bibliog il Stahl & Eisen* 43:1151-5 S 6 '23

Nitrogen content

Nitrogenisation of iron and steel by sodium nitrate. L. E. Benson. *il Engineering* 114: 412-13 S 29 '22; Same. *Iron & Steel Inst J* 106:95-100, pl 3 no 2 '22; Discussion. *Engineering* 134:240 S 8 '22; *Iron & Steel Inst J* 106:101-2 no 2 '22

Prices

Average monthly iron and steel prices in 1921. *Iron Tr R* 70:68 Ja 5 '22

Bar iron prices, Chicago, 1917-1921. *Iron Tr R* 70:76 Ja 5 '22

Changes in spread between products. S. G. Koon. *Iron Age* 111:39-40+ Ja 4 '23

Current iron and steel prices of Europe. See weekly numbers of the Iron trade review
Domestic iron and steel prices in 1922. *Iron Tr R* 72:80 Ja 4 '23

European iron and steel prices in 1921. *Iron Tr R* 70:90 Ja 5 '22

European iron and steel prices in 1922. *Iron Tr R* 72:102 Ja 4 '23

Iron and steel costs and competition. *Engineering* 114:140 Ag 4 '22

Iron and steel prices for twenty-one years, period of 1901-1921. *Iron Age* 109:59 Ja 5 '22

Iron and steel prices for twenty-one years, 1902-1922. *Iron Age* 111:69-71 Ja 4 '23

Monthly fluctuations of iron and steel prices for a period of 27 years; chart. *Iron Tr R* 70:72a Ja 5 '22

Monthly fluctuations of iron and steel prices for a period of twenty-eight years; chart. *Iron Tr R* 72:90a Ja 4 '23

Quarter century of fluctuations in prices of pig iron and semi-finished and finished steel and of steel rails; chart. *Iron Age* 111:41-2 Ja 4 '23

Unify British iron, steel extras. J. Horton. *Iron Tr R* 70:1798-1800+ Je 22 '22

See also Iron ores—Prices; Pig iron—Prices

Specifications

A.S.M.E. specifications for boiler rivet, stay-bolt, and refined bar iron. *Mech Eng* 45: 382-3 Je '23

Changes in iron and steel specifications proposed at A.S.T.M. meeting. *Iron Tr R* 71: 46-8 Jl 6 '22; *Iron Age* 110:15-16 Jl 6 '22

Foundrymen study proposed iron specifications. *Iron Tr R* 72:671-2 Mr 1 '23

Iron and steel division report; proposed revision of S. A. E. standards, charts diags Soc Auto Eng J 9:392-422 D '21
Tentative specifications for merchant bar iron. *Am Soc T M Pro* 21:474-7 '21

See also Wrought iron—Specifications

Sulfur and phosphorus content

Phosphorus formations in iron. J. W. Bolton. *il Foundry* 50:786-91 O 1 '22
Restricting sulphur in pig iron. A. R. Powell. *Iron Tr R* 72:874-8 Mr 22 '23

Testing

Devise bending test for malleable. E. K. Smith and L. Lichtenheld. *il diags Foundry* 49:897-8 N 15 '21; Discussion. E. K. Smith. 49:969 D 15 '21

Effect of heat treatment on the hardness and microstructure of electrolytically deposited iron. N. B. Pilling. *il Am Electrochem Soc Trans v* 42 (preprint 6):35-43; Discussion. 43a-d S '22

Electrolytic iron a commercial product. B. Stoughton. *il diags Iron Age* 109:32-6 Ja 5 '22; Same cond. *Chem & Met Eng* 26:128-31 Ja 18 '22; Same cond. *Chem Age* 30:131-3 Mr '22

Report of sub-committee III of A.S.T.M. on inspection of the Fort Sheridan, Pittsburgh and Annapolis tests. *il Am Soc T M Pro* 21: 106-56, pl 1-6; 22 pt 1:156-94, pl 1-3 '21-22

Report of sub-committee V of A.S.T.M. on total immersion tests. *il Am Soc T M Pro* 21:157-90 '21

Tentative methods of metallographic testing of iron and steel. *Am Soc T M Pro* 21:817-28 '21

See also Cast iron—Testing; Wrought iron—Testing

Transportation

Railroad rates on iron and steel products. *Iron Age* 110:1702-3 D 28 '22

See also Iron ores—Transportation

Iron, Chromized. See Chromizing

Iron, Galvanized

Crystallization effects on galvanized iron: the cause found. J. D. Hannah and E. L. Rhead. *il Brass W* 19:317-22 O '23; Abstract, with discussion. *Engineer* 136:288 S 14 '23

Effects of hot-dip galvanizing. W. R. Bean. *il diags Foundry* 51:447-55 Je 1 '23; Abstract. *Brass W* 19:274 Ag '23

Painting galvanized sheets. *Eng N* 89:759, 901, 947, 1038-9 N 2, 23-30, D 14 '22

Painting galvanized surfaces so it will be permanent. *Sci Am* 128:331 My '23

Testing

Analysis by temperature changes. D. M. Strickland. *Metal Ind* 20:339-40 S '22; Same. *Iron Age* 110:777 S 21 '22

Iron, Powdered

Magnetic properties of compressed powdered iron. B. Speed and G. W. Elmen. *Electrician* 88:566 My 12 '22

Iron, Stainless

Decarburization of ferrochromium by hydrogen. L. Jordan and F. E. Swindells. *U S Bur Stand Sci Pa* 448:327-34 '22; Same cond. *Chem & Met Eng* 27:1071-2 N 29 '22

Stainless iron—a new and striking product. *Sci Am* 125A:99 D '21

Stainless steel and iron. *Am Arch* 120:359 N 9 '21

Iron, Wrought. See Wrought iron

Iron age (periodical)

Business and the business press. R. W. Johnson. *Ptr Ink* 118:41-2+ Ja 26 '22

Iron alizarate

Alizarin-iron lakes. A. W. Bull and J. R. Adams. *J Phys Chem* 25:660-4 N '21

Iron alloys

Beitrag zur kenntnis der eisen-arsen-legierungen. P. Oberhoffer and A. Gallaschik. *il Stahl & Eisen* 43:398-400 Mr 22 '23

Commercial alloys of chromium and iron. C. E. MacQuigg. *Iron Age* 112:1040-1+ O 18 '23

Iron alloys—Continued

- Constitution of the alloys of iron and nickel. D. Hanson and J. R. Freeman, jr. *diag Iron & Steel Inst J* 107:301-14, pl 14-15 no 1 '23; Same, *Engineering* 115:667-70 My 25 '23; Discussion, *Iron & Steel Inst J* 107:315-21 no 1 '23; *Engineering* 115:646 My 25 '23.
- Crystal structure of iron-nickel alloys. L. W. McKeehan, *Phys R* 21:402-7 Ap '23.
- Einfluss einiger fremdkörper auf die schwindung des eisens. F. Wüst, *diag Stahl & Eisen* 43:713-20 My 31 '23.
- Ferro supply almost exhausted. *Iron Tr R* 70:77-8 Ja 5 '22.
- Ferro-alloy industry. B. D. Saklatwalla. *J Ind & Eng Chem* 14:862-3 S '22.
- Ferroalloy industry in 1922. R. J. Anderson. *Iron Age* 111:58-61 Ja 4 '23.
- Ferroalloys and hydroelectric power. F. A. J. Fitzgerald. *Iron Age* 111:24-5 Ja 4 '23.
- High tariff features 1922 ferro. *Iron Tr R* 72:90-1 Ja 4 '23.
- Permalloy, an alloy of remarkable magnetic properties. H. D. Arnold and G. W. Elmen. *J Fr Inst* 195:621-32 My '23; Abstract, *Elec R (Lond)* 92:1023-4 Je 29 '23.
- Preparation and the mechanical properties of vacuum-fused alloys of electrolytic iron with carbon and manganese. R. P. Neville and J. R. Cairns. *Am Electrochem Soc Trans v* 42 (preprint 20):203-18; Discussion, 218a-b S '22.
- Quiet year in ferroalloys and their ores. R. J. Anderson. *Iron Age* 109:94-7 Ja 5 '22.
- Structural constitution of iron-carbon-silicon alloys. K. Honda and T. Murakami. *Iron & Steel Inst J* 107:545-83, pl 21-2 no 1 '23.
- See also Duriron; Ferrocromium; Ferromanganese; Ferrophosphorus; Ferrovandium; Iron, Stainless; Iron carbon alloys; Spiegeleisen; Steel

Iron ammonium alum

- Colour of iron alum. J. Bonnell and E. P. Perman. *Chem Soc J* 119:1994-7 D '21.

Iron and steel electrical engineers, Association of. See Association of iron and steel electrical engineers**Iron and steel institute**

- Annual autumn meeting, Milan, Italy, Sept. 16-18. *Engineering* 116:371-3, 403-4 S 21-28 '23; *Iron Age* 112:917-18, 965 O 4-11 '23.
- Autumn meeting, York, Sept. 5-6. *Engineer* 134:239-40, 265-6 S 8-15 '22; *Engineering* 114:303-4, 339 S 8-15 '22; *Iron Age* 110:732-4+ S 21 '22; *Iron Tr R* 71:769-70 S 21 '22.
- 53d annual meeting, May 4-5. *Engineer* 133:518-19, 541-2 My 12-19 '22; *Engineering* 113:563, 593-6, 626-9 My 5-19 '22; *Iron Tr R* 70:1417-19 My 18 '22.
- 54th annual general meeting, London, May 10-11. *Engineering* 115:595-6, 610-15, 646-7 My 11-25 '23; *Engineer* 135:528-31, 546-8 My 18-25 '23; *Iron Tr R* 72:1543 My 24 '23.

Iron and steel institute, American. See American iron and steel institute**Iron bacteria**

- How iron rust grows. A. Gradenwitz. *il Sci Am* 128:183 Mr '23; Same, *Brass W* 19:123-4 Ap '23.
- Relation of iron to activated sludge. G. H. W. Lucas. *Can Chem & Met* 6:131-4 Je '22.
- Some notes on iron-depositing bacteria. L. North and I. J. Bridenstine. *Econ Geol* 17:392-4 Ag '22.

Iron carbon alloys

- Conditions of stable equilibrium in iron-carbon alloys. H. A. Schwartz, H. R. Payne and A. F. Gorton. *diag Min & Met* 188:38-9 Ag '22.
- Constitutional diagram of the iron-carbon system based on recent investigations. K. Honda. *Iron & Steel Inst J* 105:381-90; Discussion, 391-2 no 1 '22.
- Equilibrium diagram of the iron-carbon system. K. Honda. *diags Chem & Met Eng* 27:1180-2 D 13 '22.
- Hydrogen decarburisation of carbon steels with considerations on related phenomena. C. R. Austin. *Iron & Steel Inst J* 105:93-140, pl 4-9a; Bibliography, 141-2; Discussion, 143-55 no 1 '22.

- Preparation and properties of pure iron alloys: effect of manganese on the structure of alloys of the iron-carbon system. H. S. Rawdon and F. Sillers, jr. *il U S Bur Stand Sci Pa* 464:637-53 '23; Same, *Iron Age* 110:1357-61 N 23 '22.

- Preparation and properties of pure iron alloys: effects of carbon and manganese on the mechanical properties of pure iron. R. P. Neville and J. R. Cain. *il U S Bur Stand Sci Pa* 453:411-43 '22.

- Preparation and properties of pure iron alloys: magnetic properties of iron-carbon alloys as affected by heat treatment and carbon content. W. L. Cheney. *U S Bur Stand Sci Pa* 463:609-35 '23.

Iron chlorides

- Action of ferrous chloride on the hydrochlorides of some organic amines. W. M. Cumming. *Soc Chem Ind J* 42:166-8 Ap 20 '23.
- Ferric salts as solvents in the leaching of roasted copper ores. P. R. Middleton. *flow sheets Eng & Min J* 114:451-4 S 9 '22; Discussion, 114:709-10, 933 O 21, N 25 '22.
- Ternary system ammonium chloride—ferric chloride—water. F. W. J. Clendinning. *Chem Soc J* 123:1338-44 Je '23.

Iron compounds

- Catalytic decomposition of hydrogen peroxide by ferric salts. V. L. Bohnson and A. C. Robertson. *Am Chem Soc J* 45:2493-2503 N '23.
- Determination of dissolved oxygen in the presence of iron salts. A. M. Buswell and W. U. Gallaher. *bibliog Ind & Eng Chem* 15:1186-8 N '23.
- Ferric salt as the solution link in the stability of ferric oxide hydrosol. A. W. Thomas and A. Frieden. *Am Chem Soc J* 45:2522-32 N '23.
- Promoter action in homogeneous catalysis: copper salts as promoters in the iron salt catalysis of hydrogen peroxide. V. L. Bohnson and A. C. Robertson. *Am Chem Soc J* 45:2512-22 N '23.
- Reduction of solutions of ferric salts with mercury. L. W. McCay and W. T. Anderson, jr. *Am Chem Soc J* 43:2372-8 N '21.
- Researches on residual affinity and coordination: cobaltamine and ferric lakes of dinitrososorcinol. G. T. Morgan and J. E. Moss. *Chem Soc J* 121:2857-66 D '22.
- See also Iron oxides

Iron founding

- Adds cerium to brass and iron. L. W. Spring. *il Foundry* 50:542-4 Jl 1 '22.
- American methods of manufacturing malleable iron castings. E. Touceda. *Engineer* 134:175-6 Ag 18 '22.
- Apply powdered coal to air furnace. P. Dwyer. *il Foundry* 49:955-62 D 15 '21.
- Brass firm makes malleables. P. Dwyer. *il plan Foundry* 50:523-8 Jl 1 '22.
- Calculating a foundry iron value. Y. A. Dyer. *Iron Age* 108:1547-8 D 15 '21.
- Carbon main factor in car wheels. Y. A. Dyer. *Foundry* 49:947-8 D 1 '21.
- Casting iron in long-life molds. R. Moldenke. *il Iron Tr R* 72:1299-1302 My 3 '23; Same, *Iron Age* 111:1251-4 My 3 '23; *Foundry* 51:410-13 My 15 '23; Same, *Engineering* 115:726-7 Je 8 '23; Same, *Génie Civil* 82:576-7 Je 16 '23; Same, *Chem & Met Eng* 29:231-2 Ag 6 '23.
- Castings for heat radiation. P. Dwyer. *il plan Foundry* 51:1-7 Ja 1 '23.
- Castings given pressure test. H. E. Diller. *il Foundry* 51:354-62 My 1 '23.
- Castings made without heads. E. V. Ronceray. *il diags Foundry* 50:828-32 O 15 '22.
- Charcoal iron. R. Moldenke. 64p Salisbury iron corp., Lime Rock, Conn.
- Cupola malleable production. C. C. Hermann. *Foundry* 50:952-5 D 1 '22.
- Details causes of blowholes in castings. W. W. Storm. *Foundry* 50:280-1 Ap 1 '22.
- Diverse methods of roll molding. R. H. Palmer. *diags Foundry* 50:158-63 F 15 '22.
- Engine castings requirements rigid. H. J. Young. *il Foundry* 50:311-14 Ap 15 '22.

Iron founding—Continued

English make centrifugal castings. H. C. Estep. *Iron Foundry* 50:217-22 Mr 15 '22; Same. *Iron Tr R* 70:887-92 Mr 30 '22

Eulogizes British foundry iron. F. J. Cook. *il diags Foundry* 50:491-6 Je 15 '22; Same cond. *Iron Age* 109:1659-62 Je 15 '22; Discussion. *Foundry* 50:547-50 Jl 1 '22; *Iron Age* 109:1785-7 Je 22 '22

European view of malleable. T. Levocz. *Foundry* 51:58-60 Ja 15 '23

Favors use of machine-cast pig iron. R. Moldenke. *Foundry* 50:375 My 1 '22

Foundries can use lower silicon irons. Y. A. Dyer. *Iron Age* 109:1749-50 Je 22 '22

Foundry practice; abstracts. *Iron & Steel Inst J* 107:651-64 no 1 '23

Foundryman develops new practice in gray iron and steel shop. H. E. Diller. *il Foundry* 51:252-6 Ap 1 '23

Germans desulphurize iron in the ladle. H. Hermanns. *diags Foundry* 50:248 Mr 15 '22

Heat factors govern melting. Y. A. Dyer. *Foundry* 50:661-2 Ag 15 '22

Heat treat to remove strains. P. Dwyer. *il Foundry* 51:431-2 Je 1 '23; Same. *Iron Tr R* 72:1747-8 Je 14 '23

Heater sections made in quantity. *il Foundry* 50:267-74 Ap 1 '22

High test iron castings. *diag Iron Age* 110:110-50 Jl 20 '22

How sanitary ware is made. P. Dwyer. *il diag Foundry* 50:935-41. 997-1002 D 1-15 '22

Iron-founding. B. Whiteley. 131p Pitman '21

Jolt machines mold segment castings. *il Foundry* 51:263-7 Ap 1 '23

Koks und sein einfluss in der giesserei. *diags Stahl & Eisen* 42:1492-5 S 28 '22

Loom castings tax molder's skill. H. R. Simmonds. *il Foundry* 50:223-4 Mr 15 '22

Makes black heart malleable. R. Gailly. *Foundry* 51:826-7 O 15 '23

Making castings for Hudson river tunnel. *il diags Iron Age* 111:663-7 Mr 8 '23; Same. *Foundry* 51:260-3 Ap 1 '23; Same. *Iron Tr R* 72:1160-3 Ap 19 '23

Making flexible jointed pipe. W. G. Hammerstrom. *il diags Foundry* 50:616-21 Ag 1 '22; Abstract. *Eng N* 88:780-2 My 11 '22

Making malleable castings. E. Touceda. *diags Foundry* 50:588-93. 622-64. 676-80 Jl 15-Ag 15 '22

Many factors control iron quality. J. E. Fletcher. *Foundry* 50:352-5 My 1 '22

Melting iron in a German foundry. H. Hermanns. *il Foundry* 50:367-70 My 1 '22

Melting small lots of malleable iron. S. J. Felton. *Iron Tr R* 72:1302-3 My 3 '23; Same. *Foundry* 51:671-2 Ag 15 '23

Melts iron for piston rings. B. H. Arnold. *il diags Foundry* 50:748-51 S 15 '22

Metal for cast iron car wheels. Y. A. Dyer. *Iron Age* 109:1504-6 Je 1 '22

Modern British foundry practice; abstracts. P. Longmuir. *Iron Age* 111:1427-9 My 17 '23; *Iron Tr R* 72:1459-61 My 17 '23; *Foundry* 51:497-501 Je 15 '23

Modern ironfoundry. J. G. Horner. 256p Oxford '23

Modern methods for making cupola mixtures. H. L. Campbell. *Chem & Met Eng* 28:492-5 Mr 14 '23

Mold intricate gray-iron castings. H. E. Diller. *il Foundry* 50:45-51 Ja 15 '22

New developments are outlined. *il Foundry* 51:391-3 My 15 '23

New method of sash weight manufacture. *il diags Iron Age* 111:963-4 Ap 5 '23

Open sand plate moulding simplified. G. Boys. *diag Foundry* 49:987-8 D 15 '21

Pertinent facts concerning malleable-iron castings. E. Touceda. *il Soc Auto Eng J* 10:53-61 Ja '22; Discussion. 10:375-6 My '22

Problem of gray-iron castings; abstract. H. J. Young. *Mech Eng* 44:192 Mr '22

Problems in making malleable. E. Touceda. *diags Iron Tr R* 71:516-20+ Ag 24 '22

Pulverized coal in the iron and steel industry. T. P. Coffin. *il Chem & Met Eng* 25:973 N 23 '21

Purchasing foundry irons by specification. Y. A. Dyer. *Iron Age* 108:1420-1 D 1 '21

Quantity tonnage of automobile castings. H. M. Lane. *il Iron Age* 111:1562-4 My 31 '23

Questions pig iron casting methods. R. E. Newcomb. *Foundry* 50:316-17 Ap 15 '22

Rigging for molding cast iron closet tanks. *Foundry* 50:532 Jl 1 '22

Role of chemistry in semi-steel. J. E. Bock. *Iron Age* 112:397-8 Ag 16 '23

Steel scrap in cupola iron mixtures. E. J. Lowry. *Iron Age* 110:337-8 Ag 10 '22

Strong iron made without steel. G. A. Drysdale. *Foundry* 51:375-6 My 1 '23

Studies automotive castings. H. B. Swan. *Foundry* 51:414-18 My 15 '23; Same, without tables. *Iron Tr R* 72:1455-8 My 17 '23

Studies mass effect on iron. O. Smalley. *Foundry* 51:822-5 O 15 '23

Study pouring temperatures. S. J. Felton. *diags Foundry* 51:138-40 F 15 '23

Temperaturmessungen an giesspfannen für eisen- und stahl-giessereien. L. Treuheit. *diags Stahl & Eisen* 41:1526-9. 1731-6 O 27-D 1 '21

Theorizes on cupola reactions. S. J. Felton. *Foundry* 51:351-2 My 1 '23

Tunnel segment casting methods; cast-iron lining for the vehicular tunnel under the Hudson. *il diags Foundry* 50:137-41 F 15 '22

Use of high silicon irons in the foundry. E. J. Lowry. *Iron Age* 111:1343-4 My 10 '23

Use powdered coal for malleable. E. E. Griest. *il diags Iron Tr R* 72:1309-14. 1387-92 My 3-10 '23

Using fuel oil in air furnaces. A. V. Landschoot. *diags plan Iron Tr R* 73:599-604 Ag 30 '23; Same. *Foundry* 51:862-7 N 1 '23

See also Annealing; Cast iron; Chilled iron; Cupola furnaces; Foundry practice; Molding machines; Pattern making; Pig iron

Iron founding, Electric

Advantages of basic-electric-furnace iron for castings to resist abrasion. L. J. Barton. *il Eng & Min J* 115:628-30 Ap 7 '23

Cast iron as produced in the electric furnace, and some of its problems. G. K. Elliott. *Am Electrochem Soc Trans v* 41 (preprint 9):75-87 Ap '22; Same abr. *Chem & Met Eng* 27:116-19 Jl 19 '22; Same cond. *Iron Age* 109:1225-6 My 4 '22; Discussion. *Chem & Met Eng* 27:292 Ag 16 '22

Electric furnace iron and steel, intermittent and alternating operations. W. E. Cahill. *Am Electrochem Soc Trans v* 41 (preprint 6):49-54 Ap '22; Same. *Iron Age* 109:1277-8 My 11 '22; Same. *Foundry* 50:420-1 My 15 '22; Same. *Iron Tr R* 71:448-50 Ag 17 '22

Electric furnaces for gray iron from the English point of view. *Foundry* 49:893-5 N 15 '21

Gray iron castings from electric furnace. L. J. Barton. *il Iron Age* 111:269-73 Ja 25 '23; Same cond. *Brass W* 19:295-7 S '23

Gray iron castings from electric furnace. T. R. Hay. *Iron Age* 108:1214-15 N 10 '21

History of electric cast iron melting. W. E. Moore. *Am Electrochem Soc Trans v* 41 (preprint 20):279-84 Ap '22

Melting of cast iron in the Booth rotating electric furnace. H. M. Williams and T. B. Terry. *il Am Electrochem Soc Trans v* 41 (preprint 21):285-94 Ap '22; Same. *Foundry* 50:863-5 N 1 '22

Melts gray iron by electric furnace. G. K. Elliott. *Iron Tr R* 72:1535-7 My 24 '23

Papers on electric furnace gray iron at American foundrymen's association meeting. *Iron Age* 111:1334-5 My 10 '23

Practical aspects of electric gray iron. C. H. Vom Baur. *Iron Age* 109:51-2 Ja 5 '22

Urges electric furnace for foundry. T. R. Hay. *il Foundry* 50:204-5 Mr 1 '22

See also Electric furnaces, Iron founding

Bibliography

Electric furnace in the iron foundry. L. C. Judson and H. P. Martin. *Am Electrochem Soc Trans v* 41 (preprint 22):295-304 Ap '22

Iron hydroxide

Adsorption of radium-B and radium-C by ferric hydroxide. J. A. Cranston and R. Hutton. *Chem Soc J* 121:2843-9 D '22

Iron hydroxide—Continued

Absorption of the -B and -C members of the radium and thorium series by ferric hydroxide. J. A. Cranston and R. Hutton. Chem Soc J 123:1318-24 My '23

Absorption of thorium-B and thorium-C by ferric hydroxide. J. A. Cranston and R. A. Burnett. Chem Soc J 119:2036-44 D '21

Centrifugal method for preparing colloidal ferric hydroxide, aluminum hydroxide and silicic acid. R. Bradfield. Am Chem Soc J 44:965-74 My '22

Iron industry and trade

Export field for iron and steel. M. H. Bletz. Iron Age 112:905-6 O 4 '23; Same. Blast F & Steel Pl 11:556-7 O '23

Exporting iron and steel. V. G. Iden. il Iron Tr R 66:987-91, 1257-61, 1474-7+; 67:236-40, 1411-15, 1675-8; 68:698-703, 1657-61; 69:619-23; 70:823-6, 1335-7+ Ap 1, 20, My 20, Jl 22, N 18, D 16 '20, Mr 10, Je 16, S 8 '21, Mr 23, My 11 '22

Foreign and domestic pig iron costs. P. M. Tyler. Iron Age 111:467-70, 533-6, 605-6 F 15-Mr 1 '23

International iron and steel trade. E. T. Good. Engineer 132:477-8 N 4 '21

Relation of the iron and steel industries to the chemical industries. J. M. Camp. Blast F & Steel Pl 9:701-6 D '21; Same. Chem & Met Eng 26:6-10 Ja 4 '22; Same cond. Iron Tr R 69:1343-5+ N 24 '21; Excerpts. Iron Age 108:1329-31 N 24 '21

Steel exports meet competition. H. C. Estep. charts Iron Tr R 70:1107-12+ Ap 20 '22

Where we stand in world market. H. C. Estep. Iron Tr R 72:33-5+ Ja 4 '23

World is going back to work. V. G. Iden. Iron Tr R 70:19-21 Ja 5 '22

See also Cast iron; Iron—Prices; Iron founding; Iron mines and mining; Iron ores; Iron works; Pig iron; Rolling mills; Scrap metal; Steel industry and trade; Stoves

Advertising

See also Armco ingot iron—Advertising

Prices

See Iron—Prices; Iron ores—Prices; Pig iron—Prices

Statistics

Iron ore, pig iron and steel in 1920. E. F. Burchard and H. W. Davis. U S Geol S Min Res of U S 1920, pt 1:365-99 '22

World's iron and steel production, 1921. Iron Tr R 70:22-3 Ja 5 '22

See also Foundries—Statistics

Argentina

Possibilities for the development of the iron and steel industry in Argentina. Blast F & Steel Pl 11:195 Mr '23

Australia

See Iron ores—Australia

Brazil

Brazil's steel industry expands. W. L. Schurz. Iron Tr R 70:1861-4+ Je 29 '22

Canada

Canada's trade with United States declines. W. L. Edmonds. Iron Age 110:867-8 O 5 '22

Iron and steel: a great maritime province industry. W. F. Ingalls. il Can Chem & Met 6:153-5 Jl '22

Production of iron and steel in Canada. Can Eng 42:185 Ja 31 '22

China

China's iron deposits are small. Chung-Yu Wang. Iron Tr R 73:1232+ N 1 '23; Same cond. Iron Age 112:1247-8 N 8 '23

Production costs in China high; after nine months activity blast furnace of Yangtze engineering co. is forced to abandon operations. L. W. Hoyt. il Iron Tr R 72:303-5 Ja 25 '23

Czechoslovakia

Central Europe getting started. B. Schapira. Iron Tr R 70:100+ Ja 5 '22

Europe

Central Europe getting started. B. Schapira. Iron Tr R 70:100+ Ja 5 '22

Iron and steel industries of Europe. Iron Age 109:801-2 Mr 23 '22

Mixed conditions in Central Europe. B. Schapira. Iron Tr R 72:114+ Ja 4 '23

France

France must work with Germany; a survey of the redistribution of European iron and steel resources brought about by the Versailles treaty. H. C. Estep. map Iron Tr R 71:985-8 O 12 '22

French gain at home and abroad. V. Delport. Iron Tr R 72:107-8 Ja 4 '23

Frenchmen show selling ability. F. Miltoun. Iron Tr R 70:95-6 Ja 5 '22

Problems and progress of iron and steel metallurgy in France. J. Cavalier. Mech Eng 43:827-3 D '21

See also Iron works—France

Germany

Die deutsche eisenindustrie im urteil französischer politiker. O. Steinbrinck. Stahl & Eisen 42:661-3 Ap 27 '22

France must work with Germany; a survey of the redistribution of European iron and steel resources brought about by the Versailles treaty. H. C. Estep. map Iron Tr R 71:985-8 O 12 '22

German exports of iron and steel in 1921; tabulation. Iron Tr R 70:899 Mr 30 '22

German industries in combine. Iron Tr R 73:669-72 S 6 '23

German industry near collapse. Iron Tr R 71:1341-6 N 16 '22

German iron and steel industry. C. E. Her-ring. U S Bur For & Dom Com Trade Information Bul 96:1-13 '23

German iron and steel industry, 1921. Iron Age 109:92-3 Ja 5 '22

German iron and steel output in 1919. Iron Age 110:81 Jl 13 '22

German iron industry paralyzed. Iron Age 112:1187-8 N 1 '23

German pig iron and steel production of 1919 compared with 1913. Iron Age 109:217-18 Ja 19 '22

Germans wonder about future. Iron Tr R 72:110+ Ja 4 '23

Germany keeps on with inflation. Iron Tr R 70:97-8 Ja 5 '22

Germany still is doing business. H. C. Estep. il Iron Tr R 72:363-70 F 1 '23

Germany trades steel for paper. H. C. Estep. il Iron Tr R 70:199-205 Ja 19 '22

Gives German foundry output. Foundry 51:673-4 Ag 15 '23

Nordwestliche gruppe des Vereins deutscher eisen- und stahlindustrieller; bericht an die hauptversammlung am 29. Juni 1922. Stahl & Eisen 42:1081-8, 1126-32, 1167-73 Jl 13-27 '22

What is happening in the Ruhr. H. C. Estep. il Iron Tr R 72:727-33 Mr 8 '23

Year of distress for German steel industry. E. Schroedter. Iron Age 111:64-6+ Ja 4 '23

Great Britain

Britain is ready for competition. H. C. Estep. Iron Tr R 70:1397-1400 My 18 '22

Britain leads in foreign trade. J. Horton. Iron Tr R 72:104-6 Ja 4 '23

Britain liquidates for new start. J. Horton. Iron Tr R 70:92-4 Ja 5 '22

British exports of iron and steel products in February. Iron Tr R 70:1042-3 Ap 13 '22

British iron and steel in 1921. Iron Age 109:90-1 Ja 5 '22

British overseas trade gains over 1920. Iron Tr R 70:467-8 F 16 '22

Iron, steel, coal and engineering trades in 1921. Engineer 133:2-5, 31-2, 59-60 Ja 6-20 '22

Statistical record of the British iron and steel industry. H. B. A. Smith. U S Bur For & Dom Com Trade Information Bul 66:1-13 '22

Iron industry and trade—Continued

India

Indian iron and steel industry and its probable development. J. V. McCartney. *il map*
Blast F & Steel Pl 11:140-4 F '23

Italy

Iron and steel industry of Italy. Engineering
116:372 S 21 '23
Italians now face many problems. F. Mil-
toun. *Iron Tr R* 70:271-2 Ja 26 '22
Italy depending on rehabilitation through work
and frugality. R. Moldenke. *Iron Age* 112:
1121-2 O 25 '23
Italy's position and views on the Ruhr. F. A.
Shepley. *il Blast F & Steel Pl* 11:522-4 O '23

Japan

Depression prevails in Japan. I. Takano. *Iron
Tr R* 72:165-6 Ja 11 '23
Die eisenindustrie Japans. E. Kothny. *Stahl
& Eisen* 43:813-22 Je 21 '23
Japanese trade is regaining strength. I. Tak-
ano. *Iron Tr R* 70:102+ Ja 5 '22

Lorraine

Lorraine now ready for business. H. C.
Estep. *il maps Iron Tr R* 69:1411-16+ D 1
'21

Ohio

Gain of Ohio foundry melt continues. *Iron Tr
R* 71:851 S 28 '22
Ohio foundries show increased melt. *Foundry*
50:665 Ag 15 '22; Same. *Iron Tr R* 71:309 Ag
3 '22

Philippine Islands

Philippines as a market for iron and steel. V.
Villamin. *Iron Age* 111:1415-16 My 17 '23

Russia

Russian iron and steel at stake. B. Schapiro.
Iron Tr R 71:647-50 S 7 '22

United States

American iron and steel production. J. P.
Bedson. *Engineer* 133:281-2 Mr 10 '22
American output of iron ore in 1921. *Iron Tr
R* 70:148 Ja 12 '22
Birmingham and low cost steel production.
Y. A. Dyer. *Iron Age* 111:1097 Ap 19 '23
Country's iron production in 1921. *Comm &
Fin Chr* 114:2410-13 Je 3 '22
High tonnage in iron and steel imports in
1922. *Iron Age* 111:965-6 Ap 5 '23
Iron and steel. A. I. Findley. *Iron Age* 110:
1001-2 O 19 '22
Iron and steel. B. E. V. Luty. *Eng & Min J*
115:153 Ja 20 '23
Iron and steel exports gain heavily. *Iron
Age* 110:24-5 Jl 6 '22
Iron and steel market conditions. See weekly
numbers of Commercial and financial chro-
nicle, *Annalist*, *Iron age*, and *Iron trade re-
view*
Iron ore, pig iron and steel in 1921. E. F.
Burchard and H. W. Davis. *U S Geol S Min
Res of U S* 1921, pt 1:565-97 '23
1921 in iron and steel. *Iron Age* 109:1-3+ Ja
5 '22; Excerpts. *Eng & Contr* 57:86-7 Ja 25
'22
1921 steel output falls sharply; finished ma-
terial loss heavy. *Iron Tr R* 70:1746-7 Je
15 '22
1922 ends with good promise for early 1923.
Iron Age 111:1-3+ Ja 4 '23
Ore movement of 1921 traced. A. J. Hain.
Iron Tr R 70:346-9 F 2 '22
Ore shipments for 1922 compiled. A. J. Hain.
Iron Tr R 72:524-7 F 15 '23
Outlook in iron and steel. A. I. Findley. *Eng
& Min J* 113:138-40 Ja 21 '22
Past year one of unusual complications. B. E.
V. Luty. *Blast F & Steel Pl* 11:2-4 Ja '23
Per capita pig iron and steel ingot output at
normal. J. W. Hill. *Iron Tr R* 72:1016-18
Ap 5 '23
Slight gain in iron and steel exports. *Iron Age*
110:1508-9 D 7 '22

What is ahead of American industry? F.
Franz. *Management Eng* 2:179-81 Mr '22

See also Mackintosh-Hemphill company;
Republic iron & steel company; United
States steel corporation

Iron metallurgy

Age-old ways of making iron used in China.
il Pop Mech 40:227-8 Ag '23
Die bedeutung der physikalischen chemie für
die metallurgie des eisens. R. Schenck. *Stahl
& Eisen* 43:65-9, 153-9 Ja 18, F 1 '23
Charcoal iron sheets once more. *il Sheet
Metal Worker* 13:845-8+ Ja 5 '23
Chemical methods of iron ore purification.
A. J. Moxham. *Iron Age* 111:31-2 Ja 4 '23
Controlling structure of iron. E. Adamson. *il
Foundry* 51:732-4 S 15 '23; Same. *Iron Tr
R* 72:1156-8 Ap 19 '23
Developments in metallurgy of iron and steel.
S. L. Goodale and K. D. Dodd. *Blast F &
Steel Pl* 11:4-6 Ja '23
Extraction of nickel and alumina from
Cuban iron ores. C. R. Hayward. *flow sheet
diags Chem & Met Eng* 26:261-6 F 8 '22
Hütte, taschenbuch für eisenhüttenleute. 2d
ed., rev. 963p W. Ernst & sohn, Berlin '22
Iron making economies developed in 1922.
F. H. Willcox. *Iron Age* 111:84-6 Ja 4 '23
Joy of being a chemist. D. M. Strickland.
Blast F & Steel Pl 10:505-7 O '22
Last year in iron and steel metallurgy. C. E.
Mac Quigg. *bibliog Iron Age* 111:54-7 Ja 4 '23
Magnetic log washers in iron-ore concentra-
tion. H. H. Wade. *il diags Eng & Min J* 113:
769-71 My 6 '22
Magnetic roasting of iron ores. E. W. Davis.
flow sheet il diags Iron Tr R 70:968-73 Ap
6 '22
Makes preliminary analysis. E. K. Smith.
diag Foundry 51:216-17 Mr 15 '23
Making iron by crude methods in China. *Iron
Tr R* 70:604 Mr 2 '22
Making iron from magnetic ore. G. P. Pilling.
Iron Tr R 72:1085-8 Ap 12 '23; Same. *Blast
F & Steel Pl* 11:148-52 F '23; Same cond. *Iron
Age* 111:145-8 Ja 11 '23; Abstract. *Min & Met*
192:32-3 D '22
Making wrought iron a new way. A. Sau-
veur. *il diags Sci Am* 129:186 S '23
Manufacture of commercially pure iron. D.
M. Strickland. *il Blast F & Steel Pl* 10:
41-3 Ja '22
Many factors control iron quality. J. E.
Fletcher. *Foundry* 50:352-5 My 1 '22
Metallisches eisen als reduktionsmittel bei der
gewinnung technischen eisens. W. Heike.
Stahl & Eisen 41:1569-72 N 3 '21
Method of smelting titaniferous iron ore. W.
M. Goodwin. (Report no. 8) 25p Canada
Honorary advisory council for sci. and ind.
research, Ottawa '22
Need for an expedition to study Swedish iron
as model for western development. *J Elec*
48:340, 440 My 1, Je 1 '22
New magnetic concentrating mill at the
Richard iron mine, New Jersey. H. M.
Roche. *flow sheet il diags Eng & Min J*
115:923-32, 971-5 My 26-Je 2 '23
Notes on iron ore smelting in California. R.
C. Gosrow. *Chem & Met Eng* 27:490-3 S 6 '22
Outline of refractory requirements for the
iron and steel industry. F. W. Davis. *Am
Cer Soc J* 6:1183-8 N '23
Plant for the briquetting of iron ores. *diags
plans Engineer* 134:148-9 Ag 11 '22
Production of iron; abstracts. *Iron & Steel
Inst J* 107:640-50 no 1 '23
Progress in iron and steel metallurgy. J. H.
Hall. *Blast F & Steel Pl* 10:9-10 Ja '22
Simple, rapid and economical method of sepa-
rating nickel and copper from iron. E. G.
R. Ardagh and G. M. Broughall. *Can Chem
& Met* 7:198-200 Ag '23
Sintering iron-bearing materials. R. L. Lloyd.
Min & Met 190:17-19 O '22
Tapping new iron resources; magnetic log
washer which makes possible the use of
billions of tons of hitherto worthless iron
ore. E. Christmas. *il diag Pop Mech* 38:713-
14 N '22

Iron metallurgy—Continued

Ueber die herstellung von synthetischem roheisen bei den eisen- und stahlwerken Oehler & cie., A.-G., Aarau (Schweiz). K. Dornhecker. il diag plan Stahl & Eisen 41: 1881-9, pl 11 D 29 '21

Using manganese iron ore. L. E. Ives. Iron Tr R 73:737-9 S 13 '23; Same. Iron Age 112:715-16 S 13 '23

Using scrap in blast furnaces. D. T. Croxton. il charts Iron Tr R 72:1009-13 Ap 5 '23

Utilization of iron ores containing vanadium. Chem & Met Eng 27:321 Ap 16 '22

Das vorkommen und verhalten von titan im roheisenmischer. B. Osann. Stahl & Eisen 41:1487-9 O 20 '21

Wissenschaftliche forschung in der eisen-industrie. P. Goerens. il diags Stahl & Eisen 43:1191-9 S 13 '23

Year, 1921 in iron and steel metallurgy. J. H. Hall. Iron Age 109:80-3 Ja 5 '22

Zur erforschung des sintervorganges, besonders von eisenerzen; abstract. K. Endell. Stahl & Eisen 42:976-8 Je 22 '22

See also Blast furnaces; Case hardening; Cast iron; Foundry practice; Galvanizing; Iron alloys; Iron mines and mining; Iron works; Pig iron; Puddling; Sintering; Slag; Steel metallurgy; Wrought iron

Costs

Compares freight costs in making iron. Iron Tr R 72:307 Ja 25 '23

Electrometallurgy

American electrochemical society 41st general meeting, Baltimore. Iron Age 109:1203-5 My 4 '22

Die anwendung des elektroofens bei herstellung von roheisen und guss. K. Dornhecker. Stahl & Eisen 42:1357-60 Ag 31 '22

Commercial production of electrolytic iron. C. P. Perin and D. Belcher. flow sheet il Min & Met 180:17-18 D '21

Development of electrolytic iron. R. J. Traill. Can Chem & Met 7:181-2 Jl '23

Electric cast iron. Chem & Met Eng 26: 820-2 My 3 '22

Electric furnace detinning and production of synthetic gray iron from tin-plate scrap. C. E. Williams, C. E. Sims and C. A. Newhall. Am Electrochem Soc Trans v 43 (preprint 20):251-60 My '23; Same. Iron Tr R 72:1531-3 My 24 '23

Electric furnace for iron and steel. A. Stansfield. 453p McGraw-Hill '23

Electric furnace strengthens iron. D. Wilkinson. Foundry 50:143-5 F 15 '22

Electric pig iron in Brazil. N. A. V. Paulson. Chem & Met Eng 28:906-7 My 21 '23

Electric smelting of pig iron in Sweden. diags Engineer 134:5-6 Jl 7 '22

Electrolytic iron. M. A. Bouchayer. Iron Age 112:756 S 20 '23

Electrolytic iron a commercial product. B. Stoughton. il diag Iron Age 109:32-6 Ja 5 '22; Same cond. Chem & Met Eng 26:128-31 Ja 18 '22; Same cond. Chem Age 30:131-3 Mr '22

Electrolytic iron from sulphide ores. Chem & Met Eng 27:684-5 O 4 '22

Le fer electrolytique Bévé. A. Bouchayer. diags Soc Ing Civils Bul 76:557-92 Ap '23

Iron ore smelting by electricity. A. Stansfield. Chem & Met Eng 27:941 N 8 '22

Making iron from ore by a new electrolytic process. E. C. Kreutzberg. flow sheet il Iron Tr R 73:595-8 Ag 30 '23

Manufacture of electrolytic iron. G. F. McMahon. Chem & Met Eng 26:639-41 Ap 5 '22

Opportunities for the American electrochemist abroad. C. G. Schluederberg. Chem Age 31: 227-9 My '23; Excerpts. Iron Tr R 72:1453-4 My 17 '23; Same abr. Iron Age 111:1329-30 My 10 '23

Producing synthetic gray iron in the electric furnace. E. L. Willson. Elec W 82:431-3 S 1 '23

Production of iron by direct electrothermic reduction of the ore; abstract. M. Guedras. Chem & Met Eng 26:34-5 Ja 4 '22

Prophecies electric smelting iron ores. F. Hodson. Foundry 49:887-8 N 15 '21; Same. Iron Tr R 69:1492-3 D 8 '21

Refractories source of troubles. W. L. Morrison. Foundry 50:33-5 Ja 1 '22

Smelting iron ore electrically. R. Durrer. Iron Tr R 70:827-8 Mr 23 '22

Study of carburization in the manufacture of synthetic cast iron. C. E. Williams and C. E. Sims. Am Electrochem Soc Trans v 41 (preprint 13):157-76 Ap '22

Synthetic and electric pig iron sanely considered. R. Turnbull. Am Electrochem Soc Trans v 41 (preprint 18):259-62 Ap '22

Synthetic cast iron. J. L. Cawthon, jr. Am Electrochem Soc Trans v 41 (preprint 23): 305-17 Ap '22; Same abr. Foundry 51:938-40 D 1 '23

Ueber die herstellung von giessereiroheisen im elektrischen ofen. L. Lyche. diags Stahl & Eisen 43:110-16 Ja 25 '23

Die zukunft der elektrothermischen eisen-gewinnung. A. Helfenstein. Stahl & Eisen 41:1481-7, 1572-6 O 20, N 3 '21; Discussion. 42:460-7 Mr 23 '22

See also Electric furnaces, Iron founding; Iron founding, Electric

Bibliography

Electric furnace in the iron foundry. L. C. Judson and H. P. Martin. Am Electrochem Soc Trans v 41 (preprint 22):295-304 Ap '22

Iron mines and mining

See also Iron ores

Australia

See also Iron ores—Australia

Brazil

Problem of mining Brazilian iron ore. H. L. Geissel. Eng & Min J 112:729 N 5 '21

France

Iron-mines in the Briey region damaged during the German occupation, and their reconstruction. A. Guillaïn. Iron & Steel Inst J 104:59-72 no 2 '21

India

Coolie labor in India. H. J. Volker. il Eng & Min J 113:905-7 My 27 '22

Lake Superior region

Business outlook in ore trade 100 per cent better. A. J. Hain. il Iron Tr R 70:57-62 Ja 5 '22

Light movement of Lake Superior ore. D. E. Woodridge. Iron Age 109:145-7 Ja 12 '22

Normal ore trade in prospect. A. J. Hain. il Iron Tr R 72:36-40+ Ja 4 '23

Shipping from magnetic iron ore mills. flow sheet il Iron Tr R 72:813-14 Mr 15 '23

Water supplies from iron mines in the Lake Superior district. O. Forsberg. Am Water Works Assn J 10:322-4 Mr '23

Minnesota

Equipment and methods on the Mesabi iron range. C. P. Burton. il Eng & Min J 116: 703-4 O 20 '23

Bibliography

Mesabi iron range of Minnesota. S. Niemi. 18p Public library, Eveleth, Minn. '20

Missouri

Iron Mountain mine. Eng & Min J 115:1121; 116:93, 225 Je 23, Jl 21, Ag 11 '23

New Jersey

Developing north Jersey iron ores. E. C. Kreutzberg. il Iron Tr R 69:1207-11+, 1285-9 N 10-17 '21

New magnetic concentrating mill at the Richard iron mine, New Jersey. H. M. Roche. flow sheet il diags Eng & Min J 115:923-32 My 26 '23

New York (state)

Mining methods in the Mineville (N.Y.) district. E. C. Henry. diag Min & Met 191:57-8 N '22

Iron mines and mining—New York (state)—*Continued*

Old iron mines closed; work stops at Sterling-ton, N.Y. Iron Age 112:75 J1 12 '23

Pennsylvania

French Creek iron mine. A. H. Hubbell. il diag Eng & Min J 112:1009-10 D 24 '21

Russia

Zur frage der angeblichen eisenerzlager im russischen gouvernement Kursk. J. Stein; S. von Bubnoff. Stahl & Eisen 42:182-5 F 2 '22

Spain

See Iron ores—Spain

United States

Iron mining in 1922 D. E. Woodbridge. Eng & Min J 115:96 Ja 20 '23

Iron-ore mining in the United States, 1921. D. E. A. Charlton. Eng & Min J 113:88-9 Ja 21 '22

Iron Mountain mine. See Iron mines and mining—Missouri

Iron ores

Geographical distribution of ores. Iron & Steel Inst J 104:334-8 no 2 '21

Iron ore. 8v Gt. Brit. Imperial mineral resources bur., London '22

Iron ore produced in 1922—increase in output and value. Comm & Fin Chr 116:355-6 Ja 27 '23

Iron ore resources of the world. Eng & Min J 112:889 D 3 '21

Iron ores and other metalliferous ores used in the iron and steel industry. Iron & Steel Inst J 107:598-605 no 1 '23

Leaching of iron protores: solution and precipitation of silica in cold water. T. S. Lovering. Econ Geol 13:523-40 S '23

1921 poorest iron ore production in many years. Iron Age 109:54-5 Ja 5 '22

Sedimentary phases of the Adirondack magnetic iron ores. F. L. Nason. Econ Geol 17: 633-54; Discussion. W. J. Miller. 709-13 D '22

Significance in ore distribution. R. C. Allen. map Iron Tr R 72:1751-4 Je 14 '23

Steel plant pioneering in Northwest. C. T. Kennan. Iron Tr R 72:659-60 Mr 1 '23

Ueber das vorkommen und die entstehung des weiss-eisenerzes, eines neuen bauwürdigen eisenrohstoffes. Krusch. diag Stahl & Eisen 42:1705-8 N 16 '22

World's iron ore resources, 32 billion tons. O. R. Kuhn. map Iron Age 110:211-5 J1 27 '22

See also Chromite; Iron industry and trade; Iron metallurgy; Iron mines and mining; Pyrites

Analysis

Lake Superior ores; analyses showing content for every year from 1902 to 1921. Iron Age 109:1302-3 My 11 '22

Quality of iron ore is uniform; Lake Superior iron ore analysis, 1913-1922. Iron Tr R 72: 1304 My 3 '23

Prices

Lake iron ore prices are given in detail. Iron Tr R 72:1381 My 10 '23

Ore prices reduced 50 cents. Iron Tr R 70: 1743-5 Je 15 '22

Prices paid for ore determined. Iron Tr R 70:1056-7 Ap 13 '22

Taxation

Minnesota's occupation tax on iron ore upheld by United States Supreme court. Comm & Fin Chr 116:2089 My 12 '23; Same abr. Eng & Min J 115:856 My 12 '23

Supreme court decision on the Minnesota ore tax. Comm & Fin Chr 116:2190-1 My 19 '23

Transportation

Carrying iron ore to Ford furnaces. A. J. Hain. il map Iron Tr R 71:1121-3 O 26 '22

Cut in upper lake rates urged. J. A. Topping. Iron Tr R 69:1542-4 D 15 '21

Decision of Interstate commerce commission favors steel corporation roads. L. W. Moffett. Iron Age 110:1065-6 O 26 '22

Eight boats added to fleet handling lake iron ore. A. J. Hain. il Iron Tr R 73:184-6 J1 19 '23; Same. Marine R 53:306-8 Ag '23

High rates on iron ore to be restored. L. W. Moffett. Iron Age 108:1557-9 D 15 '21

Iron ore prices reduced fifty cents. Iron Age 109:1683-4 Je 15 '22

Iron ore rail rate map revised. Iron Tr R 71: 18 J1 6 '22

Iron ore rates in East reduced. Iron Tr R 71: 318 Ag 3 '22

Ore shippers seek rate refund. Iron Tr R 71: 1434 N 23 '22

Rates on Eastern iron ore reduced. L. W. Moffett. Iron Age 110:281-3 Ag 3 '22

Reduction of ore freight rate granted. L. W. Moffett. Iron Age 109:1599-1600 Je 8 '22

Safety factors in lake ships. A. Lindblad. diags Marine R 53:424-5 N '23

Australia

Australian steelworks modern; abstracts. D. Baker. Iron Tr R 70:1555-8+ Je 1 '22; Iron Age 109:1821-3 Je 29 '22

China

China's iron deposits are small. Chung-Yu Wang. Iron Tr R 73:1232+ N 1 '23; Same cond. Iron Age 112:1247-8 N 8 '23

Dutch East Indies

Iron ore in the Dutch East Indies. A. L. ter Braake. diags map Eng & Min J 115:1158-9 Je 30 '23

Europe

Iron ore in Europe. Sci Am 127:405 D '22

France

Iron ore deposits of eastern and western France. P. Nicou. Iron & Steel Inst J 104: 15-52 no 2 '21; Excerpts. Iron Age 108:733-6 S 22 '21; Discussion. Iron & Steel Inst J 104:53-7 S 22 '21; Iron Age 108:736-7 S 22 '21

Les mineraux de fer de la Presqu'île armoricaine et l'origine première du fer. Génie Civil 80:16 Ja 7 '22

Les mineraux de fer français. L. Ferasson. Chimie & Ind 10:77-8 J1 '23

Germany

Die eisenerzlagerrstätten im nordöstlichen oberfranken. H. Haf. Stahl & Eisen 42:1417-24 S 14 '22

Lake Superior region

Sampling and estimating Lake Superior iron ores. J. F. Wolff, E. L. Derby and W. A. Cole. Min & Met 189:41-5 S '22

Malay Peninsula

Iron ore in the Malay Peninsula. Eng & Min J 114:504 S 16 '22

Michigan

Methods of estimating ore on the Gogebic range. J. F. Wolff. Min & Met 189:45-6 S '22

Sampling and estimating on the Menominee range. J. F. Wolff. Min & Met 189:37-8 S '22

Minnesota

New ore of the East Mesabi range. G. M. Schwartz. il map Eng & Min J 116:409-12 S 8 '23

Origin of sedimentary iron formations: the Biwabik formation of the Mesabi range. J. W. Gruner. il diags Econ Geol 17:407-60, pl 6-8 S '22

Paragenesis of the martite ore bodies and magnetites of the Mesabi range. J. W. Gruner. diag Econ Geol 17:1-14, pl 1-2 Ja '22; Discussion. D. H. Newland. 17:299-302 Je '22

Montana

Iron deposits in Montana examined by easterners. Eng & Min J 115:947 My 26 '23

New Jersey

Developing north Jersey iron ores. E. C. Kreutzberg. il Iron Tr R 69:1207-11+, 1285-9 N 10-17 '21

Iron ores—New Jersey—Continued

Importance of New Jersey iron ores. H. M. Roche. Eng & Min J 116:183 Ag 4 '23

New Mexico

Contact metamorphic iron-ore deposit near Fairview. D. D. Smythe. Econ Geol 16:410-18, pl 14-15 S '21

New York (state)

Adirondack ores are important; abstracts. F. L. Nason. il Iron Tr R 70:1651-3 Je 8 '22; Iron Age 109:1592-3 Je 8 '22

North Carolina

Brown hematite ores of western North Carolina. W. S. Bayley. U S Geol S Bul 735—F:157-208, pl 4-6 '22
General features of the magnetite ores of western North Carolina and eastern Tennessee. W. S. Bayley. maps U S Geol S Bul 735—G:209-70 '22

Spain

Origin of the Bilbao, Almeria, and Santander iron ores. R. W. van der Veen. il Econ Geol 17:602-18 N '22
Spanish iron-ore situation. Eng & Min J 114:57 Jl 8 '22

Tennessee

General features of the magnetite ores of western North Carolina and eastern Tennessee. W. S. Bayley. maps U S Geol S Bul 735—G:209-70 '22

Utah

Iron-ore deposits of southern Utah. D. P. Rohlfing. il diags map plan Eng & Min J 115:716-19 Ap 21 '23

Iron oxides

Antimony sulphide and iron oxide as rubber-compounding ingredients. E. Anderson and W. M. Ames. Soc Chem Ind J 42:136-9 Mr 29 '23

Constitution of ferric oxide hydrosol from measurements of the chlorine- and hydrogen-ion activities. F. L. Browne. diag Am Chem Soc J 45:297-311 F '23

Determination of activity of oxides by rate of flow. A. R. Powell. Am Gas Assn Technical sec v 3:209-13 '21

Dissociation of ferric oxide dissolved in glass and its relation to the color of iron-bearing glasses. J. C. Hostetter and H. S. Roberts. Am Cer Soc J 4:927-38 N '21

Effect of moisture on the activity and capacity of iron oxides for gas purification. W. A. Dunkley. Am Gas Assn Technical sec v 3:214-41 '21

Effect of oxidising gases at low pressures on heated iron. H. C. H. Carpenter and C. F. Elam. il diags Iron & Steel Inst J 105:83-9, pl 2 no 1 '22; Same. Engineering 113:605-6 My 12 '22; Same. Blast F & Steel Pl 10:317-19 Je '22; Discussion. Iron & Steel Inst J 105:90-2 no 1 '22; Engineering 113:594 My 12 '22; Engineer 133:519 My 12 '22

Equilibria in the systems iron:carbon:oxygen and iron:hydrogen:oxygen, and the free energies of the oxides of iron. E. D. Eastman. Am Chem Soc J 44:975-98 My '22

Ferric salt as the solution link in the stability of ferric oxide hydrosol. A. W. Thomas and A. Frieden. Am Chem Soc J 45:2522-32 N '23

Finding sulfur content in oxide. C. E. Little. Gas Age 49:463-5 Ap 15 '22

Heat of coagulation of ferric oxide hydrosol with electrolytes. F. L. Browne and J. H. Mathews. Am Chem Soc J 43:2336-52 N '21

Heat of coagulation of ferric oxide hydrosol with sodium sulphide. F. L. Browne. Am Chem Soc J 45:311-21 F '23

Iron and the lower oxides of iron. J. B. Ferguson. Can Chem & Met 7:175-6 Jl '23

Report of purification sub-committee on activity and capacity of oxides. W. A. Dunkley. diag Am Gas Assn Technical sec v 3:198-208 '21

Report on cooperative tests of purifying oxides. W. A. Dunkley. Gas Age 52:371-2 S 29 '23; Excerpts. Am Gas J 119:455-6 O 19 '23

Suggested explanation of the high ferric oxide content of limestone contact zones. B. S. Butler. Econ Geol 18:398-404 Je '23
System, $\text{Fe}_2\text{O}_3\text{-SO}_3\text{-H}_2\text{O}$. E. Posnjak and H. E. Merwin. Am Chem Soc J 44:1965-94 S '22
System ferric oxide-phosphoric acid-water; a new phosphate. S. R. Carter and N. H. Hartshorne. il diag Chem Soc J 123:2223-33 S '23

See also Iron hydroxide; Magnetite; Ocher

Iron phosphates

Kinetics of the reaction between ferrous phosphate and sulphur dioxide in phosphoric acid solution. S. R. Carter and J. A. V. Butler. diag Chem Soc J 123:2370-80 S '23

Reaction between ferrous phosphate and sulphur dioxide in phosphoric acid solution; the nature of the decomposition products. S. R. Carter and J. A. V. Butler. Chem Soc J 123:2380-4 S '23

System ferric oxide—phosphoric acid—water; a new phosphate. S. R. Carter and N. H. Hartshorne. il diags Chem Soc J 123:2223-33 S '23

What it pays to know about corrosion; how iron phosphate keeps rust away. Factory 28:173-4 F '22

Iron plating

Building up worn metal parts by electro-deposition. W. E. Hughes. Chem & Met Eng 26:267-9 F 8 '22

Experiments on the ferrous-calcium chloride solution for the electrodeposition of iron. W. E. Hughes. Brass W 18:261-5, 288-9 S-O '22

Iron removal from water.

See Water purification

Iron-silicon alloys

Acid-resisting irons. P. D. Schenck. Chem & Met Eng 28:678 Ap 16 '23

Silicon-iron alloys for structural purposes. Chem Age 31:189 Ap '23

Iron stains

Iron stains in cloth. T. Hadfield. Textile World 64:1527+ S 15 '23

Iron sulfates

Electrometric titration of dichromate with ferrous sulfate. M. Eppley and W. C. Vosburgh. Am Chem Soc J 44:2148-56 O '22

Ferric salts as solvents in the leaching of roasted copper ores. P. R. Middleton. flow sheets Eng & Min J 114:451-4 S 9 '22; Discussion. 114:709-10, 933 O 21, N 25 '22

Studies on thallium compounds; the reduction of thallic compounds with ferrous sulphate and with sodium arsenite. A. J. Berry. Chem Soc J 123:1109-14 My '23

System, $\text{Fe}_2\text{O}_3\text{-SO}_3\text{-H}_2\text{O}$. E. Posnjak and H. E. Merwin. Am Chem Soc J 44:1965-94 S '22

System ferric oxide—sulphuric acid—water. M. P. Applebey and S. H. Wilkes. Chem Soc J 121:337-48 Mr '22

Iron sulfide

Equilibrium diagram of the system $\text{Cu}_2\text{S-FeS}$. C. B. Carpenter and C. R. Hayward. il diags Eng & Min J 115:1055-61 Je 16 '23

Value for the surface tension of iron sulphide. E. J. L. Holman. Iron & Steel Inst J 107:517-23 no 1 '23

See also Marcasite; Pyrite

Iron workers

Three-shift system in the iron and steel industry. Int Labour R 6:547-58 O '22

Iron workers, Bridge and structural

Agreement between the Allied building metal industries and Housesmiths' union, local no. 52. Monthly Labor R 17:427-30 Ag '23

Iron works

Neubauten auf amerikanischen, englischen und französischen hüttenwerken während der kriegsjahre. diags plans Stahl & Eisen 42:1460-9, 1524-7, 1560-4, 1687-91, 1715-19 S 21, O 5-12, N 9-16 '22

See also Foundries; Steel works; also Babcock and Wilcox company

Iron works—Continued

Accidents

Accident frequency rates in the iron and steel industry, by causes, 1913 to 1920. L. W. Chaney. *Monthly Labor R* 13:487-92 S '21

Accident occurrence in the iron and steel industry, 1922. L. W. Chaney. *Monthly Labor R* 17:907-16 O '23

Frequency and severity of accidents in the iron and steel industry of the United States 1907 to 1920. L. W. Chaney. *Int Labour R* 5:145-60 Ja '22; Excerpt. *Monthly Labor R* 13:886-8 O '21

Electric equipment

Coal strike and the development of the use of electricity in the iron and steel industry. A. Davidson. *Electrician* 87:634-5 N 18 '21

Electrical developments in iron and steel works. J. Smith. *il Electrician* 89:586-90 N 24 '22

Power

Application of electric power in the iron and steel industry. W. S. Hall. *W Soc E J* 27: 145-52; Discussion. 152-7 My '22

Economic principles governing the use of electrical power in iron and steel works. C. A. Ablett. *Iron & Steel Inst J* 107:225-40 no 1 '23; Abstract. *Elec R (Lond)* 92:756-7 My 11 '23; Discussion. *Iron & Steel Inst J* 107: 241-7 no 1 '23; *Elec R (Lond)* 92:794 My 18 '23; *Engineering* 115:613 My 18 '23; *Engineer* 135:547 My 25 '23

Electric power in iron and steel works; advantages of generation and transmission by alternating current emphasised. A. Davidson; J. P. Hodges. *Electrician* 89:594-600 N 24 '22

Selection of electrical systems for iron and steelworks. J. MacSheehy. *plan Electrician* 89:601-7 N 24 '22

China

First modern blast furnace in North China. P. F. Kohlhaas. *il diags Blast F & Steel Pl* 11:37-43 Ja '23

Modern iron and steel works in China. K. E. Humbert. *il map Iron Age* 112:461-6, 534-7, 598-601 Ag 23-S 6 '23

England

Albion ironworks. Miles Platting, Manchester. *il Gas I (Lond)* 161:38-41 O 3 '23

Devonshire ironworks. *il Engineer* 134:242, 246 S 8 '22

France

Position of the metallurgical industries of northern and eastern France; their destruction and reconstruction. L. Guillet. *Iron & Steel Inst J* 104:73-89 no 2 '21; Same. *Iron Age* 108:796-800 S 29 '21

Germany

Aus der geschichte des eisenhüttenwerkes thale A.-G. Stahl & Eisen 42:545-7 Ap 6 '22

Famous German forging and machine plant; Haniel & Lueg at Düsseldorf. G. L. Carden. *il Iron Age* 111:886-7 Mr 29 '23

Lorraine

Stand des deutschen ausbaues der lothringischen und luxemburgischen eisenindustrie bis zum jahre 1918; die Karlsruhte in Diedenhofen. W. Haug. *il diags plan Stahl & Eisen* 42:728-34 My 11 '22

Stand des deutschen ausbaues der lothringischen und luxemburgischen eisenindustrie bis zum jahre 1918; die werksanlagen der Rombacher hüttenwerke in Lothringen. A. Nerretter. *il diag map Stahl & Eisen* 43:585-90, pl 1-2, 625-30, 659-62, 686-93 My 3-24 '23

United States

Mechanical puddling; ground broken for first unit of a large plant of Youngstown steel co. *il Iron Age* 110:9-10 Ji 6 '22

New iron and steel works construction. *Iron Age* 111:87-92 Ja 4 '23

New iron and steel works construction in 1921. *Iron Age* 109:112-17 Ja 5 '22

Ueber technik und wirtschaft der Vereinigten Staaten in der nachkriegszeit. H. Bleibtreu. *Stahl & Eisen* 43:527-32 Ap 19 '23

Ironton, Ohio

Bridges

Cantilever highway bridge across the Ohio at Ironton. J. F. Jackson. *il diags Eng N* 90: 954-8 My 31 '23

Ironwork, Architectural

Early architecture of Pennsylvania. A. L. Kocher. *il diags Arch Rec* 52:121-32 Ag '22

Iron brackets, Palazzo del Magnifico, Siena, Italy. *Am Arch* 121:301-3, suppl 4 Ap 12 '22

Old ironwork in Normandy. *il Am Arch* 124: 374-8 O 24 '23

Ornamental ironwork of New Orleans. I. T. Frary. *il Am Arch* 124:56-8 Ji 18 '23

Some notes on ironwork. L. E. Welsh. *diags Arch Rec* 54:376-82, 565-71 O, D '23

See also Grilles

Ironwork, Artistic

Alsatian ironwork. H. Moise. *il Arch Forum* 36:147-50 Ap '22

See also Grilles

Ironwork, Road

Road ironwork. *Engineering* 115:658-9 My 25 '23

Irrigation

Border method of irrigation. S. Fortier. *il diags U S Agric Farmers' Bul* 1243:1-41 '22

Ditch riders, their qualifications and duties. G. A. Remington. *Eng N* 88:359 Mr 2 '22

Drainage of irrigated farms. R. A. Hart. *il diags U S Agric Farmers' Bul* 805:1-32 '23

Efficiency of irrigation. G. E. P. Smith. *Eng & Contr* 57:576-8 Je 14 '22

Flood conditions and flood-protection problems; extracts from papers read at Dayton meeting of American society of civil engineers. *Eng N* 88:653-8 Ap 20 '22

Flood problems in the arid region. A. P. Davis. *Am Soc C E Pro* 48:1186-90 My '22; Abstract. *Eng N* 88:653-4 Ap 20 '22

Importance of irrigation work. A. S. Dawson. *Can Eng* 42:134-5 Ja 10 '22

Incomplete development prevents success in irrigation. E. Mead. *Eng N* 90:497-8 Mr 15 '23

Largest irrigation sprayer travels on wheels. *il Pop Mech* 39:179 F '23

Movable overhead irrigation system. *il Pop Mech* 39:475 Mr '23

Power development on the Colorado river and its relation to irrigation and flood control. O. C. Merrill. *maps Am Inst EEJ* 41:500-7 Ji '22

Progress of irrigation. *Eng & Ind Management* 7:432-3 My 18 '22

Removing seepage and alkali from irrigated lands. D. W. Murphy. *Eng N* 90:749 Ap 26 '23

Return-flow water from irrigation developments. R. I. Meeker. *bibliog Eng N* 89:105-8 Ji 20 '22; Discussion. R. Follansbee. 89: 670 O 19 '22

Standardized appliances for irrigation structures. J. L. Savage. *diags Eng N* 89:923-6 N 30 '22

Water measurement on irrigation project. C. C. Cragin. *map Eng & Contr (W W)* 59:106-9 F 14 '23

Windmills on Columbia river for irrigation. *il Pop Mech* 38:888 D '22

See also Dams; Drainage; Flumes; Gates; Hydraulic; Irrigation canals; Reclamation of land; Soil moisture; Water storage

Cost

Economical use of irrigation water based on tests. H. S. Clyde, W. Gardner and O. W. Israelsen. *Eng N* 91:548-52 O 4 '23; Discussion. 91:642-4, 817 O 18, N 15 '23

Finance

Actuarial factors in design of irrigation structures. H. B. Muckleston. *Eng & Contr (W W)* 58:150-6 D 13 '22

Making irrigation bonds saleable. J. L. Hershey. *Munic Eng* 62:135-7 Ap '22; Correction. 62:sup27 My '22

Irrigation—Continued

Tables, calculations, etc.

Economical use of irrigation water based on tests. H. S. Clyde, W. Gardner and O. W. Israelsen. Eng N 91:548-52 O 4 '23; Discussion. 91:642-4, 817 O 18, N 15 '23

Alberta

Irrigation in southern Alberta. Can Eng 43:151-2 J1 18 '22

Some present day irrigation problems. H. B. Muckleston. Can Eng 43:457-8 O 17 '22

Australia

Engineering work for large British irrigation project; method of making surveys and designs for Murrumbidgee scheme. J. M. S. Woore. Eng & Contr (W W) 60:91-6 J1 11 '23

Irrigation in Australia; the Murrumbidgee project, with storage capacity for 200 billion gallons. P. J. Risdon. il Sci Am 128:241-5 Ap '23

Brazil

Saving water for Brazilian states. A. S. Chapman. il map Pop Mech 39:333-5 Mr '23

California

Concrete pipe irrigation system, Delhi settlement. J. R. Jahn. il Eng N 91:464-6 S 20 '23

Don Pedro project of the Turlock irrigation district. R. W. Shoemaker. il Gen Elec R 26:736-40 N '23

Influence of irrigation on expansion of agricultural industry in California. Eng & Contr (W W) 59:1324-5 Je 13 '23

Irrigation project of the Californias. S. L. Rothery. Engineering 115:310-11 Mr 9 '23

Irrigation requirements of California lands. 196p California. Dept. of public works, Sacramento '23

Problems of Imperial Valley and vicinity. 326p [Bibliog. p. 223-33] U.S. Reclamation service, Washington '22

Reclaiming Yuma land. G: F. Paul. il Pop Mech 39:75-6 Ja '23

Water requirements for rice culture in Sacramento valley. Cal. Eng & Contr (W W) 59:1074-6 My 9 '23

Water resources of Kern river and adjacent streams and their utilization, 1920. (Bul. no. 9) 209p California Engineer dept., Sacramento '21

Canada

Lethbridge irrigation enterprise in western Canada. F. S. Dyke. il map Engineer 136:114-16, 147 Ag 3-10 '23

Reclamation of waste lands in western Canada. E: F. Drake. il Can Eng 44:119-22 Ja 9 '23

Colorado

Irrigation in northern Colorado. R. G. Hemp-hill. U S Agric Bul 1026:1-85 '22

Egypt

Les irrigations en Égypte. C: Audebeau Bey. map diags Soc Ing Civils Bul 76:375-420, pl 43 Ja '23

Formosa

Irrigation works in Formosa being built by Japan. il Eng N 89:75-6 J1 13 '22

Idaho

Canal that grows crops in a barren country; King Hill irrigation project in the Snake river valley. il Sci Am 129:33 J1 '23

Southern Idaho, an engineers' creation. W. W. De Berard. il Eng N 89:473-5 S 21 '22

India

Diesel-engine-driven centrifugal pumps irrigate 50,000 acres in India. J. A. Colaco. Eng N 90:702 Ap 19 '23

\$87,000,000 irrigation project in India. Eng & Contr (W W) 59:1060-1 My 9 '23

Irrigation in India. Can Eng 45:373 O 2 '23

Sukkur barrage, diags plans Engineer 134:320-1; 136:459 Ag 25 '22, O 26 '23

Indo China

Ancient farming methods used in Indo-China. il Pop Mech 40:252-3 Ag '23

L'hydraulique agricole en Indochine. Bénabénq. map Génie Civil 81:534-7 D 9 '22

Louisiana

Combined irrigation and drainage plant in Louisiana. A. M. Shaw. diags Eng N 89:741-4 N 2 '22

New Mexico

Drainage ditches for Rio Grande irrigation project. L. M. Lawson. il Eng N 89:574-5 O 5 '22

Palestine

Irrigation and water-power in Palestine. H: W. Hulbert. Sci Am 127:313 N '22

Power and irrigation development in Palestine. il maps Eng N 88:1042-6 Je 22 '22

Porto Rico

Porto Rican irrigation project has novel features. R. A. Gonzalez. diags map Eng N 90:161-4 Ja 25 '23

South Africa

South African irrigation works. F. T. Patterson. Eng & Contr 57:514-16 My 31 '22

Zaaidam method of irrigation in South Africa. T. Hopwood. Eng & Contr 57:289-90 Mr 29 '22

Sudan

Irrigation of the Sudan. il Engineering 114:400, 404-5 S 29 '22

Texas

Drainage ditches for Rio Grande irrigation project. L. M. Lawson. il Eng N 89:574-5 O 5 '22

Water supply and irrigation works, Wichita Falls, Tex. A. S. Fry. map Eng N 90:1080-1 Je 21 '23

United States

14th census of the United States taken in the year 1920; irrigation and drainage. (v. 7) 741p U.S. Bur. of census, Washington '22

Irrigation projects of the Reclamation service. 40p U.S. Reclamation service, Washington '23

See also Reclamation service (United States)

Western states

Development of the West under irrigation. C. E. Grunsky. Eng N 91:715-18 N 1 '23

Federal land reclamation: a national problem. F. H. Newell. maps Eng N 91:666-73 O 25 '23

Federal land reclamation: a national problem. C. S. Scofield. Eng N 91:756-61 N 8 '23

Irrigation opportunities and duties of federal government in western land reclamation. F. H. Newell. Eng N 90:28-9 Ja 4 '23

Through the reclamation country. F. E. Schmitt. Eng N 91:566, 603-4, 636, 676-7, 722-3, 766-7 O 4-N 8 '23

Irrigation canals

Canal that grows crops in a barren country; King Hill irrigation project in the Snake river valley. il Sci Am 129:33 J1 '23

Dimensions of irrigation canals graphically determined. P. Baumann. Can Eng 43:137-8 J1 11 '22

Economy of concrete for irrigation canal linings. R. C. E. Weber. il Concrete 23:158-9 O '23; Same. Eng & Contr (W W) 60:539-41 S 12 '23

Operator's viewpoint of canal and structure design. G: Ebner. il Eng N 89:1116-17 D 28 '22

Thin concrete lining successful in irrigation canals. R. C. E. Weber. il Eng N 88:436-7 Mr 16 '22

See also Flumes

Cleaning

Cleaning irrigation canals with modified disk harrows. H. L. Crawford. Eng & Contr 57:357-8 Ap 12 '22

Irrigation canals—Cleaning—Continued

Debris remover for irrigation canal. *il Pop Mech* 38:394 S '22

Economies in cleaning irrigation canals. C. L. Tucker. *Eng & Contr (W W)* 60:568-72 S 12 '23

Exclusion of silt from irrigation works; new type of headworks proposed for irrigation canals. F. V. Elsdon. *diags plan Eng & Contr* 58:28-31 N 29 '22; *Same. Engineer* 134:485-6 N 10 '22

Keeping irrigation ditches clear. *il Sci Am* 127:305 N '22

Method and cost of removing moss from irrigation canals with disk harrow. A. M. Rawn. *Eng & Contr (W W)* 58:7-8 O 11 '22

Isatin

Colouring matters of the isatin-yellow series. J. Martinet. *Chem Soc J* 122 pt 1:278-9 Mr '22

Neue isomerien in der isatin-reihe. G. Heller. *Deutsche Chem Gesell Ber* 55:2681-97 S '22; *Abstract. Chem Soc J* 122 pt 1:1058-60 N '22

New process for preparation of sulfite compounds of isatin. *Color Tr J* 12:115-16 Mr '23

N-substituted oxindoles and isatins. R. Stollé and others. *Soc Chem Ind J (Abstracts)* 42: 1014-16 O 26 '23

Über die angeblichen isomerien in der isatin-reihe. A. Hantzsch. *Deutsche Chem Gesell Ber* 55:3180-94 O '22; *Abstract. Chem Soc J* 122 pt 1:1177-9 D '22

Über die konstitution der isatinsalze und das isatol. G. Heller. *Deutsche Chem Gesell Ber* 54:2214-22 O '21

Untersuchungen über isatin und verwandte verbindungen: über die einwirkung von hydrazin auf isatin und N-methyl-isatin. W. Borsche and R. Meyer. *Deutsche Chem Gesell Ber* 54:2844-53 N '21; *Abstract. Chem Soc J* 122 pt 1:53-5 Ja '22

Untersuchungen über isatin und verwandte verbindungen: über 5,5'-diisatylmethan und seine umwandlung in chinolin-derivate. W. Borsche and R. Meyer. *Deutsche Chem Gesell Ber* 54:2841-3 N '21

Isatogen

Zur kenntnis der isatogene. G. Heller and W. Boessneck. *Deutsche Chem Gesell Ber* 55:474-82 F '22

Isatoids

Über die natur der isatoide. G. Heller and W. Benade. *Deutsche Chem Gesell Ber* 55:1006-14 Ap '22

Ishiguro, Isoji, 1855-1922

Sketch. Engineer 133:444 Ap 21 '22

Isinglass

Isinglass; its sources, manufacture, composition, properties, adulteration and uses. R. H. Bogue. *Chem Age* 30:183-4 Ap '22

Isle Royale copper company

Facts for the stockholder. *Eng & Min J* 116: 130 Jl 21 '23

Isoacetovanillone

Sulfo-essigsäure als kondensationsmittel; isoacetovanillon. W. Schneider and E. Kraft. *Deutsche Chem Gesell Ber* 55:1892-9 Je '22

Isobornyl chloride

Über die gleichgewichts-isomerie zwischen bornylchlorid, isobornylchlorid und camphenchlorhydrat. H. Meerwein and K. van Emster. *Deutsche Chem Gesell Ber* 55:2500-23 S '22; *Abstract. Chem Soc J* 122 pt 2:751-4 N '22

Isobrazilein

Synthesis of isobrazilein and certain related anhydripyranol salts; synthesis of isohæmatein. H. G. Crabtree and R. Robinson. *Chem Soc J* 121:1033-41 Je '22

Isobutyric acid

New hydroxamic acids derived from cyclopropane carboxylic acid, isobutyric acid and dibenzyl-acetic acid; a comparative study of the Beckmann rearrangement of their derivatives. L. W. Jones and A. W. Scott. *Am Chem Soc J* 44:407-23 F '22

Isocampholactone

Molecular rearrangement of the camphor series; structure of isocampholactone. P. K. Porter and W. A. Noyes. *Am Chem Soc J* 45:2366-73 O '23

Isocyanic acid

Condensation of aromatic o-amino-sulphonic acids with isocyanic acid. J. R. Scott and J. B. Cohen. *Chem Soc J* 121:2034-51 O '22

Iso diphenic acid

Über eine synthese der iso-diphenensäure; (Studien in der fluoren-reihe). A. Sieglitz and J. Schatzkes. *Deutsche Chem Gesell Ber* 54:2070-1 S '21

Isoelectric point

Determination of the isoelectric point of gelatin; a criticism of Patten and Kellem's method. T. S. Price. *Chem Soc J* 123:410-12 Mr '23

Isoelectric condition of gelatin. S. O. Rawling and W. Clark. *Chem Soc J* 121:2830-43 D '22

Iso-electric point of collagen. A. W. Thomas and M. W. Kelly. *Am Chem Soc J* 44:195-201 Ja '22

Significance of the iso-electric point for the preparation of ash-free gelatin. J. Loeb. *Am Chem Soc J* 44:213-15 Ja '22

Isoeugenol

Electrolytic oxidation of isoeugenol. A. Lowy and C. M. Moore. *Am Electrochem Soc Trans* v 42 (preprint 9):65-76 S '22

Ultra-violet absorption spectra of eugenol and isoeugenol. G. Thompson. *Chem Soc J* 123: 1594-7 Je '23

Isogranatanine

Synthesis of a new bicyclic nitrogen ring; isogranatanine derivatives; preparation of an isomer of homococaine. S. M. McElvain and R. Adams. *Am Chem Soc J* 45:2738-50 N '23

Isohæmatein

Synthesis of isobrazilein and certain related anhydripyranol salts; synthesis of isohæmatein. H. G. Crabtree and R. Robinson. *Chem Soc J* 121:1033-41 Je '22

Isolantite

New refractory insulating material. *Automotive Ind* 46:600 Mr 16 '22

Isolated phase construction. See Electric switches—Isolated phase construction

Isomerism

Amphoteric character of stannic hydroxide and its bearing on the isomerism of the stannic acids. G. E. Collins and J. K. Wood. *Chem Soc J* 121:441-9 Mr '22

Attempt to resolve quaternary phosphonium compounds. L. G. Radcliffe and W. H. Brindley. *Soc Chem Ind J (Chem & Ind)* 42:64-6 Ja 26 '23

Chemistry of the glutaric acids; the isomerism due to retarded mobility. J. F. Thorpe and A. S. Wood. *Chem Soc J* 123: 62-4 Ja '23

Chromoisomerism in the stilbene series. N. M. Cullinane. *Chem Soc J* 123:2053-60 Ag '23

Constitution of the so-called dithio-urazole of Martin Freund; new methods of synthesis, isomerism and poly-derivatives. P. C. Guha. *Am Chem Soc J* 44:1510-17 Jl '22

Farbismomerie und salzbildung bei imidoviolursäuren. J. Lifschitz and B. B. Hepner. *Deutsche Chem Gesell Ber* 55:1619-31 Je '22; *Abstract. Chem Soc J* 122 pt 1:767-8 Ag '22

Isomeric changes of hydrazo-compounds; abstract. P. Jacobsen. *Chem Soc J* 122 pt 1: 589-96 Je '22

Isomeric trithioacetaldehydes. F. G. Mann and W. J. Pope. *Chem Soc J* 123:1178-81 My '23

Isomerism of β-naphthol sulphide and the analogous isomerism of aromatic o-hydroxy-sulphides. R. Lesser and G. Gad. *Chem Soc J* 124 pt 1:561-4 Je '23

Isomerism of metallic oxides; lead monoxide. M. P. Applebey and R. D. Reid. *Chem Soc J* 121:2129-36 O '22

Isomerism—Continued

Isomerism of reduced derivatives of quinoxaline; the four stereoisomeric 2,3-diphenyl-1,2,3,4-tetrahydroquinoxalines. G. M. Bennett and C. S. Gibson. *Chem Soc J* 123: 1570-5 *Je* '23

Isomerism of the dinitrobenzidines. O. L. Brady and G. P. McHugh. *Chem Soc J* 123: 2047-53 *Ag* '23

Isomerism of the oxides; cinnam- and nitrocinnam-aldoximes. O. L. Brady and C. D. Thomas. *Chem Soc J* 121:2098-2110 *O* '22

Isomerism of the oximes; carboethoxy-derivatives. O. L. Brady and G. P. McHugh. *Chem Soc J* 123:1190-8 *My* '23

Isomerism of the oximes; hydrochlorides. O. L. Brady and F. P. Dunn. *Chem Soc J* 123: 1783-1803 *Jl* '23

Isomerism of the oximes; phenylethyl-, diethyl-, and α -naphthyl-carbamyl derivatives. O. L. Brady and D. Ridge. *Chem Soc J* 123: 2163-74 *S* '23

Isomerism of thioaldehydes. E. Fromm and C. Schultis. *Chem Soc J* 124 pt 1:580-2 *Je* '23

Lösungsgleichgewichte der desmotropisomeren diacetonsteinsäure-ester und ihre colorimetrische bestimmung. L. Knorr and H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55: 232-48 *Ja* '22

Molecular configurations of polynuclear aromatic compounds; 4,6:4'-trinitrodiphenic acid and its resolution into optically active components. G. H. Christie and J. Kenner. *Chem Soc J* 123:779-85 *Ap* '23

Molecular configurations of polynuclear aromatic compounds; 6:6'-dichlorodiphenic acid; its synthesis and resolution into optically active components. G. H. Christie, C. W. James and J. Kenner. *Chem Soc J* 123:1948-51 *Ag* '23

Neue isomerien in der isatin-reihe. G. Heller. *Deutsche Chem Gesell Ber* 55:2681-97 *S* '22; Abstract. *Chem Soc J* 122 pt 1:1058-60 *N* '22

Über die angelegenen isomerien in der isatinreihe. A. Hantzsch. *Deutsche Chem Gesell Ber* 55:3180-94 *O* '22; Abstract. *Chem Soc J* 122 pt 1:1177-9 *D* '22

Über die gleichgewichts-isomerie zwischen bornylchlorid, isobornylchlorid und camphenchlorhydrat. H. Meerwein and K. van Emster. *Deutsche Chem Gesell Ber* 55:2500-28 *S* '22; Abstract. *Chem Soc J* 122 pt 2:751-4 *N* '22

Über die isomerie-verhältnisse in der pyrazolreihe. K. v. Auwers and H. Broche. *Deutsche Chem Gesell Ber* 55:3880-3911 *D* '22; Abstract. *Chem Soc J* 124 pt 1:151-4 *F* '23

Über die stereoisomerie der cyclischen kohlenwasserstoffe. A. Skita and A. Schneek. *Deutsche Chem Gesell Ber* 55:144-52 *Ja* '22; Abstract. *Chem Soc J* 122 pt 1:240-1 *Mr* '22

Über halogenierte indazole und raumisomerie bei freien indazolen. K. v. Auwers and H. Lange. *Deutsche Chem Gesell Ber* 55:1139-73 *My* '22; Abstract. *Chem Soc J* 122 pt 1:684-7 *Jl* '22

Über *N*-alkylderivate und *N*-carbonsäure-ester des indazols. K. v. Auwers and W. Schaich. *Deutsche Chem Gesell Ber* 54:1738-70 *S* '21; Abstract. *Chem Soc J* 120 pt 1:806-8 *N* '21

Zur kenntnis der beiden isomeren phthalylchloride. J. v. Braun and W. Kaiser. *Deutsche Chem Gesell Ber* 55:1305-10 *My* '22

Zur kenntnis der china-alkaloide; nomenklatur und über isomerie-erscheinungen. P. Rabe. *Deutsche Chem Gesell Ber* 55:522-32 *F* '22

Zur kenntnis der stereoisomeren stilbenderivate. R. Stoermer and H. Oehlert. *Deutsche Chem Gesell Ber* 55:1232-43 *My* '22; Abstract. *Chem Soc J* 122 pt 1:647-8 *Jl* '22

Zur theorie der *cis-trans*-isomerie des dekahydro-naphthalins. E. Mohr. *Deutsche Chem Gesell Ber* 55:230-1 *Ja* '22

See also Optical rotation; Stereochemistry; Tautomerism

Isomorphism

Isomorphism of the amides and substituted amides of dichloro- and chlorobromo-acetic acids. P. V. McKie. *Chem Soc J* 123:2213-17 *S* '23

Isonitrosomalnamide

Oxime of mesoxamide (isonitrosomalnamide) and some allied compounds; ring formation in the tetra-substituted series. E. H. Usherwood and M. A. Whiteley. *Chem Soc J* 123: 1069-89 *My* '23

Isonitrosomalnanilide

Oxime of mesoxamide (isonitrosomalnanilide) and some allied compounds; the ethers of isonitrosomalnanilide, isonitrosomalondimethylamide, and isonitrosomalondibenzylamide. A. G. Rendall and M. A. Whiteley. *Chem Soc J* 121:2110-19 *O* '22

Isoprene

Addition of hydrogen haloids to isoprene; abstract. H. Staudinger, W. Kreis and W. Schilt. *Chem Soc J* 122 pt 1:978 *N* '22

Isopropanol. See Isopropyl alcohol

Isopropyl alcohol

Importance of the olefine gases and their derivatives; isopropanol (isopropyl alcohol). G. O. Curme, Jr., and E. W. Reid. *Chem & Met Eng* 25:1049-50 *D* 7 '21

Oxidation of isopropyl alcohol with potassium permanganate. W. L. Evans and L. B. Sefton. *Am Chem Soc J* 44:2271-6 *O* '22

Properties and commercial uses of isopropanol. H. C. Fuller. *Chem & Met Eng* 29: 538-9 *S* 17 '23

Isopropyladipic acids

Resolution of the α , δ -dihydroxy- α -methyl- δ -isopropyladipic acids. T. A. Henry and H. Paget. *Chem Soc J* 123:1878-87 *Ag* '23

Isopropylidene

Über die fähigkeit der 1,3-glykole zur bildung von aceton-verbindungen. J. Böeseken and P. H. Hermans. *Deutsche Chem Gesell Ber* 55:3758-60 *D* '22

Isopropylstannonic acid

Isopropylstannonic acid and its derivatives. J. G. F. Druce. *Chem Soc J* 121:1859-63 *S* '22

Isopseudocumenol

Über 1,3-dimethyl-5-oxy-4-benzaldehyd, hemelitenol und isopseudocumenol. K. v. Auwers and K. Saurwein. *Deutsche Chem Gesell Ber* 55:2372-89 *S* '22; Abstract. *Chem Soc J* 122 pt 1:1031-3 *N* '22

Isoquinoline

Isoquinoline and the isoquinoline-reds. J. E. G. Harris and W. J. Pope. *Chem Soc J* 121: 1029-33 *Je* '22

Isostasy

Isostasy. J. F. Hayford. *Nat Research Council Bul* 3 pt 2:11-16 *Mr* '22

Isostrychnine

Die darstellung des isostrychnins. H. Leuchs and N. Nitschke. *Deutsche Chem Gesell Ber* 55:3171-4 *O* '22

Isotherms

25°-isotherms of the systems magnesium nitrate—sodium nitrate—water and magnesium sulphate—magnesium nitrate—water. D. N. Jackman and A. Browne. *diag Chem Soc J* 121:694-7 *Ap* '22

Isothiocyanato acetalilides

Researches on thiocyanates and isothiocyanates; the nature of the intramolecular rearrangement of isothiocyanato-acetalilides. A. J. Hill and E. B. Kelsey. *Am Chem Soc J* 44:2357-69 *O* '22

Isotopes

Application of anode rays to the investigation of isotopes. G. P. Thomson. *diags Philos Mag* 6th ser 42:857-67, pl 26 *N* '21

Atomic weights and isotopes. F. W. Aston. *bibliog diags J Fr Inst* 193:581-608 *My* '22

Atoms and isotopes. E. Hendrick. *Chem & Met Eng* 26:583-7 *Mr* 29 '22

Attempt to separate the isotopes of chlorine. H. Hartley and others. *Philos Mag* 6th ser 43:430-5 *Mr* '22

International table of isotopes. *Am Chem Soc J* 45:868-70 *Ap* '23; Same *abr. Soc Chem Ind J (Chem & Ind)* 42:174 *F* 23 '23; Same. *Blast F & Steel Pl* 11:249 *Ap* '23

Isotopes. F. W. Aston. 152p Longmans '22

Isotopes. F. W. Aston. *Soc Chem Ind J (Chem & Ind)* 42:935 *S* 28 '23

Isotopes—Continued

Isotopes. F. W. Aston. Soc Dyers & Col J 39:38-9 F '23

Isotopes. G. M. J. Mackay. J Ind & Eng Chem 14:447-8 My '22

Isotopes; a new relation concerning the periodic system of the atomic species. W: D. Harkins. Am Chem Soc J 45:1426-33 Je '23

Origins of the conception of isotopes. Engineering 115:660 My 25 '23

Positive-ray analysis of potassium, calcium and zinc. A. J. Dempster. diags Phys R 20: 681-8 D '22

Quantum theory and isotopes. J. W. Nicholson. Philos Mag 6th ser 45:801-17 My '23

Recent work on the separation of isotopes. J. Kendall. Chem & Met Eng 28:115 Ja 17 '23

Separation of isotopes; application of systematic fractionation to mercury in high-speed evaporation-diffusion apparatus. R. S. Mulliken. diags Am Chem Soc J 45:1592-1604 Jl '23

Separation of isotopes by distillation and analogous processes. R. S. Mulliken. Am Chem Soc J 44:2387-90 N '22

Separation of isotopes by thermal and pressure diffusion. R. S. Mulliken. Am Chem Soc J 44:1033-51 My '22

Separation of isotopes; theory of resolution of isotopic mixtures by diffusion and similar processes; experimental separation of mercury by evaporation in a vacuum. R. S. Mulliken and W: D. Harkins. Am Chem Soc J 44:37-65 Ja '22

Separation of mercury into isotopes in a large apparatus. W: D. Harkins and S. L. Madorsky. diags Am Chem Soc J 45:591-601 Mr '23

Separation of the element chlorine into isotopes (isotopic elements). W: D. Harkins and A. Hayes. diags Am Chem Soc J 43:1803-25 Ag '21

Separation of the isotopes of mercury. J. N. Brønsted and G. Hevesy. diags Philos Mag 6th ser 43:31-49 Ja '22

Stability of atom nuclei, the separation of isotopes, and the whole number rule. W: D. Harkins. diags J Fr Inst 194:165-211, 329-56, 521-35, 645-81, 783-814; 195:67-106, 553-73 Ag '22-Ja, Ap '23

Italian architecture. See Architecture, Italian
Italian language

Dictionaries

Italian technical words & phrases. E. F. Paventa. 307p E. Marlborough & co., London '21

Italy

Vingt ans après. H. V. Magonigle. il Am Inst Arch J 10:276-82; 11:8-13, 273-8 S '22, Ja, Jl '23

See also Advertising—Italy; Architecture, Domestic—Italy; Hydroelectric plants—Italy; Finance—Italy; Immigration and emigration—Italy; Labor and laboring classes—Italy; Prices—Italy; Railroads—Italy; Steel industry and trade—Italy; Wages—Italy

Commerce

Italy—imports of machinery for working wood and metal. Am Mach 58:43 Ja 4 '23

See also Aeronautics, Commercial—Italy

Economic conditions

Effects of the Ruhr occupation on Italy. Analyst 21:187-8+ Ja 29 '23

Italy's black shirts and business. B. Miles. Nation's Business 11:22-3 F '23

See also Cooperation—Italy; Cost of living Italy; Finance—Italy; Labor and laboring classes—Italy; Prices—Italy; Steel industry and trade—Italy; Wages—Italy

Foreign relations*Greece*

Adjustment of dispute between Italy and Greece. Comm & Fin Chr 117:1519-21 O 6 '23

Efforts of League of nations to adjust dispute between Italy and Greece. Comm & Fin Chr 117:1069-72 S 8 '23

Premier Mussolini defends Corfu seizure in reply to critics. Comm & Fin Chr 117:1309 S 22 '23

 Jugoslavia *See Fiume***Industries and resources**

Italy in 1921. Electrician 88:571 My 12 '22

Power and boric acid from natural steam in Tuscany. il Soc Chem Ind J (Chem & Ind) 42:1022-4 O 26 '23

See also Dye industry—Italy; Electrical industries—Italy; Iron industry and trade—Italy; Machine tool industry—Italy; Rubber industry and trade—Italy; Steel industry and trade—Italy; Steel works—Italy

Treaties

Economic agreement between Italy and Turkey. Comm & Fin Chr 114:2200-1 My 20 '22

Ivory

Ivory carvers of Bering sea. G. D. Hanna. il Pop Mech 37:761-3 My '22

See also Dyes and dyeing—Ivory

Ivory nut

Investigation of the mannan present in vegetable ivory. J. Patterson. Chem Soc J 123:1139-49 My '23

Turning ivory nuts from tree into buttons. il Pop Mech 40:408 S '23

J**Jackling, Daniel C., 1869-**

Mining engineers of note. por Eng & Min J 114:51 Jl 8 '22

Jacks

Concrete grandstand jacked up to allow enlargement. E. Robinson. il plans Eng N 87:818-19 N 17 '21

Continuous-lift jack works easily. il Pop Mech 40:448 S '23

Corrugated culvert pipe jacked through embankment. P. F. Jones. il Eng N 89:321-2 Ag 24 '22

Jacks for the erecting floor. J. V. Romig. diags Mach 30:127 O '23

Quick acting screw jack. J: S. Watts. diags Am Mach 57:857 N 30 '22

Weaver hi-lift jack. il Am Mach 56:274 F 16 '22

See also Hydraulic jacks

Testing

Testing the lifting power of jacks. il diags Elec Ry J 61:774 My 5 '23

Jacks, Hydraulic. See Hydraulic jacks

Jacquards. See Looms

Jaggard, William

Defense of William Jaggard, printer. Inland Ptr 71:65-6 Ap '23

Jamaica Bay boulevard

Special concrete specified for Jamaica Bay viaduct. diags map Eng N 88:244-7 F 9 '22

James, Alfred Trewartha

Metallurgists of note. por Eng & Min J 112: 818 N 19 '21

James, Henry Duvall, 1874-

Sketch. por Elec W 81:786 Ap 7 '23

Janitors

Instruction course for custodians and janitors. E. S. Hallett. Heat & Ven 18:25-6 Ja; 36-7 F; 38-9 Mr; 38-40 Ap; 36-7 My; 37-8 Je; 36-7 Ag; 42-3 S; 40-1 O; 42-3 N; 39-40 D '21; 19:38-9 F '22

Japan

American's impressions of the Orient. A. F. Bemis. il Textile World 62:1284+ S 2 '22

Japan—Continued

Japan yearbook for 1923. Y. Takenob. 17th ed. rev. 706p; 193p Haramachi Sanchoe, Ushigome, Tokyo; Dixie business book shop, New York '23

See also Advertising—Japan; Building—Japan; Electric lines—Japan; Electric railroads—Japan; Land tenure—Japan; Railroads—Japan; Roads—Japan; Street railroads—Japan

Commerce

Electrical imports and exports of Japan.

Elec R (Lond) 92:349 Mr 2 '23

Foreign trade of Japan. 229p U. S. Tariff

comm., Washington '22

Industrial situation in Japan; with statistics of electrical imports and exports. Elec R (Lond) 91:605-6 O 27 '22

Japan—imports of metal and woodworking machinery. Am Mach 58:112 Ja 18 '23

Japan's financial relations with the United States. G. Odate. (Studies in history, economics and public law, v. 93, no. 2) 136p Columbia univ., New York '22

Japan's needs made basis of movement to increase interest in export trade. Oil Paint & Drug Rep 104:19 N 5 '23

Japan's trade situation improving. Annalist 22:102+ J1 23 '23

See also Cotton trade—Japan; Iron industry and trade—Japan

Earthquake, 1923

Japan after the earthquake. F. R. Eldridge, jr. U S Bur For & Dom Com Trade Information Bul 147:1-9 '23

Japanese earthquake—reconstruction expected to cost \$5,000,000,000. Comm & Fin Chr 117:1193-5 S 15 '23

Japan's great earthquake described by American engineer eye-witness. J: W. Doty. Eng N 91:569-70 O 4 '23

Losses in Japan put at \$932,500,000. Comm & Fin Chr 117:1737-8 O 20 '23

Modern steel and reinforced-concrete structures survive Japanese earthquake. J: W. Doty and W. W. Johnston. Il Eng N 91:678-81 O 25 '23

Westinghouse man tells of Japan's earthquake; abstracts. F. C. Middleton. Am Mach 59:534h O 4 '23; Ry R 73:493-5 O 6 '23; Safety Eng 46:182-5 O '23

See also Earthquakes and building

Economic conditions

Economic position of Japan. W. Mitham. Annalist 20:415 O 23 '22

Industry in Japan today. M. Parsons. Annalist 22:474+ O 8 '23

Japan after the great war. Elec R (Lond) 89:778 D 9 '21

Japan and the economics of disaster. C: Hodges. Annalist 22:326-7 S 10 '23

Postwar policy of the Japanese industrialists. Annalist 21:505 Ap 9 '23

Rebuilding industrial Japan. M. Gonzalez. map Am Ind 24:34, 36-8 O '23

See also Coal miners—Japan; Cost of living—Japan; Finance—Japan; Labor and laboring classes—Japan; Trade unions—Japan; Wages—Japan

Foreign relations

United States

Senate ratifies treaty between U. S. and Japan on status of Yap. Comm & Fin Chr 114: 906-7 Mr 4 '22

See also Yap treaty

Industries and resources

Industrial development in the Orient. W. M. White. por Mech Eng 44:767 N '22

Silk worst hit of Japanese industries. Chem & Met Eng 29:513 S 10 '23

See also Automobile industry and trade—Japan; Building—Japan; Cement industry and trade—Japan; Ceramic industries—Japan; Chemical industries—Japan; Copper mines and mining—Japan; Cotton trade—Japan; Dye industry—Japan; Electric in-

dustries—Japan; Electric plants (central stations)—Japan; Gas industry—Japan; Gold mines and mining—Japan; Hydroelectric plants—Japan; Iron industry and trade—Japan; Machine tool industry—Japan; Military industries—Japan; Mines and mineral resources—Japan; Paint industry—Japan; Paper industry and trade—Japan; Petroleum industry and trade—Japan; Pottery industry—Japan; Shipbuilding—Japan; Steel industry and trade—Japan; Water power—Japan

Navy

Japanese naval construction. il (supp) Engineer 132:555-6 N 25 '21

Japan's naval construction programme. il Engineer 134:344-5, 356 O 6 '22

Naval construction in Japan. H. C. Bywater. il Sci Am 126:25-6 Ja '22

Politics and government

Japan has a business party. F. H. Hedges. Nation's Business 11:25 S '23

Japanese art. See Art, Japanese

Japanese beetles

Bug is sought in the Orient to kill plant beetle. Pop Mech 40:574 O '23

Green Japanese beetle. W: H. Cole. il Sci Am 127:254 O '22

Japanese in the United States

Economic question of our Pacific coast. C. Vanderbilt, jr. Administration 2:594-6 N '21

Japanese immigration. 1490p U.S. Congress, House, Committee on immigration and naturalization, Washington '21

Supreme court says Japanese cannot become citizens of the United States. Comm & Fin Chr 115:2226-7 N 18 '22

Japanese lac. See Lac

Japanning

Baking japanning by industrial gas. Am Gas J 118:570 Je 30 '23

Economical methods for applying japans. G. A. Van Brunt. Factory 31:260 Ag '23

Electric japanning ovens. il Metal Ind 21: 120-1 Mr '23

Electric japanning ovens for optical company. E. H. Fetz. il Elec W 81:339 F 10 '23

Electrically operated japanning oven of new design. il Iron Age 109:728-9 Mr 16 '22

How a shop saved by replacing old shop equipment with new equipment. F. H. Korff. il Am Mach 59:321-2 Ag 30 '23

Japanning. S. R. Gerber. diag Metal Ind 20: 225-7, 261-3 Je-J1 '22

Lacquers, japans and enamels. Brass W 18:66 F '22

Rejection reduced to 3 per cent in electric oven. il Elec W 82:28-9 J1 7 '23

Tramrail reduces labor force to half; japanning department of Globe machine & stamping co. il Iron Age 108:1523-5 D 15 '21

See also Varnish and varnishing

Jarring machinery. See Foundry machinery

Java

See Hydroelectric plants—Java

Javel water. See Sodium hypochlorite

Jelly

Elasticity of purified gelatin jellies as a function of hydrogen-ion concentration. S. E. Sheppard, S. S. Sweet and A. J. Benedict. Am Chem Soc J 44:1857-66 S '22

Relation of alcohol precipitate to jelling power of citrus extracts. R. Johnston and M. C. Denton. Ind & Eng Chem 15:778-80 Ag '23

Study of the relation of pectin and acidity in jelly making. L. Singh. J Ind & Eng Chem 14:710-11 Ag '22

Jelly-strength testers

Preliminary study of a plunger type of jelly-strength tester. S. E. Sheppard and S. S. Sweet. il diags Ind & Eng Chem 15:571-6 Je '23

Jelutong

Jelutong or pontianak. India Rubber W 69:78 N '23

Jenkins, C. Francis

Motion pictures by radio. C. H. Claudy. il
por Sci Am 127:320 N '22

Jenkins, Kentucky

Building a town for a mountain community;
a glimpse of Jenkins and nearby villages.
A. F. Brosky. il map Coal Age 23:560-3 Ap
5 '23

Jennings, John Edward, 1875-

Portrait. Elec W 79:766 Ap 22 '22

Jennings, Michigan

Moving a village eleven miles by truck and
trailer. W. A. Carpenter. il Munic Eng 63:
sup17-19 S '22; Excerpts. Eng & Contr 58:
277 S 20 '22; Excerpts. Eng N 89:623-4 O
12 '22

Jenson, Nicolas, 1420-1480

Nicolas Jenson, printer, and the types of
the earlier printers. H: L: Bullen. Inland
Ptr 68:347-9 D '21

Popular types—their origin and use. J. L.
Frazier. Inland Ptr 72:281-4 N '23

Jersey City, New Jersey

Bridge plaza plans successfully presented by
aid of model. il diags Eng N 91:306-7 Ag 23
'23

Water supply

Protecting Jersey City's water. Pub Works
51:492 D 24 '21

Jerusalem artichoke

Analysis of the Jerusalem artichoke. A. T.
Shohl. Am Chem Soc J 45:2754-6 N '23

Jet

Utah mine gives promise of U.S. jet industry.
F: Kinney. il Pop Mech 37:427-8 Mr '22

Jets

Impact losses of jets. J. G. Burnell. diags
Engineering 113:404-5 Mr 31 '22

Influence of the surface-tension on the efflux
of a liquid in jet form. J. Hartmann. diags
Phys R 20:728-44 D '22

Some experiments on the impact of hydraulic
jets. A. H. Gibson and F. Heywood. il diags
Philos Mag 6th ser 45:229-38 Ja '23

See also Steam jets

Jetties

La construction des jetées et appontement
en béton armé. diags Génie Civil 81:280-1
S 23 '22

Economic location of jetties. H: C. Ripley.
maps Am Soc C E Pro 49:1141-8 Ag '23;

Discussion. L: M. Haupt. 49:2045-56 D '23
Electrically-equipped harbour jetty. il Elec
R (Lond) 93:580 O 19 '23

Extension of Fraser river jetty to improve
entrance. diags map plans Eng N 89:318-20
Ag 24 '22

New Great Western railway jetty at Fowey.
il Chem Age (Lond) 9:sup8-10 O 20 '23

Projet de construction d'une jetée et d'un
môle, au port de Cherbourg (Manche). diags
plan Génie Civil 83:112-13 Ag 4 '23

See also Breakwaters; Fenders (marine
engineering)

Jewell belting company

Jewell belting company finds an advertisable
specialty after 153 years. E. B. Weiss. Ptr
Ink 123:66+ Je 21 '23

Jewelry

Goldsmiths of India. Brass W 19:305 S '23

Jewelry and silverware. B. E. Kennard and
E. L. Hutchinson. 252p Ronald press '22

Unit jewellery. R. L. B. Rathbone. 6 parts
Dutton '21

See also Precious metals; Precious stones;
Rings (jewelry)

Manufacture

Mining gold from dust on floors. il Pop Mech
40:822-4 D '23

Precious metals need perfectly controlled fuel.
J. E. Bullard. il Gas Age 52:141-2 Ag 4
'23

Reclaiming precious metals in jewelry manu-
facture. R. E. Ostby. Management Eng 3:
310-11 N '22

Standards

National jewelry standards. C: H. Proctor.
Metal Ind 20:230 Je '22

Jewelry trade

Jewelry and silverware in Argentina, Uru-
guay and Brazil. S. W. Rosenthal. il U S
Bur For & Dom Com 214:1-14 '22

When better designs intensify competition.
D. M. Hubbard. Ptr Ink M 5:31-2+ Ja '23

William M. Birks, who has seven large jewelry
stores which, he points out, are not a chain.
A. Van Vlissingen. jr. System 42:263-5 S '22

Advertising

Helping the dealer, general theme of Towle
advertising. H: Burwen. Ptr Ink 125:61-2+
O 11 '23

Retailer fights the manufacturers' battles in
his own advertising space. Ptr Ink 123:42+
Ap 5 '23

Jewett, Frank Baldwin, 1879-

President-elect of the A.I.E.E. por Am Inst E
E J 41:sup124-5 Je '22; Elec W 79:1056 My
27 '22

Jews

Will the lost tribes return to Jerusalem? L:
R. Freeman. il map Pop Mech 37:659-65 My
'22

Jigs

Cleveland universal drill jig. il Mach 29:823
Je '23

Combination adjustable parallel and drill jig.
B. R. Wicks. diags Mach 29:310 D '22

Drill jig with tilting base. R. Mawson. il
Mach 29:472 F '23

Increased production from improved tools. D.
A. Nevin. diags Mach 29:132-3 O '22

Indexing drill jig. C. G. Youngquist. diags
Mach 28:664 Ap '22

Jig for assembling needle valves. R. Mawson.
il Am Mach 57:419 S 14 '22

Jig for pouring bronze hub liners on engine
truck wheels. J. H. Hahn. il diags Ry Mech
Eng 96:409 Jl '22

Jigs and tools. J. Moore. il diags Engineering
115:55-9 Ja 12 '23

Jigs for accurate drilling and reaming. R.
Grant. il Am Mach 56:934 Je 22 '22

Jigs for electrical work. J. Edgar. Elec R
(Lond) 90:568 Ap 21 '22

Position gauges and their jigs. A. G. Robson.
diags Engineer 133:460-1 Ap 28 '22

Production drill jig. H. H. Manning. diags
Mach 28:654-5 Ap '22

Rotating indexing jigs reduce labor cost in
engine manufacture. J. E. Schipper. il
Automotive Ind 48:612-15, 828-31 Mr 15, Ap
12 '23

Shuttle-type drill jig. il diags Mach 28:694-5
My '22

Snapper jigs vs. swing-top jigs. G: Laidler.
diags Am Mach 59:566 O 11 '23

Some small jigs. il diags Engineer 133:542-5
My 19 '22

Squaring jig for car trucks. E. A. Miller.
diags Ry Mech Eng 96:514 S '22

Standardization of jig and fixture design.
diags Mach 28:610-13 Ap '22

Two drill jig designs. E: Heller. diags Mach
29:152 F '23

Jigs (mining)

Jig operating without suction through coal
bed serves as its own pump. il diags Coal
Age 23:967-8 Je 14 '23

Jitney buses

Bootlegging jitney rides in Buffalo. il Elec
Ry J 61:879-80 My 26 '23

Boston "L" on jitneys. Elec Ry J 61:350 F 24
'23

Bus competition with electric railways in
larger cities. H. C. Clark. Aera 11:1101-5
Ap '23; Same abr. Eng & Contr (Ry) 59:
879-82 Ap 18 '23

Pooling—the first step toward organization.
E. B. Meyer. il Bus Transportation 1:165-
7 Mr '22

Present conditions in Norfolk, Richmond and
Petersburg. Elec Ry J 62:59-60 Jl 14 '23

Jitney buses—Continued**Regulation**

- Agreement in Spokane; railway wins over jitney. Elec Ry J 59:658 Ap 15 '22
- Birmingham, Alabama, curbs jitneys. Aera 11:1495-7 Je '23
- Election rules jitneys out of Birmingham. Elec Ry J 62:390 S 8 '23
- Houston jitneys to be rerouted. Elec Ry J 61:864-5 My 19 '23
- Jitney elimination question. Elec Ry J 60:720 O 28 '22
- Jitney men lose. Elec Ry J 60:727 O 28 '22
- Kansas City jitney problem up again. Elec Ry J 58:1131 D 24 '21
- Permanent injunction granted preventing the city of Youngstown from interfering with buses. Elec Ry J 62:580-1 O 6 '23
- Rates of electric railway fare, legal requirements for bus operation and automotive competition in one hundred largest cities in United States. Aera 11:1106-17 Ap '23

Job analysis

- Analyzing the employee and his job. E. J. Benge. Factory 30:424-6+ Ap '23
- Analyzing the salesman's job. H. W. McIntire. Ptr Ink 121:177-8+ O 19 '22
- Grading the office job. F. A. Kingsbury. Administration 5:267-74, 393-401, 537-48, 669-80 Mr-Je '23; Management & Adm 6:73-8 Jl '23
- History of job analysis. R. S. Uhrbrock. Administration 3:164-8 F '22; Abstract. Monthly Labor R 14:440-3 Mr '22
- Job analysis and the curriculum. E. K. Strong, Jr. and R. S. Uhrbrock. 146p Williams & Wilkins co., Baltimore '23
- Job analysis as a factor in cost reduction. R. S. Uhrbrock. Ind Management 63:100-2 F '22
- Job analysis as an aid to cost reduction. D. E. Rowe. Ind Management 63:341-6 Je '22
- Job analysis reduces labor costs. E. C. Gould. Textile World 64:827+ Ag 11 '23
- Methods of establishing wage rates and determining promotions. H. P. Carruth. Paper Tr J 76:49-58 My 24 '23; Same. Tech Assn Pa ser 6:81-90 Je '23
- Occupational rating plan of the International harvester company. A. H. Young. Management Eng 4:301-6 My '23
- Standardizing labor operations on special and variable products; machining metal molds for bottles. W. J. Donkel. Ind Management Eng 3:139-43 S '22
- Survey of delivery operations. H. B. Weiss. Administration 5:17-26, 147-55 Ja-F '23
- See also Bedaux system; Process charts; Time study

Job tickets

- Combined job ticket and Hollerith card. Eng & Ind Management 7:392-4 My 4 '22

Job work. See Typesetting—Job work**Jobbers**

- Advantages of selling both the jobber and the dealer. E. P. Chalfant. Automotive Ind 49:619-20 S 27 '23
- Are grocery specialty salesmen altogether useless? Ptr Ink 122:89-90+ Ja 18 '23
- Are there too many wholesalers? J. M. Fly. Ptr Ink M 7:23-4+ N '23
- Boosts jobber to retailer; gains co-operation of both. G. A. Nichols. Ptr Ink 121:117-18+ D 7 '22
- Discount shopping severely condemned by food manufacturers. Ptr Ink 124:89-90 S 27 '23
- Distribution trouble not all for the young. L. L. Brastow. Elec W 80:960-1 O 28 '22
- Drug jobber tells what he expects from manufacturers. G. M. Jackson. Ptr Ink 124:85-6+ S 20 '23
- Electrical jobber's service. Il J Elec 49:285-6 O 15 '22
- Function of the jobber in the distribution system. E. A. Kincaid. J Elec 49:160-2 S 1 '22
- Getting their jobbers to pull with them. J. M. Schlachter. System 42:547-8+ N '22
- How a specialty was made a staple jobber's line: Dot high-pressure lubricator. D. Kirkland. Ptr Ink 124:125-6+ S 20 '23

- How Calumet gained support of 2,600 wholesale grocers. G. A. Nichols. Ptr Ink 122:3-4+ F 8 '23
- How definite price policy helps win jobber good-will. G. A. Nichols. Ptr Ink 122:17-20 Mr 8 '23
- How Signet got jobbers pushing its line instead of accepting orders. D. Kirkland. Ptr Ink 117:157-8+ D 15 '21
- How the state of demand affects a jobber policy; Burton-Rogers company. H. Burwen. Ptr Ink 124:41-2+ Ag 23 '23
- Jobber and the advertiser—how can they co-operate? H. W. Stokes. Ptr Ink 119:17-19 Je 8 '22
- Jobber; what is going to become of him? C. M. Harrison. Ptr Ink 122:117-18+ Ja 11 '23
- Lo! the poor middleman! L. D. H. Weld. Nation's Business 11:12-14 F '23
- Making up the calendar for small-town sales work. J. J. Witherspoon. Ptr Ink M 7:19-20+ S '23
- Marketing cost, rather than gross sales, is index to jobbing business. W. H. Smith. Nat Pet N 15:67+ My 9 '23
- Profit in doing usual things in unusual ways; Green brothers fruit and produce company. F. J. Green. Il System 43:327-9+ Mr '23
- Review of the jobber's role. Elec W 80:740-1, 794-5 S 30-O 7 '22
- Selling sheet metal supplies to anybody. Sheet Metal Worker 14:199-200 Ap 13 '23
- Should orders for broken packages be frowned upon? Ptr Ink 120:102+ S 7 '22
- Why McKesson & Robbins now distribute through local jobbers. S. Norvell. Ptr Ink 124:3-4+ Ag 2 '23
- Why not cut out middlemen? L. D. H. Weld. Nation's Business 10:22-3 F '22
- Will jobbers hold trump hands when business revives? E. B. Weiss. Ptr Ink 117:89-90+ N 24 '21

See also Advertising—Jobber cooperation; Mail order business, Wholesale; Marketing; Merchandizing

Advertising

- Jobber who pushes the manufacturers' lines. R. Bostick. Ptr Ink 120:94+ Ag 17 '22
- Planning a typical campaign for a wholesaler. R. E. Ramsay. Inland Ptr 70:541-4 Ja '23
- Retail distribution scant, but wholesaler advertises with profit. Ptr Ink 120:10+ Jl 20 '22
- Wholesale grocer advertises his private brands. Ptr Ink 123:118+ My 10 '23
- Wholesaler uses big space to stabilize whole industry. Ptr Ink 121:17-19 D 21 '22
- Wholesaler's advertising stirs up interest in new invention. R. Dickinson. Ptr Ink 118:17-20 Ja 19 '22

Bibliography

- Offering prizes to jobbers' salesmen. Ptr Ink 120:12 Jl 6 '22
- John Crerar library
John Crerar library building, Chicago; view. Am Arch 121:472p Je 7 '22
- Johns Hopkins university
Chemical education at Johns Hopkins. Chem Age 30:410-14 S '22
- John's Island, South Carolina

St John's church

- Architectural specifications of a century ago; being a copy of the documents and drawings for a church on John's Island, S.C. S: Lapham, jr. Il Arch Rec 53:239-44 Mr '23
- Johnsen-Rahbek effect. See Electrostatic adhesion

Johnson, Henry Lewis

- Henry Lewis Johnson and his latest work for printers. H: L. Bullen. por Inland Ptr 72:317-18 N '23

Johnson, Walter Howard, 1863-

- Portrait. Elec W 81:1310 Je 9 '23

Johnstown, Pennsylvania**Water supply**

- How the Johnstown water company met the recent drought. Eng N 90:451 Mr 8 '23

Joint board of sanitary control in the New York ladies' garment industries
Joint board of sanitary control in the New York ladies' garment industries. *Int Labour R* 5:125-9 *Ja* '22

Joint conference on better advertising to architects

Proceedings of meeting, Indianapolis, Indiana, Nov. 10-11, 1921. *Am Inst Arch J* 10:supl-16 *Ap* '22

To a certain contemptuous architect. *C: H. Whitaker.* *Am Inst Arch J* 10:103-5 *Ap* '22

Joint cost. See *Cost accounting*

Joint stock land banks. See *Land banks*

Joints

Buildog timber joint plate. *il diags Ry R* 72: 124 *Ja* 13 '23

Dip-brazing with 80:20 brass and the heat-treatment of brazed joints. *E. V. Schaal.* *il Chem & Met Eng* 26:1121-5 *Je* 14 '22

Note sur la résistance des tôles comprimées et à joints par recouvrement. *M. Koechlin.* *Génie Civil* 81:516 *D* 9 '22

See also *Boilers—Joints; Couplings; Electric cables—Joints; Glass—Joining to metal; Packing; Pipe joints; Rail joints*

Joints, Fabric

Fabric used as flexible member for two-arm disk joint. *diags Automotive Ind* 48:883 *Ap* 19 '23

Joints, Riveted. See *Riveted joints*

Joints, Universal

Grease eliminated in universal joint lubrication. *diags Automotive Ind* 45:1215 *D* 22 '21

Grinding fixture for universal joint cage. *J. A. Honegger.* *diags Mach* 30:99-100 *O* '23

Harmonic analysis of motion transmitted by Hooke's joint. *P. Cormack.* *diags Philos Mag* 6th ser 44:156-60 *JI* '22

Making a pressed-metal housing for a universal joint. *H. Jay.* *il diags Am Mach* 55: 805-6 *N* 17 '21

Power losses in universal joints. *O. D. North.* *diags Automobile Eng* 12:171-3 *Je* '22

Joists

Tests of steel floor joists with concrete encasement. *diag Eng N* 90:800, 1116 *My* 3, *Je* 28 '23

Jollyman, Josiah Pickard, 1879-

Sketch. *por Elec W* 82:2 *JI* 7 '23

Joule-Thomson effect

Joule-Thomson effect in superheated steam. *R. V. Kleinschmidt.* *Mech Eng* 45:165-7 *Mr* '23

Journal bearings. See *Bearings*

Journal of accountancy

Journal of accountancy index, vols. XVII-XXXIV inclusive, January, 1914-December, 1922. 221p *Journal of accountancy. inc.*, 135 Cedar st., New York '23

Journalism

It's the way it's written. *H: J. Smith.* 29p *Chicago daily news, Chicago* '21

Journalistic code of ethics. *J. S. Myers.* 35p *Ohio state univ., Columbus* '22

Remarkable career of Viscount Northcliffe. *Ptr Ink* 120:20+ *Ag* 17 '22

Young man and journalism. *C. S. Lord.* 221p *Macmillan* '22

See also *Editorials; Editors; Newspapers*

Bibliography

A.L.A. reading course on journalism. 4p *Am. Lib. Assn., Chicago* '22

Journalism; a list of references in English. *C. L. Cannon.* New York *Pub Lib Bul* 27: 147-57, 219-36, 263-308, 440-5, 466-539, 565-627, 645-710 *F-Ag* '23

Juglone

Hydroxynaphthoquinone studies; the chlorination of juglone. *A. S. Wheeler, P. R. Dawson and J. L. McEwen.* *Am Chem Soc J* 45:1970-5 *Ag* '23

Jugoslavia

Work of the Ministry of social policy in the Kingdom of the Serbs, Croats, and Slovenes. *Int Labour R* 8:485-502 *O* '23

See also *Immigration and emigration—Jugoslavia; Labor and laboring classes—Jugoslavia; Mines and mineral resources—Jugoslavia; Railroads—Jugoslavia*

Foreign relations

See *Fiume*

Jumpers, Electric railroad. See *Electric railroads—Control jumpers*

Junior institution of engineers

Annual general meeting, Nov. 18, 1921. *Engineering* 112:733-4 *N* 25 '21

Jute

Analysis of materials used in the retting of jute. *H. Rudolph.* *Am Dyestuff Rep* 12:543-5 *JI* 30 '23

Electric power in the jute industry. *J. F. Crowley.* *diag Electrician* 89:292-5 *S* 15 '22

Humidity in jute, hemp and flax mills. *A. W. Thompson.* *Textile World* 63:1167-8 *F* 10 '23

Jute industry from seed to finished cloth. *T. Woodhouse and P. Kilgour.* 133p *Pitman* '21

Larger jute crop foreseen. *Textile World* 63: 3758-9 *Je* 2 '23

U.S. and Indian jute crop. *Am Ind* 22:40 *JI* '22

Juvenile advertising. See *Advertising—Children, Appeal to*

K

Kansas

Industrial development of Kansas. *P. F. Walker.* (*Eng. bul. no. 12*) 55p *Univ. of Kansas, Lawrence* '22

See also *Petroleum industry and trade—Oklahoma-Kansas district; Roads—Kansas; Wages—Kansas*

Court of industrial relations

Again—the Kansas industrial court. *A. H. Rodrick.* *Factory* 28:418-19 *Ap* '22

Kansas court of industrial relations. *H: J. Allen.* *Administration* 4:257-60 *S* '22

Kansas court of industrial relations. *J. E. Johnsen.* *comp. Ref Shelf* 1:1-71 *no* 4 '22

Kansas court of industrial relations; the philosophy and history of the court. *J: H. Bowers.* 133p *A. C. McClurg & co., Chicago* '22

Kansas industrial act is defended. *W: L. Higgins.* *Iron Age* 111:601-2 *Mr* 1 '23

Kansas industrial court. *Comm & Fin Chr* 115:2309-10 *N* 25 '22

Labor and democracy. *W: L. Huggins.* 213p *Macmillan* '22

Report of Kansas court of industrial relations. *Monthly Labor R* 17:339-40 *Ag* '23

United States Supreme court holds Kansas industrial court cannot fix or regulate wages in industry. *Comm & Fin Chr* 116: 2726 *Je* 16 '23; *Abstract. Iron Tr R* 72:1835 *Je* 21 '23

U.S. Supreme court on the Kansas industrial relations plan; editorial. *Comm & Fin Chr* 116:2695-6 *Je* 16 '23

University debaters' annual. *E. M. Phelps, ed.* 1920-1921 p. 105-36; 1921-1922 p. 1-51 *H. W. Wilson co.* '21-'22

Wage provision of industrial court law of Kansas held unconstitutional. *Monthly Labor R* 17:208-11 *JI* '23

Kansas City, Kansas

Rapid transit

Rerouting approved in Kansas City. *Elec Ry J* 59:173 *Ja* 28 '22

Terminal project revived. *map Elec Ry J* 60: 208 *Ag* 5 '22

Kansas City, Missouri

Flood control at Kansas City; how a river is being diverted and carried through a hill. *il diag Sci Am* 127:392 D '22

Rapid transit

Handling doubled traffic with dispatch in Kansas City. *il Elec Ry J* 58:951-3 N 26 '21

Kansas City jitney problem up again. *Elec Ry J* 58:1131 D 24 '21

Missouri intercity lines maintain quality service. *il Bus Transportation* 2:465-6 O '23

Receiver's report encouraging. *Elec Ry J* 61:901 My 26 '23

Unfair burdens on car riders. *Aera* 11:1490-4 Je '23

Sewerage

Kansas City building world's largest sewer. *G. F. Paul. il Pop Mech* 38:377-8 S '22

Turkey Creek sewer one of the largest yet built; relation of sewer to flood control problem of Kansas City. A. D. Ludlow. *diags map Eng N* 87:815-17 N 17 '21

Streets

Auto speedway built under difficulties. *il diag Pop Mech* 38:730-1 N '22

Water supply

Concrete pipe line augments Kansas City water-supply. F. E. Miller. *il Eng N* 87:1029-30 D 22 '21

Kansas City, Mexico & Orient railway

Commission orders increase in divisions for K. C. M. & O. Ry Age 73:327-8 Ag 19 '22

Prospects for K.C.M. & O. line becoming brighter. J. C. Emery. *map Ry Age* 75:79-81 Jl 14 '23

Kansas City power and light company

Annual report—including financial and operating reports for calendar year 1921. *Comm & Fin Chr* 114:1791-2 Ap 22 '22

Annual report, 1922. *Comm & Fin Chr* 116:1074-5 Mr 10 '23

Kansas City Southern railway

Rehabilitation of the Kansas City Southern railway. L. F. Loree. *il Eng N* 91:564-5 O 4 '23

22d annual report—fiscal year ended December 31, 1921. *Comm & Fin Chr* 114:2596-2603 Je 10 '22

23d annual report, 1922. *Comm & Fin Chr* 116:2649-54 Je 9 '23

Kansas. State university

Design features of the University of Kansas stadium. C. C. Williams. *il diags plan Eng N* 89:790-3 N 9 '22

Kaolin

Among the Cornish china clay mines; a visit to the works of H. D. Pochin & co. *il Chem Age (Lond)* 8:sup12-13 Ja 20 '23

Amongst the Cornish clay mines; Stannon—the world's largest set. *il Chem Age (Lond)* 8:sup11 Ap 21 '23

Chemistry of colloidal china clay. A. B. Searle. *Chem Age (Lond)* 8:sup8-10 Mr 17; sup 8-10 Ap 21; sup8-9 My 19; sup8-9 Je 16; 9:sup8-10 Jl 21; sup8-9 Ag 18 '23

China clay. H. F. Collins. *Soc Chem Ind J (Chem & Ind)* 42:88-91, 114-17 F 2-9 '23

China clay and its retention properties as a loader and filler for paper. *Chem Age (Lond)* 8:sup9-10 My 19 '23

China clay as coater and filler. *Paper* 29:10-11 F 8 '22

China clay in California. T. Normile. *Brick & Clay Rec* 62:979-80 My 29 '23

China clay in paint. *Chem Age (Lond)* 9:sup 11 Jl 21 '23

China clay in paper ash. *Chem Age (Lond)* 9:sup7 Ag 18 '23

Kaolins and pottery clays in the United States. *Brick & Clay Rec* 60:39-42 Ja 10 '22

Logan's explanation of the origin of Indiana's kaolin; discussion. W. H. Bucher. *Econ Geol* 16:481-92 N '21

Manufacture of aluminium sulphate; recovery from china clay. *Chem Age (Lond)* 9:sup15 Jl 21 '23

Mining kaolin in Delaware. C. H. Thomas. *il Eng & Min J* 115:933 My 26 '23

Preliminary report on the residual kaolin and feldspar in the Pacific Northwest. H. Wilson, A. L. Bennett and F. T. Heath. *il map Am Cer Soc J* 6:475-90 Mr '23

Summary of countries producing kaolins. J. A. Howes. *Chem Age (Lond)* 9:sup11+ Ag 18 '23

Superiority of British china clay. *Chem Age (Lond)* 9:343-4 S 29 '23

Use of sedimentary kaolins of Georgia in whitewares. G. A. Bole and R. T. Stull. *Am Cer Soc J* 6:854-64 Jl '23

See also Clay

Standards

Suggested standards for moisture and grit in china clay. J. Strachan. *Paper Tr J* 74:46-7 Ja 5 '22; Same. *Paper* 29:16-18 Ja 25 '22

Kapp, Gisbert, 1852-1922

Sketch. *por Electrician* 89:189 Ag 18 '22; *Elec W* 80:499 S 2 '22

Kapp, John Edward, 1852-1922

Sketch. *por Engineering* 114:212 Ag 18 '22

Kapuskasing, Ontario

Considerations in the laying out of the town of Kapuskasing. A. V. Hall. *Can Eng* 43:260-2 Ag 15 '22

Kara-Khoto, Mongolia

City buried by desert sand yields ancient culture. *Pop Mech* 40:532 O '23

Katanol

Katanol, a new mordant for use as a substitute for tannin. Dr Guenther. *Textile Col* 45:165-6 Mr '23

Katathermometer

Experimental observations upon the relation between atmospheric conditions and the production of fatigue in mine laborers. A. J. Orenstein and H. J. Ireland. *bibliog il J Ind Hygiene* 4:30-46, 70-91 My-Je '22; Abstract. *Heat & Ven* 19:31-5 Ag '22

Katathermometer. *Sci Am* 128:15 Ja '23

Recent investigation on atmospheric conditions in industry. H. M. Vernon. *bibliog J Ind Hygiene* 4:315-24 D '22

Reliability of the comf-thermometer (fresh-air gauge) as an indicator for the cooling effect of air. H. I. Eadie, D. H. Ash and T. C. Angus. *diag J Ind Hygiene* 4:441-7 F '23

Usefulness of the kata-thermometer in determining healthful air conditions. *Heat & Ven* 20:52-3 Ag '23

Using the katathermometer in mines. *Eng & Min J* 113:1038 Je 17 '22

Ventilation and human efficiency. L. Hill. *Min & Sci P* 124:259-63 F 25 '22

Ventilation of English factories and workshops in hot weather. T. C. Angus. *diags J Ind Hygiene* 4:479-90 Mr '23

Katmai, Mount

Chemical study of the fumaroles of the Katmai region. E. T. Allen and E. G. Zies. p. 75-155 *National geographic soc., Washington* '23

Valley of ten thousand smokes; Mount Katmai exploration in Alaska. *il Sci Am* 128:322+ My '23

Kava

Untersuchungen über die bestandteile der kawawurzel; über das kawaharz. W. Borsche and A. Roth. *Deutsche Chem Gesell Ber* 54:2229-35 O '21

Kawa. See Kava

Kegresse-Hinstin automobile. See Automobiles—Endless belt drive

Kellogg, Vernon Lyman, 1867-

From grasshopper to man. J. B. Morrow. *Nation's Business* 11:48+ F '23

Kellogg toasted corn flake company

Canadian court renders corn flakes decision. *Ptr Ink* 125:101 O 18 '23

Kelly-Springfield tire company

Annual report—as at December 31, 1921. *Comm & Fin Chr* 114:863 F 25 '22

Annual report as of December 31, 1922. *Comm & Fin Chr* 116:835 F 24 '23

Kelly-Springfield abandons retail branches to cut operating expenses. *Ptr Ink* 119:73-4 My 25 '22

Kelly-Springfield tire company—Continued

Mechanical features of tire factory at Cumberland, Md. *il* Iron Age 108:1259-65 N 17 '21

Kelp

Old ocean's ungathered wealth. H. O'Malley. *il* Nation's Business 10:27-9 D '22

Potash from kelp. J. W. Turrentine and others. *J Ind & Eng Chem* 11:864-74; 12:682-4, 786-92; 13:605-9; 14:19-24, 441-3 S '19, JI-Ag '20, JI '21, Ja, My '22

Potash from kelp; the manufacture of potash salts. J. W. Turrentine, H. G. Tanner and P. S. Shoaff. *il* diag Ind & Eng Chem 15:159-63 F '23

Potash from seaweed in California. A. W. Allen. *il* Chem & Met Eng 29:49-52 JI 9 '23

Work of the experimental kelp-potash plant of the Bureau of soils. J. W. Turrentine. *il* Chem Age 30:224-5 My '22

Kelpchar

Potash from kelp; the applicability of kelpchar as a bleaching and purifying agent. J. W. Turrentine and H. G. Tanner. *J Ind & Eng Chem* 14:19-24 Ja '22

Kemp, James Furman

Geologists of note. *por* Eng & Min J 113:367 Mr 4 '22

Kennecott copper corporation

Kennecott copper corporation. Eng & Min J 115:83 Ja 13 '23

Kenotron

High-voltage thermionic rectifiers. A. Schmidt, *jr.* *diags* Gen Elec R 26:116-19 F '23

UV-217 kenotron—its operation and application. W. R. G. Baker. *il* diags Wireless Age 9:20-5 F '22

See also Magnetron

Kentucky

See Coal—Kentucky; Coal mines and mining—Kentucky; Gas, Natural—Kentucky; Labor and laboring classes—Kentucky; Motor bus lines—Kentucky; Petroleum—Kentucky; Roads—Kentucky

Kentucky association of public utilities

Annual convention, Louisville, Nov. 21-22. Elec Ry J 58:997 D 3 '21

Annual convention, Lexington, Dec. 12. N E L A Bul 10:29-30 Ja '23

Kentucky mining institute

Kentucky institute to hold exposition and issue first aid certificates. E. C. Rogers. Coal Age 20:730 N 3 '21

Meeting, Louisville, Ky., Nov. 3. Coal Age 28:835-7 N 23 '22

Kenya colony and protectorate

See Automobile industry and trade—Kenya

Kerogen. *See* Oil shales

Kerosene

Effect of small quantities of volatile impurities on the flash point of kerosene. E. C. Craven and B. G. Banks. *Inst Pet Tech J* 8:490-8 O '22

Engine experiments with oxidized oils. J. H. James and F. C. Zeisenheim. *Chem & Met Eng* 28:543-5 Mr 21 '23

Experimental survey of gasoline and kerosene carburetion. C. S. Kegerreis and G. A. Young. *il* Soc Auto Eng J 12:63-75 Ja '23; Discussion. 12:238-9, 460-4 F, My '23

Further data on the effective volatility of motor-fuels. R. E. Wilson and D. P. Barnard. *diags* Soc Auto Eng J 12:287-92 Mr '23

New data on burning kerosene oil in house-heating boilers. J. Harrington. *il* charts Heat & Ven 19:41-4 S '22

Oxidized kerosene as truck fuel. *Sci Am* 129:339 N '23

See also Carbureters; Gas and oil engines—Fuel; Petroleum

Inspection

See Oil inspection

Prices

Statistical desk sheet for 1921 of the oil industry of the United States. *Nat Pet N* 14:supp F 8 '22

Specifications

Specifications for petroleum products. U S Bur Mines Tech Pa 323:4-7 '23

Kerosene engines

Paraffin marine engines at the Olympia exhibition. *il* diag Engineering 116:326 S 14 '23

Kerosene industry

Oil heaters offer good opportunity to boost kerosene sales. R. B. Stafford. *Nat Pet N* 14:33-4 O 18 '22

United States winning larger share of oriental kerosene trade. A. T. Coumbe, *jr.* *Nat Pet N* 15:89-4 O 10 '23

Kerr Lake mine, limited

Facts for the stockholder. Eng & Min J 116:746 O 27 '23

Ketchum, Milo S.

How he made good. *por* Prof Eng 8:10-11 Ap '23

Ketene

Ketene decomposition of methylethyl ketone. C. D. Hurd and C. Kocour. *Am Chem Soc J* 45:2167-70 S '23

Study of the formation of hydroxamic acids from ketene. C. D. Hurd and P. E. Cochran. *diag* Am Chem Soc J 45:515-21 F '23

Ketene diacetal

Über die synthese von vinylidenglykol-diäthyläther (keten-acetal), ein beitrag zur aufklärung des reaktionsverlaufes der acetessigester-synthese. H. Scheibler and H. Ziegner. *Deutsche Chem Gesell Ber* 55:789-803 Mr '22; Abstract. *Chem Soc J* 122 pt 1:426-7 My '22

Ketenes

Aliphatic diazo-compounds; ketens; aliphatic diazo-compounds and ketens. H. Staudinger. *Chem Soc J* 122 pt 1:238-40 Mr '22

Ketenimine derivatives; abstract. H. Staudinger and E. Hauser. *Chem Soc J* 122 pt 1:28-9 Ja '22

Ketens; inorganic substituted ketens; abstract. H. Staudinger and H. Schneider. *Chem Soc J* 124 pt 1:465-6 My '23

Ketens; preparation of ketens from malonic anhydrides; abstract. H. Staudinger, H. Schlubach and H. Schneider. *Chem Soc J* 124 pt 1:467-8 My '23

Über die beziehungen zwischen den dimeren ketenen und dem 1,3-cyclo-butanion und seinen derivaten. W. Dieckmann and A. Wittmann. *Deutsche Chem Gesell Ber* 55:3331-47 O '22; Abstract. *Chem Soc J* 122 pt 1:1156-8 D '22

Ketenium compounds

Zur kenntnis der keteniumverbindungen; studien über kondensationsprodukte aus säurehaloiden. E. Wedekind and C. Weinand. *Deutsche Chem Gesell Ber* 55:60-8 Ja '22; Abstract. *Chem Soc J* 122 pt 1:234-5 Mr '22

Keto-anils. See Anils**Keto-tetrahydronaphthalene. See Tetralone****Ketones**

Addition of mercuric salts to alpha-beta-unsaturated ketones. E. B. Middleton. *Am Chem Soc J* 45:2763-9 N '23

Origin of the huntin formed by the acid hydrolysis of proteins; hydrolysis in the presence of ketones. R. A. Gortner and E. R. Norris. *Am Chem Soc J* 45:550-3 F '23

Propionic acid and ketones from whey. E. O. Whittier and J. M. Sherman. *Ind & Eng Chem* 15:729-31 JI '23

Reactivity of doubly-conjugated unsaturated ketones; effect of substitution on the reactivity of 4'-dimethylamino-2-hydroxydityryl ketone. I. M. Heilbron and A. B. Whitworth. *Chem Soc J* 123:238-45 F '23

Reactivity of doubly-conjugated unsaturated ketones; unsymmetrical hydroxy- and methoxy-derivatives. J. S. Buck and I. M. Heilbron. *Chem Soc J* 121:1095-1101 Je '22

Studies in mutual solubility; introductory—the mutual solubility of glycerol and aliphatic and aromatic ketones. B. C. McEwen. *Chem Soc J* 123:2279-84 S '23

Synthese von β -ketobasen aus acetophenon, formaldehyd und aminsalzen. C. Mannich and G. Heilner. *Deutsche Chem Gesell Ber* 55:356-65 F '22

Ketones—Continued

- Über den schmelzpunkt einiger fettaromatischer ketone. R. Majima, K. Nagaoka and K. Yamada. *Deutsche Chem Gesell Ber* 55: 215-17 Ja '22
- Über die halochromie und solvatochromie des dibenzalacetons und einfacherer ketone, sowie ihrer ketochloride. A. Hantzsch. *Deutsche Chem Gesell Ber* 55:953-79 Ap '22; Abstract. *Chem Soc J* 122 pt 1:556-8 Je '22
- Über die synthese von β -keto-basen aus fettaromatischen ketonen, formaldehyd und sekundären aminen. C. Mannich and D. Lammering. *Deutsche Chem Gesell Ber* 55: 3510-26 N '22; Abstract. *Chem Soc J* 124 pt 1:43-5 Ja '23
- Über einige ketone der pyrazol-reihe. C. A. Rojahn. *Deutsche Chem Gesell Ber* 55:291-4 F '22
- Über kristallinisch-flüssige eigenschaften der α -ungesättigten ketone. D. Vorländer. *Deutsche Chem Gesell Ber* 54:2261-4 O '21
- Über umsetzungen einer sekundären β -ketobase. C. Mannich and G. Heilner. *Deutsche Chem Gesell Ber* 55:365-74 F '22; Abstract. *Chem Soc J* 122 pt 1:371-3 Ap '22
- Umlagerung tertiärer äthynyl-carbinole in ungesättigte ketone. K. H. Meyer and K. Schuster. *Deutsche Chem Gesell Ber* 55:819-23 Ap '22
- Umsetzung von α -halogenierten ketonen mit schwach basischen aminen und aufbau von *ms*-phenyl-acridin-abkömmlingen. F. Mayer and others. *Deutsche Chem Gesell Ber* 55: 2049-58 JI '22; Abstract. *Chem Soc J* 122 pt 1:865-7 S '22
- Umwandlungen der ketoxidverbindungen; bildung von β -keto-aldehyden aus α,β -ungesättigten ketonen. E. Weitz and A. Scheffer. *Deutsche Chem Gesell Ber* 54:2344-53 O '21; Abstract. *Chem Soc J* 120 pt 1:869-70 D '21

Ketopinychloride

- Über die einwirkung von triäthylamin auf ketopinsäurechlorid. E. Wedekind and C. Weinand. *Deutsche Chem Gesell Ber* 55: 945-51 Ap '22

Kettles

- Jacketed cast-iron kettles. R. C. Boggess. *Chem & Met Eng* 28:684 Ap 16 '23

Keys and keyways (machinery)

- Difficult job of splining. R. Grant. *diag Am Mach* 56:419 Mr 16 '22
- Dimensions of Woodruff keys. H. W. Hardy. *diag Am Mach* 55:774 N 10 '21
- Fitting locomotive crosshead keys. F. M. A'Hearn. *diag Am Mach* 58:456 Mr 22 '23
- Grinding keyways in multi-splined shafts. K. A. Munson. *diag Am Mach* 55:670 My 3 '23

- Keyite self-fitting keys. *il Am Mach* 57:467-8 S 21 '22; *Coal Age* 22:446 S 21 '22; *Elec Ry J* 60:397 S 16 '22

- Means adopted to remove keyed pulleys from shafts. G. H. Radebaugh. *il diag Coal Age* 21:880-3 My 25 '22

- Milling tapered wedge keys with an automatic hacksawing machine. H. Flower. *il diag Am Mach* 56:749 My 13 '22

- Money saved by milling keyways; with cost tables. M. J. Rogers. *il Ry Mech Eng* 96: 157-8 Mr '22

- Practical suggestions on key fitting. T. W. Airey. *diag Power* 57:48-50 Ja 9 '23

- Proposals submitted by the British engineering standards association. *diag Engineer* 135:388 Ap 13 '23; Same. *Engineering* 115: 460-1 Ap 13 '23

- Templets for laying out keyways. W. S. Rowell. *diag Mach* 28:313 D '21

Kiers

- Bleaching equipment. J. F. Springer. *il Color Tr J* 13:101-5, 179-82 S, N '23

Kieselguhr. See Diatomaceous earth**Kilauea, Mountain**

- Petrology of the Hawaiian Islands; Kilauea and general petrology of Hawaii. H. S. Washington. *Am J Sci* 5th ser 6:338-67 O '23

Kiln drying of wood. See Lumber drying**Kilns**

- Adaptability of the gas-fired compartment kiln for the burning of clay products. W. D. Richardson. *Am Cer Soc J* 5:254-8 My '22; Discussion. R. H. Minton. (*Bul*) 5:107-9 JI '22

- Air circulation in dry kilns. *diag Chem & Met Eng* 29:711-12 O 15 '23; Same. *Mech Eng* 45:592-3 O '23

- Application of heat in ceramics. G. FitzGerald. *Am Cer Soc J* 4:822-6 O '21

- Calcing of clays; discussion. *Am Cer Soc J* (*Bul*) 6:20-5 Mr '23

- Circulation of kiln air shown by acid fumes. *il Pop Mech* 38:890 D '22

- Clay sewer pipe manufacture. H. G. Schurecht. *diag Am Cer Soc J* 6:831-6 JI '23

- Data on the operation of a continuous tunnel kiln at the plant of the A. C. spark plug company. S. J. McDowell and P. D. Helsel. *il Am Cer Soc J* 5:267-73; Discussion. 273-5 Je; (*Bul*) 187-91 S '22

- Description of a tunnel kiln in Czecho-Slovakia. H. Barkby. *Am Cer Soc J* 5 (*Cer A*) 1:302-3 D '22

- Designs by Bureau of standards; folding plates. *Am Cer Soc J* 5 pt 2:88a-c Ap '22

- Experiences with Dutch kilns. R. A. Horn- ing. *Am Cer Soc J* 6:958-60 S '23

- Fuel oil as adapted to the chambered continuous kiln. M. A. Taylor. *il diag Am Cer Soc J* 6:1056-61 O '23

- Harpor tunnel kiln. W. E. Cramer. *il diag Am Cer Soc J* 5:492-9 Ag '22

- Insulated kiln saves 17% in fuel. J. H. Krus- son. *il Brick & Clay Rec* 63:22-6 JI 10 '23

- Insulation of periodic kilns. J. H. Kruson. *il Am Cer Soc J* 6:1069-74 O '23

- Knacks in setting up-draft kilns. E. Petts. *diag Brick & Clay Rec* 61:240-2 S '22

- Life and service of periodic kilns. J. H. Krus- son. *diag Brick & Clay Rec* 60:114-20 Ja 24 '22

- Lumber dry kilns. T. D. Perry. *diag Mech Eng* 45:110-12+ F '23; Discussion. 45:233-4 Ap '23

- Maintenance and rebuilding of round down- draft kilns. E. E. Ayars. *il diag Brick & Clay Rec* 63:181-5 Ag 7 '23

- Manipulating a coal fired Dutch kiln. E. Petts. *Brick & Clay Rec* 60:360-2 Mr 7 '22

- New Jersey men discuss tunnel kiln. *Brick & Clay Rec* 63:18-20 JI 10 '23

- Preliminary report of the committee on fuel conservation on the railroad tunnel kiln. *Am Cer Soc J* 5:602-17 S '22

- Relative magnitude of radiation and convec- tion heating in a muffle kiln. J. T. Little- ton. *diag Am Cer Soc J* 6:771-6 JI '23

- Setting a wood fired screw kiln. E. Petts. *il diag plan Brick & Clay Rec* 59:981-3; 60: 105-6 D 27 '21, Ja 24 '22

- Some new forms of kilns. A. Duckham. *diag plan Engineering* 114:534-6 O 27 '22

- Stability and design of a kiln stack. T. W. Garve. *diag plans Am Cer Soc J* 5:455-67 JI '22

- Suitability of the tunnel kiln for burning refractories. A. F. Greaves-Walker and S. M. Kier. *Am Cer Soc J* 6:891-5 Ag '23

- Two brick vs. four brick bench arch. *Brick & Clay Rec* 60:302-3+; 61:186-7+ F 21, Ag 8 '22

- Use of rotary kiln in making magnesite re- fractory compound not invention. W. Gustin. *Chem & Met Eng* 27:20-1 JI 5 '22

- What is the common style of kiln pockets. *Brick & Clay Rec* 61:725+ N 14 '22

- See also Brickmaking; Cement kilns; Dry- ing apparatus; Furnaces; Lime kilns

Firing

- Burning in a coal fired Dutch kiln. E. Petts. *Brick & Clay Rec* 60:533-4 Ap 4 '22

- Burning in updraft furnace kilns. E. Petts. *diag Brick & Clay Rec* 62:125-6 Ja 23 '23

- Eleven years oil burning experience. M. A. Taylor. *Brick & Clay Rec* 61:246-7 Ag 22 '22

- Fuel oil as applied to periodic up-draft kilns in the manufacture of high tension electrical porcelain. L. H. Brown. *Am Cer Soc J* 6:462-5 F '23

Kilns—Firing—Continued

- Heat distribution in updraft kilns. A. V. Bleininger. *Am Cer Soc J* 6:1134-9 N '23
- Obviating smoke after firing. Brick & Clay Rec 60:128-9+ Ja 24 '22
- Problems of continuous kiln burning. M. A. Taylor. *il Brick & Clay Rec* 62:597-8 Ap 3 '23
- Temperature control of Dressler tunnel kiln. T. R. Harrison. *diags Am Cer Soc J* 6:1128-33 N '23
- Use of forced draft for terra cotta kilns. J. L. Carruthers. *il plans Am Cer Soc J* 5:449-54 JI '22; Discussion. (Bul) 5:222-5 O '22

Kilocycles

- Use of kilocycles in radio. *il Sci Am* 129:247 O '23

Kilowatt

- Explaining the kilowatt-hour. L. F. Leurey. *Elec W* 78:1025 N 19 '21

Kimball, Dexter Simpson, 1865-

- President of the American society of mechanical engineers. *por Min & Met* 183:18 Mr '22

- Sketch. *por Power Pl Eng* 26:151 Ja 15 '22

Kinautograph

- When perforated paper goes to work; how strips of paper can endow inanimate machines with brains of their own. E. Scheyer. *il diags Sci Am* 127:394-5+ D '22

Kinematics

- Whirling of an overhung eccentrically loaded shaft. S. Lees. *diags Philos Mag* 6th ser 45: 689-708; Discussion. W. M. Orr. 708-14 Ap '23

- Kinematics of machinery.** See Machinery, Kinematics of

- Kinetic theory of solids.** See Solids, Kinetic theory of

Kings river, California

- Kings river water-right litigation halted by engineer's plan. J. B. Lippincott. *Eng N* 87:1053-4 D 29 '21

Kingston, New York**Bridges**

- Building the Rondout Creek highway suspension bridge. W. E. Joyce and M. Bebarfald. *il diags plan Eng N* 89:424-8 S 14 '22

Kirdorf, Emil

- Emil Kirdorf. *Stahl & Eisen* 41:1601-5 N 10 '21

- Kishner-Wolff reduction method.** See Reduction, Chemical

Kitchen cabinets

- How Sellers gets retailers to help sell other retailers. O. P. Perkins. *Ptr Ink* 122:17-19+ Mr 15 '23

- Wasmuth-Endicott company, manufacturer of kitchen cabinets, gets missed sales by adding a new product. W. B. Edwards. *Ptr Ink* 124:17-19 JI 26 '23

Kitchen utensils

- Four-story saucepan. *il Sci Am* 128:187 Mr '23

- Housefurnishings, kitchenware and laundry equipment. E. L. Hutchinson. 241p Ronald press '22

- Making dumpling steamer and potato masher. J. Stephan. *diags Sheet Metal Worker* 13: 861 Ja 5 '23

- Steam consumption of kitchen equipment. Heat & Ven 19:47-8 O '22

- Use of steam with the kitchen and laundry equipment. C. A. Fuller. *il diags Sanitary & Heat Eng* 99:82-3+, 146-8, 212-14+, 289-90+, 352-3 F 9, Mr 9, Ap 6, My 4, Je 1 '23

Kitchener, Ontario**Water supply**

- Strange street pumping station, Kitchener. M. Pequegnat. *il plan Can Eng* 44:159-62 Ja 23 '23

Kitchens

- Culinary department and what it means to architects. N. W. Aldrich. *Arch Forum* 37: 189-90 O '22

- Electricity in the house; the kitchen. M. O. Whitton. *diag Am Arch* 121:324-6 Ap 12 '22

- Hotel or restaurant kitchen. N. W. Aldrich. *plan Arch Forum* 37:225-6 N '22

- Kitchen equipment for hotels. *il diags plans Am Arch* 124:204-8 Ag 29 '23

- Model kitchen arrangement. *il plan Bldg Age* 44:35 F '22

- See also Lunch rooms and cafeterias—Equipment

- Kjeldahl method.** See Nitrogen—Analysis

Klamath national forest

- Klamath national forest road completed. *il Eng & Contr (R & S)* 58:73-4 N 1 '22

Kleinert rubber company

- New factory, new goods, new sales plans. announces Kleinert. R. Cole. *Ptr Ink* 118: 48+ F 23 '22

Klenzo

- Must a new competitive leader have dramatic talking points? D. Kirkland. *Ptr Ink* 117:129-30+ D 1 '21

Klepetchko, Frank

- Mining engineers of note. *por Eng & Min J* 113:293 F 18 '22

Klondike

- Discovery of the Klondike. T. A. Rickard. *Eng & Min J* 114:48 JI 8 '22

- Knickerbocker theatre.** See Building failures

Knit goods

- Designs for outerwear goods. W. Davis. *il Textile World* 62:1793+ S 30 '22

- Dyeing knit goods in the roll. *Textile World* 60:3609 D 24 '21

- Dyeing of woolen yarn for knitted wear. E. Sekinger. *Color Tr J* 11:228-32 N '22; Same cond. *Am Dyestuff Rep* 12:8, 29-32 Ja 1 '23

- Finishing knitted overcoating. *Textile World* 64:2415 O 27 '23

- Knitted cloth developments. W. Davis. *Textile World* 64:2257+ O 20 '23

- Knitted cloths gaining favor. *Textile World* 61:791+ F 4 '22

- Knitted fabrics designing constantly improves. D. MacDougall. *il Textile World* 63: 2219+ Ap 7 '23

- Knitted outerwear industry. J. J. Phoenix. *Textile World* 61:3166-7 My 27 '22

- Narrow fabrics made on knitting machines. W. Davis. *Textile World* 61:1137+ F 18 '22

- Novelties in knitted outerwear. W. Davis. *diags Textile World* 63:1957+ Mr 24 '23

- Novelties in knitted products. W. Davis. *Textile World* 61:2207+ Ap 15 '22

- Plated knitted patterns. W. Davis. *Textile World* 61:317+ 3673+ Ja 21, Je 17 '22

- Varying texture of knit cloth. W. Davis. *il Textile World* 64:369+ JI 21 '23

- Wages and hours of labor in the hosiery and underwear industry, 1922. U S Bur Labor Statistics Bul 328:1-38 '23

See also Hosiery; Underwear

Advertising

- Knit goods underwear makers prepare for advertising. *Ptr Ink* 119:161-2 Ap 6 '22

- Knit underwear men resolve on advertising. *Textile World* 60:3483+ D 17 '21

- Progress of the knitted underwear co-operative advertising campaign. L. U. Lynt. *Ptr Ink* 122:144+ Ja 25 '23; Same. *Textile World* 63:337-8 Ja 20 '23

Knit goods manufacturers of America

- Annual meeting, Atlantic City, May 19-20. *Textile World* 61:3117-20 My 27 '22

- Meeting, Utica, N.Y. *Textile World* 60:3483+ D 17 '21

- Semi-annual meeting, Utica, N.Y. *Textile World* 62:2899-2901 N 18 '22

- Knitted outerwear manufacturers' association.** 3d semi-annual meeting of the Western district. Neenah, Wis., June 22-23. *Textile World* 63:4175+ Je 30 '23

Knitting

- Knit goods defects due to yarns. W. Davis. *Textile World* 61:1671+ Mr 18 '22

- Knitting calculations. E. Tompkins. 83p Bradgon, Lord & Nagle co., New York '22

Knitting—Continued

Machine knitting and knitted fabrics. H. D. Buck. *il* diags *Textile World* 57:3301+, 4533+; 58:1179+, 1833+, 2799+, 3499+, 4153+; 59:465+, 1401+, 1981+, 2553+, 4055+; 60:1097+, 2297+, 2999+; 61:315+, 1665+ *My* 1, *Je* 19, *Ag* 21, *S* 18, *O* 23, *N* 20, *D* 18 '20, *Ja* 22, *F* 19, *Mr* 19, *Ap* 16, *Je* 18, *Ag* 20, *O* 22, *N* 19 '21, *Ja* 21, *Mr* 18 '22

Plated knitted patterns. W: Davis. *Textile World* 61:317+, 3673+ *Ja* 21, *Je* 17 '22

Rib stitch; developments in machines and finer textures. W: Davis. *Textile World* 63:4069+ *Je* 23 '23

Structural investigations regarding knitted fabrics. J. Chamberlain. *il* *Textile Inst J* 14:P105-9 *My* '23

See also Knit goods

History

Brief review of knitting. G. Robinson. *Textile World* 63:3481 *My* 26 '23

Knitting machines

Cloth knit, not woven, by English machine. *il* *Pop Mech* 39:721 *My* '23

Double ribbed Raschel machines. *il* *Textile World* 61:3683 *Je* 17 '22

Machine knitting and knitted fabrics. H. D. Buck. *il* diags *Textile World* 57:4533+; 58:4153+; 59:465+, 1401+, 1981+, 2553+; 60:2297+, 2999+; 61:315+, 1665+ *Je* 19, *D* 18 '20, *Ja* 22, *F* 19, *Mr* 19, *Ap* 16, *O* 22, *N* 19 '21, *Ja* 21, *Mr* 18 '22

Narrow fabrics made on knitting machines. W: Davis. *Textile World* 61:1137+ *F* 18 '22

New jacquard knitting machine. *il* *Textile World* 63:1947-8 *Mr* 24 '23

Warp knitting machines. diags *Textile World* 63:349+ *Ja* 20 '23

See also Hosiery machines

Exhibitions

Exhibition of knitting machinery held under auspices of textile department of University college at Nottingham, England, June 22-July 1. *Textile World* 62:1009+ *Ag* 19 '22

Knitting arts exhibition at Philadelphia. *il* *Textile World* 61:3141+; 63:2283+ *My* 27 '22, *Ap* 7 '23

Manufacture

Built-up cylinders for knitting machines. L. H. Anderson. *il* *Am Mach* 56:420 *Mr* 16 '22

Cutting slots in knitting machine parts with gear-cutting machines. F: R. Daniels. *il* diags *Mach* 30:44-6 *S* '23

Needles

Inspection of knitting needles. J. Worm. diags *Textile World* 62:3321+ *D* 9 '22

Latch needle manufacture. F: R. Daniels. *il* diags *Mach* 29:961-5 *Ag* '23

Knitting mills

Harvard Knitting mills thirty-five years' growth. *il* *Textile World* 64:231+ *Jl* 14 '23

Simplification cut our costs 12%; increased production 50%; reduced seconds 91%. C. B. Potter. *Factory* 31:445-7+ *O* '23

See also Hosiery mills

Accounting

Cost finding in knitting mills. S. R. Gordon. *Textile World* 61:2201+, 3169+, 3671+; 62:447+, 1005+, 1789+ 2303+, 2905+, 3551+; 63:351+, 1291+, 1953+, 2301+, 3159+, 4061+; 64:365+, 957+, 1793+, 2249+, 3021+ *Ap* 15, *My* 27, *Je* 17, *Jl* 22, *Ag* 19, *S* 30, *O* 21, *N* 18, *D* 23 '22, *Ja* 20, *F* 17, *Mr* 24, *Ap* 7, *My* 12, *Je* 23, *Jl* 21, *Ag* 18, *S* 29, *O* 20, *N* 17 '23

Lighting

Lighting of knitting mills. *Textile World* 61:1139+ *F* 18 '22

Management

Development of skilled workers at Berkshire *il* *Textile World* 63:3669-70 *Je* 2 '23

Organization of knitting mills. C. M. Bigelow. *Management Eng* 2:37-42, 111-16, 221-6, 287-92 *Ja-F*, *Ap-My* '22

Records

Manufacturing report forms for colored knitting mills. H: D. Martin. *Textile Col* 45:15-18 *Ja* '23

Knitting needles. See Knitting machines—Needles

Knives**Manufacture**

Remington arms co., Bridgeport, Conn., turns to making pocket knives. B. K. Price. *il* *Iron Tr R* 72:954-6 *Mr* 29 '23

Knives, Machine

Handling wood room equipment. F. J. Carroll. *Paper Tr J* 74:31-2 *Je* 8 '22; Same. *Paper* 30:20-1+ *Ag* 2 '22

Knockers

History of door knockers. C. H. Thomas. *il* *Bldg Age* 45:50-1 *S* '23

Knots and splices

Knots, splices and rope work. A. H. Verrill. 3d ed., rev. 104p Henley '22

Knox hat company

We turn stocks seven times as fast through simplification. F. H. Montgomery. *il* *System* 43:745-50+ *Je* '23

Kobe, Japan**Harbor**

Japanese port adds large unit to harbor facilities. *il* diags map *Eng N* 89:1062-6 *D* 21 '22

Kodaks. See Cameras

Kohler, Wisconsin

Kohler; a village of homes and the home of a great industry. Y. Adams. *il* *Sanitary & Heat Eng* 96:277-80 *N* 4 '21

Kojic acid

New organic (kojic acid) formed by aspergillus oryzae; abstract. T. Yabuta. *Chem Soc J* 122 pt 1:939-41 *O* '22

Kolar apparatus. See Gas meters—Calculating devices

Kongo, Belgian

Experiences of a mining engineer in the Kasin diamond fields, Belgian Congo. J. E. Robison. *il* *Min & Sci P* 123:646-8 *N* 5 '21

See also Mines and mineral resources—Kongo, Belgian

Industries and resources

Belgian Kongo. E. A. Welden. *U S Bur For & Dom Com Trade Information Bul* 154:1-17 '23

König, Friedrich

Friedrich König, inventor of the first cylinder printing press. H: L. Bullen. diags *Inland Ptr* 69:217-20 *My* '22

Konimeter

Comparative efficiency of the circular konimeter and the Palmer water spray apparatus for the determination of the dust content of the air. C.-E. A. Winslow and R. Jordan. *J Ind Hygiene* 4:375-9 *Ja* '23

Koppers company

Description of the Koppers company ovens and producers. J. T. Tierney. *il* *Am Gas Assn Technical sec v* 3:496-503 '21

Koppers system of gas purification. See Gas purification

Korea**Industries and resources**

See Automobile industry and trade—Korea; Mines and mineral resources—Korea; Petroleum industry and trade—Korea

Kreis test

Quantitative aspects of the Kreis test. G: E. Holm and G: R. Greenbank. *Ind & Eng Chem* 15:1051-3 *O* '23

Krupp works

Recent developments in the Krupp works at Essen. plan *Engineer* 132:611-13, 622 *D* 9 '21

Today's products of the Krupp plants. G. I. Carden. *il* *Iron Age* 111:758-60 *Mr* 15 '23

Kryptobrucinolone

über die oxydation des krypto-brucinolons und seine darstellung aus brucinolon-b; (über strychnos-alkaloide). H. Leuchs, E. Hellriegel and H. Heering. Deutsche Chem Gesell Ber 54:2177-90 O '21; Abstract. Chem Soc J 120 pt 1:883-4 D '21

Ku Klux Klan

Ku Klux Klan. J. E. Johnsen, comp. Ref Shelf 1:1-105 no 10 '23
Martial law in the state of Oklahoma to curb Ku Klux Klan. Comm & Fin Chr 117:1310-11 S 22 '23

Kudzu

Kudzu, forage plant and soil builder. C. E. Pleas. Il Pop Mech 37:909 Je '22

Kukkersite. See Oil shales—Esthonia

Kutter's formula

Diagram for hydraulic computations. K. R. Kennison. Eng & Contr 57:218 Mr 8 '22
Kutter's formula simplified. H. E. Babbitt. Eng & Contr 57:128 F 8 '22
Proper value of Kutter's *n* for sewer computations. C. W. Sherman. Il Eng N 88:948-50 Je 8 '22

Kymograph. See Air speed indicators

L

L.C.L. freight. See Freight car service—Car load; Railroads—Freight

Labels

Labeling and trade commission. N. B. Gaskill. Textile World 63:2268- Ap 7 '23
Labels—a common factor in the family of products. C. B. Larrabee. Ptr Ink M 4:22-4 Ap '22
Package labels; with specimens. J. L. Frazier. Inland Ptr 70:536a-40 Ja '23
What's your label worth? W. Bishop. Ptr Ink 118:162 Ja 19 '22

See also Hosiery—Labeling

Labor, Compulsory

Compulsory labour service in Bulgaria. M. Lazard. (Studies and Reports ser. B (econ. cond.) no. 12) 155p International labour office, Geneva O '22; Abstract. Monthly Labor R 16:1171-85 Je '23
They all work—and for the state. E. Greenwood. Nation's Business 10:27-8 Jl '22

Labor, Hours of. See Hours of labor

Labor and capital

Can industrial unrest be eliminated? R. Estcourt. Annalist 19:390-1+ Ap 3 '22
Economics of the hour. J. St L. Strachey. 234p Putnam '23
Die grosse wunde; kritische betrachtungen zu Ernst Hornfeffers gleichnamigem buche. Stahl & Eisen 43:1001-9 Ag 2 '23
Hard path to industrial peace. C. Coolidge. Nation's Business 10:16-17 S '22
Harding's industrial peace temple. Am Ind 22:33+ Ja '22
Inevitable antagonism between employers and employees. C. E. Knoepfel. Management Eng 2:143-8 Mr '22; Discussion. 2:246-7, 308-9, 372-5 Ap-Je '22
Labour defended against the claims of capital. T. Hodgskin. 108p Labour pub. co., London '22

Labor problems from an engineer's point of view. E. Lee. Ry Age 73:1193-4 D 23 '22

Nature of industrial unrest. R. Estcourt. Annalist 19:437+ Ap 17 '22

Solving the problem of union recognition. E. S. Cowdick. Ind Management 64:237-8+ O '22

See also Arbitration, Industrial; Capital; Cooperation; Employees; Industrial betterment; Industrial councils; Industrial relations; Labor and laboring classes; Profit sharing; Strikes; Trade unions; Wages; Welfare work in industry; Workmen's compensation

Labor and laboring classes

British and continental labour policy. B. G. de Montgomery. 575p Dutton '22
Feudal guilds or modernism in industry. W. E. Chancellor. Annalist 20:247+ S 11 '22
Human element in production. W. F. Jameson. Soc Auto Eng J 13:366-9 N '23; Same cond. Automotive Ind 49:882-4 N 1 '23; Discussion. Soc Auto Eng J 13:478-9 D '23
Human factor in industry. C. H. Northcott. Il Ind Management 62:195-8, 292-7, 363-9; 63:36-41 O '21-Ja '22
Industrial code. W. J. Lauck and C. S. Watts. 571p Funk & Wagnalls co., New York '22
International protection of labor. B. E. Lowe. 439p [biblog. 55p] Macmillan '21
Introduction to the study of labor problems. G. S. Watkins. 664p Crowell '22
Labor movement and the farmer. H. Robbins. 195p Harcourt, Brace and Co., New York '22
Labor—the giant with the feet of clay. S. Desmond. 251p Scribner '23
Labor the keynote of industrial recovery. J. W. Harrington. Annalist 19:71+ Ja 9 '22
Mind of the modern worker. I. D. Cohen. Ind Management 64:79-82 Ag '22
Need for definite program for solution of labor problems. R. C. Marshall, jr. Eng & Contr (Bldgs) 59:235-8 Ja 24 '23
Robinson Crusoe, social engineer. H. E. Jackson. 301p Dutton '22
What the workers want. Engineering 114: 651-2 N 24 '22
Worker in modern economic society. P. H. Douglas, C. N. Hitchcock and W. E. Atkins. 929p University of Chicago Press '23

See also Accidents, Industrial; Apprentices; Arbitration, Industrial; Bonus system; Candy factories—Employees; Child labor; Coal miners; Cooperation; Copartner-ship; Cost of living; Cotton mills—Employees; Cotton weavers; Day labor; Disabled—Rehabilitation; Diseases, Industrial; Division of labor; Efficiency, Industrial; Employees; Employees' representation in management; Employers' liability; Employment agencies; Employment management; Employment systems; European war—Labor problem; Factory inspection; Factory sanitation; Farm labor; Fatigue; Foundries—Employees; Garment workers; Gild socialism; Government employees; Home labor; Hours of labor; Housing; Housing projects, Company; Hygiene, Industrial; Industrial betterment; Industrial councils; Industrial education; Industrial management; Industrial relations; Industrial unionism; Industry; Insurance, Workmen's compensation; Intellectual workers; Labor and capital; Labor contracts; Labor laws and other headings beginning Labor; Leather workers; Linen weavers; Longshoremen; Machinery in industry; Marine workers; Metal workers; Miners; Municipal employees; Occupations; Occupations, Dangerous; Office workers; Oil workers; Old age pensions; Open and closed shop; Pensions, Industrial; Picketing; Piece work; Production, Standards of; Profit sharing; Railroads—Employees; Roads—Convict labor; Safety devices and measures; Seamen; Shoe factories—Employees; Socialism; Standard of living; Steel workers; Street railroads—Employees; Strikes; Syndicalism; Textile workers; Time study; Trade agreements; Trade unions; Unemployment; Wages; Welfare work in industry; Woman—Employment; Woolen and worsted mills—Employees; Work; Workmen's compensation; also International labor conference, Fourth; International labor office; Personnel research federation

Bibliography

Book notes. See monthly numbers of the International labour review and the Monthly labor review

Labor bulletins. Administration 3:387-8 Mr '22
Monthly labor review subject index, volumes I to XI, July, 1915, to December, 1920. 176p U.S. Bur. of labor statistics, Washington '23

Publications relating to labor. Published in Monthly labor review

Labor and laboring classes—Bibliography—Cont.
Recent books on labor in the United States.
E. L. Stone. Special Lib 13:147-56 N '22

Congresses

Compte rendu provisoire. 961p International labor office, Geneva '21

Dictionaries

What's what in the labor movement. W. R. Browne. 578p B. W. Huebsch, New York '21

See also Labor and laboring classes—Terminology

Dwellings

See Housing

Education

See Education of workers

History

History of labour. G. Stone. 416p Macmillan '22

Human problem in industry. E. M. Herr. Mech Eng 45:6-10 Ja '23; Same cond. Ry Mech Eng 97:95-6 F '23; Discussion. Mech Eng 45:10-13 Ja '23

Statistics

Methods of procuring and computing statistical information of the Bureau of labor statistics. U S Bur Labor Statistics Bul 326: 1-54 '23

1913-1900. E. Stewart. Monthly Labor R 15: 241-2 Ag '22

Standardization of state labor statistics. Monthly Labor R 17:255-6 Jl '23

Suggestions for improving employment and unemployment statistics. T. W. Mitchell. Management Eng 2:161-6 Mr '22

Terminology

Clearing up the uncertainty of labor terms. J. D. Hackett. Management Eng 4:341-4 My '23

Year books

American labor year book, 1921-1922. v. 4. 454p Rand school of social science, 7 East 15th st., New York '22

Australia

Industrial arbitration in Queensland. T. W. McCawley. Int Labour R 5:385-409 Mr '22

Is Australia labor ridden? A. Moline. Eng & Min J 114:798-9 N 4 '22

Labor and industrial conditions in Australia in 1921. Int Labour R 6:1019-20 D '22

Labor conditions in rural industries in New South Wales. Monthly Labor R 13:1175-9 D '21

Labor unrest in Australia and South Africa. V. B. Turner. Monthly Labor R 13:931-63 N '21

Modern economic history with special reference to Australia. H. Heaton. (W. E. A. ser. no. 5) 288p Workers' educ. assn. of South Australia, Adelaide '21

Wages and hours of labor in Sydney and Melbourne, Australia, June 30, 1922. Monthly Labor R 16:373-5 F '23

See also Labor laws and legislation—Australia

Austria

Austrian workman. J. A. G. Pennington. Am Mach 58:657-8 My 3 '23

Vocational guidance in Austria. Int Labour R 6:996-1004 D '22

See also Labor laws and legislation—Austria

Belgium

Labour inspection in Belgium in 1921. Int Labour R 8:279-84 Ag '23

See also Coal miners—Belgium

Bulgaria

Compulsory labour service in Bulgaria. M. Lazard. (Studies and Reports ser. B (econ. cond.) no. 12) 158p International labour office, Geneva O '22; Abstract. Monthly Labor R 16:1171-85 Je '23

Canada

Wages and hours of labor in Canada, 1922. Monthly Labor R 16:376-9 F '23

See also Labor laws and legislation—Canada; Wages—Canada; *also* Trades and labor congress of Canada

Ceylon

Labor and labor conditions in Ceylon and the Malay Peninsula. Monthly Labor R 16:924-7 My '23

Chile

See Coal miners—Chile

China

Industrial conditions in China. U S Bur For & Dom Com Trade Information Bul 61:1-7 '22

Labor and industrial conditions in China. J. Arnold and W. H. Gale. U S Bur For & Dom Com Trade Information Bul 75:1-17 '22

Labour and industry in China. J. B. Tayler and W. T. Zung. Int Labour R 8:1-20 Jl '23; Abstract. Monthly Labor R 17:588-90 S '23

When a workers' guild in China wants to raise prices. Ptr Ink 120:33-4 Ag 10 '22

Working women in China. Ta Chen. Monthly Labor R 15:1312-19 D '22

See also Wages—China

Denmark

Labor conflict in Denmark. Monthly Labor R 15:176-7 Jl '22

See also Wages—Denmark

Europe

Horny hands and hampered elbows. W. Williams. 285p Scribner '22

Finland

Labor disputes in Finland in 1922. Monthly Labor R 16:1106-7 My '23

Labor unrest in Finland. A. L. Whitney. Monthly Labor R 13:745-7 O '21

See also Labor laws and legislation—Finland; Trade unions—Finland

France

Agricultural wage earners in France. V. B. Turner. Monthly Labor R 17:34-46 Jl '23

See also Trade unions—France; Wages—France

Georgia

Working conditions of woman wage-earners in Georgia. Monthly Labor R 13:877-81 O '21

Germany

Demand of metal workers in Germany for greater rights for works councils. Monthly Labor R 14:641-2 Ap '22

Eight hour day and the problem of overtime in Germany. Leymann. Int Labour R 6:327-33 S '22

Factory inspectors' reports on operation of German works councils. Monthly Labor R 14:241-52 F '22

German capital and labour. F. Deutsch. Engineering 112:676-8 N 11 '21

German works councils. E. Frankel. Administration 4:37-40 Jl '22

Germany's labor problem. Am Mach 56:796b-c, 836-a My 25-Je 1 '22

Germany's problem with labor. Am Mach 59: 234h-i Ag 9 '23

How Germany settles industrial disputes; conciliation boards. E. Frankel. Monthly Labor R 17:578-87 S '23

Industrial government through collective agreements in Germany. E. Frankel. Management & Adm 6:39-42 Jl '23

Labor, wages and unemployment in Germany. M. L. Goldsmith. U S Bur For & Dom Com Trade Information Bul 106:1-17 '23

Methods of adjustment of industrial disputes in Germany. Int Labour R 5:51-65 Ja '22

Operation of German works councils, 1921. Monthly Labor R 16:511-14 Mr '23

Labor and laboring classes—Germany—Cont.

Physique of German workers. Meinighausen. Int Labour R 4:356-8 N '21
 Report of the Netherlands commission of enquiry into hours of work in German industry. Int Labour R 5:784-93 My '22
See also Coal miners—Germany; Housing—Germany; Labor laws and legislation—Germany; Trade unions—Germany; Wages—Germany

Great Britain

British labour movement and the industrial depression. S. Webb. Int Labour R 7:209-29 F '23
 British labour, replacement and conciliation, 1914-21. 266p Pitman '21
 British labor's part in politics. Nation's Business 11:29 Ja '22
 Disputes in engineering and shipbuilding industries in Great Britain. Monthly Labor R 15:434-9 Ag '22
 Emigration of workmen. Engineer 136:319, 375, 422 S 21, O 5, 19 '23
 Full up and fed up. W. Williams. 324p Scribner '21
 Industrial unrest in England. V. B. Turner. Monthly Labor R 16:1189-1203 Je '23
 Joint industrial councils in Great Britain. Int Labour R 4:563-78 D '21
 Labour and the new world. P. Snowden. 316p Cassell & co., London, New York '21
 Labour in transition. W. A. Orton. 286p P. Allen & co., London '21
 Labour policy: false and true; a study in economic history and industrial economics by L. Macassey. Review. Elec R (Lond) 91:508-10 O 13 '22
 Labour supply and regulation. H. Wolfe. 422p Oxford '23
 New statistics on the industrial distribution of workers in the United Kingdom. Int Labour R 4:529-31 D '21
 What we want and where we are. W. A. Appleton. 197p Doran '22
See also Coal miners—Great Britain; Great Britain—Trade boards; Housing—Great Britain; Labor laws and legislation—Great Britain; Trade unions—Great Britain; Unemployment—Great Britain; Wages—Great Britain

Greece

See Labor laws and legislation—Greece

Hawaiian Islands

Report on labor conditions in Hawaii. Monthly Labor R 16:505-6 Mr '23

India

India and the Washington conference. C. E. Low. Int Labour R 5:3-11 Ja '22
 Industrial future in India. J. F. Crowley. il Electrician 88:282-5 Mr '22
 Inefficiency offsets India's cheap labor. J. A. DeForce. Iron Tr R 71:368-9 Ag 10 '22
 Rise of factory labor in India. R. K. Das. Monthly Labor R 14:417-37 Mr '22
See also Cost of living—India; Miners—India; Wages—India; Workmen's compensation—India

Italy

Collective agreements in Italy. G. Olivetti. Int Labour R 5:209-28 F '22
See also Labor laws and legislation—Italy; Wages—Italy

Japan

Conditions of labour in the Japanese spinning industry. Int Labour R 7:747-54 My '23
 Economic condition of agricultural laborers in Japan. Monthly Labor R 13:1173-4 D '21
 Le mouvement ouvrier au Japon. F. Chailay. 108p Librairie du Parti socialiste et de l'Humanité, Paris '21
See also Coal miners—Japan; Labor laws and legislation—Japan; Trade unions—Japan

Jugoslavia

Factory inspection in Jugo-Slavia. Int Labour R 5:830-7 My '22

Workmen's insurance law of Yugoslavia. Monthly Labor R 14:1265-72 Je '22

Kentucky

Women in Kentucky industries. U S Women's Bur Bul 28:1-114 '23

Latvia

Activities of the Latvian labor ministry. Monthly Labor R 14:443-4 Mr '22

Malay peninsula

Labor and labor conditions in Ceylon and the Malay peninsula. Monthly Labor R 16:927-8 My '23

Mexico

See Labor laws and legislation—Mexico

Netherlands

Collective agreements in the Netherlands, 1921. Monthly Labor R 16:778-80 Ap '23

New Zealand

Labor conditions and legislation in New Zealand. V. B. Turner. Monthly Labor R 13:1179-93 D '21

See also Wages—New Zealand

Norway

See Unemployment—Norway

Pennsylvania

See Coal miners—Pennsylvania

Peru

See Wages—Peru

Poland

See Labor laws and legislation—Poland

Russia

See also Labor laws and legislation—Russia

Bibliography

Bibliography of industrial and labour questions in soviet Russia. 174p 60c International labour office, Geneva '22

Scandinavia

Employers' organisations in the northern countries. H. C. Oersted. Int Labour R 8:333-44 S '23

Labor unrest in Scandinavian countries and Finland. A. L. Whitney. Monthly Labor R 13:732-45 O '21

Silesia

Working classes of Upper-Silesia. E. Caspari. 96p S. Low, Marston & co., London '21

South Africa

Industrial and labour conditions in South Africa. Int Labour R 7:147-59 Ja '23
 Labor unrest in Australia and South Africa. V. B. Turner. Monthly Labor R 13:964-81 N '21

See also Wages—South Africa

South America

Labor unrest in South America. M. Dobbin. Monthly Labor R 14:19-41 Ja '22

Southern states

Southern worker—his history and character. F. H. Neely. Mech Eng 44:314-15 My '22

Sweden

Strike settlements in Sweden, first four months of 1923. Monthly Labor R 17:222-5 Jl '23

See also Trade unions—Sweden; Unemployment—Sweden; Wages—Sweden

United States

Adjusted monthly index of employment. Analyst 22:572 O 29 '23 [continued monthly]
 Agricultural wage earners in the United States. V. B. Turner. Monthly Labor R 15:1192-1210 D '22

Labor and laboring classes—United States
—Continued

- Analysis of the industrial employment and unemployment condition of the country for the month ended March 31. *Annalist* 21:537-8 Ap 16 '23
- Comparison of employment and wages in selected industries in October 1921 and 1920. *Comm & Fin Chr* 113:2374-5 sec 1 D 3 '21 [continued monthly]
- Efficiency of American labor. E. Stewart. *Monthly Labor R* 15:1-12 Jl '22
- Employment, hours and earnings in prosperity and depression. W. I. King. 147p National bureau of economic research, inc., 474 W. 24th st., New York '23
- Employment survey shows improving conditions. R. Bean. *Annalist* 19:339-40 Mr 20 '22
- Estimated number of wage earners in the United States. *Monthly Labor R* 14:985-7 My '22
- Experiments in labor organization showing results. H. Tipper. *Automotive Ind* 46:290-1 F 9 '22
- If we do not produce we shall starve to death; organized labor unless wisely led and conversant with real facts will bring about disaster. B. A. Worthington. *Ry Age* 73:927-8 N 18 '22
- Income in the United States. W. Bishop. *Nation's Business* 10:60+ Mr '22
- Industrial code. W. J. Lauck and C. S. Watts. 571p Funk & Wagnalls co., New York '22
- Industrial situation in Illinois during August. *Comm & Fin Chr* 117:1185 S 15 '23 [continued monthly]
- Industry and human welfare. W. L. Cheney. 169p Macmillan '22
- Labour conditions in America. W. H. Atherton. *Ind Management (Lond)* 10:153-5 S 20 '23
- Reclassification of the United States 1920 occupation census, by industry. C. Hookstadt. *Monthly Labor R* 17:1-14 Jl '23
- Recommendations of the Secretary of labor. *Monthly Labor R* 16:24-5 Ja '23
- Wage earners better off. *Am Ind* 24:22 S '23
- See also Coal miners—United States; Housing—United States; Labor laws and legislation—United States; Trade unions—United States; Unemployment—United States; United States—National war labor board; Wages—United States; Workers' education bureau of America
- Venezuela**
- Labor conditions in Venezuela. *Monthly Labor R* 15:493-4 S '22
- West Virginia**
- See Coal miners—West Virginia
- Labor banks.** See Banks and banking, Trade union
- Labor bureaus.** See Labor departments
- Labor camps**
- See Construction camps; Lumber camps; Oil camps
- Labor contracts**
- Employer's right under satisfactory services contract. L. Childs. *Ind Management* 63:60-1 Ja '22
- Employment contracts from the employer's standpoint. E. J. Buckley. *Chem Age* 31:400 S '23
- Employment contracts involving inventive service. L. Van Doren. *Chem Age* 30:539 D '22
- Nordyke and Marmon company installs the individual contract. *Am Ind* 22:32 D '21
- When does an employment contract terminate? *Chem & Met Eng* 26:338, 341, 484-6, 532-3, 676-7 F 22, Mr 15-22, Ap 12 '22
- See also Open and closed shop; Trade agreements; Trade unions; Wages
- Labor cost**
- Effect of rate setting on labor costs. W. O. Lichtner. *Ind Management* 64:169-72 S '22
- Graphical study of operating efficiency. A. R. Blakey. *Chem & Met Eng* 27:1259-61 D 27 '22

- High cost of supervision. C. H. Johnson. *Ind Management* 63:149-50 Mr '22
- Higher wage rates must be offset by reduction of overhead. H. Tipper. *Automotive Ind* 48:1240-1 Je 7 '23
- Labor routine; Todd dry dock & construction co. chartered by W. C. Bober. *Ind Management* 63:176-7 Mr '22
- Labor shortage brings industrial relations problem to fore. H. Tipper. *Automotive Ind* 48:732-3 Mr 29 '23
- Man-hour cost of heavy paving, Lockport, Ill. C. E. DeLeuw. *Eng N* 89:26-7 Jl 6 '22
- Quantity production and its effect on cost. H. E. King. *Management Eng* 4:269-71 Ap '23
- Ratio of labor to materials cost in buildings. H. P. Gillette. *Eng & Contr* 57:266 Mr 22 '22
- Reduction in indirect costs more important than lower wages. H. Tipper. *Automotive Ind* 48:836-7 Ap 12 '23
- Relation of overhead to direct labor cost. J. H. Simpson, jr. *Ind Management* 65:12 Ja '23
- Standardized costs for sheet metal workers. A. Baruch. *Sheet Metal Worker* 13:76-80 Mr 3 '22
- Unit labor costs on electric construction. C. Higgins. *il Elec W* 80:1093-7 N 18 '22

Labor departments

- What state Labor bureaus are doing. See monthly numbers of Monthly labor review

Labor directories

- Directory of labor officials in United States and foreign countries. *Monthly Labor R* 17:262-86 Jl '23
- International labour directory, 1923. 1120p International labour office, Geneva '23

Labor disputes

- See Arbitration, Industrial; Picketing; Strikes; Trade agreements

Labor laws and legislation

- Action of various countries on draft conventions and recommendations of International labor conference. *Monthly Labor R* 15:966-72 N '22
- Arbeitszeitzwang und tariffreiheit. F. Goerrig. *Stahl & Eisen* 41:1491-4 O 20 '21
- Christian social movement and international labour legislation. M. Turmann. *Int Labour R* 6:3-10 Jl '22
- International protection of labor. B. E. Lowe. 439p Macmillan '21
- Labor laws and court decisions. See monthly numbers of Monthly labor review
- Labour legislation and economic possibilities. I. P. de Vooy. *Int Labour R* 7:181-7 F '23
- Legislative notes. *Int Labour R* 5:659-92; 6:120-37 Ap, Jl '22
- Selection of cases and other authorities on labor law. F. B. Sayre. 1017p Harvard university press, Cambridge '22
- See also Arbitration, Industrial; Child labor; Courts, Industrial; Employers' liability; Hours of labor; Industrial laws and legislation; Insurance, Workmen's compensation; Labor, Compulsory; Labor contracts; Minimum wage; Picketing; Strikes; Trade unions; Woman—Employment; Woman—Law; Workmen's compensation

Bibliography

- Cumulative index to Labor laws of the U.S. series. L. D. Clark. *U S Bur Labor Statistics Bul* 292:103-52 '22
- Recent labour legislation. *Int Labour R* 8:285-305 Ag '23

Argentina

- Labour code of Salta (Argentine Republic). *Int Labour R* 5:669-71 Ap '22

Australia

- Labor laws of Australia, 1921. *Monthly Labor R* 15:157-8 Jl '22

Austria

- Works councils act in Austria. E. Adler. *Int Labour R* 5:411-36 Mr '22; *Abstract. Monthly Labor R* 14:1115-17 Je '22

Labor laws and legislation—Continued**Canada**

Labor legislation in Canada. Monthly Labor R 15:158-62 J1 '22
 Labour legislation in Canada as existing December 31, 1920. 844p Canada Dept. of labour, Ottawa '21

Denmark

New Danish law on employment exchanges and unemployment insurance. Monthly Labor R 15:162-4 J1 '22

Europe

Administration of labor laws and factory inspection in certain European countries. G. M. Price. Monthly Labor R 16:1153-71 Je '23

Finland

Law regulating apprenticeship agreements in Finland. Monthly Labor R 17:954-5 O '23
 New labor laws in Finland. Monthly Labor R 15:1397-8 D '22

Germany

Law of collective bargaining in Germany. F. Sitzer. Int Labour R 6:511-26 O '22
 Noteworthy rulings on the rights of works' councils in Germany. Monthly Labor R 13:752-3 O '21

Great Britain

Worker and the state; wages, hours, safety and health. F. Tillyard. 298p Dutton '23
See also Great Britain—Trade boards

Greece

Labour legislation in Greece. A. Andréadès. Int Labour R 6:699-720 N '22

Italy

Compulsory accident insurance of agricultural workers in Italy. Monthly Labor R 16:26-32 Ja '23
 Italian decree on the eight-hour day. Monthly Labor R 16:1277-9 Je '23

Japan

Amendment of Japanese factory law. Monthly Labor R 17:482-5 Ag '23

Jugoslavia

Yugoslav law for the protection of workers. Monthly Labor R 17:729-36 S '23

Massachusetts

Manual of the labor laws enforced. 110p Wright & Potter pte. co., Boston '21

Mexico

Chihuahua state labor law. Eng & Min J 11:414-16 S 2 '22
 Individual and collective bargaining under Mexican state labor laws. M. Dobbin. Monthly Labor R 17:485-500, 716-28 Ag-S '23
 Labor law drawn by Guanajuato commission seems moderate. K. A. Cunningham. Eng & Min J 11:5:948 My 26 '23
 Labor legislation in Mexico. R. B. Brinsmade. Eng & Min J 11:4:842-3 N 11 '22
 Labor legislation of Mexico. M. Dobbin. Monthly Labor R 15:1365-83 D '22

See also Labor and laboring classes—Mexico

Minnesota

Labor laws. Rev. ed. 207p Industrial commission of Minnesota, St Paul '23

New York (state)

Legislative program adopted by New York state federation of labor. Comm & Fin Chr 115:2863 D 30 '22

Poland

Polish labour legislation. H. Baumgart. Int Labour R 7:841-60 Je '23

See also Miners—Poland

Queensland

Labor laws of Queensland. 778p A. J. Cumming. Brisbane, Australia '22

Russia

Industrial inspection in soviet Russia. Int Labour R 7:25-37 Ja '23
 Labor code of Russia, 1922. Monthly Labor R 17:212-19 J1 '23

United States

Decisions of courts and opinions affecting labor, 1919-1920. L. D. Clark and M. C. Frincke, Jr. U S Bur Labor Statistics Bul 290:1-477 '22
 Decisions of courts and opinions affecting labor 1921. L. D. Clark and D. F. Callahan. U S Bur Labor Statistics Bul 309:1-352 '22
 Labor and its legal and moral status. W. G. Merritt. Iron Age 109:731-2 Mr 16 '22
 Labor laws that have been declared unconstitutional. L. D. Clark. U S Bur Labor Statistics Bul 321:1-90 '22
 Labor legislation for 1923. M. J. Hickey. Am Ind 23:36+ Ja '23
 Labor legislation of 1919. U S Bur Labor Statistics Bul 277:1-409 '21
 Labor legislation of 1921. U S Bur Labor Statistics Bul 308:1-328 '22
 Labor legislation of 1922. U S Bur Labor Statistics Bul 330:1-102 '23
 Labor problems and labor legislation. J. B. Andrews. 2d. ed., rev. 135p Am. assn. for labor legislation, New York '22
 Review of labor legislation of 1920. L. D. Clark. bibliog U S Bur Labor Statistics Bul 292:1-152 '22
 Social and economic interpretation of fourteenth amendment. Monthly Labor R 15:1124-8 N '22
 Unfair competition in labor hours. C. F. Smith. Textile World 63:3002+ My 5 '23

See also Woman—Employment

Labor library (proposed)

Labor's own library. L. Hunt. Special Lib 13:156-8 N '22

Labor officials

Directory of labor officials in the United States and foreign countries. Monthly Labor R 17:262-86 J1 '23

Labor officials, Association of governmental.
See Association of governmental labor officials

Labor party (Great Britain)

British labor party socialistic. S. Webb. Am Ind 24:40-4 Ag '23
 Labor and empire. T. F. Tsiang. 220p Columbia university, New York '23

Labor publication society

Concealed agencies fermenting new strikes. Ry R 72:319-25 F 24 '23

Labor saving devices

Formulas for computing economies of labor-saving equipment. Mech Eng 45:564-5 S '23;
 Same. Eng & Contr (Bldgs) 60:673-6 S 26 '23; Same. Textile World 64:1975+ O 6 '23;
 Abstract. Management & Adm 6:443-4 O '23
 Labor-saving devices in routine bridge and building work; report to the American railway bridge and building association. il diags Ry R 71:583-9 O 28 '22; Same. Eng & Contr (Ry) 58:67-78 N 15 '22; Abstract. Ry Age 73:748-9 O 21 '22

Labor saving equipment in maintenance of way work. Eng & Contr (Ry) 58:136-8 D 20 '22

Mechanical labor saving devices in road work. W. S. Cumming. Eng & Contr (R & S) 59:536-9 Mr 7 '23

Railroads must use labor saving equipment. Ry Age 74:515-16 Mr 3 '23

Report on labor-saving devices. Ry Age 73:997-8 N 25 '22

See also Calculating machines; Domestic appliances; Mechanical handling; Office appliances; Railroads—Track making machinery

Labor statistics. *See* Labor and laboring classes—Statistics

Labor supply

America's need for immigrant labor. J. E. Edgerton. Management Eng 4:73-4 F '23

Common labor growing uncommon. W. S. Hays. Am Ind 23:23 Mr '23

Labor supply—Continued

- Disregard need for immigrants. Iron Tr R 72: 173-4 Ja 11 '23
- How great is the shortage of building trades workers? M. V. Ayres. Eng N 90:8-10 Ja 4 '23
- Immigration and the labor supply. D. F. Garland. System 43:587-90 My '23
- Immigration as affecting the labor situation. M. W. Alexander. Eng N 90:11-13 Ja 4 '23
- Industrial profits and labor shortage. W. R. Burgess. Management & Adm 6:25-8 Jl '23
- Is labor shortage an unmixed evil? C. Piez. Management Eng 4:361-2 Je '23
- Labor market—a glance ahead. W. L. Stoddard. Administration 4:199-201 Ag '22
- Labor shortage grows. Iron Age 109:1805 Je 29 '22
- Labor shortage is increasing. Iron Tr R 70: 1885 Je 29 '22
- Labor shortage—its volume and means of relief. Eng N 90:8-13, 62-5 Ja 4-11 '23
- Labor shortage persists. Management Eng 4: 363-4 Je '23
- Our immigration laws and the labor shortage. W. R. Ingalls; D. Bloomfield. Metal Ind 19: 22 Ja '23
- Problem of the labor situation. Paper 31:19-20 Ap 18 '23
- Shortage of miners in the West. T. A. Rickard. Eng & Min J 114:357 Ag 26 '22
- Some aspects of mine labor. A. B. Parsons. Eng & Min J 115:748-53 Ap 28 '23
- Strong support for selective immigration. Iron Age 111:163-4 Ja 11 '23
- Throw down your bucket: paying common labor daily. K. M. Coolbaugh. Ind Management 66:208-10 O '23
- Wage and employment situation. See monthly numbers of Management and administration
- What is labor shortage? Ry R 71:672-3 N 11 '22
- See also Employment systems; European war—Labor problem; Immigration and emigration—United States; Intellectual workers; Labor turnover; Unemployment
- Labor terms.** See Labor and laboring classes—Terminology
- Labor turnover**
- Causes of labor turnover. P. F. Brissenden and E. Frankel. Administration 2:649-67 N '21
- Compulsory publication of labor turnover factors. E. Thomas. Management Eng 4:135 F '23
- Compulsory publication of labor turnovers. E. Thomas. Management Eng 3:103-4 Ag '22; Discussion. H. D. Haight. 3:188-9 S '22
- Cost of labor turnover. G. W. Hafner. Dom Eng 101:532-3 D 23 '22
- Costs of labor turnover. W. J. Matherly. Administration 3:464-8 Ap '22
- Critical age as a factor in labor turnover. H. D. Kitson. bibliog J Ind Hygiene 4:199-202 S '22
- Decreasing labor turnover. F. M. Knowles. Factory 29:352+ S '22
- Elements of unavoidable labor turnover. A. L. DeLeeuw. Management Eng 2:137-42 Mr '22
- Employment and labor turnover. Am Mach 57:832 N 30 '22
- Fundamental ways of reducing labor turnover. W. J. Matherly. Administration 4:471-7 O '22
- How to analyze the working force. E. J. Bengel. charts Management Eng 2:79-84 F '22; Abstract. Monthly Labor R 14:1112-15 Je '22
- Industry's turnover as a whole not unusually high though excessive in some districts. Coal Age 24:601-3 O 18 '23
- Is the high cost of distribution due to misfit salesmen? turnover in sales organization. H. G. Kenagy. Ptr Ink 121:3-4+ N 2 '22
- Labor turnover chaos; a plea for a system of accounting. J. D. Hackett. Management Eng 3:347-8 D '22
- Labor turnover in industry. P. F. Brissenden and E. Frankel. 215p Macmillan '22
- Methods of determining labor turnover. C. W. Lytle. Management Eng 3:125-8 Ag '22

- 104 causes of high labor turnover. E. M. Pharo. Factory 30:290-1+ Mr '23
- Pension costs and the labor turnover factor. J. H. Woodward. Management & Adm 6: 483-6 O '23
- Reason for the selection of the labor turnover study. (Annals v. 103, no. 192) p. 171-82 Am. Acad. of Pol. and Soc. Sci. S '22
- Reducing turnover in seasonal industries. H. S. Gilbertson. Management Eng 3:286-8 N '22
- Relation between labor turnover and industrial accidents. H. D. Kitson and C. Campbell. bibliog J Ind Hygiene 5:92-6 Jl '23
- Some of the effects of labor turnover on production efficiency. P. Brasher. Chem & Met Eng 27:422-4 Ag 30 '22
- Some of the major reasons why employees quit their jobs. G. H. DeKay, jr. J Elec 49:89-91 Ag 1 '22
- Statistical study of labour turnover in munition and other factories. 92p Gt. Brit. Industrial fatigue research bd., London '21
- Why women change jobs. il Factory 31:468-9+ O '23
- Why your middle-aged men quit work. C. Campbell. Ind Management 65:117+ F '23
- See also Employment management; Employment systems

Labor unions. See Trade unions**Laboratories**

- Finding the better way. C. E. Ruby. il Ind Management 63:26-9 Ja '22
- Glens Falls company completes office and laboratory building. il plan Concrete 21:sup 69-71 N '22
- Laboratories, their planning and fittings. A. E. Munby. 239p Van Nostrand '21
- Laboratory organisation. T. Callan. Soc Chem Ind J (Chem & Ind) 42:466-7 My 11 '23
- Research laboratory and its war on waste. F. Grotts. Ind Management 64:309-14+ N '22
- See also Aerodynamic laboratories; Chemical laboratories; Department stores—Laboratories; Electric laboratories; Engineering laboratories; Foundry laboratories; Gas companies—Laboratories; Hydraulic laboratories; Industrial research; Metallurgical laboratories; Physical laboratories; Public health laboratories; Testing laboratories; also Michigan. University—Chemical engineering laboratory; Rose polytechnic institute, Terre Haute; Riverbank laboratories; Underwriters' laboratories; United States—Forest products laboratory

Directories

- Research laboratories in industrial establishments of the United States. A. D. Flinn, revised by R. Cobb. Nat Research Council 3 pt 1:1-120 D '21
- Laboratories, Chemical.** See Chemical laboratories
- Laboratories, Electric.** See Electric laboratories
- Laboratories, Engineering.** See Engineering laboratories
- Laboratories, Foundry.** See Foundry laboratories
- Laboratories, Hydraulic.** See Hydraulic laboratories
- Laboratories, Metallurgical.** See Metallurgical laboratories
- Laboratories, Testing.** See Testing laboratories
- Laboratory apparatus.** See Chemical apparatus
- Labrador**
- See Aeronautics—Labrador
- Lac**
- Über den hauptbestandteil des Japanlacks. R. Majima. Deutsche Chem Gesell Ber 55:172-214 Ja '22; Abstract. Chem Soc J 122 pt 1: 262-5 Mr '22
- Lace and lace making**
- Electricity in the lace industry. J. F. Crowley. il Electrician 88:225-8 F 24 '22
- Lackawanna railroad.** See Delaware, Lackawanna & Western railroad

Lackawanna steel company

Annual report for the fiscal year ended December 31, 1921. *Comm & Fin Chr* 114:1082-3 Mr 11 '22

Bethlehem absorbs Lackawanna. *Iron Tr R* 70:1386-7 My 18 '22; *Iron Age* 109:1369-70 My 18 '22

Lacquer and lacquering

Clouding. J. F. Nonamaker. *Brass W* 18:190 Je '22

Lacquers, japans and enamels. *Brass W* 18:66 F '22

See also Japanning; Varnish and varnishing

Lactates

See Akyl lactates

Lactic acid

Lactic acid and the tariff schedule. *Chem Age* 30:196 My '22

Pyruvic acid from lactic acid; significance of this problem in electrolytic oxidation. J. G. Small and P. Subkow. *Chem & Met Eng* 28:357-8 F 21 '23

Lactones

Constitutional studies in the monocarboxylic acids derived from sugars; tetramethyl galactonolactone and the structure of galactose. J. Pryde. *Chem Soc J* 123:1808-15 Jl '23

Lignin-untersuchungen; dimethyl-sulfitlaugen-lactone. B. Holmberg and M. Sjöberg. *Deutsche Chem Gesell Ber* 54:2406-17 O '21

Lignin-untersuchungen; über das sulfitlaugen-lacton. *Deutsche Chem Gesell Ber* 54:2339-2406 O '21; *Abstract. Chem Soc J* 120 pt 1:849-50 D '21

Zur kenntnis der β -halogen-substituierten fettsäuren und der β -lactone. H. Johansson and S. M. Hagman. *Deutsche Chem Gesell Ber* 55:647-58 Mr '22

Ladd, Edwin F.

Sole chemist in U. S. Senate. *por Chem & Met Eng* 27:27 Jl 5 '22

Ladder veins

Occurrences of ladder veins in Minnesota. F. F. Grout. *diags Econ Geol* 18:494-505 Ag '23

Ladders

Aerial ladder for fire service. *il Engineering* 115:200-1 F 16 '23; *Pop Mech* 39:848 Je '23

Fire ladder folds into pole, serves as battering ram. *il Pop Mech* 40:493 O '23

Accidents

Cause and cost of ladder injuries. C. N. Young. *Safety Eng* 45:106-7 Ap '23

Safety devices and measures

Handling of mill ladders. *Textile World* 62:73+ Jl 1 '22

Ladders and stairways for the power plant; precautions in construction and use to avoid accidents. *diags Power Pl Eng* 26:130-3 Ja 15 '22

Neglected ladder. W. B. Hall. *il Safety Eng* 44:183-4 O '22

Safety ladder. *il Textile World* 63:89 Ja 6 '23

Ladle cars

Mixer type hot metal cars. *il Iron Age* 111:353 F 1 '23

Ladies

Ladle brick. D. A. Moulton. *il Am Cer Soc J* 5:823-5 N '22

Lagos, Nigeria**Harbor**

Improvement of the port of Lagos, Nigeria. *il diags plans Engineering* 116:137-40, 146 Ag 3 '23

Laist, Frederick, 1878-

Sketch. *por Eng & Min J* 114:1108 D 23 '22

Lake colors. See Pigments

Lake of the Woods

Conference on Lake of the Woods. *Can Eng* 43:571 N 28 '22

Control of Lake of Woods level. *Can Eng* 43:565 N 21 '22

Lake Placid club

Building Lake Placid club at 50° below zero. *il diag plan Concrete* 23:59-60 Ag '23

Lakes

Inland lakes of Michigan. I. D. Scott. 383p *Michigan Geol. and biol. survey, Lansing* '21

The St James's park and other London lakes; reconditioning the bottoms. *il diag map Engineer* 136:60-2, 92-3 Jl 20-27 '23

See also Great Lakes

Lambskins

Trade in Persian lambskins. *Color Tr J* 10:41 Ja '22

Laminated shim company

Business-paper advertising develops a steady market for the Laminated shim company. E. B. Weiss. *Ptr Ink* 124:55-6+ S 6 '23

Lamont, Thomas W.

Town house of Thomas W. Lamont. M. Price. *il plans Arch Rec* 51:210-32 Mr '22

Lamp black. See Carbon black

Lamp globes

Glass for artificial daylight. F. E. Lamplough. *Illum Engr* 14:219 N '21

See also Illuminating glassware guild

Lamp posts. See Street lighting fixtures

Lampblack. See Carbon black

Lamps

Tentative code of luminaire design. *il diags Illum Eng Soc* 17:703-42 D '22

See also Acetylene lamps; Automobiles—Lighting; Electric lamps; Gas lamps; Reflectors; Safety lamps; Searchlights

Cleaning

Influence of dirt on light output of lamps. *Am Inst E E J* 41:709-10 S '22

Lamps, Mine. See Safety lamps

Land

Institute for research in land economics at Wisconsin university. C. H. Getz. *Annalist* 20:292+ S 25 '22

Land economics and business executives. R. T. Ely. *Administration* 2:721-8 D '21

Land question as related to city planning and housing. G. H. Gray. *diags plan Am Inst Arch J* 9:330-7 O '21; *Excerpts. Eng & Contr* 56:590-3 D 28 '21

See also Agricultural colonization; Agriculture; Clearing of land; Coal lands; Drainage; Farms; Irrigation; Mineral lands; Oil lands; Real estate business; Reclamation of land; Rent; Watersheds

Valuation

See Assessment

Land, Nationalization of

Land nationalisation. A. E. Davies and D. Evans. 159p L. Parsons, London '21

Land banks

Advertising for the joint stock land banks. *Ptr Ink* 120:120+ S 14 '22

Distinction between federal land bank bonds and joint stock land bank bonds. *Comm & Fin Chr* 116:773-5 F 24 '23

Offering of bonds of Atlanta, Fremont and Potomac joint stock land banks. *Comm & Fin Chr* 117:150-1 Jl 14 '23

Offering of bonds of Northwest, Lincoln, and Chicago joint stock land banks. *Comm & Fin Chr* 117:502 Ag 4 '23

Offering of stock of Southern Minnesota joint stock land bank. *Comm & Fin Chr* 117:1074-5 S 8 '23

Offerings of Chicago and other joint stock land bank bonds. *Comm & Fin Chr* 116:2582-3 Je 9 '23

Senator Borah's bill to limit profits of joint stock land banks to 6%. *Comm & Fin Chr* 115:2739-40 D 23 '22

See also Federal farm land banks

Advertising

Land banks discuss advertising plans. *Ptr Ink* 124:49 S 13 '23

Land drainage. See Drainage

Land settlement. See Agricultural colonization

Land tenure

Land systems of Mexico. G: M. McBride. 204p [bibliog p 182-95] Am. geographical soc., New York '23

New agrarian legislation in Central Europe. Int Labour R 6:345-63 S '22

See also Agricultural colonization; Coal lands; Farm tenancy; Landlord and tenant; Mineral lands; Oil lands

Japan

Disputes between landowners and tenant farmers in Japan. Int Labour R 8:459-62 S '23

Peru

Development of agrarian policy in Peru. C. A. Ugarte. Annalist 22:168-9 Ag 6 '23

Russia

Readjustment of land ownership in Russia. Annalist 22:426-7 O 1 '23

Land titles

Titles in mine examination. J. Underhill. Eng & Min J 114:1151-2 D 30 '22

Landis decision. See Building trades—Chicago

Landlord and tenant

Massachusetts law of landlord and tenant. P. F. Hall. 3d ed., rev. & enl. 682p Little, Brown and co., Boston '22

Shall the obligation of contracts be impaired? Comm & Fin Chr 117:134-5 Jl 14 '23

Tenant and his landlord. E. J. Lauer and V. House. 438p Baker, Voorhis & co., New York '21

See also Apartment houses; Housing laws; Rent; Tenement houses

Landolt's reaction

Einige vorlesungsversuche zur reaktions-kinetik in lösungen (angestellt an der Landolt-reaktion). J. Eggert and B. Scharnow. Deutsche Chem Gesell Ber 54:2521-5 O '21

Some reactions analogous to the Landolt reaction. J. Eggert and B. Scharnow. Chem Soc J 120 pt 2:636-7 D '21

Landreth electrolytic process. See Sewage disposal—Electrolytic treatment

Landscape architecture. See Landscape gardening

Landscape gardening

Art and organization. R: Schermerhorn, jr. Am Arch 122:21- JI 5 '22

English flower garden and home grounds. W. Robinson. 13th ed. 796p Scribner '21

Estate development at Rye, New York. il diags Arch Forum 36:231-4 Je '22

Gardens of the Palace of peace at the Hague. T: H. Mawson. il plans Arch Rec 54:201-13 S '23

La Collina, estate of B. R. Meyer, Beverly Hills, California. il plan Am Arch 123:455-6c My 23 '23

Landscape design for the modern country house. A. Geiffert, jr. il plan Arch Forum 38:141-6 Mr '23

Landscape effects on estate of H. A. Fuller, San Rafael Heights, Pasadena, Cal.; views. Am Arch 122:544j-1 D 20 '22

Landscape gardening. F. A. Waugh. 344p Wiley '22

Landscape the home grounds. G. V. Peker. plan Bldg Age 44:53 Ap '22

Laying out the garden. G. V. Peker. plan Bldg Age 45:68 Ap '23

Planting as a practical factor in domestic architecture. C. S. Taylor. il diags Arch Forum 38:135-40 Mr '23

Planting for architectural effect. R. Dean. il Arch Forum 36:217-20 Je '22

Recent work by Ruth Dean, landscape architect. R. F. Whitehead. il Arch Rec 52:350-2 O '22

Residence of Warren Bicknell, Cleveland, Ohio. I. T. Frary. il plans Arch Rec 53:202-22 Mr '23

See also Camps, Tourists'; Cemeteries; Gardens; Parks; Terraces; Trees

Landslides

Cause and prevention of land slides. H. R. Thayer. Eng & Contr (Ry) 59:466-7 F 21 '23; Same. Pub Works 54:109 Mr '23; Same. Can Eng 44:504-5 My 15 '23

Local earth movements in western Pennsylvania. L. F. Bechtel. Eng Soc W Pa 38:453-9; Discussion. 460-9 D '22

Methods of overcoming slides on side hill roads. diag Eng N 89:359 Ag 31 '22

Water seepage along fault planes causes serious clay slide. R. W. Jones. il diags Eng N 88:648-9 Ap 20 '22

Langley, Samuel Pierpont, 1834-1906

Work of S. P. Langley. S. Bairstow. Aeronautical J 26:420-32; Discussion. 432-4 N '22

Langley flying machine

Langley machine and the Hammondsport trials. G. Brewer. Aeronautical J 25:620-31, 632-43; Discussion. 631, 644-64 D '21

Langmuir, Irving, 1881-

Sketch. por Elec W 79:116 Ja 21 '22

Langmuir patent. See Electric lamps, Tungsten—Patents

Langmuir postulates

Correlation of atomic structure and spectra. H. S. King. Am Chem Soc J 44:323-8 F '22

Language

See Commercial correspondence; Phonetics; Technical writing

Languages, Modern

See also English language

Bibliography

Foreign trade markets and methods. C. S. Cooper. p. 197-204 Appleton '22

Languages, Universal

Ido, the new universal language; proposed International language assoc. of America. E. W. Sutton. Chem & Met Eng 27:5-6 Jl 5 '22

International language. M. Sherrill. Chem & Met Eng 27:148 Jl 26 '22

Short history of the international language movement. A. L. Guérard. 268p Boni & Liveright, New York

See also Esperanto; Ido; Ro (artificial language)

Lantern projection

Optical projection. L: Wright. 5th ed. Longmans '20

See also Diagrammatic slides; Moving picture machines

Lanterns (architecture)

Iron lantern, Strozzi Palace, Florence, Italy; views. Am Arch 121:220 Mr 15 '22

Lanthanum

Observations on the rare earths; the atomic weight of lanthanum. B. S. Hopkins and F. H. Driggs. Am Chem Soc J 44:1927-9 S '22

Observations on the rare earths; the preparation and properties of metallic lanthanum. H. C. Kremers and R. G. Stevens. Am Chem Soc J 45:614-17 Mr '23

Lapping. See Grinding and polishing

La Rabaterie. See Tours, France—Architecture

Larceny

See Automobiles—Theft; Electric lamps—Theft; Gold—Theft; Theft

Larch

Ethyl alcohol from western larch. E. C. Sherrard. J Ind & Eng Chem 14:948-9 O '22

Lard oil

Lard oil as a lubricant vindicated by science. Pop Mech 37:688 My '22

Larkin, P. C.

Sketch. W: H. Walsh. System 42:44-5 Jl '22

- Larvex**
Fighting the bug that destroys \$200,000,000 in property a year. *Ptr Ink* 123:153-4 Ap 19 '23
- Lassen Peak**
Possible causes of the volcanic activity at Lassen Peak. A. L. Day. *il J Fr Inst* 194: 569-82 N '22
- Latch needles.** See Knitting machines—Needles
- Latent heat**
Latent heat of vaporization of coal-tar oils. J. M. Weiss. *J Ind & Eng Chem* 14:72 Ja '22
- Latent heats of vaporization and expansion. D. L. Hammick. *Philos Mag* 6th ser 44:590-4 S '22
- See also Trouton's law
- Latex.** See Rubber
- Lathes**
Adaptable quick change geared head lathes. *diags Ry Mech Eng* 96:539-40 S '22
- American twelve-speed automatically oiled geared-head lathe. *il Am Mach* 58:815 My 31 '23; *Iron Age* 111:1567 My 31 '23; *Mach* 29: 821-2 Je '23; *Ry Mech Eng* 97:373-4 Je '23
- Apollo 2½-in. hollow spindle turret lathe. *il Engineering* 112:758-9, pl 42 D 2 '21
- Automobile production work on turret lathes. E. K. Hammond. *il Mach* 28:261-4 D '21
- Auxiliary cross-slides for turret lathes. D. A. Nevins. *diags Mach* 28:740-1 My '22
- Bardons & Oliver turret lathes. *il Mach* 29: 904-6 Jl '23
- Blount speed lathe with a.c. motor headstock. *il Am Mach* 56:495 Mr 30 '22; *Mach* 28:669 Ap '22
- Boye & Emmes condess engine lathe. *il Am Mach* 56:229-30 F 9 '22; *Iron Age* 109:415 F 9 '22
- Changing the drive on a turret lathe. W. F. Honer. *il diags Am Mach* 56:381-2 Mr 9 '22
- Chile—imports of machine lathes. *Am Mach* 57:1003 D 28 '22
- Cincinnati-Acme universal flat turret lathe. *il Mach* 29:402-3 Ja '23; *Iron Age* 110:1681 D 28 '22
- Cincinnati geared head lathe. *il Automobile Eng* 12:19 Ja '22
- Combining two engine lathes to increase swing. *il Mach* 29:797-8 Je '23
- Cost-reducing tooling equipments; tooling equipments employed for machining steering knuckles and other automobile forgings. R. E. Flanders. *il diags Mach* 28:301-5 D '21
- Cross-slide stop for Worcester lathes. *il Am Mach* 56:235 F 9 '22
- Depreciation of a lathe. *Am Mach* 58:468, 576, 667, 694, 740, 806; 59:21 Mr 29, Ap 19, My 3-17, 31, Jl 5 '23
- Development of high-speed centers. T. Fish. *diag Mach* 29:608 Ap '23
- Develops driving pulley for pattern lathe. *diags Foundry* 50:772 S 15 '22
- Double end, center-drive lathe for production work. P. M. Heldt. *il diags Automotive Ind* 46:1061-3 My 18 '22
- Early application of multiple stops for turning shoulder work. O. E. Perrigo. *diags Am Mach* 58:877-9 Je 14 '23
- 8½-in. centre hollow spindle Buckman lathe. *il diags Engineering* 115:678-9 Je 1 '23
- Engine lathe notable for size built by Niles-Bement-Pond co. *il Iron Age* 111:892 Mr 29 '23
- 5½-inch capstan lathe. *il diag Engineer* 132: 684-5 D 23 '21
- 4-in. screw-cutting back-geared foot or power lathe. *il diags Engineering* 114:12-13 Jl 7 '22
- Full automatic engine lathe development. *il Ry Mech Eng* 96:169-70 Mr '22
- Gordon crankshaft-cheek turning lathe. *il Mach* 28:415-16 Ja '22; *Am Mach* 56:39-40 Ja 5 '22
- Hendey 14-in. toolroom lathe. *il Am Mach* 56: 644 Ap 27 '22; *Iron Age* 109:1227 My 4 '22
- How to run a lathe. how to erect, care for and operate a screw-cutting engine lathe. 24th ed., rev. 80p South Bend lathe works, South Bend, Ind. '22
- Large all-geared double bedded lathe. *il diags plan Engineer* 133:722, 730 Je 30 '22
- Lathe kinks. H. F. Crawford. *diags Am Mach* 59:153 Jl 26 '23
- Lathe set-up for varying lead. O. S. Marshall. *il Mach* 28:1001-2 Ag '22
- Lathe tools. *diags Engineering* 115:146-7 F 2 '23
- Lathe work for beginners. R. F. Yates. 240p Henley '22
- LeBlond heavy duty engine lathe. *il Iron Age* 110:1699 D 28 '22; *Am Mach* 58:90-1 Ja 11 '23; *Mach* 29:412-13 Ja '23
- LeBlond heavy-duty rapid-production lathe. *il Mach* 28:921-2 Jl '22; *Iron Age* 109:1817-18 Je 29 '22; *Ry Mech Eng* 96:421-2 Jl '22
- Le Blond machine tool company adds to line of heavy duty lathes. *il Iron Age* 112:1251 N 8 '23
- LeBlond 13- and 15-inch heavy-duty lathes. *il Am Mach* 58:497-8 Mr 29 '23; *Iron Age* 111:969, 1835 Ap 5, Je 28 '23
- Mueller new 18-in. geared head engine lathe. *il Iron Age* 112:7 Jl 5 '23
- Multi-cutting tool arrangements. J. Horner. *il diags Engineering* 115:163-5, 176 F 9 '23
- New hexagon turret lathe. *il Engineer* 133: 160 F 10 '22
- New hexagon turret lathe added to the line of the Acme machine tool co. *il Iron Age* 111:280 Ja 25 '23
- New semi-automatic multi-cut lathe. W. O. Strauss. *il Mach* 29:276-8 D '22
- Niles-Bement-Pond introduces vertical car wheel lathe. *il Iron Tr R* 73:1312 N 8 '23
- Niles-Bement-Pond 60-inch heavy-duty engine lathe. *il Am Mach* 57:859-60 N 30 '22; *Iron Tr R* 71:1497 N 30 '22; *Iron Age* 110: 1496 D 7 '22; *Mach* 29:317-18 D '22
- Old lathe at the Bennington machine works. M. Wright. *il Am Mach* 57:700 N 2 '22
- Oliver machinery co. adds smaller engine lathes to line. *il Iron Age* 110:1347 N 23 '22; *Iron Tr R* 71:1427 N 23 '22
- Oliver new motor head speed lathe for alternating current. *il Iron Age* 111:346 F 1 '23
- Oliver 10, 12 and 14-inch engine lathes. *il Am Mach* 57:746-7 N 9 '22
- Overhead drive for lathe attachments. H. H. Parker. *diags Pop Mech* 37:628-9 Ap '22
- Pratt & Whitney automatic lathes. *il diag Mach* 28:282-4 D '21; *Am Mach* 55:897-8 D 1 '21; *Iron Age* 108:1399 D 1 '21
- Pratt and Whitney full automatic lathe. J. J. Thatcher. *il Sibley J* 36:30-1 F '22
- Pratt & Whitney 16-inch lathe, model B. *il Am Mach* 59:342-4 Ag 30 '23; *Iron Age* 112: 546-7 Ag 30 '23; *Iron Tr R* 73:610-11 Ag 30 '23
- Present-day British lathe design. H. Bentley. *Am Mach* 59:245-6 Ag 16 '23
- Production work in an engine lathe. I. Lake. *il diags Am Mach* 56:969-70 Je 29 '22
- Quick acting turret. R. Delrue. *diags Am Mach* 59:422 S 13 '23
- Recent machine-tool developments; new lathes made by Swiss machine-tool works, Oerlikon. J. Horner. *il diags Engineering* 112:652-6 N 11 '21
- Reed-Prentice center-drive lathe. *il Mach* 28: 506-7 F '22; *Am Mach* 56:194 F 2 '22; *Iron Age* 109:351 F 2 '22
- Seneca Falls mfg. co. builds new lathe for electrical work. *il Iron Tr R* 70:1049 Ap 13 '22
- Setting lathe for turning tapers. D. Campbell. *diag Mach* 28:904 Jl '22
- Small gap lathe developed by the Artisan mfg. co. *il Iron Tr R* 70:613 Mr 2 '22
- Some details of lathe design. A. Clegg. *diags Am Mach* 59:409-12 S 13 '23
- Standard machines for quantity production. R. E. Flanders. *il Am Mach* 59:658-6 N 1 '23
- Sundstrand double-end lathe. *il Iron Age* 111: 895 Mr 29 '23
- Sundstrand 14-in. toolroom lathe. *il Am Mach* 56:315 F 23 '22
- Sundstrand stub lathe for piston turning. *il Am Mach* 57:706-7 N 2 '22; *Iron Age* 110: 1218 N 9 '22
- Sundstrand 12-in. heavy-duty manufacturing lathe. *il Iron Age* 109:1218 My 4 '22
- Surfacing and screw-cutting break lathe. *il diags Engineer* 136:342, 348-9 S 28 '23

Lathes—Continued

- Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 56:702-5 My 11 '22
- Turret lathe practice. E. V. Oberg. 307p Industrial press, New York '23
- Turret tool post for wheel lathes. il diags Ry Mech Eng 96:368 Je '22
- Using the turret lathe for small lots. A. A. Dowd. il diags Mach 29:424-9 F '23
- Using the turret lathe for small lots. A. A. Dowd and F. W. Curtis. diags Mach 29:266-70 D '22
- Vise tool for making screws and springs. il Iron Age 109:1669 Je 15 '22
- Wood self-contained motor driven turret lathe. il Am Mach 58:56 Ja 4 '23
- Wood-turning lathe has motor in headstock. il Pop Mech 40:448 S '23
- See also Machine shop practice; Machine tools; Screw machines; Turning

Control

- Control of machines by perforated records based on Jacquard mechanism; principles of pneumatic and electric control. E. Scheyer. il diags Am Mach 55:743-7 N 10 '21

Manufacture

- Building a six-inch turret lathe. J. V. Romig. il diags Pop Mech 38:129-33 Jl '22
- Cutting the production cost of a difficult part. H. A. Loudon. il diags Am Mach 56:369-70 Mr 9 '22

Testing

- Lath tool research. B. Smith. Engineering 115:137-9 F 2 '23; Discussion. Engineer 135:234-5 Mr 2 '23

Laths

See Metal lath

Latin America

- Commercial travelers' guide to Latin America. E. E. Filsinger. U S Bur For & Dom Com misc ser 89:1-734 '22
- Electrical progress in Latin America. Elec R (Lond) 89:706 N 25 '21
- Hispanic-American relations with the United States. W. S. Robertson. 470p Oxford '23
- Latin-American engineering in 1921; progress in electrical projects and wireless telegraph installations. Elec R (Lond) 90:4-5 Ja 6 '22
- See also Aeronautics, Commercial—Latin America; Automobile industry and trade—Latin America; Electric industries—Latin America; Engineering—Latin America; Finance—South America; Mines and mineral resources—Latin America; Roads—Latin America; South America

Commerce

- Advertising for trade in Latin-America. W. E. Auginbaugh. 282p Century '22
- Protesting drafts in Latin America: Cuba and other West Indies. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 115:1-16 '23
- Protesting drafts in Latin America; general aspects of the subject. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 112:1-13 '23
- Protesting drafts in Latin America; Mexico and Central America. A. J. Wolfe. U S Bur For & Dom Com Trade Information Bul 114:1-27 '23
- Study of the Latin-American situation. R. H. Ackerman. Annalist 21:218-19 F 5 '23
- What the United States buys from Latin America, quantities and value. 18p Pan American union, Washington '23
- See also Advertising—Latin America

Law

See Petroleum laws and regulations—Latin America

Latrobe, Benjamin Henry, 1767-1820

- Early American structural engineers. Eng & Contr 58:291 S 27 '22

Lattice work. See Trellis work

Latvia

- Riga builds hopes on future. C. I. Dorrian. Am Ind 23:37-40 S '22

See also Labor and laboring classes—Latvia; Railroads—Latvia; Wages—Latvia

Laudanine

- Synthesis of laudanine; abstract. E. Späth and N. Lang. Chem Soc J 122 pt 1:568-9 Je '22

Laue photographs

- Existence of an anomalous reflection of X-rays in Laue photographs of crystals. R. W. G. Wyckoff. il Am J Sci 5th ser 6:277-87 O '23

Launching

- Launch velocities and drugs. P. A. Hillhouse. Engineering 114:723-5 D 8 '22
- Launching a dredge in mid-winter. G. P. Morse. il Can Eng 44:373-4 Apr 3 '23
- Sideways launching made safer and surer. il diags Sci Am 128:33 Ja '23
- Undocking a giant pontoon at Kiel. H. Hermanns. il Marine R 53:43-4 F '23

Launching of airplanes. See Airplanes—Launching

Laundries

- Making extra dividends possible with trucks. C. F. Wark. il System 44:603-5+ N '23

Accounting

- Cost accounting in the laundry industry. F. Elliott. Administration 2:850-1 D '21

Advertising

- How one company gets customers to use intensive direct advertising. R. Dickinson. Ptr Ink M 6:27-8 Je '23
- Laundries find advertising increasingly necessary. Ptr Ink 117:141-2 D 15 '21
- Look to your collar, young man. Ptr Ink 118:96+ Ja 12 '22
- Vanity: an argument for the starched collar. Ptr Ink 120:126+ S 14 '22

Laundry

- Influence of heat in washing. Color Tr J 13:33-4 Jl '23
- Manual of standard practice for the power laundry washroom. 112p Laundryowners national association, La Salle, Ill. '22
- Modern washing processes. F. N. Thies. Color Tr J 12:122-8 Mr '23
- New laundry preparation containing sodium-silico-fluoride. Color Tr J 12:183-4 Ap '23
- New method of making hypochlorite bleach liquor. Color Tr J 11:179-80 O '22
- Report of laundry committee at Associated knit underwear manufacturers convention. Textile World 63:3369-70 My 19 '23
- Scientific washing. M. N. Conklin. Color Tr J 12:165-7 Ap '23
- Scientific washing. F. H. Guernsey. diags Am Dyestuff Rep 12:176-81, 208+, 277-80, 438-9, 496-7, 563-8, 796, 816-17 F 26-Mr 12, Ap 9, Je 4, Jl 2, 30, N 5 '23
- Silicate of soda: its function in the cleansing process; expansion of its use as a detergent. J. G. Vail. Chem Age 30:19-20 Ja '22
- Treatment of laundry wastes. F. E. Daniels. Pub Works 54:190-1 Je '23
- Working with the laundry. J. A. Hunter. Textile World 61:3787+ Je 24 '22

See also Bluing; Stains—Removal

Laundry chutes. See Chutes, Laundry

Laundry machinery

- Gas lightens burden in laundry. Gas Age 50:475-6 O 14 '22
- How to sell laundry appliances. L. L. Osler. Gas Age 50:873-4 D 23 '22
- Introducing laundry appliances. J. D. Hartog. Gas Age 51:439 Ap 7 '23
- Laundry equipment for hotels. il plan Am Arch 124:226-8+ Ag 29 '23
- Marketing of laundry appliances. B. A. Duvall. Gas Age 50:527-9 O 21 '22
- Marking laundry by machine. il Sci Am 129:107 Ag '23

See also Washing machines

Laundry machinery—Continued**Advertising**

Advertising to overcome an ancient habit. R. Crothers. *Ptr Ink* 124:109-10 Ag 16 '23
 Machinery maker who takes over his customer's job. R. Bostick. *Ptr Ink* 121:109-10+ N 2 '22

Exhibitions

Laundry exhibition. *Engineering* 115:616-17 My 18 '23

Laundry trays

Standardization of laundry tray frames and crates. *il Dom Eng* 103:227 My 5 '23

Laundry workers

Some studies in the laundry trade. M. Smith. 57p Gt. Brit. Industrial fatigue research board, London '22

Lausanne conference on the Near East, 1922-23. See Near East conference, Lausanne, 1922-23**Lava**

Chemistry and volcanic activity. J. B. Ferguson. *Can Chem & Met* 7:254 O '23
 Petrology of the Hawaiian Islands. H. S. Washington. *map Am J Sci* 5th ser 5:465-502; 6:100-26, 338-67, 409-23 Je, Ag, O-N '23

Lavatories

Employees' wash rooms. S. Le Hart. *il Ind Management* 65:118-20 F '23
 Washfountain. *il Sci Am* 126:62 Ja '22
 Washfountains. *il Arch & Bldg* 55:104 O '23

Lavaud process. See Casting, Centrifugal**Law**

Popular names of United States statutes. H. J. Harris. 12p U. S. Library of Congress, Division of documents, Washington '22
 Rational basis of legal institutions. 603p Macmillan '23

See also Advertising—Laws and regulations; Automobile laws and regulations; Banking law; Building laws and regulations; Business law; Commercial law; Contracts; Corporation law; Damages; Debtor and creditor; Engineering law; Government regulation of industry; Grade crossings—Law; Highway law; Industrial laws and legislation; Labor laws and legislation; Landlord and tenant; Lighting—Laws and regulations; Manufacturers' liability; Maritime law; Mechanics' liens; Mining law; Narcotics—Laws; Patent laws and legislation; Petroleum laws and regulations; Press law; Railroad law; Sales; Trade marks; Water laws and legislation; Waterworks—Laws and regulations

Lawrence, Massachusetts

Housing conditions in Lawrence. *Monthly Labor R* 17:889-90 O '23

Lawyers mortgage company building

Lawyers mortgage company building, New York city. *Arch & Bldg* 54:80, pl 129-32 Ag '22

Layman, Waldo Arnold, 1869-

Sketch. *por Elec W* 80:1252 D 9 '22

Layout. See Factories—Layout; Foundries—Layout; Machine shops—Layout**Leaching**

Fundamentals of gravity leaching; principles developed in metallurgical practice offer constructive suggestions to chemical engineers. A. W. Allen. *il Chem & Met Eng* 29:471-2, 671-5 S 10, O 8 '23

Leaching of iron protoses; solution and precipitation of silica in cold water. T. S. Lovering. *Econ Geol* 18:523-40 S '23

See also Hydrometallurgy

Leaching apparatus

Leaching of tannin materials; Thornycroft patent. J. A. Reavell. *il diags Chem Age* (Lond) 8:506-8 My 12 '23

Lead

Action of several salt solutions on aluminium, copper, lead and zinc. C. H. Crowe. *Can Chem & Met* 6:151-2 J1 '22

Brittleness developed in pure lead by stress and corrosion. H. S. Rawdon, A. I. Krynitsky and J. F. T. Berliner. *il Chem & Met Eng* 26:109-11 Ja 18 '22

Chemical lead and the causes of its technical failure. T. French. *Chem & Met Eng* 27:219-22 Ag 2 '22

Corrosion of lead-covered wiring by oak. P. Dunsheath. *il Elec R* (Lond) 90:690-1 My 19 '22

Form of the vapour pressure curve at high temperature; the curve for lead. C. K. Ingold. *Chem Soc J* 121:2419-32 N '22

Investigation of the self-corrosion of buried lead pipe. W. N. Smith and J. W. Shipley. *maps Sibley J* 36:144-54+ N '22

Lead and zinc during 1921. C. E. Siebenthal and A. Stoll. *Min & Sci P* 124:58-9 Ja 14 '22

Lead and zinc in 1922. *Brass W* 19:21-2 Ja '23
 Lead as a material for chemical equipment. G. O. Hiers. *Ind & Eng Chem* 15:467-9 My '23

Lead has two atomic weights. *Brass W* 17:310 N '21

Lead studies; absorption of lead by the upper respiratory passages. H. L. Blumgart. *bibliog J Ind Hygiene* 5:153-8 S '23

Marketing of lead. L. H. Cornell. *Eng & Min J* 115:967-70 Je 2 '23

Mineral industry of the British Empire and foreign countries; statistics, 1919-1921, lead. 56p Gt. Brit. Imperial mineral resources bur., London '23

Phagocytosis of lead compounds and their influence on the activity of the leukocyte. J. Fine. *bibliog J Ind Hygiene* 5:138-44 Ag '23

Production of lead in Britain. H. Louis. *Soc Chem Ind J* (Chem & Ind) 42:252-5, 286-90 Mr 16-23 '23

Studies on the electro-deposition of lead from Mathers' perchlorate bath; the structure of the deposit. W. E. Hughes. *J Phys Chem* 26:316-23 Ap '22

Use of lead is increasing. F. E. Wormser. *Eng & Min J* 114:348 Ag 19 '22

Weiters über disglomeration und autogene bleibaum-bildung. A. Thiel. *Deutsche Chem Gesell Ber* 54:2755-8 N '21

See also Lead industry and trade; Lead metallurgy; Lead mines and mining; Lead poisoning; Red lead; White lead

Analysis

Determination of lead in lead amalgam. M. G. Mellon. *Am Chem Soc J* 44:2167-74 O '22

Determination of small amounts of lead in brass. F. W. Glaze. *J Ind & Eng Chem* 13:553-4 Je '21; Same abr. *Brass W* 17:370-1 D '21

Electro-volumetric method for lead. D. A. MacInnes and E. B. Townsend. *J Ind & Eng Chem* 14:420-1 My '22

Lead studies; the estimation of minute amounts of lead in biological material. L. T. Fairhall. *J Ind Hygiene* 4:9-18 My '22

Bibliography

Lead studies; the estimation of minute amounts of lead in biological material. L. T. Fairhall. *J Ind Hygiene* 4:18-20 My '22

Specifications

French specifications for lead. *Brass W* 19:176 Je '23

Lead, Blue. See Blue lead

Lead acetate

Clarification of solutions containing reducing sugars by basic lead acetate; the effect of different deleading agents. D. T. Englis and C. Y. Tsang. *Am Chem Soc J* 44:865-7 Ap '22

Measurement of solubility by floating equilibrium; the solubility of lead acetate. M. L. Dundon and W. E. Henderson. *Am Chem Soc J* 44:1196-1203 Je '22

Über blei-acetato-komplexe. R. Weinland and R. Stroh. *Deutsche Chem Gesell Ber* 55:2219-25 S '22

Lead alkyl fluorides

Fluoride metallorganischer verbindungen: alkyl- und aryl-bleifluoride. E. Krause and E. Pohland. *Deutsche Chem Gesell Ber* 55:1282-9 My '22; Abstract. *Chem Soc J* 122 pt 1 644-5 J1 '22

Lead alloys

- Electrolytic corrosion of lead-thallium alloys. C. G. Fink and C. H. Eldridge. *Am Electrochem Soc Trans* v 40 (preprint 26):335-44 S '21; Same. *Brass W* 18:19-21 Ja '22
- How arsenic affects alloys. H. J. Roast and C. F. Pascoe. *il diags Foundry* 51:67-70 Ja 15 '23
- The system, lead-antimony. R. S. Dean. *il diags Am Chem Soc J* 45:1683-8 J1 '23

See also Frary metal

Lead arsenate

- Arsenate of lead manufacture. *Chem Age* 30:469 O '22
- Electrolytic preparation of arsenate of lead. H. V. Tartar and G. G. Grant. *J Ind & Eng Chem* 14:311-13 Ap '22
- Expression of quantity of water-soluble arsenic present in commercial lead arsenates. C. A. Klein and W. Hulme. *Ind & Eng Chem* 15:745-6 J1 '23
- New catalyst in lead arsenate manufacture. *Chem Age* 30:24 Ja '22
- Physical properties of commercial arsenates of lead. R. H. Robinson. *il J Ind & Eng Chem* 14:313-17 Ap '22
- Procedure in lead arsenate manufacture. R. E. Wilson. *Chem Age* 29:518 D '21

Lead aryl fluorides

- Fluoride metallorganischer Verbindungen: alkyl- und aryl-bleifluoride. E. Krause and E. Pohland. *Deutsche Chem Gesell Ber* 55:1282-9 My '22; Abstract. *Chem Soc J* 122 pt 1:644-5 J1 '22

Lead aryls. See Lead triaryls**Lead burning**

- Sheet lead burning and how it is done. W. Scholl. *diags Sheet Metal Worker* 14:633-4+ S 11 '23

Lead chloride

- Separation of lead as a chloride. A. Craig. *Metal Ind* 20:338 S '22

Lead chromate

- Le jaune et l'orange de chrome; abstract. *Chimie & Ind* 7:976-7 My '22
- Reactions in fused salt media. J. F. G. Hicks and W. A. Craig. *J Phys Chem* 25:545-60; 26:563-76 O '21, Je '22

Lead compounds

- Binary systems of the sulphates, chromates, molybdates, and tungstates of lead. F. M. Jaeger and H. C. Germs. *Chem Soc J* 122 pt 2:65-6 Ja '22
- Lead and zinc pigments and salts in 1922. C. E. Siebenthal and A. Stoll. *U S Geol S Min Res of U S* 1922, pt 1:77-85 '23
- New metallo-organic compound; diplumbic hexa-ethyl. T. Midgley, Jr., C. A. Hochwalt and G. Calingaert. *Am Chem Soc J* 45:1821-3 J1 '23
- Organo-derivatives of tin and lead; application of lead and tin tetraphenyls in the preparation of organo-metallic compounds. A. E. Goddard, J. N. Ashley, and R. E. Evans. *Chem Soc J* 121:978-82 Je '22
- Solubility of lead compounds used in paints. J. J. Fox. *Chem Age (Lond)* 9:417 O 20 '23
- Über die konstitution basischer bleisalze. R. Weinland and R. Stroh. *Deutsche Chem Gesell Ber* 55:2706-18 S '22; Abstract. *Chem Soc J* 122 pt 2:767-8 N '22

Lead hydride

- Über die darstellung gasförmiger metallhydride durch glimmentladung. F. Paneth, M. Matthies and E. Schmidt-Hebbel. *diags Deutsche Chem Gesell Ber* 55:775-89 Mr '22

Lead industry and trade

- Lead. I. H. Cornell. *Eng & Min J* 115:149 Ja 20 '23
- Lead market in an excellent position. F. E. Wormser. *Eng & Min J* 115:516 Mr 17 '23
- Lead market is exceptional. F. E. Wormser. *Eng & Min J* 116:744 O 27 '23
- Lead market shows small fluctuations. *Eng & Min J* 112:1038 D 24 '21
- Lead mining. C. H. Crane. *Eng & Min J* 113:83 Ja 21 '22
- Outlook for lead. C. H. Crane. *Min & Met* 187:4-5 J1 '22

Advertising

- Profit in teaching one hundred million people to know lead. H. E. Agnew. *il Ptr Ink* 119:89-90+ Je 15 '22

France

- Lead industry and market in France. *Eng & Min J* 115:1131-2 Je 23 '23

United States

- Copper, lead and zinc production in the U.S. for 1921. *Chem & Met Eng* 26:153 Ja 25 '22
- Lead and zinc in 1921. *Iron Age* 109:408 F 9 '22
- Lead, and zinc in 1922. *Comm & Fin Chr* 116:123 Ja 13 '23
- Lead in 1921. *Brass W* 18:31 Ja '22
- Lead in 1922. C. E. Siebenthal and A. Stoll. *U S Geol S Min Res of U S* 1922, pt 1:27-36 '23
- Lead mining in 1922. C. H. Crane. *Eng & Min J* 115:92 Ja 20 '23
- Marketing of lead. I. H. Cornell. *Eng & Min J* 115:967-70 Je 2 '23
- Outlook for lead. I. H. Cornell. *Eng & Min J* 113:132-3 Ja 21 '22

Lead metallurgy

- Evolution of mechanical roasting in silver-lead smelting. L. S. Austin. *Min & Met* 188:27-9 Ag '22
- Lead blast-furnace department of the Great Falls zinc plant. R. B. Caples. *Eng & Min J* 115:719 Ap 21 '23
- Lead-bullion refining. G. G. Griswold. *Eng & Min J* 112:978-9 D 17 '21
- Ore dressing, fluxes, and fuels at Namtu. R. G. Hall. *Eng & Min J* 115:712-15, 757-63 Ap 21-28 '23
- Powdered coal in the lead blast furnace. E. H. Hamilton. *Min & Met* 190:25-7 O '22
- Production of antimony and lead; works of Cookson & company, Newcastle-on-Tyne, England. *il Metal Ind* 21:391-3 O '23
- Production of lead in Britain. H. Louis. *Soc Chem Ind J (Chem & Ind)* 42:252-5, 286-90 Mr 16-23 '23
- Santa Barbara 500-ton mill for concentrating lead carbonate ores. F. M. Heidelberg. *flow sheets diags plans Eng & Min J* 112:1050-7 D 31 '21
- Treating the copper impurity in lead ores. D. C. McGruer. *Min & Sci P* 123:606-8 O 29 '21

Electrometallurgy

- Trail smelter. G. J. Young. *flow sheets il Eng & Min J* 116:139-49 J1 28 '23

Lead mines and mining**China**

- Lead and zinc mining in China. G. L. Burke. *Eng & Min J* 114:947 N 25 '22

England

- Mill Close lead mine. *Engineer* 134:684 D 29 '22

Spain

- Lead mining district of Linares and La Carolina. E. A. Ritter. *flow sheet il Eng & Min J* 114:668-72 O 14 '22

Lead nitrate

- Complex formation in lead nitrate solutions; the ternary systems lead nitrate-sodium nitrate-water, and lead nitrate-potassium nitrate-water. S. Glasstone and H. N. Saunders. *Chem Soc J* 123:2134-40 S '23

Lead oxides

- Direct iodometric estimation of lead peroxide. S. Glasstone. *Chem Soc J* 119:1997-2001 D '21
- Effect of grinding upon the apparent density of lead oxides. O. W. Brown, S. V. Cook and J. C. Warner. *J Phys Chem* 26:477-80 My '22
- Effect of litharge on accelerators. P. L. Bean. *India Rubber W* 67:360 Mr '23
- Electro-volumetric method for lead. D. A. MacInnes and E. B. Townsend. *J Ind & Eng Chem* 14:420-1 My '22
- Free energy and heat of formation of lead monoxide. D. F. Smith and H. K. Woods. *diag Am Chem Soc J* 45:2632-7 N '23

Lead oxides—Continued

Isomerism of metallic oxides; lead monoxide. M. P. Applebey and R. D. Reid. *Chem Soc J* 121:2129-36 O '22

Physical chemistry of the oxides of lead; hydrated lead monoxide. S: Glasstone. *Chem Soc J* 121:58-66 Ja '22

Physical chemistry of the oxides of lead; red lead and lead sesquioxide. S: Glasstone. *Chem Soc J* 121:1456-69 Ag '22

Physical chemistry of the oxides of lead; the anodic behaviour of lead and lead dioxide. S: Glasstone. *Chem Soc J* 121:2091-8 O '22

Physical chemistry of the oxides of lead; the electromotive behaviour of lead dioxide. S: Glasstone. *Chem Soc J* 121:1469-80 Ag '22

Physical chemistry of the oxides of lead; the supposed enantiotropy of lead monoxide. S: Glasstone. *Chem Soc J* 119:1914-27 D '21

See also Red lead

Lead plating

New leadizing process for piping and steel plates. C. C. Lance. *il diag Power* 57:482-3 Mr 27 '23

Ueber die Grundlagen des verbleiens. H. Bablik. *Stahl & Eisen* 43:1155-6 S 6 '23

Lead poisoning

Case of mental disorder arising from chronic lead poisoning; abstract. J. F. Smyth. *J Ind Hygiene* 5:sup98-9 S '23

An enquiry into lead poisoning in Finnish industries. *Int Labour R* 7:771-4 My '23

German literature on the white lead question, 1921; abstracts and bibliography. L. Teleky. *J Ind Hygiene* 4:100-5 Jl '22

Laws and regulations relating to lead poisoning. G. Stone. 250p Imperial mineral resources bureau, London '22

Lead poisoning at Broken Hill and miners' diseases reported on. P. G. Tait. *Eng & Min J* 114:336 Ag 19 '22

Lead poisoning in a golf professional; case report. C. M. Davis. *J Ind Hygiene* 5:253-4 N '23

Lead poisoning in accumulator manufacture and the American pottery trade. *Int Labour R* 5:652-4 Ap '22

Lead poisoning in potteries. B. J. Newman. *Monthly Labor R* 14:791-3 Ap '22

Lead poisoning in the manufacture of ceramic transfer pictures in Germany. *Monthly Labor R* 16:821-2 Ap '23

Lead poisoning in the pottery trades, by B. J. Newman and others. Review by A. Hamilton. *J Ind Hygiene* 3:390-4 Ap '22

Memorandum on industrial lead poisoning; abstract. *J Ind Hygiene* 3:sup230-1 F '22

Occupational risks of lead poisoning. *Int Labour R* 8:586-91 O '23

Old and new theories of plumbism. C. Biondi. *Int Labour R* 6:278-82 Ag '22

Opinion of the governments of the Australian states on the use of white lead in painting. *Int Labour R* 5:819-23 My '22

Prevention of industrial lead poisoning in English factories. A. C. Burnham. *J Ind Hygiene* 5:57-61 Je '23

Relation of lead poisoning to mining in Utah. *Monthly Labor R* 13:1106 N '21

Report on an investigation to determine the hazard to the health of operators using the spraying machine for painting; the risk of lead poisoning. N. C. Sharpe. *J Ind Hygiene* 3:378-85; Bibliography. 385-6 Ap '22

La surveillance médicale des usines à plomb et l'application de la loi Breton. F. Heim and R. H. de Balsac. *Chimie & Ind* 8:921-5 O '22

White lead fight ends in a compromise. *Safety Eng* 43:101-2 Mr '22

See also Printers—Diseases and hygiene; White lead

Lead-sodium alloys

Correction to the freezing-point diagram of lead-sodium alloys. G. Calingaert and W. J. Boesch. *Am Chem Soc J* 45:1901-4 Ag '23

Lead sulfate

Lead sulphate; patent. *diags Chem & Met Eng* 28:463 Mr 7 '23

See also Blue lead

Lead sulfides

See Galena

Lead triaryls

Bleitriaryl, eine parallele zum triphenylmethyl; tricyclohexylblei. E. Krause. *Deutsche Chem Gesell Ber* 54:2060-6 S '21; Abstract. *Chem Soc J* 120 pt 1:825 N '21

Blei-triaryl, eine parallele zum triphenylmethyl; tri-phenyl-, tri-*p*-tolyl- und tri-*o*-tolyl-blei und die tri-blei-di-aryle. E. Krause and G. G. Reissaus. *Deutsche Chem Gesell Ber* 55:883-902 Ap '22; Abstract. *Chem Soc J* 122 pt 1:602-3 Je '22

Lead vanadates

Metallurgy of lead vanadates. W: Baughman. flow sheet *Am Electrochem Soc Trans* v 43 (preprint 25):313-43 My '23

Leaders (merchandizing)

Beat torpedo tubes into radiator caps. R. Dickinson. *Ptr Ink M* 4:36 Ja '22

See also Advertising—Leaders

Leadership

Leadership of teachers. I. N. Hollis. *Eng Educ* 14:32-45 S '23

Training for leadership. C: F. Scott. *Eng Educ* 14:6-14 S '23

Training leaders through association activities. W. J. Donald. *Management Eng* 3:169-70 S '22

Leadite

Lead substitutes for pipe joints. *Am Water Works Assn J* 9:368-73 N '22

Some costs of lead substitutes in pipe joints. V. F. West. *N E Water Works Assn J* 37:75-9; Discussion. 80-3 Mr '23

Some data on pipe jointing compounds. G: H. Finneran. *N E Water Works Assn J* 37:84-7 Mr '23

Leadville mine development company

Canterbury tunnel; a project to stimulate mining in Leadville. F. E. Wormser. *il Eng & Min J* 116:284 Ag 18 '23

League of nations

Efforts of League of nations to adjust disputes between Italy and Greece. *Comm & Fin Chr* 117:1069-72 S 8 '23

Final address on League of nations. R. Cecil. *Comm & Fin Chr* 116:1963-4 My 5 '23

Harding association declared to be old League under another name. W: E. Borah. *Comm & Fin Chr* 113:2369-70 sec 1 D 3 '21

Lord Robert Cecil's campaign in U.S. in behalf of League of nations. *Comm & Fin Chr* 116:1486-8 Ap 7 '23

Otto H. Kahn urges that League cut out of covenant everything which smacks of compulsion. *Comm & Fin Chr* 116:2471-2 Je 2 '23

President Harding reiterates stand of United States against League of nations—renews plea for joining of world court. *Comm & Fin Chr* 116:1848-50 Ap 23 '23

Professor Fisher declares President Harding was in favor of United States entry in League of nations. *Comm & Fin Chr* 117:1083 S 8 '23

See also Permanent court of international justice

Least squares

Practical least squares. O. M. Leland. 237p McGraw-Hill '21

Least work

Castigliano's theorem of least work, and the principle of St Venant. R. V. Southwell. *Philos Mag* 6th ser 45:193-212 Ja '23

Leather

Art and science of leather manufacture. F. L. Seymour-Jones. *il Chem & Met Eng* 27:1110-14, 1253-8; 28:200-5, 400-3 D 6, 27 '22, Ja 31, F 28 '23

Automobile leather production. A. G. Wikoff. *Chem & Met Eng* 29:309-13 Ag '23

Care of leather. F. P. Veitch, H. P. Holman and R. W. Frey. *il U S Agric Farmers' Bul* 1183:1-22 '22

Chemistry of leather manufacture. J: A. Wilson. 343p Chemical catalog co. '23

Durability of sole leather filled with sulphite cellulose extract. R. C. Bowker. *U S Bur Stand Tech Pa* 215:495-500 '22

Leather—Continued

Increased efficiency of leather manufacture is possible through research in fundamentals. A. W. Thomas. *il Chem Age* 30:54-6 F '22

Leather worker's manual. H. C. Standage. 3d ed., rev. 162p Scott, Greenwood & son, London '20

Manufacture of chrome leather. M. C. Lamb. 420p Anglo-American technical co., London '23

Meeting of the leather section of American chemical society. *Chem & Met Eng* 27:588-9 S 20 '22

Practical leather manufacture. H. G. Crockett. 428p Leather trades pub. co., London '21

Principles of leather manufacture. H. R. Procter. 2d ed. 688p Van Nostrand '22

Review of analytical work applicable to leather and tanning, 1920-1921. F. P. Veitch and R. W. Frey. *bibliog J Ind & Eng Chem* 14:825-9 S '22

Romances of industry—leather. C. H. Winter. *il Am Ind* 24:17-20 Ag '23

Sueding and buffing of leather. J. Lamb. *il Color Tr J* 9:192 N '21

Upholstery leather specifications being prepared by S.A.E. to obtain uniformity. *diags Soc Auto Eng J* 13:344-6 O '23

Wearing qualities of shoe leathers. F. P. Veitch, R. W. Frey and I. D. Clarke. *U S Agric Bul* 1168:1-25 '23

See also Belting; Dyes and dyeing—Leather; Hides and skins; Sheepskin; Tanning

Analysis

Analysis of chrome-tanned leather. E. Little and E. Sargent. *Ind & Eng Chem* 15:633 Je '23

Dispositif simple pour l'extraction des matières lavables et notes sur l'analyse du cuir. A.-T. Hough. *diags Chimie & Ind* 8:566-8 S '22

Cleaning

Removing spots from leather by means of rubber. *Sci Am* 128:40 Ja '23

Leather, Artificial

French makers are experimenting with fabric covered bodies. W. F. Bradley. *Automotive Ind* 48:765-7 Ap 5 '23

Testing leather substitutes and top materials. J. B. Davis. *il diags Soc Auto Eng J* 12:276-82 Mr '23

Manufacture

Chemical engineering in the production of coated fabrics. S. D. Kirkpatrick. *il diags plan Chem & Met Eng* 28:1017-23 Je 11 '23

How one make of artificial leather is manufactured. H. Chase. *il diag Automotive Ind* 49:224-7 Ag 2 '23

Solvent recovery from the fire hazard standpoint. W. D. Milne. *Chem Age* 31:201-5 My '23

Leather industry and trade

Leather goods and gloves. H. M. Lehmann. 224p Ronald press '22

See also Shoe industry and trade

Advertising

How advertising is rebuilding a business on a thrift basis; shoe repairs. D. M. Hubbard. *Ptr Ink* 124:109-10+ S 13 '23

Leather tanners to explain industry to the public. *Ptr Ink* 123:36 My 10 '23

Tanners launch joint campaign to make public appreciate leather. *Ptr Ink* 124:10+ Ag 16 '23

Italy

Italy's leather market. H. C. MacLean. *U S Bur For & Dom Com Trade Information Bul* 90:1-10 '23

United States

Report of the Federal trade commission on shoe and leather costs and prices. 212p U.S. Federal trade commission, Washington '21

Report on hides, skins and leather for July 1923. *Comm & Fin Chr* 117:1298-9 S 22 '23
[continued monthly]

Leather machinery

Shoe and leather fair. *il Engineer* 134:382-4; 136:449-50, 452 O 13 '22, O 26 '23

Technical problems of the tanning industry; power requirements of machinery. W. E. Broughton and J. J. Brophy. *il Am Inst E E J* 41:646-9 S '22

Leather substitutes

Testing leather substitutes and top materials. J. B. Davis. *il diags Soc Auto Eng J* 12:276-82 Mr '23; Discussion. 12:449-50 My '23

Leather workers

Hide, hair, and horsehair industries; abstract. D. Gilbert. *J Ind Hygiene* 3:sup283-4 Ap '22

Leather goods—New York city. Monthly Labor R 15:1079-81 N '22

Leavening agents

Leavens: their action and measurement. C. E. Davis and D. J. Maveety. *J Ind & Eng Chem* 14:210-12 Mr '22

Lebanon, Pennsylvania

Leavening of Lebanon. T. M. Knappen. *Nation's Business* 10:30-1 O '22

Le Blanc process. *See* Sodium carbonate

Leeds, England

Mosaic designs by Frank Brangwyn in Saint Aidan's church at Leeds. A. Finch. *il Arch Rec* 52:143-53 Ag '22

See also Electric plants (central stations)—Leeds, England

Leers. *See* Glass manufacture

Legal advertising

Legal line rate again. G. L. Caswell. *Inland Ptr* 68:501 Ja '22

Legal chemistry. *See* Chemistry, Legal

Legendre functions

Products of Legendre functions. J. W. Nicholson. *Philos Mag* 6th ser 43:768-84 Ap '22

Legislation. *See* Law; *also* subdivision Laws and legislation under special subjects

Legislative reference libraries

Library and legislation. G. C. Kelly. *Special Lib* 14:28-30 Mr '23

See also Sweden—Legislative reference bureau

Lehigh university

Alumni memorial administration building for Lehigh university. M. Price. *il diags plans Arch Rec* 53:158-72 F '23

Mining curriculum at Lehigh university. G. J. Young. *diags Eng & Min J* 113:239-41 F 11 '22

Lehigh Valley railroad

Hearing on Lehigh Valley efficiency and economy. *Ry Age* 74:1063-4 Ap 28 '23

Lehigh Valley car repairs big factor in 1921. *il Ry Age* 72:1185-6 My 20 '22

Lehigh Valley railroad proposed amended plan of dissolution filed with United States district court. *Comm & Fin Chr* 116:576-7 F 10 '23; Excerpt. *Ry R* 72:315 F 17 '23

Lehigh Valley reaches agreement with employees' association. *Ry Age* 73:664 O 7 '22

New Claremont freight terminal. *il diags plans map Ry R* 72:726-31 Ap 28 '23; *Ry Age* 74:1195-1201 My 19 '23

68th report for year 1921. *Ry Age* 72:1200-1 My 20 '22

Le Maistre, C. D., 1874-

Sketch. *por Elec R (Lond)* 90:704-5 My 19 '22

Lemons

Destructive distillation of lemon residue. H. D. Poore. *Chem Age* 30:433-4 O '22

See also Citric acid; Citrus fruit

Length. *See* Standards of length

Lenses

Anti-dimming preparations for glass surfaces. H. A. Kuhn. *il diags Chem & Met Eng* 28:762-3 Ap 30 '23

Instrument measures lenses by light waves. *il Pop Mech* 38:700 N '22

New parabolic lens for motion picture projection. *il diag Am Inst E E J* 42:1105 O '23

Some properties and limitations of optical material. W. B. Rayton. *illum Eng Soc* 16:438-47; Discussion. 447-51 no 8 '21

Lenses—Continued

Spherical aberration of thin lenses. T. T. Smith, diags U S Bur Stand Sci Pa 461:559-84 '23

See also Lensometer; Optical instruments

Manufacture

First twelve-inch lenses made from U.S. glass. *il Pop Mech* 40:916 D '23
Gas preferred for telescope discs. *diag Gas* Age 49:775-6+ Je 24 '22

Lenses, Photographic

Unit curves of a photographic lens. A. Everett. *Philos Mag* 6th ser 46:565-7 S '23
Wide angle lens for cloud recording. W. N. Bond, *diag Philos Mag* 6th ser 44:999-1001, pl 7 N '22

Testing

Interferometer for testing camera lenses. F. Twyman, diags plan *Philos Mag* 6th ser 42:777-93, pl 24 N '21

Lensometer

Research and spectacles; the lensometer, for measuring the true power of ophthalmic lenses. C. Sheard, *il diags Sci Am* 128:21 Ja 23

Leonardo da Vinci. See Vinci, Leonardo da Leroy, Ohio

Water supply

Small iron removal plant for the waterworks of Leroy, Ohio. A. E. Kimberly. *Eng N* 89:965-7 D 7 '22

LeSueur, Ernest A., 1869-

Review of the work of Ernest A. LeSueur. L. E. Westman, *por Can Chem & Met* 6:5-7, 29-32 Ja-F '22

Letter writing. See Commercial correspondence; Postscripts; Sales letters

Letterheads

Customer is sometimes right. J. L. Frazier, *il Inland Ptr* 71:225-7 My '23

Letterhead. J. L. Frazier, *il Inland Ptr* 69:857-60 S '22

The letter-head; specimens. *Inland Ptr* 68:352a-f D '21

Mr Hard Sheld buys some letterheads. *Ptg Art* 40:360-4 D '22

Patent office ruling on letterhead copyrights. *Ptg Ink* 120:28 Jl 6 '22

Suggestions for letter-head arrangements. *Inland Ptr* 69:856a-h S '22

When jazz in the letterhead emphasizes the appeal. O. MacMurroughs. *Ptg Ink M* 4:19-20 Mr '22

Lettering

Acrobatic lettering that serves a purpose. W. L. Larned. *Ptg Ink M* 4:42+ D '21

Added lure may be given words by hand-lettered cleverness. W. L. Larned. *Ptg Ink* 123:61-2+ My 24 '23

Elements of lettering. F. W. Goudy. 48p Mitchell Kennerley, New York '22

Hand lettering by means of templates. *il Management Eng* 4:357-60 My '23

Heberling's basic lettering. W. A. Heberling. 272p Wallbrunn, Kling & co., Chicago '22

Instruction course for the apprentice. I. C. Vanasdal. *il Sheet Metal Worker* 13:350-1 Je 23 '22

Lessons in lettering. T. E. French and W. D. Turnbull. McGraw-Hill '21

Practice tablet for inclined single-stroke free-hand lettering. R. S. Kirby. 25 sheets Wiley '22

Some colonial lettering. W. M. Campbell. *il Am Arch* 122:478-81; 123:241-5 N 22 '22, Mr 14 '23

Two valuable books on lettering. A. T. Covell. *Arch Rec* 54:101-3 Jl '23

See also Alphabets; Show cards

Letters of credit

American commercial credits. W. Ward. 278p Ronald press '22

Bankers' credits and all that appertains to them in their practical, legal and everyday aspects. W. F. Spalding. 115p Pitman '21

Commercial letters of credit as trade weapons. W. Ward. *Administration* 3:575-82 My '22

Foreign commercial credits. G. W. Edwards. 242p McGraw-Hill '22

Letter of credit in Germany. A. Jacoby. *Administration* 4:28-36 Jl '22

Standard forms for credit letters. W. Ward. *Nation's Business* 10:48-9+ Jl '22

Leucite

La production de la potasse et de l'alumine à partir des leucites italiennes au moyen du chlore. U. Pomilio. *bibliog il diag Chimie & Ind* 7:425-37 Mr '22

Leuconic acid

Über krokonsäure und leukonsäure. B. Homolka. *Deutsche Chem Gesell Ber* 55:1310-11 My '22

Levees

Battling with the Devil's Hole in the Mississippi flood. A. L. Dabney. *il diags plans Eng N* 88:988-92 Je 15 '22

Curbing the Mississippi; levee construction the only practicable method for restraining the flooded river. J. E. Walker. *il diag map Sci Am* 127:108-10 Ag '22

Flood control of the Mississippi river. J. A. Ockerson. *il map Am Soc C E Pro* 48:1168-84 My '22; *Abstract. Eng N* 88:703-4 Ap 27 '22

Flood water conditions on the lower Mississippi. W. W. De Berard. *il diags plan Eng N* 88:868-70 My 25 '22

Levee construction with hydraulic dredge. *il Eng & Contr (W W)* 58:162-4 D 13 '22

Success of the Mississippi river levees in the flood of 1922. A. L. Dabney. *Am Soc C E Pro* 49:1149-54 Ag '23

Why the spillway will not solve the Mississippi problem. C. M. Townsend. *Eng N* 90:24-7 Ja 4 '23

See also Flood control

Leveling

Canadian geodetic survey continues its precise leveling in winter. *Eng & Contr (Ry)* 59:132 Ja 17 '23

Methods for carrying precise levels over wide bodies of water. H. C. Mitchell. *Eng N* 91:312-13 Ag 23 '23

New precise-leveling tripod. J. D. Crichton. *il Eng N* 87:968 D 15 '21

Precise leveling in New England. *Boston Soc C E J* 10:267-8 Je '23

Precision leveling and its practical value. C. A. Briggs. *il Pop Mech* 37:207-8 F '22

See also Surveying

Leveling of machinery. See Machinery—Foundations

Levels

Constant spirit levels for surveying instruments. A. J. Ames. *il Can Eng* 45:212 Ag 7 '23

Grinding and testing level vials. G. N. Saegmuller. *diags Am Mach* 56:405 Mr 16 '22

Leveling instrument of simplified design. *il Pop Mech* 39:733 My '23

Niveau-viseur, système de Ville-d'Avray. *diags Génie Civil* 80:347 Ap 15 '22

Variations found in leveling devices. *Sci Am* 128:105 F '23

Lever

Novel means of testing levers. *Sci Am* 128:21 Ja '23

Leviathan (steamship)

America's ability to do. W. F. Gibbs. *Management Eng* 4:285-6 My '23

History of U.S. liner Leviathan. *il Marine R* 53:supl-21 Jl '23

Leviathan awakens America's interest in shipping. *Marine Eng* 28:455-6 Ag '23

Leviathan on trial trip breaks world records. H. F. Lane. *il Marine Eng* 28:390-3+ Jl '23

Leviathan, queen of the seas! *il map Am Ind* 23:5-7 Jl '23

Leviathan reconditioned as most palatial liner. *il Pop Mech* 39:670-1 My '23

Le paquebot Américain Leviathan (ex-Vaterland). *il plan Génie Civil* 83:121-5 Ag 11 '23

Plan to remake the Leviathan. *Marine R* 52:43-5 F '22

Practical methods for planning work reconditioning the Leviathan. W. B. Ferguson. *il Management Eng* 4:293-300, 369-76 My-Je '23

Leviathan (steamship).—Continued

- Reconditioning of the steamship *Leviathan*. il plans Marine Eng 27:673-85 N '22
 Reconstructed *Leviathan*. il Sci Am 129:108-9+ Ag '23
 Steamship *Leviathan*. il Arch & Bldg 55:57-60, pl 120-8 Je '23
 S. S. *Leviathan*. il Marine Eng 28:394-410 JI '23
 Trial trip of the *Leviathan*. map Sci Am 129:163 S '23

Levis, Quebec**Rapid transit**

- Snow removal allowances the stumbling block in rehabilitation of railway. H. E. Weymen. Elec Ry J 59:858 My 27 '22

Lewis-Langmuir theory. See Octet theory**Lexington, Kentucky****Rapid transit**

- Two southern cities to have entirely new rolling stock. il Elec Ry J 62:179-81 Ag 4 '23

Leyden jar

- Study of Franklin experiment on the Leyden jar with movable coatings. G. L. Addenbrooke. Philos Mag 6th ser 43:489-93 Mr '22

Li, Kuo Ching, 1892-

- Mining engineers of note. por Eng & Min J 114:231 Ag 5 '22

Liability, Manufacturers'. See Manufacturers' liability**Libel**

- Illinois Supreme court decides against city of Chicago in latter's libel suit against Chicago Daily tribune. Comm & Fin Chr 116:2213-16 My 19 '23

Liberalism

- Essays in liberalism. 243p W. Collins sons & co., London '22

Liberty bonds. See Bonds, Government**Librarians**

- Safeguarding librarians in reclassification. D. W. Hyde, jr. Special Lib 14:79-80 My '23
 Training of the special librarian. C. R. Barnett. Special Lib 13:133-5 O '22

Certification

- Certification. J. H. Friedel. Special Lib 13:135-6 O '22
 Summary of the proposed A.L.A. scheme of certification of librarians. Special Lib 13:175-7 D '22

Bibliography

- Certification of librarians. I. Clement. Special Lib 13:178-83 D '22

Libraries

- If Andrew had organized the Carnegie libraries co., ltd. Eng & Contr 58:289-90 S 27 '22
 Libraries of Los Angeles and vicinity. R. L. Power, ed. 63p Univ. of Southern California press, Los Angeles '21

- See also* Business libraries; Financial libraries; Library advertising; Library architecture; Library science; Library service; Technical libraries

Directories

- Manual of the New York library club. 122p New York library club, New York '22

Heating and ventilation

- Heating and ventilating a small library. C. L. Hubbard. il diags plan Dom Eng 101:127-8 O 28 '22

Lighting

- Lighting of public buildings. A. L. Powell and E. Parker. Illum Eng Soc 16:543-5 no 9 '21

Czechoslovakia

- Public libraries in Czechoslovakia. Int Labour R 7:439-40 F '23

Libraries, Business. See Business libraries**Libraries, County**

- County library systems. D. Gray. 184p H. W. Wilson co. '22

- Material and plans for a county library campaign. F. B. Spaulding, comp. 47p Am. lib. assn., Chicago '23 (typew)

Libraries, Financial. See Financial libraries**Libraries, Ship. See Ship libraries****Libraries, Special**

- Contacts of general and special libraries. L. Keller. Special Lib 14:26-8 Mr '23
 Development of special libraries in Great Britain. J. G. Pearce. Special Lib 14:91-3 Je '23
 Public library and the special library. R. B. Rankin. Special Lib 14:76-7 My '23
 Role of libraries in elimination of waste. K. C. Walker. Chem & Met Eng 25:904 N 16 '21
 Training of the special librarian. C. R. Barnett. Special Lib 13:133-5 O '22
 What does a special librarian expect of those in the library and how shall we train to meet these requirements? D. A. Hooker. Special Lib 13:112-15 S '22

- See also* Business libraries; Directory libraries; Factory libraries; Financial libraries; Hospital libraries; Insurance libraries; Legislative reference libraries; Library service; Municipal reference libraries; Newspaper libraries; Printing offices—Libraries; Ship libraries; Technical libraries; Trade union libraries; *also* Bureau of municipal research, New York—Library; Financial library, National (proposed); National automobile chamber of commerce—Library

Libraries, Technical. See Technical libraries**Library advertising**

- Pacific coast library advertises for books. Ptr Ink 119:118 Je 22 '22
 Taking the library to a convention. F. Olcott. il Special Lib 13:161-5 N '22

See also Library exhibits**Library architecture**

- Charlottesville library, Charlottesville, Va. Arch Forum 38:234, pl 58-60 My '23
 Connecticut state library and Supreme court building; view. Am Arch 122:144d Ag 16 '22
 Converse memorial library, Amherst college, Amherst, Mass. Arch Forum 36:pl 35-7 Mr '22
 Cooper free public library, Camden, N.J. Am Arch 122:498a-h, 499-503, 524 D 6 '22
 Henry E. Huntington library. il plan Arch Forum 36:95-6, pl 33-4 Mr '22
 Italian renaissance in Detroit. W. F. Paris. il Am Arch 123:15-19+ Ja 3 '23
 Morristown free library, Morristown, N.J.; views and plans. Am Arch 121:216a-c, 223 Mr 15 '22
 Public library of Gothic design. il plans Bldg Age 44:29 F '22
 Society of Beaux-arts architects. plans Am Arch 121:480-1 Je 7 '22
 Student work, Beaux-arts institute of design. il Am Arch 123:558-62 Je 20 '23
 White Pine rural library competition. il diags plans Lib J 48:715-19 S 1 '23
 William L. Clements library, Ann Arbor, Mich.; views, plans, folding plates. Am Arch 124:340a-i, 341 O 10 '23
 Wilmington institute free library, Wilmington, Del.; view and plans. Am Arch 121:221 Mr 15 '22

Library decoration

- Decorations for Lane medical library and Oakland library by Arthur F. Mathews. Am Inst Arch J 11:141-8 Ap '23

Library exhibits

- How libraries are getting workers to read. M. Quigley. Ptr Ink M 6:98+ My '23

Library of Congress

- Library of Congress as a source of business information. J. True. Ptr Ink M 7:68+ N '23

Library schools

- Training for library service. C. C. Williamson. 165p Carnegie corporation, New York '23

Library science

- Directions for the librarian of a small library. Z. Brown. Rev. ed. 47p H. W. Wilson co. '21

Library science—Continued

Guide to the use of libraries. M. Hutchins. A. S. Johnson and M. S. Williams. 2d ed. 227p H. W. Wilson co. '22

Library service

Advertising contests are hard on public libraries. G. E. Marion. *Ptr Ink* 120:103 Ag 24 '22

Broadening the field of the library worker. H. C. Taylor. *Special Lib* 13:69 My '22

Extension service of the Ryerson library of the Art Institute of Chicago. L. E. Kohn. *Special Lib* 13:186-8 D '22

Library and industry. A. E. White. *Special Lib* 13:129-31 O '22

Need of a library in a financial world. J. H. Puelicher. *Special Lib* 14:89-91 Je '23

Research and technical library. F. E. Cady. *il Special Lib* 13:123-8 O '22

See also Business libraries; Columbia university—College of pharmacy library

Librocedrus Bidwillii

Essential oils in the leaves of *Librocedrus Bidwillii*. B. H. Goudie. *Soc Chem Ind J* 42:350-1 Ag 24 '23

Licenses

Exempt advertising men from license fee in Chicago. *Ptr Ink* 124:104 S 13 '23

See also Architects—Licenses; Chemists—Licenses

Lichenin

Polysaccharides; lichenin. P. Karrer and B. Joos. *Chem Soc J* 124 pt 1:541-2 Je '23

Licorice

L'industrie de l'extrait de réglisse. E. Depasse. *Chimie & Ind* 7:886-8 My '22

Lie detector. See Cardiopneumo psychograph**Liens, Mechanics'. See Mechanics' liens****Liesegang rings**

Liesegang rings; rhythmic bands of dyes on filter paper and cloth by evaporation. E. C. H. Davies. *il Am Chem Soc J* 44:2705-9 D '22

Liesegang rings; silver chromate in gelatin and colloidal gold in silicic acid gel. E. C. H. Davies. *Am Chem Soc J* 44:2698-2704 D '22

Liesegang rings; the effect of light and hydrogen-ion concentration on the formation of colloidal gold in silicic acid gel; rhythmic bands of purple of Cassius. E. C. H. Davies. *Am Chem Soc J* 45:2261-8 O '23

Note on Liesegang rings in strained gel. E. F. Burton and G. C. Bell. *il J Phys Chem* 25:526 O '21

Rhythmic deposition of precipitated vapors. E. Karrer. *il diag Am Chem Soc J* 44:951-4 My '22

Life

Chemistry of life and orthogenesis. L. T. Henderson. *Sci Am* 128:39 Ja '23

What life is. D. F. Harris. *Sci Am* 128:110 F '23

See also Biological chemistry; Biological physics; Protoplasm

Life boats. See Lifeboats**Life insurance. See Insurance, Life****Life insurance sales research bureau**

Insurance companies unite in effort to solve problems of selling. A. Belden. *Ptr Ink* 125:97-8+ O 11 '23

Life packs. See Airplanes—Safety devices and measures**Life saving**

New method of beach patrol. F. Herr. *il Pop Mech* 39:362-3 Mr '23

Radio communication between life boat and shore. S. R. Winters. *il Wireless Age* 9:45 My '22

Radio telephony in the life-saving service. *Am Inst E E J* 41:98 F '22

See also Mine rescue work; Safety devices and measures

Life saving apparatus

Life-belts and near-life-belts—a study of government regulation and an invention. *il Sci Am* 127:393 D '22

Life-line gun fired from shoulder. *il Pop Mech* 37:1 Ja '22

Victims of shipwreck may walk ocean to safety. *il Pop Mech* 39:821 Je '23

Water bicycle saves drowning persons. *il Pop Mech* 40:388 S '23

See also Lifeboats; Respiratory apparatus

Life saving at fires

Fire victims to slide through silk tubes. *il Pop Mech* 40:601 O '23

Lifeboats

Equipment used afloat, ashore. *il Marine R* 53:112-13 Mr '23

Methods of stowing lifeboats on sea-going vessels. A. Wellin. *il Engineering* 114:146, 156-7 Ag 4 '22

Motor lifeboat with hospital equipment. *il Pop Mech* 38:190-1 Ag '22

Penlee motor lifeboat. *il diags (supp) Engineer* 134:656-9 D 22 '22

Provision of lifeboats. *Engineering* 115:657-8 My 25 '23

Queer stream-lined craft that may be used as a hydro-plane, racing automobile, amphibious boat, or non-sinkable lifeboat. *il Sci Am* 129:324-5 N '23

Recent developments in motor lifeboats. J. R. Barnett. *diags plans Engineering* 113:506-8; Discussion. 484-5 Ap 21 '22

Runabout lifeboats. *il Sci Am* 128:45 Ja '23

Waterproof motor for lifeboats. H. C. Bywater. *il Sci Am* 129:239 O '23

See also Davits

Testing

Lifeboat flooding experiments. *diags Engineer* 136:223 Ag 31 '23

Lifeboats, Unsinkable

Unsinkable power-driven lifeboat. *il Sci Am* 127:16-17 Jl '22

Lift bridges. See Bridges, Lift**Lifting jacks. See Hoisting machinery; Jacks****Lifting magnets**

Electric lifting magnets: their construction and application. F. A. Hooper. *il Electrician* 87:826-8 D 30 '21; Same. *Eng & Ind Management* 6:52, 109-12 Jl 14, 28 '21

Few examples of applications of lifting magnets in industrial works which suggest ideas usable in other plants. F. W. Jessop. *il Ind Eng* 81:419-20 Ag '23

Fitting electrical lifting magnets to the needs of the industrial user. *il J Elec* 50:142-3 F 15 '23; Same. *Blast F & Steel Pl* 11:158 F '23; Same. *Can Eng* 44:220 F 6 '23; Same. *Iron Tr R* 72:375-6 F 1 '23

How to make a magnet to remove stray iron from coal. J. H. Gallant. *diag Ind Eng* 81:269-70 My '23

Increasing production by using a magnet to load and unload cars and thus save a day between operations. *il Ind Eng* 81:321 Je '23

Large lifting magnet. *il Electrician* 87:580 N 4 '21

Lifting magnet. *il Blast F & Steel Pl* 11:438-40 Ag '23

Oil-well magnet recovers lost equipment. *il Pop Mech* 39:898 Je '23

Pig iron cargo handled on ship with magnets. *il Iron Tr R* 73:1026-7 O 11 '23

Traveling crane and magnet for handling metal scrap which paid their installation cost in less than a year. *il Ind Eng* 80:552 N '22

Lifts. See Elevators; Hoisting machinery**Lifts, Water. See Water lifts****Light**

Artificial disintegration of light elements. E. Rutherford and J. Chadwick. *diags Philos Mag* 6th ser 42:809-25 N '21

Chemical properties of cotton; action of light. J. M. Matthews. *Color Tr J* 13:23-6 Jl '23

Colour of the sea. K. R. Ramanathan. *Philos Mag* 6th ser 46:543-53 S '23

Color temperature and brightness of various illuminants. E. P. Hyde and W. E. Forsythe. *Illum Eng Soc* 16:419-27; Discussion. 427-30 no 8 '21

Light—Continued

Color temperature and its relation to the quality of light. W. E. Forsythe. *Am Inst E E* J 41:279-80 Ap '22

Cooled light. *il Sci Am* 127:337 N '22

Darts of light; what twentieth century physics has done to the wave theory of classical optics. C. E. K. Mees. *Sci Am* 126:336 My '22

Deflection of a ray of light in the solar gravitational field. F. D. Murnaghan. *Philos Mag* 6th ser 43:580-8 Mr '22

Effect of variation of visual angle, intensity, and composition of light on important ocular functions. C. E. Ferree and G. Rand. *Illum Eng Soc* 17:69-86; Discussion. 87-102 F '22

Light and color in advertising and merchandising. M. Luckiesh. 268p Van Nostrand '23

Light and colour. R. A. Houstoun. 179p Longmans '23

Light ray to hold weights afloat in the air. *Pop Mech* 40:609 O '23

Measuring with light waves. W. F. Meggers. *il Sci Am* 129:258+ O '23

Molecular scattering and extinction of light in liquids and the determination of the Avogadro constant. C. V. Raman and K. S. Rao. *Philos Mag* 6th ser 45:625-40 Mr '23

Molecular scattering of light in benzene, vapor and liquid. K. R. Ramanathan. *Phys R* 21:564-72 My '23

Molecular scattering of light in dense vapours and gases. C. V. Raman and K. R. Ramanathan. *Philos Mag* 6th ser 45:113-28 Ja '23

Molecular scattering of light in liquid mixtures. C. V. Raman and K. R. Ramanathan. *Philos Mag* 6th ser 45:213-24 Ja '23

Molecular scattering of light in liquid mixtures. J. C. K. Rav. *Phys R* 22:78-84 Jl '23

Molecular scattering of light in *n*-pentane. R. Venkateswaran. *Chem Soc J* 121:2655-63 D '22

Nature and amount of the gravitational deflexion of light. J. Larmor. *Philos Mag* 6th ser 45:243-56 Ja '23

Nature of light. H. A. Lorentz. *Engineering* 115:718-19 Je 8 '23

On the color of the sea. W. Shoulejkin. *Phys R* 22:85-100 Jl '23

Qualitative study of infected waves. R. N. Ghosh. *il diag Philos Mag* 6th ser 45:225-8 Ja '23

Relation between light-absorption and light-scattering for liquids. W. H. Martin. *J Phys Chem* 26:471-6 My '22

Report of committee on progress for 1921. *Illum Eng Soc* 16:229-32 no 7 '21

Scattering and dispersion of light. U. Doi. *Philos Mag* 6th ser 43:829-34 My '22

Scattering of light by dust-free liquids. W. H. Martin and S. Lehrman. *diags J Phys Chem* 26:75-88 Ja '22

Scattering of light by dust-free liquids—changes with temperature. W. H. Martin and S. Lehrman. *J Phys Chem* 27:558-64 Je '23

Scattering of light: note on Wolski's paper on optically empty liquids. F. B. Kenrick. *J Phys Chem* 26:72-4 Ja '22

Simplified proof for the retarded potentials and Huyghens's principle. E. H. Kennard. *diag Philos Mag* 6th ser 43:1014-17 My '22

Source of light giving a continuous spectrum in the ultra-violet. W. H. Fulweiler and J. Barnes. *il diags J Fr Inst* 194:83-6 Jl '22

See also Absorption of rays; Brightness; Color; Daylight; Daylight, Artificial; Diffraction; Dispersion; Electric light; Electromagnetic theory; Eye; Fireflies; Fluorescence; Gamma rays; Glare; Infra-red rays; Interference (light); Light projection; Light signals; Light telephone; Light-houses; Lighting; Optics; Optics, Physiological; Paper, Effect of light on; Phosphorescence; Photochemistry; Photoelasticity; Photoelectric cells; Photoelectric effect; Photoelectricity; Photography; Photometry; Phototropy; Polarization (light); Radiation; Radioactivity; Reflection (optics); Refraction; Refractive index; Solar radiation; Spectrum analysis; Ultra-violet rays; X rays

Light, Colored

Flicker photometry. C. E. Ferree and G. Rand. *il plan Illum Eng Soc* 18:151-99; Discussion. 200-7 F '23

Importance of colored lighting. M. Luckiesh and A. H. Taylor. *Elec W* 82:722 O 6 '23

Light, Electric. *See* Electric light

Light, Invisible. *See* Infra-red rays; Ultra-violet rays

Light, Polarized. *See* Polarization (light)

Light absorption. *See* Absorption of rays

Light meters. *See* Foot-candle meter; Photometers

Light projection
 Advantageous publicity through use of flood lights. *il J Elec* 49:406-7 D 1 '22

Examples of floodlighting. *il Illum Engr* 15:65-6 F '22

Floodlights bring out beauty of Utah cavern. *il J Elec* 51:172-3 S 1 '23

Floodlights on trains. H. A. Lane. *il Pop Mech* 38:514-15 O '22

Lamps for projection purposes; report of committee on progress for 1921. *Illum Eng Soc* 16:186-93 no 7 '21

Lamps for projection purposes; report of committee on progress for 1922. *Illum Eng Soc* 17:370-7 S '22

Norfolk & Western installs lights in 15 yards. *il plan Ry Age* 75:283-7 Ag 18 '23

Possibilities of flood and projector lighting. *diags Elec R (Lond)* 90:869-70 Je 23 '22

Projection of light. W. J. Jones and E. A. Marx, jr. *Illum Engr* 16:61-7; Discussion. 67-72 Mr '23

Studies in the projection of light. F. Benford. *il diags Gen Elec R* 26:75-82, 160-7, 230-4, 280-90, 575-82, 624-31, 780-7, 818-27 F-M, Ag-S, N-D '23

See also Moving picture machines

Light ships
 Build big lightship for Irish service. *il plans Marine R* 53:336-9 S '23

Lighthouse department extending radio compass service. *Wireless Age* 11:48-9 O '23

Lighthouses and light vessels. S. G. Hibben. *il diags map Illum Eng Soc* 18:241-66; Discussion. 266-72 Mr '23

New Danish motor lightship. H. C. Snethlage. *il Marine Eng* 27:128-9 F '22

Light signals
 Color light signal developments on British railways. *Eng & Contr* 57:525-6 My 31 '22

Guarding railroad and highway traffic by uniform colored warning lights. A. H. Rudd. *Illum Eng Soc* 17:452-4 S '22

Illuminating flares. G. J. Schladt. *diags Illum Eng Soc* 18:366-71; Discussion. 371-81 Ap '23

Lighting up of signal lamp indicates when pump accidentally stops. *diag Ind Eng* 81:57, 509 Ja, O '23

New signals being installed at the Chicago union station. T. Holt. *il Ry Age* 74:1263-4 My 26 '23

Signaling on the Frankford Elevated. J. N. Dodd. *il map Elec Ry J* 61:711-15, 761-5 Ap 28-M, My 5 '23

La signalisation par les rayons invisibles. *diag Génie Civil* 80:456-7 My 20 '22

Transformer signal lamps to indicate units in service. *il Power* 53:466 S 18 '23

See also Searchlights; Traffic signals

Light telephone
 Transmission of speech by light. A. O. Rankine. *diags Engineering* 115:531 Ap 27 '23

Light valve
 Light valve. F. E. Lamplough. *Illum Engr* 15:63-4 F '22

Lighters
 Diesel engine wins its way. *il Sci Am* 126:390 Je '22

Diesel-engined derrick lighter Worthington. *il diag Marine Eng* 27:240-2 Ap '22; Same abr. *Marine R* 52:215-17 My '22; Same abr. *Iron Tr R* 70:1253-4 My 4 '22

Diesel engined lighter shows remarkable economy in operation as compared with steam lighter. *Marine Eng* 27:521 Ag '22

Dutch river lighters. A. M. Schippers. *diags map Engineering* 116:311-14 S 7 '23

Lighthi, James A.

Sketch, por Elec W 80:1312 D 16 '22

Lighthouse tenders

Specifications for the stern-wheel, steel, steam-propelled lighthouse tender Greenbrier. 65p U.S. Bur. of lighthouses, Washington '22

Lighthouses

Developments in the use of paraffin for coast lighting. il diag Engineering 113:541-4 My 5 '22; Discussion. 113:619, 664, 826 My 19-26, Je 30 '22

Lighthouse work in remote Alaska. Marine R 53:255-6 JI '23

Lighthouses. G. R. Putname. Sci Am 128:141 F '23

Lighthouses and light vessels. S: G. Hibben. il diag map Illum Eng Soc 18:241-66; Discussion. 266-72 Mr '23

Lighting the Mississippi. G: H. Dacy. il Sci Am 127:390 D '22

Lighting the Mississippi. L: R. Freeman. il Pop Mech 37:347-50 Mr '22

New light at Port Said. il diag Engineering 116:133-6 Ag 3 '23

New lighthouse apparatus for Port Said. il Engineer 135:202 F 23 '23

Principal advances made in coast lighting and signalling. Engineer 136:67 JI 20 '23; Engineering 116:76-8 JI 20 '23

Radio cheers lonely lighthouses. S. Loomis. il Wireless Age 10:39-40+ N '22

Sense of verticality and its application to lighthouse work. H. De Miffonis. il J Fr Inst 196:89-94 JI '23

Sentinels along our coast. F. A. Collins. 272p Century Co. '22

Ten years' progress in lighthouse engineering. G: R. Putnam; D. W. Hood. Eng N 91:346 Ag 30 '23

See also Light ships

Equipment

Edison Mazda lamps in lighthouse service. L. C. Porter. il Gen Elec R 26:565-70 Ag '23

Light valve. F. E. Lamplough. Illum Engr 15:63-4 F '22

Radiophone aids Alaskan lighthouse service. Wireless Age 11:57 O '23

Lighthouses, Aerial

Aerial lighthouse. il Sci Am 128:400 Je '23

Aerial lighthouses. diag plan Aerial Age 14: 564-5 F 20 '22

Aerial lighthouses. L. F. Blandy. il diag Illum Engr 15:51-6 F '22; Discussion. 15:88 Mr '22

Lights as aid to aerial navigation; British practice and British design. il Sci Am 127:168 S '22

Navy's aerial lighthouse. il Aerial Age 15: 589-90 D '22

Phare électrique très puissant pour la navigation aérienne. C. Dantin. il plan Génie Civil 79:553-5, pl 7 D 24 '21; Abstract. Elec W 79:342 F 18 '22

Lighting

Architect and illuminating practice. W. L. Stockwell. Eng & Contr (Bldgs) 60:377-8 Ag 22 '23

Better lighting as a part of better homes. S: G. Hibben. Am Soc C E Pro 48:1249-52 My '22

Demonstrating effect of variation of illumination. il Am Inst E E J 41:535-6 JI '22

Effect of color of walls and ceilings on resultant illumination; abstract. bibliog Am Inst Arch J 11:129-30 Mr '23

Elementary principles of lighting and photometry. J: W. T. Walsh. 220p Dutton '22

Elements of illuminating engineering. A. P. Trotter. 103p Pitman '21

Exterior illumination; report of committee on progress for 1921. Illum Eng Soc 16: 201-4 no 7 '21

Ideal canvasser; general illumination. Gas J (Lond) sup 2:123-4 JI 25 '23

Illuminating engineering in relation to architecture. L. M. Tye. Eng & Contr 59:266-8 Ja 31 '23

Illuminating engineering: the future field. J. H. Asdell. Eng & Ind Management 6:441-4 O 20 '21

Illumination fundamentals for the user of light. J. R. Colville. Gen Elec R 25:373-8 Je '22

Industrial and school lighting; papers summarising developments in different countries. Illum Engr 14:176-8 S '21

Influence of paint on interior illumination. R. L. Hallett. Illum Eng Soc 18:338-46; Discussion. 357-65 Ap '23

Light as an element in decoration. Am Arch 122:387-8 O 25 '22

Loss of colour in objects exposed to light. S. F. Harmer. Illum Engr 15:308-10 N '22

Methods of lighting concrete road construction at night. R. I. Bernath. il Eng & Contr 57:11-12 Ja 4 '22

Night lights without insects. Sci Am 128:179 Mr '23

Paint characteristics and conditions to be considered in effecting better illumination. C. H. Bryce. Illum Eng Soc 18:347-54; Discussion. 357-65 Ap '23

Proceedings at the opening meeting of Illuminating engineering society, London, Nov. 15. Illum Engr 14:233-46 D '21

Random notes on artificial lighting. Gas J (Lond) 161:396-7 F 14 '23

Recent advances in lighting. M. Luckiesh. Sci Am 126:27+ Ja '22

Report of the committee on progress for 1921. Illum Eng Soc 16:111-245; Bibliography. 245 no 7 '21

Report of the committee on progress for 1922. Illum Eng Soc 17:355-433 S '22

Some impressions of the Shipping engineering and machinery exhibition held at Olympia, Sept. 7-28. Illum Engr 14:196-9 O '21

Use of light in the surgical, dental and ophthalmological professions. L. P. Tingley. diag plan Illum Eng Soc 17:9-24; Discussion. 35-43 Ja '22

Value of higher intensities of illuminations. Am Inst E E J 41:499 JI '22

Year's progress in illumination, 1922-1923. Illum Eng Soc 18:583-677; Bibliography. 677-8 S '23

See also Brightness; Car lighting; Church lighting; Daylight, Artificial; Electric lamps; Electric lighting; Gas lighting; Glare; Light projection; Lighthouses; Locomotive headlights; Mine lighting; Office lighting; Orientation (architecture); Photometry; Reflectors; Searchlights; Street lighting; also subdivision Lighting under special subjects, e.g. Air routes, Art galleries and museums, Automobiles, Bank buildings, Clubhouses, Cotton mills, Electric substations, Factories, Foundries, Freight houses, Gasoline service stations, Grain elevators, Hospitals, Hotels, Libraries, Machine shops, Motor buses, Moving picture studios, Moving picture theaters, Post office buildings, Printing offices, Public buildings, Railroads—Yards, Restaurants, Roads, Schoolhouses, Ships, Show windows, Steel works, Store buildings, Subways, Textile mills, Theaters, Vehicles, Woodworking shops

Bibliography

Bibliography of lighting articles in the proceedings of the N.E.L.A. J. C. Fischer. N E L A Bul 9:621-3 O '22

Illumination index. See monthly numbers of the Transactions of the Illuminating engineering society

Residence lighting. (Lighting data, Edison lamp works; Bulletin I. D. 137). Am Inst Arch J 11:XVII+ Je '23

Cost

Cost of daylight; compared with cost of artificial lighting. M. Luckiesh and L. L. Holladay. Illum Eng Soc 18:119-34 F '23; Abstract. Am Inst E E J 42:411-12 Ap '23; Discussion. Illum Eng Soc 18:134-42 F '23

Experiments

Special building for illumination experiments. H. Rayner, J. W. T. Walsh and H. Buckley. il Illum Engr 15:126-7 Ap '22

Lighting—Continued**Laws and regulations**

- Code of lighting—factories, mills and other work places. *il Illum Eng Soc* 16:362-89; Discussion. 389-96 no 8 '21
- General summary of industrial lighting regulations. G. H. Stickney. *Ind Eng* 81:447-51+ S '23
- Tentative lighting code; recommendations made by Massachusetts department of labor. *Textile World* 61:1953+ Ap 1 '22
- Wisconsin school lighting code. *Illum Eng Soc* 16:117-19 no 8 '21

Statistics

- Lighting statistics of representative urban and suburban homes. N. D. Macdonald. *diags Illum Eng Soc* 17:488-509; Discussion. 531-47 O '22
- Survey of residence lighting. M. Luckiesh. *Illum Eng Soc* 17:510-81 O '22; Same abr. N E L A Bul 10:103-15, 169-74, 233-8 F-Ap '23; Abstract. *Am Arch* 122:467-70 N 22 '22; Discussion. *Illum Eng Soc* 17:531-47 O '22

Study and teaching

- Light and illumination; suggested research subjects suitable for graduate and undergraduate theses. *Illum Eng Soc* 17:762-9 D '22
- Need for suitable training in illuminating engineering. C. E. Greenslade and J. E. S. White. *Illum Engr* 16:35-9; Discussion. 39-48 F '23
- Westinghouse lamp company's training course. A. R. Dennington. *Illum Eng Soc* 18:691-4 S '23

Tables, calculations, etc.

- Calculation of the lighting installation. *bibliog Am Inst Arch J* 10:XIX D '22
- Desirable distribution of light and brightness for the dining-room. M. Luckiesh and M. S. Fullerton. *Illum Eng Soc* 18:687-90 S '23
- Illumination diagrams for showing head-lighting device performance. F. H. Ford. *Soc Auto Eng J* 13:333-7 O '23
- Light without glare. W. Harrison. *il diags Am Inst E E J* 41:609-15 Ag '22; Excerpt. *Textile World* 62:2641+ N 4 '22; Discussion. *Am Inst E E J* 41:964-5 D '22
- Predetermining foot-candle illumination. I. W. Gross. *chart diag Elec W* 75:1423-5 Je 19 '20; Discussion. 78:876; 79:134-5 O 29 '21, Ja 21 '22

Terminology

- Further revision of I.E.S. nomenclature and standards. *Illum Eng Soc* 18:48-54; Discussion. 54-61 Ja '23
- Generic term for lighting unit. *Illum Eng Soc* 16:249-50; Discussion. 250-4 no 7 '21
- Why electrical men should say luminaire. M. Reast. *Elec W* 80:827 O 14 '22

Testing

- Comparing direct and indirect lighting. W. Kunerth. *Elec W* 80:1268-9 D 9 '22
- Data pertaining to visual discrimination and desired illumination intensities. M. Luckiesh, A. H. Taylor and R. H. Sinden. *diag J Fr Inst* 192:757-72 D '21
- Illumination intensities chosen for reading; abstract. M. Luckiesh and A. H. Taylor. *Illum Eng Soc* 17:269-72 My '22
- Influence of illumination levels upon speed of vision investigated. P. W. Cobb. *Am Inst E E J* 41:149-50 F '22
- Lighting of public buildings; scientific methods and architectural requirements. E. H. Rayner, J. W. T. Walsh and H. Buckley. *il diags plan Illum Engr* 15:105-27 Ap '22; Discussion. 15:135-52 My '22
- Selling illumination by photometry. A. L. Powell and J. A. Summers. *il diags Gas Age* 48:829-38 D 17 '21
- Lighting, Electric. See Electric lighting

Lighting, Industrial

- Lighting of the food industries. W. H. Rademacher. *bibliog il Illum Eng Soc* 17:548-72 O '22; Abstract. *Am Inst E E J* 42:180-2 F '23; Discussion. *Illum Eng Soc* 17:573-6 O '22
- Ten plans that cut lighting costs. A. Williams. *il System* 44:573-6+ N '23
- See also Factories—Lighting
- Lighting fixture dealers' society of America**
Fixture manufacturers, dealers and glassware guild hold successful conventions at Milwaukee, Jan. 30-Feb. 4. *Elec W* 79:310-11 F 11 '22
- Lighting fixture industry**
New approach to the side-line problem. *Ptr Ink M* 4:53 D '21
- Lighting fixtures**
Activities of the committee to cooperate with fixture manufacturers. S. G. Hibben. *Illum Eng Soc* 17:44-7; Discussion. 47-50 Ja '22
- Aesthetic and utilitarian value of luminaires. E. G. Perrot. *il diags Illum Eng Soc* 18:525-39 J1 '23
- Dustproof bowl fittings. W. J. Jones. *Illum Engr* 15:306 N '22
- Fixtures; report of committee on progress for 1921. *Illum Eng Soc* 16:216-26 no 7 '21
- New Westinghouse commercial lighting unit has many distinctive features. *il diag Arch & Bldg* 55:86-7 Ag '23
- Tentative code of luminaire design. *il diags Illum Eng Soc* 17:703-42 D '22
- Year's progress in illumination, 1922-1923; luminaires. *Illum Eng Soc* 18:637-45 S '23
- See also Electric light fixtures; Street lighting fixtures
- Cleaning**
See also Lamps—Cleaning
- Lighting industry**
Merchandising illumination. W. L. Goodwin. *Illum Eng Soc* 17:161-77; Discussion. 177-83 Ap '22
- Lighting survey.** See Lighting—Statistics
- Lightning**
Effect of transient voltages on dielectrics. F. W. Peek, jr. *il diags Am Inst E E J* 42:623-30 Je '23; Abstract. *Elec W* 81:1135-6 My 19 '23; Discussion. *Am Inst E E J* 42:1357-62 D '23
- Lightning bolt follows reinforcing in concrete highway. C. T. Fisher. *il diag Eng N* 89:828 N 16 '22
- Lightning causes most oil fires; carelessness factor. *Nat Pet N* 15:104 Je 6 '23
- Lightning pranks. *il Sci Am* 128:93 F '23
- Practical data on lightning. S. Rump. *Elec W* 81:451 F 24 '23
- When lightning flashes nearby; a study of what electrical storms mean to the radio antenna. H. M. Towne. *il diag Wireless Age* 10:56-8 Ja '23
- See also Atmospheric electricity; Electricity, Injuries from
- Lightning, Artificial**
Make believe lightning. F. W. Peek, jr. *il diags Sci Am* 129:254 O '23
- Man-made lightning bolt wrecks toy village. *il Pop Mech* 40:352-3 S '23
- Reproducing lightning with two million volts. *il diags Power Pl Eng* 27:738-40 J1 15 '23
- Tamed lightning; Dr. Steinmetz' small-scale duplication of nature's discharge. *il Sci Am* 127:26 J1 '22
- 2,000,000-volt laboratory tests. *il diag Elec R (Lond)* 93:168-9 Ag 3 '23
- Why artificial lightning is produced. *il Coal Age* 24:279-80 Ag 23 '23
- Lightning arresters**
Analysis of lightning arrester operating practice. F. L. Hunt. *Elec W* 79:376 F 25 '22
- Autovolt lightning arrester. A. L. Ather-ton. *il diags Elec J* 20:107-11 Mr '23
- By putting oxide-film lightning arrester in case, short spark gaps can be used. *Coal Age* 20:804 N 17 '21
- Charging and maintaining lightning arresters. *Elec W* 82:493 S 8 '23

Lightning arresters—Continued

- Deviations from standard practise in lightning arresters. E. E. F. Creighton. Am Inst E E J 41:99-106 F '22; Excerpt. Elec W 79:377-8 F '25 '22; Discussion. Am Inst E E J 41:822-5 N '22
- L'efficacité des parafoudres et autres dispositifs pour la protection des réseaux contre les surtensions. Génie Civil 81:346-7 O '22
- Flash rod arresters. Sci Am 129:278 O '23
- High voltage switchgear developments. W. A. Coates. diags Engineer 134:199-200 Ag '25 '22
- Lightning arrester for submarine cables. J. Rymer-Jones. il Elec R (Lond) 90:438-9 Mr '22
- Lightning arresters and their application for railway equipment protection. diags Elec J 20:148-9 Ap '23
- Lightning disturbances on distribution circuits. M. MacLaren. Am Inst E E J 42:280-7 Mr '23; Discussion. 42:1334-8 D '23
- Maintenance of car-type electrolytic lightning arresters. L. R. Golladay. il Elec Ry J 61:418 Mr 10 '23
- New railway lightning arrester. il Elec Ry J 62:749 O 27 '23
- New types of oxide film lightning arrester. il Power Pl Eng 26:783 Ag 1 '22
- New Westinghouse type lightning arrester. il Elec Ry J 59:973 Je 17 '22
- 1922 developments in autovalve lightning arresters. A. L. Atherton. il diag Am Inst E E J 42:455-90 My '23; Discussion. 42:977-9 S '23
- Opinions on and experiences with lightning-arrester performance on the Southern California Edison system. H. Michener. Elec W 82:803 O 20 '23
- Pellet type of oxide film lightning arrester. N. A. Lougee. il Am Inst E E J 42:1019-20 O '23; Discussion. 42:1353-5 D '23
- Performance characteristics of autovalve lightning arresters. A. L. Atherton. il diags Elec W 81:385-8 F 17 '23
- Report of A.I.E.E. subcommittee on lightning arresters. Am Inst E E J 41:896-7 N '22
- Same wet and dry sparkover obtained with compensated impulse gap. C. E. Bennett. il Elec W 79:1065-7 My 27 '22
- Simplicity is feature of new autovalve arrester. il Power Pl Eng 27:750-1 Jl 15 '23
- Some fundamentals in protecting against lightning. E. E. Burger. il diags Gen Elec R 26:608-11 S '23
- Study of multigap lightning arrester phenomena. N. A. Lougee. Gen Elec R 25:560-1 S '22
- Types of lightning arresters. J. L. R. Hayden and N. A. Lougee. il diag Gen Elec R 24:1018-22 D '21
- Water-barrel lightning arresters give satisfactory service. H. M. King. il Elec W 79:586-7 Mr 25 '22
- Water-tube of arrester compares favorably with others. G. H. Middlemiss. diag Elec W 79:838 Ap 29 '22

Testing

- Lightning arrester test set. il Elec W 82:197 Jl 28 '23
- Testing lightning arresters and important features of design and construction. V. E. Goodwin. il Coal Age 24:210-12 Ag 9 '23
- Lightning conductors**
- Grounding lightning conductors. W. Neubecker. diags Sheet Metal Worker 14:356-7 Je 8 '23
- Lightning grounds for roofs and ventilators. diags Sheet Metal Worker 14:499+ Jl 20 '23
- Lightning protection**
- Beating lightning at its own favorite game. Sci Am 127:329 N '22
- Grounded shield protects tanks from lightning. il Pop Mech 39:217 F '23
- Lightning disturbances on distribution circuits. M. MacLaren. Am Inst E E J 42:280-7 Mr '23; Discussion. 42:1334-8 D '23
- Lightning protector for balloons and airships. S. R. Winters. Aviation 14:446-7 Ap 23 '23
- Modern methods of protection against lightning; abstract. R. N. Covert. Am Inst Arch J 11:33+ Ja '23

Questions on the economic value of the overhead grounded wire. E. E. F. Creighton. bibliog il Am Inst E E J 41:21-9 Ja '22; Discussion. 41:825-7 N '22

See also Lightning arresters

Lightship. See Light ships**Lignin**

- L'autooxydation de la lignine, des substances humiques naturelles et du charbon. H. Schrader. Chimie & Ind 9:71-3 Ja '23
- Beitrag zur kenntnis der konstitution des fichtenholz-lignins. P. Klason. Deutsche Chem Gesell Ber 55:448-55 F '22; Abstract. Chem Soc J 122 pt 1:324-5 Ap '22
- Concerning lignin and lignin reactions. P. Klason. Paper Tr J 74:289+ Ap 13 '22; Same. Tech Assn Pa ser 5:55-7 Je '22
- Contribution to the knowledge of the constitution of spruce wood lignin. P. Klason. Paper Tr J 74:283+ Ap 13 '22; Same. Tech Assn Pa ser 5:52-5 Je '22
- Determination of the degree of lignification in wood and pulp. R. Sieber. Paper Tr J 74:54+ Ja 19 '22
- Lignin from rye straw. E. Beckmann and O. Lehmann. Paper Tr J 73:48+ N 17 '21
- Lignin-untersuchungen; dimethylsulfittauglactone. B. Holmberg and M. Sjöberg. Deutsche Chem Gesell Ber 54:2406-17 O '21
- Lignin-untersuchungen; über alkali-lignine. B. Holmberg and T. Wintzell. Deutsche Chem Gesell Ber 54:2417-25 O '21
- Lignin-untersuchungen; über das sulfittauglacton. B. Holmberg. Deutsche Chem Gesell Ber 54:2389-2406 O '21; Abstract. Chem Soc J 120 pt 1:849-50 D '21
- Spontaneous oxidation of lignin, natural humus material and coal and the influence of alkali thereon; abstract. H. Schrader. Chem Soc J 122 pt 1:637-8 Jl '22
- Über die reduktion von lignin und von kohlehydraten mit jodwasserstoffsäure und phosphor. R. Willstätter and L. Kalb. Deutsche Chem Gesell Ber 55:2637-52 S '22; Abstract. Chem Soc J 122 pt 1:989-90 N '22
- Zur kenntnis pflanzlicher inkrusten. E. Schmidt, E. Graumann and F. Duysen. diags Deutsche Chem Gesell Ber 54:1860-73, 3241-4 S, D '21
- Lignin sulfonic acids**
- Lignin sulphonic acids. R. H. McKee and G. Barsky. Paper Tr J 74:46-8 My 18 '22
- Lignite**
- American production of activated carbon. il Chem Age 30:414-16 S '22
- Big-scale operation effects economies at Columbine, northern Colorado's largest lignite mine. C. M. Schloss and F. L. Peart. il diags Coal Age 22:529-34 O 5 '22
- Brown coals and lignites; abstracts. W. A. Bone. Engineering 114:682 D 1 '22; Engineer 134:688-9 D 29 '22
- Carbonization of lignites produces high-grade fuel. Am Gas J 116:95 Ja 28 '22
- Le chauffage des fours à gazogène avec des briquettes de lignite. Génie Civil 80:65-6 Ja 21 '22
- C. B. & Q. R. R. mountain type locomotive designed to burn lignite. il (supp) diags Ry R 72:992-9 Je 16 '23
- Coal in Germany. A. W. MacMillan. il map Pop Mech 39:505-7 Ap '23
- Developing lignite deposits in Australia. il Can Eng 43:613 D 12 '22
- La distillation des lignites. F. Colomer. Génie Civil 83:181-3 Ag 25 '23
- Essais de distillation à basse température des combustibles et particulièrement des lignites. Génie Civil 81:262-3 S 16 '22
- Foresee use of lignite as domestic fuel. Power 56:588 O 10 '22
- Furnace for brown coal. diags Engineer 135:482 My 4 '23
- Gasification of crude lignite containing considerable water. G. H. Meyer. il diags Am Gas J 117:711-14 D 30 '22
- German brown coal compared with American lignite. O. P. Hood. il Chem & Met Eng 28:58-9 Ja 10 '23; Same. Coal Age 23:11-12 Ja 4 '23; Same cond. Power 57:63-4 Ja 9 '23
- Germany has limited reserves of lignite. Coal Age 24:585 O 18 '23

Lignite—Continued

- Golpa plant dry dredges lignite and operates central power station. G. F. Zimmer. *il diags map plans Coal Age* 21:913-19 Je 1 '22; Same cond. *Ind Management (Lond)* 8:231-6 N 16 '22
- Lignite as a high grade fuel. Blast F & Steel Pl 10:130 F '22
- Lignite carbonization—carbonized residue briquets. W. W. Odell. *diag Chem & Met Eng* 26:207-8 F 1 '22; Same abr. *Gas Age* 49:11-12 Ja 7 '22
- Lignite in the western part of the Fort Berthold Indian reservation south of Missouri river, North Dakota. C. M. Bauer and F. A. Herald. *diags map pls U S Geol S Bul* 726—D:109-72 '21
- Les lignites et les schistes bitumineux. A. Guisein. *Chimie & Ind* 7:1225-9; Discussion. 1229-30 Je '22
- Les lignites tunisiens. R. Marcille. *Chimie & Ind* 9:1239-43 Je '23
- Lignitic coals. *Engineering* 113:267-8 Mr 3 '22
- Low grade coals for electric power generation. W. A. Bone. *Elec R (Lond)* 90:477-8 Ap 7 '22
- Mining brown coal in Germany, briquetting it and extracting its byproducts. H. Hermanns. *il diags Coal Age* 22:621-4 O 19 '22
- Modification de volume que subit le lignite par le séchage. Von Kegel. *Chimie & Ind* 7:269-70 F '22
- Morwell brown coal and electrical scheme. Victoria, Australia. *Engineer* 135:163-4 F 16 '23
- Nitrated coal, a new raw material for paints and varnishes. *Sci Am* 126:275 Ap '22
- Procédés modernes pour le traitement du lignite et de ses dérivés. C. Berthelot. *il diags Chimie & Ind* 7:855-63, 1079-89 My-Je '22
- Properties of lignite. *Can Eng* 44:155 Ja 16 '23
- Recent fuel investigations to determine feasibility of utilizing lower grade fuels for steaming purposes. *Power Pl Eng* 26:162-4 F 1 '22
- Report of the Fuel economy committee of British assn. *Engineer* 134:365 O 6 '22; *Elec R (Lond)* 91:462 S 29 '22
- Results of lignite carbonizing experiments. W. W. Odell. *Power* 57:464 Mr 20 '23
- Les substances asphaltiques du goudron de lignite provenant des gazogènes. J. Mzourek. *Chimie & Ind* 8:582-4 S '22
- Substitute automotive fuels obtained from lignite and peat. P. M. Heldt. *Automotive Ind* 49:536-7 S 13 '23
- Über den braunkohlen-vergaserteer. S. Ruhemann. *Deutsche Chem Gesell Ber* 54:2565-8 N '21; Abstract. *Chem Soc J* 122 pt 1:22-3 Ja '22
- Ueber die vergasung rheinischer rohbraunkohle und ihren verlauf bei anwendung einer vortrocknung. G. Bulle. *diags Stahl & Eisen* 43:49-52 Ja 11 '23
- Underfeed stoker most favorable for burning lignite. *Elec W* 80:380-1 Ag 19 '22
- Utilisation of brown coal in Germany. *Engineering* 115:336-7 Mr 16 '23
- Utilization of lignite. B. Gore. *Mech Eng* 45:361 Je '23
- See also Coal

Analysis

Nouveaux procédés d'analyse du lignite. W. Gothan. *il Chimie & Ind* 7:899-900 My '22

Lignite, Pulverized

- Die braunkohlenstaub-erzeugungs- und -feuerungsanlagen der stahlwerk Becker Akt.-Ges., Willich. W. Behling. *il diags Stahl & Eisen* 43:393-8 Mr 22 '23
- Pulverized lignite as boiler fuel. *Engineering* 114:620 N 17 '22
- Le traitement des lignites rhénans en vue de leur pulvérisation et l'emploi du poussier pour le chauffage d'un four. O. Weiss. *il Chimie & Ind* 8:813-14 O '22
- Lignite char**
- Gas or lignite, the fuel of the future? *Am Gas J* 118:257-8 Mr 31 '23

- Grudekoks. O. P. Hood. *il Coal Age* 23:175-6 Ja 25 '23; Abstract. *Chem & Met Eng* 23:224 Ja 31 '23
- Lignite char: its production and possibilities. O. P. Hood. *Mech Eng* 45:282 My '23; Same. *Chem & Met Eng* 23:864-5 My 14 '23; Same. *Can Eng* 45:134 Jl 10 '23; Same. *Power Pl Eng* 27:838-9 Ag 15 '23; Same cond. *Power* 57:777 My 15 '23

Lignoceric acid

- Determination of the mixture of arachidic and lignoceric acids in peanut oil by means of magnesium soaps. A. W. Thomas and Chai-Lan Yu. *Am Chem Soc J* 45:113-28 Ja '23

Lily cups

- Squeeze your advertising dollars dry; Errett policies. P. Wilbur. *il Ptr Ink M* 5:23-4 Ag '22

Lima, Ohio**Sewerage**

- Electrolytic or direct oxidation and the Lima deadlock. G. W. Fuller. *Eng N* 89:658-9; Discussion. 660-2 O 19 '22

Lime

- Advantages of hydrated lime in paving concrete. T. B. Shertzer. *Can Eng* 42:111-12 Ja 3 '22; Discussion. 43:444, 526-+ O 10, N 7 '22; Concrete 21:202-3 D '22
- Air slaking of lime. F. H. Rhodes, W. H. Jones and W. R. Dougan. *Chem & Met Eng* 23:1066-9 Je 18 '23
- L'amélioration des chaux et ciments par la vase marine et les emplois industriels de ce produit. A. Pawlowski. *Génie Civil* 81:595-6 D 23 '22
- Bureau of mines assistance to the lime producer. O. Bowles. *Concrete* 21:sup9-10 Jl '22
- Chemical plant burns its own lime. R. K. Meade. *il Concrete* 21:sup83-5 D '22
- Cleveland meeting, National lime association. *Chem & Met Eng* 26:1221-2 Je 28 '22
- Continuous recovery of lime sludges from causticizing operations. *il diags plans Paper Tr J* 77:52-6 N 1 '23
- Cooperative tests on effect of hydrated lime on concrete mixtures. *Am Soc T M Pro* 21:294-301; Discussion. D. A. Abrams. 302-14 '21
- Effective methods of liming. F. D. Gardner. *Sci Am* 126:337 My '22
- Fabrication de la poussière blanche: chaux, ciment, plâtre. P. C. Dumesnil. 468p *Revue des matériaux publics*, Paris '22
- Fundamental physical and chemical properties of commercial lime; the available lime content. M. E. Holmes, G. J. Fink and F. C. Mathers. *Chem & Met Eng* 27:347-9, 1212-16 Ag 23, D 20 '22
- Future of agricultural lime. *Engineer* 134:389 O 13 '22
- Intelligent scientific control essential to the lime industry. W. E. Emley. *Chem & Met Eng* 27:465-6 Ag 30 '22; Same. *Concrete* 21:sup56 O '22
- Lime and cement; committee report. *Am Inst Arch J* 10:xiii+ Je '22
- Lime and cotton. W. B. Nanson. *Am Dyestuff Rep* 12:241-6+ Mr 26 '23
- Lime as a plant production factor. *Chem Age (Lond)* 8:86 Ja 27 '23
- Lime consumption in cyanidation. *Min & Sci P* 123:605, 629-30; 124:43-4, 113-14 O 29-N 5 '21, Ja 14, 28 '22
- Lime in construction; abstract. T. B. Shertzer. *Am Inst Arch J* 11:XVII+ Jl; XIII+ S '23
- Lime in 1921. G. F. Loughlin and A. T. Coons. *U S Geol S Min Res of U S* 1921, pt 2:155-68 '22
- Lime in 1922. *Concrete* 22:sup51 Mr '23
- Lime in the textile industry. E. R. Darling. *Textile World* 61:3793+ Je 24 '22
- Lime industry in New Jersey operating. E. S. Bixler. *il diag plan Concrete* 19:sup85-7 N '21
- Lime requirements for sulphite process. *Paper* 30:114+ Ap 19 '22
- Lime specifications for glass manufacture. R. R. Shively. *Chem Age* 30:296 Jl '22
- Missouri lime plant reconstructed. *il Concrete* 21:sup1-3 Jl '22

Lime—Continued

National lime association convention, New York city. Chem & Met Eng 28:1112-13 Je 25 '23

Outline of the uses of lime. M. E. Holmes. Chem & Met Eng 26:294-300 F 15 '22

Production of lime in 1921. Concrete 20:sup 49-50 Mr '22; Excerpt. Eng & Min J 113:321 F 25 '22

Study of chemical reactions in the burning of lime and Portland cement. G. A. Rankin. diags Concrete 21:sup72-7 N '22

Total and available calcium hydroxide in hydrated lime. A. S. Behrman and F. R. Porter. Ind & Eng Chem 15:269 Mr '23

Untrodden field in lime research. O. Bowles. Chem & Met Eng 28:447 Mr 7 '23

Use of lime in agriculture. N. V. S. Knibbs. Chem Age (Lond) 8:88-9 Ja 27 '23

Use of lime in the glue and gelatin industry. R. H. Bogue. Ind & Eng Chem 15:736-7 J1 '23

Use of lime in the textile industry. E. Holmes. Chem Age 30:129-30 Mr '22

Uses of lime in pulp manufacture. G. K. Spence. Paper 30:7-9 J1 12 '22

Utilization of lime sludge. C. Moe. il Paper 29:11-12 N 23 '21

See also Cement

Bibliography

Publications of the National lime association; construction, agricultural, and chemical departments. 7p National lime association, Washington '22

Specifications

Recommended specification for limestone and quicklime for use in the manufacture of sulphite pulp. U S Bur Stand Circ 144:1-7 '23; Same. Paper Tr J 74:271+ Ap 13 '22; Same. Tech Assn Pa ser 5:46-8 Je '22

Recommended specification for limestone, quicklime, and hydrated lime for use in the manufacture of glass. U S Bur Stand Circ 118:1-7 '21; Same. Am Cer Soc J (Bul) 6:170-3 Je '23

Recommended specification for quicklime for use in causticizing. U S Bur Stand Circ 143:1-5 '23

Report of committee C-7 of A. S. T. M. on lime. Am Soc T M Pro 21:289-93 '21

Report of committee C-7 of A.S.T.M. on lime. Am Soc T M Pro 22 pt 1:264-8; Discussion. 292-307 '22

Tentative specifications for quicklime for structural purposes. Am Soc T M Pro 21: 533-6 '21

Lime chloride. See Bleaching powder

Lime kilns

Chemical plant burns its own lime. R. K. Meade. il Concrete 21:sup83-5 D '22

First modern lime kiln in Clinch valley. il Concrete 22:sup77-8 My '23

Kelley Island lime & transport co. improves Gibsonburg plant. R. H. Black. il plan Concrete 22:sup42-4 Mr '23

Lime kiln thermal efficiency. V: J. Azbe. Concrete 23:sup25-9 Ag '23

Manufacture of lime for chemical and metallurgical purposes. R. K. Meade. il diags Am Inst Chem Eng Trans v 13 pt 1:287-317; Discussion. 317-24 '20

Rotary kiln lime burning. Chem & Met Eng 28:414 F 28 '23

Some new features in limekiln construction. R. K. Meade. diags Concrete 20:sup51-5 Mr '22

Lime spreader

Inexpensive farm lime spreader. R. H. Moulton. il diags Pop Mech 39:289-90 F '23

Lime-sulphur

Dry lime-sulphur and sulphur dust explosions. P. W. Edwards. il Chem & Met Eng 27:986-9 N 15 '22

Limestone

Algae as limestone makers and climatic indicators. W. S. Glook. Am J Sci 5th ser 6: 377-406; Bibliography. 406-8 N '23

Analysis of limestone. J. W. Bolton. Foundry 51:662a Ag 1 '23

Handling and setting of cut stone. Eng & Contr (Bldgs) 59:1154-5 My 23 '23

Lime belt of Massachusetts and parts of eastern New York and western Connecticut. T. N. Dale. il diags maps U S Geol S Bul 744:1-71, pl 1-8 '23

Lime industry in China. M. H. Chou. Concrete 23:sup42 S '23

Limestone in building construction. H. S. Brightly. il Am Arch 124:47-55 J1 18 '23

Limestones and marls of North Carolina. G. F. Loughlin, E. W. Berry, and J. A. Cushman. maps (Bul. 28) 211p North Carolina geol. & econ. survey, Raleigh '21

Plaster from limestone dust—a new process. Sci Am 129:276 O '23

Production of limestone building stone in the Bedford-Bloomington district, Indiana, in 1922. Eng & Contr (Bldgs) 59:946 Ap 25 '23

Rock loading at lime-plant quarries. Chem & Met Eng 28:546 Mr 21 '23

Shaft sinking in a limestone quarry. J. H. Stovel. il diags Eng & Min J 113:576-7 Ap 8 '22

Stripping problems in limestone quarries. O. Bowles. Eng & Contr (Ry) 58:93-6 N 15 '22; Same. Concrete 22:sup5-7 Ja '23

Suggested explanation of the high ferric oxide content of the limestone contact zones. B. S. Butler. Econ Geol 18:398-404 Je '23

La sulfatation spontanée des pierres calcaires dans les centres urbains. Florentin Génie Civil 81:496-7 N 25 '22

Washing limestone for blast furnace use. il Iron Age 112:736-8 S 20 '23

Washing limestone for flux. A. J. Hain. il Iron Tr R 73:820-1+ S 20 '23

See also Dolomite; Marble

Specifications

Recommended specifications for limestone and lime in the manufacture of sulphite pulp. Tech Assn Pa ser 5:46-8 Je '22

Recommended specifications for limestone, quicklime and hydrated lime for use in the manufacture of glass. Am Cer Soc J (Bul) 6:170-3 Je '23

Transportation

Interstate commerce commission rulings on limestone rates. Iron Age 110:1637 D 21 '22

Limitation of output

Limitation of output. H. M. Vernon. Eng & Ind Management 6:428-32 O 20 '21

Lincoln, Abraham

Abraham Lincoln and the repeating rifle; other inventions of C. N. Spencer. il Sci Am 125A:102-3 D '21

Memorials

Lincoln memorial, Washington, D.C. Arch & Bldg 54:6, pl 1 Ja '22

Lincoln memorial, Washington, D.C.; four photographs. plan Am Inst Arch J 11:191-5 My '23

Lincoln memorial, Washington, D.C., Henry Bacon, architect. R. A. Cram. il Arch Rec 53:478-508 Je '23

President Harding lauds President Lincoln in dedication of shrine to latter. Comm & Fin Chr 114:2428-9 Je 3 '22

Stately Lincoln memorial dedicated. il Pop Mech 38:2-3 J1 '22

Underpinning Lincoln memorial, terrace and approaches. D. L. Weart. il diags Eng N 89:146-8 J1 27 '22

Lincoln, Paul Martyn, 1870-

Sketch. por Elec W 80:1140 N 25 '22

Lincoln, Nebraska

What a small city club did in Lincoln, Neb. R. P. Crawford. Nation's Business 10:58-9 My '22

Lincoln cathedral

Saving a cathedral by compressed air; restoring Lincoln cathedral. il Sci Am 129: 328 N '23

Lincoln highway

Are we to have a transcontinental highway? Sci Am 127:381 D '22

Lincoln highway—Continued

- Brief for the Lincoln highway in Utah and Nevada addressed to the Secretary of agriculture, Washington, D.C. 172p map Lincoln highway assn., Detroit '23
- Building safety into America's Main street. C. T. Fish. *il Nat Safety* N 7:5-8 Ap '23
- Contract awarded on ideal section of Lincoln highway. *Munic Eng* 63:sup23 Ag '22
- Design and construction features of the ideal section of the Lincoln highway. W. G. Thompson. *Am Concrete Inst Pro* 19:129-32 '23
- Design features of Lincoln highway ideal section. W. G. Thompson. *il diag Eng* N 88: 982-6 Je 15 '22
- Federal government to decide fate of Lincoln highway. *Munic Eng* 64:206-7 My '23
- Half-width concrete pavement is laid with unusual speed. T. J. Wasser. *il Eng* N 90: 80 Ja 11 '23
- Ideal section of Lincoln highway built at moderate cost. *Munic Eng* 64:sup21-2 F '23; *Pub Works* 54:1-3 Ja '23
- Improved lighting system to be installed on Lincoln highway. H. H. Bell. *il diags Elec* W 79:731-2 Ap 15 '22
- Lincoln highway association extends more aid to Nevada to complete great road. *Good Roads* 64:205 My 30 '23
- Lincoln highway in good shape; association issues first touring report for 1923. *Good Roads* 64:227-8 Je 13 '23
- Lincoln highway in 1922. *il Pub Works* 54:125 Ap '23
- Lincoln highway nears tenth birthday. A. F. Bement. *Good Roads* 64:107-9+ Mr 21 '23
- Lincoln highway rapidly approaching finished state. *Automotive Ind* 48:922 Ap 26 '23
- Paving of model section of Lincoln highway completed. *Munic Eng* 64:27 Ja '23

Lind, Samuel Colville, 1879-

Appointment as chief chemist Bureau of mines. *por Ind & Eng Chem* 15:647 Je '23

Lindeberg, H. T.

Wrought metal in architectural design, illustrated by work from office of H. T. Lindeberg, architect. R. L. Morin. *il Am Arch* 124:343-8 O 10 '23

Linden. See Basswood

Line cars. See Motor cars (railroad)—Line cars

Line radio. See Telephone, Carrier current

Linemen

Adequate protection for linemen. *Elec W* 80: 820 O 14 '22

Safety for the pole climber. *il Nat Safety* N 8:16-18 Jl '23

Linin

Canadian flax and linen industry. W: L. Turner. *il Textile World* 61:413+ Ja 28 '22

Commercial solvent extraction applied to cotton and linen fabrics. M. Fort. *Soc Dyers & Col J* 39:42-6 F '23

Cotton and linen. E. B. Thompson. (Merchandise manual series) 199p Ronald press '22

Improving Irish linen. *Sci Am* 129:324 N '23

Most useful linen plant. C: F. Goldthwait. *il Am Dyestuff Rep* 12:747-51 O 22 '23

See also Bleaching—Linen; Dyes and dyeing—Linen; Flax; Hemp

Manufacture

Machine, système Feuillette, pour le teillage industriel du lin. E. Weiss. *il diags plans Génie Civil* 79:590-1 D 31 '21

Manufacture of waterproof linen fabrics. J. Schmidt. *diags Color Tr J* 11:34-6 Jl '22

Testing

Testing strength of materials (cotton and linen). G: R. Smith. 122p E. Marlborough and co., London '22

Linen finishing

Dyeing and finishing of linen dress fabrics. D. Wiltern. *Color Tr J* 10:76-8 F '22

Linen weavers

Some results of an investigation into the efficiency of linen weavers. H. C. Weston. *bibliog J Ind Hygiene* 5:41-52 Je '23

Linen weaving

Inefficiency in linen weaving. J. A. Hunter. *Textile World* 63:3933+ Je 16 '23

Lingette

Changing the product instead of bucking the tide. R. Dickinson. *Ptr Ink* 122:69-70+ F 1 '23

Limit. See Starch**Linoleum**

Care of linoleum floor coverings. H: A. Gardner. *Am Arch* 123:166 F 14 '23

Individuality in displaying hard-to-display product. *il Ptr Ink* M 7:70+ Jl '23

Oilcloth and linoleum. U S Bur Census 9p '22

See also Armstrong cork company

Advertising

Getting the dealer to put your line up front; how Armstrong has transformed the floor-covering department. R. Cole. *Ptr Ink* 119: 36+ Je 8 '22

Jobber's advertising capitalizes on a manufacturer's suggestion; laying linoleum. *Ptr Ink* 117:34+ N 17 '21

Linoleum consumer campaign. *Textile World* 61:2068 Ap 8 '22

Linolic acid

C₁₈ acids; four tetrahydroxy-stearic acids derived from linolic acid, and their significance with regard to the linolic acid of common oils. B. H. Nicolet and H: L. Cox. *Am Chem Soc J* 44:144-52 Ja '22

Linotype

Linotypes and intertypes. I. M. Sinclair. 179p Irving MacD. Sinclair, Cleveland '22

Machine composition. E. M. Keating. *See* monthly numbers of the *Inland printer*

Matrices clog in channel entrance. *Inland Ptr* 71:713-14 Ag '23

Speed and accuracy; touch method of linotype operating. C: H: Mason. 47p C: H: Mason, Boston '21

Linseed oil

Du Pont may erect linseed oil factory. *Chem & Met Eng* 29:726 O 15 '23

Effect of various pigments upon the rate of oxidation of linseed oil. F. H. Rhodes and A. E. Van Wirt. *diag Ind & Eng Chem* 15: 1135-40 N '23

Heat treatment of China wood and linseed oils. C: F. Mabery. *Ind & Eng Chem* 15:365-7 Ap '23

Linseed oil. *Oil Paint & Drug Rep* 110:27 N 2 '21

Linseed oil tariff reduction asked by varnish and linoleum manufacturers. *Oil Paint & Drug Rep* 104:19+ Ag 6 '23

Mechanism of the oxidation of drying oils as elucidated by a study of the true oxygen absorption; action of driers. S: Coffey. *Chem Soc J* 121:17-23 Ja '22

Oil absorption by paint pigments. O. A. Hougen and H. D. Hentzen. *diag Chem & Met Eng* 29:840-1 N 5 '23

Report of sub-committee V on linseed oil. *Am Soc T M Pro* 21:334-8 '21

Study of the phytosterols of corn oil, cottonseed oil and linseed oil. R. J. Anderson and M. G. Moore. *Am Chem Soc J* 45:1944-53 Ag '23

Vanadium compounds as driers for linseed oil. F. H. Rhodes and K. S. Chen. *J Ind & Eng Chem* 14:222-4 Mr '22

Specifications

United States government specification for linseed oil, raw, refined, and boiled. U S Bur Stand Circ 82:1-9 '22

Linseed oil, Substitutes for

Substitutes for turpentine and linseed oil. *Ry Mech Eng* 97:751-3 N '23

Linseed oil association

Bearing of linseed-oil decision on open-price plan. F. Neilson. *Elec W* 81:1496 Je 23 '23

Linseed oil association activities held to be contrary to Sherman act. *Oil Paint & Drug Rep* 103:20 Je 11 '23

Linseed oil combination dissolved. *Elec Ry J* 61:1029 Je 16 '23

Linseed oil decision further clarifies the Sherman act. *Am Mach* 58:950-1 Je 28 '23

Linseed oil association—Continued

- Petroleum industry not affected by ruling of court in linseed case. M. C. Hill. Nat Pet N 15:107+ Je 27 '23
 Questions relating to trade associations; decision of Supreme court in linseed oil case. Iron Age 111:173 Je 14 '23
 Supreme court holds linseed crushers violated Sherman act. Chem & Met Eng 28:1046 Je 11 '23
 Trade association activities approved; U.S. District court dismisses suit to dissolve Linseed oil association. Paper 29:26-8+ D 7 '21

Lion grotto, San Diego zoological park

- Concrete Lion grotto for the San Diego zoo. il Concrete 23:88-93 S '23

Lipase

- Castor bean lipase, its preparation and some of its properties. D. E. Haley and J. F. Lyman. Am Chem Soc J 43:2664-70 D '21
 Influence of various antiseptics on the activity of lipase. L. S. Palmer. Am Chem Soc J 44:1527-38 Jl '22

Lipodiatase

- Application industrielle de la lipodiatase des graines de ricin. G. Kita. Chimie & Ind 9: 863-5 My '23

Liquefaction of gases. See Gases—Liquefaction**Liquid air**

- Experimental use of liquid air and explosives for tightening body-bound bolts. H. L. Whittemore. Am Mach 56:524-6 Ap 6 '22
 Explosions in liquid air rectification plant. E. Fyelman. Soc Chem Ind J 42:37-9 Ja 26 '23; Discussion. 42:139-42 Mr 29 '23
 Industrial methods of liquefaction and practical application of low temperatures. K. S. Murray. diags Engineering 114:509-10 O 20 '22
 Liquid air as a blasting material. M. Grabianowsky. Eng & Contr 56:519-20 N 30 '21
 Liquid air boiling away at partially regulated speed used to supply mine rescuers and rescued. H. Briggs. il diags Coal Age 21:609-12 Ap 13 '22
 Liquid air used for blasting. Gas Age 50:851-2 D 16 '22
 Oxygen production from liquid air. K. S. Murray. diags Chem Age 30:475-8 N '22
 Possibilities in liquid air explosives. E. Roy. il diags Eng & Contr 57:467-8 Ap 29 '22
 Production of liquid air on a laboratory scale. J. W. Cook. il diags U S Bur Stand Sci Pa 419:277-86 '21; Abstract. Sci Am 125A:87 D '21
 Review of the work of Ernest A. LeSueur. L. E. Westman. Can Chem & Met 6:29-32 F '22

Bibliography

- Progress of investigations on liquid, oxygen explosives. S. P. Howell, J. W. Paul and J. L. Sherrick. U S Bur Mines Tech Pa 294:81-5 '23

Liquid air machines

- Experiments with heat interchangers. F. R. Bichowsky. il diag J Ind & Eng Chem 14: 62-4 Ja '22

Liquid chlorine. See Chlorine, Liquid**Liquid crystals**

- Crystalline liquids. W. J. Pope. Soc Chem Ind J (Chem & Ind) 42:809-11 Ag 24 '23
 Crystals that live. E. Bade. il Sci Am 127:188 S '22
 Über kristallinisch-flüssige eigenschaften der α -ungesättigten ketone. D. Vorländer. Deutsche Chem Gesell Ber 54:2261-4 O '21

Liquid films. See Soap bubbles and films**Liquid fuel**

- A propos du congrès des combustibles liquides. A. Grebel. Génie Civil 81:423 N 4 '22
 Adoption par la Chambre des députés d'un carburant national permettant l'utilisation de l'alcool industriel. A. Grebel. Génie Civil 82:128-30 F 10 '23
 Burning liquid fuel. by W. N. Best. Review by J. A. Kelly. Marine Eng 27:794-5 D '22
 Burning liquid fuel efficiently. H. A. Anderson. Iron Tr R 73:1097-8+ O 18 '23

- Can gasoline be made from animal and vegetable oils? A. Mailhe. Chem & Met Eng 28:821-2 My 7 '23

Le carburant national et la loi du 1^{er} mars 1923. C. Pomaret. Chimie & Ind 9:622-5 Mr '23**Le carburant national; étude sur sa constitution possible. C. Legrand. diags Chimie & Ind 10:411-28 S '23****Le congrès international des combustibles liquides. P. Nicolardot. Chimie & Ind 8:733-5 O '22****Le congrès international des combustibles liquides (Paris, 10-15 octobre 1922). Génie Civil 81:394-7 O 28 '22****Determination of the calorific value of liquid fuels. H. Moss and W. J. Stern. diags Engineering 114:729-31 D 15 '22****Economical utilization of liquid fuel. C. A. Norman. (Bul. no. 19) 206p Eng. exp. sta. of the Ohio state univ., Columbus '21****étude de la question des carburants en France. A. Grebel. diags Génie Civil 81:537-41, 558-63 D 9-16 '22****International liquid fuel congress. Inst Pet Tech J 9:69-74 F '23****Judging the combustion of liquid fuels. A. G. Witting. Blast F & Steel Pl 11:125-7 Ja '23****Liquid fuel and its apparatus. W. H. Booth. 2d ed. 308p Dutton '22****Low-grade molasses yields fuel and potash. Pop Mech 40:777 N '23****La manipulation automatique des hydrocarbures par les procédés de la société Hardoll. il diags Génie Civil 81:257-61 S 16 '22****Method for expressing the value of mixing agents between hydrocarbons and 95 per cent. vol. alcohol. W. R. Ormandy and E. C. Craven. Inst Pet Tech J 9:129-32 Ap '23****Method for the determination of the vapour pressure of hydrocarbon fuels, and the estimation of dissolved air. H. T. Tizard and A. G. Marshall. diag Inst Pet Tech J 8: 217-23 Ap '22****Le problème du carburant national en France; symposium. D. Berthelot and others. Soc Ing Civils Bul 76:31-294 Ja '23; Abstracts. Génie Civil 82:239-40, 288-9, 358-9, 370-3 Mr 10, 24, Ap 14-21 '23****Progress in liquid fuels discussed at the International congress organised by the Société de chimie industrielle. Engineer 134:446-7 O 27 '22****Remarkable strides made in production of liquid fuels from coal. Automotive Ind 49: 432-5 Ag 30 '23; Same. Gas Age 52:307-10 S 15 '23****Le traitement des combustibles envisagé au point de vue de la production des carburants. C. Berthelot. Génie Civil 81:96-8 Jl 22 '22**

See also Airplane engines—Fuel; Alcohol as fuel; Automobile engines—Fuel; Benzol; Fuel, Colloidal; Gas and oil engines—Fuel; Gasoline; Kerosene; Naphthalene; Oil as fuel; Oil burners

Testing**Determination of the calorific value of liquid fuels. N. Harwood. diag Engineering 116: 396 S 28 '23****Royal aircraft establishment report on methods of determining the calorific values of certain unsaturated hydrocarbons. Inst Pet Tech J 7:339-42 O '21****Royal aircraft establishment report on the calorific values of petrols and of petrol fractions. Inst Pet Tech J 7:342-51 O '21****Liquid junctions. See Electromotive force****Liquid nitrogen. See Nitrogen, Liquid****Liquid oxygen. See Oxygen, Liquid****Liquid soap. See Soap, Liquid****Liquids****Electrification at the boundary between a liquid and a gas. H. A. McTaggart. diag Philos Mag 6th ser 44:386-95 Ag '22****Flow of liquids in pipes. N. Swindin. 64p Benn bros., ltd., London '22****Flow of liquids under capillary pressure. E. K. Rideal. diags Philos Mag 6th ser 44:1152-9 D '22**

Liquids—Continued

- Gravity separation of non-miscible liquids. T. M. Knowland. diag India Rubber W 68:567 Je '23
- Molecular scattering and extinction of light in liquids and the determination of the Avogadro constant. C. V. Raman and K. S. Rao. Philos Mag 6th ser 45:625-40 Mr '23
- Molecular scattering of light in liquid mixtures. J. C. K. Rav. Phys R 22:78-84 Jl '23
- Purification des liquides par l'action simultanée de la force centrifuge et du champ électrique. A. Marx and J. Rozières. diags Chimie & Ind 10:218-20 Ag '23
- Purification of liquids by centrifugation. A. F. Meston. il Chem Age 31:370-2 Ag '23
- Rates of absorption and heat transfer between gases and liquids. W. G. Whitman and J. L. Keats. J Ind & Eng Chem 14:186-91 Mr '22
- Scattering of light by dust-free liquids. W. H. Martin and S. Lehrman. diags J Phys Chem 26:75-88 Ja '22
- Scattering of light: note on Wolski's paper on optically empty liquids. F. B. Kenrick. J Phys Chem 26:72-4 Ja '22
- Ternary critical solution temperatures as criteria of liquid purity. D. C. Jones. Chem Soc J 123:1384-95 Je '23
- Thermal conductivity of liquids. F. L. Kallam. il diags Mech Eng 45:479-82 Ag '23; Excerpt. Chem & Met Eng 29:238 Ag 6 '23
- See also* Boiling points; Drops; Emulsions; Evaporation; Films; Fluids; Hydraulics; Hydrodynamics; Jets; Liquid fuel; Solution (chemistry); Viscosity

Clarifiers*See* Clarifiers**Gaging***See* Gaging**Liquor laws***See* Prohibition**Liquorice.** *See* Licorice**Liquors***See* Arrack; Cider; Distillation; Wine**Lissajous' whistling flame**

Notes on Lissajous' whistling flame. E. G. Richardson. diags Am J Sci 5th ser 6:11-14 Jl '23

Literature

Literature and architecture. P. E. Nobbs. Am Inst Arch J 11:343-6 S '23

Litharge. *See* Lead oxides**Lithium**

Positive ray analysis of lithium and magnesium. A. J. Dempster. diags Phys R 18: 415-22 D '21

Separation and determination of sodium and lithium by precipitation from alcoholic perchlorate solution. H. H. Willard and G. F. Smith. Am Chem Soc J 44:2816-24 D '22

Lithium chloride

Equilibrium in the system lithium chloride: quinoline. J. H. Walton and C. R. Wise. Am Chem Soc J 44:103-4 Ja '22

Free energy of dilution of alcoholic solutions of lithium chloride and the effect of solvent upon the activity of the ions. J. N. Pearce and H. B. Hart. Am Chem Soc J 44:2411-19 N '22

Lithium hydroxide

Abweichendes Verhalten des Lithiumhydroxyds gegenüber Natrium- und Kaliumhydroxyd bei der Hydratisierung der polymeren Aryl-stilbinsäuren. H. Schmidt. Deutsche Chem Gesell Ber 55:697-701 Mr '22

Lithium platinocyanides

Hydrates of potassium and lithium platinocyanides and the system potassium platinocyanide—lithium platinocyanide—water. H. Terry and V. G. Jolly. Chem Soc J 123: 2217-22 S '23

Lithography

Application of electricity in processes leading up to surface and subsurface printing. C. F. Scott. il Am Inst E E J 40:912-16 D '21

Graphic arts. J. Pennell. 315p Pub. for the Arts Institute of Chicago by the University of Chicago Press, Chicago '21

Lithography. B. Brown. 27p Fitzroy Carrington, New York '23

Lithography—its uses, disuses and abuses. J. B. Arnold. Inland Ptr 72:257-9 N '23

Monsen type manual. 173p Monsen, Thormod, & Son, Chicago '22

Nine lithographs. B. Brown. Am Inst Arch J 10:217-24 Jl '22

Offset lithography; a treatise on printing in the lithographic manner from metal plates on rubber blanket offset presses. W. C. Browne. 230p National Lithographer, New York '22

See also Engraving**Lithopone**

Barytes: occurrence, mining, uses. R. B. Ladoo. flow sheet Eng & Min J 115:323 F 17 '23

Beckton white gold seal. Color Tr J 11:19 Jl '22

Effect of alkalinity on lithopone. Chem & Met Eng 28:778 Ap 30 '23

Light-resistant lithopone. Sci Am 127:193 S '22

Manufacture of lithopone. Chem Age 31:130 Mr '23

Manufacture of lithopone; patent. diag Chem & Met Eng 27:273 Ag 9 '22

Production costs in the lithopone industry first six months of 1921. (Tariff information ser. no. 24) 12p U.S. Tariff commission, Washington '21; Abstract. Chem & Met Eng 25:1196 D 28 '21

Zinc oxide and lithopone. E. V. Peters. Chem Age 31:233-5 My '23

Zinc oxide and lithopone as a basis for paint in bleacheries and dyehouses. B. DePuyster. il Color Tr J 11:223-4 N '22

Little Rock, Arkansas**Bridges**

Arkansas river bridge to be war memorial. il Pop Mech 39:664 My '23

Live stock**Advertising**

Advertising's next big job to help the farmer; purebred livestock. L. G. Hood. Ptr Ink 121:33-4+ O 26 '22

Millions waiting in rural advertising. L. G. Hood. Inland Ptr 69:355-7 Je '22

Transportation

Arguments on live stock rates heard by Interstate commerce commission. Ry R 69: 697-8 N 19 '21

Four-footed transatlantic passengers. Sci Am 126:240 Ap '22

See also Stock cars**Live stock associations****Accounting**

Accounting records and business methods for live-stock shipping associations. F. Robotka. U S Agric Bul 1150:1-52 '23

Live stock trade

Live stock commission rates at four markets reduced by arbitration. Comm & Fin Chr 117:1084-5 S 8 '23

Liverpool, England**Harbor**

Dock extensions at Liverpool. il diags Engineer 134:83-4, 92 Jl 28 '22

Liverpool to undertake harbor extension. Eng N 89:280 Ag 17 '22

Rapid transit

Liverpool, Glasgow, Edinburgh compared. D. L. Turner. Elec Ry J 61:1039-41 Je 23 '23

Liverpool and Manchester railway

The Liverpool and Manchester railway. C. F. D. Marshall. Engineer 132:532-3 N 18 '21

Ljungström air preheaters. *See* Air heaters

Ljungström locomotive. *See* Locomotives, Steam turbine

Lloyd, John Uri
Sketch. M. H. Fischer. *por Ind & Eng Chem*
15:1194 N '23

Lloyd George, David
Mr Lloyd George, by E. T. Raymond. *Review.*
Comm & Fin Chr 115:2199-2201 N 18 '22
Visit to United States and Canada of former
Premier David Lloyd George of Great
Britain. Comm & Fin Chr 117:1734-7, 2056-
8 O 20, N 10 '23

Load (mechanics)

Factors of safety and allowable stress. C. D.
Albert. *Am Mach* 57:54-7 J1 13 '22
Live floor loads. C. H. Blackall. *Am Arch* 123:
6-8 Ja 3 '23
Live-loads for motor-truck storage. E. L.
Verveer. *Eng N* 88:238-41 F 9 '22
Live loads in office buildings; results of in-
vestigations by C. T. Coley. I. H. Woolson.
diags Concrete 22:133-6 Ap '23; Same *abr.*
Arch Forum 38:199-200 Ap '23; Same. *Am*
Arch 123:281-4 Mr 23 '23; Same. *Eng N* 90:
584-6 Mr 29 '23; Excerpt. *Am Mach* 58:447-8
Mr 22 '23; Same. *Eng & Contr (Bldgs)* 59:
927-8 Ap 25 '23

Load requirements in building codes. R. G.
Kimball. *Arch Forum* 36:sup61-2 F '22;
Same. *Eng & Contr* 56:584 D 28 '21
Question of realism. *Eng N* 89:131 J1 27 '22

See also Strains and stresses

Load dispatching. See Electric plants (central
stations)—Load dispatching

Load factor. See Electric plants—Load factor

Load line

Effect of variations in loading on longitudinal
structural stresses in ships. W. Thomson.
Engineering 115:567-70 My 4 '23; Discussion.
115:423 Ap 6 '23
International load line. *Marine Eng* 27:644-6
O '22
International regulations for loadlines, deck
cargoes and safety of life. W. S. Abell.
Engineering 116:217-19 Ag 17 '23; Same
cond. *Engineer* 136:174 Ag 17 '23
Japanese loadline law. *Marine R* 51:564-5 D
'21
World safety standard is near. W. Abell. *il*
Marine R 53:393-9 O '23

Loading and unloading

Austin multiple bucket-type wagon loader.
diag plan *Eng & Ind Management* 8:101, 170
Ag 24, S 21 '22
Handling materials. *il Elec R* 80:252-3 My '22
How to handle mines so as to get best re-
sults from the use of shoveling machines
in underground work. W. Whaley. diags
Coal Age 21:235-8 F 9 '22
Mechanical unloading of briquettes. *Ind Man-*
agement (Lond) 8:232 O 19 '22
Modern developments in portable loaders. H. L.
Goddard. *il Eng & Min J* 114:616 S 30 '22
Recent developments in underground mechan-
ical loading. C. E. van Barneveld. *il diags*
Eng & Min J 116:501-11 S 22 '23; Abstract.
Eng & Contr (Equip R) 60:905-6 O 31 '23
Rock loading at lime-plant quarries. *Chem &*
Met Eng 28:546 Mr 21 '23
Rules for unloading poles. E. A. Lindsley.
diag *Elec V* 82:870 O 27 '23
Stripping with self feeding bucket loader. *il*
Eng & Contr (R & S) 58:63 O 4 '22
Wagon loader with creepers works on soft
ground. *il Pop Mech* 37:92 Ja '22
What it pays to know about material hand-
ling. W. T. Spivey. *il Factory* 30:27-9+ Ja
'23

See also Conveying machinery; Dump
cars; Dumping appliances; Freight handling;
Lifting magnets; Mechanical handling;
Pipe handling; Scrapers

Cars

Apparatus for loading barrels of salt, etc.,
into box cars. *il Eng & Ind Management*
7:265 Mr 9 '22
Barber-Greene box-car loader. *il Ind Man-*
agement (Lond) 9:53-4 Ja 25 '23
Canadian National installs grain car unloaders.
F. Newell. *il diags Ry Age* 73:493-501 S 16
'22

Electrically operated equipment for car
handling; emptying grain cars. R. M. Kint-
zing. *il Elec R* 79:773-5 N 19 '21
Increasing production by using a magnet to
load and unload cars and thus save a day
between operations. *il Ind Eng* 81:321 Je '23
Portable elevator cuts labor in half in unload-
ing bagged material from cars. *il Elec R*
80:147-8 Mr '22
Portable rig unloads bulk material from cars.
il Pop Mech 39:598-9 Ap '23
Proper method of loading tile. F. R. Hale.
il Brick & Clay Rec 63:174-5 Ag 7 '23

Motor trucks

Cuts delivery time from a week to an hour.
il Brick & Clay Rec 61:29-31 J1 11 '22
Loading and unloading device for motor vehi-
cles. *il diags Engineering* 116:490-1 O 19 '23
Portable loader utilizes tank method of loco-
motion. *il Power Pl Eng* 26:1030 O 15 '22
Portable loading machinery. *il Engineering*
114:206, 208 Ag 13 '22

Ships

Banana handling between the West Indies and
the port of Bristol. G. F. Zimmer. *il Ind*
Management (Lond) 9:147-50, 179-85 Mr 8-22
'23
Cargo handling at ports; British and Ameri-
can methods compared. B. Cunningham.
Engineer 135:656 Je 22 '23
Future of ship-discharging appliances for
bulk materials. C. P. Kininmonth. *il diags*
Electrician 87:815-18 D 30 '21
Modern dock appliances at Glasgow harbour
including the handling of grain in bulk;
also dredging plant. D. Fife. diags *En-*
gineering 115:820-2 Je 29 '23
Pneumatic grain elevators. R. E. Knight.
diags plan *Engineering* 112:864-6 D 23 '21;
Same. *Engineer* 132:685-7 D 23 '21; Same,
without table 1. *Eng & Ind Management*
7:175-9 F 9 '22; Discussion. *Engineering*
112:859-61 D 23 '21; *Engineer* 132:667 D 23
'21
Relative advantages of ship equipment and
port equipment for loading and discharg-
ing ships. *Engineer* 136:40, 65-6 J1 13-20
'23; *Engineering* 116:43-4 J1 13 '23
Ship-loading conveyor has flexibility and
economy. *il Pop Mech* 36:901 D '21
Telescopic conveyor to speed up vessel load-
ing and discharging on Pacific coast. diag
Marine Eng 28:604 O '23
XIII^e Congrès international de navigation
(Londres, 2-7 juillet 1923). P. Barrillon.
diags *Génie Civil* 83:320-3 O 6 '23

Loans

Relation of engineer and banker. H. D. Thrall.
Eng & Contr (Ry) 59:1121-5 My 16 '23
Sizing up the borrower. A. N. Hogg. *Nat-*
ion's Business 10:16-17 Je '22
See also Building loans; Interest; Invest-
ments; Morris plan banks

Loans, Foreign

Argentine loans. *Annalist* 21:442-3 Mr 26 '23
Austrian loan. *Annalist* 21:827+ Je 18 '23
Austrian loan and rehabilitation of central
Europe. Comm & Fin Chr 116:2335 My 26 '23
Criticism of requirement that proceeds of
foreign loans be spent in United States.
B. M. Anderson. Comm & Fin Chr 114:
1717 Ap 22 '22
Cuban law authorizing foreign loan of
\$50,000,000; text. Comm & Fin Chr 115:2103-4
N 11 '22
From the viewpoint of the Treasury depart-
ment. *Annalist* 20:688 D 25 '22
Impossibility of German loan at present. T.
W. Lamont. Comm & Fin Chr 115:2734-5 D
23 '22
International distribution of securities. W. E.
Lagerquist. Administration 5:324-34 Mr '23
Loans to foreign governments. 388p U.S.
Congress. Senate, Committee on the judi-
ciary, Washington '21
Need of control for foreign investment. J.
Oakwood. *Annalist* 19:366-7 Mr 27 '22
Preliminary arrangements for floating United
States portion of Austrian loan completed by
T. W. Lamont. Comm & Fin Chr 116:2459
Je 2 '23

Loans, Foreign—Continued

\$25,000,000 Austrian loan floated in United States oversubscribed. *Comm & Fin Chr* 116:2710-12 Je 16 '23
 U.S. disposal to assist Europe through loan to Germany; J. P. Morgan's conference with Secretary Hughes. *Comm & Fin Chr* 115:2631-2 D 16 '22

See also Debts, Public; German indemnities

Loans, Small

Adequate industrial loan system. *C. Hodson. Am Ind* 22:29-30+ Mr '22
 Advertising enlisted for aid of small-loans institution. *Ptr Ink* 123:117-18 Je 28 '23
 Advertising presents the small-loans case in Indiana. *Ptr Ink* 124:103-4 S 20 '23
 Facts about the small loan business and the scientific rate of fair charges. *R. H. Smith. 19p Legal reform bureau, 135 Broadway, New York '22*
 Fair rate of interest for small loans as made by money-lenders repayable in monthly instalments. *C. Hodson. 179p Legal reform bureau to eliminate the loan shark evil, 135 Broadway, New York '23*
 Industrial banking in the United States. *D. P. DeYoung. Annalist* 20:293+ S 25 '22
 National federation of remedial loan associations' 14th annual convention, Washington, D.C., May 25-27. 47p *John E. Ryan, sec., 708 Breitmeyer bldg., Detroit, Mich. '22*
 Small loan legislation, progress and improvement. *A. H. Ham. 8p Russell Sage foundation, New York '22*
 What about loans to employees? *W. G. Walling. System* 41:701-2+ Je '22

See also Credit unions

Lobelia

über die alkalioide der lobelia-pflanze. *H. Wieland. Deutsche Chem Gesell Ber* 54:1784-8 S '21

Lobelina. *See* Lobelia**Local government**

See Municipal government

Locating (machine work)

Tool-room formulas for locating holes in work with angular faces. *W. G. Holmes. diags Mach* 29:966-8 Ag '23

Locating devices

Bushings used as buttons for locating holes accurately. *diags Am Mach* 57:384, 736-7 S 7, N 9 '22
 Center-punch locating block. *J. V. Romig. diags Mach* 29:642 Ap '23
 Gage for locating holes from a periphery. *C. J. Dorer. diags Am Mach* 57:583 O 12 '22
 K-N laying out and drilling machine. *il Am Mach* 57:508 S 28 '22; *Mach* 29:156 O '22
 Locating racks in a milling machine vise. *R. A. Follensby. diags Am Mach* 57:895 D 7 '22
 Making and using a prick-punch indicator. *J. V. Romig. diags Mach* 29:561-2 Mr '23
 Société Gènevoise locating and jig-boring machines. *il Am Mach* 59:385-6 S 6 '23
 Spacing small holes accurately. *G. W. Nussbaum. il Am Mach* 58:771 My 24 '23
 Spotting for drilling. *G. Allen. il Am Mach* 58:882 Je 14 '23

See also Centering; Centering machines

Location of electric plants. *See* Electric plants (central stations)—Location**Location of factories.** *See* Factories—Location**Location of stores.** *See* Stores (retail trade)—Location**Lockouts.** *See* Strikes and lockouts**Locks**

Time combination lock. *il Sci Am* 125A:139-40 D '21

Locks (hydraulic engineering)

Comparaison entre les portes roulantes et les portes glissantes pour la fermeture des grandes écluses maritimes. *A. Bijls. diags Génie Civil* 82:419-21 My 5 '23

Construction methods and plant on the Marseilles lock. *il diags plans Eng N* 89:962-5 D 7 '22

Construction operation on the Marseilles lock of the Illinois waterway. *il Eng & Contr* 56:565-7 D 21 '21

Dock and lock machinery. *W. H. Hunter. 207p Van Nostrand '22; Review. Engineering* 113:206-7 F 17 '22

Essais de résistance et d'élasticité du terrain de fondation de la nouvelle écluse maritime d'Ymuiden (Hollande). *A. Bijls. diags Génie Civil* 82:490-2 My 26 '23

First lock being built for Illinois waterway. *il Pop Mech* 37:255-6 F '22

Lift locks on the Canal du Centre, Belgium. *diags Engineer* 132:208-9, 218 Ag 26 '21; *Same. Eng & Contr* 56:515-17 N 30 '21

Locks, elevators and inclined planes. *Engineering* 136:39 JI 13 '23; *Engineering* 116:42-3 JI 13 '23

Meuse lock on the Meuse-Waal canal. *L. R. Wentholt. il diags maps plans Engineer* 134:235-8, 261-4 S 8-15 '22

Södertälje canal lock. *il diags map Engineering* 116:225-8, 240 Ag 24 '23

Some notes on the location and construction of locks and movable dams on the Ohio river, with particular reference to Ohio river dam no. 18. *W. M. Hall. il diags maps Am Soc C E Pro* 48:3-42 Ja '22; *Discussion. 48:731-6, 1003-13, 1275-96, 1705-9; 49:770-9 Mr-My, O '22, Ap '23*

Les travaux de canalisation de la Meuse néerlandaise; construction des bajoyers de la nouvelle écluse de Linne. *A. Bijls. il diags Génie Civil* 81:296-9 S 30 '22

XIII^e Congrès international de navigation. *F. Barrillon. diags Génie Civil* 83:273-5 S 22 '23

Unusual lift-locks proposed for Rhine-Danube divide. *il diags Eng N* 89:754-6 N 2 '22
 When the canal barge takes the elevator; lift locks. *il diags Sci Am* 129:18 JI '23

Control

L'équipement électrique des écluses du canal du Rhin à Herne (Westphalie). *G. Mesnard. diags plan Génie Civil* 79:413-15 N 12 '21

Locomotive bells

Friction stop for locomotive bells. *W. Ichler. il diags Ry Mech Eng* 96:571 O '22

Locomotive boiler explosions

Buxton explosion. *Engineer* 133:185-6 F 17 '22
 Buxton locomotive explosion; report. *diags Engineering* 133:189-91 F 17 '22; *Discussion. 133:220, 249 F 24-Mr 3 '22*

Locomotive boiler explosion at Buxton. *Engineering* 112:759-60; 113:11, 204-5 D 2 '21, Ja 6, F 17 '22; *Engineer* 132:684 D 23 '21

Locomotive boiler explosions. *Engineer* 132:565-6 N 25 '21

Locomotive explodes with unusual violence while standing on a siding at Egypt, Miss. *il Pop Mech* 37:907 Je '22

Report on locomotive boiler explosion. *A. G. Pack. Ry R* 73:531 O 13 '23

Locomotive boilers

Analysis of the railway boilermaker's trade. 24p U.S. Federal board for vocational education, Washington '21

Combustion chamber boilers. *Ry Mech Eng* 97:620 S '23

Current problems in boiler design and maintenance; report of the A.R.A. committee. *diags Ry R* 70:987-91 Je 24 '22

Determining water readings in locomotive boilers. *W. Hall. il diags Ry Mech Eng* 97:750 N '23

Effect of circulation on locomotive boiler efficiency. *F. G. Lister. Ry R* 70:787-90 Jè 3 '22

Important factors in design of locomotive boilers. *J. T. Anthony. Ry Mech Eng* 95:683-4 N '21

Installation pour la vidange et le remplissage des chaudières de locomotives. *diags Génie Civil* 80:236-7 Mr 11 '22

Installing and maintaining charcoal iron locomotive boiler tubes. *G. H. Woodroffe and C. E. Lester. il diags Ry Mech Eng* 96:221-5, 274-3 Ap-My '22; *Same cond. Ry R* 71:306-11 S 2 '22

Need for better boiler circulation. *C. A. Seley. Ry R* 71:17-18 JI 1 '22

Locomotive boilers—Continued

- New measuring stick for locomotive boiler proportions. C. A. Seley. Ry R 71:892-7 D 23 '22; Same cond. Ry Age 71:189-92 Ja 13 '23; Abstract. Mech Eng 45:190 Mr '23
- Patterns for heavy sheet metal work by computation. W. Neubecker. diags Sheet Metal Worker 14:721-2 O 12 '23
- Six-roll superheater flue expander. Ry Mech Eng 95:768 D '21
- Some notes on boiler circulation; abstracts. C. A. Seley. il Ry R 72:578-80 Mr 31 '23; Ry Mech Eng 97:271-3 My '23
- Use of Illinois waters in Wabash locomotive boilers. O. W. Carrick. Am Water Works Assn J 9:906-12; Discussion. 912-16 N '22

See also Feed water heaters; Feed water purification; Locomotive fireboxes; Locomotive grates

Cleaning

- Locomotive washing-out plant for the Italian state railways. diags Engineering 115:42-4 Ja 12 '23

Washing out locomotive boilers. A. Wrench. diags Ry Mech Eng 97:300 My '23

Explosions

See Locomotive boiler explosions

Firing

- Firing of locomotives. J. F. Cosgrove. 7 pt. Technical bk. pub. co., Scranton, Pa. '21
- Firing practice; abstract of report to International railway fuel association. il Ry Mech Eng 96:509 S '22
- Is mechanical firing reducing the cost of train operation. Ry Mech Eng 97:89-91 F '23

Repair

- Autogenous welding not a divine healer. il Ry R 70:785-7 Je 3 '22
- Electrically safe ending boiler tubes. J. J. Sullivan. il plan Ry Mech Eng 96:154-5 Mr '22
- Methods of welding safe ends on locomotive boiler tubes; report of Master boiler makers' association. Ry Mech Eng 95:711-12 N '21

Patching of locomotive boilers. A. Wrench. diags Engineering 114:102-3 Jl 28 '22; Same. Ry Mech Eng 96:714-16 D '22

See also Locomotive shops; Railroads—Shops

Locomotive cabs**Lighting**

- Report on locomotive and car lighting. Ry Age 74:1655-6 Je 23 '23; Same. Ry Mech Eng 97:471-2 Jl '23; Excerpt. Ry R 72:1155-6 Je 30 '23

Locomotive engineers

- Are the railway engineers of today as able and efficient as those of yore; views of a typical group of railroad men. Ry R 71:631-3 N 4 '22

See also Traveling engineers' association

Locomotive feed water. *See* Feed water purification

Locomotive fire doors

- Automatic fire door for locomotives. il Pop Mech 37:193 F '22

Locomotive fireboxes

- Development of a practical water tube locomotive firebox. D. L. Kiss. il diags Ry R 70:900-8 Je 17 '22
- European view of steel vs. copper fireboxes. P. Conté. diag Ry Mech Eng 95:685-7 N '21
- Renewing fireboxes at Sayre. il Ry Mech Eng 96:324 Je '22
- Stresses in the firebox crown stays of locomotive boilers. Engineering 113:514-15 Ap 28 '22

Locomotive firemen

- What instruction can do for firemen. J. F. Cosgrove. Ry R 70:724-5 My 20 '22

Locomotive grates

- Franklin power grate shaker improvements. diag Ry Age 74:1486 Je 16 '23

- Front-ends, grates and ashpan; report at the International railway fuel association convention. Ry Age 72:1237-8 My 27 '22
- Service of Hulson grates on the Wabash. il Ry Age 72:975-6 Ap 22 '22; Same. Ry Mech Eng 96:255-6 My '22

Locomotive headlights

- Effect of design on headlight maintenance. R. W. Cargo. il Ry Age 73:31-2 Jl 1 '22
- Headlight for mine service made bump-, dust-, moisture- and jolt-proof. il Coal Age 22:990 D 21 '22
- Locomotive headlight with sealed metal reflector. il Ry Mech Eng 97:722 O '23
- Polarity, composition of electrodes and adjustments for luminous arc headlights. Coal Age 23:820 My 17 '23
- Report of the A.R.A. committee on headlights and classification lamps. Ry R 70:996-7 Je 24 '22
- When headlight meets headlight. Ry Age 73:703-4, 784 O 14, 28 '22

Locomotive industry

See also Baldwin locomotive works

Statistics

- Locomotive market in quiescent state during 1921. F. W. Kraeger. il Ry Age 72:124-6 Ja 7 '22
- Locomotives in 1921. il (supp) diags Engineer 133:10-12, 14 Ja 6 '22

France

- What is happening to the locomotive industry of France? H. Obermeyer and A. L. Greene. il Am Mach 58:77-80 Ja 11 '23

Germany

- German locomotive industry. H. Obermeyer and A. L. Greene. il Am Mach 58:835-40 Je 7 '23

Great Britain

- Future of the British locomotive trade. E. L. Ahrons. Engineer 133:350-1 Mr 31 '22

Locomotive inspection, Bureau of. *See* Interstate commerce commission—Bureau of locomotive inspection

Locomotive shops

- Burlington builds new locomotive shops. il diag plan Ry Age 75:611-15 O 6 '23
- Locomotive scheduling at the Silvis shops. I. W. Chubb. il chart Am Mach 58:941-2 Je 28 '23
- Erecting shop practice at Battle Creek. M. H. Westbrook. il diags Ry Mech Eng 97:581-51 Ag '23
- Erie improves its erecting shops at Hornell, N.Y. il diags Eng N 90:952-3 My 31 '23
- Expediting enginehouse work at Hoboken. il diag Ry Mech Eng 96:301-1 Je '22
- High points at Reading locomotive shops. il diags Ry Mech Eng 96:465-9, 523-6 Ag-S '22
- How locomotives are repaired on Ford's railway. F. H. Colvin. il diags Am Mach 58:133-6, 179-83 Ja 25-F 1 '23
- How one road recovered from the shop strike: C. & A. shops. Ry Age 74:1439-40 Je 16 '23
- How to reduce time required for repairs. F. Koop. Ry R 73:606-7 O 27 '23
- Locomotive scheduling at the Silvis shops. L. C. Bowes, H. K. Robinson and G. F. Sandstrom. il Ry Mech Eng 97:417-18, 579-81, 643-5, 699-700, 767 Jl-N '23
- Modern medium-size shop at Cheyenne. il plans Ry Mech Eng 97:325-33 Je '23
- Money saved by milling keyways; with cost tables. M. J. Rogers. il Ry Mech Eng 96:157-8 Mr '22
- New Burlington locomotive shop at Denver. A. H. Ostberg. Ry Age 74:1647-9 Je 23 '23; Same, with plans. Ry Mech Eng 97:485-9 Jl '23
- New Mallet shop at Port Covington, Baltimore has interesting features. il plan Ry Age 74:1511-13 Je 23 '23
- New shops for the Burlington at Denver. diags plan Ry R 71:611-13 N 4 '22
- Ordnance plant makes locomotive repairs. il plan. Ry Mech Eng 97:615-18 S '23; Same abr. Ry Age 75:591-3 S 29 '23

Locomotive shops—Continued

Overcoming an objectionable column where crane service was desired. N. McCleod. *diags Ry Mech Eng 95:713-14 N '21*

Practical methods for planning work; repairing locomotives and freight cars in quantities. W. B. Ferguson. *il Management & Adm 6:185-90 Ag '23*

Repair shop of the M. K. T. at Waco, Tex. has all facilities under one roof. *il diag map plan Ry Age 74:1419-22 Je 16 '23; Ry R 73:1-6 Jl 7 '23*

Report on shops and engine terminals. Ry Age 74:1639-46 Je 23 '23; Same. *Ry Mech Eng 97:477-84 Jl '23; Abstract. Ry R 72:1151-3 Je 30 '23*

Santa Fe completes modern shops at Albuquerque. *il diag plans Ry Age 73:237-42 Ag 5 '22*

Santa Fe Ry. has large steel-frame shop with glass walls. *il plans Eng N 89:12-15 Jl 6 '22*

Shop arrangement to minimize delays. F. Fernstrom. *Ry R 73:607-8 O 27 '23*

Standardization of locomotive repair parts. M. H. Williams. *il diags Ry Mech Eng 97:341-7, 581-3, 645-7 Je. Ag. S '23*

Straight line method for locomotive shops. L. Richardson. *il charts plan Ry R 73:339-45 S 8 '23; Same. Ry Age 75:767-70 O 27 '23; Same. Ry Mech Eng 97:714-18 O '23; Discussion. Ry Age 75:897-8, 1046 N 17, D 8 '23*

What a small shop means at engine terminal; results obtained by the C. M. & St P. H. W. Williams. *diags Ry Age 74:1441-3 Je 16 '23*

See also Locomotive terminals; Locomotives—Repair; Railroads—Shops

Accounting

Cost system of locomotive brake repairs. W. H. Clegg. *Ry Mech Eng 97:763-7 N '23*

Equipment

Automatic telephone expedites communication at large locomotive shops. *il Ry Age 74:1007-8 Ap 21 '23*

Conveniently located lye vat. *il diags Ry Mech Eng 97:183-4 Mr '23*

Erecting shop practice on the Southern Pacific. H. C. Venter. *il diags Ry Mech Eng 97:654-8 S '23*

Locomotive shop served by 180-ton crane. M. K.-T. R.R. *il diags plan Eng N 91:762-4 N 8 '23*

Shop improvements under way at Richmond Hill. *il diags Ry Mech Eng 97:179-82 Mr '23*

Standard tool gages. R. D. Fletcher. *il diags Ry Mech Eng 97:705-6 O '23*

Three locomotive shop devices. E. A. Miller. *diags Ry Mech Eng 95:702 N '21*

Tool maintenance and standardization. O. D. Kinsey. *Ry R 73:608-9 O 27 '23*

Locomotive smoke. See Locomotives—Smoke problem

Locomotive sparks

Fire losses, locomotive sparks. L. W. Wallace. 203p Barr-Erhardt press, New York '23

Locomotive tenders

Arc-welded locomotive tender underframe. *il Engineer 133:580 My 26 '22*

Tender booster increases tonnage 31 per cent. *il diags Ry Age 74:1433-6 Je 16 '23; Same. Ry Mech Eng 97:409-12 Jl '23*

Tender tractor—a new booster development. *il diags Ry R 72:1000-9 Je 16 '23*

Springs

Volute journal box springs. *il diag Ry Mech Eng 96:561 O '22*

Locomotive terminals

Are there too many idle locomotive hours? *Ry R 70:413-15 Mr 25 '22; Discussion. 71:10-12 Jl 1 '22*

Canadian National increases facilities at Moncton. S. B. Wass. *diag map Ry Age 73:463-6 S 9 '22; Same. Eng & Contr 58:267-9 S 20 '22*

Change in engine districts improves operation. *il map Ry Age 75:661-3 O 13 '23*

Design of railway locomotive terminals. W. T. Krausch. *W Soc E J 28:386-90; Discussion. 390-4 S '23*

Drop pits at terminals on the South African railways. J. D. Rogers. *il Ry Mech Eng 95:677-8 N '21*

Engineering requirements of a locomotive terminal. W. T. Krausch. *Ry R 72:495-9 Mr 17 '23; Same. Eng & Contr (Ry) 59:891-6 Ap 18 '23; Same cond. Ry Age 74:807-8 Mr 24 '23*

Erie builds new enginehouse at Jersey City, N.J. *il diags plan Ry Age 73:877-81 N 11 '22*

Gravity freight yard at Canton, Ohio; W. & L. E. Ry. *diags plan Eng N 90:746-9 Ap 26 '23*

Innovation in locomotive terminal design. *diags plans Ry Age 74:281-4 Ja 27 '23; Same. Ry Mech Eng 97:113-16 F '23*

Is this the answer to the locomotive terminal problem? *diags plans Ry R 72:176-83 Ja 27 '23; Discussion. G. W. Armstrong. 72:552 Mr 24 '23*

Locomotive terminals: mechanical department requirements. L. K. Silcox. *W Soc E J 28:379-85 S '23; Same. Ry Age 74:759-62 Mr 17 '23; Same. Ry R 72:490-5 Mr 17 '23; Same cond. Ry Mech Eng 97:233-6 Ap '23*

New engine terminal facilities for the Pere Marquette railway, at Saginaw, Mich. *il diags plans Ry R 69:783-9 D 10 '21*

New locomotive facilities at Clifton Forge, Va. *il diags Ry Age 72:955-8 Ap 22 '22*

New York Central engine terminal at Syracuse. *il diags plans Ry Mech Eng 96:474-7 Ag '22*

Operating requirements of a locomotive terminal. R. N. Begien. *Ry Age 74:762-5 Mr 17 '23; Same. Ry R 72:486-90 Mr 17 '23; Same. Eng & Contr (Ry) 59:1128-33 My 16 '23; Same. W Soc E J 28:373-8 S '23*

Report on shops and engine terminals. *Ry Age 74:1639-46 Je 23 '23; Same. Ry Mech Eng 97:477-84 Jl '23; Excerpts. Eng & Contr (Ry) 60:595-601 S 19 '23; Abstracts. Ry R 72:1151-3 Je 30 '23; Eng N 91:424-5 S 13 '23*

Requisite facilities for a locomotive terminal. P. L. Mullen. *Ry R 72:112-14 Ja 13 '23*

Shop and terminal construction in 1922. *Ry Mech Eng 97:80-1 F '23*

Southern Pacific builds unique engine houses. *diags Ry Age 73:105-6 Jl 15 '22*

Terminal engineering of the past year. *il plan Ry R 72:430-45 Mr 10 '23*

Unusual ash pits feature new engine terminal of the New York Central at Solvay. *il diags plans Ry Age 73:154-9 Jl 22 '22*

See also Ash pits; Locomotive shops; Roundhouses

Equipment and supplies

Plan for locomotive terminal equipment trust. *Ry R 72:901-2 My 26 '23*

Locomotive works

Germany's great locomotive works: the Borsig organization and methods. G. L. Carden. *Iron Age 110:1623-4 D 21 '22*

Scotswood locomotive works: Sir W. G. Armstrong, Whitworth and co. *il Engineering 113:371 Mr 24 '22*

See also Baldwin locomotive works

Locomotives

American locomotives a success in France. M. Lunier. *il Ry Age 75:679-80 O 13 '23; Same. Ry Mech Eng 97:679-80 O '23*

American locomotives for the Manila railroad. *il Ry Age 72:387-8 F 11 '22*

American locomotives for the Philippines. *il Ry R 69:756-9 D 3 '21*

Are we due for a radical change in locomotive construction? A. F. Stuebing. *Ry Age 74:323-5 F 3 '23; Same. Ry Mech Eng 97:154-6 Mr '23*

As to the locomotive—what next; abstracts. G. M. Basford. *diags Ry Age 74:553-8 Mr 10 '23; Ry R 72:403-6 Mr 10 '23; Ry Mech Eng 97:212-16 Ap '23*

Baldwin locomotives on Brazilian engineering project. *il Ry R 71:370-1 S 16 '22*

Les bogies et la suspension des locomotives à grande vitesse. Génie Civil 80:189-90 F 25 '22

Locomotives—Continued

- Bogies (trucks), axles and springs of locomotives; abstracts of reports presented at the International railway congress. Engineering 113:546-7 My 5 '22; Engineer 133:405 Ap 14 '22
- Canadian National Mountain type locomotive. C. E. Brooks. *il Ry Age* 75:203-5 Ag 4 '23; Same. *Ry Mech Eng* 97:554-7 Ag '23
- Catalogue of the mechanical engineering collection in the United States National museum. C. W. Mitman. (Bul. 119) 118p Smithsonian institution, Washington '22
- Characteristics of three-cylinder locomotives. F. Meineke. *diags Ry Mech Eng* 96:617-19 N '22; Discussion. H. Holcroft. 97:5-6 Ja '23
- Chinese government railways; heavy gradient haulage on the Peking-Suiyuan railway. *il Engineer* 135:34-5, 42 Ja 12 '23
- Condensing and utilisation of exhaust steam in locomotives. *diags Engineer* 135:279-81, 303-4 Mr 16-23 '23
- Consolidation locomotive for the Polish State railways. J. Dabrowski. *il Ry Mech Eng* 97:623 S '23
- Consolidation type for both freight and passenger service. G. Bulkeley. *il diags Ry R* 71:779-83 D 2 '22
- Essentials of progressive motive power policy. G. M. Basford. *Ry Age* 72:177-80 Ja 14 '22; Same. *Ry Mech Eng* 96:71-4 F '22; Excerpts. *Ry R* 70:43-8 Ja 14 '22
- Factors in the business of owning locomotives. C. B. Peck. *Ry Age* 72:471-4 F 25 '22; Same. *Ry Mech Eng* 96:135-8 Mr '22; Same cond. *Ry R* 70:270-4 F 25 '22
- Fifty more new freight locomotives for the Southern Pacific. *il Ry R* 70:897-900 Je 17 '22
- Foreign railway practice (new features in railway traction methods); abstracts. M. J. Carlier. Engineering 113:651 My 26 '22; Engineer 133:582 My 26 '22
- Four-cylinder 4-6-0 type locomotive; Great Western railway. *il diag Engineering* 116:236 Ag 24 '23; Engineer 136:197, 202 Ag 24 '23
- 4-6-2 type passenger locomotive for the Great Northern railway. *il diags Engineering* 113:454-6 Ap 14 '22
- French records for weight per locomotive horsepower. *il Ry Age* 73:617-18 S 30 '22
- Garratt articulated locomotives. *il Ry Age* 74:959-60 Ap 14 '23; Same. *Ry Mech Eng* 97:276 My '23
- Great Northern railway—Pacific type passenger engine. *il diag Engineer* 133:412-13, 416 Ap 14 '22
- Has the steam locomotive reached its limit of size for ordinary uses; views of a typical group of railroad men. *Ry R* 71:597-8 O 28 '22
- Heavy Mallet locomotive for Peking-Suiyuan. *il diags Ry Mech Eng* 96:305-7 Je '22
- How far can a locomotive jump? F. W. Wilson. *il Pop Mech* 38:674-6 N '22
- Improved Mikado for the Michigan Central. *Ry R* 70:910-11; 71:117-18 Je 17, Jl 22 '22; *Ry Age* 73:171-2 Jl 22 '22; *Ry Mech Eng* 96:437-8 Ag '22; *Mech Eng* 44:617 S '22
- International railway association; economic production and use of steam in locomotives. Engineer 133:391-2, 134:324 Ap 7, S 29 '22
- Is the steam locomotive out of date? L. G. Coleman. *Ry R* 72:107-10 Ja 13 '23; Same. Eng & Contr (Ry) 59:457-60 F 21 '23
- L. and N.E.R.—three-cylinder locomotive—details. *diags (supp) Engineer* 135:452 Ap 27 '23
- Largest locomotive ever exported. *diags Ry R* 70:909-10 Je 17 '22
- Latest locomotive types for the Erie R. R. *il Ry R* 72:986-8 Je 16 '23
- Locomotive catechism. R. Grimshaw. 30th ed., rev. and enl. 958p Henley '23
- Locomotive development. S. M. Vauclain. *Ry R* 70:sup39-40 Je 10 '22
- Locomotive improvements. G. M. Basford. *Ry R* 70:sup40-2 Je 10 '22
- Locomotive types from a transportation viewpoint. J. F. Porterfield. *Ry R* 70:565-6 Ap 22 '22; Same. *Ry Age* 72:976 Ap 22 '22
- Locomotives for Brazilian centennial exhibition. *il Ry Age* 74:467-8 F 24 '23
- Locomotives for the Andalucés railway of Spain. *il Ry Age* 71:1323-4 D 31 '21
- Locomotives of 1922. *il (supp) diags Engineer* 135:4-6 Ja 5 '23
- Monster locomotive pivots on front truck. *il Pop Mech* 40:29 Jl '23
- Mountain and Mikado types for the Frisco. *il diags Ry Mech Eng* 97:357-9 Je '23; Same, without diags. *il Ry Age* 74:1207-8 My 19 '23
- New Baldwin locomotives for short line railroads. *il Ry R* 70:213-14 F 18 '22
- New Baltic tank locomotives. *diags (supp) Engineer* 134:502 N 10 '22
- New locomotive specialties developed on the Union Pacific. *diags Ry R* 71:73-6 Jl 15 '22
- New locomotives for the Northern Pacific. *il diags Ry Mech Eng* 95:679-81 N '21
- New motive power for railways of Mexico. *il Ry Age* 71:937-9 N 12 '21
- New 180-ton passenger locomotives for the New Haven. W. J. Clardy. Elec Ry J 61:412 Mr 10 '23
- New York Central three-cylinder locomotive. *il Ry Mech Eng* 97:743-4 N '23; Same. *Ry Age* 75:821-2 N 3 '23; Discussion. *Ry Mech Eng* 97:795-6 D '23
- Notable shipment of locomotives. *il Locomotive* 34:111-12+ O '22
- Nouvelles locomotives Pacific, à deux cylindres, simple expansion et surchauffe, de la Compagnie des chemins de fer du Midi. *diags Génie Civil* 80:282 Mr 25 '22
- 0-10-0 type locomotive for Russia. *il Engineering* 112:695, 698 N 18 '21
- 0-12-0 type locomotives for Bulgarian State Rys. D. L. Kiss. *il Ry R* 73:126-7 Jl 28 '23
- Old British-Canadian locomotive. *il Engineer* 134:349 O 6 '22
- Pacific type for passenger and fast freight; latest design for Atlantic Coast Line. *il Ry Age* 73:947-8 N 18 '22; Same abr. *Ry R* 71:704-5 N 18 '22
- Powerful Consolidation locomotive for the L. & N.E. *il Ry Age* 73:1197-3 D 23 '22; Same. *Ry Mech Eng* 97:7-8 Ja '23
- Practical example of carbon-vanadium steel use. R. J. Finch. *il diags Ry R* 73:532-4 O 13 '23
- Present-day working of the locomotive department of a railway, from the commercial and financial aspect. R. H. Whitelegg. Engineering 114:753-6 D 15 '22
- R. W. Thomson and road locomotion. R. E. Crompton. Engineer 133:670-1 Je 16 '22
- Railway electrification. V. L. Raven. Engineering 113:25-6, 39-43, 48, pl 2 Ja 6-13 '22; Same cond. Engineer 132:673-4, 711-13 D 23-30 '21; Same cond. Elec R (Lond) 89:906-7; 90:27-9 D 30 '21-Ja 6 '22; Abstract. Electricity 88:10-11 Ja 6 '22; Discussion. Engineer 132:700 D 30 '21
- Railway electrification and Garratt locomotives. *il Engineer* 133:188-9 F 17 '22
- Recent locomotive practice on the Caledonian railway. E. C. Poultney. *il diags (supp) Engineer* 132:474-6, 499-500, 501 N 4-11 '21
- Recent tendencies in locomotive development. R. C. Augur. *il Ry Age* 72:49-50 Ja 7 '22
- Reducing locomotive fire hazards. *Ry Mech Eng* 96:131-2 Mr '22
- Report on locomotive construction. *Ry Age* 74:1591-5 Je 23 '23; Same. *Ry Mech Eng* 97:503-7 Jl '23; Discussion. *Ry Age* 74:1595-1600 Je 23 '23; Same. *Ry Mech Eng* 97:507-12 Jl '23
- Report on locomotive design and construction. *Ry R* 72:1158-63 Je 30 '23
- Rock Island mountain type handles heavy train. *il Ry Age* 71:1187-8 D 17 '21
- 73-year-old locomotive in service in England. Eng & Contr 57:591 Je 21 '22
- Simple Mallet type locomotives for the C. & O. *Ry diag Ry R* 72:645-6 Ap 14 '23
- Six-coupled tank locomotives for India. *il diags Engineer* 136:172-3 Ag 17 '23
- Six recent locomotives for American railways. *il Am Mach* 59:510-11 O 4 '23
- Some recent developments in locomotive construction. G. Greenough. *Ry R* 71:897-8 D 23 '22
- Some representative Mikado type locomotives built in 1922. *Ry R* 72:139-41 Ja 20 '23

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- Southern railway (S.E. and C.) three-cylinder locomotive. *il* diags Engineer 135:200-1 F 23 '23
- Standard 2-10-0 freight locomotive for German railways. D. L. Kiss. *il* diags Ry R 72:34-8 Ja 6 '23
- Superheater tank locomotives in suburban service. F. W. Brewer. Engineer 135:255-6 Mr 9 '23
- Super-locomotive with the latest improvements. *il* Sci Am 127:385 D '22
- Tank engines of the Paris-Orleans railway. *il* Engineer 136:236 Ag 31 '23
- 3-cylinder Mikado—newest German type. *il* diags Ry R 72:757-60 My 5 '23
- Three notable locomotives which mark the trend of railroading. *il* Sci Am 129:15 J1 '23
- Timothy Hackworth and the locomotive. R. Young. Engineer 133:251-2 Mr 3 '22; Discussion. 133:279, 296, 330 Mr 10-24 '22
- Tractive power of Mallet locomotives. Ry Age 74:1591-2; Discussion. 1595-6 Je 23 '23; Same. Ry Mech Eng 97:503-4, 507-8 J1 '23; Same cond. Ry R 72:1163 Je 30 '23
- Train of locomotives half a mile long. *il* Pop Mech 38:165 Ag '22
- Transport and its indebtedness to science. H. Fowler. Engineering 116:378-9; Discussion. 361-2 S 21 '23
- 2-8-2 type locomotives for the Nickel Plate. *il* diags Ry Age 71:1002-3 N 19 '21; Same. Ry Mech Eng 95:737-8 D '21
- Types of freight locomotives ordered in 1922. Ry Mech Eng 97:208 Ap '23
- Ultimate locomotive. Ry R 71:349-50, 601 S 9, O 28 '22
- Una-flow locomotive—a practical possibility. J. Stumpf. *il* diags Ry R 71:333-8 S 9 '22
- Veteran locomotive. *il* Sci Am 129:239 O '23
- Which is most interesting to railroad men today—car or locomotive design; views of a typical group of railroad men. Ry R 71:868-71 D 16 '22
- Willamette geared locomotives. *il* Ry Age 74:809 Mr 24 '23
- World's largest passenger locomotives. *il* Pop Mech 39:694 My '23

See also Electric locomotives; Locomotive boilers, and other headings beginning Locomotive; Motor cars (railroad); Railroads; Railroads—Rolling stock; Roundhouses; Steam engines; Stokers, Mechanical; Tractors; *also* Railway and locomotive historical society

Axles

- Deflection testing of locomotive axles; universal 100-ton testing machine. *il* Engineer 134:279-80 S 15 '22
- Manufacturing car and locomotive axles. N. S. Frohman. *il* Am Mach 57:473-7 S 28 '22

Blower system

- Steam required in a blower line in a railroad roundhouse. Heat & Ven 19:48-9 Ja '22

Boosters

- Booster for tender trucks developed on D. & H. *il* charts Ry Age 73:145-7 J1 22 '22; Same. Ry Mech Eng 96:441-3 Ag '22
- Booster locomotives; utilisation of the main engine's exhaust steam. C. R. King. Engineer 136:403 O 12 '23
- Booster on English passenger power. *il* Ry R 75:236-7 Ag 18 '23
- Boosters for locomotives. *il* Engineer 135:419-20 Ap 20 '23
- Delaware & Hudson tests a new locomotive booster. Eng N 91:13 J1 5 '23
- Dynamometer tests of the locomotive booster. *il* charts Ry Age 73:511-14 S 16 '22; Same. Ry Mech Eng 96:562-5 O '22
- New booster suspension and locomotive trailing truck. *il* diags Ry R 72:205-9 F 3 '23
- Tender booster increases tonnage 31 per cent. *il* diags Ry Age 74:1433-6 Je 16 '23; Same. *il* Mech Eng 97:409-12 J1 '23
- Tender tractor—a new booster development. *il* diags Ry R 72:1000-9 Je 16 '23

See also Locomotives—Starting

Cleaning

- Development of mechanical handling devices in Germany during and since the war. G. F. Zimmer. diags Eng & Ind Management 6:645-6 D 1 '21

Cost of operation

- Distribution of power; its effect on operating costs. Ry Age 73:901-2 N 11 '22; Same. Ry R 71:650-1+ N 11 '22; Same. Ry Mech Eng 96:689-91 D '22
- Is mechanical firing reducing the cost of train operation; abstracts. Ry Age 73:902-4 N 11 '22; Ry R 71:656-8 N 11 '22
- Operating results show savings by rebuilt power. H. F. Grewe. *il* Ry Age 72:423-4 F 18 '22

Counterbalancing

- Development of counterbalancing in British locomotive practice. F. W. Brewer. Engineer 133:298, 300 Mr 17 '22

Crossheads

- Babbitting crosshead shoes. diags Ry Mech Eng 97:772-3 N '23
- Lathe dog or driver for crosshead pins. diags Ry Mech Eng 97:711-12 O '23
- Machining crosshead shoes. C. F. Henry. diags Am Mach 58:850-1 Je 7 '23
- Milling forty driving-box wedges in eight hours. F. H. Colvin. *il* diags Am Mach 59:183-4 Ag 2 '23
- Rogatchoff adjustable crosshead. *il* diag Ry Age 71:1276 D 24 '21; Ry R 70:309-11 Mr 4 '22
- Unique type of crosshead for heavy locomotives. *il* diags Ry Mech Eng 97:268-70 My '23
- Use and abuse of the crosshead key. W. O. Moody. Ry R 73:12-13 J1 7 '23

Cut-off

- Cut-off control in operation on the Big Four. E. S. Pearce. Ry R 70:295-6 Mr 4 '22
- Cutoffs with varying valve travels. R. Grimshaw. diag Power 56:892 D 5 '22
- Operation of automatic locomotive cut-off control. *il* diags Ry R 72:677-90 Ap 21 '23
- Waste of steam with extremely long cut-off. P. D. Anderson. diag Ry Mech Eng 96:496 S '22

Design

- Adhesion and rack locomotive for Sumatra. S. Abt. *il* diags plan Ry Age 72:263-6 Ja 28 '22; Same. Ry Mech Eng 96:127-30 Mr '22
- Alloy steel reduces weight of locomotive parts. R. J. Finch. diags Ry Mech Eng 96:569-71 O '22
- British and American locomotive design and practice. P. C. Dewhurst. diags Engineering 113:373-7, 405-8 Mr 24-31 '22; Abstract. Engineer 133:335-6 Mr 24 '22; Discussion. Engineering 113:366-8, 398-401 Mr 24-31 '22; Engineer 133:321-2, 356, 357-8, 377-8 Mr 24- Ap 7 '22
- C. B. & Q. R. R. mountain type locomotive designed to burn lignite. *il* (supp) diags Ry R 72:992-9 Je 16 '23
- Design for an express locomotive. diags Engineer 135:429, 506-7, 532-3, 660 Ap 20, My 11-18, Je 22 '23
- Design of engine and tender drawbars. H. J. Coventry. Ry Mech Eng 97:87-9 F '23
- Design of segmental and sector counterbalance weights. E. L. Coster. diags Mech Eng 45:611 O '23
- Designing locomotives for economical operation. J. Partington. *il* Ry Age 71:899-903 N 5 '21; Same. Ry Mech Eng 95:673-7 N '21; Same. Engineering 112:743-5 N 25 '21; Same. Engineer 133:446-7 Ap 21 '22; Same cond. Ry R 69:599-602 N 5 '21; Same abr. Mech Eng 43:729-30 N '21; Discussion. Ry Age 71:1151-2 D 10 '21; Ry Mech Eng 96:18-20 Ja '22; Engineer 133:477, 618-19, 690; 134:33-4 Ap 22, Je 2, 23, J1 14 '22
- 4-8-2 type locomotive for the Denver and Rio Grande Western railroad. diags Engineering 116:23-7. pl 1-3 J1 6 '23
- G.N.R. three-cylinder Pacific locomotive; drawings, diags plan (supp) Engineer 135:90, 92 Ja 26 '23

Locomotives—Design—Continued

- Heavy Mikado type locomotives for D. L. & W. il diags Ry Age 74:311-13 Mr 3 '23; Same. Ry Mech Eng 97:142-5 Mr '23; Same cond. Mech Eng 45:311-12 My '23
- Hungarian railways adopt advanced locomotive design. D. L. Kiss, il diags plan Ry R 70:287-91 Mr 4 '22; Abstract. Mech Eng 44:324 My '22
- Improvements in locomotive design. A. Gore. Mach 28:305 D '21
- Locomotives for the Chemins de fer du Midi. diags Engineering 114:360-2, pl 27 S 22 '22
- Marking another milestone in locomotive design; Rock Island mountain type locomotives. J. T. Anthony, il Ry R 69:789-91 D 10 '21
- Michigan Central Mikado has many special features. il diags Ry Age 73:411-15 S 2 '22; Same, with diags. Ry Mech Eng 96:497-501 S '22
- Mikado locomotives for the Lehigh Valley. il diags Ry Mech Eng 97:739-42 N '23
- Modern tendencies in locomotive design. J. Partington. Ry Age 72:909-10 Ap 15 '22; Same. Ry R 70:533-4 Ap 15 '22; Same. Ry Mech Eng 96:251-2 My '22; Discussion. Ry Age 72:910 Ap 15 '22; Ry Mech Eng 96:252 My '22
- Most powerful Mikados on the Lackawanna railroad. il (supp) diags Ry R 72:279-86 F 17 '23
- Mountain type locomotive for high capacity. il diags Ry Mech Eng 96:380-5 JI '22
- New booster suspension and locomotive trailing truck. il diags Ry R 72:205-9 F 3 '23
- Operating capacity increased with modern motive power; new locomotives of Missouri and Northern Pacific roads. il diags Ry R 69:817-24 D 17 '21
- Operation of automatic locomotive cut-off control. il diags Ry R 72:677-90 Ap 21 '23
- Outside dry pipe and locomotive throttle design. il diags Ry R 72:294-5 F 17 '23
- Passenger locomotive design breaks record for size in 1922. il (supp) diags Ry R 72:25-33 Ja 6 '23
- Passing of the cross-compound. il diags Ry R 70:264-5 F 25 '22
- Pennsylvania ten-wheel passenger locomotive. il diags Ry Age 75:859-60 N 10 '23
- Possibilities for improvement in locomotive design. A. H. Fetter. Ry R 73:7-8 JI 7 '23
- Recent and future locomotive design in New South Wales. E. E. Lucy. Engineer 134: 681 D 29 '22
- Recent developments in the unfallow locomotive. il diags Ry Age 72:1727-30 Je 24 '22; Same. Ry Mech Eng 96:247-50 My '22
- Recent tendencies in British locomotive practice. E. C. Poultney, il diags Ry Mech Eng 96:677-82; 97:9-12 D '22-Ja '23
- Reconstructing the Pennsylvania L1S locomotive from a fragment. L. H. Fry. diags Ry Mech Eng 96:20-1 Ja '22
- Shay geared locomotives for mountain roads. il diags Ry Age 71:1209-10 D 17 '21; Same. Ry Mech Eng 96:75-6 F '22
- Some important innovations in new Lima Mikado locomotive. il diags Ry R 71:302-6 S 2 '22
- Suggested design for a 4,000 h.p. passenger locomotive. H. A. F. Campbell. diags Ry Age 75:707-8 O 20 '23
- Three-cylinder locomotive for Spanish railways. il diags (supp) Engineer 133:134-6 F 3 '22
- Three-cylinder locomotive for Spanish service. il diags plan Ry Mech Eng 96:445-9 Ag '22
- Union Pacific mountain type locomotive no. 7000. il (supp) diags Ry R 70:815-25 Je 10 '22; Ry Age 72:1325-9 Je 10 '22
- Year of innovations in locomotive design. A. F. Stuebing. il Ry Age 74:41-3 Ja 6 '23

Dictionaries

- Locomotive cyclopedia of American practice. 6th ed. 1155p Simmons-Boardman pub. co. New York, Chicago '22

Draft

- Drafting the locomotive. T. E. Stuart. diags Ry Mech Eng 97:201-3 Ap '23

- Mechanical drafting of locomotives; with discussion. F. H. C. Coppus. diags Ry Mech Eng 97:14-18 Ja '23; Same cond. Ry Age 73: 1099-1102 D 9 '22; Same cond. Ry R 71:809-13 D 9 '22

- New induced draft arrangement for locomotives. il diags Ry Mech Eng 97:141-2 Mr '23

Draft regulators

- Draft regulator and low degree superheater. Ry Age 74:1622 Je 23 '23; Same. Ry Mech Eng 97:523 JI '23
- Stannard draft regulator. J. H. Stannard. sr. diags Ry R 70:725-6 My 20 '22

Driving boxes

- Casting crown brasses and hub plates in place. F. H. Colvin. il Am Mach 59:479-80 S 27 '23; Discussion. 59:729-31 N 15 '23
- Driving box of correct mechanical design. il diags Ry R 73:507-9 O 6 '23
- Driving boxes machined in record time at Atlantic City. il Ry Mech Eng 96:409-10 JI '22
- Locomotive driving box with adjustable bearing. diags Ry Mech Eng 96:685-6 D '22
- Service tests of adjustable driving box. il Ry Mech Eng 97:778 N '23
- Some unusual applications of Franklin automatic wedges. diags Ry Age 74:1474 Je 16 '23; Same. Ry Mech Eng 97:594 Ag '23

Equipment and supplies

- Combination top check and bell stand. il diags Ry R 71:764-5 N 25 '22
- Current questions of locomotive design and equipment; report of committee on locomotive construction of the A.R.A. Ry R 70: 982-7 Je 24 '22
- Design and performance of locomotive feed water purifiers. D. L. Kiss, il diags Ry R 72:333-9 F 24 '23
- Front-ends, grates and ashtrays; report at the International railway fuel association convention. Ry Age 72:1237-8 My 27 '22
- Locomotive service tests on the N. C. & St. L., engine with Nicholson thermic syphons. il Ry Age 74:1425-6 Je 16 '23; Same. Ry Mech Eng 97:619-20 S '23
- Open type system of locomotive feed water heating. il diags Ry R 69:898-902 D 31 '21
- Les réchauffeurs de l'eau d'alimentation des locomotives. il diags Génie Civil 80:320-4 Ap 8 '22
- Réchauffeurs d'eau d'alimentation et pompes alimentaires pour locomotives, système Weir. il diags Génie Civil 80:473-4 My 27 '22
- Spark arresters for smokeboxes of wood-burning locomotives. H. Da Costa. diags Ry Mech Eng 96:257 My '22
- Steam desaturators applied to Hungarian motive power. D. L. Kiss, il diags Ry R 71: 475-9 O 7 '22; Excerpt. Mech Eng 44:841-2 D '22
- Teloc locomotive speed indicator and recorder. il diags Engineering 113:131-3 F 3 '22
- Thermic syphons save 19 per cent in fuel. il Ry Age 72:977-8 Ap 22 '22; Same cond. Ry R 70:522-4 Ap 15 '22
- Why mechanical men object to modernizing motive power. F. P. Roesch. Ry R 69:291-2 S 3 '21; Discussion. 69:683-4, 836-7 N 19, D 17 '21

See also Feed water heaters; Injectors; Locomotive boilers; Locomotive fireboxes; Locomotive grates; Locomotive headlights; Locomotives—Blower system; Locomotives—Boosters; Locomotives—Gearing; Locomotives—Superheaters; Railroads—Track sprinklers; Stokers, Mechanical; Tachograph

Failures

- L'accident du chemin de fer de Versailles, le 8 mai 1842. C. Fremont. il Génie Civil 80:403-4 My 6 '22
- Broken axle. Engineer 135:476 My 4 '23
- East Horndon locomotive failure. Engineer 133:698-9 Je 23 '22
- Locomotive inspection bureau submits annual report. Ry R 70:127-31 Ja 28 '22; Ry Age 72:331-3 F 4 '22; Ry Mech Eng 96:63-5 F '22

Locomotives—Failures—Continued

Why engines fail. F. C. Pickard. Ry R 70: 681-3 My 13 '22; Abstract. Engineering 115: 112-13 Ja 26 '23

See also Locomotive boiler explosions

Feed water connections

Flexible pipe feed water connections between engine and tender. diags Ry Age 72:1070 My 6 '22; Same. Ry Mech Eng 97:423 Jl '22

Frames

Frame making and repairing. C. H. Nutter and others. diags Ry Mech Eng 97:648-50 S '23

High-test vanadium steel locomotive frames. il Ry Age 74:1477-8 Je 16 '23

Fuel

Advantages of oil as fuel for locomotives. Ry Age 75:527 S 22 '23

Boiler design and other fuel efficiency factors. F. G. Lister. diags Ry R 70:5-8 Ja 7 '22

C. B. & Q. R. R. mountain type locomotive designed to burn lignite. il (supp) diags Ity R 72:992-9 Je 16 '23

Cold weather practices related to fuel conservation. W. E. Dunham. il Ry R 72:550-2 Mr 24 '23; Same. Ry Mech Eng 97:210-11 Ap '23

Economic aspect of the fuel oil situation. C. E. Beecher. Ry Age 75:352-3 Ag 25 '23

Economy of hot water washout plant. C. C. Lance. Ry Mech Eng 96:121-2 Mr '22

Educational work for fuel economy. D. C. Buell. Ry Mech Eng 96:628 N '22

Effect of grade on locomotive coal consumption. G. S. Chiles. Ry R 69:715-19 N 26 '21

Effect of tonnage rating and speed on fuel consumption. J. E. Davenport. Ry R 70: 777-82 Je 3 '22; Same. Ry Age 73:71-5 Jl 8 '22; Same. Ry Mech Eng 96:565-9 O '22

Fuel and locomotive performance on the Central of Georgia. Ry Age 72:479-80 F 25 '22; Same. Ry Mech Eng 96:196 Ap '22

Fuel oil advantage over coal in locomotives. J. N. Clark. Nat Pet N 14:75-+ N 29 '22

Has fuel efficiency increased on the railroads since federal control; views of railroad and supply men. Ry R 72:858-60 My 19 '23

How the Wabash railroad is organized for fuel economy. J. B. Hurley. Ry R 70:705-8 My 20 '22

Importance of oil as fuel for railroads on the Pacific coast. J. C. Martin, jr. J Elec 48: 313 Ap 15 '22

Incentives for promoting fuel economy. O. S. Beyer, jr. Ry Age 72:1290 Je 3 '22

Keen competition key to fuel economy on N. C. & St L Ry. J. B. Hill. il Ry R 70: 701-5 My 20 '22

Liquid fuel in locomotives; abstract of report at the International railway congress. H. Fowler. Engineer 133:435-6 Ap 21 '22; Engineering 113:609 My 19 '22

Locomotive fuel, the life blood of transportation. G. M. Basford. Ry Mech Eng 96: 389-93 Jl '22; Same. Ry R 73:387-91 Ag 26 '22; Excerpts. Ry R 70:782-5 Je 3 '22

Operating and maintaining oil burning locomotives. Ry Age 72:1187-8 My 20 '22

Operating and maintaining oil-burning locomotives; abstracts of report. Ry Age 73:949-50 N 18 '22; Ry R 71:705-6 N 18 '22; Ry Mech Eng 96:688-9 D '22

Pulverized coal for locomotives in Japan. il Ry Age 75:161-2 Jl 28 '23

Railway fuel—a reducible 13% of operating costs. J. Kruttschnitt. Ry R 72:877-84 My 26 '23; Excerpts. Ry Age 74:1277-80 My 26 '23

Some fuel determinations made on locomotives operated by the Southern Pacific system. A. H. Babcock. diags Am Inst E E J 42:335-42 Ap '23; Same. Ry Age 74:1053-5, 1099-1102 Ap 28-Me 5 '23; Same. Ry R 72: 841-7 My 19 '23; Same. Ry Mech Eng 97:265-7, 347-50 My-Je '23; Same cond. Elec Ry J 61:770-2 My 5 '23; Same. Eng & Contr (Ry) 59:1370-5 Je 20 '23; Discussion. Am Inst E E J 42:1198-1202 N '23; Elec W 81:1023-4, 1149 My 5, 19 '23

L'utilisation des combustibles sur les chemins de fer. Génie Civil 80:449-53 My 20 '22

Value of individual fuel performance records.

L. G. Plant. Ry R 72:952-9 Je 9 '23; Same cond. Ry Age 74:1333-5 Je 2 '23; Excerpts. Ry Mech Eng 97:564 Ag '23

Variations in fuel consumption per net ton mile. F. L. Hutchins. Ry R 71:51-2 Jl 8 '22

Gearing

All-service locomotive power reverse gear. il diags plan Ry Age 73:1051-2 D 2 '22; Ry R 71:743-6 N 25 '22; Ry Mech Eng 97:56-8 Ja '23

Design poppet-valve gear for locomotives. il Pop Mech 38:361 S '22

Lenz oil transmission gear for locomotive work. diags Engineer 132:660-1 D 16 '21

History

From 1834 to 1923 in locomotive history. il Ry R 73:155-8 Ag 4 '23

History of locomotive development. S. M. Vaulchain. il diags Ry Age 74:1573-6 Je 23 '23; Same. Ry Mech Eng 97:519-22 Jl '23; Same abr. Ry R 72:1065-70 Je 23 '23

Interesting link in the history of the American locomotive. F. W. Brewer. il Engineer 134:90 Jl 28 '22

Locomotive development. il Ry R 70:sup27-30 Je 10; sup 24-6 Je 17; sup 22-4 Je 24 '22

Railway pioneers, an account of the inventions and works of Isaac Dodds and his son Thomas Weatherburn Dodds, by S. Snell. Review. Engineer 133:274-5 Mr 10 '22

Some historical notes on the early locomotives in America. il Locomotive 34:9-19+ Ja '22

Inspection

I.C.C. finds only 4 per cent of locomotives inspected unsafe. Ry Age 73:428 S 2 '22

Locomotive inspection bureau submits annual report. Ry R 70:127-31 Ja 28 '22; Ry Age 72:331-3 F 4 '22; Ry Mech Eng 96:63-5 F '22

See also Electric locomotives, Mine—Inspection; also Interstate commerce commission—Bureau of locomotive inspection

Lubrication

Air motor grease gun. B. C. Bertram. diags Ry Mech Eng 96:599 O '22

Flange oilers reduce rail and tire wear. diags Ry R 71:654-6 N 11 '22

Hydrostatic and force feed lubrication for cylinders and steam chests. Ry Age 74: 1593; Discussion. 1597-8 Je 23 '23; Same. Ry Mech Eng 97:505, 509-10 Jl '23; Abstract. Ry R 72:1159 Je 30 '23

Lubrication of locomotives. E. L. Ahrons. 192p Locomotive pub. co., London '22

Mechanical locomotive lubricator. il diags Ry Age 74:821 Mr 24 '23; Same. Ry Mech Eng 97:246-7 Ap '23

National graphite locomotive lubricator. diags Ry Age 74:1486-7 Je 16 '23

Present lubrication methods faulty. J. J. Hennessy. il Ry Age 72:487-9 F 25 '22

Manufacture

Century of locomotive building by Robert Stephenson and co., 1823-1923, by J. G. H. Warren. Review. Engineer 136:426-8 O 19 '23

Effect of superheated steam on non-ferrous metals used in locomotives. H. Fowler. il Engineering 114:374 S 22 '22; Same. Metal Ind 20:461-2 D '22; Abstract. Brass W 18: 291 O '22; Abstract. Mech Eng 44:833-4 D '22

First locomotive works in Poland. J. Dabrowski. il plan Ry Mech Eng 96:547 S '22

Grinding locomotive parts. diags Mach 29:694 My '23

Machine tools for locomotive work. C. D. Andrew. Engineer 135:96-7 Ja 26 '23

Short histories of famous firms; Messrs. Edward Bury and co. (afterwards Bury, Curtis and Kennedy), Clarence Foundry, Liverpool. E. L. Ahrons. il diags Engineer 135:111-14 F 2 '23

Short histories of famous firms; R. and W. Hawthorn, Leslie and co., limited, Newcastle-on-Tyne. E. L. Ahrons. il diags Engineer 134:29-31 Jl 14 '22

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Short histories of famous firms; Sharp, Stewart and co., limited, originally of Manchester, later of Glasgow. *il* *Engineer* 136:194-7, 231-2 Ag 24-31 '23
 Short histories of famous firms; the Yorkshire engine company, limited, Meadow Hill works, Sheffield. E. L. Ahrons. *il* *Engineer* 134:160-1 Ag 18 '22

See also Locomotive works

Models

Model steam locomotives, their details, and practical construction. H. Greenly. 311p Cassell & co., London, New York '22

Operation

Are there too many idle locomotive hours? Ry R 70:413-15 Mr 25 '22; Discussion. 70:637; 71:10-12 My 6, Jl 1 '22
 Avoidable waste in the operation of locomotives and cars; abstracts. W. Elmer. *il* Ry R 69:746-52 D 3 '21; Ry Age 71:1081-4, 1149-50 D 3-10 '21; Mech Eng 44:93-7; Discussion. 97-8 F '22
 Despatch board gives effective control of locomotives and crews. *il* Ry Mech Eng 97:175-6 Mr '23
 Economic operation of superheater locomotives. F. W. Brewer. *Engineer* 132:598-9 D 2 '21
 Economy of hot water washout plant. C. C. Lance. Ry Mech Eng 96:121-2 Mr '22
 An everyday run with the new Hanna type H-2 stoker. *il* Ry R 70:51-3 Ja 14 '22
 Handling locomotives on descending grades. A. G. Newell. *diag* Ry Mech Eng 96:132-5 Mr '22
 Locomotive loadings for railway bridges. D. B. Steinman. *Am Soc C E Pro* 48:1043-73, pl 11-19 My '22; Abstract. Eng & Contr 58:175-8 Ag 23 '22; Discussion. *Am Soc C E Pro* 48:1675-1704 O '22
 Locomotive management; break-downs and their cures. D. R. MacBain. 263p Britton ptg. co., Cleveland '23
 Locomotive stoker as an operating factor. F. P. Roesch. Ry R 69:685-7 N 19 '21
 Maximum speed at which rated tractive force can be developed. E. L. Coster. Ry Mech Eng 97:150-1 Mr '23
 Suggestions for improving operating methods. J. J. Bernet. Ry Age 74:327; Discussion. 327-8 F 3 '23
 Why a detailed accounting for idle locomotive hours is not justified. J. Kruttschnitt. Ry R 70:636 My 6 '22

Performance

Effect of grade on locomotive coal consumption. G. S. Chiles. Ry R 69:715-19 N 26 '21
 Glasgow and South-Western railway Baltic type tank engines. *il* *Engineer* 133:660-1, 668 Je 16 '22
 How the Wabash railroad is organized for fuel economy. J. B. Hurley. Ry R 70:705-8 My 20 '22
 Increasing efficiency of modern locomotives; discussion by the Mechanical division. Ry Age 74:1622-4 Je 23 '23; Same. Ry Mech Eng 97:523-5 Jl '23
 Increasing the average mileage of locomotives. C. F. Giles. Ry Age 74:1601-2 Je 23 '23; Same. Ry R 73:9-10 Jl 7 '23; Same. Ry Mech Eng 97:513-14 Jl '23; Discussion. Ry Age 74:1602-6 Je 23 '23; Ry Mech Eng 97:514-18 Jl '23
 Keen competition key to fuel economy on N. C. & St L. Ry. J. B. Hill. *il* Ry R 70:701-5 My 20 '22
 Locomotive power. E. C. Poultney. *Engineer* 134:248-50 S 8 '22
 Locomotive practice and performance in France. J. T. Burton-Alexander. *Engineer* 136:119-20, 143-5, 178-9 Ag 3-17 '23
 Mortality table for the steam locomotive. F. H. Adams. Ry R 73:423 S 22 '23
 Moving 6,700 cars daily over the Alleghenies; difficult operating conditions on Pennsylvania system met by Decapod freight locomotives. *il* *maps* Ry Age 74:1089-93 My 5 '23
 Performance of locomotive 7000 on the Union Pacific. *il* Ry R 71:511-14 O 14 '22

Possibilities for improvement in locomotive performance. W. L. Robinson. Ry R 73:8 Jl 7 '23

Service records to U.P. mountain type locomotives. *il* Ry Age 73:687-9 O 14 '22; Same. Ry Mech Eng 96:615-17 N '22

Some fuel determinations made on locomotives operated by the Southern Pacific system. A. H. Babcock. *diags* *Am Inst E E* J 42:335-42 Ap '23; Same. Ry Age 74:1053-5, 1099-1102 Ap 28-My 5 '23; Same. Ry R 72:841-7 My 19 '23; Same. Ry Mech Eng 97:265-7, 347-50 My-Je '23; Same cond. Elec Ry J 61:770-2 My 5 '23; Same. Eng & Contr (Ry) 59:1370-5 Je 20 '23; Discussion. *Am Inst E E* J 42:1198-1202 N '23; Elec W 81:1023-4, 1149 My 5, 19 '23

See also Locomotives—Boosters; Locomotives—Runs

Reconstruction

Rebuilding old locomotives for New England lines. C. B. Smith. Ry R 69:868-70 D 24 '21

Repair

Advisability of heavy repairs in roundhouse. H. H. Stewart. Ry R 73:605-6 O 27 '23
 Application of the welding torch to railroad repairs. *il* *Am Mach* 57:444-8 S 21 '22
 Autogenous welding. W. F. Keller and A. W. Young. Ry Mech Eng 97:651-3 S '23
 Handling locomotives at engine houses. J. P. Gundaker. Ry Mech Eng 96:197 Ap '22
 I. C. reports on outside locomotive repairs. Ry Age 72:867-72 Ap 8 '22
 Locating centers for shoes and wedges. T. E. Paradise. *diags* Ry Mech Eng 97:769-71 N '23
 Quality and cost of railroad repairs. W. Ichler. *Mach* 28:977 Ag '22
 Railroads approach 15 per cent unserviceable locomotive goal. Ry Age 75:170-1 Jl 28 '23
 Repair jobs in a railroad shop. S. A. Hand. *il* *diags* *Am Mach* 58:213-15 F 8 '23
 Repairing a broken locomotive cylinder. F. M. A'Hearn. *diag* *Am Mach* 57:194-5 Ag 3 '22
 Repairing locomotives in a machine-tool shop. *il* *Am Mach* 58:393-6; 59:11-13, 317-19 Je 21, Jl 5, Ag 30 '23
 Repairing locomotives in a Milwaukee shop. H. Campbell. *il* *Am Mach* 57:909-13 D 14 '22
 Shipyards repairing locomotives. H. R. Simmonds. *il* *Iron Tr R* 72:1449-52 My 17 '23; Same. *Marine R* 53:283-6 Jl '23
 Time for performing machining operations on locomotive parts; tabulation of records of seven railroads. E. K. Hammond. *Mach* 28:558-9 Mr '22
 Welding practice on the Southern Pacific. H. J. McCracken and F. J. Hickey. *il* Ry Mech Eng 97:122-5 F '23

See also Locomotive shops

Rods

Crosshead connection of piston rods. Ry Age 74:1595 Je 23 '23; Same. Ry Mech Eng 97:507 Jl '23; Abstract. Ry R 72:1162 Je 30 '23; Discussion. Ry Age 74:1600 Je 23 '23; Same. Ry Mech Eng 97:512 Jl '23
 Effect of oxy-hydrogen cutting on locomotive rods. A. F. Pitkin. *il* *Am Mach* 55:964-5 D 15 '21
 Extended piston rods. Ry Age 74:1592-3 Je 23 '23; Same. Ry R 72:1158-9 Je 30 '23; Same. Ry Mech Eng 97:504-5 Jl '23; Discussion. Ry Age 74:1596-7 Je 23 '23; Ry R 73:13-15 Jl 7 '23; Ry Mech Eng 97:508-9 Jl '23
 Floating bushes for locomotive connecting coupling rods. *diags* *Engineering* 113:388-9 Mr 31 '22
 How locomotive rods are tested and machined at Lima. *il* Ry R 71:231-3 Ag 19 '22
 Locomotive connecting-rod failures. *Engineering* 114:464-5 O 13 '22
 Milling locomotive main rods. *il* *Mach* 29:98-101 O '22
 Modern methods of machining connecting and side rods. *il* *Am Mach* 59:324-6 Ag 30 '23

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Runs

- Economy of long locomotive runs. Ry Age 75: 482-4 S 15 '23; Same. Ry Mech Eng 97:682-4 O '23
- Extending locomotive runs on the Santa Fe. J. N. Nicholson. il Ry R 73:83-8 Jl 21 '23; Same cond. Ry Age 71:1602-5 Je 23 '23
- Extension of locomotive runs. C. B. Peck. Ry Age 74:1282-5 My 26 '23
- Intensive locomotive operation. Engineering 115:778-9 Je 22 '23
- Long locomotive runs a feature of the N.C. & St. L. Ry. operation. J. J. Sullivan. il Ry R 73:233-6 S 8 '23
- Long locomotive runs on the Union Pacific R. R. O. S. Jackson. Ry R 73:10-12 Jl 7 '23; Same. Ry Age 74:1605-6 Je 23 '23
- Where the longest locomotive runs are being made. chart Ry R 72:101-6, 133-8 Ja 13-20 '23
- Why longer locomotive runs? Ry R 71:629-30 N 4 '22

Sand boxes

- Improvement of sand boxes used on locomotives. il Pop Mech 38:117 Jl '22

Smoke problem

- Effect of locomotive smoke on trainmen in railroad tunnels. Monthly Labor R 17:709-11 S '23
- Locomotive smoke consumer of Canadian design. il Pop Mech 37:605 Ap '22
- Smokeiest locomotives made smokeless. il Pop Mech 37:161-2 F '22
- Tests of gas masks and respirators for protection from locomotive smoke in railroad tunnels with analyses of tunnel atmospheres. A. C. Fieldner, S. H. Katz and S. P. Kinney; il U S Bur Mines Tech Pa 292:1-27 '22; Abstract. Ry R 71:658-62 N 11 '22

Specifications

- New specifications for locomotive steel castings; report of joint committee of the A.R.A. and A.S.T.M. Ry R 71:19-21 Jl 1 '22

Standards

- Standard designs for Indian locomotives. H. L. Cole. il diags Ry Age 73:299-302 Ag 12 '22
- Standardization of locomotive repair parts. M. H. Williams. il diags Ry Mech Eng 97: 341-7, 581-3, 645-7 Je, Ag-S '23

Starting

- Street locomotive starter designed to eliminate taking slack. diags Ry R 71:613-15 N 4 '22; Same. Ry Age 73:858-9 N 4 '22; Same. Ry Mech Eng 96:724-6 D '22

Statistics

- Number of locomotives. Engineer 135:615 Je 8 '23

- Trend in the condition of motive power. Published monthly in the Railway review

Superheaters

- Device for testing superheater units and air reservoirs. il Ry Mech Eng 97:359-60 Je '23
- Economic operation of superheater locomotives. F. W. Brewer. Engineer 132:598-9 D 2 '21
- Production of steam on locomotives; reports at the International railway congress. Engineering 113:608-9 My 19 '22
- Safe ends on superheater tubes. Ry Mech Eng 97:565 Ag '23

Testing

- Dr. Goss on locomotive testing plants. il diags Ry R 70:sup27 Je 17 '22
- Dynamometer car test on the N.C. & St. L. Ry. il charts Ry R 73:521-6 O 13 '23
- Dynamometer tests of the locomotive booster. il charts Ry Age 73:511-14 S 16 '22; Same. Ry Mech Eng 96:562-5 O '22
- Locomotive service tests on the N. C. & St. L.; engine with Nicholson thermic syphons. il Ry Age 71:125-6 Je 16 '23; Same. Ry Mech Eng 97:619-20 S '23

- Locomotive test plant work at Purdue. diag plan Ry R 71:340 S 9 '22
- Locomotive testing laboratory. R. H. Moulton. il Mach 3:6 S '23
- Locomotive testing with a piano. Sci Am 127: 95 Ag '22
- Operation of automatic locomotive cut-off control. il diags Ry R 72:677-90 Ap 21 '23
- P.R.R. testing plant. W. A. Smith. il Ry R 70:sup24-5 Je 24 '22
- Test code for locomotives. Mech Eng 45:602-10+ O '23
- Testing locomotive appliances at Readville. il Ry Mech Eng 96:161-2 Mr '22
- Thermic syphons save 19 per cent in fuel. il Ry Age 72:977-8 Ap 22 '22; Same cond. Ry R 70:522-4 Ap 15 '22
- See also Electric locomotives—Testing

Valves and valve gear

- Angularities in Young valve gear. H. Cornell. il diags Ry Mech Eng 97:231-2 Ap '23
- Caprotti locomotive valve gear. il diags Engineering 115:222-3, pl 35 Ap 27 '23
- Correcting valve setting saves \$20 per trip. Ry Mech Eng 96:315-16 Je '22
- Front-end locomotive throttle valve. diags Ry Age 74:384-6 F 10 '23; Same. Ry Mech Eng 97:244-5 Ap '23
- Handling locomotives on descending grades. A. G. Newell. diag Ry Mech Eng 96:132-5 Mr '22
- Hardened steel valve seat liners. diag Ry Mech Eng 96:256 My '22
- Lentz valve as a factor in locomotive design. D. L. Kiss. il diags Ry R 73:225-33, 269-75 Ag 18-25 '23
- Making cylinder cock valves. il Ry Mech Eng 97:718 O '23
- Method of laying out Walschaert valve gear. J. J. Jones. diags Ry Mech Eng 95:744-7 D '21
- Pilliod sleeve valve performance on the Monon R. R. il diags Ry R 72:988-92 Je 16 '23
- Ripken automatic steam drifting valve. il diags Ry R 70:1032-1032a Je 24 '22
- Safety locomotive ash pan blow-out valve. il Ry Mech Eng 96:109-10 F '22
- Setting valve gears of the radial type. S. P. Kennedy. il diags Ry Mech Eng 97:701-4 O '23
- Some defects of piston valve designs. T. E. Stuart. diags Ry Mech Eng 96:329 Je '22
- Standardization of locomotive repair parts. M. H. Williams. il diags Ry Mech Eng 97: 341-7, 581-3, Je, Ag '23
- Steam distribution in the locomotive. G. H. Hartman. diags Mech Eng 44:801-6 D '22; Same cond. Ry R 71:813-18 D 9 '22
- Walschaert valve gear adapted to inside cylinder locomotives. il diags Engineering 115: 596 My 11 '23
- Walschaert valve gear with variable lead. il diags Ry Mech Eng 96:187-8 Ap '22

Weight

- Relation of weight of rail to weight of locomotives. J. S. Robinson. Ry R 69:864-5 D 24 '21; Same abr. Eng & Contr 57:68 Ja 18 '22

Wheels

- Jig for pouring bronze hub liners on engine truck wheels. J. H. Hahn. il diags Ry Mech Eng 96:409 Jl '22
- Measuring locomotive and car wheel loads. il Ry Mech Eng 95:722 N '21
- Measuring the load on locomotive wheels. il Sci Am 127:310 N '22
- Rolled steel trailer wheels for locomotives. il diags Ry Age 72:571-2 Mr 11 '22; Same. Ry Mech Eng 96:189-90 Ap '22
- See also Tires, Locomotive
- Locomotives, Compressed air
- France makes much use of compressed-air locomotives in coal mines. F. P. Mann. il Coal Age 22:581 O 12 '22
- Locomotive compound à air comprimé, système Penault. il diags Génie Civil 80:551-2 Je 17 '22

Locomotives, Gas and oil

- Are we due for a radical change in locomotive construction? A. F. Stuebing. Ry Age 74:323-5 F 3 '23; Same. Ry Mech Eng 97:154-6 Mr '23
- Brookville gasoline locomotives. Pub Works 54:8 Ja '23
- Direct-drive Diesel engine. il Sci Am 127:310-11 N '22
- French petrol locomotive. il diag Engineer 133:476 Ap 28 '22
- Gasoline switching locomotive with hydraulic drive. il diags plan Ry Age 73:323-6 Ag 19 '22; Same. Ry Mech Eng 96:503-6 S '22; Excerpts. Mech Eng 44:666-7 O '22
- High power internal combustion locomotives. J. S. Tritton. diags Ry R 73:197-9 O 6 '23
- Internal-combustion locomotive. C. S. Darling. Engineering 115:299 Mr 9 '23
- Locomotive à essence, système Vernot, pour la manœuvre des wagons. il diag Génie Civil 82:446-8 My 12 '23
- Locomotive à essence de 60 chevaux, des usines Renault. il diag Génie Civil 80:226-7 Mr 11 '22
- New gasoline locomotive. il Iron Age 109:712 Mr 16 '22
- New seven-ton gasoline locomotive. il Iron Age 110:1629 D 21 '22
- Possibilities of the Diesel locomotive. Ry Mech Eng 96:120-1, 201 Mr-Apr '22
- Practical and powerful gasoline switch locomotive. L. C. Josephs, jr. il diags Ry R 70:82-4 Ja 21 '22
- Small gasoline locomotive built for industrial and plant service. il Iron Tr R 70:1340 My 11 '22

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- Atlas-Cletrac industrial locomotive. il Am Mach 56:906 Je 15 '22
- Locomotive à essence de 60 chevaux, des usines Renault. il diag Génie Civil 80:226-7 Mr 11 '22
- Small gasoline locomotive built for industrial and plant service. il Iron Tr R 70:1340 My 11 '22

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Locomotives, Mine

- Adapting the tractor to mine haulage. il Coal Age 21:169 Ja 26 '22
- Cost and track data and other facts relating to upkeep of mine-locomotive wheels and tires. il diags Coal Age 22:395-9 S 14 '22
- Determining proper mine locomotive for specific service. G. Bright. Eng & Min J 114:904-5 N 18 '22
- France makes much use of compressed-air locomotives in coal mines. F. P. Mann. il Coal Age 22:581 O 12 '22
- Gasoline locomotive with tractor type of motor having clarified air supply. il Coal Age 22:240 Ag 17 '22
- Grid resistors for mine locomotives and their care. H. H. Johnston. diags Coal Age 20:876-7 D 1 '21
- How locomotives may be made to gather more cars. F. C. Cornet. diags plan Coal Age 21:921-2 Je 1 '22
- Locomotive compound à air comprimé, système Renault. il diags Génie Civil 80:551-2 Je 17 '22
- Midjet mine locomotive. diags Eng & Min J 115:827 My 5 '23

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Inspection

- Using proper inspection and repair forms, no detail is likely to be overlooked. H. H. Johnston. Coal Age 21:245 F 9 '22

Lubrication

- Advice as to the lubrication of the ball bearings of mine-locomotive motors. E. Ashworth. Coal Age 21:49 Ja 12 '22

Repair

- Maintenance and repair methods in the shops of the Consolidation coal co. at Jenkins, Ky. A. F. Brosky. il diag Coal Age 23:513-18 Mr 29 '23

- Renewing worn tires on mine locomotives. Coal Age 21:660 Ap 20 '22

Locomotives, Steam turbine

- Axial-flow Ljungström turbine. diags Power 37:229-30 F 6 '23
- Early steam turbine locomotive. il diags Engineering 112:723, 730 N 25 '21
- Effect of power plant practices on locomotive design. Ry Mech Eng 96:555, 623-8 O-N '22
- First steam turbine locomotive. il diag Ry Mech Eng 96:69-70 F '22
- Ljungström turbine-driven locomotive. diags Ry Age 73:561-6 S 23 '22; Same abr. Ry Mech Eng 96:557-61 O '22
- Ljungström turbine locomotive. il diags Engineering 114:64-70, 131-3, 163-8, 198-203, pl 8, 13-15 Jl 21, Ag 4-18 '22
- Ljungström turbine locomotive ordered for the Argentine State railways. Ry Mech Eng 97:557 Ag '23
- La Locomotive à turbine, système Ljungström, des Chemins de fer l'Etat suédois. il Génie Civil 83:13-14 Jl 7 '23
- Turbine-driven locomotive cuts coal consumption in half. G. F. Paul. il l'op Mech 39:165-6 F '23
- Turbine locomotive saves 52 per cent in fuel. il Ry Age 72:1295-6 Je 3 '22; Same. Ry Mech Eng 96:386 Jl '22
- Turbo-condensing locomotive development in Europe. il diags Ry R 71:201-7 Ag 12 '22
- Zoelly turbine locomotive for Swiss federal railways. Ry Age 71:1204 D 17 '21; Same. Ry Mech Eng 96:70 F '22

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- Gate lodge on estate of W. T. Hyde, Coopers-town, N.Y.: view. Am Arch 122:56h Jl 19 '22
- Mountain lodge for Paul T. Mayo, Jefferson County, Col. Am Arch 122:544h-i D 20 '22

Lodging houses

- Housing of non-family women in Chicago. A. E. Trotter. 39p Chicago community trust, Chicago '21

Loft buildings

- Gilbert building. 205 W. 39th st., New York; views and plans. Arch Forum 39:pl 53 S '23
- Unusual features of a modern loft building. il diag plans Am Arch 124:28-30 Jl 4 '23

Log washers. See Ore washing**Logarithms**

- How to use logarithms. Power 57:996-7 Je 19 '23
- Logarithms simply explained. Power 56:611-14 O 17 '22

Logging. See Lumbering**Logging congress, Pacific.** See Pacific logging congress**Logic, Mathematical**

- Foundation of human engineering. W. N. Polakov. Management Eng 4:345-8 My '23

Logs (ships)

- Chernikoff electric submerged log. il Engineer 134:308 S 22 '22
- Electric speedometer for safe ship navigation; the new electric submerged log. il Sci Am 128:377 Je '23
- New electric log fixture of ship's hull. C. Palmblad. il Pop Mech 39:403-4 Mr '23

Logwood

- Detection of natural dyes on the fibre. A. G. Whittaker. Textile Col 45:303-6 My '23
- Dyeing of cotton fabrics with logwood blue. H. Sunder. Color Tr J 13:92-6 S '23
- Mordanting wool for hematine. A. E. Craven. Color Tr J 10:263-6 Je '22
- Mordants and mordanting. J. Steelman. Textile Col 45:246-8, 250-1, 438-9 Ap, Jl '23
- Natural dyestuff industry and reserves of Latin America. O. Wilson. il Chem & Met Eng 27:598-9 S 20 '22

- New method of dyeing logwood on wool and silk. Color Tr J 10:266-7 Je '22

- Properties and application of logwood. J. F. Springer. Color Tr J 10:236-7 Je '22

- La teinture des tissus de coton en bleu au campêche. H. Sunder. Chimie & Ind 8:762-6 O '22

London, England

What happened to London. C. S. Stein. Am Inst Arch J 10:298-9 S '22

See also Electricity supply—London

Architecture

Some new buildings in London and some old ones. E. Swartwout. il plan Am Arch 122: 341-4 O 11 '22

Taller buildings for London. Am Arch 121:59-60 Ja 18 '22

See also Westminster Hall, London

Bridges

Surviving arch of old London bridge. Am Arch 122:523 D 6 '22

County hall

Electrical equipment of the London county hall. il plans Elec R (Lond) 91:151-3, 186-9 Ag 4-11 '22

Harbor

Port of London improvements. maps Engineer 136:130-1 Ag 3 '23; Engineering 116:152-3 Ag 3 '23

Recent improvements in transport facilities in the port of London. C. R. S. Kirkpatrick. Engineer 133:556-7 My 19 '22; Abstract. Engineering 113:615; Discussion. 615-16 My 19 '22

Railroads

Formal opening of Waterloo station. plans Engineer 133:336-7 Mr 24 '22

Rapid transit

First-hand observations in London. P. Wootton. Bus Transportation 2:522 N '23

How the suburban railways of London handle traffic through fog. Eng N 90:306 F 15 '23

London outlook cheerful. Elec Ry J 59:577-8 Ap 1 '22

New York, London, Paris and Berlin transit compared. D. L. Turner. map Elec Ry J 61:79-84, 153-6 Ja 13, 27 '23

Some post-war problems of transport. J. A. F. Aspinall. maps Engineering 113:569-74 My 5 '22; Same cond. Engineer 133:500-1 My 5 '22

See also London—Subways; Motor bus lines—London

Sanitary affairs

Disposal of London refuse. Engineering 112: 889-90 D 30 '21

Streets

Suggested solution of the London traffic problem. plan Engineer 134:200 Ag 25 '22

Subways

Enlargement of the City & South London railway tube. il diag Elec R (Lond) 92:524-5 Ap 6 '23

London subway construction proposed to aid unemployment. Elec Ry J 58:996 D 3 '21

London underground improvements. map Engineer 133:661-2 Je 16 '22; Elec R (Lond) 90:836-7 Je 16 '22

Trial rolling-stock for the London tube railways. il diags Engineering 115:172-3 F 9 '23; Engineer 135:144, 148 F 9 '23; Elec R (Lond) 92:219-20 F 9 '23

\$24,000,000 construction program. Elec Ry J 61:58 Ja 6 '23

See also London—Rapid transit; Subways

Water supply

Fifteen years of investigations by the laboratories of the Metropolitan water board. M. C. Whipple. Am Water Works Assn J 9:208-25 Mr '22

Littleton reservoir for the Metropolitan water board. il diags maps Engineering 114:417-19, 480-2 O 6, 20 '22; Excerpt. Eng & Contr 58:39-40 N 29 '22

New service reservoirs for London. il diags map Engineering 113:612-14, 622, 648-9 My 19-26 '22

19th annual report of the Metropolitan water board. Engineer 135:212-13 F 23 '23

Report on London water supply. Engineer 136:167-8 Ag 17 '23

London, Ontario

Topographical survey of London. Ont. D. H. Nelles. maps Can Eng 42:550-1 My 30 '22

Bridges

Broughdale provincial highway bridge, London. A. B. Crealock. il diags Can Eng 43: 569-71 N 28 '22

London Times. See Times (London)

Long Beach, California

Rapid transit

Buses handle 70 per cent of local traffic in California city of 70,000. il map Bus Transportation 1:413-15 Ag '22

Long Island, New York

Rapid transit

Two 2,200-volt single-phase railways in operation for the past seventeen years. C. R. Jones. il Elec Ry J 58:907 N 19 '21

Long Island railroad

\$84,000,000 program; 28 miles of Long Island railroad to be electrified. Elec Ry J 62:187 Ag 4 '23

41st annual report—year ended Dec. 31, 1922. Comm & Fin Chr 116:1643-4 Ap 14 '23

Long Island to improve and extend electric service. map Ry Age 73:602 S 30 '22

Reply to committee's suggestion for improving the Long Island R.R. Ry R 73:462-3 S 29 '23

\$2,000,000 elevated extension under way. Elec Ry J 60:525-6 S 30 '22

Longevity

Fight to conquer old age: the rejuvenation theory and the results achieved from it by Steinhach. J. Lachenbruch. Sci Am 128:22 Ja '23

Longshoremen

Agreement as to wages and working conditions of New York longshoremen. Monthly Labor R 14:152-3 Ja '22

Dock labour and port government. Engineering 116:436-7 O 5 '23

Labor agreements. Monthly Labor R 16:1045-6 My '23

Longshore work—Boston. Monthly Labor R 14:515 Mr '22

Longshore work—Hampton Roads and vicinity. Monthly Labor R 14:737-8 Ap '22

Longshoremen's agreements in the Portland, Me., and Hampton Roads districts and in Boston. Monthly Labor R 17:120-2 Jl '23

Ship stevedoring hazards. W. E. Welch. Safety Eng 46:179-82 O '23

Stabilizing longshore work. Monthly Labor R 15:1210-12 D '22

Workmen's compensation provisions for longshoremen. Monthly Labor R 15:152-4 Jl '22

Longview, Washington

Longview, Washington. il map Eng & Contr (Bldgs) 60:657-61 S 26 '23; Same abr. Am Ind 23:31-3 Jl '23

Looms

Blasts of compressed air replace loom shuttle. il Pop Mech 38:677 N '22

Double-lift, fine pitch jacquard. diag Textile World 61:3803 Je 24 '22

New Oerlikon geared individual drive for looms. il Electrician 88:235-6 F 24 '22

Oiling in the weave room. A. J. Ernst. Textile World 63:3683+ Je 2 '23

Tire fabric loom. diag Textile World 62:585 Jl 29 '22

Variations with bearing temperature of the energy consumed in running an unloaded loom. L. Spencer. Textile Inst J 14:T66-8 F '23; Same. Textile World 63:2481+ Ap 14 '23

Weaving machinery. L. B. Jenckes. il Mech Eng 44:375-81 Je '22

Weaving machinery and products. il Textile World 62:765+, 883+ Ag 5-12 '22

See also Shuttle box

Lord and Taylor, New York

What will it do to the rate of turnover? S. W. Reyburn. il diag System 43:301-5+ Mr '23

Lorraine

See Iron industry and trade—Lorraine;
Steel works—Lorraine

Los Angeles, California

Landing fields in vicinity of Los Angeles.
F. A. Carpenter. map Aviation 14:530-1 My
14 '23
Los Angeles—the wonder city of America. T.
A. Rickard. il Eng N 91:554-8 O 4 '23

Railroads

Another development on ruling on passenger
terminal. Elec Ry J 61:58 Ja 6 '23
Court over-rules decision of commission order-
ing construction of joint union passenger
terminal. Elec Ry J 60:1019-20 D 30 '22
Interstate commerce commission holds hear-
ing on proposed Plaza union terminal. Elec
Ry J 62:236 Ag 11 '23

Rapid transit

Efforts being made to force Los Angeles rail-
way to make extension. Elec Ry J 60:247-8
Ag 12 '22
Franchise extension sought. Elec Ry J 60:618
O 7 '22
Los Angeles board for extensions, subways
and buses. Elec Ry J 61:641-2 Ap 14 '23
Los Angeles campaign intense. Elec Ry J 61:
698 Ap 21 '23
Projected subway in Los Angeles. Elec Ry
J 59:753 My 6 '22
Railway and bus companies apply for rights.
Elec Ry J 61:735-6, 779 Ap 28-May 5 '23
Railways answer board; Los Angeles lines
offer plans for improvements costing
\$6,000,000 to better service. Elec Ry J 61:
661-2 Ap 14 '23
Subway plan revised. Elec Ry J 62:575 O 6
'23
Titanic struggle being waged for Los Angeles
franchise. Bus Transportation 2:153-4 Mr
'23
Traffic survey in Los Angeles. map Elec Ry
J 62:770-3 N 3 '23
\$25,000,000 project proposed. map Elec Ry J
61:575 Mr 31 '23

Sewerage

Los Angeles outfall sewer. Pub Works 54:
232-3 Jl '23
Los Angeles sewage disposal plans assuming
final form. W. T. Knowlton. Eng N 90:1000-1
Je 7 '23
Los Angeles sewage problem again to the
front. Eng N 88:618-19 Ap 13 '22
New outfall sewer and sewage-works prog-
ress at Los Angeles. Eng N 89:1116 D 28 '22
Plan 30 miles of sewers to relieve Los
Angeles. Eng N 89:80 Jl 13 '22
To vote on \$12,800,000 bonds for Los Angeles
outfall sewer. Eng N 88:843 My 18 '22

Streets

Los Angeles mapped from air to aid traffic
studies. C. H. Richards. Eng N 88:961-3
Je 8 '22
Los Angeles relieves traffic congestion. diag
Elec Ry J 60:849-50 N 25 '22

Suburbs

Great city planning project on Pacific coast
near Los Angeles. C. H. Cheney. Eng N
88:1041 Je 22 '22

Water supply

Metering of Los Angeles. G. Read. Am Water
Works Assn J 9:426-35 My '22; Excerpts.
Eng & Contr 58:46-7 Jl 12 '22

Los Angeles county

Interlocking specification for the regional plan
Los Angeles county. Eng & Contr (Bldgs)
58:119-22 D 27 '22

Loth guide cable

Loth guide cable for flying in fog. il diags
Aviation 12:422-3 Ap 10 '22
Le pilotage par cable électrique, système
Loth, des navires et des aéronefs. P. Lethe-
ule. il diags Génie Civil 79:505-10 D 10 '21
Safeguarding flying during fogs or at night.
Automotive Ind 47:427 Ag 31 '22

Wireless waves guide air navigators through
night and fog. H. A. Lane. il Pop Mech 37:
329-30 Mr '22

Loud speaking apparatus. See Telephone—Loud
speaking apparatus

Louise, Lake

Sedimentation in Lake Louise, Alberta, Can-
ada. W. A. Johnston. il Am J Sci 5th ser
4:376-86 N '22

Louisiana

See also Banks and banking—Louisiana;
Housing—Louisiana

Industries and resources

Resources of the state of Louisiana. M. L.
Alexander. Am Inst Chem Eng Trans v 13
pt 2:65-74 '20-'21

See also Gas, Natural—Louisiana; Petro-
leum—Louisiana; Petroleum industry—
Louisiana; Petroleum laws and regulations
—Louisiana

Louisiana & North West railroad

Changing a road from a liability to an asset.
il map Ry Age 73:666-7 O 7 '22

Louisville, Kentucky**Rapid transit**

Bus operation well started in Louisville. il
plan Bus Transportation 2:463-5 O '23
Louisville ordinance passed. Elec Ry J 60:334
S 2 '22
Ordinance submitted includes sliding fare
scale. Elec Ry J 60:57 Jl 8 '22
Rerouting plan advanced. Elec Ry J 60:833 N
18 '22

Sewerage

Arbitration in contract practice. Eng N 90:
1030-1, 1136 Je 14, 28 '23
Louisville sewer specifications modified for
contractors. Eng N 89:268-9 Ag 17 '22; Dis-
cussion. B. L. Parker. 89:491 S 21 '22

Louisville & Nashville railroad

Grade reduction increases train loads on coal
road. il diags plans Eng N 88:952-3 Je 8 '22
Louisville & Nashville authorized to issue
stock dividend. Ry Age 74:501-2 Mr 3 '23
L. & N. moves coal in spite of obstacles. il
map Ry Age 73:557-9 S 23 '22

71st annual report—for the year ended De-
cember 31, 1921. Comm & Fin Chr 114:1663-7
Ap 15 '22

72d annual report—for the year ended Decem-
ber 31, 1922. Comm & Fin Chr 116:1545-7 Ap
7 '23

See also Carolina, Clinchfield and Ohio
railroad

Lovejoy, Jesse Robert, 1863-
Portrait. Elec W 80:590 S 16 '22

Lovett, Robert S., 1860-
Judge Lovett, chairman of Union Pacific
board. por Ry Age 75:716 O 20 '23

Low temperature. See Temperature, Low

Lowell, Massachusetts

Development of a mill city. H. C. Meserve.
Textile World 62:1997+ O 7 '22

Architecture

Memorial auditorium, Lowell, Mass. plans
Am Arch 122:452a-g, 457-9 N 22 '22

Lowell textile alumni association

24th annual meeting and reunion, Lowell,
Mass., May 12. Textile World 63:3319 My 19
'23

Lowell textile school

Commencement exercises mark 25th anniver-
sary of institution. Textile World 61:3509
Je 10 '22

Lowell textile school awards twenty-six
bachelor degrees and sixteen diplomas. Am
Dyestuff Rep 12:459-60 Je 18 '23

Loweth, Charles F., 1857-

Am. Soc. C. E. president. por Eng N 90:132
Ja 18 '23

Lubrication and lubricants

Advantages of circulating oiling systems. W.
F. Osborne. il Power 55:723-9 My 9 '22

Lubrication and lubricants—Continued

- Application of lubricants. Marine Eng 27:201-2 Mr '22
- Atomizing cylinder lubricating oil. W. F. Osborne. diags Power 56:202-3 Ag 8 '22
- Bearing lubrication is dependent upon maintenance of oil film between surfaces. diags Ind Eng 80:395-6 Ag '22
- Benzine and mineral lubricants. J. Formánek. 256p Scott, Greenwood & son, London '21
- Boundary lubrication. Engineer 136:73-4 JI 20 '23
- Boundary lubrication and chemical constitution; the optically active carbinols of the formula $C_2H_5\cdot CH(OH)\cdot C_nH_{2n+1}$. I. Doubleday. Chem Soc J 121:2875-9 D '22
- Boundary lubrication in engineering practice. T. E. Stanton. diags Engineer 135:678-80 Je 29 '23; Same abr. Inst Pet Tech J 9:260-73 Ag '23; Excerpt. Am Mach 59:353-4 S 6 '23; Excerpt. Power Pl Eng 27:948-50 S 15 '23; Abstracts, Engineering 116:35-6 JI 13 '23; Power 58:551 O 2 '23
- Care of shafts, belts and pulleys. diag Textile World 64:679+ Ag 4 '23
- Castor machine oil; composition, value as lubricant and manufacture. H. L. Kaufman. Nat Pet N 14:45+ N 22 '22
- Centrifugal removal of wax from petroleum lubricating oils. L. D. Jones. Nat Pet N 15:32a-b O 10 '23; Excerpt. Oil Paint & Drug Rep 104:21 O 22 '23
- Chemical nature of mineral lubricating oils. A. E. Dunstan and F. B. Thole. Inst Pet Tech J 7:417-21 D '21
- Compounding of lubricating oils. W. F. Osborne. Power 55:535-6 Ap 4 '22
- Consistency determination of greases. C. B. Karns and O. L. Maag. il Ind & Eng Chem 15:716 JI '23; Excerpt. Power 58:473 S 18 '23
- Contamination of lubricating oil. W. F. Parrish. Power 58:630-1 O 16 '23
- Correct oiling of refrigerating machinery. J. W. Stack. Power Pl Eng 26:1165-7 D 1 '22
- Effect of paraffin wax on the properties of mineral oils. A. P. Bjerregaard. J Ind & Eng Chem 14:215-17 Mr '22
- Electric railway lubrication. D. Treat. Elec Ry J 58:914 N 19 '21
- Escape of oil from the bearings during operation prevented by simple methods. il diags Elec R 80:251 My '22
- Fighting the friction fiend; how invention has taken advantage of the peculiarities of the lubricating film. F. Rowlinson. il diags Sci Am 128:112-13 F '23
- Finding a suitable lubricating oil for a circulating system. W. F. Osborne. il Power 56:15-16 JI 4 '22
- Fish versus mineral oil for meters. F. C. Holtz. Elec W 80:281 Ag 5 '22
- Friction and lubrication. Am J Sci 5th ser 4:75-6 JI '22
- Getting better service from lubricating oils. A. F. Brewer. diags Ind Management 65:13-18 Ja '23
- Getting the most out of lubricants. G. H. Radebaugh. il Brick & Clay Rec 61:319-22 S 5 '22
- Inspection and lubrication of freight cars. A. J. Mitchener. il Ry Mech Eng 97:281-2 My '23
- Keeping oil out of the refrigerating system. W. F. Osborne. Power 56:603-4 O 17 '22
- Laws of bearing and dry friction similar when loads are high. P. M. Heldt. diags Automotive Ind 49:573-5, 735-9, 800-1, 842-4 S 20, O 11-25 '23
- Lubricants for electric street railways; summer and winter grades. G. R. Rowland. charts Gen Elec R 24:999-1003 D '21
- Lubricants for electrical equipment. Coal Age 24:101-2 S 13 '23
- Lubricating and allied oils. E. A. Evans. 128p Dutton '21
- Lubricating devices for machine tools. F. Herkner. Eng & Ind Management 7:169 F 9 '22
- Lubricating feature added to Homestead quarter-turn valves. diags Power Pl Eng 25:1180 D 1 '22
- Lubricating oil business and the work of the lubrication engineer. W. F. Parish. Chem Age 30:61-3 F '22
- Lubricating reduction gears. W. F. Osborne. il Power 56:126-7 JI 25 '22
- Lubricating requirements of steam cylinders. W. F. Osborne. Power 56:173-4 Ag 1 '22
- Lubrication. W. F. Osborne. See weekly numbers of Power for 1922
- Lubrication and its relation to paper making. A. A. Capelle. Paper Tr J 76:193+ Ap 12 '23; Same. Paper 31:122-6 Ap 18 '23
- Lubrication and lubricants. J. H. Hyde. 114p Pitman '22
- Lubrication and lubricants. G. B. Upton. Sibley J 36:18-29+ F '22
- Lubrication and the steam boiler. E. L. Gross. Power Pl Eng 26:361-2 Ap 1 '22
- Lubrication in power plants. R. June. Gas Age 49:263-4 Mr 4 '22
- Lubrication of bearings. J. S. Watts. diags Am Mach 56:222-3 F 9 '22
- Lubrication of construction equipment. Eng N 90:1144; 91:80 Je 28, JI 12 '23
- Lubrication of economizers. il Power Pl Eng 26:1214-15 D 15 '22
- Lubrication of paper machine bearings. V. G. Hazard. Paper 29:14-15 N 16 '21
- Lubrication pointers. 43p Power, New York '22
- Lubrication problems and their correction. A. F. Brewer. il Ind Management 66:134-9 S '23
- Lubrication requirements for railway gears and pinions. Elec Ry J 60:1011 D 30 '22
- Maintenance and lubrication of railway bearings. H. Cordell. Elec Ry J 60:298-300; Discussion. J. H. Kouny. 300-1 Ag 26 '22
- Maintenance of small portable power tools. R. P. Walsh. Am Mach 57:873-5 D 7 '22
- Manufacture of lubricating oils from Mexican crudes. H. L. Kauffman. Nat Pet N 15:105+ My 9 '23
- Measurement of the property of oiliness. R. E. Wilson and D. P. Barnard. il diags Soc Auto Eng J 11:143-56 Ag '22; Same. J Ind & Eng Chem 14:683-95 Ag '22; Abstract. Nat Pet N 14:45+ N 15 '22; Discussion. Soc Auto Eng J 11:156-7 Ag '22
- Mechanism of lubrication. R. E. Wilson and D. P. Barnard. bibliog Soc Auto Eng J 11:49-60 JI '22; Abstract. J Ind & Eng Chem 14:682-3 Ag '22
- Millions of dollars lost in friction. E. G. Acheson. Annalist 19:54-5 Ja 9 '22
- Notes regarding the use of grease. Power Pl Eng 27:921-3 S 15 '23
- Oil conservation and better lubrication. R. E. Langston. Am Mach 56:27-8 Ja 5 '22
- The oiler. G. Walter. Am Mach 59:295-6 Ag 23 '23
- Oiling in the weave room. A. J. Ernst. Textile World 63:6883+ Je 2 '23
- Our broadening knowledge of lubrication. A. E. Dunstan and F. B. Thole. Chem & Met Eng 28:299-302 F 14 '23
- Pennsylvania lubs as against others; jobbers tell experiences. Nat Pet N 15:23+ F 7; 51+ F 14 '23
- Pointers on oil systems in hydroelectric plants. R. C. Denny. Power 55:530 Ap 4 '22
- Pointers on purchasing lubricants. T. A. Brown. Power Pl Eng 26:1006-7 O 15 '22
- Poulle à graissage automatique de la Compagnie d'applications mécaniques. diags Génie Civil 79:592 D 31 '21
- Present lubrication methods faulty. J. J. Hennessy. il Ry Age 71:487-9 F 25 '22; Excerpts. Ry Mech Eng 96:264 My '22
- Problem of lubricating steam-engine bearings. W. F. Osborne. diag Power 56:53-4 JI 11 '22
- Pulleys with automatic lubrication. J. H. Blakey. diags Power Pl Eng 26:759 Ag 1 '22
- Reclamation of used petroleum lubricating oils. W. H. Herschel and A. H. Anderson. U S Bur Stand Tech l'a 223:93-108 '22
- Reconditioning crankcase lubricating oil by a new method. W. F. Parish. diag Automotive Ind 46:910-11 Ap 27 '22; Same. Nat Pet N 14:49+ JI 5 '22
- Reduction gearing. Engineering 114:453-4 O 13 '22

Lubrication and lubricants—Continued

- Report on survey of Pacific coast lubricating oils. E. C. Lane and N. F. Le Jeune. Nat Pet N 15:51-2+ J1 4; 93-4+ J1 11 '23
- Research and lubrication. Am Mach 57:803 N 23 '22
- Some notes on lubrication. W. St J's-Findlay. diags Ind Management (Lond) 10:65-6 Ag 9 '23
- Some physical properties of lubricants. Engineering 116:36-7 J1 13 '23
- Some recent researches on lubrication. T. E. Stanton. diags Engineer 134:598-600 D 8 '22; Abstract. Engineering 114:713-14 D 8 '22
- Status of lubrication engineering. W. H. Bailey. il Chem Age 29:470-1 N '21
- Steam cylinder lubrication. il Power Pl Eng 27:677-9, 729-31, 791-3 J1 1-Ag 1 '23
- Storage and handling of lubricating oil. A. F. Brewer. il Ind Management 64:27-30 J1 '22
- Successful lubrication of journal boxes. W. J. O'Connor. Ry Mech Eng 97:106; Discussion. 107-8 F '23
- Sulfur compounds and oxidation of petroleum oils. C. E. Waters. J Ind & Eng Chem 14:725-7 Ag '22; Abstract. Nat Pet N 14:39+ S 20 '22
- Supplying oil to 2,000 automatic screw machines. E. C. Henn. il plan Am Mach 56:4-7 Ja 6 '22
- Technical supervision of plant lubrication. A. F. Brewer. Ind Management 64:141-4, 221-3 S-O '22
- Testing the quality of lubricating oils. W. H. Herschel. Iron Age 112:1060-2 O 13 '23
- Theory of lubrication. Engineer 134:609-10 D 8 '22
- Theory of lubrication. W. F. Parish. Power 54:740 N 8 '21
- Thickness and resistance of oil films in high speed bearings. G. Stoney, R. O. Boswall and J. Massey. diags Engineering 113:249-50 Mr 3 '22; Same. Soc Auto Eng J 13:101-3 J1 '23
- Turning the spot-light on lubrication. Power 57:987-8; 58:430-1 Je 19, S 11 '23
- Vapor pressure of volatile solvents. R. E. Wilson and E. P. Wyld. diag Ind & Eng Chem 15:801-9 Ag '23
- Viscosity and friction. W. H. Herschel. Soc Auto Eng J 10:31-41 Ja '22; Excerpts. Automotive Ind 46:112-14 Ja 19 '22; Discussion. Soc Auto Eng J 10:369-72 My '22
- Viscosity of lubricating oils at high pressures; progress report. Mech Eng 45:315 My '23
- Waste saturation plant halves oil consumption. il diags Elec Ry J 61:676-7 Ap 21 '23
- What determines the size of the oil drop. W. F. Osborne. Power 56:251-2 Ag 15 '22
- When oil is good? W. F. Parish. Inst Pet Tech J 8:224-9 Ap '22
- Why cylinder oil is compounded. W. F. Osborne. Power 56:314-15 Ag 29 '22
- Die zukünftige gestaltung der schmiermittelversorgung Deutschlands. A. Franke. Stahl & Eisen 43:1102-5 Ag 23 '23
- See also* Air compressors—Lubrication; Ammonia compressors—Lubrication; Automobile engines—Lubrication; Automobiles—Lubrication; Bearings; Castor machine oil; Coal mining machinery—Lubrication; Diesel engines—Lubrication; Electric meters—Lubrication; Electric motors—Lubrication; Gas and oil engines—Lubrication; Graphite; Locomotives—Lubrication; Lubricators; Marine engines—Lubrication; Motor buses—Lubrication; Motor trucks—Lubrication; Oil reclamation; Soap, Metallic; Steam engines—Lubrication; Steam turbines—Lubrication; Textile printing machines—Lubrication; Wire rope—Lubrication
- Specifications**
- Government specifications for lubricating oil. Power 55:813 My 23 '22
- S.A.E. government and A. P. I. discuss lubricant specifications. Automotive Ind 47:1021-2 N 23 '22
- S.A.E. issues its own set of specifications for automobile oils. Nat Pet N 14:25+ S 27 '22

- Specifications for lubricants. U S Bur Mines Tech Pa 323:11-30 '23
- Specifications for standardized motor oils prepared by S.A.E. Nat Pet N 14:22 Mr 8 '22
- Suggest elimination of provision on unsaturated hydrocarbons. Nat Pet N 15:22+ J1 18 '23
- Sweeping changes in government oil specifications proposed. Nat Pet N 15:23+ J1 4 '23

Testing

- Friction testing of lubricating oils. W. H. Herschel. diags Chem & Met Eng 28:594-8 Mr 28 '23
- Lubrication tests. H. T. Newbigin. il diags Engineering 114:260-1 S 1 '22; Discussion. R. O. Boswall. 115:11 Ja 5 '23
- Meaning of cloud and pour points in lubricating oil. W. F. Osborne. il diag Power 55:458-9 Mr 21 '22
- Practical way to test lubricating oils for frictional losses. W. F. Osborne. Power 55:1010-11 Je 27 '22
- Relative values of asphalt and paraffin lubricating oils tested. Nat Pet N 15:99+ F 7 '23
- Sulfo-acid bodies in lubricating oils. G. L. Oliensis. Ind & Eng Chem 15:690-3 J1 '23
- Tentative method of test for color of lubricating oils by means of union colorimeter. diag Nat Pet N 15:87-8 O 31; 45 N 7 '23
- Tentative method of test for precipitation number of lubricating oils. Am Soc T M Pro 21:648-50 '21; Same. Nat Pet N 13:41 N 30 '21
- Testing bearing metals and lubricants. F. Johnstone-Taylor. diags Am Mach 58:700-2 My 10 '23
- Testing lubricating oils for internal combustion engine cylinders. W. F. Osborne. il Power 56:983 D 19 '22
- Testing oiliness by friction-testing machines. W. H. Herschel. Chem & Met Eng 28:302-3 F 14 '23
- Testing resistance to emulsification. il Power 58:493-4 S 25 '23
- Testing steam-cylinder oils. W. F. Osborne. Power 56:458-9 S 19 '22
- Testing the quality of lubricating oils. W. H. Herschel. Eng Soc W Pa 38:503-18; Discussion. 519-38; Bibliography. 539-41 Ja '23
- Two color-determining methods for lubricating oils compared. S. Born and R. S. Stone. Nat Pet N 14:67 F 1 '22
- Lubrication and lubricants (cutting and grinding)**
- Cutting fluids. Sci Am 126:412 Je '22
- Cutting fluids. E. C. Bingham. il diag U S Bur Stand Tech Pa 204:35-76 '22; Abstract. Mech Eng 44:121 F '22; Abstract. Am Mach 56:958-61 Je 29 '22
- Cutting oils vs. soap water. H. B. Egg. Am Mach 57:686 N 2 '22
- Dermatosis following the use of cutting oils and lubricating compounds. W. J. McConnell. 22p U.S. Public health service, Washington, D.C. '22; Abstracts. Monthly Labor R 15:1355-7 D '22; Iron Age 111:225 Ja 18 '23
- Increasing production and reducing scrap with clean cutting oil. plan Am Mach 56:784 My 25 '22
- Infection from cutting oil. A. L. De Leeuw. Am Mach 57:915-16 D 14 '22
- Preventing infections from cutting oils and compounds. A. C. Hall. Nat Safety N 8:33-4 Ag '23
- Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 59:613-15 O 25 '23
- See also* Lard oil
- Lubricators**
- Atomizing cylinder lubricating oil. W. F. Osborne. diags Power 56:202-3 Ag 8 '22
- Auto-vac ball-feed bearing lubricator. il Am Mach 57:552 O 5 '22
- Borgeson multi-production lubricator. il Am Mach 57:864-5 N 30 '22; Iron Age 110:1424 N 30 '22
- Connecting one lubricator for two steam pumps. A. J. Dixon. diags Power 56:734 N 7 '22
- Discharge of hydrostatic lubricator. diags Power 56:469 S 19 '22

Lubricators—Continued

- Dot high-pressure hand-operated bearing lubricator. *il Am Mach* 57:551 O 5 '22; *Power Pl Eng* 26:1029-30 O 15 '22
- High-pressure grease machine. J. C. De Pue. *il diags Pop Mech* 40:791-2 N '23
- Lubricator for locomotives. *diags Engineer* 135:668 *Je* 22 '23
- Madison-Kipp automatic force-feed machine tool lubricator. *il Am Mach* 56:944 *Je* 22 '22; *Mach* 28:919-20 *Jl* '22
- Mechanical locomotive lubricator. *il diag Ry Age* 74:821 *Mr* 24 '23; Same. *Ry Mech Eng* 97:246-7 *Ap* '23
- New Keystone lubricator. *il Power* 58:723 N 6 '23
- Oil atomizing lubricator for air compressors. *diag Ry Mech Eng* 96:480 *Ag* '22
- Operation of engine cylinder lubricators. *diag Power* 56:1034-5 D 26 '22
- Pointers on hydrostatic lubricator operation. A. F. Brewer. *diag Power* 56:58 *Jl* 11 '22
- Preventing leakage through pump lubricators. *diag Pop Mech* 38:306 *Ag* '22
- Ref pressure lubricator. *diag Engineering* 116:426 O 5 '23
- Rotary drive lubricator. *il Power Pl Eng* 26:733 *Jl* 15 '22
- Steam cylinder lubrication. *il Power Pl Eng* 27:677-9 *Jl* 1 '23
- Valveless force-feed locomotive lubricator. *il Ry Mech Eng* 97:720 O '23

Ludlow manufacturing associates, Boston, Massachusetts

- Developing a fad takes a manufacturer out of obscurity. E. B. Weiss. *Ptr Ink* 117:73-4+ D 8 '21

Lumber

- Basic definitions and classifications of lumber. *Arch Forum* 37:sup60 N '22
- Control of lumber-cutting waste and production. C. M. Bigelow. chart plan *Mech Eng* 15:12-1 *Ja* '23
- Lessening lumber losses, ways in which wood wastes are saved. G. H. Dacy. *il Sci Am* 126:42-3 *Ja* '22
- Lumber for Italian passenger cars. *Ry Mech Eng* 97:220 *Ap* '23
- Lumber: its manufacture and distribution. R. C. Bryant. 539p *Wiley* '22
- Saving of by-products improves lumber. *il Pop Mech* 38:405-6 S '22
- When we build our house; facts regarding kinds and grades of lumber which should be known by the home builder. S. J. Record. *il Sci Am* 128:80-1 F '23
- See also Hard woods; Lumbering; Timber; Wood

Prices

- Present lumber market. M. Myers. *Arch Forum* 35:sup53 N '21

Standards

- Hardwood lumber standardization. F. F. Murray. *Soc Auto Eng J* 12:62 *Ja* '23; Discussion. 12:455-6 *My* '23
- New lumber standards. *Am Arch* 124:126 *Ag* 1 '23
- Standardization of lumber. *Ry Age* 73:1121 D 16 '22

Terminology

- Standard abbreviations of terms used in lumber industry. *Eng & Contr (Bldgs)* 60:182-3 *Jl* 25 '23

Transportation

- Deck cargoes of timber and safety at sea. *Int Labour R* 5:739-52 *My* '22
- How Kauli in the mid-Pacific gets its lumber. *il Pop Mech* 37:729-30 *My* '22
- I.C.C. finds hardwood lumber rates unreasonable. *Ry Age* 72:283-4 *Ja* 28 '22
- Railroad freight rates on hardwood lumber ordered reduced by an amount supposed to represent about 10%. *Comm & Fin Chr* 114:374-5 *Ja* 28 '22
- Timber on dammed rivers: federal engineers insist on provisions for floating timber that hamper water-power financing. *Elec W* 80:572 S 9 '22

See also Motor trucks in lumber handling

Lumber associations

- Activities of trade associations and manufacturers of posts and poles in the Rocky mountain and Mississippi valley territory. (67th Cong., 4th sess. Senate. Doc. 293) 22p
- U.S. Fed. trade commission, Washington '23
- Report of the Federal trade commission on lumber manufacturers' trade associations. 150p U. S. Federal trade commission, Washington '22

Lumber camps

- Portable camp on logging railroad construction. *il Eng & Contr (Ry)* 59:463-5 F 21 '23

Lumber drying

- Air circulation in dry kilns. *diags Chem & Met Eng* 29:711-12 O 15 '23
- Artificial seasoning of wood. L. F. Hawley. *Soc Chem Ind J (Chem & Ind)* 42:856 S 7 '23
- Coatings that prevent end checks in wood. *Chem & Met Eng* 28:587 *Mr* 28 '23
- Kiln drying Douglas fir common lumber. *Eng & Contr (Bldgs)* 59:522-3 F 28 '23
- Kiln drying handbook. R. Thelen. *il diags U S Agric Bul* 1136:1-64, pl 1-12 '23; Abstract. *Heat & Ven* 20:64-6 O '23
- Kiln drying of lumber. F. O. Farey. *Ry Mech Eng* 97:227-9 *Ap* '23
- Lumber dry kilns. T. D. Perry. *diags Mech Eng* 45:110-12+ F '23; Discussion. 45:233-4 *Ap* '23
- Nine principles involved in drying processes. H. D. Tremann. *Factory* 31:264+ *Ag* '23
- Practical kiln drying. E. U. Kettle. 121p
- Periodical pub. co., Grand Rapids, Mich. '23
- Proper kiln drying will reduce timber losses. N. O. Howard. *Automotive Ind* 47:720-1 O 12 '22
- Le séchage artificiel du bois. K. B. Knudsen. *diag Chimie & Ind* 6:492 O '21
- Speed kiln-drying process and improve lumber. *il Pop Mech* 38:548 O '22
- Testing kiln circulation with chemical smoke. *il Sci Am* 128:105 F '23
- When wood shrinks. B. B. Borchers. *il Sci Am* 129:250 O '23

Lumber handling

- Handling large quantities of lumber at low cost. *il Elec R* 80:53 *Ja* '22
- Methods of handling lumber imports in Australia, New Zealand, and Pacific Islands. *r S Bur For & Dom Com Trade Information Bul* 125:1-23 '23
- Yard handles lumber with electric machinery. *il Pop Mech* 37:228-30 F '22
- See also Motor trucks in lumber handling

Lumber storage

- Care and protection of lumber in storage. H. A. Sackett. *il diags Ry Age* 71:1133-6 D 10 '21; Same. *Ry Mech Eng* 96:144-7 *Mr* '22

Lumber trade

- 400 retailers join in making this dealer service book. R. K. Sewell. *il Ptr Ink M* 5:44 *Ag* '22
- Lumber dealers help people save money to build homes. *Ptr Ink* 123:137-8+ *My* 24 '23
- Methods of handling lumber imports in Canada, Mexico, Central America and the West Indies. *U S Bur For & Dom Com Trade Information Bul* 109:1-62 '23

See also Lumber—Prices; Lumbering; Staves; also American hardwood manufacturers' association; Lumber associations

Accounting

- Lumber freight. E. M. Meyer. *J Account* 32:444-9 D '21
- Special phases of lumber accounting. R. S. Wyler. *J Account* 34:106-13 *Ag* '22

Advertising

- Helping retailers before they begin to buy your goods. *Ptr Ink M* 5:76+ N '22
- How we gave consumer identity to a plank. R. A. Long. *Ptr Ink* 118:3-4+ *Mr* 23 '22
- National campaign aims at selection of best customers; Weyerhaeuser's lumber advertising. C. L. Hamilton. *Ptr Ink* 120:33-4+ S 21 '22

Directories

- Directory of exporters of American lumber and wood products. *U S Bur For & Dom Com misc ser* 120:1-85 '23

Lumber trade—Continued**Statistics**

Census of manufactures, 1921; the lumber industry. U S Bur Census 59p '23

Tables and ready-reckoners

Baughman's buyer and seller. H. R. A. Baughman. 16th ed. 325p H. R. A. Baughman, Indianapolis, Ind. '21

Africa

Methods of handling lumber imports in Africa. P. J. Stevenson and others. U S Bur For & Dom Com Trade Information Bul 119:1-50 '23

Australia

Methods of handling lumber imports in Australia, New Zealand, and Pacific Islands. U S Bur For & Dom Com Trade Information Bul 125:1-23 '23

Austria

Lumber in Austria and Italy. W. F. Upson and L. Dominian. U S Bur For & Dom Com Trade Information Bul 110:1-17 '23

Brazil

Parana pine lumber industry of Brazil. J. C. Kircher. U S Bur For & Dom Com Trade Information Bul 92:1-18 '23

Canada

Canada to enforce again tariff of stumpage dues. Paper Tr J 77:30+ S 20 '23

France

French lumber market. J. F. Butler. U S Bur For & Dom Com Trade Information Bul 51:1-13 '22

Italy

Lumber in Austria and Italy. W. F. Upson and L. Dominian. U S Bur For & Dom Com Trade Information Bul 110:1-17 '23

Norway

Forest resources, lumber industry and lumber export trade of Norway. A. H. Oxholm. Il diags maps plans U S Bur For & Dom Com 211:1-136 '22

Peru

Peru as a lumber market. W. E. Dunn. U S Bur For & Dom Com Trade Information Bul 56:1-15 '22

Philippine Islands

Export timbers of the Philippines. U S Bur For & Dom Com Trade Information Bul 93:1-11 '23

South America

Methods of handling American lumber imports in South America. U S Bur For & Dom Com Trade Information Bul 107:1-36 '23

United States

American lumber industry in 1922. R. V. New. Annalist 19:172 Ja 30 '22

Foreign markets for Yankee lumber. R. H. Jones. Am Ind 22:39-40 D '21

Longview, Washington. Il map Eng & Contr (Blags) 60:657-61 S 26 '23; Same abr. Am Ind 23:31-3 JI '23

Lumber—our declining production demands forest culture. diag Eng N 90:1006-7 Je 7 '23

Prospects for 1922 indicate improvement in lumber market. D. T. Mason. Il J Elec 48:99-100 F 1 '22

Lumber waste. See Wood waste

Lumbering

All-steel logging wheel for tractor use. Il Pop Mech 38:578 O '22

Exceptional grade features logging railway. Il Pop Mech 39:554-5 Ap '23

Heavy trestlework required on new logging railroad. Il diags Eng N 89:1110-11 D 28 '22

Logging engineering. W. J. Ryan. Eng & Contr (Ry) 59:890 Ap 18 '23

Logging in South India with lots of men and animals but little machinery. Il Pop Mech 37:526-7 Ap '22

Logging railway practice in the northwestern forests. Il Eng N 89:879-81 N 23 '22

Logs skidded to mill without flumes or cars. Il Pop Mech 36:801 D '21

Motor applications in the lumber industry. G. Fox. Il Power Pl Eng 27:130-2 Ja 15 '23

New job for the jitney. Il Sci Am 127:97 Ag '22

L'organisation du travail dans les exploitations forestières et dans les scieries mécaniques. P. Razous. Il diags Génie Civil 83:49-55, 80-5, 109-11 JI 21-Ag 4 '23

Our interdependent industries; wood. C. F. Talman. Il Nation's Business 11:26-30 N '23

Passing of the lumberjack recalls heroic drama of the woods. Il Pop Mech 40:540-3 O '23

Snagging deadheads in a lake. A. B. Elliott. Il Pop Mech 36:813-14 D '21

Use of tractors in logging. N. C. Brown. Paper 29:16-17 N 30 '21

See also Lumber handling; Lumber trade; Woodworking machinery; also Pacific logging congress

Cost

Labor costs in lumber production. Eng & Contr (Ry) 58:111 N 15 '22

Safety devices and measures

Organizing for safety in the woods. P. R. Splane. Il Nat Safety N 7:37-8 Je '23

Study and teaching

Trade course in log scaling for Idaho woods. 108p Idaho. State board for vocational education, Boise '22

Luminares. See Lamps; Lighting—Terminology; Lighting fixtures

Luminescence

Animal luminescence. E. N. Harvey. J Fr Inst 196:31-44 JI '23

Cathodo-luminescence and its relation to states of molecular aggregation. J. Ewles. diags Philos Mag 6th ser 45:957-68 My '23

Decay of bioluminescence in Cypridina. W. R. Amberson. J Fr Inst 193:111-13 Ja '22

Luminescence as a factor in artificial lighting. E. L. Nichols. Illum Eng Soc 16:331-45 no 7 '21

Luminescence of compounds formed by the action of magnesium on para-dibromobenzene and related compounds. W. V. Evans and R. T. Dufford. Il Am Chem Soc J 45:278-85 F '23

Luminescence of incandescent solids. E. L. Nichols and H. L. Howes. diags Phys R 19:300-18 Ap '22

Luminescence of organo-magnesium halides. R. T. Dufford, S. Calvert and D. Nightingale. Il Am Chem Soc J 45:2058-72 S '23

Luminous pulsations in the glow of phosphorus. H. P. Waran. diags Philos Mag 6th ser 45:1132-9 Je '23

Phosphorescence and luminescence in calcites. W. P. Headden. Am J Sci 5th ser 5:314-28 Ap '23

Selected topics in the field of luminescence. E. Merritt, E. L. Nichols and C. D. Child. Nat Research Council Bul v 5, pt 5:1-78 Mr '23

Tesla-luminescence spectra; the effect of varying temperature and pressure on the benzene spectrum. W. H. McVicker and J. K. Marsh. Chem Soc J 123:817-20 Ap '23

What is cold light? W. van B. Roberts. Sci Am 127:240 O '22

Year's progress in illumination, 1922-1923; luminescence. Illum Eng Soc 18:653-6 S '23

See also Phosphorescence; Phosphorus; Radioluminescence

Bibliography

Bibliography of luminescence. J. A. Becker. Nat Research Council Bul v 5, pt 5:79-126 Mr '23

Luminous materials

Junghaus patent for luminous compound invalid. W. Gustin. Chem & Met Eng 27:1258 D 27 '22

Luminous materials—Continued

Radioluminescence and its technical application V: P. Hess. *Illum Eng Soc* 17:127-34 Mr '22

Luminor signs. See Signs**Lunch rooms and cafeterias****Equipment**

Carbage chute and refuse table. J: Stephan. *Eng Sheet Metal Worker* 13:898 Ja 19 '23
Structural details of cafeteria equipment. J: Stephan. *diags Sheet Metal Worker* 13:641-3+ O 27 '22

Heating and ventilation

Ventilating a cafeteria. M. Kimberly. *il diags plans Sanitary & Heat Eng* 10:34-6 Ag 10 '23

Lunch rooms and cafeterias, Employees'

Eating for health at the plant restaurant. *il Nat Safety N* 7:19-21 My '23

Health and welfare activities in the Government printing office. A. L. Whitney. *il Monthly Labor R* 16:887-99 My '23

Industrial cafeterias. N. W. Aldrich. *il plan Arch Forum* 38:63-4 F '23

Speeding up the lunchroom line. *Management Eng* 3:3-2 D '22

Stoking the employee; why scientific feeding in company restaurants is a benefit to both parties concerned. C: F: Carter. *il Sci Am* 126:322+ My '22

Using conveyor belts to speed up service in the lunchroom. S. M. Crosset. *Am Mach* 56:26 Ja 5 '22

We didn't have space for a lunchroom. R. Desing. *il Factory* 28:300-2 Mr '22

We found quality the shortest road to volume. F. G. Shattuck. *il System* 43:314-17+ Mr '23

Lunch wagons

Selling restaurants on wheels. E: M. Woolley. *Ptr Ink M* 5:76+ D '22

Lunches

Two service plans that pay. J. P. Richards. *il Factory* 30:560-1 My '23

Lungs**Diseases**

Modern views upon the development of lung fibrosis. C. K. Drinker. *J Ind Hygiene* 3: 295-302; Bibliography. 303 F '22

Lusitania (steamship)

Lusitania and the submarine salvor; schemes proposed for dealing with the war's most famous wreck. R. G. Skerrett. *il diags Sci Am* 127:234-5 O '22

Lux**Advertising**

Lord Nelson, Kings' evil and lux; one market at a time. R. M. Rhodes. *Ptr Ink M* 6:31-2 Mr '23

Lynchburg, Virginia

Lynchburg's public works report. *il chart Pub Works* 54:315-16 O '23

Lynn, Massachusetts

Causeway succeeds Lynn floating bridge. *diags Eng N* 88:789 My 11 '22

Lysine

Influence of lysine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 44:2926-30 D '22

Lysol**Advertising**

Cinching ownership of a brand name with advertising; Lysol campaign. R. Cole. *Ptr Ink* 118:3-4+ F 2 '22

M**Mabuki process**

Old Japanese converting process. I. Omori. *il diag Min & Met* 189:35-7 S '22

Macadamized roads. See Roads, Macadamized**McAdoo, William Gibbs, 1863-**

W. G. McAdoo defends his administration. *Ry Age* 72:327-30, 371-4, 392-3 F 4-11 '22

McAfee process. See Petroleum refining—Patents**McAlpin hotel****Library**

Books on railroad transportation selected by authorities for McAlpin hotel library. *Ry R* 71:499-500 O 7 '22

Building and contracting leaders choose basic books of industry. *Heat & Ven* 19:54-5 O '22; Excerpt (heating, ventilating and plumbing). *Am Soc Heat & V E J* 28:787-8 N '22

Leading paint men select technical books for inclusion in the business library of the McAlpin hotel. *Chem & Met Eng* 27:759 O 11 '22
Steel maker's library to be installed in the Hotel McAlpin. *Chem & Met Eng* 27:754 O 11 '22

Twenty thousand men chose this business library; with complete list of books in Hotel McAlpin library. E. E. Calkins. *Ptr Ink* 122:81-2+ Ja 25 '23

Macaroni**Advertising**

How Foulds is taking macaroni out of summer slump class. *Ptr Ink* 124:17 Ag 9 '23

McCleary, Earnest, 1866-

Sketch. *por Elec W* 82:214 Ag 4 '23

McClellan, William

President of the American institute of electrical engineers. *por Min & Met* 183:19 Mr '22

McCook Field museum

Treasure house of aeroplane design; McCook Field to establish museum. *il Mech Eng* 44:619 S '22

McCreia, Charles

Ontario's new Minister of mines. *por Eng & Min J* 116:378 S 1 '23

McDermott, Walter, 1851-

Mining engineers of note. E. P. Rathbone. *por Eng & Min J* 113:733 Ap 29 '22

Machine guards. See Machinery—Safety devices**Machine guns**

Antibandit gun in demonstration. E. A. Dime. *il Pop Mech* 38:41 Jl '22

Power-driven machine gun under development. *il Pop Mech* 37:686-7 My '22

Super-machine-gun. H. O'Leary. *diag Soc Auto Eng J* 10:220-1 Mr '22

Tests made of machine gun using centrifugal force. *il Pop Mech* 37:389 Mr '22

Machine handles

Making handles from strip steel. H. R. Simonds. *il diags Iron Tr R* 72:505-7+ F 15 '23

Pressed-steel machine handles. F: R. Daniels. *il diags Mach* 29:466-8 F '23

Machine rates. See Factories—Accounting**Machine shop management**

Balancing set-up men with machine operatives. J. Heywood. *Factory* 30:423-4 Ap '23

Campaigning for economy in tool consumption. R. Angove. *il Am Mach* 56:22-4 Ja 5 '22

Centralized cutter sharpening system. C: O. Herb. *il Mach* 30:205-7 N '23

Cost of spoiled work. F. G. Kent. *Am Mach* 56:220 F 9 '22

Effect of plant location and machine grouping on profitable operation. D. S. Kimball. *il Management & Adm* 6:599-604 N '23

Efficient maintenance. G: Walter. *Am Mach* 58:19 Ja 4 '23

Getting the plant ready for business. H. R. Simonds. *il Iron Tr R* 70:24-7 Ja 5 '22

How much do you spend for tools and equipment? A. W. Field. *chart Am Mach* 57:350-1 Ag 31 '22

How stock shortages may be eliminated. R. C. Gifford. *Am Mach* 57:572 O 12 '22

Increasing the output of small back shops. *Ry R* 72:1033-7 Je 16 '23

Influence of mobile batches on manufacturing capital. A. Whitehead. *Engineer* 131: 518-20 N 17 '22

Machine shop management—Continued

- Instructions to workmen. C. J. Morrison. Am Mach 56:954 Je 29 '22; Discussion. T. Taylor. 57:544 O 5 '22
- It pays to replace, diags. Am Mach 59:163-5, 203-4, 239-40, 281-2, 321-2, 359-61, 399-400, 435-6, 477-8, 507-8, 545-6 Ag 2-O 11 '23
- Machine shop reorganized while operating. C. de Zafra. Iron Age 112:271-2 Ag 2 '23
- Machine tool shop management problems. E. F. Du Brul. Iron Age 111:685-6 Mr 8 '23
- Machinery kept at maximum standard safeguards quality of output. H. Tipper. Automotive Ind 18:1043-1 My 10 '23
- Management of the machine jobbing shop. H. L. Wheeler. chart Am Mach 58:13-18 Ja 1 '23
- Manufacturing methods and system deviations. Eng & Ind Management 6:714-16 D 22 '21
- Manufacturing methods in making the National cash register. L. S. Love. Iron Age 112:531-2, 677-81, 1165-9 Ag 30, S 13, O 25 '23
- Method of preparing new instruction sheets from old time study data. C. W. Lytle. diags Management Eng 4:231-4 Ap '23
- Modern production methods. W. R. Basset. Am Mach 52:761-4, 873-6, 1003-8, 1087-90, 1177-82, 1285-8; 53:17-20, 63-6, 215-19, 619-25, 709-11, 798-802, 889-91; 54:99-103, 187-91, 398-402, 858-63, 1032-6; 55:57-60, 134-7, 604-8, 950-5, 1037-9; 56:87-90 Ap 8, 22, My 6, 20, Je 3, 17, J 1-8, 29, S 30, O 14, 23, N 11 '20, Ja 20, F 3, Mr 10, My 19, Je 16, J 14, Ag 4, O 13, D 15, 29 '21, My 19 '22
- Planning that takes care of the rush jobs. W. N. Baldwin. Ind System 43:325-7+ Mr '23
- Poor business policy. D. A. Hampson. Am Mach 58:791-2 My 31 '23
- Production engineering and cost keeping for machine shops. W. R. Basset and J. Heywood. 311p McGraw-Hill '22
- Productive ways and means. H. Darbyshire. diags Eng & Ind Management 6:618-21 D 1 '21
- Shop management problems are discussed by Mechanical division. Ry Age 74:1617-21 Je 23 '23; Same. Ry R 73:55-6 J 14 '23; Same. Ry Mech Eng 97:490-4 J 1 '23
- System of machinery maintenance. W. L. Weber. Ind Management (Lond) 8:247-8 N 2 '22
- Systematizing the repair department. L. F. Libotte. diags Ind Management 65:101-9 F '23
- To buy or not to buy. D. S. Cole. Ind Management 66:239-42 O '23
- Using cost figures to cut costs. W. R. Basset. Am Mach 56:1-3 Ja 5 '22
- Works organisation. T. E. Pattinson. Eng & Ind Management 7:354-6 Ap 20 '22
- Works production. G. H. Nelson. plan Inst E E J 61:338-52 Mr '23; Same (without appendix). Ind Management (Lond) 9:39-41, 75-7, 106-8, 131-3, 166-8 Ja 25-Mr 22 '23; Discussion. Inst E E J 61:352-62, 893-6 Mr, Ag '23
- Workshop efficiency. G. E. Bailey. Ind Management (Lond) 9:236-8, 299-300, 331-3, 363-4, 396-8; 10:4-7, 41-2, 67-9 Ap 19, My 17-Ag 9 '23; Abstract. Engineering 115:328-9 Mr 16 '23
- See also* Assembling methods; Electric railroads—Shops; Industrial management; Locomotive shops; Machine shop practice; Mechanical handling; Railroads—Shops; Repair shops; Routing systems; Tool rooms
- Machine shop practice**
- Accurate manufacture of automobile gears. A. B. Bassoff. diags Mach 30:208-12 N '23
- Accurate tool work. C. L. Goodrich and F. A. Stanley. 2d ed. 300p McGraw-Hill '23
- Addition of simple fixtures lowers manufacturing costs. diags Automotive Ind 49:380-2 Ag 23 '23
- Another method of machining pistons. Il Am Mach 56:928 Je 22 '22
- Automobile production work on turret lathes. E. K. Hammond. Il Mach 25:261-4 D '21
- Automobile rims made in thirty minutes. F. L. Prentiss. Il Iron Age 112:1233-6 N 8 '23
- Avoiding deformation during machining. A. Whitehead. diags Engineer 134:98-9 J 1 28 '22
- Ball bearings and how they are made. R. G. Skerrett. Il Sci Am 129:330-1+ N '23
- Building axles for the Franklin. F. H. Colvin. Il Am Mach 57:617-19 O 19 '22
- Building gas engines for the navy. S. W. Brinson. Il plan Am Mach 57:45-8 J 13 '22
- Building motor trucks in a southern California shop. F. H. Colvin. Il Am Mach 59:293-5 Ag 23 '23
- Combination piercing, blanking and forming dies. C. J. Dorer. Il diags plans Am Mach 57:649-51 O 26 '22
- Combining accuracy and quantity in differential carrier manufacture. J. E. Schipper. Il Automotive Ind 47:424-6 Ag 31 '22
- Copper tube extrusion and the manufacture of radiator cores. H. Chase. Il plan Automotive Ind 45:70-8 N 3 '21
- Cost-reducing tooling equipments; tooling equipments employed for machining steering knuckles and other automobile forgings. R. E. Flanders. Il diags Mach 28:301-5 D '21
- Crankshaft and camshaft work. F. H. Colvin. Il Am Mach 57:141-3 J 17 '22
- Cutting down rejections in pinion shaft production. J. E. Schipper. Il Automotive Ind 47:320-3 Ag 17 '22
- Cutting the production cost of a difficult part. H. A. Loudon. Il diags Am Mach 56:369-70 Mr 9 '22
- Cylinder methods in the Reo plant. F. H. Colvin. Il Am Mach 56:281-3 F 23 '22
- Diesel engine work in a California shop. H. Crawford. Il diags Am Mach 57:483 S 28 '22
- Drawing sockets for wrenches. Il Mach 29:469-70 F '23
- Dual reduction rear axle. F. H. Colvin. Il Am Mach 56:663-5 My 4 '22
- Economy and precision in connecting rod manufacture. J. E. Schipper. Il Automotive Ind 47:117-19 J 1 20 '22
- Elementary machine shop practice. 118p National metal trades association, Chicago '23
- Engineering workshop handbook, for fitters, turners and general machinists. E. Pull. 5th ed., rev. & enl. 175p Van Nostrand '22
- Example of systematized production in the manufacture of gasoline-savers used in connection with Ford carburetors. F. R. Daniels. Il diags plan Mach 30:189-93 N '23
- Fabricating large steel pipe. E. H. Custer. Il Am Mach 58:687-8 My 10 '23
- Features in manufacture of Mack motors. L. S. Love. Il Iron Age 112:389-92, 481-4 Ag 16-23 '23
- Feeds and speeds as production factors. A. A. Dowd and F. W. Curtis. diags Mach 28:381-3 Ja '22
- Ford principles and practice at River Rouge. J. H. Van Deventer. Il diags Ind Management 65:359-68; 66:19-27 Je-J 1 '23
- Four new methods in spring production. J. E. Schipper. Il Automotive Ind 47:821-3 O 26 '22
- Front axles and steering knuckles. F. H. Colvin. Il Am Mach 55:1011-13 D 22 '21
- Grinding and other practices in motor building. F. C. Hudson. Am Mach 57:913-14 D 14 '22
- Hand versus machine finished bearings. E. A. Dixie. Am Mach 55:888-90 D 1 '21
- Heavy machine work in a railroad shop. Il Am Mach 57:331-7 Ag 31 '22
- High speed riveting hammers in automobile production. Il Automotive Ind 45:1174-6 D 15 '21
- How Franklin made Rolls-Royce airplane motor crankshafts. F. H. Colvin. Il Am Mach 56:955-7 Je 29 '22
- How locomotive rods are tested and machined at Lima. Il Ry R 71:231-3 Ag 19 '22
- How the Black & Decker drill is built. S. A. Hand. Il diags Am Mach 57:557-60 O 12 '22
- How the disk is machined. M. Wright. Il Am Mach 57:112-13 J 1 20 '22
- Improved methods in locomobile shop. L. S. Love. Il diags Iron Age 111:1763-9 Je 21 '23
- Increasing the durability of truck parts by special production methods. D. D. Blanchard. Il diags Automotive Ind 48:22-5 Ja 4 '23
- Investigation of tooling methods. J. P. Lannen. Il diags Mach 29:853-6 J 1 '23

Machine shop practice—Continued

- Large scale production made possible by modern methods. J. E. Schipper. *il Automotive Ind* 45:1221-4 D 22 '21
- Latch needle manufacture. F. R. Daniels. *il diags Mach* 29:961-5 Ag '23
- Let your tools save your brain. D. L. Munster. *Am Mach* 59:448 S 20 '23
- Light car production. *il Automotive Eng* 13:174-7 Je '23
- Machine operations in a California pump shop. *il Am Mach* 56:598-600 Ap 20 '22
- Machine-shop mathematics. G. Wentworth. D. E. Smith and H. D. Harper. 162p Ginn '22
- Machine shop practice in various western shops. F. A. Stanley. *il Am Mach* 56:365-6 Mr 9 '22
- Machine tool methods being perfected for bearing installation. *Automotive Ind* 48:1227-30 Je 7 '23
- Machining a differential carrier. R. Brainard. *il diags Am Mach* 58:342 Mr 1 '23
- Machining an aluminum carriage cover. F. H. Colvin. *il diags Am Mach* 57:522-3 O 5 '22
- Machining an unusual crankcase. F. H. Colvin. *il Am Mach* 56:403-4 Mr 16 '22
- Machining and assembling operations on pneumatic tools. H. Campbell. *il Am Mach* 57:49-51, 101-4, 134-6, 175-7 J1 13-Ag 3 '22
- Machining automobile crankshafts. F. H. Colvin. *il diags Am Mach* 56:504-7, 544-6, 585-7, 621-3 Ap 6-27 '22
- Machining blades for steam turbines. F. H. Colvin. *il diags Am Mach* 58:547-9 Ap 12 '23
- Machining bushings on a vertical drilling machine. J. J. Borkenhagen. *diags Mach* 29:807-8 Je '23
- Machining crosshead shoes. C. F. Henry. *diags Am Mach* 58:850-1 Je 7 '23
- Machining differential housings on a production basis. H. A. Loudon and H. S. Beal. *il diags Automotive Ind* 48:234-7 F 1 '23
- Machining gas engine pistons. A. W. Freeman. *il Am Mach* 57:577-8 O 12 '22
- Machining motor cycle hubs. *il diags Automotive Eng* 12:7-8 Ja '22
- Machining motor parts for Northway trucks. R. Mawson. *il Am Mach* 55:748-50 N 10 '21
- Machining of camshafts. F. H. Colvin. *il diags Am Mach* 57:95-7 J1 20 '22
- Machining piston-pin holes in a repair shop. *Mach* 29:42 S '22
- Machining piston-valve follower on the turret lathe. *diags Mach* 30:60-1 S '23
- Machining pistons in the repair shop. *il Mach* 28:468-70 F '22
- Machining the Bean motor cylinders; methods used in a well equipped English motor plant. I. W. Chubb. *il diags Am Mach* 55:827-30 N 24 '21
- Machining the Mack crankcase. F. H. Colvin. *il Am Mach* 56:256-7 F 16 '22
- Machining the Marmon two-part piston. F. H. Colvin. *il Am Mach* 57:10-11 J1 6 '22
- Machining the Pierce-Arrow gear shifter fork. *il Am Mach* 57:222 Ag 10 '22
- Machining the Wright aviation-engine cylinder block. F. H. Colvin. *il diags Am Mach* 58:903-6; 59:171-3, 205-7, 235-8 Je 21, Ag 2-16 '23
- Machining twenty flywheels an hour. J. E. Schipper. *il Automotive Ind* 47:172-3 J1 27 '22
- Machining V-plex piston-rings. E. K. Hammond. *il diags Mach* 29:865-8 J1 '23
- Machining vulcanized fiber. A. B. Eastman. *Mach* 29:781-2 Je '23
- Machinists' blue book. E. R. Glass. 576p International assn. of machinists, Machinists bldg., 9th and Mt. Vernon Pl., N.W., Washington '20
- Machinists' question book. L. J. Rodgers. 40p McGraw-Hill '21
- Mack connecting rod methods. F. H. Colvin. *il Am Mach* 56:707-9 My 11 '22
- Main bearing bore used as locating surface in Hinkley crankcase. *Automotive Ind* 48:861-5 Ap 19 '23
- Making a case-hardened crankshaft. *il Am Mach* 56:72 Ja 12 '22
- Making bearings by unit system. H. R. Simonds. *il diags Iron Tr R* 72:801-6 Mr 15 '23
- Making camshafts in two motor shops. F. H. Colvin. *il Am Mach* 57:186-8 Ag 3 '22
- Making cylinder cock valves. *il Ry Mech Eng* 97:718 O '23
- Making fin and tube type radiator cores. H. Chase. *il diags Automotive Ind* 47:929-31 N 9 '22
- Making hobs for cutting the teeth of gears. E. Sheldon. *il Am Mach* 59:623-7 O 25 '23
- Making Marmon bearings. *il Am Mach* 57:488-9 S 28 '22
- Making of radio apparatus. F. H. Colvin. *il Am Mach* 56:909-14 Je 22 '22
- Making oil well tools. F. A. Stanley. *il diags Am Mach* 55:1003-5 D 22 '21
- Making parts of a nine-cylinder motor. F. H. Colvin. *il Am Mach* 58:717-20 My 17 '23
- Making pistons for the Mack motor. F. H. Colvin. *il diags Am Mach* 56:467-71 Mr 30 '22
- Making pressed-steel bicycle frame parts. *il diags Mach* 29:184-6 N '22
- Making radio parts. F. R. Daniels. *il diags Mach* 28:810-13, 875-8 Je-J1 '22
- Making steel balls. A. L. De Leeuw. *il diags Am Mach* 57:945-8, 985-8 D 21-28 '22
- Making textile machine parts from pressed metal. H. R. Simonds. *il diags Iron Tr R* 72:1232-6 Ap 26 '23
- Making the Latrobe high-speed twist drill. B. A. Hand. *il diags Am Mach* 56:246-8 F 16 '22
- Making the Lawrance airplane engine. F. H. Colvin. *il Am Mach* 58:649-52 My 3 '23
- Making the Mack brake shoe. F. H. Colvin. *il Am Mach* 56:362 Mr 9 '22
- Making the Pierce-Arrow crankcase. F. H. Colvin. *il Am Mach* 58:649-52 My 3 '23
- Manufacture and assembly of a cork insert disk clutch. J. E. Schipper. *il Automotive Ind* 45:823-6 O 27 '21
- Manufacture and use of diamond cutting tools. E. Sheldon. *il Am Mach* 56:140-2, 210-12 Ja 26, F 9 '22
- Manufacture of adjustable reamers; operations performed on the body, nuts, and blades of adjustable reamers. J. B. Dillard. *il diags Mach* 29:598-601 Ap '23
- Manufacture of automobile front axles. E. K. Hammond. *il diags Mach* 29:939-42 Ag '23
- Manufacture of crankshafts. C. S. Pettit. *diags Automotive Eng* 13:75-7 Mr '23
- Manufacture of Diesel engines. *il Engineer* 133:588-90 My 26 '22
- Manufacture of leaf springs. E. K. Hammond. *il Mach* 29:769-71 Je '23
- Manufacture of rollers for rubber mangles. A. Clegg. *diags Am Mach* 57:789-94 N 23 '22
- Manufacturing calculating machine side-frames. F. H. Colvin. *il diags Am Mach* 57:256-8 Ag 17 '22
- Manufacturing car and locomotive axles. N. S. Frohman. *il Am Mach* 57:473-7 S 28 '22
- Manufacturing operations on milling machines. R. Mawson. *il diags Am Mach* 55:996-7 D 22 '21
- Manufacturing parts of Northway trucks. R. Mawson. *il Am Mach* 56:101-3 Ja 19 '22
- Manufacturing piston and valve rings. *il Ry Mech Eng* 96:411-12 J1 '22
- Manufacturing the Miehe printing press. H. Campbell. *il Am Mach* 58:751-4, 827-9 My 24-Je 7 '23
- Manufacturing the Slocomb center drill. *il Am Mach* 59:395-7 S 13 '23
- Marmon connecting-rod methods. F. H. Colvin. *il Am Mach* 56:440-2 Mr 23 '22
- Meteor works of the Rover company. *il Automotive Eng* 13:144-9 My '23
- Methods and operations in a filter plant. F. A. Stanley. *il Am Mach* 56:299-301 F 23 '22
- Methods and tools used in machining the Peerless differential carrier and gear case. F. H. Colvin. *il diags Am Mach* 55:912-14 D 8 '21
- Methods used in specialized production of cast iron pistons. J. E. Schipper. *il Automotive Ind* 46:914-16 Ap 27 '22

Machine shop practice—Continued

- Modern electric motor construction. J. M. Barr and H. Campbell. *il Am Mach* 58:573-5 Ap 19 '23; Same abr. *Elec R (Lond)* 93:209 Ag 10 '23
- Modern facilities for quantity production of pistons. J. E. Schipper. *il diags Automotive Ind* 46:73-6 Ja 12 '22
- Modern methods of machining connecting and side rods. *il Am Mach* 59:324-6 Ag 30 '23
- Modern shop practice in the building of revolving flat cards. F. E. Banfield, jr. *il Mech Eng* 44:301-4+ My '22; Same. *Am Mach* 56:761-6 My 25 '22
- Modern workshop practice. E. Pull. 6th ed., rev. & enl. 671p Van Nostrand '22
- Motor flywheels on the Libby lathe. H. Campbell. *il diag Am Mach* 57:400-1 S 14 '22
- Operations in making steam shovels. F. H. Colvin. *il diags Am Mach* 58:396-8, 485-7 Mr 15, 29 '23
- Pipe threading tools and their manufacture. F. R. Daniels. *il Mach* 28:732-6, 783-5 My-Je '22
- Piston pump manufacturing methods. *il diags Mach* 28:864-5 Jl '22
- Polishing wheels. B. H. Divine. *il Mach* 29:372-5 Ja '23
- Preparation of work lay outs. H. Varley. *diags Eng & Ind Management* 6:491-4 N 3 '21
- Pressed-steel machine handles. F. R. Daniels. *il diags Mach* 29:166-8 F '23
- Processing spline shafts by a new method. J. A. Ford. *il Soc Auto Eng J* 11:433-4 N '22; Same. *Am Mach* 57:850-1 N 30 '22; Same abr. *Automotive Ind* 47:866-7 N 2 '22
- Produces piston pins in quantity. *il Iron Tr R* 73:182-3 Jl 19 '23
- Production shaping. *il Mach* 28:89-93, 186-90, 272-6, 377-9 O '21-Ja '22
- Production work in a contract shop. F. R. Daniels. *il diags Mach* 28:603-7, 702-5 Ap-My '22
- Production work on vertical shapers. E. K. Hammond. *il diags Mach* 28:483-5 F '22
- Quantity production of passenger car axles. J. E. Schipper. *il Automotive Ind* 46:670-2 Mr 23 '22
- Railway shop grinding practice in England. *Ry Mech Eng* 96:325-6 Je '22
- Rearrangement of machines brings reduction in bearing production costs. *il Automotive Ind* 49:798-9 O 18 '23
- Reducing costs and increasing production. M. G. Cochran. *il Am Mach* 58:418-19 Mr 15 '23
- Refinishing the bores of internal combustion motors. S. M. Ransome. *Am Mach* 56:560 Ap 13 '22
- Remington arms co., Bridgeport, Conn., turns to making pocket knives. B. K. Price. *il Iron Tr R* 72:954-6 Mr 29 '23
- Reo connecting rod methods. F. H. Colvin. *il Am Mach* 56:731-2 My 18 '22
- Repairing locomotives in a machine-tool shop. *il Am Mach* 58:893-6; 59:11-13, 317-19 Je 21, Jl 5, Ag 30 '23
- Rhythm in machine processes. A. Whitehead. *diags Ind Management (Lond)* 9:169-73 Mr 22 '23
- Rotating indexing jigs reduce labor cost in engine manufacture. J. E. Schipper. *il Automotive Ind* 48:612-15, 828-31 Mr 15, Ap 12 '23
- Roughing bevel gears and pinions. F. D. Jones. *il diag Mach* 29:287-92 D '22
- Savings effected by combining operations. *diags Iron Age* 110:1409-10 N 30 '22
- Screw machine products made in less than three seconds. L. D. Burlingame. *il diags Mach* 29:507-11 Mr '23
- Sectional blanking and piercing dies. F. R. Daniels. *il diags plan Mach* 29:339-43 Ja '23
- Seeking simple production methods saves time and money. W. L. Carver. *il Automotive Ind* 49:276-80 Ag 9 '23
- Shop kinks. R. Grimshaw. 6th ed. 417p Henley '23
- Shop mathematics. J. M. Christman. 321p Macmillan '22
- Shop practice in Czecho Slovakia. L. W. Filippoff. *il diag Ry R* 72:1037-9 Je 16 '23
- Some interesting production methods. *il Automobile Eng* 13:45-51 F '23
- Some operations in roller bearing manufacture. *il Am Mach* 55:1044-5 D 29 '21
- Some printing press shop methods. F. H. Colvin. *il Am Mach* 57:681-2 N 2 '22
- Some unique facilities for crankcase production. J. E. Schipper. *il Automotive Ind* 45:1017-20 N 24 '21
- Some unique operations in the manufacture of gunights. *il diag Am Mach* 57:281-6 Ag 24 '22
- Special machines found economical; interesting methods developed for handling gun parts. L. S. Love. *diags Iron Age* 110:1625-6 D 21 '22
- Special methods in water meter manufacture. F. H. Colvin. *il Am Mach* 58:569-72, 621-3 Ad 19-26 '23
- Speeding up the manufacture of saddle pins. *il diags Ry Mech Eng* 96:282-3 My '22
- Speeds and feeds for milling, drilling and turning. *Mach* 29:856a Jl '23
- Standard machines increase production. L. S. Love. *il Iron Age* 110:1335-8 N 23 '22
- Steering knuckles for the Mack truck. F. H. Colvin. *il Am Mach* 56:882-3 Je 15 '22
- Structural engineering in dirigible airship work; building the navy airship ZR1. F. E. Schmitt. *il diags Eng N* 91:212-20 Ag 9 '23; Same cond. *Am Mach* 59:367-71 S 6 '23
- Text-book of advanced machine work. R. H. Smith. 7th ed., rev. & enl. 797p Industrial education book co., Boston '22
- Tool and gage work. C. L. Goodrich and F. A. Stanley. 300p McGraw-Hill '22
- Tool details that improve the finish of work in a machine shop. *diags Eng & Ind Management* 6:586-9 N 24 '21
- Tooling equipment and methods used in making dial gages. R. Mawson. *il Mach* 28:627-30 Ap '22
- Tooling equipment for automobile hubs and pistons. R. E. Flanders. *il diags Mach* 28:640-4 Ap '22
- Tooling equipments for pistons. E. K. Hammond. *il diags Mach* 28:696-700 My '22
- Turning long shafts in a short lathe. E. Heller. *diag Am Mach* 57:983-4 D 28 '22
- Turret lathe tooling; equipment for machining differential gear housings. I. F. Yeoman. *il diags plan Mach* 28:356-8 Ja '22
- Unusual machine work in Seattle. F. H. Colvin. *il Am Mach* 59:497-9 O 4 '23
- Using a single locating point in differential carrier production. J. E. Schipper. *il diags Automotive Ind* 47:520-3 S 14 '22
- Using cast-iron bars in automatics. F. H. Colvin. *il Am Mach* 58:97-9 Ja 18 '23
- Using the turret lathe for small lots. A. A. Dowd and F. W. Curtis. *diags Mach* 29:266-70, 424-9 D '22, F '23
- Wheel, gear and axle practice. *il Elec Ry J* 62:245-50, 729-36, 849-54 Ag 18, O 27, N 17 '23
- Wills Sainte Claire transmission case. F. H. Colvin. *il diags Am Mach* 56:323-5 Mr 2 '22
- Works practice of the Austin motor company, ltd. *il Automobile Eng* 12:44-50 F '22

See also Arbors and mandrels; Broaching; Centering; Chucks; Cylinders (engines); Dies; Drafting room practice; Drilling and boring (metal working, etc.); Electric driving; Forging; Foundry practice; Gages; Gear cutting; Grinding and polishing; Indexing (machine work); Lathes; Locomotive shops; Machine shop management; Machine tools; Machinery; Metal cutting; Milling; Molds. Cast iron; Motor trucks—Manufacture; Pantograph; Pattern making; Piston rings—Manufacture; Railroads—Shops; Riveting; Rolling mills; Scraping machines (metal work); Sheet metal work; Welding

Study and teaching

- Apprenticeship system at Rock Island arsenal. W. Baumbek. *il Am Mach* 56:512-14 Ap 6 '22
- Course in machine shop practice introduced at the University of Michigan. O. W. Boston. *Mach* 29:773 Je '23
- New course in machine shop practice. charts O. W. Boston. *Eng Educ* 13:188-203 D '22

Machine shop practice—Study and teaching—*—Continued*

School shop installation and maintenance. L. S. Greene. 100p Manual arts press '22

Machine shops

Big shops vs. little shops. W. D. Forbes. Am Mach 56:99-100 Ja 19 '22; Discussion. 56: 325 Mr 2 '22

Eastern shop of modern design; new plant of Gould & Eberhard, Irvington, N.J. C. E. Clewell. il plan Am Mach 56:508-11, 558-9 Ap 6-13 '22

Ford principles and practice at River Rouge. J. H. Van Deventer. il plan Ind Management 65:257-67 My '23

Labor-saving use of cranes; new plant of Alfred Box & co. il Iron Age 112:604-5 S 6 '23

Machine shop which moved out of the city. il diag plan Am Mach 57:717-19 N 9 '22

Machine shops on the Pacific coast. F. H. Colvin. il Am Mach 58:825-6 Je 7 '23

Mather and Platt's works, Newton Heath. il plan Engineer 135:623-5 Je 15 '23

Modern gear cutting shop; at the Central gear works. F. H. Colvin. il diags plan Am Mach 57:326-30 Ag 31 '22

Old time shop in old England. J. T. Towlson. diags Am Mach 59:416-18 S 13 '23

Re-equipment of a machine tool works. il diags Engineer 133:276-7 Mr 10 '22

Schless machine tool works of Düsseldorf, G. L. Carden. il diags Iron Age 111:1091-5 Ap 19 '23

School shop installation and maintenance. L. S. Greene. 100p Manual arts press, Peoria, Ill. '22

Some economics of machine tool making. E. F. Du Brul. Iron Age 111:597-600, 685-6 Mr 1-8 '23; Same cond. Mech Eng 45:151-3+ Mr '23; Abstract. Mach 29:564-6 Mr '23

Supports for heavy machinery. E. H. Trick. il System 44:340-1 S '23

See also Electric driving; Electric railroads—Shops; Locomotive shops; Machine shop management; Machine shop practice; Machine tools; Railroads—Shops; Tool rooms

Accounting

See Factories—Accounting

Employees

Apprenticeship in a small shop. A. W. Forbes. il Am Mach 57:245-8 Ag 17 '22

Blind efficiently operate machine tools. H. Hermanns. il Iron Age 109:733 Mr 16 '22

Employment of the blind in workshops. il Engineering 112:715-17 N 25 '21

Employment of war-blinded in German industries. H. Hermanns. il Am Mach 55: 1023-5 D 29 '21

Practical training for young workers. W. Webb. Ind Management 63:76-7 F '22

Wages and hours of labor in foundries and machine shops, 1923. Monthly Labor R 17: 835-7 O '23

What are the worker's prospects in the machinery building industry? G. G. Thompson. Am Mach 57:537-8; 58:66 O 5 '22, Ja 11 '23

Equipment and supplies

Repair equipment of airplane and seaplane stations. A. Black. il diags Am Mach 58: 373-9 Mr 8 '23

See also Machine tools

Prices

Price curves of machine shop supplies show tendency to flatten out. A. W. Welch. Am Mach 59:80-1 Jl 19 '23

Heating and ventilation

Three different methods of heating a large machine shop. J. Mackay. diags plans Dom Eng 102:557-60 Mr 24 '23

Layout

Department layout in the Colburn shop. F. H. Colvin. il Am Mach 56:259-61 F 16 '22

Modern medium-size shop at Cheyenne. il plans Ry Mech Eng 97:325-33 Je '23

Polishing room arrangement. B. H. Divine. il diags plan Mach 29:457-60 F '23

Railroad shop organized for efficiency; Angus shops of the Canadian Pacific railway co., Montreal, Canada. il plan Mach 28:291-3 D '21

Lighting

Combined local and general lighting best for machine shops. J. J. McLaughlin. il Elec W 82:765 O 13 '23

Lighting metal-working plants to increase production. A. L. Powell. il diags Elec W 78:1069-72 N 26 '21

Power

See Machine tools—Electric driving

Safety devices and measures

Machinists' identification tag with a safety pull. il Safety Eng 42:224 N '21

Statistics

Foundry and machine shop products, 1921. Am Mach 58:727 My 17 '23

Seeing ourselves through the census. Am Mach 58:585-8 Ap 19 '23

Machine tool builders' association, National. See National machine tool builders' association**Machine tool industry**

Address to machine tool builders. E. J. Kearney. Am Mach 58:750e-g My 17 '23; Excerpts. Iron Tr R 72:1472-3 My 17 '23; Iron Age 111:1403-5 My 17 '23

Advancement in the machine industries. L. D. Burlingame. Mach 28:960-1 Ag '22

Aggressive machine tool salesmen. Mach 28: 452-3 F '22

Conditions faced by machine tool builder. J. J. Ralph. Iron Age 111:137-41 Ja 11 '23

Credit in the machine business. H. B. Egg. Am Mach 57:568 O 12 '22

Engineering sales methods. C. J. Morrison. Am Mach 57:872 D 7 '22

Future of American machinery and tools in Europe. A. L. Valentine. Mach 29:24-5 S '22

Machine tool builders' readjustment. Iron Age 109:1139-41 Ap 27 '22

Machine tool outlook better. E. F. Du Brul. Iron Tr R 71:1779 D 28 '22

Machine tool salesman. Mach 29:357-8 Ja '23

Moving pictures in the machine tool industry. D. S. Hazen. Am Mach 57:530 O 5 '22

National machine tool builders' association 20th spring meeting, White Sulphur Springs. Iron Age 111:1403-8 My 17 '23; Iron Tr R 72:1470-1 My 17 '23

National machine tool builders' association convention, Lenox, Mass. Iron Age 112:957-60 O 11 '23; Iron Tr R 73:1038-9 O 11 '23; Mach 30:183-4 N '23

Opportunities in the machine tool industry. F. A. Geier and J. B. Doan. Mach 28:870-1 Jl '22

Problems of the machine tool industry. E. F. Du Brul. Iron Age 119:1425-30 N 30 '22

Selling machine tools. Mach 28:277 D '21

Selling machine tools. A. Clegg. Am Mach 57:976 D 21 '22

Selling machine tools by demonstration. Mach 28:608-9 Ap '22

Selling machine tools by demonstration. O. R. Adams. il Mach 28:873-4 Jl '22

Selling machine tools by motion pictures. E. K. Hammond. Mach 29:96-7 O '22

Selling machine tools in dull times. L. K. Berry. Am Mach 58:393-4 Mr 16 '22

Strengthening machine tool industry discussed at National machine tool builders' association meeting. Iron Age 110:923-6 O 12 '22

See also Machine tools—Prices

Advertising

Exporter who created a domestic outlet; R. S. Stokvis & sons. Ptr Ink 117:49-50+ D 29 '21

How to compile catalogs. A. Dowel. Am Mach 56:562-3 Ap 13 '22; Same. Ptr Ink 120:126+ Jl 6 '22

Selective methods in advertising machine tools to manufacturers. E. P. Blanchard. Ptr Ink 123:132+ Je 14 '23

Machine tool industry—Continued**Records**

Machine tool sales and service records. G: M. Meyncke. diag Mach 29:461-3 F '23

Statistics

Manufacturers remiss in export returns. Iron Age 109:1675-6 Je 15 '22
 Number of employes in the machine tool industry. Mach 28:848 Je '22
 Statistics of the machine tool industry. Mach 28:1004-5 Ag '22

Asia

Machine tool market in Asia. C. F. Meyer. il Mach 28:457-60 F '22

Australia

Australia—imports of machine tools; tabulation. Am Mach 58:266 F 15 '23

Austria

Vulkan machine tool works of Vienna. G. L. Carden. il Iron Age 111:1630-3 Je 7 '23

Belgium

Belgian machine tool stocks are large. S. H. Cross. Iron Tr R 71:93 J1 13 '22

China

Changes in the machinery trade of China. W. H. Rastall. Am Mach 56:144-5 Ja 26 '22;
 Same. Iron Age 109:341-2 F 2 '22; Same. Iron Tr R 70:333-4 F 2 '22
 China—imports of machine tools. Am Mach 58:152 Ja 25 '23
 Growth of American machinery trade in China. Am Mach 56:576a-b Ap 13 '22

France

France—exports of machine tools—machines-outils. Am Mach 59:42 J1 12 '23
 France—imports of machine tools. Am Mach 59:22 J1 5 '23
 French machine tool market. C. E. Carpenter. Am Mach 56:355 Mr 2 '22
 French machine tool market. W. P. Mitchell. Mach 28:471, 820, 863 F Je-J1 '22
 French trade in American machine tools. G. L. Carden. Iron Age 111:955-6 Ap 5 '23
 Modern machine tools and the thrifty French. Am Mach 59:570 O 11 '23

Germany

Changed machine tool shops of Germany. G. L. Carden. Iron Age 111:33-4 Ja 4 '23
 Comparison of American, British and German machine tool exports. W. H. Rastall. Am Mach 55:933-4 D 8 '21
 German foreign competition declining. Am Mach 57:84 J1 13 '22
 German machine tool industry. Mach 28:780-1 Je '22
 German machine tool industry at the end of 1921. Am Mach 56:120e-f Ja 19 '22
 German machine tool trade. Iron Age 109:900 Mr 30 '22
 Germany's exports of machine tools during 1921. Iron Tr R 70:1045 Ap 13 '22
 Machine tool situation in Germany. G. L. Carden. Iron Age 111:1259-60 My 3 '23
 Problems of the German machine tool maker. Am Mach 58:892e-g Je 14 '23

Great Britain

British machine tool exports and imports. Mach 28:432 Ja '22
 British tool exports compared. W. H. Rastall. Iron Tr R 69:1490-1 D 8 '21; Same. Iron Age 108:1545-6 D 15 '21; Same abr. Am Mach 55:933-4 D 8 '21
 Huge stocks and exchange cause stagnation in British market for American machine tools. Am Mach 56:51 Ja 5 '22
 Machine tool trade outlook. Engineering 115: 369-70 Mr 23 '23
 Ten years' exports of machine tools to Great Britain. Mach 28:626 Ap '22
 United Kingdom—imports of machine tools, 1908-1921. Am Mach 57:805 N 23 '22

Italy

Machine tool market in Italy. L. Marzoli. Am Mach 56:612 Ap 20 '22

Japan

Demand for machine tools in Japan. S. Noda. Mach 29:210 N '22
 Japan as a user of automatic machine tools. A. Jackson. Am Mach 56:258 F 16 '22
 Machine tool trade in Japan. Mach 28:983 Ag '22
 Some statistics on Japanese machine tool imports and exports. Am Mach 56:237 F 9 '22

Netherlands

Dutch machine manufacturer. H: Obermeyer and A. L. Greene. il Am Mach 58:521-4 Ap 5 '23

New England

Development of machine tools in New England. G. Hubbard. il map Am Mach 59:1-4, 139-42, 241-4, 311-15, 389-92, 463-7, 541-4, 579-81, 919-22 J1 5, 26, Ag 16, 30, S 13, 27, O 11-18, D 20 '23

New Zealand

Machine tool market in New Zealand. D: K. Blair. Mach 29:375 Ja '23

South Africa

Union of South Africa—imports of machine tools. Am Mach 58:152 Ja 25 '23

Sweden

Machine tool industry in Sweden. diags Mach 29:31-2 S '22

United States

Comparison of American, British and German machine tool exports. W. H. Rastall. Iron Tr R 69:1490-1 D 8 '21; Same. Iron Age 108:1545-6 D 15 '21; Same abr. Am Mach 55:933-4 D 8 '21
 Exports of machine tools and metal-working machinery for 1921. Mach 28:764 My '22
 Figures on production of machinery during 1919 as compiled by the Bureau of the census. Am Mach 56:103 Ja 19 '22
 Machine tool industry may utilize its idle equipment. F. A. Scott. Am Mach 56:73-5 Ja 12 '22
 Machine tool shops according to the 1919 census. Am Mach 56:711 My 11 '22
 Output of machine tools; census figures for 1921. Iron Age 111:336 F 1 '23; Excerpt. Mach 29:358 Ja '23
 Production of machine tools in 1921. Mach 29:567 Mr '23
 Production of machine tools in the United States in 1919. Mach 28:466-7 F '22
 Proposed merger of machine tool manufacturers. Am Mach 56:464c-d Mr 23 '22
 Selling American machine tools in Europe. E. M. Hartridge. Iron Age 109:107-9 Ja 5 '22
 Some aspects of the present situation. A. W. Heun. Mach 28:265 D '21
 Some economics of machine tool making. E. F. Du Brul. Iron Age 111:597-600, 685-6 Mr 1-8 '23; Same cond. Mech Eng 45:151-3+ Mr '23; Abstract. Mach 29:564-6 Mr '23
 Status of the machine tool industry. E. F. Du Brul. Iron Age 112:959-60 O 11 '23
 Trend of the machine tool industry. F. A. Scott. Iron Age 111:4-6 Ja 4 '23
 United States—imports of machine tools. Am Mach 57:772 N 16 '22
 What machine tools were made in 1921 and whence they came. Iron Age 111:476-7 F 15 '23

Machine tools
 Attachments for surfacing, boring and drilling machines. il diags Engineer 133:395 Ap 7 '22
 Automobile's influence on machine tool industry. F. K. Hendrickson. Automotive Ind 45:926-7 N 10 '21
 Automotive service methods and equipment. H. Campbell. il Am Mach 55:619-23, 710-13, 789-91, 870-3, 1026-8; 56:59-61, 125-7, 521-2, 692-3, 782-4, 854-6, 920-2; 57:4-6, 89-91; 58: 411-13, 659-61, 721-3; 59:213-16, 255-8, 355-8, 429-32 O 20, N 3, 17, D 1, 29 '21, Ja 12, 26, Ap 6, My 11, 25, Je 8, 22, J1 6, 20 '22, Mr 15, My 3, 17, Ag 9-16, S 6, 20 '23

Machine tools—Continued

Careful choice of machine tools makes lower costs possible. A. J. Baker. *Automotive Ind* 48:763-4 Ap 5 '23

Cost-reducing tooling equipments for automobile gears and ball races. R. E. Flanders. *il diags Mach* 28:395-8, 447-51 Ja-F '22

Development of machine tools. D. S. Kimball. *Mech Eng* 45:154+ Mr '23; Same. Sibley *J* 37:80-1 Ap '23

Driving of machine tools. H. Bentley. *Eng & Ind Management* 6:688-9 D 15 '21

Enquiries for machine tools. H. Bentley. *Ind Management (Lond)* 10:17-18 Jl 12 '23

Incandescent lamp machinery. *il Mach* 29:969-70 Ag '23

Influence of the machine tool in America. J. Hartness. *Mech Eng* 44:728-9 N '22

Jigs and tools. J. Moore. *il diags Engineering* 115:55-9 Ja 12 '23

Jigs, tools and fixtures. P. Gates. 195p Van Nostrand '22

M.-G. production unit. *il Am Mach* 59:671-2 N 1 '23; *Mach* 30:229-30 N '23

Machine of all work. *il Sci Am* 126:331 My '22

Machine tool adaptations. H. Bentley. *diags Ind Management (Lond)* 8:376-7 D 28 '22

Machine tool investments. *Mach* 29:279-80 D '22

Machine tool operation. H. D. Burghardt. pt.2 440p McGraw-Hill '22

Machine tool progress. *il diags Engineering* 113:324-6 Mr 17 '22

Machine tools and their operation. F. H. Colvin and F. A. Stanley. 2v McGraw-Hill '22

Machine tools discussed at Philadelphia. *Iron Age* 111:625-7 Mr 1 '23

Machine used in making electric incandescent lamps. *il diags Mach* 30:32-3 S '23

Maintenance of small portable power tools. R. P. Walsh. *Am Mach* 57:873-5 D 7 '22

Mechanisms of machine tools. T. R. Shaw. 351p Oxford '23

Metal cutting tools, their principles, action and construction. A. L. De Leeuw. 328p McGraw-Hill '22

Metric graduations on machine tools for France. *Mach* 29:271 D '22

Multi-cutting tool arrangements. J. Horner. *diags Engineering* 115:63-4, 96-8, 259-61, 419-21, 482-5, 673-5, 731-4, pl 45 Ja 19-26, Mr 2, Ap 6, 20, Je 1, 15 '23

Multiple-spindle machine tools. E. P. Blanchard. *Soc Auto Eng J* 13:430 N '23

Necessity for modern machine tools. M. Schwarze. *Ry R* 73:640-1 N 3 '23

New tools in jobbing shops. H. L. Wheeler. *Am Mach* 56:439 Mr 23 '22

Production men ask detailed questions about machine tool possibilities at S.A.E. meeting. *Automotive Ind* 49:879-81 N 1 '23; *Iron Age* 112:1181+ N 1 '23; *Iron Tr R* 73:1246 N 1 '23

Purchase of machine tools. *Engineering* 115:710-11 Je 8 '23

Recent developments in precision bench tools. B. A. Behrend. *il Am Mach* 59:607-11, 719-22, 829-31 O 25, N 15, D 6 '23

Recent machine tool developments. J. Horner. *il diags Engineering* 109:103-5, 169-71, 236-9, 505-8, 707-10; 110:169-72, 268-70, 494-8, 660-4; 111:66-9, 382-4; 112:33-6, 364-7, 652-6, 780-3, pl 4-5; 113:126-8, pl 5, 219-21 Ja 23, F 6, 20, Ap 16, My 28, Ag 6, 27, O 15, N 19, '20, Ja 23, Ap 1, Jl 8, S 9, N 11, D 9 '21, F 3, 24 '22

Reducing the cost of tooling equipment. *il Mach* 29:275 D '22

Selecting tool equipment for maximum economy. D. W. McClosky. *Ind Management* 65:28-31 Ja '23

Selection of machine-tools. A. J. Baker. *Soc Auto Eng J* 11:520-8 D '22; Abstracts. *Am Mach* 57:849-50 N 30 '22; *Automotive Ind* 47:861-2 N 2 '22

Selection of railroad shop machine tools. M. H. Williams. *il Ry Mech Eng* 96:36-9 Ja '22

Semi-annual résumé of machines, tools and accessories described in the Shop equipment news section of the American machinist during the first six months of 1923; with index to manufacturers. L. C. Morrow. *Am Mach* 59:83-122 Jl 19 '23

Special machine. *Engineering* 114:18-19 Jl 7 '22

Special machines in a typewriter plant. C. Gabrielson. *il diags Mach* 30:1-5, 128-32 S-O '23

Special tools for making paper-mill machinery. E. T. Spidy. *il Am Mach* 59:575-8 O 18 '23

Standard machines for quantity production. R. E. Flanders. *Automotive Ind* 49:896-8 N 1 '23

Tool builders prepare for needs of industry. E. F. Ross. *il diags Iron Tr R* 72:48-53 Ja 4 '23

Tool engineering. A. A. Dowd and F. W. Curtis. 340p McGraw-Hill '23

Tools in a Virginia railroad shop. S. A. Hand. *il diags Am Mach* 56:873-7 Je 15 '22

Triplex combination bench machine. *il Mach* 28:323-4 D 21; *Iron Age* 108:1394 D 1 '21

Two special machines for ordinary work; work remains stationary while tools move. M. Wright. *il Am Mach* 56:333-4 Mr 2 '22

Year's achievement in machine tools. L. S. Love. *Iron Age* 111:49-50, 151-3 Ja 4-11 '23

See also Arbors and mandrels; Bending machines; Broaches; Chucking machines; Cutting machines; Cutting-off tools; Drilling and boring machinery; Electric driving; Facing tools; Feed mechanism; Forming tools; Gear cutting machines; Grinding and polishing; Grinding machines; Hobbs; Lathes; Locating devices; Machine shop practice; Machine tool industry; Metal cutting; Milling cutters; Milling machines; Planing machines; Pneumatic tools; Punching machinery; Reamers; Recessing tools; Saws; Screw machines; Shapers; Shears; Slotting machines; Swaging machines; Tapping machines; Thread cutting machines; Tool steel

Design

Control of tool design. C. J. Dorer. *diags Am Mach* 58:251-4 F 15 '23

Design and construction of large machine tools. G. H. Benzon, jr. *il Mech Eng* 45:215-19 Ap '23; Same cond. *Am Mach* 58:415-17 Mr 15 '23

Design of machine adapters. H. P. Losely. *diags Mach* 29:604 Ap '23

Following up changes in design. H. Levine. *il Mach* 29:43-4 S '22

Getting back to business in the machine tool industry. O. E. Perrigo. *diags Iron Tr R* 70:13-18+ Ja 5 '22

Is beauty an important factor in machine design? an interview with Maxfield Parrish. K. H. Condit. *il Am Mach* 59:461-2 S 27 '23

Machine tools: their design and manufacture. J. Horner. *Engineering* 114:231-3 Ag 25 '22

Methods of design in a small shop. A. W. Forbes. *il Am Mach* 59:56-8 Jl 12 '23

Methods of machine tool design. A. L. De Leeuw. *Am Mach* 56:577-9, 617-20, 657-9, 694-6, 727-31, 774-7, 807-10, 857-60, 878-81, 923-7, 964-6, 57:12-15, 92-4, 137-40, 184-6, 223-7, 259-61, 331-3, 370-2, 402-5, 440-3, 480-2, 534-7, 561-4, 609-11, 639-42, 687-92, 761-6, 797-9, 963-7; 58:297-300 Ap 20, Jl 6, 20-Ag 17, 31-N 2, 16-23, D 21 '22, F 22 '23

Organisation of a jig and tool drawing office. H. Varley. *diags Eng & Ind Management* 7:123-6 F 2 '22

Standard information for tool designers. C. B. Johnson. *diags Am Mach* 57:420 S 14 '22

Standardization of T-slots. H. Cadwallader, jr. *diags Mach* 29:62-3 S '22

Status of tool designers. H. W. Cable. *Am Mach* 59:408 S 13 '23

Tool design standards. H. P. Losely. *diags Mach* 28:713-15 My '22

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 56:767-71 My 25 '22

Work-holding surfaces of machine tools. F. Horner. *diags Mach* 29:594-7, 679-82, 763-8 Ap-Je '23

Electric driving

Changing 2,700 machine tools to individual motor drive. *il Am Mach* 59:402-4 S 13 '23

Control systems for d.c. motors applied to machine tool drive. B. S. Pero. *il Am Mach* 58:515-19 Ap 5 '23

Machine tools—Electric driving—Continued

- Electric drive and push-button control increase plant production. T: W. C. Hartmann. *il Elec W* 79:787-8 Ap 22 '22
- Electric drive for reversing machine tools. A. L. Harvey. *Am Mach* 56:371-3 Mr 9 '22
- Group drives and direct connected motors. L: W. Army. *Iron Age* 111:627+ Mr 1 '23
- High-speed motors for machine tools. W. A. Furst. *charts Mach* 30:41-3 S '23
- Individual motor drive improves shop efficiency. H. J. Rice. *il Elec Ry J* 61:474-6 Mr 17 '23
- Methods of machine tool design. A. L. DeLeeuw. *diags Am Mach* 57:12-15 Jl 6 '22
- Overcoming difficulties in installing individual drives on special machines. J. W. Carpenter. *il Ind Eng* 80:597 D '22
- Power required for cutting metal. F: A. Parsons. *diags Mech Eng* 45:35-41 Ja '23; Summary. *Mach* 29:500 F '23
- Power service on machine tools. R. Harris. *il diag Ind Eng* 80:365-8 Ag '22

Exhibitions

- German machine tools exhibits at recent Leipzig fair. A. J. Grey. *Iron Age* 111:1834 Je 28 '23
- Machinery exhibit at the Leipsic Fair. *Am Mach* 58:644-k Ap 26 '23
- Model engineer exhibition. *il Engineer* 133:42 Ja 13 '22; *Engineering* 113:50 Ja 13 '22
- New Haven branch of American society of mechanical engineers hold 2d annual machine tool exhibition in New Haven, Conn., Sept. 21-23. *Iron Age* 110:811-13 S '22; *Iron Tr R* 71:862 S '22; *Am Mach* 57:556 O 5 '22
- New Haven section of the American society of mechanical engineering hold third annual machine tool exhibition. *il Iron Age* 112:841-2 S 27 '23; *Iron Tr R* 73:970 O 4 '23
- Observations at the Leipzig fair. *Am Mach* 56:575-6 Ap 13 '22
- Small power engineering and scientific exhibition. *il Engineering* 115:38-9 Ja 12 '23

Fixtures

- Button method of checking angular work. W. G. Holmes. *diags Mach* 29:605 Ap '23
- Combination gage and adjusting fixture. C. J. Dorer. *il diags Am Mach* 57:376-7 S 7 '22
- Drilling, boring and reaming fixture for watch plates. *diags Mach* 29:639-40 Ap '23
- Fixture for facing and turning transmission case flange. W: Owen. *diags Mach* 29:61 S '22
- Fixture for milling and under-cutting clutch teeth. J. T. Longdon. *diags Mach* 29:848 Jl '23
- Fixtures used in machine tool production. *il Iron Age* 111:1021-2 Ap 12 '23
- Jigs and fixtures. F: H. Colvin and L. L. Haas. 2d ed., rev. & enl. 237p McGraw-Hill '22
- Milling machine vice-setting blocks. J. Blakey and J. H. Shankley. *diags Eng & Ind Management* 6:713 D 22 '21
- Multiple fixtures for milling small parts. C. E. Stevens. *il Am Mach* 57:759-60 N 16 '22
- Spring plungers for fixtures. H. P. Losely. *diags Mach* 28:730-1 My '22; Discussion. E: Heller. 29:125 O '22
- Standardization of jig and fixture design. *diags Mach* 28:610-13 Ap '22
- Standardizing parts for fixture track systems. W. F. Sandmann. *il diags Am Mach* 59:127-30 Jl 26 '23
- Tapping fixtures. *diags Mach* 29:602-3 Ap '23
- See also Arbors and mandrels; Chucks; Jigs

Gearing

- Methods of machine tool design. A. L. DeLeeuw. *diags Am Mach* 56:774-7, 807-10 My 25-Je 1 '22

Manufacture

- Design and construction of large machine tools. G: H. Benzon, Jr. *il Mech Eng* 45:215-19 Ap '23; Same cond. *Am Mach* 58:415-17 Mr 15 '23

Eastern shop of modern design; new plant of Gould & Eberhard, Irvington, N.J. C. E. Clewell. *il plan Am Mach* 56:508-11, 558-9 Ap 6-13 '22

- Machine tool shop management problems. E. F. Du Brul. *Iron Age* 111:685-6 Mr 8 '23
- Machine tools; their design and manufacture. J. Horner. *Engineering* 114:231-3 Ag 25 '22
- Organization of a large tool division. H. P. Losely. *chart Mach* 28:632-7 Ap '22
- Rigging for machine-tool castings. A: N. Kelley. *il Foundry* 50:78-81 Ja 15 '22
- Service of the tool and contract shop. *Mach* 28:621 Ap '22
- Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 54:720-5, 770-2, 816-19, 864-7, 905-8, 939-42, 997-9, 1037-40, 1078-80, 1119-22; 55:18-22, 61-4, 102-6, 126-30, 179-83, 211-17, 256-61, 299-304, 391-4, 432-5, 541-4, 588-91, 629-32, 716-19, 765-7, 797-9, 834-6, 878-8, 915-18, 998-1001, 1029-35; 56:67-71, 134-7, 175-8, 207-9, 292-5, 326-8, 374-7, 413-16, 446-50, 472-6, 547-50, 591-4, 624-6, 702-5, 889-93; 57:18-22, 107-11, 178-82, 218-21, 263-6, 340-3, 453-5, 490-2, 527-30, 569-72, 645-8, 695-8, 807-9, 917-19, 951-4, 999-1002; 58:217-20, 289-91, 361-3, 437-42, 473-7, 511-14, 551-4, 689-93, 755-9, 801-4, 869-71; 59:49-51, 135-7, 179-81, 251-3, 405-7, 481-3, 557-60, 613-15 Ap 28-Ag 25, S 8-15, O 6-20, N 3-D 8, 22-29 '21, Ja 12, 26-F 9, 23-Mr 30, Ap 13-27, My 11, Je 15, Jl 6, 20, Ag 3-17, 31, S 21-O 12, 26-N 2, 23, D 14-28 '22, F 8, 22, Mr 8, 22-Ap 12, My 10, 24-31, Je 14, Jl 12, 26-Ag 2, 16, S 13, 27, O 11, 25 '23
- Tool engineering; jigs and fixtures. A. A. Dowd and F. W. Curtis. 293p McGraw-Hill '22

Welding high-speed tool steel to ordinary shanks. W. J. Seibert. *Am Mach* 59:254 Ag 16 '23

Painting

- Painting machine tools white. D. A. Nevins. *Am Mach* 56:166 F 2 '22
- Painting machine tools white. E. Sheldon. *Am Mach* 55:1013 D 22 '21

Prices

- Base the selling prices of stock machines on the cost of replacement. S. O. Livingston. *Am Mach* 57:15 Jl 6 '22
- German machine tool prices. *Mach* 28:874 Jl '22
- Price and the machine tool salesman. *Mach* 28:536-7 Mr '22
- Prices of machine tools. *Mach* 28:543 Mr '22
- Prices, wages and cost of materials. F. N. Macleod. *Mach* 29:21-2 S '22
- Reduced prices of machine tools. *Mach* 28: 279 D '21

Records

- Keeping records of tools. G. Phelps. *Am Mach* 55:815 N 17 '21
- See also Drilling and boring machinery—Records

Speed

- Practical notes on speeds and feeds. E. K. Steiner. *Am Mach* 59:467 S 27 '23
- Les vitesses de coupe économique des outils et les temps d'usinage. A. Bussod. *Génie Civil* 83:58-63 Jl 21 '23

Speed control

See Oil gear system

Standards

- Definite program of standardization is adopted. *Iron Tr R* 70:1269+ My 4 '22
- Engineer's view of standardization of machine tool elements. H. E. Harris. *Am Mach* 57: 183 Ag 3 '22
- Machine tool standardization. *Mach* 29:945 Ag '23
- Shall we standardize machine tools? G: E. Merryweather. *Am Mach* 56:725-6 My 18 '22
- Standard machines for quantity production. R. E. Flanders. *il Am Mach* 59:653-6 N 1 '23

Machine tools—Standards—Continued

Standard versus special machine-tools for automotive production. R. K. Mitchell. Soc Auto Eng J 11:472-3 D '22; Same cond. Am Mach 57:852-3 N 30 '22; Abstract. Iron Age 110:1435-6 N 30 '22

Standardization considered at spring meeting of National machine tool builders' association on April 18 and 19, Atlantic City, N.J. Iron Age 109:1210 My 4 '22

Standardization of machine tools. J. A. Smith. Am Mach 58:686 My 10 '23

Standardizing machine shop equipment. H. L. Wheeler. diags Am Mach 57:520-1 O 5 '22

Suggestions as to standardization of machine tools. F. H. Colvin and K. H. Condit. Mech Eng 44:720-1 N '22; Same. Iron Tr R 71: 919+ O 5 '22

Testing

Running-in tests for machine tool units. D. T. Hamilton. il Mach 30:47-8 S '23

Valuation

Depreciation of machinery and its inventory values. M. H. Ball. Am Mach 56:110-11 Ja 19 '22

Machine work

See also Machine shop practice

Tables, calculations, etc.

Determining the cutting horse-power of a machine tool. H. K. Keever. Am Mach 59: 555 O 11 '23

Machine-shop mathematics. G. Wentworth, D. E. Smith and H. D. Harper. 162p Ginn '22
Times for machine operations. C. J. Morrison. Ind Management 63:346-7 Je '22

Tool-room formulas for locating holes in work with angular faces. W. G. Holmes. diags Mach 29:966-8 Ag '23

Les vitesses de coupe économiques des outils et les temps d'usage. A. Bussod. Génie Civil 83:58-63 Jl 21 '23

Machine works

Whitin machine works, Whitinsville, Mass.; views and plans. Arch Forum 39:pls 42-4 S '23

Machinery

Determining money value of efficiency. P. F. Christopher. Power Pl Eng 26:1044-5 N 1 '22

Eliminating waste in the developing of industrial machinery. M. Katcher. Management Eng 3:1110-11 Ag '22

Making special machines pay. J. M. Macrae. il Management Eng 3:343-5 D '22

Mechanics of machinery. R. C. H. Heck. McGraw-Hill '23

When is it economical to install special and automatic machinery? A. L. DeLeeuw. Management Eng 2:19-24 Ja '22

See also Agricultural machinery; Assembling methods; Balancing machines; Balancing of machinery; Ball bearings; Bearings; Belting; Bolts and nuts; Brakes; Bushings; Calculating machines; Casting machines; Cement machinery; Centering machines; Clamps; Clutches; Coal mining machinery; Conveying machinery; Cotton machinery; Couplings; Cranes, derricks, etc.; Crank-cases; Crankpins; Crankshafts; Crushing machinery; Cutting machines; Cylinders (engines); Dredges; Drilling and boring machinery; Dyeing machines; Electric machinery; Engineering; Engines; Excavating machinery; Fans; Mechanical; Feed mechanism; Filing machines; Fits (machinery); Fitting (machinery); Flotation machines; Forging machinery; Foundry machinery; Friction; Gas and oil engines; Gear cutting machines; Gearing; Grinding machines; Harvesting machinery; Hoisting machinery; Hydraulic machinery; Hydraulic motors; Hydraulic presses; Ice cutters; Interchangeable mechanism; Inventions; Jacks; Jigs; Keys and keyways (machinery); Knitting machines; Lathes; Laundry machinery; Linotype; Locomotives; Looms; Lubrication and lubricants; Machine shop practice; Machine tools; Mechanical drawing; Mechanical engineering; Mechanical handling; Mechanics; Milling machines; Mining ma-

chinery; Mixing machines; Molding machines; Moving picture machines; Packaging machinery; Packing; Patents; Pattern making; Planing machines; Pneumatic machinery; Power transmission; Presses; Printing presses; Pulleys; Pumping machinery; Pumps; Railroads—Track making machinery; Refrigeration and refrigerating machinery; Road making machinery; Roller bearings; Rubber machinery; Scraping machines (metal work); Screw machines; Screws; Sewing machines; Shafting; Shafts; Shapers; Shoveling machines; Slotting machines; Spinning machinery; Springs (mechanism); Steam engines; Steam turbines; Sugar machinery; Swaging machines; Tabulating machines; Testing machines; Textile machinery; Thread cutting machines; Threshing machines; Tiering machines; Tolerance; Tools; Tractors; Trenching machinery; Turbines; Turning; Typesetting machines; Typewriters; Valves; Water wheels; Winches; Windmills; Wire drawing machines; Woodworking machinery; Woolen and worsted machinery

Alinement

See Alinement of machinery

Costs

Wages paid to machinery. W. B. Lewis. il Ind Management 65:240-2 Ap '23

Design

Changing the design on short notice. E. E. Cook. Ind Management 65:178-81 Mr '23

Design of inclinable power presses. P. A. Friedell. il diags Mach 29:376-9, 876-80; 30: 279-81 Ja, Jl, D '23

Design of machine elements. J. A. Mease and G. F. Nordenholt. 237p McGraw-Hill '23

Design of punching and shearing machines. A. L. Jenkins. il diags Mach 29:841-8, 974-8; 30:34-8, 113-18 Jl-O '23

Elements of machine design. D. S. Kimball and J. H. Barr. 2d ed., rev. and enl. 446p Wiley '23

Empirical design. L. D. Hayes. 105p Cornell co-operative soc. Ithaca, N.Y. '21

Geometric progressions by short-cut methods; value to standardization. L. D. Burlingame. il Am Mach 56:743-5 My 18 '22

Maintenance factor in machine design. W. E. Irish. diags Ind Management 66:201-5 O '23
Problems in machine design. O. A. Leutwiler. 140p McGraw-Hill '23

Simplicity in machine design. Am Mach 58: 468 Mr 29 '23

See also Bearings; Bushings; Cams; Clutches; Drafting room practice; Gearing; Interchangeable mechanism; Keys and keyways (machinery); Machine tools—Design; Shafts

Drawing

Coordinating theoretical and practical instruction. W. Ichler. diags Mach 30:180 N '23

Engineer's sketch book of the 18th century. H. W. Dickinson. diags Engineer 135:59-60 Ja 19 '23

Machine drawing. C. L. Svensen. 214p Van Nostrand '21

Erection

Machinery installation service. F. E. Lister. Management Eng 3:283-6 N '22

See also Machinery—Foundations

Exhibitions

Bill and I see the power show. il Power Pl Eng 27:96-107 Ja 1 '23

8th British industries fair, Birmingham, Feb. 27-Mar. 10. il diags Engineer 133:238-40, 261-4 Mr 3-10 '22

British industries fair, Birmingham and London, Feb. 19-March 2. Engineer 135:201, 222-4, 254-5 F 23-Mr 9 '23; Engineering 115:203-6, 230-3, 262-3, 296-8 F 16-Mr 9 '23

First National exposition of power and mechanical engineering. il Power 56:928-36 D 12 '22

Machinery—Exhibitions—Continued

Shipping, engineering and machinery exhibition. *il* diags *Engineer* 136:224-6, 249-52, 276-8, 306-10, 335-40, 363-6 *Ag* 31-O 5 '23; *Engineering* 116:259-65, 270, 292-7, 326-31, 353-9, *pl* 19 *Ag* 31-S 21 '23; *Elec R* (Lond) 93:347-50, 408-9, 445-7 *S* 7-21 '23

See also Foundry machinery—Exhibitions; Laundry machinery—Exhibitions; Machine tools—Exhibitions; Textile machinery—Exhibitions

Foundations

Design of structural supports for turbo-generators. *E. H. Cameron. il* diags *Am Soc C E Pro* 49:37-52 *Ja* '23; *Abstract. Power* 57:154-5 *Ja* 23 '23; *Discussion. Am Soc C E Pro* 49:274-8, 581-2, 782-6, 993-6 *F-M* '23

Devices for leveling large machines. *N. L. Rea. il* *Gen Elec R* 26:450-1 *Je* '23

Erecting power machinery having cast-iron bedplates. *N. L. Rea. diags Power* 56:1021-3 *D* 26 '22

Erector's experiences in building oil-engine foundations. *L. H. Morrison. diags plan Power* 55:651-4 *Ap* 25 '22

Fastening machinery to concrete. *G. H. Radebaugh. il* *Brick & Clay Rec* 60:848-51 *My* 30 '22

Foundation notes. *T. Jones. diag Power Pl Eng* 26:237-8 *F* 15 '22

In regrouting cylinder foundation, use of sulphur was narrowly averted. *F. C. Sinback. Coal Age* 21:527 *Mr* 30 '22

Leveling a planer. *C. O. Lewis. diags Mach* 29:531-5 *Mr* '23

Leveling an engine on its foundations. *G. Grow. diags Power* 56:409-11 *S* 12 '22

Leveling machine beds on foundations. *G. A. Luers. diag Power Pl Eng* 26:1222 *D* 15 '22

Machinery foundations and erection. *T. Croft. 691p McGraw-Hill* '23

Second-story planer foundations. *A. E. Robinson. il* diags *Am Mach* 56:917-19 *Je* 22 '22

Strength of column-supported foundations; analysis of stresses in various parts of condenser foundation. *J. Flodin. diags Marine Eng* 28:180-2 *Mr* '23

Using shims instead of wedges for leveling bases of steam turbines. *E. C. Barker, sr. il* diags *Power* 57:58-60 *Ja* 9 '23; *Discussion. 57:262-3, 455 F* 13, *Mr* 20 '23

Vibrations in foundations. *E. Schmidt. diags Mech Eng* 45:248-50 *Ap* '23

Inspection

See Oscilloscope

Manufacture

Cole, Marchent and Morley, Ltd., a Bradford engineering works. *il Engineer* 133:210-12, 214 *F* 24 '22

Controlling costs in building experimental machines. *F. H. Colvin. il* *Am Mach* 58:429-31, 503-7, 589-91 *Mr* 22, *Ap* 5, 19 '23

See also Assembling methods

Marking

Marking manufactured products as an aid in appraisal work. *W. M. Lowry. Munic Eng* 63:161-2 *N* '22

Noise

See Noise

Painting

Paint as an aid to illumination from the machinery painting angle. *L. E. Jamme. il Illum Eng Soc* 18:355-7; *Discussion. 357-65 Ap* '23

Repair

Building up worn metal parts by electrodeposition. *W. E. Hughes. Chem & Met Eng* 26:267-9 *F* 8 '22

Keeping track of repair parts. *E. E. Ayars. Brick & Clay Rec* 63:330-3 *S* 4 '23

Machine repairman. *G. Walter. Am Mach* 58:694 *My* 10 '23

Repair records that save machines. *Factory* 29:523-4 *N* '22

Safety first on machinery up-keep. *W. E. Irish. il* diags *Ind Management* 66:121-5 *Ag* '23

Successful putting on tool for steel parts. *D. R. Kellogg. Elec J* 19:249-51 *Je* '22; *Abstracts. Min & Met* 182:61 *F* '22; *Metal Ind* 20:148 *Ap* '22; *Mech Eng* 44:603-4 *S* '22; *Am Mach* 57:611-12 *O* 19 '22

Safety devices

Accident prevention at Allis-Chalmers. *F. E. Redmond. il* *Nat Safety N* 7:11-13 *F* '23

Design and construction of safeguards. *S. J. Williams. diags Power Pl Eng* 25:1106-7 *N* 15 '21; *Discussion. K. Rankin. 26:139-40 Ja* 15 '22

Efficient guard for rolling machines. *D. A. Hampson. diag Am Mach* 59:564 *O* 11 '23

Safeguarding machinery to avoid accidents. *Management & Adm* 6:490 *O* '23

Steady reduction in accidents follows systematic installation of guards. *M. N. Johnson. il* *Safety Eng* 44:1-3 *Jl* '22

Two simple machine guards. *il* *Pop Mech* 37:454 *Mr* '22

What mechanical guarding has done in one tannery. *il* *Nat Safety N* 7:13-16 *Ja* '23

See also Carding machines—Safety devices; Grinding wheels—Safety devices; Punching machinery—Safety devices; Refrigeration and refrigerating machinery—Safety devices; Textile machinery—Safety devices

Testing

Evaluation of noise. *il* diags *Automobile Eng* 13:109-12 *Ap* '23

See also Oscilloscope; Rotostat; *also* subdivision Testing under names of machines and classes of machinery, e.g. *Automobile engines—Testing; Electric machinery—Testing; Steam turbines—Testing*

Valuation

Rating of machinery. *Elec R* (Lond) 89:617-18 *N* 4 '21

Rating of machinery. *E. W. Pierce. Ind Management* (Lond) 9:304-6, 334-6; 10:95-7 *My* 17-31, *Ag* 23 '23

Rating of machinery. *J. J. H. Stansfield. Elec R* (Lond) 90:835-6 *Je* 16 '22

Machinery, Automatic

Automatic machine for production drilling and reaming. *il* *Iron Age* 109:266 *Ja* 26 '22

Automatic machines in the electric lamp industry. *il* diags *Mach* 30:214-16 *N* '23

Automatic machine replace hand labor. *il* *Iron Age* 109:1057-60 *Ap* 20 '22

Automatic tools for making an instrument case. *E. D. Benson. diags Am Mach* 59:336 *Ag* 30 '23

Control of machines by perforated records based on Jacquard mechanism; principles of pneumatic and electric control. *E. Scheyer. il* diags *Am Mach* 55:743-7 *N* 10 '21

Modern automatic machinery aids in the manufacture of crossarms. *il* *J Elec* 50:287 *Ap* 15 '23

Modern production methods. *W. R. Basset. Am Mach* 56:87-90 *Ja* 19 '22

Skilled hands, or automatic machinery; interview with Frank M. Leavitt. *il* *Sci Am* 127:150-1+ *S* '22

Stop for an automatic machine. *I. B. Black. diags Mach* 28:959 *Ag* '22

See also Screw machines

Control

When perforated paper goes to work; how strips of paper can endow inanimate machines with brains of their own. *E. Scheyer. il* diags *Sci Am* 127:394-5+ *D* '22

Machinery, Kinematics of

Engineering kinematics. *W. G. Smith. 282p McGraw-Hill* '23

Théorie des vecteurs, cinématique, mécanismes. *H. P. M. Bouasse. 482p Delagrave, Paris* '21

Machinery, Used

Second-hand equipment. *J. A. Thomas. Min & Sci P* 124:252 *F* 25 '22

Supply of used machine tools. *Mach* 28:539-40 *Mr* '22

Machinery, Used—Continued

Used machinery—a new industry asset. F. MacGovern. Elec W 81:477-8 F 24 '23
Value of used machinery. H. D. Martin. Textile World 62:1011+ Ag 19 '22

Machinery in industry

Greater use of machinery recommended to Europe. J. H. Barnes. Am Mach 58:662 My 3 '23

How an inventor straightened out a labor tangle. J. H. Collins. Il Sci Am 126:102-3 F '22

How labor shortage solves its own problems. Ind Management 66:65-8 Ag '23

See also Division of labor

Machinery industry

Breach of a contract to supply machinery. Engineering 114:181-3 Ag 11 '22

Engineering salesmanship. Engineering 114:273-5 S 1 '22; Excerpts. Eng & Contr (Ry) 58:35-7 O 18 '22

Export ratios need study in industrial machinery field. W. H. Rastall. Eng N 91:698-9 O 25 '23; Same. Am Mach 59:658 N 1 '23; Same. Iron Tr R 73:1179-80 O 25 '23

Financing exports of machinery. W. H. Rastall. Iron Tr R 72:161-2 Ja 11 '23; Same. Am Mach 58:192-3 F 1 '23

How can this man sell \$500,000 worth of obsolescent machinery? Ptr Ink 118:19-20 Mr 30 '22

Opportunity in machinery export. W. H. Rastall. Iron Age 111:1348+ My 10 '23

Selling on approval. L. Childs. Factory 27:790+ D '21

Simplification—what does it offer in the machine industry? W. A. Durgin. Am Mach 56:689-91 My 11 '22

Use of statistics of machinery exports. W. H. Rastall. U S Bur For & Dom Com Trade Information Bul 139:1-4 '23

See also Agricultural machinery industry; Automobile industry and trade; Machine tool industry; Motor truck industry and trade; Shoe machinery trust; Tractor industry

Advertising

Dramatizing man and machine in business-paper advertising. Ptr Ink 119:132-3+ Ap 13 '22

Labor shortage a timely theme for industrial advertising. J. A. Murphy. Ptr Ink 123:8+ My 17 '23

Plea for lower costs of advertising. Il Ptg Art 42:27-34 S '23

See also Agricultural machinery industry—Advertising; Machine tool industry—Advertising; Sewing machines—Advertising; Washing machines, Electric—Advertising

Service

Machinery installation service. F. E. Lister. Management Eng 3:283-6 N '22

Statistics

Manufacture of machinery during 1921. Am Mach 58:584 Ap 19 '23

World trade in machinery. W. Althoff. Am Mach 57:147-8 Jl 27 '22

Asia

Asia's machinery needs growing. W. H. Rastall. Iron Tr R 72:599-600 F 22 '23

Asiatic markets for industrial machinery. W. H. Rastall. Il maps U S Bur For & Dom Com 215:1-332 '22; Abstracts. Iron Age 111:821-2 Mr 22 '23; Iron Tr R 72:743 Mr 8 '23; Am Mach 58:370 Mr 8 '23

Australia

Expansion of Australian machinery market. Am Mach 57:124a Jl 20 '22

China

Changes in the machinery trade of China. W. H. Rastall. Am Mach 56:144-5 Ja 26 '22; Same. Iron Age 109:341-2 F 2 '22; Same. Iron Tr R 70:333-4 F 2 '22

See also Machine tool industry—China

Denmark

Exports and imports of machines for metal working or wood working with drilling (bore) machines. Am Mach 57:924 D 14 '22

France

France as a consumer and producer of machinery. Am Mach 59:234 Ag 9 '23

Germany

German competition is overrated. W. Althoff. Iron Tr R 71:43-4 Jl 6 '22

German competition—the world's "bogey man." H. Obermeyer and A. L. Greene. Il Am Mach 58:245-9 F 15 '23

Germany and her export trade. Am Mach 59:36f-g Jl 5 '23

Where can German machinery makers compete? Am Mach 58:750 1-m My 17 '23

See also Machine tool industry—Germany

Great Britain

British machinery industry. H. E. Obermeyer and A. L. Greene. Am Mach 57:472-a S 21 '22

British stocks of used tools reduced. Iron Tr R 72:591-2 F 22 '23

See also Machine tool industry—Great Britain

India

End of British preference in India. F. C. Chappell. Am Mach 55:852-3 N 24 '21

Growing need for machinery in British India. C. C. Batchelder. Am Mach 58:616 Ap 26 '23

Italy

American tools imported by Italian users. Iron Tr R 73:1308 N 8 '23

Italy—imports of machinery for working wood and metal. Am Mach 58:43 Ja 4 '23

Japan

American machinery leading in Japan. Iron Tr R 73:739-40 S 13 '23

Japan—imports of metal and woodworking machinery. Am Mach 58:112 Ja 18 '23

Poland

Polish machinery industry shows revival. G. L. Carden. Il Iron Age 110:1483-5 D 7 '22

South Africa

South African machinery market. Am Mach 57:1016-16a D 28 '22

South America

Selling machinery in South America. R. A. Colorado. Am Mach 58:724 My 17 '23

Spain

Spain—imports of machinery for working metal, wood or stone. Am Mach 58:82 Ja 11 '23

Sweden

Sweden—exports and imports of metal working machinery. Am Mach 57:876-7 D 7 '22

Switzerland

Swiss machinery industry in 1921. Am Mach 56:237 F 9 '22

Switzerland—exports of machinery for working metal, wood, stone, etc. Am Mach 57:958-9 D 21 '22

Switzerland—imports of machinery for working metal, wood, stone, etc. Am Mach 57:1003 D 28 '22

United States

Expanding markets for machinery. W. H. Rastall. Am Mach 56:206 F 9 '22

Expansion in machinery exports analyzed. W. H. Rastall. Iron Tr R 72:370 F 1 '23

Exporting small tools and machinery. H. D. Parker. Am Mach 58:101-4 Ja 18 '23

Exports before and after the war. diag Mach 29:522 Mr '23

Government aid in machinery exporting. W. H. Rastall. Iron Age 108:1619-20 D 22 '21

Happenings in the machinery field since January. K. H. Condit. Am Mach 59:75-6 Jl 19 '23

Machinery industry—United States—Continued
Hoover message to export manufacturers. J. M. Oskison. *Ind Management* 65:131-5 Mr '23

How to promote American machinery sales abroad. W. H. Rastall. *Ptr Ink* 125:154+ O 11 '23

Less machinery made in 1921 than in 1919. *Am Mach* 58:207 F 1 '23

Machinery export markets for the coming year. W. H. Rastall. *Am Mach* 58:153-4 Ja 25 '23; Same. *Eng N* 90:279+ F 8 '23

Machinery export plans for 1923—Latin America. W. H. Rastall. *Eng N* 90:370-1 F 22 '23; Same cond. *Iron Age* 111:414 F 8 '23

Machinery export plans for 1923—the Far East. W. H. Rastall. *Eng N* 90:768-9 Ap 26 '23

Promise of 1923 in machinery exports. W. H. Rastall. *Iron Age* 111:11-12 Ja 4 '23

Promoting American machinery sales abroad. W. H. Rastall. *U S Bur For & Dom Com Trade Information Bul* 138:1-18 '23

U. S. Supreme court holds lease contracts of United shoe machinery corporation in violation of Clayton act. *Comm & Fin Chr* 114:1729-30 Ap 22 '22

World popularity of American machinery. *Am Mach* 58:60a Ja 4 '23

See also Machine tool industry—United States

Venezuela

Machinery markets of Venezuela. H. C. Plummer. *Am Mach* 56:331-2 Mr 2 '22

Machinists

Another machinist has reminiscences. S. R. Hunter. *diag Am Mach* 58:100 Ja 18 '23

Few suggestions for the apprentice. H. L. Wheeler. *Am Mach* 58:326 Mr 1 '23

Getting men for the machinery industry. *Am Mach* 58:424, 540, 685, 860 Mr 15, Ap 12, My 10, Je 14 '23

Learning the trade forty years ago. N. S. Davenport. *Am Mach* 57:719-20, 771, 796, 882 N 9-23, D 7 '22

See also Automobile mechanics

Machinists' tools

Machinists' tools and their manufacture. *il Engineering* 113:290-2 Mr 10 '22

Mack trucks, inc.

Annual report and consolidated balance sheet, December 31st, 1922. *Comm & Fin Chr* 116:1193 Mr 17 '23

McKim, Mead & White

McKim, Mead & White—a history. L. Moses. *il Am Arch* 121:413-20+, 426a-p My 24 '22

Mackinaw coats. See Overcoats

McKinley, William

Memorials

National McKinley birthplace memorial (1915). *Am Arch* 121:426f, 436 My 24 '22

Mackintosh-Hemphill company

Rolling mill equipment merger is completed. *Iron Age* 110:272-4 Ag 3 '22; *Iron Tr R* 71:320-1 Ag 3 '22

McMillin, Emerson, 1844-1922

Sketch. *por Gas Age* 49:717-18+ Je 10 '22

McMurrick, James Playfair, 1859-

President of the American association for the advancement of science. M. Benjamin. *por Sci Am* 127:412 D '22

Macrophotography

Making big photographs of little things. E. Bade. *il Sci Am* 128:97 F '23

McVay, William, 1845-1922

Veteran producer of Bradford oil fields. D. A. Dennison. *por Nat Pet N* 13:37-8 D 7 '21

Macy, R. H., and company, New York

Costs 2% lower, 82% more sales and only 26% more employees. P. S. Straus. *System* 42:398-400+ O '22

Romance of a great store. E. Hungerford. 281p R. M. McBride & co., New York '22

This plan makes steady customers of shoppers; Macy and co. deposit account department. *il System* 41:154-5 F '22

Madagascar

See Mines and mineral resources—Madagascar; Petroleum—Madagascar

Madder

Properties and application of madder. H. D. Martin. *Color Tr J* 10:133-5, 204-5 Mr, My '22

Madison river, Montana

Winter overflow from ice gorging on shallow streams. J. C. Stevens. *il map Am Soc C E Pro* 47:583-602 D '21

Madrigal, Spain

Towered cities. G. G. King. *il Am Inst Arch J* 9:349-58 N '21

Magma. See Rocks, Igneous

Magma copper company

Facts for the stockholder. *Eng & Min J* 115:779 Ap 28 '23

Magnesia

Rapid volumetric method for the determination of magnesia in carbonate rocks. H. R. Brandenburg and A. H. Avakian. *Concrete* 21:sup78 N '22

Magnesia, Insulating

Conservation of heat in mills. E. R. Weidlein and R. H. Heilmann. *il Textile World* 62:735+ Ag 5 '22

Conservation of heat in power and heating systems. E. R. Weidlein. *flowsheet il Am Inst Chem Eng Trans v* 13 pt 2:25-40; Discussion. 40-2 '20-'21

Improved method of analysis for 85 per cent magnesia covering. H. W. Greider. *Ind & Eng Chem* 15:50-3 Ja '23

Magnesia cement. See Cement

Magnesite

Commercial grades of magnesite. *Eng & Min J* 113:587 Ap 8 '22

Eubœan magnesite field. H. C. Boydell. *map Eng & Min J* 112:771-6; 113:44 N 12 '21, Ja 14 '22

Increased production of magnesite in 1922. *Eng & Min J* 115:850 My 12 '23; Same cond. *Iron Age* 111:1029 Ap 12 '23

Magnesite deposits examined in Pennsylvania. *Eng & Min J* 113:288 F 18 '22

Magnesite deposits of Eubœa, Greece. H. C. Boydell. *maps Econ Geol* 16:507-23 D '21

Magnesite deposits of Washington. G. E. Whitwell and E. N. Patty. (*Bul.* 25) 194p [*bibliog.*:175-89] Washington Geol. survey, Olympia '21

Magnesite from California and Greece compared. R. W. Stone. *Eng & Min J* 113:197 F 4 '22

Magnesite in 1921. *Iron Age* 109:1750 Je 22 '22

Magnesite in 1921. C. G. Yale. *U S Geol S Min Res of U S* 1921, pt 2:83-8 '22

Magnesite industry in 1921. R. W. Stone. *Eng & Min* 113:96-7 Ja 21 '22

Magnesite products in the building industry. W. Zinkeisen. *plan Arch & Bldg* 55:15-16 F '23

Magnesite refractories. J. S. McDowell. *Am Cer Soc J* 6:280-5 Ja '23

Marketing of magnesite. R. W. Stone. *Eng & Min J* 114:191-6 Jl 29 '22

Plea for American magnesite. C. S. Maltby. *Eng & Min J* 113:396 Mr 11 '22

Production of caustic calcined magnesite in the Scott furnace. W. C. Riddell and C. N. Schuette. *il diag Eng & Min J* 114:981-4 D '22

Testing of plastic calcined magnesite for use in oxychloride cements. M. Y. Seaton. *il Am Soc T M Pro* 21:1039-49 '21; Same. *Chem & Met Eng* 25:233-6 Ag 10 '21

Magnesium

American magnesium production. *Chem Age* 30:342 Ag '22

Electrolytic recovery of magnesium from salt works residue. K. S. Boynton, V. Langford and J. F. G. Hicks. *J Ind & Eng Chem* 14:146-7 F '22

Electromotive properties of magnesium and the potentiometric and thermal analysis of the system magnesium—mercury; abstract. R. P. Beck. *Chem Soc J* 122 pt 2:545-6 Ag '22

Magnesium—Continued

- Excitation of the enhanced spectrum of magnesium in a low voltage arc. P. D. Foote, W. F. Meggers and F. L. Mohler. *diag Philos Mag* 6th ser 42:1002-15 D '21
- Magnesium and its compounds in 1922. J. M. Hill and G. F. Loughlin. *U S Geol S Min Res of U S* 1922, pt 2:41-57 '23
- Magnesium vs. iron for hardening a complex aluminum alloy. *Chem & Met Eng* 29:19 J1 2 '23
- Monorail transportation for magnesium ore in California. C. Hardy. *il Eng & Min J* 116:100 J1 21 '23
- Positive ray analysis of lithium and magnesium. A. J. Dempster. *diags Phys R* 18: 415-22 D '21
- Production of metallic magnesium; the electrolytic process of the magnesium company. S. T. Allen. *Electrician* 88:92-3 Ja 27 '22; Same. *Chem & Met Eng* 26:387-8 My 24 '22
- Scattering of low speed electrons by platinum and magnesium. C. Davison and C. H. Kunsman. *Phys R* 22:242-58 S '23

See also Magnesium founding

Magnesium alloys

- L'emploi des alliages légers en aéronautique. *Génie Civil* 80:404-7 My 6 '22
- Magnesium alloys. C. Backer. *Sci Am* 127: 52 J1 '22
- Magnesium castings. C. Irresberger. *Mech Eng* 45:48-9 Ja '23
- Le magnésium et les alliages ultra-légers. A. Portevin. *Soc Ing Civils Bul* 76:486-507 Ap '23; Abstract. *Génie Civil* 82:452-3 My 12 '23
- Mechanical properties of magnesium alloys. L. Aitchison. *Engineering* 115:312 Mr 9 '23; Same. *Metal Ind* 21:279-80 J1 '23; Discussion. *Engineering* 115:309-10; 116:172 Mr 9, Ag 10 '23
- Recent progress in magnesium alloys. J. A. Gann. *J Ind & Eng Chem* 14:864 S '22

See also Elektron metal

Magnesium carbonate

- Investigation by the means of the hydrogen electrode of the chemical reactions involved in water purification. R. E. Greenfield and A. M. Buswell. *Am Chem Soc J* 44:1435-42 J1 '22
- Some physical properties of rubber compounded with light magnesium carbonate. H. W. Greider. *J Ind & Eng Chem* 14:385-95 My '22

See also Dolomite—Analysis; Hydro-magnesite; Magnesite

Magnesium compounds

- Luminescence of compounds formed by the action of magnesium on para-dibromobenzene and related compounds. W. V. Evans and R. T. Dufford. *il Am Chem Soc J* 45: 278-85 F '23
- Organomagnesium compounds in synthetic chemistry. C. J. West and H. Gilman. (Reprint & Circ. Ser. 24) 103p '22 \$1.50 National Research Council, 1701 Massachusetts av., Washington, D.C.
- Untersuchungen aus dem gebiet der olefin-magnesiumverbindungen. W. Krestinsky. *Deutsche Chem Gesell Ber* 55:2754-74 S '22; Abstract. *Chem Soc J* 122 pt 1:1128-31 D '22

See also Grignard reagent

Magnesium founding

- Magnesium castings. C. Irresberger. *Mech Eng* 45:48-9 Ja '23
- Magnesium in the foundry. H. J. Maybrey. *il Metal Ind* 21:398-9 O '23

Magnesium halides

- Luminescence of organo-magnesium halides. R. T. Dufford, S. Calvert and D. Nightingale. *il Am Chem Soc J* 45:2058-72 S '23
- New method for the introduction of an ethyl group; the reaction between organo-magnesium halides and diethyl sulfate. H. Gilman and R. E. Hoyle. *Am Chem Soc J* 44: 2621-6 N '22
- New type of synthesis; the reaction between halogen-alkyl sulfonates and organomagnesium halides. H. Gilman and N. J. Beaber. *Am Chem Soc J* 45:839-42 Mr '23

Magnesium hexammoniate

- Study of the system ammonia:magnesium mercury; the formation of magnesium hexammoniate. A. G. Loomis. *diags Am Chem Soc J* 44:8-19 Ja '22

Magnesium nitrate

- 25°-isotherms of the systems magnesium nitrate—sodium nitrate—water and magnesium sulphate—magnesium nitrate—water. D. N. Jackman and A. Browne. *diag Chem Soc J* 121:694-7 Ap '22

Magnesium oxide. See Magnesia

Magnesium oxychloride cement. See Cement

Magnesium perchlorate

- Preparation and properties of magnesium perchlorate and its use as a drying agent. H. H. Willard and G. F. Smith. *Am Chem Soc J* 44:2255-9 O '22

Magnesium silicide

- Über den reaktionsmechanismus der silanbildung aus magnesiumsilicid. R. Schwarz and E. Konrad. *diags Deutsche Chem Gesell Ber* 55:3242-52 O '22

Magnesium soaps

- Determination of the mixture of arachidic and lignoceric acids in peanut oil by means of magnesium soaps. A. W. Thomas and Chai-Lan Yu. *Am Chem Soc J* 45:113-28 Ja '23

Magnesium sulfate

- Quaternary system potassium sulphate—magnesium sulphate—ammonium sulphate—water. A. Weston. *diags Chem Soc J* 121: 1223-37 J1 '22
- 25°-isotherms of the systems magnesium nitrate—sodium nitrate—water and magnesium sulphate—magnesium nitrate—water. D. N. Jackman and A. Browne. *diag Chem Soc J* 121:694-7 Ap '22

Magnesium sulfide

- Reindarstellung von magnesiumsulfid und seine phosphoreszenz; magnesiumsulfid-phosphore. E. Tiede and F. Richter. *Deutsche Chem Gesell Ber* 55:69-74 Ja '22; Abstract. *Chem Soc J* 122 pt 2:215 Mr '22

Magnesiumamine

- Compound obtained by treating an organo-magnesium compound in ethereal solution with dry ammonia; abstract. G. Oddo and E. Calderaro. *Chem Soc J* 124 pt 1:448-9 My '23

Magnet wire. See Electromagnets—Specifications

Magnetic blowouts

- Air-break magnetic blow-outs for contactors and circuit breakers both a-c. and d-c. J. F. Tittle. *il diags Am Inst E E J* 41:257-65 Ap '22

- Magnetic blow-out as applied to railway control. L. G. Riley. *il diags Elec J* 19:421-4 O '22

Magnetic chucks. See Chucks, Magnetic

Magnetic circuits

- Equations of the magnetic circuit. F. M. Gentry. *Gen Elec R* 26:108-9 F '23
- Magnetizing current of transformers; abstract. M. Vidmar. *Elec W* 82:396 Ag 25 '23

Magnetic clutches. See Clutches, Magnetic

Magnetic contactors

- Improved type of contactor made by the General electric co. *il Power Pl Eng* 25:1174-5 D 1 '21

Magnetic drum recorders

- Application of a revolving magnetic drum to electric relays, siphon recorders and radio transmitting keys. N. W. McLachlan. *diags Inst E E J* 61:903-26 Ag '23; Abstracts. *Elec R (Lond)* 92:593-4 Ap 13 '23; *Engineering* 115:500-1 Ap 20 '23; *Engineer* 135:641 Je 15 '23; Discussion. *Inst E E J* 61:926-33 Ag '23

Magnetic field

- Effect of a magnetic field on catalysis by ions in the presence of a paramagnetic salt. W. E. Garner and D. N. Jackman. *Chem Soc J* 121:1298-9 J1 '22
- Effect of field direction on magneto-resistance. C. W. Heaps. *Phys R* 19:7-19 Ja '22

Magnetic field—*Continued*

- Effect of the magnetic field on the absorption of X-rays. J. A. Becker. diags Phys R 20: 134-47; 22:320-3 Ag 22, O '23
- Intrinsic magnetic fields. L. Page. diag Phys R 22:188-92 Ag '23
- Magnetic field produced by circular currents. T. J. I'a. Bromwich. Philos Mag 6th ser 46:108-12 Jl '23
- Path of a small permeable body in a magnetic field. W. Cramp. diags Elec R (Lond) 89:736-7 D 2 '21
- See also* Hall effect

Magnetic flux

- Flux distribution in air gap and teeth of dynamos. A. Still. diags Electrician 88:152-3, 187-8 F 10-17 '22
- Magnetic flux around a conductor. C. Hering. Am Inst E E J 42:519 My '23
- Magnetic flux distribution in transformers. K. B. McEachron. il diags Am Inst E E J 41:281-7 Ap '22; Discussion. 41:757-63, 952 O, D '22
- Measurement of flux density in the air path of a magnetic circuit. W. P. Conly. diags Inst E E J 61:161-6 Ja '23
- Method of calculating the ampere-turns for driving a magnetic flux through wedge-shaped teeth. B. Worohoff. diags Am Inst E E J 42:1171 N '23

Magnetic induction

- New model of ferromagnetic induction. J. A. Ewing. il diags Philos Mag 6th ser 43:493-503 Mr '22; Abstract. Engineering 113:240 F 24 '22; Same. Electrician 88:260-1 Mr 3 '22
- See also* Electromagnetism; Magnetic circuits

Magnetic instruments

- Water-needle. Eng & Min J 114:178 Jl 29 '22

Magnetic measurements

- Calculation of the magneton number of an atom in solution. J. H. Smith. Philos Mag 6th ser 45:375-8 F '23
- Directions for magnetic measurements. D. L. Hazard. 2d ed. 130p U.S. Coast and geodetic survey, Washington '21
- Equations of the magnetic circuit. F. M. Gentry. Gen Elec R 26:108-9 F '23
- Measurement of flux density in the air path of a magnetic circuit. W. P. Conly. diags Inst E E J 61:161-6 Ja '23
- Measurement of magnetic fields of medium strength by means of a magnetron. A. W. Hull. diags Phys R 22:279-92 S '23
- See also* Magnetic permeability; Magnetic testing

Magnetic permeability

- Permeability. T. Spooner. diags Am Inst E E J 42:42-7 Ja '23; Discussion. 42:849-51 Ag '23

Magnetic rotary dispersion. *See* Dispersion**Magnetic rotation.** *See* Optical rotation**Magnetic separation of ores**

- Concentrating and separating pyrite and ferri-ferous blende; Northern ore co.'s plant at Edwards. N.Y. E: H. Robie. flow sheet il diags Eng & Min J 116:401-7 S 8 '23
- Magnetic concentration of iron ore. E: W. Davis. 138p (Univ. of Minn. Exp. sta. Bul. 9) Univ. of Minn., Minneapolis '21
- Magnetic log washers in iron-ore concentration. H. H. Wade. il diags Eng & Min J 113: 769-71 My 6 '22
- Magnetic roasting of iron ores. E. W. Davis. flow sheet il diags Iron Tr R 70:968-73 Ap 6 '22
- Magnetic separation of complex lead-zinc ores. E. Hedburg. Eng & Min J 115:920 My 26 '23; Discussion. J. H. Hastings. 116:93 Jl 21 '23
- Magnetic separation of pyrite and blende. W. R. Wade. Eng & Min J 115:1053 Je 16 '23
- New magnetic concentrating mill at the Rich-ard iron mine, New Jersey. H. M. Roche. flow sheet il diags Eng & Min J 115:923-32, 971-5 My 26-Je 2 '23

- Tapping new iron resources; magnetic log washer which makes possible the use of billions of tons of hitherto worthless iron ore. E. Christmas. il diag Pop Mech 38: 713-14 N '22

Magnetic separators

- Clay sewer pipe manufacture. H. G. Schu-recht. il Am Cer Soc J 6:615-22 My '23
- Magnetic separation of coal from slag. F. A. Brackmann. il diag Iron Age 111:828-9 Mr 22 '23; Same cond. Power 57:322-3 F 27 '23
- Magnetic separator reclaims more iron with less work in foundry. Ind Eng 80:506 O '22
- Magnetic separators for the ceramic industries. il Sci Am 128:90 F '23
- Putting electricity to work. il Chem & Met Eng 29:451 S 10 '23
- Magnetic surveying**
- Magnetic methods for exploration and geologic work. W. O. Hotchkiss. diag Eng & Contr (Ry) 59:914 Ap 18 '23
- Magnetic prospecting. W. S. Weeks. il diags Min & Sci P 124:85-9 Ja 21 '22; Discussion. A. Gibson. 124:392-4 Mr 25 '22
- Magnetic surveying on the copper-bearing rocks of Wisconsin. H. R. Aldrich. map Econ Geol 18:562-74 S '23
- Where the compass fails to guide. N. H. Heck. diag Sci Am 128:192 Mr '23

Magnetic testing

- Apparatus for the determination of the magnetic properties of short bars. M. F. Fischer. il diag U S Bur Stand Sci Pa 458: 513-26 '22
- Compact magnet-tester. il Sci Am 127:189 S '22
- Electrical and magnetic weld testing. T. Spooner and I. F. Kinnard. diags Iron Age 110:139-41 Jl 20 '22; Same. Ind Management (Lond) 8:251-4 N 2 '22; Same. Am Soc T M Pro 22 pt 2:177-86 '22; Abstract. Eng & Contr 58:80 Jl 26 '22; Discussion. Am Soc T M Pro 22 pt 2:191-2 '22
- Inspecting by magnetic method. A. V. de Forest. diags Iron Tr R 73:531-3 Ag 23 '23; Abstract. Am Mach 59:146 Jl 26 '23
- Magnetic analysis of steel; uses of electric current for inspection. R. L. Sanford. il Am Mach 55:836-9 N 24 '21
- Magnetic testing of chain. A. V. de Forest. Iron Age 109:644-5 Mr 9 '22
- Magnetic testing of springs. T. Spooner and I. F. Kinnard. il diag Am Soc T M Pro 21: 883-90 '21
- Magnetic testing of wider applicability. S. R. Winters. Sci Am 126:43 Ja '22
- Die magnetische analyse und ihre anwendung. F. Stäblein. Stahl & Eisen 43:822-4 Je 21 '23

Magnetism

- Advanced laboratory practice in electricity and magnetism. E. M. Terry. 262p McGraw-Hill '22
- Characteristics of magnetically active iron. A. Turner. il diags Phys R 21:74-83, pl 1 Ja '23
- Crystal structure of various Heusler alloys by the use of X-rays. J. F. T. Young. Philos Mag 6th ser 46:291-305, pl 4 Ag '23
- Generalization of Biot-Savart's law. H. Poritsky. Phys R 21:360-4 Mr '23
- Magnetic properties of compressed powdered iron. B. Speed and G. W. Elmen. Electrician 88:566 My 12 '22
- Magnetism and the ether. O. Lodge. Engineering 113:368-9 Mr 24 '22
- Origin of magnetism; discussion. Engineering 114:389-90 S 29 '22; Elec R (Lond) 91:462-3 S 29 '22
- Preliminary magnetic study of some heat-treated carbon steels. E. D. Campbell and E. R. Johnson. il Iron & Steel Inst J 106: 201-22, pl 9 no 2 '22
- Theories of magnetism. Nat Research Council Bul v 3, pt 3:1-261 Ag '22

Magnetism—Continued

Theory of the intrinsic field of a magnet and the relation of its magnetic to its characteristic electric and thermal properties. J. R. Ashworth. *Philos Mag* 6th ser 43:401-19 Mr '22

See also Compass; Electricity; Electromagnetic theory; Electromagnetism; Electromagnets; Hysteresis; Magnetic measurements; Magnetic separation of ores; Magnetic surveying; Magnetization; Magnetomotive force; Magnetostriction; Magnets

Bibliography

Bibliographical history of electricity and magnetism, chronologically arranged. P. F. Motelay. 673p C. Griffin & co., London '22

Magnetism, Human

Magnetism in human beings. A. Gradenwitz. *il Sci Am* 126:245 Ap '22

Magnetism, Terrestrial

Scientific papers presented before the American geophysical union at its second annual meeting. *Nat Research Council Bul* 3 pt 2: 54-77 Mr '22

Terrestrial magnetism. C. Chree. 548p Harrison & sons, London '21

Unolved problems of cosmical physics. W. F. G. Swann. *diags J Fr Inst* 195:452-67 Ap '23

See also Auroras; Compass; Magnetic surveying

Magnetite

General features of the magnetite ores of western North Carolina and eastern Tennessee. W. S. Bayley. *maps U S Geol S Bul* 735—G:209-70 '22

Magnetite pegmatites of northern Minnesota. F. F. Grout. *Econ Geol* 18:253-69 Ap '23

Making iron from magnetic ore. G. P. Pilling. *Iron Tr R* 72:1085-8 Ap 12 '23; Same. *Blast F & Steel Pl* 11:148-52 F '23; Same cond.

Iron Age 111:145-8 Ja 11 '23

New ore of the East Mesabi range. G. M. Schwartz. *il map Eng & Min J* 116:409-12 S 8 '22

Occurrence of rutile in the titaniferous magnetites of western North Carolina and eastern Tennessee. W. S. Bayley. *Econ Geol* 18:382-92, pl 11 Je '23

Oxygen overvoltage of artificial magnetite in chlorate solutions. H. C. Howard. *Am Electrochem Soc Trans v* 43 (preprint 12):121-3 My '23; Same, without table. *Brass W* 19: 267 Ag '23

Paragenesis of the martite ore bodies and magnetites of the Mesabi range. J. W. Gruner. *diag Econ Geol* 17:1-14, pl 1-2 Ja '22; Discussion. D. H. Newland. 17:299-302 Je '22

Sedimentary phases of the Adirondack magnetic iron ores. F. L. Nason. *Econ Geol* 17: 633-54 D '22; Discussion. 17:709-13; 18:291-6 D '22, Ap '23

Magnetization

Atomic process in magnetisation. A. Ewing. *Engineering* 114:742 D 15 '22

Effect of tension on change of resistance and thermoelectromotive force by transverse magnetization. A. W. Smith. *Phys R* 22:58-65 Jl '23

Effect of tension on the change of thermoelectromotive forces by magnetization. A. W. Smith. *Phys R* 19:285-99 Ap '22

Electric field of a magnetized spheroid rotating about the axis of magnetization. O. Rognly. *Phys R* 19:609-14 Je '22

Magnetization in weak fields as a function of frequency. L. Page. *Phys R* 21:456-64 Ap '23

Magneto-optics

Magnetic rotatory dispersion in transparent liquids. R. A. Castleman. p. 45-64 Johns Hopkins univ. press, Baltimore '21

Magneto-optics. L. R. Ingersoll. *Nat Research Council Bul v* 3, pt 3:251-61 Ag '22

Zeeman's discovery of the action of a magnetic field on a source of light. O. Lodge. *Electrician* 88:182-6 F 17 '22

See also Polarization (light)

Magnetometers

Magnetic prospecting. W. S. Weeks. *il diags Min & Sci P* 124:85-9 Ja 21 '22; Discussion.

A. Gibson. 124:392-4 Mr 25 '22

Magnetometric determinations applied to placer mining. A. Gibson. *diags Eng & Min J* 114:1064-9 D 16 '22

Magnetomotive force

Apparatus for demonstrating the magnetomotive forces produced by single-phase and polyphase windings. R. D. Archibald. *diags Inst E E J* 61:376-81 Mr '23

Mathematical development of the theory of the magnetomotive force of windings. A. E. Clayton. *diags Inst E E J* 61:749-87 Jl '23

Magneton

Theories of magnetic crystals and the magneton. J. Kunz. *Nat Research Council Bul v* 3, pt 3:165-213 Ag '22

Magnets

Cathode-ray oscillograph and its application to the exact measurement of explosion pressures, potential changes in vacuum tubes and high tension magnetos. D. A. Keys. *il diags J Fr Inst* 196:589-91 N '23

Cobalt steel makes lighter magneto possible. *il Pop Mech* 39:580 Ap '23

Energy in the magnetic circuit of a magneto. N. W. McLachlan. *diags Philos Mag* 6th ser 46:337-64 S '23

Energy relations in the high-tension magneto. E. Jones. *il diags Philos Mag* 6th ser 46:386-99 S '23

Magneto; a consideration of alternative layouts with special reference to the fixed armature type. *Automobile Eng* 12:274-5 S '22

Magneto mountings. *diags Soc Auto Eng J* 10:476-7 Je '22

Mathematical theory of induced voltage in the high-tension magneto. F. B. Silsbee. *diags U S Bur Stand Sci Pa* 424:407-69 '22

New American Bosch magneto model has novel frame construction. P. M. Heldt. *il Automotive Ind* 48:278-9 F 8 '23

New B.L.I.C. magneto. *il diags Elec R (Lond)* 91:574-5 O 20 '22

New magneto for six-cylinder engines. *il Automotive Ind* 47:633 S 28 '22

New Splitdorf magneto for aircraft engines. *il Aviation* 13:783 D 11 '22

Overhaul of magnetos. *il Bus Transportation* 1:630 D '22

Precautions which, taken, will render the magneto a reliable igniter for miners' safety lamps. R. Fokes. *diags Coal Age* 20:799-801 N 17 '21

Scintilla electrical products. *il Automobile Eng* 12:209-10 Jl '22

Simplified theory of the magneto. F. B. Silsbee. *il diags U S Nat Advisory Com for Aeronautics* 1921:403-19 '23

Magnetostriction

Effect of tension on change of resistance and thermoelectromotive force by transverse magnetization. A. W. Smith. *Phys R* 22:58-65 Jl '23

Magnetostriction and its bearing on magnetic theories. S. R. Williams. *Nat Research Council Bul v* 3, pt 3:214-24 Ag '22

Magnetostriction and magnetolectric effects in iron, nickel and cobalt. P. McCorkle. *Phys R* 22:271-8 S '23

Magnetostriction with small magnetizing fields. J. R. Hobbie, jr. *diags Phys R* 19: 456-66 My '22

Magnetron

Axially controlled magnetron; a new type, controlled by current through the filament. A. W. Hull. *il diags Am Inst E E J* 42:1013-18 O '23

Magnetron. A. W. Hull. *diags Elec R (Lond)* 92:231-2 F 9 '23

Measurement of magnetic fields of medium strength by means of a magnetron. A. W. Hull. *diags Phys R* 22:279-92 S '23

Magnets

Cobalt steels for permanent magnets. J. F. Kayser. *Engineer* 135:57, 83-4 Ja 19-26 '23

Effect of nascent hydrogen on hard steel magnets. J. Coulson. *il Phys R* 20:51-8 Jl '22

Magnets—Continued

- La fabrication et les essais des aimants permanents. C. E. Roussel. diags Génie Civil 80:223-5, 249-52, 272-5 Mr 11-25 '22
- Ein neuer stahl für dauer-magnete. E. Gumlich. diags Stahl & Eisen 43:761-3 Je 7 '23
- New material for permanent magnets. Chem & Met Eng 28:645 Ap 9 '23
- Permanent magnets, and the relation of their properties to the constitution of magnet steels. E. A. Watson. il diags Inst E E J 61:641-60 Je '23
- Remagnetizing magnets. V. H. Todd. diags Ind Eng 81:54-5 Ja '23
- Specifications of magnets limited by knowledge of subject. G. L. Watson. Automotive Ind 48:1191 My 31 '23
- Suggested specification for permanent magnet steels. E. H. Crapper. Engineering 115: 129 F 2 '23; Same. Iron Age 112:614 S 6 '23; Discussion. Engineering 115:246, 277-8, 329, 429 F 23-Mr 2, 16, Ap 6 '23
- Untersuchungen an chromkohlenstoffstählen für permanente magnete. E. Gumlich. Stahl & Eisen 42:41-6, 97-103 Ja 12-19 '22

See also Electromagnets; Lifting magnets

Testing

- Testing strength of magneto magnets. il Pop Mech 39:158 Ja '23

Magnets, Lifting. See Lifting magnets**Magster kinematograph.** See Moving pictures, Stereoscopic**Mah jong (game)**

- Chinese gift to America; Ma Chang. il Pop Mech 40:672-4 N '23
- When John Smith learns the game of the mandarins. Ptr Ink 123:33-4+ Ap 5 '23

Mahogany

- Advertising the truth about mahogany. J. True. Ptr Ink 122:33-4+ F 8 '23
- Distinguishing characteristics of mahogany. Sci Am 127:72 Jl '22
- Identification of true mahogany, certain so-called mahoganies, and some common substitutes. A. Koehler. U S Agric Bul 1050:1-18 '22
- Mahogany—its origin and uses. H. L. Harris. il Am Arch 122:439-42 N 22 '22
- Mahogany starts an advertising comeback. E. B. Weiss. Ptr Ink 117:113-14+ N 17 '21

Mail. See Postal service

Mail boxes**Manufacture**

- Maple blocks used in die construction. il Iron Age 111:541-2 F 22 '23

Mail distributing machine

- Controlling costs in building experimental machines. F. H. Colvin. il Am Mach 58: 429-31 Mr 22 '23
- Letters sorted by machine directly into bags. il Pop Mech 40:174 Ag '23

Mail handling

- Improved device speeds up handling of mail. il Pop Mech 38:726 N '22
- London's rapid transit mail distribution system. map Eng N 87:1054 D 29 '21
- Mechanical handling methods employed in the British postal service for letters and parcels. G. F. Zimmer. biblog il diags plan Ind Management (Lond) 10:75-80 Ag 9 '23
- New mail handling device at Chicago mail terminal. il Ry Age 74:1385-6 Je 9 '23
- 6,000,000 pounds of mail handled in one day. il Pop Mech 40:243 Ag '23
- Van Buren station, Chicago post office; mechanical conveyor system. il diags plan Am Arch 124:171-5 Ag 15 '23

See also Mail terminal buildings; Motor trucks in postal service; Parcel post; Postal service, Aerial

Mail order business

- Chain stores, mail order houses and retailers. C. F. Hughes. Annalist 19:200 F 6 '22
- Complete course in mail order merchandising. W. C. Moore. 30p Walhamore co., Philadelphia '21

Crown sea food company turned to mail selling. R. W. Johnson. il Ptr Ink M 4:22-4 Mr '22

Desire to swap is basis of unusual business; helping men trade guns. Ptr Ink M 7:110+ O '23

Hobby business of an underwear manufacturer; peonies. il Ptr Ink M 5:57-8+ O '22

How a mail-order concern can build a local business. G. A. Nichols. Ptr Ink 119:65-6+ Ap 20 '22

How far can firms selling by mail go in extending credit? G. A. Nichols. Ptr Ink M 7:63+ Ag '23

How many lines will a customer buy by mail? R. K. Wadsworth. Ptr Ink 121:121-2 O 26 '22

If prices decline for ten years, how will mail-order business fare? Ptr Ink 118:121+ Mr 30 '22

Is mail-order buying spreading from the country to the city? Ptr Ink 119:146+ My 4 '22

Mail-order grocery chain stores advertised to farmer. G. A. Nichols. Ptr Ink 123:25-7+ Ap 19 '23

Mail-order selling of dogs turns hobby into business. C. M. Harrison. il Ptr Ink M 4: 39 Ap '22

Mail orders personalized by a train dispatching system. L. Anson. Ptr Ink M 4:27-8 My '22

Making it easy for the farmer to buy silos. W. Brindley. Ptr Ink M 5:48+ S '22

Meeting mail order competition. F. Farrington. 239p Byxbee pub. co., Chicago '22

Mixing mail-order with chain store selling. G. A. Nichols. Ptr Ink 122:101-2+ Ja 25 '23

More people than ever buying by mail. S. G. Rosenbaum. Ptr Ink 118:10+ Mr 9 '22

National mail-order business that succeeded without a price appeal; Walsh harness. J. M. Walsh. Ptr Ink 122:17-20+ Mr 1 '23

Plan that stirred up sales in off seasons. H. C. Clarke. Ptr Ink M 7:74+ Jl '23

Reducing credit risks in selling merchandise by mail; how local banker is used by Walsh harness company. Ptr Ink 124:17-18 S 20 '23

Reducing salesmen's commissions on mail orders. Ptr Ink 120:144+ O 12 '22

Selling stuffed animals by mail. J. T. Bartlett. il Ptr Ink M 5:54-8 N '22

Sick salesman—keep his territory alive. A. O'Neill. il Ptr Ink M 4:15-16 F '22

Simple records that make mail orders pay. G. N. Cohen. System 43:190-1+ F '23

Suspicion plan of selling; how it differs from consigning. Ptr Ink 120:81-2 Jl 6 '22

We built our success on the neighborly spirit. H. Field. il System 42:138-40+ Ag '22

What a new marketing programme did for Witte engines. E. H. White. Ptr Ink 118: 3-4+ Mr 30 '22

Why you don't sell by mail. A. S. Gregg. Nation's Business 10:23-4 O '22

See also Catalogs; Mailing lists

Advertising

Bankers' anti-mail-order views altered by advertising. Ptr Ink 122:53-4+ Mr 22 '23

Begin at the bottom stuff in mail-order business. T. W. Morse. Ptr Ink M 5:82+ Je '22

Business of selling little ships. J. B. Twain. il Ptr Ink M 5:52+ Jl '22

Buying customers for \$1.50 apiece; Elliott nursery company, Pittsburgh, Pa. R. F. Elliott. il Ptr Ink M 4:13-14+ Mr '22

Buying mail orders at 50c apiece. R. K. Wadsworth. Ptr Ink 119:90-1 My 18 '22

Distance from markets doesn't handicap this industry. G. A. Nichols. Ptr Ink 119:57-8+ Je 29 '22

How advertising and service won new markets for unusual product; glass eyes. S. O. Rice. Ptr Ink M 7:90+ O '23

How advertising built retail mail business for jobber. W. Leavens. Ptr Ink M 5:56+ Je '22

How to use advertising as the manufacturer's only salesman; R. M. Kellogg company's strawberry plants. J. A. Murphy. Ptr Ink 124:25-7+ S 6 '23

Mail order business—Advertising—Continued

- Mail-order advertising lesson from the chain store; several advertisements in the same medium. R. R. Updegraff. *il* *Ptr Ink M* 6: 29-30 F '23
- Mail-order advertising—what it teaches. C. C. Hopkins. *Ptr Ink* 124:73-4+ Ag 9 '23
- Moving a mail-order business to main street. R. R. Updegraff. *il* *Ptr Ink M* 6:21-2 Ja '23
- Planning direct advertising campaigns for mail-order sales. R. E. Ramsay. *Inland Ptr* 72:293-6 N '23
- Sears Roebuck & company resume display advertising. *Ptr Ink* 124:10 J1 26 '23
- Studying the farmer to know how and what to sell him; Montgomery Ward & co. analyze rural market. T. F. Merseles. *Ptr Ink M* 4:16-18 Mr '22
- Three-cent reduction price that doubled orders. G. H. Wicker. *Ptr Ink M* 5:46+ Ag '22
- Using the order-blank to fight return goods evil; Kalamazoo stove co. C. M. Harrison. *Ptr Ink* 117:57-8 N 24 '21
- Visualizing the development possibilities of mail-order markets. R. R. Updegraff. *Ptr Ink M* 6:50+ Mr '23
- Volume of inquiries first to be sought in mail-order advertising. E. T. Gundlach. *Ptr Ink* 124:25-7 Ag 23 '23
- What advertising and weeding out have done for mail-order. G. A. Nichols. *Ptr Ink* 125: 125-6+ O 11 '23
- What mail-order demands as copy fundamentals. R. K. Wadsworth. *Ptr Ink* 124:137-8+ J1 19 '23
- What the buyers' strike taught retail mail-order houses. G. A. Nichols. *Ptr Ink* 118: 25-7 F 2 '22
- Why people buy by mail. R. K. Wadsworth. *Ptr Ink M* 6:84+ Ap '23
- See also Advertising, Mail; Catalogs; Seed trade—Advertising

Bibliography

- Rules of practice in the mail-order business. *Ptr Ink* 120:105-6+ J1 20 '22
- Mail order business, Wholesale**
- Can small towns be opened by mail for \$100 articles? *Ptr Ink* 117:104 N 10 '21
- Merchandising background of mail order departments. D. H. Steele. *Administration* 2:668-72 N '21
- Mail orders**
- Editor of orders as a complaint reducer. P. F. O'Shea. *Ptr Ink M* 4:76+ Mr '22
- Mail plane.** See Airplanes, Mail
- Mail rates.** See Postal rates
- Mail service.** See Postal service; Railway mail service
- Mail terminal buildings**
- Erection of steel building and 150-ft. truss; U.S. mail terminal at Chicago. W. J. Howard. *il* *diags Eng N* 87:1058-60 D 29 '21
- Mail service building, New York. *Arch & Bldg* 54:8-9, pl 12 Ja '22
- New railway mail terminal in Chicago. *il* *diags plan Ry R* 70:326-30 Mr 11 '22
- Railway mail terminal at Chicago will handle large tonnage. *il* *diags plans Ry Age* 72: 513-15 Mr 4 '22
- Structural design of U.S. mail terminal at Chicago. *il* *diags plans Eng N* 87:1010-13 D 22 '21
- Mailing departments**
- Message to the mailing department. H. A. Blackman. *Administration* 4:324-30, 456-60, 583-7, 725-30 S-D '22
- Some methods of handling underpaid postage. H. K. Sheridan. *Ptr Ink* 124:113-14 S 27 '23
- What an Englishman says about our mailing system. T. Russell. *Ptr Ink* 118:73-4 Mr 23 '22

See also Office management

Mailing lists

- Adding the right kind of names to the mailing list. H. McJohnston. *Ptr Ink* 124:34+ Ag 9 '23

- Compiling lists of most desirable dealers. *Ptr Ink* 121:189 N 16 '22
- Compiling the list of prospects. R. E. Ramsay. *Inland Ptr* 68:339-42 D '21
- Dealers co-operate in cutting down waste in dealer helps. H. McJohnston. *Ptr Ink M* 6: 37-8 Mr '23
- Do you know your prospects? *Ptr Ink* 121: 144 N 23 '22
- Dollar's worth for every postage dollar. F. Pratt. *System* 43:619-20+ My '23
- How about your mailing list? *Ptg Art* 40: 605-6 F '23
- How to keep your mailing list 100 per cent efficient. R. E. Ramsay. *Sanitary & Heat Eng* 98:1-2 J1 14 '22
- How to prevent the mailing list from becoming a morgue. *Ptr Ink* 119:53-4+ My 11 '22
- Importance of keeping mailing list up-to-date. *J Elec* 47:433-4 D 1 '21
- Let your salesmen keep your mailing list alive. C. M. Harrison. *Ptr Ink M* 5:37-8 Ag '22
- Mailing mail to a mailing list. *Dom Eng* 100: 571 S 30 '22
- More orders from each catalog sent out. K. H. Bronson. *System* 44:303 S '23
- No plumbing dealer nor heating contractor need wait for business—business can be created. F. Steele. *Sanitary & Heat Eng* 99:4-5 Ja 12 '23
- Selling flowers by the garden full; Stumpp & Walter co. build up their mailing list with names of purchasers. J. True. *Ptr Ink* 119: 33-4+ Ap 20 '22
- Some ideas that have built up mailing lists. J. F. Cameron. *Ptr Ink M* 4:38 My '22
- Three advertising problems and suggested solutions. *Ptr Ink* 121:65-6+ D 7 '22
- Unsuspected assets in mailing lists. W. S. Thompson. *Ptr Ink* 120:109-10+ Ag 3 '22
- Use street addresses on direct-mail advertising. *Ptr Ink* 121:182+ D 14 '22
- Weeding out poor mail-order risks. *Ptr Ink M* 7:104+ Ag '23
- When you want new names for your mailing list. J. F. Cameron. *Ptr Ink M* 5:48 Je '22

Maine

See Hydroelectric plants—Maine

Maine Central railroad

- Maine Central has good equipment condition. *map Ry Age* 74:875-6 Mr 31 '23
- Maine Central shows deficit of \$2,165,362. *Ry Age* 72:777-8 Mr 25 '22
- Maintenance of way.** See Electric railroads—Track; Railroads—Track
- Maintenance work in factories.** See Factories—Maintenance and repair
- Majestic (steamship)**
- Majestic, the greatest ship afloat. *Am Ind* 22:31 D '21
- Majestic—the latest and largest of ships. *il* *Sci Am* 127:5, 10-11 J1 '22
- Majestic, world's largest ocean liner. H. S. White. *il* *Pop Mech* 38:42-3 J1 '22
- New White Star liner Majestic. *il* *Marine Eng* 27:360-4 Je '22
- Le nouveau paquebot Majestic (ex-Bismarck). P. Calfas. *il* *plan Génie Civil* 81:101-5, pl 5 J1 29 '22
- White Star liner Majestic. *il* *diags Engineering* 114:3-5, pl 1-6 J1 7 '22
- White Star liner Majestic. *il* *Engineer* 133: 522-3, 558-9 My 12-19 '22; *Excerpts. Mech Eng* 44:473-4 J1 '22
- Majolica**
- Italian majolica process and painting over tin enamels. F. H. Rhead. *Am Cer Soc J* (Bul) 5:177-80 S '22
- Makeready.** See Printing, Practical—Press-work
- Malachite green**
- Certain triphenylmethane dyes. W. A. Jacobs and M. Heidelberger. *Am Chem Soc J* 44: 2626-8 N '22
- Manufacture of malachite green. J. R. Minevitch. *il* *Color Tr J* 9:114-18, 154-7, 181-4; 11: 233-7 S-N '21, D '22

- Malaria**
Sanitary engineer and mosquito extermination. H. F. Ferguson and A. F. Dappert. Engineer 135:482-3 My 4 '23; Same cond. Eng N 90: 626 Ap 5 '23
Sanitary engineering on the Cotton Belt Ry. Eng N 91:463 S 20 '23
See also Mosquitoes
- Malates**
Salts of maleic, fumaric and inactive malic acids. J. M. Weiss and C. R. Downs. Am Chem Soc J 45:2341-9 O '23
- Malay peninsula**
See Labor and laboring classes—Malay peninsula
- Malay States.** *See* Mines and mineral resources —Federated Malay States; Railroads—Federated Malay States
- Maleates**
Salts of maleic, fumaric and inactive malic acids. J. M. Weiss and C. R. Downs. Am Chem Soc J 45:2341-9 O '23
- Maleic acid**
Physical properties of maleic, fumaric and malic acids. J. M. Weiss and C. R. Downs. Am Chem Soc J 45:1003-8 Ap '23
Preparations from maleic and fumaric acids. H. G. Oddy. Am Chem Soc J 45:2156-60 S '23
Use of malic, maleic and fumaric acids in volumetric analysis. N. A. Lange and H. Kline. Am Chem Soc J 44:2709-12 D '22
- Maleic anhydride**
Chinhydrone der maleinsäure-anhydrid-reihe. P. Pfeiffer. Deutsche Chem Gesell Ber 55: 413-29 F '22; Abstract. Chem Soc J 122 pt 1:341-3 Ap '22
- Malic acid**
Conversion of malonic acid into *d*-malic acid. A. McKenzie and H. J. Plenderleith. Chem Soc J 123:1090-6 My '23
Optical activation of racemic acid by *l*-malic acid. A. McKenzie and N. Walker. Chem Soc J 121:349-57 Mr '22
Physical properties of maleic, fumaric and malic acids. J. M. Weiss and C. R. Downs. Am Chem Soc J 45:1003-8 Ap '23
Preliminary study of the formation of malic acid. J. M. Weiss and C. R. Downs. Am Chem Soc J 44:1118-25 My '22
Über die nicht-existenz der crassulaceen-äpfelsäure. H. Franzen and R. Ostertag. Deutsche Chem Gesell Ber 55:2995-3001 O '22
Use of malic, maleic and fumaric acids in volumetric analysis. N. A. Lange and H. Kline. Am Chem Soc J 44:2709-12 D '22
- Malic acid, Physiological effect of**
Inactive malic acid as a food acidulent. J. M. Weiss, C. R. Downs and H. P. Corson. Ind & Eng Chem 15:628-30 Je '23
- Malleable iron.** *See* Cast iron
- Malonamides**
Quantitative reduction of hydriodic acid of halogenated malonyl derivatives; the *s*-, tetra-substituted amides of bromo- and chloro-malonic acid. R. W. West. Chem Soc J 121:2196-2202 O '22
- Malonic acid**
Conversion of malonic acid into *d*-malic acid. A. McKenzie and H. J. Plenderleith. Chem Soc J 123:1090-6 My '23
Labile nature of the halogen atom in organic compounds; action of hydrazine on nitrogen-halogen compounds and on bromomalonate esters. E. L. Hirst and A. K. Macbeth. Chem Soc J 121:904-11 My '22
Synthese des β -phenyl- α -alanins und der α -amino- ω -buttersäure. T. Curtius and W. Sieber. Deutsche Chem Gesell Ber 55:1543-58 Je '22; Abstract. Chem Soc J 122 pt 1: 721-3 Ag '22
See also Alkyl malonic acids; Butylmalonic acid
- Malononitrile**
Zur kenntnis einfacher cyan- und cyanurverbindungen: über das malonitril und seine halogenierung. E. Ott and E. Löppmann. Deutsche Chem Gesell Ber 55:1255-61 My '22
- Malonyl compounds**
Quantitative reduction by hydriodic acid of halogenated malonyl derivatives; the *s*-, tetra-substituted amides of bromo- and chloro-malonic acid. R. W. West. Chem Soc J 121:2196-2202 O '22
- Malt**
Uses of malt extract. A. J. Hall. Color Tr J 9:252-3 D '21
- Malted milk**
Malted milk registration cancelled by patent office. Ptr Ink 120:33-4 S 7 '22
- Maltose**
Formation of maltose in sweet potatoes on cooking. H. C. Gore. Ind & Eng Chem 15: 938-40 S '23
- Maltrata incline.** *See* Railroads—Mexico
- Mammoth oil company**
Sinclair testifies on Mammoth oil co. before LaFollette committee. Nat Pet N 15:29-31 Ja 24 '23
- Man, Economic value of**
Man's cash value to society. Safety Eng 42: 252-3 D '21
- Man, Prehistoric**
Extinct races of ape-like man. il Sci Am 128: 302-3+ My '23
Latest African anthropological find. A. A. Hopkins. il Sci Am 126:90 F '22
Prehistoric human skull of new type discovered. il Pop Mech 37:190 F '22
- Management**
See Boiler plants—Management; Branch management; Business management; Electric plants (central stations)—Management; Electric utilities—Management; Employment management; Factory management; Farm management; Foundry management; Gas companies—Management; Industrial management; Machine shop management; Mine management; Motor trucks—Management; Office management; Organization in industry; Power plants—Management; Railroads—Management; Waterworks—Management
- Management engineering.** *See* Industrial engineering
- Manati sugar company**
Annual report—for the fiscal year ended Oct. 31, 1921. Comm & Fin Chr 114:419-21 Ja 28 '22
- Manchester, England**
Harbor
Precast wharf work on Manchester canal. F. Johnstone-Taylor. diags Concrete 23:57 Ag '23
Sewerage
Manchester's new outfall sewer. plan Engineer 133:38 Ja 13 '22
- Manchester, New Hampshire**
See also Electric plants (central stations) —Manchester, New Hampshire
- Manchuria**
See Coal mines and mining—Manchuria; Wages—Manchuria
- Mandrels.** *See* Arbors and mandrels
- Manganates**
See Potassium manganate
- Manganese**
Chemical manganese ore. Eng & Min J 112: 1020 D 24 '21
Cuba's duty-free manganese ore supply. P. M. Tyler. Iron Age 111:275-7 Ja 25 '23
Deposits of manganese ore in the Batesville district, Arkansas. H. D. Miser. U S Geol S Bul 734:1-273, pl 1-17 '22
Develop manganese mines in Argentina desert. il Pop Mech 37:720 My '22
Gariajore manganese mine, in Gangpur state, India. J. F. Spedding. il Eng & Min J 113: 403-5 Mr 11 '22
Influence of manganese in carbon-vanadium steel. Ry Mech Eng 96:678 D '22
International conservation of minerals. C. E. Julihn. Chem Age 31:412 S '23

Manganese—Continued

- Manganese. *Min & Sci P* 123:712 N 19 '21
- Manganese, aluminium, and iron ratio as related to soil toxicity. R. H. Carr and P. H. Brewer. *Ind & Eng Chem* 15:634-7 Je '23
- Manganese deposit on water filter at Breckenridge, Texas. J. B. Hawley and W. S. Mahlie. *Eng N* 90:834 My 10 '23
- Manganese deposits of east Tennessee. G. W. Stose and F. C. Schrader. *U S Geol S Bul* 737:1-154, pl 1-27 '23
- Manganese deposits of Lunenburg county, Nova Scotia. F. C. Fearing. *il maps Eng & Min J* 115:11-15 Ja 6 '23; Discussion. 115: 307-8, 482-3, 746, 1008-9 F 17, Mr 17, Ap 28, Je 9 '23
- Manganese deposits of western Virginia. G. W. Stose and H. D. Miser. 206p Univ. of Virginia, Charlottesville '22
- Manganese in India. E. W. T. Slater. *Eng & Min J* 114:111 J 15 '22
- Manganese in the catalytic oxidation of ammonia. C. S. Piggot. *diag Am Chem Soc J* 43:2034-45 S '21
- Manganese mining in Arkansas revives. T. Shiras. *il Eng & Min J* 115:813 My 5 '23
- Manganese mining in 1921. H. A. C. Jenison. *Eng & Min J* 113:89-90 Ja 21 '22
- Manganese ore in 1922. *Iron Age* 111:164 Ja 11 '23
- Manganese ore production declines in 1921. *Iron Tr R* 71:301 Ag 3 '22
- Manganese ore scarcity. *Iron Age* 111:1770 Je 21 '23
- Manganese situation in Transcaucasia. *Eng & Min J* 113:328 F 25 '22
- Milling manganese ore at Algonquin mine, Philipsburg, Montana. R. V. Ageton. *flow sheet il Eng & Min J* 116:181-3 Ag 4 '23
- Mineral industry of the British Empire and foreign countries (1913-1919). 151p Great Britain Imperial mineral resources bureau, London '21
- Nouvelle méthode de dosage du manganèse. St Minovitch and C. Kollo. *Chimie & Ind* 8: 499-500 S '22
- Preparation and properties of pure iron alloys: effect of manganese on the structure of alloys of the iron-carbon system. H. S. Rawdon and F. Sillers, jr. *il U S Bur Stand Sci Pa* 464:637-53 '23; Same. *Iron Age* 110: 1357-61 N 23 '22
- Preparation and properties of pure iron alloys: effects of carbon and manganese on the mechanical properties of pure iron. R. P. Neville and J. R. Cain. *il U S Bur Stand Sci Fa* 453:411-43 '22
- Production of manganese ore in 1922. *Iron Tr R* 72:226 Ja 18 '23
- Retards manganese ore output. B. Schapira. *map Iron Tr R* 72:1164-5 Ap 19 '23
- Role of manganese in plants. J. S. McHargue. *il Am Chem Soc J* 44:1592-8 J 1 '22
- Separation of iron and aluminum from manganese and certain other elements. G. E. F. Lundell and H. B. Knowles. *Am Chem Soc J* 45:676-81 Mr '23
- Some properties of electrolytic manganese. A. N. Campbell. *Chem Soc J* 123:2323-7 S '23
- Swift growth of manganese ore. A. K. Knickerbocker. *il Eng & Min J* 112:770 N 12 '21
- Using manganese iron ore. L. E. Ives. *Iron Tr R* 73:737-9 S 13 '23; Same. *Iron Age* 112:715-16 S 13 '23
- Das Verhalten des mangans in basischen herdfischverfahren. P. Oberhoffer and F. Koerber. *Stahl & Eisen* 43:329-34 Mr 8 '23

Analysis

- Interference of cobalt in the bismuthate method for manganese. G. E. F. Lundell. *Am Chem Soc J* 45:2600-3 N '23

Bibliography

- Abstracts from the literature on treatment of manganese silver ores. G. H. Clevenger and A. Cornejo. 14p Rep. of Investigations U S Bur Mines 2458 '23 (typew)

Manganese alloys

- Thermoelectromotive force of copper-manganese alloys. S. Kimura and Z. Isawa. *Phys R* 20:441-51 N '22

See also Heusler alloys; Manganese bronze; Manganese steel

Manganese bronze

- Casting manganese bronze regulators. W. J. Reardon. *Metal Ind* 20:345 S '22
- Development and manufacture of high-velocity brass and bronze. O. Smalley. *Engineering* 114:6-7 J 7 '22
- Endurance of duralumin, electron metal and manganese bronze; abstracts. R. R. Moore. *Chem & Met Eng* 29:58 J 19 '23; *Eng N* 91: 26-7 J 15 '23
- Manganese bronze for valve stems. W. R. Conard. *N E Water Works Assn J* 36:32-6; Discussion. 37-9 Mr '22
- Manganese bronze in engineering work. *il Iron Age* 109:1513-15 Je 1 '22
- Manganese bronze: the use of scrap. F. A. Livermore. *Brass W* 19:43-4 F '23
- Manganese copper; uses and methods of obtaining the best results. J. L. Jones. *Metal Ind* 20:7 Ja '22
- Method for analysis of manganese bronze. E. J. Davis. *Foundry* 50:798a O 1 '22
- Methods of casting manganese-bronze test bars as a check on melts of small castings. E. H. Dix, jr. *il Am Soc T M Pro* 21:912-18 '21; Same. *Metal Ind* 19:315-17 Ag '21; Same. *Foundry* 49:734-6 S 15 '21; Discussion. *Am Soc T M Pro* 21:919-21 '21
- Occurrence of blue constituent in high-strength manganese bronze. E. H. Dix, jr. *diags Brass W* 18:283-7, 315-17 O-N '22; Abstract. *Min & Met* 185:31 My '22
- Producing manganese-bronze alloys. E. J. Davis. *Foundry* 50:587 J 15 '22

Manganese chloride dihydrate

- Critical solution temperature for solids in the binary system ammonium chloride-manganese chloride dihydrate. F. W. J. Clendinning and A. C. D. Rivett. *Chem Soc J* 123:1344-51 Je '23

Manganese copper. See Manganese bronze**Manganese dioxide**

- Adsorption of ions by freshly precipitated manganese dioxide. P. B. Ganguly and N. R. Dhar. *J Phys Chem* 26:836-44 D '22
- Catalytic oxidation of carbon monoxide; efficiency of the catalysts, manganese dioxide, cupric oxide and mixtures of these oxides. J. A. Almquist and W. C. Bray. *diag Am Chem Soc J* 45:2305-22 O '23
- Coagulation of manganese dioxide sol by different electrolytes. P. B. Ganguly and N. R. Dhar. *J Phys Chem* 26:701-14 N '22
- Promoter action in the decomposition of potassium chlorate. H. A. Neville. *Am Chem Soc J* 45:2330-3 O '23
- Reaction between bromine and ammonium salts and its effect on the precipitation of manganese dioxide. S. G. Simpson. *Am Chem Soc J* 45:1883-91 Ag '23

Manganese industry and trade

- Domestic shipments of high-grade manganese ore in 1921. *Min & Sci P* 124:234 F 18 '22
- Marketing of manganese. W. R. Crane. *Eng & Min J* 114:369-72 Ag 26 '22

Manganese perchloride

- Anodic formation of a perchloride of manganese. A. N. Campbell. *Chem Soc J* 123:892-4 Ap '23

Manganese poisoning

- Chronic manganese poisoning: two cases. G. G. Davis and W. B. Huey. *biolog il J Ind Hygiene* 3:231-8 D '21
- Three cases of manganese poisoning; abstract. J. R. Charles. *J Ind Hygiene* 5:sup 4-5 My '23

Manganese steel

- Beater rolls and hydration problems. G. L. Bidwell. *Paper* 30:53-4+ Ap 19 '22; Same. *Paper Tr J* 74:191+ Ap 13 '22
- Comparative test of manganese steel and carbon steel dredge cutter blades. *Eng & Contr (Ry)* 58:84 N 15 '22

Manganese steel—Continued

- Cored structure in quenched manganese steel. S. S. Beliaeff. *il Chem & Met Eng* 27:1086 N 29 '22
- Discovery of manganese steel. Locomotive 34: 211-2 O '23
- Discovery of manganese steel described. H. D. Hibbard. *Iron Tr R* 71:39 JI 6 '22; Same. *Blast P & Steel Pl* 10:450 S '22; Same. *Brass W* 18:339 N '22
- Distortion produced in case hardening. A. A. Blue. *Am Mach* 56:915-16 Je 22 '22
- Electric-furnace melting of manganese scrap. *Chem & Met Eng* 29:241 Ag 6 '23
- Grinding manganese-steel castings. H. Campbell. *il Am Mach* 58:783-6 My 31 '23
- Manganese steel made in electric furnace. L. J. Barton. *il diags Iron Age* 109:4-8 Ja 5 '22
- Pearlitic and sorbitic manganese steels. J. H. Hall. *Iron Age* 110:786-8 S 28 '22
- Welding frogs and crossings with manganese steel. H. R. Pennington. *il diags Ry R* 70: 153-6 F 4 '22; Same. *Eng & Contr* 57:152-4 F 15 '22; Discussion. *Ry R* 70:156-7 F 4 '22

Mangrove

- Development of sources of supply for mangrove bark and extract. H. M. Hoar. *Chem & Met Eng* 28:1003 Je 4 '23

Manholes

- How Jacksonville saved money on manhole-cover replacements. C. V. Imeson. *diags Eng N* 91:690 O 25 '23
- New manhole cover effects big saving. *il Dom Eng* 97:392-3 N 26 '21
- Reversible manhole covers to replace solid type. *il diags Eng N* 89:928-9 N 30 '22

Ventilation

- Ventilating manholes with a portable blower. *il Sci Am* 127:39 JI '22

Manifolds. See Automobile engines—Manifolds**Manila rope**

- Strength of Manila rope. J. B. Dillon. *Power Pl Eng* 26:867-8 S 1 '22

Testing

- Results of some tests of Manila rope. A. H. Stang and L. R. Strickenberg. *il U S Bur Stand Tech Pa* 198:1-11 '21

Manitoba

- See also* Gold mines and mining—Manitoba; Hydroelectric plants—Manitoba

Power commission

- Manitoba power commission. *Can Eng* 45:293-4 S 4 '23

Manjak

- Properties and uses of manjak. *Eng & Min J* 115:456 Mr 10 '23

Mannan

- Investigation of the mannan present in vegetable ivory. J. Patterson. *Chem Soc J* 123: 1139-49 My '23

Manning formula. See Hydraulics—Tables, calculations, etc.**Manning of ships. See Ships—Manning****Mannite. See Mannitol****Mannitol**

- Constitution and rotatory powers of mannitol and fructose complexes formed in solutions containing boric acid and sodium hydroxide. G. Van B. Gilmour. *Chem Soc J* 121:1333-40 JI '22
- Solubility of mannite in mixtures of ethyl alcohol and water. H. J. M. Creighton and D. S. Klauder, jr. *J Fr Inst* 195:687-91 My '23

Mannose

- Mannose from white spruce cellulose. E. C. Sherrard and G. W. Blanco. *Am Chem Soc J* 45:1008-13 Ap '23

- See also* Chlorotetraacetylmannose; Mannan; Mannitol

Manometers

- Application of an optical manometer to the measurement of the viscosity of gases. J. E. P. Wagstaff. *Philos Mag* 6th ser 45:84-8 Ja '23

- How a manometer works. *diags Power* 58:746 N 6 '23

- Improved optical lever manometer. E. K. Carver. *diags Am Chem Soc J* 45:59-63 Ja '23

- Manometer for recording air speed. C. Wieselberger. *Aerial Age* 15:131-2 Ap 17 '22

- Multiple manometer records airplane pressures. *Pop Mech* 38:666 N '22

- N.A.C.A. multiple manometer. *il diags Aerial Age* 15:585-6 D '22

- Ultramicrometer used as a differential micromanometer. R. Whiddington and A. Hare. *Philos Mag* 6th ser 46:607-8 O '23

- Upper range of the quartz-fiber manometer. A. S. Coolidge. *diags Am Chem Soc J* 45: 1637-43 JI '23

- Vernier manometer with adjustable sensitivity. D. L. Bacon. *diags Aviation* 12:171 F 6 '22; Same. *Aerial Age* 14:519 F 6 '22

- Wahlen micromanometer accurately measures static and velocity heads in mine ventilation. L. W. Huber. *il diags Coal Age* 23: 669-74 Ap 26 '23

Manual training

- Training in art and handicrafts. 128p Pitman '22

- See also* Industrial education; Technical education; Toy boats; Trade schools

Manuals and rule books

- The manual of procedure. P. H. Myers. Administration 2:748-54; 3:81-8 D '21-Ja '22

Manufacturers

- Wherein a retailer says things to the manufacturer. L. C. Oyster. *Ptr Ink* 122:149-50 Mr 1 '23

Directories

- Directory of Massachusetts manufacturers issued under the editorial supervision of the Associated industries of Massachusetts. Sampson & Murdock co., Boston '22
- Donnelley's red book of Ohio Valley manufacturers, distributors and business services. The Reuben H. Donnelly corporation, Cincinnati '22

Manufacturers' liability

- Operating defective machinery. L. Childs. *Factory* 29:198 Ag '22

Manufactures

- Abstract of the census of manufactures, 1919. 752p U.S. Bur. of census, Washington '23

- Fit your merchandise to new needs. L. Peake. *Ptr Ink M* 4:54+ My '22

- Giving your product the fire test. *System* 41: 289-91+ Mr '22

- Graphic analysis of the census of manufactures of the United States, 1849-1919. 253p National industrial conference board, New York '23

- Real furniture. E. Jonson. *Arch Rec* 52:453-5 N '22

- Some economics of machine tool making. E. F. Du Brul. *Iron Age* 111:597-600, 685-6 Mr 1-8 '23; Same cond. *Mech Eng* 45:151-3+ Mr '23; Abstract. *Mach* 29:564-6 Mr '23

- When you bring the outside viewpoint to bear on the product. R. Barstow. *il System* 43:198-200+ F '23

- See also* Brickmaking; Catalogs; Chemistry, Technical; Clothing; Coke manufacture; Commerce; Competition, Unfair; Cost accounting; Cotton manufacture; Factories; Factory management; Foundries; Fuel; Gas manufacture and works; Glass manufacture; Inspection; Interchangeable mechanism; Knit goods; Labor and laboring classes; Leather; Machine shops; Machinery; Metal work; Metals; Paper making; Patents; Porcelain; Pottery; Prices; Production; Simplification in industry; Soap; Specifications; Textile fabrics; Trade marks; Waste products; *also* subdivision Manufacture under names of manufactured articles, e.g. Automobiles—Manufacture, Rubber—Manufacture, Sugar—Manufacture and refining, Toys—Manufacture, Wire—Manufacture

Costs

- See* Factory costs; Power cost

Manufacturing chemists' association of the United States

- Annual report of the executive committee. H: Howard. Chem Age 31:275-8 Je '23
 51st annual meeting. New York city. Oil Paint & Drug Rep 103:19+ Je 11 '23; Chem & Met Eng 28:1069 Je 18 '23
 Report of executive committee for the year ended May 31st, 1922. Chem Age 30:281-3 Je '22
 Story of reporter trade associations. J. I. Tierney. Oil Paint & Drug Rep 101:23 Mr 28 '22

Manuscripts

- Mechanical solution of a literary problem; an explanation for the divergent sequence of events in the gospels of Matthew and Mark. J. F. Springer. *il Sci Am* 128:100 F '23

Reproduction

See Photostat

Manzanillo, Mexico

- Port of Manzanillo, Mexico. H: M. Payne. *il Eng & Min J* 116:62 Ji 14 '23

Map plates

- New method for revising copper map plates. *Sci Am* 128:41 Ja '23

Maphite

- Maphite—new treatment for firebrick. *il Power* 57:30 Ja 2 '23
 New boiler coating material gives good results. *il Power Pl Eng* 27:252 F 15 '23

Maple sirup**Advertising**

- Bank markets products for its customers under its own brand name. J. M. Mosely. *Ptr Ink* 119:17-20 Je 22 '22

Maple sugar

- Maple sugar industry. C. O. Ormsbee. *il Sci Am* 129:176+ S '23

Maps

- Applying efficiency to the production of city maps. S. M. Cotten. *Eng N* 89:312-14 Ag 24 '22
 Map's other name is Ananias; the various projections used in representing the earth's surface and what they do to the facts. C. H. Claudy. *Sci Am* 125A:124-5 D '21
 New base map of the North Pacific ocean. *Aerial Age* 14:269 N 28 '21
 Shall map scales be decimal or inch-to-the-mile? F. E. Bonner. *map Eng N* 88:572-3 Ap 6 '22; Discussion. 88:801, 968 My 11, Je 8 '22
 Wall-size maps show growth of city. *il Pop Mech* 37:265 F '22
 See also Aeronautic maps; Geology—Maps; Meteorological charts; Mine maps; Population maps; Relief maps; Topographical maps

Maps, Topographical. See Topographical maps**Marble**

- Marbles from Burgundy quarries. *Arch & Bldg* 55:94-6 S '23
 Marketing of marble. J: S. Sewell. *Eng & Min J* 115:442-5 Mr 10 '23
 Mining beauty in mountain peaks. *il Pop Mech* 40:922-5 D '23
 On concentric drag-folding in Alabama marble. T. N. Dale. *il Am J Sci* 5th ser 2:319-21 D '21

Marbling

- Marvles of marbling. C. M. Litteljohn. *Inland Ptr* 71:862 S '23

Marc

- Determination of sugar in cossettes by the Pellet method. S. J. Osborn. *Ind & Eng Chem* 15:787-8 Ag '23

Marcasite

- Crystal structures of marcasite. (FeS₂), arsenopyrite (FeAsS) and loellingite (FeAs₂). M. L. Huggins. *diags Phys R* 19:369-73 Ap '22

Marconi, Guglielmo

- John Fritz medal for 1922 awarded Senator Marconi. *por Mech Eng* 44:549 Ag '22; *Min & Met* 188:6-8 Ag '22
 Marconi and the marvel of radio. W. A. Davenport. *il Am Ind* 23:11-14 S '22

Margarine. See Oleomargarine**Mariemont, Ohio**

- Mariemont—a model village. W. Brinkman. *il plan Pop Mech* 38:893-4 D '22

Marine barometers. See Barometers, Marine**Marine boilers. See Boilers, Marine****Marine borers. See Boreers (animals); Teredos****Marine congress, New York, 1923**

- Marine congress, conventions and exposition, New York city, November 5-10. *Marine Eng* 28:681-4+ N '23

Marine engineering

- Application of lubricants. *Marine Eng* 27:201-2 Mr '22
 Centenary of naval engineering. E. C. Smith. *Engineer* 133:367 Mr 31 '22
 Progress in marine engineering during the last forty years. G: Goodwin. *Engineer* 134:348 O 6 '22
 Rise of the engineering branch of the Royal navy. E. C. Smith. *Engineering* 114:576-8 N 10 '22
 Transport and its indebtedness to science; sea transport. A. T. Wall. *Engineering* 116:382-3; Discussion. 362 S 21 '23
 See also Boilers, Marine; Diesel engines, Marine; Fenders (marine engineering); Gas and oil engines, Marine; Naval architecture; Propellers; Salvage; Ship propulsion; Ship propulsion. Electric; Ship resistance; Shipbuilding; Ships—Electric equipment; Steam turbines, Marine; Steamboats; Steering gear

Exhibitions

- Shipping, engineering and machinery exhibition. *il diags Engineer* 136:224-6, 249-52, 276-8, 306-10, 335-40, 363-6 Ag 31-O 5 '23; *Engineering* 116:259-65, 270, 292-7, 326-31, 353-9, pl 19 Ag 31-S 21 '23

Study and teaching

- See Naval education; Shipbuilding—Study and teaching

Marine engineers

- American steamship owners' association; wage scales, etc. *Monthly Labor R* 14:521-3 Mr '22
 Training of naval engineers. *Engineer* 134:667-8 D 22 '22
 Wage scales, rules, and regulations issued by the U.S. Shipping board emergency fleet corporation. *Monthly Labor R* 14:518-19 Mr '22

Marine engineers beneficial association. See National marine engineers beneficial association**Marine engines**

- How a famous marine engine was described 65 years ago. *il Marine Eng* 27:629-30 O '22
 How to start marine engines in a cold ship. W. J. Woodcock. 153p Spcn '22
 Marine engines. A. R. Leask. 424p Simpkin, Marshall & co., London '22
 Marine power plant. L. B. Chapman. 320p McGraw-Hill '22
 Setting valves by elliptical diagram. A. O. Gates. *Power Pl Eng* 26:410-13 Ap 15 '22; *Abstract. Mech Eng* 44:389 Je '22
 Special requirements in design of marine machinery. C. S. Gillette. *Marine Eng* 27:723-5 N '22
 Tuning up the engine and boiler room. W: Bunker. *il Marine Eng* 28:281-5 My '23
 Twisting moments of reciprocating engines. J. Hecking. *Marine Eng* 27:245-6 Ap '22
 See also Boilers, Marine; Diesel engines, Marine; Diesel engines, Submarine; Gas and oil engines, Marine; Marine engineering; Motor ships; Ship propulsion; Steam turbines, Marine

Lubrication and lubricants

- Economizer that requires no outlay. *Marine Eng* 28:356-9 Je '23

Manufacture

- Engine building in a lake yard. F. B. Jacobs. *il Marine R* 52:105-8 Mr '22

- Marine equipment association of America**
Annual meeting, New York, Nov. 16. *Marine Eng* 26:890+ D '21; *Marine R* 52:26 Ja '22
- Marine exposition.** See Shipbuilding—Exhibitions
- Marine fauna**
See Fishes
- Marine fires.** See Ships—Fires and fire protection
- Marine insurance.** See Insurance, Marine
- Marine societies**
List of marine societies. See monthly numbers of *Marine engineering and shipping age*
- Marine standards committee, American.** See American marine standards committee
- Marine structures**
Deterioration of structures exposed to sea action. *Engineer* 136:91 JI 27 '23
Deterioration of structures in sea water. *Eng & Contr (Bldgs)* 60:859-62 O 24 '23; Same *abr. Engineering* 116:435-6 O 5 '23
See also Harbors; Piers; Wharves; Sea walls
- Marine workers**
New shipping board wage scale for officers stewards' department and radio operators. *Marine Eng* 28:504 Ag '23
Right of recovery for maritime injuries. *Monthly Labor R* 14:371-3 F '22
Rights and status of employees injured in commerce. L. D. Clark. *Monthly Labor R* 15:399-409 Ag '22
Wages and hours of dock laborers and seamen in Norway. *Monthly Labor R* 14:705-6 Ap '22
See also Longshoremen; Seamen
- Marine worms**
How marine worms catch their prey. W. Crowder. *il Sci Am* 125A:122-3 D '21
- Maritime association of the port of New York**
Historical review of the past fifty years. C. L. Bundy. 143p Press of A. H. Kellogg co., New York '23
- Maritime chemists' association**
5th annual meeting, Halifax, N.S., August 30-31. *Can Chem & Met* 6:217-19 O '22
Merged with the Canadian institute of chemistry
- Maritime law**
British regulations against the discharge of oil into navigable waters. *Marine Eng* 27:727-8 N '22
How our navigation laws handicap American ships. V. G. Iden. *Marine Eng* 28:663-6 N '23
Japanese loadline law. *Marine R* 51:564-5 D '21
King can do no wrong. *Nation's Business* 10:40+ Ag '22
Maritime history made at Brussels conference. *Marine Eng* 27:743-4 D '22
Merchant shipping acts. R. Temperley. 3d ed. 845p Stevens and sons, ltd., London '22
National restrictions on marine transportation. (Brochure no. 28) 51p International chamber of commerce, 33, Rue Jean-Goujon, Paris '23
Proposed plans for revision of the navigation laws. C. A. McAllister. *Marine Eng* 26:883-4 D '21
Report of the delegates of the United States to the International conference on maritime law. 104p Govt. print. off., Washington '23
World safety standard is near. W. Abell. *il Marine R* 53:393-9 O '23
See also Insurance, Marine; Merchant marine act, 1920; Merchant marine bill, 1922; Seamen—Law
- Market gardening**
City-lot farm pays \$2,500 profit yearly. *il Pop Mech* 40:524 O '23
- Market street railway company**
Annual report to the stockholders—for the period April 1, 1921 to December 31, 1921. *Comm & Fin Chr* 114:1915-16 Ap 29 '22
- Market surveys**
Advertising to spread light in the illuminating field; the illuminating glassware guild. A. Belden. *Ptr Ink* 124:121-2 Ag 16 '23
Applying the market survey to business. P. White. *Ptr Ink* 118:142+ F 9 '22
Business research as applied to selling problems. E. S. Bradford. *Ptr Ink* 118:3-4 Mr 16 '22
Collecting sales data for clients. F. Y. Keeler. *Ptr Ink* 118:110+ F 16 '22
How Bell telephone system charts future growth of cities. C. B. Larrabee. *maps Ptr Ink M* 4:32-4 D '21
How we find what is wrong with our business. T. E. Wilson. *Ptr Ink M* 5:24-5+ D '22
Importance of sounding out your market. W. H. Heath. *Ptr Ink* 118:134+ F 16 '22
Market research activity increasing in passenger car field. N. G. Shidle. *Automotive Ind* 46:1203-5 Je 8 '22
Market research essential to development of tractor design. E. A. White. *Automotive Ind* 46:1210-13 Je 8 '22
Market research increases motor truck sales. P. H. Smith. *Automotive Ind* 46:1206-9 Je 8 '22
Revealing hidden flaws in the selling plan. R. Cole. *chart map Ptr Ink M* 6:23-4+ Ja '23
Sales quota problem. N. H. Seubert. *Nation's Business* 11:60 Ap '23
Standards for determining value of commercial research work. E. E. Pratt. *Ptr Ink* 125:93-4+ N 1 '23
Success of future policy depends on knowledge of markets. H. Tipper. *Automotive Ind* 48:1294-5 Je 14 '23
Surveying the market. N. T. Praigg. *Inland Ptr* 68:342-3 D '21
What to do before making up the sales quota. A. Lazarus. *Ptr Ink M* 6:31-2+ Ap '23
Where does your best market lie, and why? A. W. Douglas. *Ptr Ink* 117:17-19 D 8 '21
- Marketing**
Advertising to put a new kind of old-fashioned beverage in the home. H. Burwen. *Ptr Ink* 123:41-2+ My 24 '23
Alice in modernland. W. A. Durgin. *Nation's Business* 11:13-15 Je '23
Association of national advertisers discusses distribution methods. *Ptr Ink* 121:25-7+ N 30 '22
Bankers want to know more about distribution. E. St E. Lewis. *Ptr Ink* 117:107-8 N 24 '21
Broadening the sales field. S. H. Bunnell. *il Iron Age* 109:1496-8 Je 1 '22
Broadest distribution channels best for growth of entire electrical industry. *J Elec* 49:234-5 O 1 '22
Building a retail outlet to order; how the L. J. Mueller furnace company picks and develops its dealers. G. A. Nichols. *Ptr Ink* 119:41-2+ My 18 '22
Business side of chemical manufacturing. C. Wadsworth. *Chem & Met Eng* 26:1064-8 Je 7 '22
Case as to distribution. S. Anderson. *Nation's Business* 11:11-14 Ja '23
Changes in the mechanism of distribution now under way. E. A. Kincaid. *J Elec* 48:55-6 Ja 15 '22
Cultivating the new sales outlet; Everwear hosiery company's campaign to get shoe dealers to install hosiery departments. J. P. Wilder. *Ptr Ink* 120:69-70+ Ag 3 '22
Direct-mail campaign that doubled an agency force; the Van Kannal revolving door company. J. True. *Ptr Ink* 122:137-9 Mr 22 '23
Direct selling as a sales policy. S. E. Summerfield. *Administration* 4:169-72 Ag '22
Distribution in export trade. P. S. Smith and W. L. Urquhart. *il Elec W* 81:913-17 Ap 21 '23
Distribution methods made right. *Ptr Ink M* 4:22 D '21
Distribution must be stripped of its superfluities. J. E. Edgerton. *Ptr Ink* 121:137-8+ O 5 '22
Distribution of electrical products on the Pacific coast. E. A. Kincaid. *map J Elec* 51:281-5 O 15 '23

Marketing—Continued

- Distribution—the manufacturer's viewpoint. J. S. Tritle. Elec W 82:886-7 O 27 '23
- Distributors or factory branches? H. Tipper. Automotive Ind 46:140-1, 190-1 Ja 19-26 '22
- Does improved distribution mean improved selling? W. S. Rugg. Ptr Ink M 7:37+ Ag '23
- Economics of marketing and advertising. W. D. Moriarty. 592p Harper '23
- Enlarging a market and creating a new one by adding a new product; Smith brothers put out new cough drop. R. Cole. Ptr Ink 120:101-2+ S 28 '22
- Experiment in distribution. J. E. Otterson. il map System 44:567-70+ N '23
- Gaining national distribution without specialty salesmen; Owens stapletied toothbrush. M. Hastings, jr. Ptr Ink 124:3-4+ S 13 '23
- Get more dealers? better to hold more. N. A. Gilmore. Ptr Ink 119:10+ Je 8 '22
- Getting an inside track on overlooked distributing channels. J. A. Murphy. Ptr Ink 118:3-4+ Ja 12 '22
- Getting buyer and seller together. G. B. Johnson. Nation's Business 11:33-5 O '23
- Getting the advertised product into the store's right department. M. Hastings, jr. Ptr Ink 122:10+ F 1 '23
- Getting the customers to sell the dealers; Walter Camp's "daily dozen." J. True. Ptr Ink M 5:25-6+ JI '22
- High cost of convenience. A. L. Filene. il Nation's Business 11:17-19 JI '23
- High price an asset in quick dealer distribution for new product; new G T D pipe wrench. G. Snow. Ptr Ink 121:57-8+ O 5 '22
- Hitching to a prepared market with a new product; Peter Rabbit crackers. F. B. Barton. Ptr Ink 123:77-8+ My 17 '23
- How a grocery wholesaler is preparing for national advertising. S. C. Lambert. Ptr Ink 121:65-6+ N 16 '22
- How Marmon builds its distributing organization. H. L. Peterson. Ptr Ink 121:33-4+ N 9 '22
- How packers and meat dealers are co-operating to improve distribution. J. Russell. Ptr Ink 122:61-2+ Ja 25 '23
- How Sterno created a new habit and capitalized on it. D. E. Wheeler. Ptr Ink 124:25-8 S 20 '23
- How Westinghouse air-spring sales possibilities were broadened; exclusive rights to dealers. A. Belden. Ptr Ink 124:25-8 S 13 '23
- How Whistle fortifies dealers with advertising. E. M. Wickes. Ptr Ink 120:138+ JI 20 '22
- Industry's problem, distribution. O. D. Street. Iron Tr R 71:1635-8 D 14 '22; Excerpts. Elec W 80:1184-5 N 25 '22
- Jobbing tires to dealers without salesmen. R. L. Burdick. Ptr Ink 118:103-4+ Mr 2 '22
- Locating strategic selling zone. G. Curtis. Ptr Ink M 5:101+ Je '22
- Making the sale a trailer to a bigger sale overcomes selling resistance; automobile spring lubricator. H. Burwen. Ptr Ink 123:33-4+ My 17 '23
- Manufacturers of related farm lines tie to the Fordson tractor. J. Y. Beaty. Ptr Ink 120:33-4+ JI 6 '22
- Market analysis, its principles and methods. P. White. 340p McGraw-Hill '21
- Marketing a wholly different food product through grocers. R. Cole. Ptr Ink 119:17-20 Ap 20 '22
- Marketing Eversharp's partner, the Wahl pen. C. A. Frary. Ptr Ink 121:17-20 N 30 '22
- Marketing, methods and policies. P. D. Converse. 650p Prentice-Hall, New York '21
- More efficient distribution for the products of the chemical and allied industries; symposium. Chem & Met Eng 27:469-74 Ag 30 '22
- New company puts ham and bacon on drug store counters; Chicago Freshmor company. D. M. Hubbard. Ptr Ink 120:19-20 S 14 '22
- New marketing idea in the furniture industry; the Home furnishing styles association's triple guarantee. R. Dickinson. Ptr Ink 121:73-4+ D 7 '22
- New product gets distribution in a single day. Ptr Ink 119:68 Ap 6 '22
- Packages that tell the story of your whole line. D. Gridley. il Ptr Ink M 6:35-6 Mr '23
- Packaging in its relation to marketing. G. W. Gair. Administration 3:437-43 Ap '22
- Peeping over the edge of the rut to discover new outlets. B. Ashbrook. Ptr Ink M 5:17-18+ S '22
- Playing safe with new products. W. F. Tuttle. Ptr Ink 123:77-8+ Je 21 '23
- Principles of marketing. F. E. Clark. 570p Macmillan '22
- Problem of distribution and suggestions for its solution. Monthly Labor R 15:312-14 Ag '22
- Problems in marketing. M. T. Copeland. 2d ed. 803p Shaw '23
- Problems in sales management. H. R. Tosdal. 637p Shaw '21
- Problems of retailing. J. W. Mettler. Textile World 63:2275+ Ap 7 '23; Same. Ptr Ink M 6:43-4+ My '23
- Profit in unprofitable business. A. Lazarus. Ptr Ink M 6:29-30+ Je '23
- Questions on distribution abroad. E. B. Filsinger. Textile World 63:1983+ Mr 24 '23
- Radical methods that quickly introduced a specialty; Tork company. J. True. Ptr Ink 123:77-8+ Je 28 '23
- Relation of consumers' buying habits to marketing methods. M. T. Copeland. Ptr Ink 123:148-9+ My 17 '23
- Research methods in marketing. E. S. Bradford. Administration 5:139-46, 417-26 F, Ap '23
- Retail stores or traveling agents to sell the farmer? Ptr Ink 120:105-6+ Ag 31 '22
- Right marketing plan routs injurious competition; manufacturers of Neolin soles adopt policy that heads off imitations. H. E. Agnew. Ptr Ink 118:122+ F 9 '22
- Sales methods in the paper industry. H. R. Wellman. Paper 30:7-10 My 3 '22
- Seeking city markets for a country product. G. Aiken, jr. Administration 3:359-61 Mr '22
- Selling a line as a department for the retailer. J. True. Ptr Ink 121:81-2 N 16 '22
- Selling a style garment direct to the consumer by a health appeal; Spencer corset co. R. Cole. Ptr Ink 122:57-8+ F 1 '23
- Selling and service problems in the distribution of specialties. D. Kirkland. Ptr Ink 122:150+ Ja 25 '23
- Small manufacturer's pressing distribution problem. Elec W 79:1282 Je 24 '22
- Some notes on markets and reaching them. R. Barstow. Nation's Business 11:82-3+ Ap '23
- Some things we can learn from 1921. R. Dickinson. Ptr Ink 118:91-2+ Ja 5 '22
- Standardization prepares the ground for a new national advertiser; the Duban shade corporation. W. B. Edwards. Ptr Ink 122:17-18 Mr 29 '23
- Success built upon dealer co-operation—the Walk-over shoe. G. H. Leach. Ptr Ink M 4:23-4 D '21
- Taking the measure of the industrial buyer. F. M. Cockrell. Ptr Ink 120:41-2+ Ag 24 '22
- Teaching motorists to ask for a lubricant by brand name. H. M. Hitchcock. Ptr Ink 125:61-2+ O 18 '23
- Trying to lessen waste and guesswork in distribution. Ptr Ink 123:10+ Je 14 '23
- Turning a dull season into a holiday rush. W. F. Plowfield. il Ptr Ink M 6:27-8+ F '23
- Two letters on distribution. Elec W 81:419-20 F 17 '23
- Two thousand brands reduced to three; Scott paper company eliminates jobbers temporarily. J. G. Lamb. Ptr Ink 118:123-4+ F 2 '22
- W. L. Douglas—a shoemaker who stuck to his last; interview by R. W. Johnson with W. L. Douglas. il Ptr Ink M 4:18-20 Ja '22
- When the marketing situation is betwixt and between; Boston molasses co. changing from a consumer to a dealer business. D. Kirkland. Ptr Ink 123:105-8 Ap 26 '23
- Wholesaler discusses distribution progress with retailers. J. H. McLaurin. Ptr Ink 123:162+ Je 28 '23

Marketing—Continued

Why fewer dealers sell more than many. W. O'Neill. *il* System 42:28-31 *Jl* '22

Why government command is opposed to public demand for lower prices. H. A. Call. *chart* Sanitary & Heat Eng 99:313-17+ *My* 18 '23

Why the manufacturer is interested in retail sales problems; modern tendencies in the marketing of products. E. A. Kincaid. *J Elec* 49:54-5, 94-6, 160-2, 206-8, 246-8 *Jl* 15-*Ag* 1, *S* 1-*O* 1 '22

See also Advertising; Apples—Marketing; Auctions; Brokers; Canvassing; Chain stores; Company stores; Consignment selling; Containers; Dealer helps; Exclusive agencies; Farm produce—Marketing; Jobbers; Mail order business; Market surveys; Obsolete commodities—Marketing; Private brands; Retail stores, Manufacturers'; Retail trade; Sales policies; Salesmanship; Salesmen; Salesmen, Retail; Street trades

Bibliography

Merchandising low-price products through grocery stores. *Ptr Ink* 120:73-4+ *Jl* 13 '22

Cost

Average man's interest in distribution costs. O. D. Street. *Ptr Ink* 121:128+ *O* 26 '22

How the Western electric company is analyzing its distribution costs. O. D. Street. *Ptr Ink* 121:33-4+ *D* 7; 129-30+ *D* 14 '22

It costs too much to sell our food. B. F. Yoakum. *Nation's Business* 11:32-3 *N* '23

It's distribution that costs! S. Anderson. *Nation's Business* 10:9-11 *Je* '22

Report of congressional commission on distribution costs. *Ptr Ink* 120:41-2 *Ag* 10 '22

Winchester-Simmons findings on distribution cost increases. *Ptr Ink* 124:28 *Jl* 5 '23

Marketing, Cooperative

Agricultural credits and cooperative marketing. B. M. Anderson, Jr. (*Chase econ. bul.* v. 3, no. 3) 35p *Chase* national bank, New York '23

Banker and co-operative marketing. C. Williams. *Comm & Fin Chr* 117:140-3 *sec* 2 *O* 13 '23

Better merchandising will result from the new farm movement. T. M. Knappen. *Ptr Ink* 119:17-19 *Ap* 27 '22

Bill permitting combines of agricultural producers signed by President Harding; text. *Comm & Fin Chr* 114:800-1 *F* 25 '22

City-bred Moses for the farmer. S. Bent. *il* *Nation's Business* 10:19-20 *D* '22

Co-operative advertising of lima beans helps to keep profit from speculators. *Ptr Ink* 124:104+ *Ag* 23 '23

Cooperative elevator movement. J. B. Kenkel. 155p *Catholic univ. of America*, Washington, D.C. '22

Cooperative grain marketing. J. M. Mehl. *il* *U S Agric Bul* 937:1-21 '21

Cooperative marketing. H. Steen. 366p *Double-day* '23

Co-operative marketing as aid to farmer. F. I. Kent. *Comm & Fin Chr* 116:366-7 *Ja* 27 '23

Co-operative marketing associations. E. Meyer. *jr. Comm & Fin Chr* 115:2741-2 *D* 23 '22

Co-operative marketing bill; editorial. *Comm & Fin Chr* 114:668-9 *F* 18 '22

Co-operative marketing is giving farmer greater buying power. S. Q. Grady. *Ptr Ink* 123:81-2+ *Je* 7 '23

Cooperative marketing of farm products. O. B. Jesness. 292p *Lippincott* '23

Cooperative marketing of woodland products. A. F. Hawes. *il* *U S Agric Farmers' Bul* 1100:1-15 '20

Co-operative movement world-wide in scope. *Comm & Fin Chr* 116:249-50 *Ja* 20 '23

Cooperative sales organizations are educating the farmers. W. M. Griffen. *Ptr Ink* 123:210+ *Ap* 26 '23

Cooperative tidal wave. O. M. Kile. *Nation's Business* 11:34-5 *Ja* '23

Court decision as to contract with cooperative marketing association. *Kansas. Monthly Lab.* R 17:967 *O* '23

Court decisions as to contracts with cooperative marketing associations. *Monthly Labor R* 16:1116-17 *My* '23

Eligibility of paper of co-operative marketing associations for purchase or rediscount by Federal reserve banks. *Comm & Fin Chr* 115:2852-3 *D* 30 '22

Farmers' cooperative purchasing and marketing in the United States. *Monthly Labor R* 14:383 *F* '22

Fish industry to consider co-operative measures. *Ptr Ink* 125:105-6 *N* 1 '23

Increasing farmers' share of the consumer's dollar. J. R. Howard. *Ptr Ink* 118:109-10+ *F* 23 '22

Latest agricultural victory; co-operative marketing bill; text. R. Bean. *Annalist* 19:243-4 *F* 20 '22

Menace of farmer co-operation. H. J. Hughes. *Ptr Ink* 122:141-2+ *Mr* 8 '23

New law authorizing formation of cooperative marketing associations. *Monthly Labor R* 14:832-3 *Ap* '22

New York maple syrup producers to market co-operatively. *Ptr Ink* 117:97-8 *D* 15 '21

Oregon bankers' views on co-operating marketing. *Comm & Fin Chr* 117:730-1 *Ag* 18 '23

Producers' co-operation and the Sherman law. R. McClung. *Annalist* 20:297 *S* 25 '22

Reply to alleged criticisms of Judge Gary regarding farmer's co-operative agencies. B. M. Baruch. *Comm & Fin Chr* 114:2539-40 *Je* 10 '22

Sales methods and policies of a growers' national marketing agency. A. Hobson and J. E. Chaney. *diags maps* *U S Agric Bul* 1109:1-36 '23

72,000 embattled farmers sell ice cream. J. Henle. *Ptr Ink* 120:33-4+ *Ag* 24 '22

Spread of farmer marketing. A. M. Loomis. *Nation's Business* 10:36+ *Jl* '22

What advertising has done and can do for agriculture. C. Williams. *Ptr Ink* 123:49-50+ *Je* 7 '23

Wheat and the farmer—Mr Gompers's view. *Comm & Fin Chr* 116:2818-19 *Je* 23 '23

Wisconsin dairymen working toward advertising. *Ptr Ink* 122:145-6 *Mr* 22 '23

Wisconsin's dairy marketing experiment. W. A. Freehoff. *Annalist* 22:471+ *O* 8 '23

See also Farm produce—Marketing; Live stock associations; *also* American cotton growers' exchange; American farm bureau federation; Northwest wheat growers, associated; Staple cotton cooperative association; Tobacco growers cooperative association; United States grain growers, inc.

Markets

Open types of public markets. M. Kerbey. *il* *U S Agric Bul* 1002:1-18 '21

Markets, New

Advertising used to develop wide market that had never been recognized. *Ptr Ink* 120:109-10+ *Jl* 6 '22

Business developed by cultivating new markets; Stone straw company. J. True. *Ptr Ink* 124:146+ *S* 13 '23

Changed copy appeal gives Wildroot hair tonic a new market. W. Bates. *Ptr Ink* 125:73-4+ *O* 25 '23

Cinderella product that became a sales leader; Heald regrinding machines. J. M. Mosely. *Ptr Ink* 123:197-8+ *Ap* 26 '23

Cultivating unsuspected markets. W. H. Heath. *Ptr Ink* 123:113-14+ *Ap* 12 '23

Discovering new uses for a product designed for only one purpose; monometer thermometer. *Ptr Ink* 123:149-50 *My* 10 '23

Finding a new idea uncovers a new market within the present one; national campaign of 1847 Rogers Brothers. R. Cole. *Ptr Ink* 123:53-4+ *Ap* 19 '23

Finding new business by finding new lakes. L. Anson. *Ptr Ink M* 4:37 *D* '21

Finding new markets for old products. R. Giles. *il* *Ptr Ink M* 4:17-18 *Ap* '22

Giving the hot dog a new sales outlet. *Ptr Ink* 121:129-30+ *O* 5 '22

Gold dust's 28 uses lead the way to wider markets. R. Cole. *Ptr Ink* 118:3-4+ *Mr* 2 '22

Markets, New—Continued

- How advertising scouts for side-street markets. W. B. Edwards. *Ptr Ink* 124:133-4+ S 20 '23
- How changing an appeal boosted our sales; a broader market found for Skimit. M. B. Olinger. *Ptr Ink* 121:8+ O 5 '22
- How the Underwood company found its best market for deviled ham. A. Belden. *Ptr Ink* 124:25-7 Ag 2 '23
- Lord Nelson, Kings' evil and lux; one market at a time. R. M. Rhodes. *Ptr Ink* M 6:31-2 Mr '23
- Opening a closed market with a new product. A. Belden. *Ptr Ink* 123:153-4+ Ap 12 '23
- Sells haircuts for cows after farmer shows way. *Ptr Ink* 124:54+ JI 19 '23
- Shooting the market on the wing. P. K. Marsh. *il Ptr Ink* M 5:35-6+ O '22
- Squeezing new use opportunities dry; electric vacuum cleaner. *Ptr Ink* 117:57-8+ D 1 '21
- Tool maker goes to American household as a market nearly untouched; Nicholson file co. J. E. Bullard. *Ptr Ink* 120:97-8+ Ag 24 '22
- Trial advertising opens a new market for ornamental metal work. R. Cole. *Ptr Ink* 119:119-20+ Je 15 '22
- Victor dealer finds a big class of new buyers; Chinese laundryman. R. Davis. *Ptr Ink* 125:53-4 C 25 '23
- Wasmuth-Endicott company, manufacturer of kitchen cabinets, gets missed sales by adding a new product. W. B. Edwards. *Ptr Ink* 124:17-19 JI 26 '23
- What can a new trend do to your markets? B. F. Berfield. *Ptr Ink* M 7:46+ Ag '23
- Where the market can be expanded through broadening the advertising appeal. J. A. Murphy. *Ptr Ink* 123:81-2+ Ap 5 '23

Bibliography

- How new uses are found and advertised. *Ptr Ink* 122:44+ F 15 '23

Marking machines

- Martin hydraulic marking machine with circular table. *il Am Mach* 56:344 Mr 2 '22; *Mach* 28:585 Mr '22
- Noble & Westbrook no. 13 bench-type marking machine. *il Am Mach* 57:507 S 28 '22; *Iron Age* 110:805 S 28 '22

Marl

- Manufacture of Portland cement from marl. R. E. Kirk. *Univ of Minn Eng Exp Sta Bul* 2:1-52 '23; *Abstract. Chem Age* (Lond) 9:sup 16-17 N 17 '23
- Successful marl pump. *il Sci Am* 127:243 O '22
- Use of marl in road construction. C. H. Dow. *Univ of Minn Eng Exp Sta Bul* 1:1-67 '23; *Excerpts. Mng & Contr* (R & S) 59:763-70 Ap 4 '23; *Abstract. Eng N* 90:925 My 24 '23

Marlin firearms corporation

- Reincarnation of a firearms business; resumption on a production basis, within a few months, of the Marlin establishment. L. S. Love. *Iron Age* 110:1204-5 N 9 '22

Marot, Daniel

- Great ornamentalists. F. T. Singleton. *Ptg Art* 38:273 N '21

Marquise

- Imposing construction of sheet metal; a gigantic marquise at Palace theatre at South Bend, Ind. *il Sheet Metal Worker* 14:355 Je 8 '23

Marriott, Hugh F.

- Mining engineers of note. *por Eng & Min J* 112:1060 D 31 '21

Mars. See Communication, Interplanetary**Marseilles, France**

- Ancient commerce body; Marseilles, earliest city to establish a chamber of commerce. W. Frost. *Nation's Business* 10:52-3 My '22
- L'extension du port de Marseille; l'aménagement de l'étang de Caronte. *plan Génie Civil* 80:529-30 Je 10 '22
- Marseilles-Rhone canal. *diags plans Engineer* 134:432-4, 442 O 27 '22
- Marseilles wins place as port. F. Miltoun. *map Marine R* 52:50-1 F '22

Marsh, Albert Lyndon, 1877-

- Sketch. *por Elec W* 82:164 JI 28 '23

Marsh gas. See Firedamp**Marshall, Waldo H., 1864-1923**

- Sketch. *por Ry R* 73:316-17 S 1 '23

Marshes

- Conservancy of marsh lands. E. Latham. *il diags Engineering* 113:3-6 Ja 6 '22

Marsupialia, Fossil

- New marsupial. E. L. Troxell. *il Am J Sci* 5th ser 5:507-10 Je '23

Martensite

- X-ray data on martensite formed spontaneously from austenite. E. C. Bain. *il Chem & Met Eng* 26:543-5 Mr 22 '22; *Discussion*. 26:1154 Je 21 '22

Maryland

- How Maryland is using advertising to sell idle lands. J. True. *Ptr Ink* 124:129-30 Ag 23 '23

See also Roads—Maryland

Public service commission

- How the Maryland commission acts. E. B. Whitman. *Elec Ry J* 59:355-7 Mr 4 '22

Maryland casualty company

- Maryland casualty co.'s development, Baltimore, Md. *il plan Arch & Bldg* 54:36-7, pl 47-51 Ap '22

Maryland public utilities association

- Organization. *Elec W* 82:247 Ag 4 '23

Masaryk academy

- Psychotechnical institute of the Masaryk academy. *Int Labour R* 7:418-21 F '23

Masonic temples

- Competition for Masonic temple, Trenton, New Jersey. *plan Arch Rec* 54:392 O '23
- Preliminary study for a masonic temple to be erected on Lindell Boulevard, St Louis, Mo. *Am Arch* 121:352-4 Ap 26 '22
- Scottish Rite Cathedral, San Antonio, Texas. *Am Arch* 120:401, 414 N 23 '21

Masonry

- Characteristics of concrete brick masonry; comparison with clay brick. H. A. Davis. *il diags plan Concrete* 21:10-13 JI '22
- Design of masonry structures and foundations. C. C. Williams. 555p McGraw-Hill '22; *Review. Engineering* 114:530-1 O 27 '22
- Early architecture of Pennsylvania. A. L. Kocher. *il diags Arch Rec* 52:434-44 N '22
- Elevated house approaches. A. Marple. *il Bldg Age* 44:34 F '22
- Novel method of stringing mortar in masonry work. *il Pop Mech* 38:344 S '22
- Wall textures. P. E. Nobbs. *il Am Arch* 124:244-50 S 12 '23

See also Arches; Brick construction; Brick-laying; Bricks; Bridges—Foundations and piers; Bridges, Concrete; Building; Building stone; Cement; Concrete construction; Dams; Foundations; Mortar; Plaster and plastering; Retaining walls; Sea walls; Stone cutting; Walls

Estimates

- Estimating the cost of stone setting; block, terra cotta, cut stone. C. F. Dingman. *Concrete* 21:189-92 D '22

Mass action, Law of

- Application of the law of mass action to strong electrolytes, and the derivation of the general equation of the ionization isotherm. W. Hughes. *Philos Mag* 6th ser 42:428-31, 776 S, N '21

Mass production. See Factory management**Mass-spectrograph. See Spectrograph****Massachusetts**

See Electric plants (central stations)—Massachusetts; Housing—Massachusetts; Labor and laboring classes—Massachusetts; Labor laws and legislation—Massachusetts; Roads—Massachusetts; Water supply—Massachusetts

Massachusetts institute of technology

- Gas laboratory for Mass. institute. J. E. Bullard. *Gas Age* 50:169-70 Ag 5 '22

- Massachusetts institute of technology—Cont.**
Mining curriculum at the Massachusetts institute of technology. G: J. Young. Eng & Min J 114:58-60 J1 8 '22
- Master boiler makers' association**
Officers. Ry Age 72:1351 Je 10 '22
13th annual convention, Chicago, May 23-26. Ry Mech Eng 96:413-15 J1 '22
14th annual convention, Detroit, Mich., May 22-25. Ry Mech Eng 97:366, 565-7 Je, Ag '23
- Master plumbers, National association of.** See National association of master plumbers
- Master school of united arts**
Master school of united arts. Arch Rec 52:358 O '22
- Matches**
Match that lights under water. F. P. Mann. il Sci Am 126:333 My '22
- Manufacture**
- Five billion matches daily supply for world's needs. il Pop Mech 40:910-11 D '23
How much science in a common parlor match. J. H. Collins. il Sci Am 127:129-31 Ag '22
- Material handling.** See Mechanical handling
- Materializations (psychic).** See Psychical research
- Materials, Purchasing of.** See Purchasing
- Materials, Strength of.** See Strength of materials
- Mathematical logic.** See Logic, Mathematical
- Mathematical physics**
Notes on the method of dimensions. E. Buckingham. Philos Mag 6th ser 42:696-719 N '21
See also Electricity; Gases, Kinetic theory of; Hydrodynamics; Impact; Magnetism; Optics; Sound; Tensors; Thermodynamics
- Mathematics**
Engineering mathematics with tables. M. A. Keasey, A. Kline and D. A. McIlhatten. 342p Blakiston '23
Industrial mathematics practically applied. P. V. Farnsworth. 272p Van Nostrand '21
Mathematics for technical and vocational schools. S: Slade and L: Margolis. 491p Wiley '22
Mathematics of finance. H. L. Rietz, A. R. Crathorne and J. C: Rietz. 280p Holt '21
Notes on business mathematics for use in the College of secretarial science, Boston university. E. B. Mode. 105p Back Bay ptg. co., Boston '21
Preliminary mathematics. F. E. Austin. 169p F. E. Austin, Hanover, N.H. '22
Real mathematics, intended mainly for practical engineers. E. G: Beck. 306p Oxford '22
Technical mathematics. H. M. Keal, N. S. Phelps and C. J. Leonard. v 2-3 271p; 138p Wiley '22-'23
Unified mathematics. L: C: Karpinski, H. Y. Benedict and J: W. Calhoun. Rev. 522p Heath '22
See also Algebra; Arithmetic; Arithmetic, Commercial; Bessel's functions; Calculus; Curves; Decimal system; Decimals; Differential equations; Dynamics; Equations; Theory of; Fourth dimension; Functions; Functions, Exponential; Geometry; Graphic methods; Graphic statics; Harmonic analysis; Infinite; Interest tables; Logarithms; Mechanics; Mensuration; Metric system; Probabilities; Squares, Tables of; Trigonometry; Vector analysis
- Bibliography**
- List of manuscript bibliographies in astronomy, mathematics and physics. C. J. West and C. Hull. (Reprint and Circ. Ser. 39) p4-7 25c National research council, 1701 Massachusetts av, Washington, D.C.
- Philosophy**
- Mathematical philosophy, a study of fate and freedom. C. J. Keyser. 466p Dutton '22
- Study and teaching**
- Reorganization of mathematics in secondary education; report by National committee on mathematical requirements. [bibliog. 1911-1921: p. 539-627] 652p Mathematical assn. of Am., Oberlin, O. '23
- Tables, calculations, etc.**
- Six-place tables. 124p McGraw-Hill '22
Synopsis of applicable mathematics, with tables. L. Silberstein. 250p G. Bell & sons, London '23
Tables for technical mathematics. H. M. Keal, N. S. Phelps and C. J. Leonard. 85p Wiley '22
Tables of applied mathematics in finance, insurance, statistics. J. W. Glover. 676p G. Wahr, Ann Arbor, Mich. '23
See also Charts (calculating)
- Mathews, Arthur F.**
Arthur F. Mathews; institute gold medalist in painting, 1923. R. Boynton. Am Inst Arch J 11:131-3, 141-9 Ap '23
- Mats.** See Rugs
- Matter**
Electricity and matter. E. Rutherford. Inst E E J 60:613-18 Je '22; Same. Elec R (Lond) 90:893-6 Je 23 '22; Abstracts. Engineering 113:646-8 My 26 '22; Electrician 88:742-3 Je 23 '22
Matter and energy. W. J. Pope. Soc Chem Ind J (Chem & Ind) 42:52-4, 72-4 Ja 19-26 '23
New conceptions of matter. G. M. J. Mackay. Gen Elec R 25:508-13 Ag '22
Present conception of matter. Sci Am 129:31 J1 '23
Properties of matter. B. C. McEwen. 316p Longmans '23
Theories and hypotheses; the corpuscular theory. J: G. A. Rhodin. il diags Engineer 136:232-4 Ag 31 '23
Universe—matter. O. Lodge. Brass W 19:91 Mr '23
See also Adsorption; Atoms; Capillarity; Chemistry; Colloids; Compressibility; Critical point; Diffusion; Dissociation; Dynamics; Elasticity; Electromagnetic theory; Electrons; Flocculation; Force and energy; Gases; Gravitation; Hardness; Ions; Langmuir postulates; Molecules; Physics; Solution (chemistry); Specific gravity; Viscosity
- Mathews, William, 1844-1922**
Sketch, por Engineering 113:37-8 Ja 13 '22; Engineer 133:47 Ja 13 '22
- Mattresses (hydraulic engineering)**
Breakwater construction, Toronto Island shore. J: M. Wilson. il diags Can Eng 44: 387-90 Ap 10 '23; Abstract. Eng & Contr (W W) 59:1044-6 My 9 '23
- Mausoleums.** See Tombs
- Maxwell's distribution law**
Maxwell's law of distribution of velocities and the principle of projective covariance. I. Maizlish. Phys R 20:39-45 J1 '22
- Maxwell's theorem**
Electric fields due to the motion of constant electromagnetic systems. S. J. Barnett. diags Philos Mag 6th ser 44:1112-28 D '22
- Measles**
Serum hailed as absolute preventive of measles. Pop Mech 40:574-5 O '23
- Measurement**
Photomicrographic method for the determination of particle size of paint and rubber pigments. H: Green. il J Fr Inst 192:637-66 N '21
Physiological limits to the accuracy of visual observation and measurement. H. Hartridge. Philos Mag 6th ser 46:49-79 J1 '22
See also Calorimeters and calorimetry; Coal measurement; Colorimeters and colorimetry; Electric measurement; Gages; Gas flow; Gas measurement; Magnetic measurements; Measuring instruments; Meters; Micrometers; Oil measurement; Paper measurement; Photometry; Pitot tube; Pyrometers and pyrometry; Surveying; Temperature—Measurement; Thermometers and thermometry; Water flow; Water measurement; Water meters; Weights and measures
- Measurement, Electric.** See Electric measurement

Measurement, Magnetic. See Magnetic measurements

Measurement of light. See Photometry

Measurement of management. See Industrial management—Measurement

Measuring instruments

Accurate end measurement on measuring machines using a screw. H. Laker. diags Engineer 134:81-3 JI 28 '22; Discussion. A. C. Wickman. 134:281 S 15 '22

Apparatus used in highway research projects in the United States. C. A. Hogentogler. il diags Nat Research Council Bul v 6, pt 4:1-91 Ag '23

Appareils de mesures à aiguilles et graduations curvilignes, système Dugit. A. Dumont. diags Génie Civil 80:13-14 Ja 7 '22; Abstract (New principle of design for meters). Power Pl Eng 26:530 My 15 '22

Bench measuring machine of extreme precision. il Pop Mech 38:847 D '22

Geneva universal measuring machine for testing machine shop gages. il Automotive Ind 48:1077 My 17 '23

Organization of instrument control in industrial plants. F. J. Schlink. il Management Eng 2:67-72 F '22

Precision measuring instrument for small motions of solid bodies. H. A. Thomas. il diags Engineer 135:138-40 F 9 '23

Scientific appliances, and their uses in industry. il Eng & Ind Management 7:600-4; 8:32-6 JI 13-27 '22

Selection and use of instruments in industrial plants. F. J. Schlink. il Management Eng 2:337-42 Je '22

Test code on instruments and apparatus. Mech Eng 45:116-20 F '23

Thread measuring devices. B. M. W. Hanson. il diags Mach 29:946-8 Ag '23

Wickman gauge measuring machine. il diags Engineer 135:266-8 Mr 9 '23

See also Calipers; Electric instruments; Gages; Inclinoimeters; Meters; Micrometers; Minimeters; Protractors; Slide rule; Slip meters; Stroboscopic instruments; Timing devices

Measuring instruments, Optical

Bausch & Lomb contour measuring projector. il Am Mach 57:743-4 N 9 '22; Automotive Ind 49:364-7 Ag 23 '23

Engineering problems solved by photo-elastic methods. E. G. Coker. il diags J Fr Inst 196:433-76 O '23

Inspecting by optical projection. il diags Mach 28:984-8 Ag '22

Measuring with light waves. W. F. Meggers. il Sci Am 129:258+ O '23

Optical strain gauges and extensometers. L. B. Tuckerman. il diags Engineering 116:222-3 Ag 17 '23; Abstract. Eng N 91:266-7 Ag 16 '23

Use of optical instruments in machine work. il diags Am Mach 56:697-701 My 11 '22

When optical illusions aid the engineer. F. Rowlinson. il Sci Am 127:316+ N '22

Measuring machine. See Measuring instruments

Meat

Secrets of meat curing and sausage making. 302p B. Heller & co., Chicago '22

Utilizing all but the squeal; a survey of the by-products produced by our leading meat packing plants. C. A. Byers. il Sci Am 126:383-4 Je '22

See also Packing houses

Meat, Frozen

Presence of vitamin B in frozen flesh food. A. M. Wright. Soc Chem Ind J 42:403-4 O 12 '23

Meat industry and trade

American livestock and meat industry. R. A. Clemen. [bibliog. p.811-841.] 872p Ronald press '23

Government finds that movies have shifted preferences for meats. Ptr Ink 124:49-50 Ag 2 '23

Here's a trust allowed to do it all; the Vestey interests of England. W. Bishop. il Nation's Business 11:34-5 N '23

Increased meat consumption in United States in 1922—consumption highest since 1911. Comm & Fin Chr 116:897-8 Mr 3 '23

Per capita consumption of meat and lard in the United States and operating expenses and profits in the retail meat trade.

Monthly Labor R 14:680-6 Ap '22

Quality products. G. S. Radford and others. il Management Eng 4:111-16 F '23

Refrigerating interests of Vestey bros. Refrig W 58:40-1 S '23

Report of the special Commission on the necessities of life relative to the retail marketing and distribution of meat products. 63p Massachusetts Commission on the necessities of life, Boston '23

Wages and hours of labor in the slaughtering and meat-packing industry, 1921. U S Bur Labor Statistics Bul 294:1-93 '22

Wholesale meat prices close to 1913 levels says President of American meat packers. C. E. Herrick. Comm & Fin Chr 116:123 Ja 13 '23

See also Cold storage; Packing houses; Packing industry

Advertising

Armour's advertising takes hams back to the farm. Ptr Ink 124:33-4 S 27 '23

Changing an unwise buying habit with advertising's aid. Ptr Ink 123:217-18 Ap 26 '23

How packers and meat dealers are co-operating to improve distribution. J. Russell. Ptr Ink 122:61-2+ Ja 25 '23

How the meat industry of the nation reduced a surplus of hams. J. Henle. Ptr Ink 121:73-4+ O 5 '22

Labeling the store to identify the product. J. True. Ptr Ink 124:81-2 JI 12 '23

Lest the farmer and consumer should forget; Swift & co. do educational advertising. Ptr Ink 121:10+ D 21 '22

Posters to increase use of meat. Ptr Ink 122:17-18 F '22 '23

Teaching economy in meat buying by advertising. Ptr Ink 120:64+ S 21 '22

Visualizing flavor and aroma in newspaper copy; advertising of Ferris hams and bacon. Ptr Ink 122:80+ Ja 4 '23

See also Sausages—Advertising

Bibliography

Packers have learned. Ptr Ink 121:127-8 D 7 '22

Directories

Directory of individuals and concerns engaged in slaughtering and meat packing. Institute of American meat packers, Chicago '22

Mechanical ability, Tests for. See Ability tests

Mechanical aids in offices. See Office appliances

Mechanical draft

Draft control essential to use of moist fuels. Z. Kogan. Power Pl Eng 27:118-20 Ja 15 '23

Forced draft fans and exhausters. il diags Power Pl Eng 27:13-15 Ja 1 '23

Mechanical draft. A. W. Binns. diags Power Pl Eng 26:939-42 O 1 '22

Mechanical draft and efficiency. R. June. il diags Gas Age 50:5-6+ JI 1 '22

Mechanical drafting of locomotives; with discussion. F. H. C. Coppus. diags Ry Mech Eng 97:14-19 Ja '23

Simultaneous regulation of forced and natural draft. A. Bement. diags Power 55:152 Ja 24 '22

Use of forced draft for terra cotta kilns. J. L. Carruthers. il plans Am Cer Soc J 5:449-54 JI '22; Discussion. (Bul) 5:222-5 O '22

See also Blowers; Fans, Mechanical

Mechanical drawing

Appareil permettant le tracé des trois coniques, d'un mouvement continu automatique. diags Génie Civil 79:542-3 D 17 '21

Course in mechanical drawing, for school use and for self-instruction. L. Rouillion. 15th ed., rev. & enl. 92p Henley '21

Engineering drawing. H. H. Jordan and R. P. Hoelscher. 351p Wiley '23

Mechanical drawing—Continued

- Essentials of drafting. C. L. Svensen. 2d ed., rev. 194p Van Nostrand '23
- Instruction course for the apprentice. I. C. Vanasdal. diags Sheet Metal Worker 12: 732-7, 766-71, 801-2+, 836-8; 13:4-6 N 25 '21-Ja '6, F 3 '22
- Introduction to engineering drawing. J. Dun-can. 158p Macmillan '22
- Introduction to the graphic language. G. C. Anthony. 158p Heath '22
- Maxton's manual of engineering drawing. J. Maxton. Rev. ed. 251p C. Lockwood and sons, London '22
- Mechanical drawing problems for high schools, normal schools and vocational schools. E. Berg and E. F. Kronquist. 223p Manual arts press '22
- Notes on mechanical drawing. R. S. Wallis. 64p Eng. ext. dept., Iowa state college, Ames '22
- Practical mechanical drawing and machine design self taught. C. Westinghouse. 156p Drake '23
- Practical problems in mechanical drawing and blueprint reading. W. W. Sturtevant. 94p Practical problems co., Minneapolis '21
- See also Architectural drawing; Drafting room practice; Geometrical drawing; Graphic methods; Machinery—Design; Plumbing—Drawing; Structural drawing

Study and teaching

- Mechanical drawing at Purdue University. F. P. McGrath and L. Britton. Eng Educ 13: 358-64 F '23
- Review of drawing from S. P. E. E. proceedings. 1893-1921. R. F. Edgar. Eng Educ 13: 158-72 N '22
- Teaching engineering subjects to freshmen in college, with special reference to mechanical drawing and descriptive geometry. M. Wenk. Eng Educ 13:514-26 Ap '23

Mechanical engineering

- Increasing both wealth and wages through increased production. chart Ind Management 66:129-33 S '23
- Kent's mechanical engineers' handbook. W. Kent. 10th ed. 2247p Wiley '23
- Machinists' and draftsmen's handbook. P. Lobben. 3d ed., rev. 487p Van Nostrand '22
- Swingle's catechism of steam, gas, and electric engineering. C. F. Swingle. 173p Drake '22
- See also Aeronautics; Automobile engineering; Automobiles; Boilers; Chemical engineering; Electric engineering; Fuel; Horsepower; Hydraulic engineering; Locomotives; Lubrication and lubricants; Machine shop practice; Machine tools; Machinery; Marine engineering; Mechanical draft; Mechanical handling; Mechanical movements; Mechanics; Motor trucks; Packing; Power; Power transmission; Pumping; Standardization; Steam engineering; Steam engines; Tolerance; Trucks

Exhibitions

- First national exposition of power and mechanical engineering. New York, Dec. 7-13. Am Gas J 117:718+ D 30 '22

Tables, calculations, etc.

- Mechanical engineering detail tables. J. P. Rose. 197p Pitman '23

Mechanical engineers

- Mechanical engineer in factory economy. W. H. Kellogg. Prof Eng 8:5 Jl '23
- See also Odell, William Henry, 1841-

Directories

- 1922 year book of the American society of mechanical engineers. 592p Am. soc. of mech. eng., 29 W. 39th st., New York '23

Mechanical equipment of buildings

- Buildings from the manager's viewpoint. G. L. H. Arnold. il Management & Adm 6:43-7 Jl '23
- Design of the modern printing building. A. S. Alschuler. il Inland Ptr 72:276-9 N '23

- Mechanical equipment and building design. H. L. Clute. Can Eng 45:433-4 O 23 '23
- Mechanical equipment of hotels, il plans Am Arch 124:186-214, 222-8 Ag 29 '23
- Mechanical plant of the John Hancock building. C. L. Hubbard. il diags plans Power Pl Eng 27:659-64 Jl 1 '23
- Meeting de luxe service requirements of General motors corporation; mechanical features of the largest office building of its kind in the world. C. C. Wilcox. il diags plans Power Pl Eng 27:255-65 Mr 1 '23
- Power for Federal reserve bank, Cleveland. il diags plan Power Pl Eng 27:1063-9 N 1 '23
- Space requirements for mechanical equipment. H. L. Clute. Heat & Ven 19:33-74 D '22; 20:48-9 Ja '23; Abstract. Eng N 89: 23-4 Jl 6 '22; Same. Eng & Contr (Bldgs) 58:103-6 N 22 '22; Discussion. T. W. Reynolds. Heat & Ven 20:40 Mr '23

See also Drainage, House; Electric wiring, Interior; Elevators; Heating; Hot water supply; Lighting; Plumbing; Power plants; Steam pipes; Ventilation

Mechanical fans. See Fans, Mechanical**Mechanical handling**

- Appareils de levage, de manutention et de transports mécaniques industriels. E. Pacoret. 2v Dunod, Paris '22
- Better handling for assorted materials. M. W. Potts. il Ind Management 66:7-13 Jl '23
- Better methods of handling materials. F. E. Gooding. il Ind Eng 81:41-5+ Ja '23
- Bulk handling plant at port of Portland, Oregon. G. B. Hegardt. il diags plan Eng N 87: 760-3 N 10 '21; Same. Eng & Ind Management 7:54-6 Ja 12 '22
- Cost comparison in handling materials. S. B. Brown. il Management & Adm 6:611-16 N '23
- Cutting costs on moving and piling material with a tiering machine. il Ind Eng 81:370 Jl '23
- Cutting material handling costs. H. R. Simonds. il chart Iron Tr R 71:509-15 Ag 24 '22
- Driving of handling machinery. H. Blyth. il diags Electrician 89:734-7 D 29 '22
- Economic handling of materials in porcelain manufacture. A. P. Ball. Am Cer Soc J 5: 235-47 My '22
- Efficient dock equipment at Manchester. J. Taylor. il Pop Mech 39:386-8 Mr '23
- Electrical developments in iron and steel works. J. Smith. il Electrician 89:586-90 N 24 '22
- Equipment that speeds up turnover. il System 44:57-8 Jl '23
- Evolution of mechanical handling. M. W. Potts. il diags Ind Management 65:279-84 My '23
- Evolution of mechanical handling devices of the continuous type. G. F. Zimmer. il diags Electrician 87:810-14 D 30 '21
- 4 economy ideas for moving materials. il Factory 28:526-7 My '22
- Handling at the largest tea factory in the world. G. F. Zimmer. il diags plans Ind Management (Lond) 9:19-25, 52 Ja 11-25 '23
- Handling expedited in new foundry of Gilbert & Barker mfg. co. H. R. Simonds. il plan Foundry 50:1-4 Ja 1 '22
- Handling material in the Steinway factories. P. Billhuber. il Management Eng 2:263-8 My '22
- Handling material to car repair tracks. R. H. Dyer. diags Ry R 73:59 Jl 14 '23
- Handling materials. See monthly numbers of Industrial engineer
- Handling materials in pulp and paper mills. il diags Paper Tr J 77:45-51 O 25 '23
- Handling materials in the plant yard. J. Herbert. il Ind Management 66:97-101 Ag '23
- Handling materials in western shops. F. A. Stanley. il Am Mach 55:813 N 17 '21
- Handling the finished products of industry. G. L. Montgomery. Chem & Met Eng 26: 823-5, 885-7, 1114-18; 27:199-203, 779-83, 824-6 My 3-10, Je 14, Ag 2, O 18-25 '22
- Hardaker's portable handling devices. il Ind Management (Lond) 10:191-6, 226-7 O 4-18 '23

Mechanical handling—Continued

- How one industrial plant handles scrap economically. *il Elec R* 80:254 My '22
- How one plant employs steel dump-body skids to handle loose material. *il Ind Eng* 80:358 Jl '22
- How we handle enameled products at lower cost. C. E. Gerberich. *Factory* 31:700+ N '23
- Hyatt-fitted plate castors. *il diags Eng & Ind Management* 8:63-2 Ag '10 '22
- Increased production efficiency means good material handling. J. G. Hatman. *Chem & Met Eng* 27:396-9 Ag '30 '22
- Machinery for bagging superphosphate. K. Warming. *il Chem & Met Eng* 28:893-4 My '21 '23; Same. *Ind Management (Lond)* 9:275-7 My '23
- Material handling equipment. M. W. Potts. *il Management Eng* 4:119-23 F '23
- Material-handling equipment as used in the iron and steel industry. F. L. Leach. *il diags plans Mech Eng* 44:493-9 Ag '22; Same abr. *Blast F & Steel Pl* 10:265-6 My '22
- Material handling in industry. *il Elec W* 82:583-5 S '22 '23
- Material handling in the textile industry. R. M. Gates. *il Management Eng* 2:13-17 Ja '22
- Materials handling in a modern sugar refinery. H. L. Rank. *il Ind Management* 65:306-13 My '23
- Mechanical handling equipment at a Tasmanian zinc works. *il Engineer* 135:394, 398-9 Ap '13 '23
- Mechanical handling of goods. C. H. Woodfield. 116p *Pitman* '21
- Mechanical handling of materials in textile plants. C. M. Mumford. *il Ind Management (Lond)* 10:104-10 Ag '23 '23
- Mechanical handling of superphosphate. G. F. Zimmer. *Chem & Met Eng* 27:31-2 Jl '5 '22
- Mechanische kokslösch- und -verladeeinrichtungen. A. Thau. *il diags Stahl & Eisen* 42:1338-43, 1868-74 D 14-21 '22
- Modern handling methods in the manufacture of electrical porcelain. G. L. Montgomery. *il Chem & Met Eng* 27:59-62 Jl '12 '22; Same. *Ind Management (Lond)* 8:355-9 D 14 '22
- New overhead handling system. *il Ry Age* 71:1004 N 19 '21; *Ry Mech Eng* 95:782-3 D '21; Same. *Eng & Ind Management* 7:301-3 Mr '23 '22
- New system of handling for brick, tile and pottery works. *diags Eng & Ind Management* 6:451-5 O 20 '21
- Push molds from bench machine to track by air cylinder mechanism. *il Foundry* 49:858 N 1 '21
- Saved—\$200 a day. A. P. Ball. *il Factory* 29:143-5+ Ag '22
- Simpler methods of moving materials. *il Factory* 28:658+; 31:469-70+ Je '22, O '23
- Tramrail reduces labor force to half; japingan department of Globe machine & stamping co. *il Iron Age* 108:1523-5 D 15 '21
- Transportanlagen in Siemens-Martin-stahlwerken unter besonderer berücksichtigung der kosten der materialbewegung. H. Fromm. *diags Stahl & Eisen* 42:1737-42, 1809-15 N 23, D 7 '22
- Transporteurs continus et élévateurs à godets, à courroies en cuir Titan. *il Génie Civil* 81:469-71 N 18 '22
- Transporting appliances for a printing works. *il diags Engineering* 114:234-6 Ag 25 '22
- What has been done and what we should do. F. Jasperson. *Eng & Ind Management* 7:590-1 Jl 13 '22
- What it pays to know about material handling. W. T. Spivey. *il Factory* 29:129-32+, 244-7+, 295-7+, 529-31+, 674-6+; 30:27-9+, 158-62+, 288-90+; 31:24-7+, 303-6 Ag '22-Mr, Jl, S '23
- Where material moves with production. G. A. Van Brunt. *il diags Ind Eng* 81:345-7+ Jl '23
- Why mechanical handling equipment is not more extensively used. M. W. Potts. *il Ind Management (Lond)* 9:243-6 Ap 19 '23

See also Acid handling; Ash handling; Brick handling; Cement handling; Chutes; Clay handling; Coal handling; Coke handling; Concrete handling; Conveying machinery; Cranes, derricks, etc.; Dump cars; Dumping appliances; Electric trucks, Industrial;

Freight handling; Glass handling; Grain handling; Hoisting; Hoisting machinery; Lifting magnets; Loading and unloading; Lumber handling; Mail handling; Mine haulage; Mine hoisting; Motor trucks; Oil handling; Ore handling; Paper handling; Pipe handling; Pneumatic conveying; Rail handling; Runways; Sand handling; Telpherage; Tiersing machines; Trucks

Cost

Material handling an important factor in the elimination of industrial waste. H. V. Coes. *Mech Eng* 43:803-4+ D '21; Same. *Eng & Ind Management* 7:234-6 F '23 '22; Same. *Chem Age* 29:513-15 D '21; Same abr. *Eng & Contr* 56:573-4 D 21 '21; Excerpts. *Chem & Met Eng* 25:1096 D 14 '21

Safety devices and measures

Handling material. *il diags Nat Safety N* 7:42-53 Je '23

Handling plant for highly dangerous materials at Ellesmere port. *diags plan Eng & Ind Management* 8:63-4 Ag 10 '22

Making material handling safe. V. C. King. *il Iron Tr R* 71:29-32 Jl 6 '22

Mechanical laboratories

Mechanical laboratory methods. J. C. Smallwood. 3d ed., rev. & enl. 423p Van Nostrand '22

Mechanical movements

Galvanometer method for producing at a distance a magnified record of a mechanical motion. F. Wenner. *Phys R* 19:410-12 Ap '22

Interesting rack and gear movement. M. Wright. *il Am Mach* 57:769-71 N 16 '22

Mechanical appliances, mechanical movements and novelties of construction. G. D. Hiscox. 5th ed., rev. & enl. 412p Henley '23

See also Cams; Gearing; Machinery, Kinematics of; Pulleys

Mechanical museums. See Paris, France—Conservatoire national des arts et métiers

Mechanical stokers. See Stokers, Mechanical

Mechanics

Industrial physics; mechanics. L: R. Smith. 226p McGraw-Hill '22

Mechanics; the science of machinery. A. R. Bond. 384p P. F. Collier & son co., New York '22

Mechanics via the calculus. P. W. Norris and W. S. Legge. 340p Longmans '23

New process devised for calculating rigid frames; abstract. H. Bronneck. *Mech Eng* 44:125 F '22

Practical mechanics and strength of materials. C. W. Leigh. 293p McGraw-Hill '23

Relation between statistical mechanics and thermodynamics. R. C. Tolman. *Am Chem Soc J* 44:75-90 Ja '22

Thermodynamics and statistical mechanics. R. H. Fowler. *Philos Mag* 6th ser 45:497-516 Mr '23

Whirling speeds of a loaded shaft supported in three bearings. H. H. Jeffcott. *diags Philos Mag* 6th ser 42:635-68 N '21

See also Deformations (mechanics); Dynamics; Elasticity; Engineering; Force and energy; Friction; Gases; Horsepower; Hydraulics; Hydrodynamics; Liquids; Load (mechanics); Machinery; Mathematical physics; Mechanical movements; Physics; Power; Power transmission; Pressure; Pulleys; Rotation; Steam engines; Strains and stresses; Strength of materials; Thermodynamics; Torsion; Vibration; Viscosity

Study and teaching

Laboratory course in elementary mechanics at the University of Alberta. J. W. Campbell. *Eng Educ* 13:153-7 N '22

Terminology

Improving the terminology of mechanics. J. H. Griffith. *Eng N* 87:865 N 24 '21

Mechanics (persons)

Labor board announces rules for mechanics. *Ry Mech Eng* 96:199 Ap '22

The millwright. G. Walter. *Am Mach* 58:414 Mr 15 '23; Discussion. 58:556, 720 Ap 12, My 17 '23

Need for mechanical training. *il Mach* 29:525 Mr '23

See also Automobile mechanics

Mechanics, Applied

- Applied mechanics. A. P. Poorman. 2d ed., rev. & enl. 290p McGraw-Hill '23
 Elements of mechanics and machine design. E. V. Oberg. 291p Industrial press, New York '23
 Gain in force by mechanical appliances. Diags Power 55:466-7 Mr 21 '22
 Notes and problems for engineering problem courses. W. E. Duckering. 34p McGraw-Hill '21
 Practical mechanics and strength of materials. C. W. Leigh. 293p McGraw-Hill '23

Mechanics, Celestial

- Celestial mechanics. Nat Research Council Bul v 4, pt 1:1-22 S '22
 Celestial mechanics; a survey of the status of the determination of the general perturbations of the minor planets. A. O. Leuschner. Nat Research Council Bul v 4, pt 7:1-73 D '22

See also Perturbation

Mechanics' liens

- Can mechanic's lien be kept alive by one hour's labor done six months after completion of balance of contract? Dom Eng 101:185-7 N 4 '22
 Contractor may have claim against party making construction loan, even though promise to pay owner's bill is not in writing. Dom Eng 97:445-6 D 3 '21
 Discussion of mechanic's lien rights of subcontractor who has no relations direct with the owner. Dom Eng 97:397-8 N 26 '21
 Does the taking of a promissory note extinguish right to mechanic's lien? Dom Eng 97:357+ N 19 '21
 In the absence of agreement with owner, boiler cannot be removed because payment is not forthcoming. Dom Eng 105:64-5 O 13 '23
 Installation of process machinery may or may not give right to a mechanic's lien. Dom Eng 97:537-8 D 17 '21
 Legal decisions. Am Arch 121:398 My 10 '22
 Materialman's lien laws of Texas. G. H. Zimmerman. 138p Hill ptg. & stationery co., Waco, Tex. '22
 Mechanics lien law of New Jersey. E. J. Luce. 3d ed. 422p Soney & Sage co., Newark '23
 Mechanic's lien rights under contract with a husband, where wife owns the real estate. Dom Eng 98:18-19 Ja 7 '22
 New York law on mechanics' liens. C. H. Blake, jr. Am Arch 121:107 F 1 '22
 Right of contractor to mechanic's lien where work was done for party who later forfeits real estate under contract of sale. Dom Eng 99:283-4 My 13 '22
 Right of the architect to a mechanic's lien. C. H. Blake, jr. Am Arch 122:482-3 N 22 '22
 Rights of persons furnishing labor or materials to materialman to mechanic's lien—who are entitled to such a lien generally. Dom Eng 98:497-8 Mr 18 '22
 To what extent will inaccuracies in notice or account affect a claim under mechanic's lien statutes? Dom Eng 97:308-9 N 12 '21
 What a contractor may do to lose his right to mechanic's lien. Dom Eng 99:581-2 Je 24 '22

Mechanism, Interchangeable. See Interchangeable mechanism

Medical examination. See Physical examinations

Medical instruments and apparatus

See also Surgical instruments and apparatus

Exhibitions

- London medical exhibition, Oct. 2-6. Il Elec R (Lond) 91:535-7 O 13 '22

Medical service, Industrial

- Adequate industrial medical service for the small plant. C. P. McCord and D. K. Minster. J Ind Hygiene 3:363-70 Ap '22
 Doctors healing industrial ills. L. A. Shoudy. Iron Tr R 70:1548-9+ Je 1 '22; Excerpts. Iron Age 109:1562-3 Je 1 '22
 Human maintenance in industry. A. Coffey. Elec Ry J 61:1050 Je 23 '23

- Industrial medicine in 1922. W. I. Clark, jr. bibliog J Ind Hygiene 4:474-8 Mr '23
 Industrial physician. E. H. Fish. Management Eng 2:148 Mr '22
 Medicine and surgery as practiced in industrial plants. H. S. Murat. Am Mach 58:932 Je 28 '23
 Physician in industry: a symposium. (Special rep. no. 22) 98p National industrial conference board, New York '22
 Physician in the transportation industry. H. E. Fisher. Il Aera 11:1118-25 Ap '23
 Power of life saving; an appeal to the economic and social sense of management. O. P. Geier. Il Am Mach 56:252-5 F 16 '22
 Promoting health in industry. C.-E. A. Winslow. Iron Tr R 72:298-9, 371-2, 440-1, 511+, 593+ Ja 25-F 22 '23; Same cond. Power Pl Eng 27:186-8, 233-5, 283-4 F 1-Mr 1 '23
 Rehabilitation of employees: an experience with 1,210 cases. F. S. Kellogg. J Ind Hygiene 3:276-9 Ja '22
 Report of the Association of certifying factory surgeons, inc. (Great Britain) for the year 1921. J Ind Hygiene 4:365-9 D '22
 Restoring the injured worker to health and efficiency. H. T. Martin. Nat Safety N 8:45-6 Jl '23
 Results of limited mercantile industrial work. D. C. Parmenter. J Ind Hygiene 5:81-6 Jl '23
 Scope of industrial medicine. D. G. Smith. Ind Management 63:370+ Je '22
 Some considerations for the physician in industry. C. E. Ford. J Ind Hygiene 4:1-8 My '22
 Sur la nécessité d'un service médical compétent dans les usines de produits chimiques. P. Cazeneuve. Chimie & Ind 8:466-70 Ag '22
 Use of the spot map in the industrial dispensary. W. H. Bunn. J Ind Hygiene 4:293-5 N '22
 What industrial medicine means to the plant manager. F. W. Dershimer. Ind Management 65:379-81 Je '23

See also Dental service, Industrial; Eye—Examination; Hygiene, Industrial; Mental hygiene, Industrial; Physical examinations

Medicine

See Bacteriology; Botany, Medical; Chemistry, Medical and pharmaceutical; Chemotherapy; Diseases, Industrial; First aid in illness and injury; Hospitals; Hygiene, Industrial; Medical service, Industrial; Patent medicines; Poisons, Industrial; Surgery

Melamin

- Melamin-bildung aus organischen stoffen. O. Adler and W. Wiechowski. Deutsche Chem Gesell Ber 55:3030-8 O '22; Abstract. Chem Soc J 122 pt 1:1170-1 D '22

Melanovanadite

- Melanovanadite, a new mineral from Mina Ragra, Pasco, Peru. W. Lindgren, L. F. Hamilton and C. Palache. Am J Sci 5th ser 3:195-203 Mr '22

Melcroft coal company

- Melcroft coal company case. F. H. Snow. Am Water Works Assn J 10:838-49 S '23

Mellilites

- Natural and synthetic mellilites. A. F. Budington. Am J Sci 5th ser 3:35-87 Ja '22

Mellon institute. See Pittsburgh university. Mellon institute of industrial research

Melting points

- Melting interval of certain undercooled liquids with a note on the use of liquid air as a refrigerant. J. B. Ferguson. J Phys Chem 26:549-52 Je '22
 Melting-point bridge for petrolatums, shale oils, and shale-oil distillates. L. C. Karrick and V. F. Parry. plan Ind & Eng Chem 15:600-2 Je '23
 Melting point, latent heat of fusion and solubility. F. S. Mortimer. Am Chem Soc J 44:1416-29 Jl '22
 Melting point of ice on the absolute temperature scale. L. B. Smith and R. S. Taylor. Am Chem Soc J 45:2124-8 S '23
 New form of melting-point apparatus. H. A. Bell. diag Ind & Eng Chem 15:375 Ap '23

Melting points—Continued

- Phase relations in the system, sodium amide-potassium amide, as determined from melting-point curves. C. A. Kraus and E. J. Cuy. *Am Chem Soc J* 45:712-15 Mr '23
- Der schmelzpunkt des neutralen ammoniumsulfats. R. Kattwinkel. *Deutsche Chem Gesell Ber* 55:874 Ap '22
- Tentative method of test for melting point of paraffin wax. *diag Am Soc T M Pro* 21: 638-41 '21; Same. *Nat Pet N* 13:51 N 16 '21
- Über den schmelzpunkt einiger fettaromatischer ketone. R. Majima, K. Nagaoka and K. Yamada. *Deutsche Chem Gesell Ber* 55: 215-17 Ja '22

Melton finish. See Woolen and worsted finishing

Memorials

- Awards in the Indianapolis world war memorial competition. I. T. Frary. *il Arch Rec* 53:573-5 Je '23
- Elks memorial. E. Swartwout. *il diags plans Am Arch* 124:275-83 S 26 '23
- French gratitude to U.S. shown in monument. *il Pop Mech* 40:224-5 Ag '23
- Indiana war memorial competition. *il Am Arch* 123:504-5 Je 6 '23
- Memorial Park; collaborative problem of the American academy in Rome. J. K. Smith. *il plans Arch Rec* 51:275-80 Mr '22
- Memorial town halls in New England. W. R. Greeley. *il plans Arch Forum* 37:125-30, pl 41-9 S '22
- Report of the sub-committee on the form of memorial to soldiers, sailors and marines, to be erected by the city of Boston. *il plans Am Arch* 121:89-92 F 1 '22
- Sketch for proposed Yorkville war memorial. *Am Arch* 121:185 Mr 1 '22
- Soldiers' memorial stadium opened in Philadelphia. *il Pop Mech* 39:573 Ap '23
- Tennessee memorial competition; capitol annex. *Am Arch* 121:255-64 Mr 29 '22
- War memorial for the city of Barre, Vermont. *il Am Arch* 121:178, 181 Mr 1 '22
- See also Confederate memorial; Grant, Ulysses S.—Memorials; Lincoln, Abraham—Memorials; McKinley, William—Memorials; also Elks, Benevolent and protective order of—National memorial headquarters

Memory

- Electrical theory of memory. G. W. Crile. *Sci Am* 126:249 Ap '22

Memphis, Tennessee

- Memphis as a production center. H. S. Purser. *Am Ind* 23:21-2 Jl '23

Rapid transit

- Measuring the service in Memphis. *map Elec Ry J* 59:779-82 My 13 '22

Water supply

- Features of new well water supply at Memphis, Tenn. J. R. McClintock. *Munic Eng* 64:47-51 F '23
- Filtered well water recommended for Memphis, Tenn. *Eng N* 89:566-7 O 5 '22
- River intake difficulties; report on extension of the water supply of Memphis. *Pub Works* 53:196-7 O '22

Menhaden oil

- Menhaden oil; from ocean to user. P. T. Bruyere. *Oil Paint & Drug Rep* 102:21+ O 23 '22

Mennen company

- Federal trade commission cannot interfere with the rights of private business in the matter of fixing prices. *Comm & Fin Chr* 116:2723-6 Je 16 '23
- How Mennen gets contact with users of his product. J. True. *Ptr Ink* 120:61-2+ Jl 13 '22
- Mennen case is laid before Supreme court. *Oil Paint & Drug Rep* 103:19 My 25 '23
- Mennen company fights for trade discounts. *Ptr Ink* 118:17-18 Mr 30; 121:108 N 9 '22; 122:33-4 Mr 22; 123:10+ Je 21 '23
- Mennen wins over F.T.C. in suit to maintain right to select customers. *Oil Paint & Drug Rep* 103:21+ Mr 19 '23

Men's furnishing goods. See Clothing trade

Mensuration

- Areas and volumes. D. F. Ferguson and H. E. Piggott. 87p Dutton
- Theory of mensuration. D. Winch and H. Jeffreys. *Philos Mag* 6th ser 46:1-22 Jl '23

See also Coal measurement; Gaging; Measuring instruments; Metric system; Oil measurement; Standards of length; Surveying; Tanks—Measurement; Weights and measures

Mental hygiene, Industrial

- Critical age as a factor in labor turnover. H. D. Kitson. *bibliog J Ind Hygiene* 4:199-202 S '22
- Mental factors in industrial hygiene. C. M. Campbell. *J Ind Hygiene* 5:130-7 Ag '23
- Practical mental hygiene in industry. F. W. Dersheimer. *J Ind Hygiene* 5:1-7 My '23

Menthol

- Preliminary note on the interchange of alcohol radicals in esters. A. Shimomura and J. B. Cohen. *Chem Soc J* 121:833-7 My '22

Menthone

- Occurrence of levo-menthone in pine oil. A. H. Gill. *Ind & Eng Chem* 15:887 S '23

Menthyl compounds

- Investigations on the dependence of rotatory power on chemical constitution; the di-l-menthyl esters of the saturated dicarboxylic acids. L. Hall. *Chem Soc J* 123:105-13 Ja '23

Menthyl phenylchloroacetates

- Isomeric l-menthyl phenylchloroacetates. A. McKenzie and I. A. Smith. *Chem Soc J* 123: 1962-78 Ag '23

Mercantile agencies

See Exclusive agencies

Mercantile buildings

- Varick street building, New York; views and plans. *Am Arch* 122:185-8 Ag 30 '22

See also Department stores; Store buildings; Warehouses; also Garment centre capitol, New York

Mercaptans

- Action of sulphur monochloride on mercaptans. G. C. Chakravarti. *Chem Soc J* 123: 964-8 My '23
- Attempts to prepare red sulphide dyes; mercaptan derivatives of azo-dyes. E. R. Watson and S. Dutt. *Chem Soc J* 121:2414-19 N '22
- Catalytic preparation of mercaptans. R. L. Kramer. 15p Eschenbach ptg. co., Easton, Pa. '21
- Chloropicrin as a reagent for the diagnosis of mercaptans and potential mercaptans. P. C. Rây and R. Das. *Chem Soc J* 121: 323-8 Mr '22
- Derivatives of anthraquinone; reactions of anthraquinone sulfonic acids with mercaptans. W. S. Hoffman and E. E. Reid. *Am Chem Soc J* 45:1831-8 Jl '23
- Mercaptans of the purine group. P. C. Rây, G. C. Chakravarti and P. K. Bose. *Chem Soc J* 123:1957-62 Ag '23
- Varying valency of platinum with respect to mercaptanic radicals. P. C. Rây. *Chem Soc J* 123:133-41 Ja '23

See also Methyl mercaptan

Mercaptobenzothiazole

- Mercaptobenzothiazole and its derivatives as accelerators of rubber vulcanization. L. B. Sebrell and C. E. Boord. *Ind & Eng Chem* 15:1009-14 O '23

Preparation and properties of 1-mercaptobenzothiazole, its homologs and derivatives. L. B. Sebrell and C. E. Boord. *Am Chem Soc J* 45:2390-9 O '23

Mercapto-pyrimidines

- Researches on pyrimidines; alkylation of 2-mercapto-pyrimidines. W. J. Horn. *Am Chem Soc J* 43:2603-11 D '21

Mercerizing

- Absorption of caustic soda solutions by cotton. H. F. Coward and L. Spencer. *Textile Inst J* 14:T32-45 Ja '23
- Apparatus for mercerizing rovings. *diags Color Tr J* 11:39 Jl '22

Mercerizing—Continued

- Behaviour of bast fibres under the influence of caustic alkalis. C. R. Nodder and R. W. Kinkead. *il Textile Inst J* 14:1133-56, pl 1-2 Je '23
- Change in section of cotton hairs on mercerizing; abstract. R. S. Willows and A. C. Alexander. *Soc Dyers & Col J* 39:53-4 F '23
- Electro-chemical mercerizing. R. Sansone. *diags Textile World* 62:2469+, 3013-14 O 28, N 25 '22
- Machine for mercerizing hosiery; patent. *diags Color Tr J* 12:40-1 Ja '23
- Mercerization. E. O. Cole. *il Color Tr J* 11:224-6 N '22
- Mercerisation. A. J. Hall. *diags Textile Col* 45:83-6 F '23
- Mercerization. J. F. Springer. *Color Tr J* 11:27-9 JI '22
- Mercerization and spinning. H. Lowe. *Textile World* 61:425+ Ja 28 '22
- Mercerization by the use of alkaline chrome mordant. J. Pokorny. *Color Tr J* 12:36-8 Ja '23; Same. *Am Dyestuff Rep* 12:152-5 F 12 '23
- Mercerisation of cotton. D. A. Clibbens. *Textile Inst J* 14:1217-47; Bibliography. T247-9 Ag '23; Same cond. *Soc Dyers & Col J* 39:309-17 O '23
- Mercerisation of single cotton hairs; abstract. R. S. Willows, T. Barratt and F. H. Parker. *Soc Dyers & Col J* 39:52-3 F '23
- Mercerizing cotton fabrics containing artificial silk. *Color Tr J* 11:74-5 Ag '22
- Mercerizing cotton in the form of roving. *Color Tr J* 12:171-2 Ap '23
- Mercerising of dyed cotton fabrics. R. Sansone. *diag Textile Col* 45:364-6, 495-7+, 559-62 Je, Ag-S '23
- Mercerizing yarn for knitting. L. A. Stead. *Textile World* 62:1133+ Ag 26 '22
- Modern washing processes. F. N. Thies. *Color Tr J* 12:122-8 Mr '23
- New effects in mercerization. *Am Dyestuff Rep* 12:665-7 S 10 '23
- Physical causes of lustre in cotton. A. Adlerley. *Textile Inst J* 14:1249-52 Ag '23
- Researches on the mercerization of cotton fibers. *Color Tr J* 12:79-83 F '23
- Yarn and cloth mercerization. W. S. Rowley. *il Textile World* 64:495+ JI 28 '23

Merchandizing

- Building a dead department into a profit-maker. S. Wills. *il System* 43:616-19+ My '23
- Catering to neglected buyers—a sound merchandising principle. R. Cole. *Ptr Ink* 119:81-2+ Ap 13 '22
- Creating a brother product for a newly discovered market. A. L. Townsend. *Ptr Ink* 120:154+ S 14 '22
- English manufacturers adopt American merchandizing methods. W. F. Wyman. *Ptr Ink* 124:49-50+ Ag 30 '23
- Gotham tries out another new idea of the consumer. R. Dickinson. *Ptr Ink* 124:33-4+ Ag 30 '23
- How they merchandize better abroad. *il System* 42:249-51+ S '22
- Is aggressive selling more vital than buying right? R. N. Kimball. *System* 41:278-80+ Mr '22
- Making it easy to sell. E. N. Hurley. *il System* 41:17-21+ Ja '22
- Managing a store for greater profit. See monthly numbers of *System*
- Matter of vitality; maintaining brands when companies merge. *Ptr Ink* 121:28 O 19 '22
- Merchant tells why campaigns fall down. P. N. Haynes. *Ptr Ink* M 4:31-2+ Ap '22
- More sales; more satisfied customers—but smaller stocks. E. A. Filene. *il System* 44:269-74+ S '23
- New hall of fame of music rises out of bar fixture ashes. D. M. Hubbard. *Ptr Ink* 119:33-4+ My 25 '22
- Old successes revived when sales of other lines slacken; farm trade for Columbian steel tank company. P. S. Wells. *Ptr Ink* 122:25-8 Ja 4 '23
- One way to meet price-cutting competition. L. A. Samstag. *System* 41:535-8+ My '22

- Policy that simplifies store management. A. E. Simmons. *il System* 43:769-72+ Je '23
- Principles in the merchandising of Dromedary food products. J. True. *Ptr Ink* 120:33-4+ JI 20 '22
- Problems of merchandising when two companies combine. H. Burwen. *Ptr Ink* 124:89-90+ Ag 9 '23
- Rounding the corner from scratch in nine months; Oyster shell products corporation. A. R. King. *Ptr Ink* 119:97-8+ Ap 6 '22
- Scrapping one hundred and fifty sectional brands and building six national brands instead; what advertising has done for the General cigar co., inc. J. A. Murphy. *Ptr Ink* 119:3-4+ Ap 13 '22
- Some things I have learned in building a business from scratch; Cutex manicure specialties. N. Warren. *Ptr Ink* 121:3-4+ N 9 '22
- Successful selling. T. W. Berger. *Administration* 5:560-6 My '23
- Three price levels that move stocks. E. A. Filene. *il System* 44:431-4+ O '23
- Truly Warner—a man who sells hats. R. Cole. *il Ptr Ink* M 5:39-40+ Ag '22
- Variations in consumer demand. A. W. Douglas. *Administration* 4:686-8 D '22
- What can King Tut-anth-Amen teach American manufacturers? B. Berfield. *Ptr Ink* 122:57-8+ Mr 8 '23
- What is back of a fast rate of turnover? E. A. Filene. *il System* 44:583-6+ N '23
- Why it costs us less to sell. A. D. Joyce. *il System* 42:557-60+ N '22
- Why old products sell well after new competitive devices invade the market. R. B. Woolley. *Ptr Ink* 124:17-20 JI 5 '23
- Why we know what the public wants. L. E. Kirstein. *il System* 42:155-7+ Ag '22
- Wider distribution as a means of getting consumer to use product properly. M. Hastings, jr. *Ptr Ink* 120:49-50+ JI 6 '22
- William M. Birks, who has seven large jewelry stores which, he points out, are not a chain. A. Van Vilssingen, jr. *System* 42:263-5 S '22
- Work for lower prices; depend on volume for profits; advice of many manufacturers. G. A. Nichols. *Ptr Ink* 124:3-4+ JI 26 '23

See also Advertising; Barter; Brokers; Buying habits; Catalogs; Chain stores; Consignment selling; Country stores; Delivery of goods; Electric apparatus and appliances—Merchandizing; Electric apparatus and appliances, Domestic—Merchandizing; Jobbers; Mail order business; Marketing; Notions (merchandise); Obsolescent commodities—Marketing; Premiums (merchandizing); Price guarantees; Purchasing; Restraint of trade; Retail trade; Returned goods; Sales policies; Salesmanship; Seasonal industries; Simplification in industry; Specialties (merchandizing); Turnover

Merchant marine

- Efficiencies of merchant fleets. *Engineering* 114:403 S 29 '22
- Mercantile marine. E. K. Chatterton. 254p Little, Brown & co., Boston '23
- Naval holiday and the merchant marine. V. G. Iden. *Annalist* 18:533 D 5 '21
- Ships that stay at home. J. Burnam. *il Nation's Business* 10:38+ Ag '22
- Value of tramp steamers to a merchant mariner. C. H. Potter. *Marine Eng* 27:744-5 D '22
- When fighting ships are junked. V. G. Iden. *il Marine R* 52:5-8 Ja '22
- World's shipping dilemma. I. C. Waterbury. *Annalist* 19:7-8 Ja '22

See also Free harbors; Insurance, Marine; Seamen; Ship subsidies; Shipping; Ships—Manning

Costs

See also Steamboats—Cost of operation

Year-books

- Merchant ships of the world. S. Low, Marton & co., ltd., London '23

Merchant marine—Continued**Australia**

Australia's government. J. Pierce. *Annalist* 19:344-5 Mr 20 '22

Germany

Enormous growth of Germany's mercantile marine. F. C. Chappell. *Annalist* 21:447 Mr 26 '23

Wage agreements and working conditions in German merchant marine. *Monthly Labor R* 17:430-8 Ag '23

Great Britain

Great Britain and her subsidies. W. L. Marvin. *Marine Eng* 27:5-6 Ja '22

United States

America will fight for place on the high seas. *Marine Eng* 28:416-17 Jl '23

American farmers and American ships. W. L. Marvin. *Marine Eng* 27:411-12+ Jl '22

American marine week and the marine exposition arouse popular interest in merchant marine. *il Marine Eng* 27:756-66 D '22

American mercantile marine. *Engineering* 112:794-5 D 9 '21

American merchant marine. W. L. Marvin. *Am Soc C E Pro* 48:270-3 F '22

American trade needs American ships. E. C. Plummer. *Marine Eng* 28:651-2 N '23

B. Jones and the merchant marine. A. D. Lasker. *Nation's Business* 10:20-1 Ja '22

Can we keep our ships? S. G. Riggs. *Annalist* 18:558-9 D 12 '21

Dark outlook for merchant marine. L. W. Moffett. *Iron Age* 111:595-6 Mr 1 '23

Future of our merchant marine. *Marine Eng* 27:3-4 Ja '22

Government's shipping policy. H. F. Lane. *Marine Eng* 28:257-8 My '23

Great importance of the merchant marine. L. W. Moffett. *Iron Age* 110:1691-3 D 28 '22

How can American ships compete successfully with foreign ships? W. L. Marvin. *Marine Eng* 26:875-8; Discussion. 905-6 D '21

How much shipping can we support? S. G. Riggs. *Annalist* 19:151-2 Ja 23 '22

If not a subsidy—what? E. H. Goodwin. *il Nation's Business* 11:15 Mr '23

Merchant marine. 23p Chamber of commerce of the United States of America, Washington '22

Merchant marine. W: S. Benson. 183p Macmillan '23

Merchant marine is necessary for national defense. C: P. Plunkett. *Marine Eng* 28:658 N '23

Merchant marine problem. E. R. Johnson. *Am Soc C E Pro* 48:274-80 F '22

Merchant marine problem can be solved. *Marine Eng* 28:238-9 Ap '23

Navy and merchant marine are interdependent. E. Denby. *Marine Eng* 28:657 N '23

Official view of the ship problem. A. D. Lasker. *Annalist* 19:43+ Ja 9 '22

Operating problems of the American shipowner. E. E. O'Donnell. *Marine Eng* 27:353-7 Je '22; Same cond. *Marine R* 52:278-81 Jl '22

Our merchant marine; then and now. E: C. Plummer. *il Am Ind* 22:7-11 Ap '22

President back to ship aid plan. *Marine R* 52:139-41 Ap '22

President Harding and our ships. C: H. Winter. *Am Ind* 22:13-15 Jl '22

President Harding will request Congress to grant subsidies for American merchant marine. *Marine Eng* 26:940 D '21

President plans definite shipping policy. *Marine Eng* 27:57-8 Ja '22

President urges co-operation between railways and steamships. *Ry Age* 72:531-2 Mr 4 '22

President's plea for a merchant marine. *Sci Am* 128:10 Ja '23

President's shipping plan will succeed. *Marine Eng* 27:77-8 F '22

Problems for United States shipowners. *Engineering* 113:722 Je 9 '22

Railroad contracts with foreign shipping lines. W. Fawcett. *Marine Eng* 27:11-12+ Ja '22

Railroads asked to abrogate foreign ship line contracts in favor of American merchant marine. *Ry Age* 71:1153-6 D 10 '21

Seapower and national prosperity. R. R. M. Emmet. *Am Ind* 23:33-5 My '23

Selling the sea to the farms. R. C. Mitchell. *Nation's Business* 10:30-1 D '22

Shipping bill hearings develop exhaustive testimony. *Marine Eng* 27:285-7, 349-51 My-Je '22

Shipping board asks conference with railroads on contracts with foreign steamship lines. *Ry Age* 71:948 N 12 '21

Shipping board ready to operate under Jones act. *Marine Eng* 26:885 D '21

Situation demands reduction in cost of operation. *Marine Eng* 28:259-60+ My '23

To put our fleet to work. A. D. Lasker. *Nation's Business* 10:26-8 Je 5 '22

Twelve percent increase of America's merchant marine reported by commissioner of navigation. *Marine Eng* 27:4 Ja '22

Way out for our merchant marine. J. A. Farrell. *il Nation's Business* 11:29-31 Ag '23

What is the Emergency fleet costing? V. G. Iden. *Annalist* 19:345 Mr 20 '22

What part will motorships play in our shipping? A. Conti. *il Marine Eng* 28:671-7 N '23

What to do about our shipping. R. M. Nelson. *Am Ind* 23:17-18 Mr '23

What vessels are needed to give the United States a well balanced merchant marine? J. W. Powell. *Marine Eng* 28:667 N '23

Yankee shipowner speaks. *Nation's Business* 10:33-4 D '22

See also Ship subsidies; Shipbuilding—United States; Shipping—United States; United States—Shipping board; also Merchant marine act, 1920; Merchant marine bill, 1922

National marine league of the United States, 268 Pearl st, New York, publishes for free distribution articles on American merchant marine problems

Merchant marine act, 1920

Shipping legislation that we have and that we need. *Marine Eng* 28:661-2 N '23

Merchant marine bill, 1922

A B C of the national shipping bill. C. A. McAllister. *Marine Eng* 27:668-70 N '22

Features of the new shipping bill. W. L. Marvin. *Marine Eng* 27:79-80 F '22

Foreign dread of the American shipping bill. W. L. Marvin. *Marine Eng* 27:537-9 S '22

Graduated compensation of shipping bill explained. W. L. Marvin. *Marine Eng* 27:671-2 N '22

Joint hearings on shipping bill concluded. *Marine Eng* 27:349-51 Je '22

Merchant marine bill of 1922 analyzed. W. L. Marvin. *Marine Eng* 27:219-20 Ap '22

New merchant marine bill for old. S. G. Riggs. *Annalist* 19:438-9 Ap 17 '22

Philippines and the coastwise law. V. Villamin. *Am Ind* 23:11-12 N '22

Rail and water transportation provisions in ship subsidy bill. *Ry Age* 72:1738 Je 24 '22

Revised ship subsidy bill analyzed; with complete text. G: W. Edmonds. *Marine Eng* 27:413-19 Jl '22

Sufficient votes to pass subsidy bill are assured; night sessions will be resorted to if necessary. *Marine Eng* 28:4-6 Ja '23

What the shipping bill is and does. W. L. Marvin. *Marine Eng* 27:605-6+ O '22

Merchants

See also Wanamaker, John

Merchants' association of New York

Selling New York to New Yorkers. S. J. Quinn. *Nation's Business* 11:42-3 F '23

Mercuriation

Mercuriation in the aromatic series; abstract. E. Mameli and others. *Chem Soc J* 122 pt 1:1080-4 N '22

Mercurides

Free energy of mercurides. R. H. Gerke. *Am Chem Soc J* 45:2507-12, N '23

Mercury

- Birth of mercury ores. C. N. Schuette. Eng & Min J 114:228-9 Ag 5 '22
- Electrolysis with a dropping mercury cathode; deposition of alkali and alkaline earth metals. J. Heyrovsky. diags Philos Mag 6th ser 45:303-15 F '23
- Energy losses accompanying ionization and resonance in mercury vapor. J. A. Eldridge. diag Phys R 20:456-75 N '22
- Estimations of mercury in hatters' fur and in felt. A. S. Minot. bibliog J Ind Hygiene 4:253-5 O '22
- Heats of vaporization of mercury and cadmium. M. F. Fogler and W. H. Rodebush. diags Am Chem Soc J 45:2080-90 S '23
- Influence of amino acid in protecting amylase from inactivation by mercury. H. C. Sherman and M. L. Caldwell. Am Chem Soc J 44:2923-6 D '22
- Marketing of quicksilver. H. W. Gould. Eng & Min J 114:1032-4 D 9 '22
- Measurement of mercury vapor pressure by means of the Knudsen pressure gauge. C. F. Hill. diags Phys R 20:259-66 S '22
- Mercury cleansing apparatus. A. E. Dixon and J. L. McKee. diag Chem Soc J 123: 895-7 Ap '23
- Overvoltage of the mercury cathode. E. Newberry. Chem Soc J 121:7-17 Ja '22
- Polarized resonance radiation of mercury vapour. R. W. Wood. diags Philos Mag 6th ser 44:1107-11, pl 9 D '22
- Positive ion currents in the positive column of the mercury arc. I. Langmuir. Gen Elec R 26:731-5 N '23
- Quicksilver in 1921. Min & Sci P 124:196 F 11 '22; Same. Eng & Min J 113:331 F 25 '22
- Quicksilver in 1921. F. L. Ransome. U S Geol S Min Res of U S 1921, pt 1:107-20 '22
- Quicksilver in 1922. F. L. Ransome. U S Geol S Min Res of U S 1922, pt 1:113-24 '23
- Quicksilver mining in 1922. H. W. Gould. Eng & Min J 115:100 Ja 20 '23
- Reduction of solutions of ferric salts with mercury. L. W. McCay and W. T. Anderson, jr. Am Chem Soc J 43:2372-8 N '21
- Reduction of vanadic acid solutions with mercury. L. W. McCay and W. T. Anderson, jr. Am Chem Soc J 44:1018-21 My '22
- Selective reflexion of λ 2536 by mercury vapour. R. W. Wood. Philos Mag 6th ser 44:1105-6 D '22
- Separation of isotopes; application of systematic fractionation to mercury in a high-speed evaporation-diffusion apparatus. R. S. Mulliken. diags Am Chem Soc J 45:1592-1604 JI '23
- Separation of mercury into isotopes in a large apparatus. W. D. Harkins and S. L. Madorsky. diags Am Chem Soc J 45:591-601 Mr '23
- Separation of the isotopes of mercury. J. N. Brønsted and G. Hevesy. diags Philos Mag 6th ser 43:31-49 Ja '22
- Studies on the low-voltage arc in mercury vapor and its relation to fluorescence. Y. T. Yao. diags Phys R 21:1-21 Ja '23
- Study of the luminous discharge in hydrogen and in mercury and a new method of measuring ionization potentials. G. E. Gibson and W. A. Naves, jr. diags Am Chem Soc J 44:2091-2106 O '22
- Study of the system ammonia:magnesium:mercury; the formation of magnesium hexammoniate. A. G. Loomis. diags Am Chem Soc J 44:8-19 Ja '22
- Terlingua, Texas, produced 40 per cent of country's mercury in 1922. Eng & Min J 115: 1080 Je 16 '23
- Use of mercury in the purification of zinc sulfate solutions. S. Field and W. E. Harris. Am Electrochem Soc Trans v 44 (preprint 23):269-93 S '23
- Wetting of glasses by mercury. E. E. Schumacher. diags Am Chem Soc J 45:2255-61 O '23
- World's production and uses of quicksilver. Eng & Min J 114:990 D 2 '22

See also Alkali metal amalgams; Amalgamation; Amalgams

Analysis

- Quantitative determination of carbon and hydrogen in organic compounds with arsenic and with mercury. M. Falkov and G. W. Raiziss. Am Chem Soc J 45:998-1003 Ap '23
- Zur bestimmung des quecksilbers in organischen verbindungen. H. Bauer. Deutsche Chem Gesell Ber 54:2079-81 S '21

Bibliography

- Quicksilver in 1922. I. P. Evans. U S Geol S Min Res of U S 1922, pt 1:121-4 '23
- Recent publications on quicksilver. I. P. Evans. U S Geol S Min Res of U S 1921, pt 1:117-20 '22

Mercury arc electric lamps. See Electric lamps, Mercury vapor

Mercury arc rectifiers. See Electric current rectifiers

Mercury boilers. See Boilers, Mercury

Mercury bromides

- Methyl and ethyl ammonium-mercuric bromides. R. M. Hann. Am Chem Soc J 45: 1763-4 JI '23

Mercury chlorides

- Oxidising and reducing properties of sulphur dioxide; mercury chloride. L. M. Stewart and W. Wardlaw. Chem Soc J 121:1481-9 Ag '22

Mercury compounds

- Addition of mercuric salts to alpha-beta-unsaturated ketones. E. B. Middleton. Am Chem Soc J 45:2763-9 N '23

Aromatic mercuri-organic derivatives; the Hofmann rearrangement and the nature of valences of mercury in mercuri-organic derivatives. M. S. Kharasch. Am Chem Soc J 43:1888-94 Ag '21

Indirect method of preparation of organic mercuric derivatives and a method of linking carbon to carbon. M. S. Kharasch. Am Chem Soc J 43:2233-43 O '21

Mercurated 1-methyl-1,2-dihydro-benzofurans. L. E. Mills and R. Adams. Am Chem Soc J 45:1842-54 JI '23

Mercuri-organic derivatives; the mercurization of aromatic amines and its relation to the theory of substitution. M. S. Kharasch and I. M. Jacobsohn. Am Chem Soc J 43: 1894-1903 Ag '21

Mercury compounds of hydroxybenzaldehydes. T. A. Henry and T. M. Sharp. Chem Soc J 121:1055-60 Je '22

Mercury derivatives of salicylaldehyde and the nitro-salicylaldehydes. F. C. Whitmore and E. B. Middleton. Am Chem Soc J 45:1330-4 My '23

Organic mercury compounds prepared from ortho-chloromercuri-para-nitrobenzoyl chloride. F. C. Whitmore and E. B. Middleton. Am Chem Soc J 44:1546-51 JI '22

Organic nitro compounds containing mercury. G. W. Raiziss and A. Proskouriakoff. Am Chem Soc J 44:787-93 Ap '22

Preparation of dialkyl mercury compounds from the Grignard reagent. C. S. Marvel and V. L. Gould. Am Chem Soc J 44:153-7 Ja '22

Preparation of dialkyl mercury compounds from the Grignard reagent; the relative stability of the carbon-mercury linkage in dialkyl mercury compounds. C. S. Marvel and H. O. Calvery. Am Chem Soc J 45:820-3 Mr '23

Preparation of para-tolyl mercury compounds. F. C. Whitmore, F. H. Hamilton and N. Thurman. Am Chem Soc J 45:1066-8 Ap '23

Preparation of the mercury compounds of the phenyl halides. M. E. Hanke. Am Chem Soc J 45:1321-30 My '23

Reaction of organic mercury compounds with halides; para-mercury ditolyl and sulfonyl halides. F. C. Whitmore and N. Thurman. Am Chem Soc J 45:1068-70 Ap '23

Recent development in the chemistry of organic mercury compounds. F. C. Whitmore. bibliog Ind & Eng Chem 15:417-19 Ap '23

Mercury compounds—Continued

Role of mercury salts in the catalytic transformation of acetylene into acetaldehyde, and a new commercial process for the manufacture of paraldehyde. R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 43: 2071-81 S '21

Some mercury derivatives of phenol ethers. F. C. Whitmore and E. B. Middleton. *Am Chem Soc J* 45:1753-5 J1 '23

Structure of the compounds produced from olefins and mercury salts; mercurated dihydrobenzofurans. R. Adams, F. L. Roman and W. N. Sperry. *Am Chem Soc J* 44: 1781-92 Ag '22

Mercury cyanide

Equilibrium in the system ammonia:mercuric cyanide. S. R. Brinkley. *diag Am Chem Soc J* 44:1210-16 Je '22

Mercury dimethyl

Electrolytic method for the preparation of mercury dimethyl. J. L. Maynard and H. C. Howard, jr. *Chem Soc J* 123:960-4 My '23

Mercury ditolyl

Reaction of organic mercury compounds with halides; para-mercury ditolyl and sulfonyl halides. F. C. Whitmore and N. Thurman. *Am Chem Soc J* 45:1068-70 Ap '23

Mercury fulminate

Velocity of decomposition of high explosives in a vacuum; mercuric fulminate. R. C. Farmer. *Chem Soc J* 121:174-87 Ja '22

Zur kenntnis des knallquecksilbers. H. Rathsburg. *Deutsche Chem Gesell Ber* 54:3185-7 D '21

Mercury iodide

Some properties of mercuric iodide. T. S. Price. *Soc Chem Ind J (Chem & Ind)* 42: 292-3 Mr '23

Mercury mercaptides

Über die zersetzung des thiol-essigsäure-esters durch quecksilbersalze, ein beitrag zur chemie der mercaptide des quecksilbers. G. Sachs. *Deutsche Chem Gesell Ber* 54:1849-54 S '21

Mercury mines and mining

Quicksilver mining. H. W. Gould. *Eng & Min J* 113:87 Ja 21 '22

China

Quicksilver mining in China. F. Trythall. *Min & Sci P* 124:371-2 Mr 18 '22

Oregon

Quicksilver in southern Oregon. A. E. Kellogg. *il Min & Sci P* 124:411-13 Mr 25 '22

Peru

Geology and paleontology of the Huancavelica mercury district. E. W. Berry and J. T. Singewald, jr. (*Studies in geology* no. 2) 100p Johns Hopkins press, Baltimore '22

Mercury nitrates

Role of mercuric nitrate in the catalyzed nitration of aromatic substances; nitration of naphthalene. T. L. Davis. *Am Chem Soc J* 44:1588-91 J1 '22

Mercury oxide

Catalytic influence of foreign oxides on the decomposition of silver oxide, mercuric oxide and barium peroxide. J. Kendall and F. J. Fuchs. *diag Am Chem Soc J* 43:2017-81 S '21

Mercury perchlorate

Use of bromate in volumetric analysis; the influence of mercuric mercury upon bromic acid reactions. G. F. Smith. *Am Chem Soc J* 45:1417-22 Je '23

Mercury poisoning

Industrial diseases of fur cutters and hatters. A. Hamilton. *J Ind Hygiene* 4:219-33; Bibliography. 234 S '22

Industrial poisoning from mercury. Monthly Labor R 15:139-40 J1 '22; Same cond. *Chem & Met Eng* 26:1169 Je 21 '22; Same. *Brass W* 17:207 J1 '22

See also Felt

Mercury turbines

Hartford's pioneer mercury turbine. *il Elec W* 82:748 O 13 '23

Mercury vapor converters. See Electric current converters

Mercury vapor lamps. See Electric lamps, Mercury vapor

Mergers. See Combinations, Industrial; Trusts, Industrial

Meridian

Determining meridian by observations of Polaris at any time of the night. A. C. Cal- len. *Coal Age* 21:43-4 Ja 12 '22

Merseles, Theodore F.

Portrait. *Ptr Ink M* 4:17 Mr '22

Mershon, Ralph Davenport, 1868-

Portrait. *Elec W* 82:520 S 15 '23

Merycoidodon

New merycoidodon. M. R. Thorpe. *il Am J Sci* 5th ser 2:334-42 D '21

Merycoidodontidae

Primitive, and carnivore-like, characters of the merycoidodontidae. M. R. Thorpe. *Am J Sci* 5th ser 6:239-46 S '23

Mesabi range. See Iron ores—Minnesota

Mesh bags**Advertising**

Luxury product gains a place on public's priority list; Whiting & Davis company's mesh bags. H. Burwen. *Ptr Ink* 124:73-4+ S 6 '23

Mesitylene

Upper limit of diazotisability in the benzene series; diazo-derivatives of mesitylene. G. T. Morgan and G. R. Davies. *Chem Soc J* 123: 228-37 F '23

Mesothorium

Mesothorium. H. Schlundt. *U S Bur Mines Tech Pa* 265:1-57 '22

Mesothorium the most important radium substitute. *Eng & Min J* 115:64 Ja 13 '23; Same. *Brass W* 18:366 D '22

Mesoxalic acid

Oxidation of sucrose by nitric acid. F. D. Chattaway and H. J. Harris. *Chem Soc J* 121:2703-9 D '22

Metabolism

See Nutrition; Urea

Metakliny. See Molecular rearrangements

Metal cleaning

Almost fool-proof cleaning process. E. H. Woodmansee. *plans Metal Ind* 21:232-3 Je '23

Autosan improved metal-parts washing machine. *il Am Mach* 58:605 Ap 19 '23

Colt Autosan metal-parts washing machine. *il Am Mach* 56:496 Mr 30 '22; *Iron Tr R* 70: 542 F 23 '22; *Iron Age* 109:1080 Ap 20 '22

Crescent metal parts washing machines. *il Mach* 29:391 Ag '23; *Am Mach* 59:531 O 4 '23

Machine for washing metal parts. *il Iron Age* 110:1688 D 28 '22

Metal cleaning. F. H. Guernsey. *Mach* 30: 185-6 N '23

See also Sand blast; Steel castings—Cleaning

Metal coating

Metal plating; abstract. *Am Inst Arch J* 11: XIII+ J1 '23

New leadizing process for piping and steel plates. C. C. Lance. *il diag Power* 57:482-3 Mr 27 '23

New process of coating metals; galvannealing method which gives longer protection against rust. *diags Sheet Metal Worker* 14:760 O 26 '23

Protection against cementation by direct application of coating with a brush; abstract. Gailbourg and Ballay. *diags Chem & Met Eng* 27:79 J1 12 '22; *Automotive Ind* 47:931 N 9 '22

Protection by aluminum. *Iron Age* 110:276 Ag 3 '22

Protective coating by metal spraying. *diags Elec Ry J* 60:397-8 S 16 '22

Protective coatings of sprayed metal. R. G. Skerrett. *il Iron Age* 110:286-7 Ag 3 '22

Selective case-carburizing. W. P. Wood and O. W. McMullan. *bibliog il Chem & Met Eng* 26:1077-80 Je 7 '22

Metal coating—Continued

- Spraying with atomized metal. *Min & Sci P* 124:75 Ja 21 '22
- Udylite process; a controversy about the merits of cadmium and zinc as rust preventives. C. H. Proctor; C. H. Humphries. *Metal Ind* 20:469-71 D '22
- What it pays to know about corrosion. G. A. Van Brunt. *il Factory* 27:763-6; 28:172-4 D '21. F '22

See also Calorizing; Electroplating; Enameling and enameling; Galvanizing; Paint, Protective; Zinc plating

Metal coloring

- La coloration des métaux. J. Michel. 2d ed., rev. & enl. 325p Desforges. Paris '22
- Colouring of metals. A. E. Tucker. *Soc Chem Ind J* 42:299-302 Jl 13 '23; Same. *Metal Ind* 21:402-4 O '23

See also Bronzing; Gilding

Metal corrosion. *See* Corrosion and anti-corrosives**Metal cutting**

- Account of some experiments on the action of cutting tools. E. G. Coker and K. C. Chakko. *diags Engineering* 113:564-9 My 5 '22; Same cond. *Engineer* 133:503-5 My 5 '22; Abstract. *Mech Eng* 44:532-3 Ag '22; Discussion. *Engineering* 113:561-2 My 5 '22; *Engineer* 133:491 My 5 '22
- Acetylene-jet machine cuts intricate shapes. *il Pop Mech* 40:778 N '23
- Arts mécaniques. C. Codron. 463p Dunod. Paris '22
- City gas used as a cutting agent. D. R. Lane. *il Gas Age* 50:757-8 D 2 '22
- Cochrane-Bly. new metal sawing machine. *il Iron Age* 112:203 Jl 26 '23
- Cutting cast iron with the oxyacetylene torch. A. S. Kinsey. *Stevens Ind* 38:287-96 O '21
- Cutting iron with oxyacetylene. A. S. Kinsey. *Iron Tr R* 72:948-50 Mr 29 '23; Same. *Foundry* 51:328-30 Ap 15 '23
- Cutting steel car and locomotive boiler rivets; alleged disadvantages of electric rivet cutting discounted by installation on Chesapeake & Ohio. E. A. Murray. *il Ry Mech Eng* 96:406-7 Jl '22
- Diamond alloy—a new cutting metal. *il Mach* 28:958-9 Ag '22; *Am Mach* 57:391-2 S 7 '22
- Foundry cutting and welding. G. O. Carter. *Foundry* 50:533-6 Jl 1 '22; Same. *Iron Tr R* 71:107-10 Jl 13 '22
- Gas machine cutting in railroad shops; the radiograph—a mechanically-operated torch for cutting sheet metal. *il Ry Mech Eng* 95:705-6 N '21
- Metal cutting tools. A. L. De Leeuw. 328p McGraw-Hill '22
- Metal cutting tools. W. E. Splain. *diags Am Mach* 58:663-4 My 3 '23; Discussion. 59:64, 738 Jl 12, N 15 '23
- Multi-cutting tool arrangements. J. Horner. *diags Engineering* 115:63-4, 96-8, 163-5, 176, 259-61, 419-21, 482-5, 673-5, 731-4, pl 45 Ja 19-26, F 9, Mr 2, Ap 6, 20, Je 1, 15 '23
- Oxy-acetylene cutting machine. I. W. Chubb. *il Am Mach* 56:929-31 Je 22 '22
- Oxy-acetylene cutting tests. J. C. Eichner. *Ry Mech Eng* 95:713 N '21
- Oxytome metal cutting machine. *il Engineer* 136:404 O 12 '23
- Presse, système Biiss, découpant automatiquement les tôles d'armature de machines électriques. *il diag plans Génie Civil* 81: 570-1 D 16 '22
- Putting the metal cutting plant on a profit-making basis. A. G. Peter. *il charts Ind Management* 64:55-61 Jl '22
- Removes cast steel by blowtorch. *il Iron Tr R* 70:1655-7 Je 8 '22
- Requirements in cutting off metal. M. E. Erskine. *Mach* 29:863-4 Jl '23
- Research on cutting tools. *Engineer* 135:95-6, 154 Ja 26, F 9 '23
- Tool temperatures and the cutting resistance of metals. H. A. Schwartz and W. W. Slagle. *Am Mach* 59:319 Ag 30 '23

Unusual economies claimed for new metal sawing equipment known as the Rapidor way. *il Iron Age* 112:1238 N 8 '23

See also Cutting machines; Cutting-off tools; Electric cutting; Gear cutting; Lubrication and lubricants (cutting and grinding); Milling cutters; Oxyacetylene flame; Oxyhydrogen cutting; Saws; Screw machines; Shears; Steel cutting; Thread cutting; Thread cutting machines

Tables, calculations, etc.

- Chart for determining the pressure exerted by boring tools. J. B. Conway. *Am Mach* 56: 476-8 Mr 30 '22
- Determining the cutting horse-power of a machine tool. H. K. Keever. *Am Mach* 59:555 O 11 '23
- Formulas for pressure required for shearing metal. D. C. Oviatt. *Mach* 28:528 Mr '22
- Power required for cutting metal. F. A. Parsons. *diags Mech Eng* 15:35-41 Ja '23; Summary. *Mach* 29:500 F '23
- Times for machine operations. C. J. Morrison. *Ind Management* 63:346-7 Je '22

Metal cutting. Subaqueous

- Broken section of 36-in. pipe line burned out by electric torch under 50 ft. of water. W. W. Brush. *il Eng N* 88:346-8 Mr 2 '22
- Cutting and fitting beneath the waves; the under-water torch. R. Howard. *il Sci Am* 126:302-3 My '22
- Cutting steel piling below low-water level. J. Mitchell. *il diags Engineering* 116:103-4 Jl 27 '23
- Repair of the New York-Brooklyn submarine water main. *il diags Engineering* 113:509-11 Ap 28 '22
- Submarine cutting torch under water. R. G. Skerrett. *il diags Iron Age* 109:637-9 Mr 9 '22
- Submarine cutting torch used in bridgework. C. P. Howes. *il diags plan Eng N* 90:454-5 Mr 8 '23
- Torch cuts cast iron in fifty feet of water. A. M. Hoffmann. *il Pop Mech* 37:682-3 My '22

Metal exchange

- Case for and against a metal exchange. F. E. Wormser. *Eng & Min J* 114:457-61 S 9 '22

Metal finishing

- Estafado finish. C. H. Proctor. *Metal Ind* 21: 277 Jl '23
- Gold finishes on brass, tin and lead base. C. H. Proctor. *Metal Ind* 20:389 O '22
- Metal finishes; various methods of coloring and finishing manufactured products. C. H. Proctor. *Metal Ind* 21:68-9 F '23
- See also* Bronzing; Gilding; Metal coloring; Scraping (metal work); Scraping machines (metal work)

Exhibitions

- Metal finishers' exposition, Dayton, Ohio. April 9-14. *Brass W* 19:79-82 Mr '23; *Metal Ind* 21:195-6 My '23

Metal fume fever. *See* Metal workers—Diseases and hygiene

Metal lath

- Back-plastered stucco costs. *Concrete* 22:77 F '23
- Lumber of steel. *Sci Am* 126:47 Ja '22
- Metal lath for forms and reinforcing. *il Concrete* 20:45 Ja '22
- Metal lath standards. *Iron Age* 110:1611 D 14 '22

Specifications

- Specifications for metal lath construction. *Eng & Contr (Bldgs)* 60:192 Jl 25 '23
- Suspended metal lath ceiling specifications suggested. *Eng N* 89:569 O 5 '22; Same. *Eng & Contr* 58:301 S 27 '22

Metal polishing. *See* Grinding and polishing

Metal protection

- Corrosion in iron and steel pipe. *Textile World* 60:2873-4 N 12 '21
- Corrosion of rustproofed iron and steel. W. P. Wood. *diag Chem & Met Eng* 28:769-72 Ap 30 '23

Metal protection—Continued

- How asbestos-protected metal was developed commercially. J. I. Young. *Chem & Met Eng* 28:244-7 F 7 '23; *Abstract. Iron Age* 111:1106 Ap 19 '23
- Life of buried steel fuel oil tanks. *Am Arch* 121:531-2 Je 21 '22
- Paint to prevent rusting between plates. A. H. Sabin. *Eng N* 90:271 F 8 '23
- Painting galvanized sheets. *Eng N* 89:759, 901, 947, 1038-9 N 2, 23-30, D 14 '22
- Parkerizing—a rustproofing process. L. C. Morrow. *Il plan Am Mach* 57:361-4 S 7 '22
- Preservation of iron and steel. J. N. Friend. *Engineer* 134:450 O 27 '22
- Protecting steel bridges from locomotive blast; examination of gunite and reinforced-concrete casing on floor system. *Il Eng N* 89: 968-9 D 7 '22; *Discussion. F. E. Morrow. 90: 596 Mr 29 '23*
- Protection of brass weights. J. J. Manley. *diag Philos Mag* 6th ser 44:948-50 N '22
- Protective action of copper in case carburizing. J. C. McCullough and H. A. H. Pray. *Chem & Met Eng* 27:1119-20 D 6 '22
- Steel for strength, asphalt for dryness, asbestos for life make light and lasting coat for roof or walls; Robertson process metal. *Il Coal Age* 21:45-6 Ja 12 '22
- Weatherproofing Hudson river bridge to save \$400,000 annually. *Munic Eng* 62:87-8 Mr '22
- See also* Bridges, Iron and steel—Protection; Calorizing; Corrosion and anti-corrosives; Galvanizing; Metal coating; Paint, Protective; Pipe lines—Protection; Water pipes—Protection

Metal spinning

- Metal spinning. R. Magosy. *Il Metal Ind* 21: 276-7 Jl 23
- Metal spinning and spinning tools. E. Heller. *diags Mach* 28:972-6 Ag '22; *Same. Sheet Metal Worker* 13:795-9 D 22 '22
- Rivet spinning operations. *Il diags Mach* 29: 8-11 S '22
- Spinning chucks. D. C. Oviatt. *Il diags Mach* 29:388-90 Ja '23

Metal spraying. See Metal coating**Metal trade**

- Are metal workers hidebound? E. F. DuBrul. *Am Mach* 57:268 Ag 17 '22
- Automotive consumption outstanding feature of 1922 metal markets. W. C. Hirsch. *Automotive Ind* 48:7-12 Ja 4 '23
- Automotive metal market nearer the pre-war level. W. C. Hirsch. *Automotive Ind* 45:26-31 Ja 5 '22
- Consideration of the nonferrous position. C. Vickers. *Brass W* 19:3 Ja '23
- Metal-market problem for the miner. A. R. Ledoux. *Eng & Min J* 113:142-5 Ja 21 '22
- Metal trades have large growth. W. W. Coleman. *Iron Tr R* 72:1169 Ap 19 '23
- Metals recover from 1921 loss. *Iron Tr R* 70: 86 Ja 5 '22
- Miners' sales problems that advertising will help solve. J. H. Collins. *Ptr Ink* 123:89-90+ Je 14 '23

Unemployment in the metal trades. E. S. Bradford. Am Mach 55:881-2 D 1 '21

- See also* Copper industry and trade; Hardware; Iron industry and trade; Lead industry and trade; Metal exchange; Metal workers; Metals—Prices; Mineral industries; Scrap metal; Sheet metal trade; Steel industry and trade; Tin plate; Zinc industry and trade

Statistics

- Abstract of secondary metal industry in 1921. *Brass W* 18:371 D '22
- Foreign trade in non-ferrous metals and minerals. F. E. Wormser. *Eng & Min J* 115: 147 Ja 20 '23
- Metals, tin plate and sheets for twenty-one years. *Iron Age* 111:76 Ja 4 '23
- Our foreign trade in metals and minerals. F. E. Wormser. *Eng & Min J* 113:140-1 Ja 21 '22
- Price and statistical review—1921. *Brass W* 18:27-35 Ja '22

Production des principaux pays, 1913-1920.

- Chimie & Ind* 7:1243-7 Je '22
- World production of metals in 1921 and 1922. *Eng & Min J* 116:771 N 3 '23
- World's production and consumption of metals during the past three years in comparison with 1913. *Brass W* 19:349 O '23

See also Tariff—United States—Metal schedule**Metal waste**

- How we make left-overs pay. C. E. Gerberich. *Il Factory* 28:35 Ja '22
- Secondary nonferrous metals. W. M. 'Corse. *Metal Ind* 21:155-6 Ap '23; *Same. Brass W* 19:149-50 My '23

See also Scrap metal; Steel waste; Tailings**Metal work**

- Advances in mechanical methods. P. W. Blair. *Il Metal Ind* 21:5-6 Ja '23
- Applied science for metal and wood workers. W. H. Dooley. 559p Ronald press '23
- Good judgment is required in solving problems in pressed metal work. H. R. Simmonds. *Il Iron Tr R* 69:1613-18 D 22 '21
- Making master lay-outs on metal plates. *diags Mach* 29:124 O '22
- Travail des métaux. J. Michel. 2d ed., rev. & enl. 355p Desforges, Paris '21
- Why work curls toward the wheel while being surface ground. E. A. Dixie. *Am Mach* 55: 1006-7 D 22 '21
- See also* Arms and armor; Brass founding; Bronze; Bushings; Dies; Electroplating; Engraving; Flanges; Forging; Foundries; Foundry practice; Gilding; Heat treatment; Jewelry; Keys and keyways (machinery); Machine tools; Metal coloring; Metal spinning; Pickling (metals); Plating; Punching machinery; Rolling (metal work); Sheet metal work; Solder and soldering; Swaging; Tin plate; Tinsmithing; Welding; Wire

History

- Romances of metal working—Saint Eligius the metal worker. H. H. Manchester. *Am Mach* 56:747 My 18 '22
- Romances of metal working—the myth of Hephaistos. H. H. Manchester. *Il Am Mach* 56:307 F 23 '22
- Romances of metal working—the Sagas of Volund and his sword. H. H. Manchester. *Am Mach* 56:853 Je 8 '22

Metal work, Architectural

- American metalwork and fixed decorations. *Il Brass W* 17:351 D '21
- American metalwork and fixed decorations. C. O. Cornelius. *Il Arch Rec* 51:88-92 Ja '22
- Hand book describing Berloy building materials. 397p Berger mfg. co., Canton, O. '21
- Wrought metal in architectural design, illustrated by work from office of H. T. Lindeberg, architect. R. L. Morin. *Il Am Arch* 124:343-8 O 10 '23

See also Ironwork, Architectural; Sheet metal work, Architectural**Advertising**

- Trial advertising opens a new market for ornamental metal work. R. Cole. *Ptr Ink* 119:119-20+ Je 15 '22

Metal work, Artistic

- Application of decoration to art metal ware. A. F. Saunders. *Il Metal Ind* 19:21-2, 313-14; 20:11-12; 21:18-19 Ja, Ag '21, Ja '22, Ja '23
- Mediaeval craftsmanship and the modern amateur. N. Wethered. 150p Longmans '23
- See also* Ironwork, Artistic

Metal workers

- Apprentice training in the Austrian metal industry. F. Rager. *Int Labour R* 7:632-6 Ap '23
- Apprenticeship in the metal trades. 38p National metal trades association, Chicago '22
- Apprenticeship in the metal trades—a report of the committee on industrial education of the National metal trades association. *Am Mach* 57:100 Jl 20 '22
- Apprenticeship training program of a large corporation; Worthington pump company. J. F. Biehl. *Ind Management* 64:209-12+ O '22

Metal workers—Continued

Metal trades wages abroad. *Iron Age* 110:486 Ag 24 '22

More metal workers at higher wages. *Iron Age* 109:1740 Je 22 '22

1918 to 1922 course of metal workers' wages. *Iron Age* 109:467 F 16 '22

Vital problems viewed by metal trades at the National association's annual convention. *Iron Age* 109:1129-33 Ap 27 '22

Diseases and hygiene

Metal-fume fever. F. Koelsch. *Bibliog J Ind Hygiene* 5:87-91 Jl '23

Metal working machinery

Making door hardware. *Il Iron Age* 112:154-5 Jl 19 '23

See also Heading machines; Machine tools; Scraping machines (metal work); Sheet metal working machinery; Wire drawing machines

Statistics

British India—imports of metal working machinery. *Am Mach* 58:188 F 1 '23

Exports of metal-working machinery before and after the war. *Mach* 28:486 F '22

Germany—exports and imports of metal working machinery. *Am Mach* 57:840 N 30 '22

Sweden—exports and imports of metal working machinery. *Am Mach* 57:876-7 D 7 '22

United Kingdom—exports of metal working machinery, 1908 to 1921, inclusive. *Am Mach* 57:804 N 23 '22

United States—exports of metal working machinery, 1909-1921, inclusive. *Am Mach* 57:730-1 N 9 '22

World trade in metal working machinery—exports. *Am Mach* 59:134, 170 Jl 26-Ag 2 '23; Imports. 59:212, 698 Ag 9, N 8 '23

Metal working plants

British metal-working industries. *Mach* 29:145, 313 O, D '22

Steel treaters and mechanical engineers hold spring inspection meeting at Bristol works. *Iron Age* 109:1209-10 My 4 '22

Taking advantage of the business situation. S. H. Bunnell. *Iron Age* 109:1193-5, 1275-7, 1339-42, 1433-5, 1496-8 My 4-Je 1 '22

See also Iron works; Rolling mills; Steel works

Accidents

Metals section announces 1922 accident record. *Nat Safety* N 8:43-4 Jl '23

Metaldehyde

Metaldehyde as a fuel. H. Danneel. *Chem & Met Eng* 27:216-18 Ag 2 '22

Metallic films. *See* Films, Metallic**Metallography**

Application of metallography. R. G. Guthrie. *Il diag W Soc E J* 28:43-54 F '23

Apply metallography to gray iron. J. W. Bolton. *Il Foundry* 50:52-5, 109-12 Ja 15-F 1 '22

Art of alloying. W. Guertler. *Il Brass W* 18:229-34, 257-9 Ag-S '22

Concentrated HCl as metallographic etching reagent for nickel. H: S. Rawdon and M. G. Lorentz. *Il Chem & Met Eng* 25:955-6 N 23 '21

Contrast etching for metallographic specimens. H: S. Rawdon and M. G. Lorentz. *Il Chem & Met Eng* 25:915-16 N 16 '21

Crystal growth in metals. G. R. Fonda. *Bibliog Il Gen Elec R* 25:305-15 My '22

Crystallisation of metals. N. T. Bieliaev. 143p University of London press, 18 Warwick sq., E.C. 4, London '23

Effect of impurities on recrystallisation and grain growth in tungsten. *Il Engineering* 113:342-6 Mr 17 '22; Abstract. *Engineer* 133:325 Mr 24 '22; Discussion. *Engineering* 113:317 Mr 17 '22; *Engineer* 133:325 Mr 24 '22

Grain growth and recrystallization in metals. Z. Jeffries and R. S. Archer. *Il Chem & Met Eng* 26:343-5, 402-10, 449-57 F 22-Mr 8 '22; Discussion. H. A. Holz. 26:580-1 Mr 29 '22

Internal mechanism of cold-work and recrystallisation in cupro-nickel. F. Adcock. *Il Engineering* 113:305-8, 340-2 Mr 10-17 '22; Discussion. 113:317 Mr 17 '22

Metallographic analysis in criminal jurisprudence. *Ind & Eng Chem* 15:559 Je '23

Metallographic etching reagents for copper alloys, nickel, and the alpha alloys of nickel. H: S. Rawdon and M. G. Lorentz. *Il U S Bur Stand Sci Pa* 435:635-76 '22

Metallographic testing. *Il U S Bur Stand Circ* 42:1-11 '21

Metallography. C. H. Desch. 3d ed. 440p Longmans '22

Metallography and macrography. L. Guillet and A. Portevin. 239p McGraw-Hill '22

Metallography in America. H. S. van Klooster. *Chem Age* 31:291-2 Jl '23

New method of preparing specimens of metals. H. B. Pulsifer. *Il Chem & Met Eng* 29:838-9 N 5 '23

Polishing aluminum and its alloys for metallographic study. E. H. Dix, jr. *Chem & Met Eng* 27:1217-20 D 20 '22

Preparation of metal for microscopic examination. W: Campbell. *Chem & Met Eng* 26:1163-4 Je 21 '22

Properties of so-called amorphous metal. R. S. Dean. *Chem & Met Eng* 26:965-6 My 24 '22

Radiometallographie. H. Pilon. *Il Chimie & Ind* 6:579-82 N '21

Röntgenographie und materialprüfung. R. Schenck. *Il diag Stahl & Eisen* 41:1441-9 O 13 '21; Abstract (X-ray in metal analysis). *Iron Age* 109:531 F 23 '22

Science of electric welding. W. E. Ruder. *Il J Fr Inst* 192:561-83 N '21

Solving metallurgical problems with the reflecting microscope. G. M. Schwartz. *Eng & Min J* 116:237-8 Ag 11 '23

Some relations between the microstructure of metal surfaces and electrodeposits made thereon. A. K. Graham. *Il Am Electrochem Soc Trans* v 44 (preprint 10):101-14 S '23

Stetige gefügeanalyse. K. Daevs. *Il diag Stahl & Eisen* 43:1137-8 Ag 30 '23

Structure and related properties of metals. *Il diag U S Bur Stand Circ* 113:1-104 '21

Structure of eutectics. F. L. Brady. *Il Engineering* 114:474-7, 503-6 O 13-20 '22

Structure of eutectics. A. M. Portevin. *Il Engineering* 115:477-80, 505-7, pl 30-1 Ap 13-20 '23

With eye-piece and camera; recent British developments in petrological and metallurgical microscopy and photography. A. A. Hopkins. *Il Sci Am* 126:23-4 Ja '22

See also Alloys; Iron—Metallography; Steel—Metallography

Terminology

Proposed definition of A.S.T.M. of terms relating to metallography. *Am Mach* 59:18 Jl 5 '23

Tentative definitions of terms relating to metallography. *Am Soc T M Pro* 21:829-31 '21

Metallo-organic compounds. *See* Chemistry, Organic

Metallurgical analysis

Conditions générales d'essai des produits utilisés par la sidérurgie. J. Durand. *Il Génie Civil* 83:375-7 O 20 '23

Determination of cobalt and nickel in arsenide ores. C. A. Knittel. *Can Chem & Met* 6:201-3 S '22

Method for determining zinc and lead in materials containing large amounts of carbon. W: Kahlbaum. *diag Eng & Min J* 116:110-11 Jl 21 '23

Notes on technical ore analysis for students. A. H. Low. 95p Wiley '23

Preliminary study of zirkite ore. J. G. Thompson. *J Phys Chem* 26:812-32 D '22

Sur une méthode industrielle de dosage des alliages légers d'aluminium. P. Pascal. *Chimie & Ind* 9:264-9 F '23

Technical methods of ore analysis for chemists and colleges. A. H. Low. 9th ed., enl. 348p Wiley '22

Time studies in metallurgical analysis. W. F. Dietrich. *Min & Sci P* 123:708-10 N 19 '21

Use of co-ordination compounds in analysis. T. M. Lowry. *Soc Chem Ind J (Chem & Ind)* 42:462-5 My 11 '23

Metallurgical analysis—Continued

X-rays as a means of determining the composition of alloys. T. S. Fuller. *il Gen Elec R* 25:746-50 D '22

See also Alloys; Assaying; Brass—Analysis; Iron—Analysis; Mercury—Analysis; Radium—Analysis; Steel—Analysis; Tungsten—Analysis

Metallurgical apparatus

Possibilities of centrifugal force in ore dressing. O. C. Ralston. *Eng & Min J* 116:673 O 20 '23

Rubber possibilities in the mining industry. India Rubber W 69:87 N '23

See also Classifiers; Crushing machinery; Flotation machines; Stamp mills

Metallurgical laboratories

Assembling a metallurgical laboratory. R. Rimbach. *diags Blast F & Steel Pl* 11:419-23+ Ag '23

Building world's finest iron ore laboratory in Minneapolis, Minn. *Iron Tr R* 70:273 Ja 26 '22

Research bureau laboratory, Standard steel car co. R. Rimbach. *Chem & Met Eng* 28:110 Ja 17 '23

Technical analysis of steel and steel works materials. F. T. Sisco. 543p McGraw-Hill '23
Zur weisse des Kaiser-Wilhelm-instituts für eisenforschung. *il Stahl & Eisen* 42:81-90 Ja 19 '22

See also Foundry laboratories; Metallurgical research

Metallurgical literature

Wanted: a metallurgical handbook. M. W. von Bernewitz. *Eng & Min J* 115:218-19 F 3 '23

Metallurgical patents

See Chloridizing processes—Patents; Flotation process—Patents

Metallurgical plants

Quantity methods in production of quality metals and alloys. R. S. McBride. *flow sheet il Chem & Met Eng* 29:745-51 O 22 '23

Trail smelter. G. J. Young. *flow sheets il Eng & Min J* 116:139-49 JI 28 '23

See also Cyanide plants; Iron works; Metallurgical laboratories; Smelting works; Steel works

Accidents

Accidents at metallurgical works in the United States during the calendar year 1920. W. W. Adams. *U S Bur Mines Tech Pa* 297:1-27 '22

Accidents at metallurgical works in the United States during the calendar year 1921. W. W. Adams. *U S Bur Mines Tech Pa* 327:1-30 '23

Cost

See Flotation plants—Cost

Layout

Santa Barbara 500-ton mill for concentrating lead carbonate ores. F. M. Heidelberg. *diag plans Eng & Min J* 112:1053-4 D 31 '21

Power

Electrical equipment of Rosario mill and mine. F. Krug. *il Eng & Min J* 115:1147-51 Je 30 '23

France

Excursion de la Société des ingénieurs civils en Dauphiné, en Provence et à Marseille; partie métallurgie. L. Guillet. *diag Soc Ing Civils Bul* 74:474-500, pl 16 O '21

La reconstitution de la métallurgie. R. Jordan. *Soc Ing Civils Bul* 76:664-83, pl 51 Je '23

Russia

Non-ferrous metallurgy in Russia. M. G. Korsunsky. *map Eng & Min J* 113:813-15 My 13 '22

United States

Smelter and refinery statistics for 1919. *Eng & Min J* 113:812 My 13 '22

Metallurgical research

Mines bureau outlines research work. *Iron Tr R* 70:758 Mr 16 '22

Science and industry in America; non-ferrous metals. W. Rosenhain. *il Engineer* 136:298-9, 312, 330-1 S 21-28 '23

Trend of research in the nonferrous industry. P. D. Merica. *Ind & Eng Chem* 15:895-7 S '23; Same. *Brass W* 19:400-2 D '23

See also Foundry research; Metallurgical laboratories; also British cast iron research association; British non-ferrous metals research association; Copper and brass research association

Metallurgy

El arte de los metales (metallurgy) tr. by R. E. Douglass and E. P. Mathewson. A. A. Barba. 288p Wiley '23

Centrifugal force in ore dressing and metallurgy. *Eng & Min J* 115:1006; 116:92-3 Je 9, JI 21 '23

Cheap oxygen; a consideration of its application to chemical processes in metallurgy. A. G. Betts. *Chem Age* 30:21 Ja '22

Colloid chemistry and metallurgy; abstract. W. D. Bancroft. *Min & Met* 192:29-30 D '22

Continuous vs. intermittent smelting of complex zinc ores. W. M. Johnson. *Eng & Min J* 115:261-3 F 10 '23

Coolbaugh process plant nears completion. *Eng & Min J* 115:242 F 3 '23

Errechnung der arbeitstemperaturen in metallurgischen oefen. H. Bansen. *Stahl & Eisen* 42:245-53, 291-7, 370-5, 423-6 F 16-23, Mr 9-16 '22

L'évolution des méthodes et des produits de la métallurgie. *Génie Civil* 82:54-8 Ja 20 '23

Few of the thousand uses for gas; heat-treatment and melting of metals. P. J. LaFore. *Am Gas J* 116:184-5+ F 25 '22; Same cond. *Gas Age* 49:227-8 F 25 '22

Kolloidchemie und metallurgie. A. Imhausen. *Stahl & Eisen* 41:1641-5; Discussion. 1645-9 N 17 '21

Kolloidchemie und metallurgie. R. Kühnel; F. Körber. *il Stahl & Eisen* 42:622-4 Ap 20 '22

Metallurgical applications of physical chemistry. C. H. Desch. *il Chem Soc J* 123:280-94 F '23

Metallurgical aspect of the production of cold. C. Johns. *Engineering* 114:524 O 27 '22

Metallurgical progress in the Butte district. *Eng & Min J* 113:1104 Je 24 '22

Metallurgy for engineers. *Engineer* 133:413-14 Ap 14 '22

Metallurgy of carbonaceous ores. *Can Chem & Met* 6:82 Ap '22

Les méthodes de recherche et de contrôle dans la métallurgie de précision. P. Chevenard. *Génie Civil* 83:91-2 JI 28 '23

Oxygen in metallurgy. C. Johns. *Iron Age* 110:1203 N 9 '22

Pyrometallurgv. E. H. Robie. *Eng & Min J* 115:120 Ja 20 '23

Recent advances in metallurgical chemistry. E. Eustice. *diags Chem Age (Lond)* 8:26-8 Ja 13 '23

La reconstitution de la métallurgie R. Jordan. *Soc Ing Civils Bul* 76:664-83, pl 51 Je '23

Recovery of secondary metals in Russia. M. G. Korsunsky. *Metal Ind* 20:141 Ap '22

Rise and fall of metallurgical processes. E. H. Robie. *Eng & Min J* 115:273-6 F 10 '23

Some problems in non-ferrous metallurgy. J. H. Ransom. *Metal Ind* 19:469-72 D '21

Use of oxygen in metallurgical operations. *Blast F & Steel Pl* 10:555 N '22; Same. *Iron Age* 110:1179 N 2 '22

Use of oxygen or oxygenated air in metallurgical and allied processes; abstracts of Bureau of mines report. F. W. Davis. *Chem & Met Eng* 29:272-5 Ag 13 '23; *Chem Age* 31:399-400 S '23; *Iron Age* 112:717-18, 734-5, 749 S 13-20 '23; *Gas Age* 52:437-8 O 13 '23

See also Alloys; Amalgamation; Amalgams; Assaying; Blast furnaces; Chemical engineering; Chemistry. Technical; Chloridizing processes; Copper metallurgy; Cyanide process; Electric furnaces, Metallurgical; Electrometallurgy; Filters and

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filtration (metallurgy); Flotation process; Flue dust; Flux; Furnaces, Metallurgical; Gold metallurgy; Hydrometallurgy; Iron metallurgy; Lead metallurgy; Magnetic separation of ores; Manganese bronze; Metallography; Metallurgical analysis; Metallurgical apparatus; Metallurgical laboratories; Metallurgical plants; Metallurgical research; Metals; Nickel metallurgy; Ore treatment; Precious metals; Refractory materials; Silver metallurgy; Sintering; Smelting; Steel metallurgy; Tailings; Titanium; Zinc metallurgy; also Holt-Christensen process

History

Illustrated history of mining and metallurgy. H. H. Manchester. *il map Eng & Min J* 114: 409-13, 447-50, 495-9, 545-9 S 2-23 '22
Mining from 1550 to 1700. H. H. Manchester. *il Eng & Min J* 116:325-8 Ag 25 '23
Mining in France, 1700-1750. H. H. Manchester. *il Eng & Min J* 116:55-7 JI 14 '23
Mining in old Japan. H. H. Manchester. *il Eng & Min J* 115:889-93 My 19 '23

Study and teaching

Metallurgist and the brass foundry. M. G. Korsunsky. *Metal Ind* 20:186-7 My '22
Physical metallurgy at Columbia university. E. E. Thum. *il diags plan Chem & Met Eng* 26:984-7 My 24 '22
Technical education in metallurgy. C. R. Hayward. *Chem & Met Eng* 28:599-600 Mr 28 '23

Tables, calculations, etc.

Determining relative tonnages from assays. A. T. Fry. *Eng & Min J* 114:493-4 S 16 '22
When temperature changes occur; fusion, melting and vaporizing of metals and other substances. H. D. Hibbard. *Brass W* 18: 359-60 D '22; Same. *Iron Age* 110:1492-3 D 7 '22

Metals

Acid resisting metals and alloys. G. A. Drysdale. *Brass W* 17:311-13 N '21; Same. *Mech Eng* 44:579-80+ S '22; Same cond. *Foundry* 49:975-7 D 15 '21

Action of metals on fruit and vegetable products. M. Donauer. *Chem Age* 31:427-8 S '23

Beilby's amorphous theory. C. Benedicks. *diags Chem & Met Eng* 28:733 Ap 23 '23

Bright- and dull-surfaced metal. R. Rücklin. *Brass W* 18:352 D '22

Casting of metals. T. Turner. *Brass W* 18:191-5 Je '22

Colloidal state in metals and alloys. J. Alexander. *Chem & Met Eng* 26:54-8, 119-23, 170-2, 201-7 Ja 11-F 1 '22

Constitution of metallic substances. C. A. Kraus. *Am Chem Soc J* 44:1216-39 Je '22

Determination of gases in metals. H. L. Simons. *diags Chem & Met Eng* 27:248-9 Ag 9 '22

Effect of current on the photo-electric sensitivity of metals. A. G. Shenstone. *Philos Mag* 6th ser 45:918-26 My '23

Electron emission from metals as a function of temperature. S. Dushman. *Phys R* 21: 623-36 Je '23

Electron theory of metals in the light of new experimental data. P. W. Bridgman. *Phys R* 19:114-34 F '22

Fibre in metals. *Engineer* 134:499-500 N 10 '22; Excerpts. *Locomotive* 34:238-9 O '23

Further experiments on the mass of the electric carrier in metals. R. C. Tolman, S. Karrer and E. W. Guernsey. *diags Phys R* 21:525-39 My '23

Gases in metals. *Sci Am* 126:333 My '22

Heat-temperature curves of metals. J. F. Shaden. *Iron Age* 110:218-22 JI 27 '22

Kinetic theory of solids (metals) and the partition of thermal energy. B. M. Sen. *Philos Mag* 6th ser 43:672-87 Ap '22

Mechanical properties of metals. *Aerial Age* 15:515-16 O '22

Méthodes et appareils utilisés pour la détermination des points critiques des métaux et alliages. P. Dejean. *il diags plan Chimie & Ind* 9:654-64, 888-99; Bibliography. 899-900 Ap-My '23

Neumann bands as evidence of action of explosives upon metal. F. B. Foley and S. P. Howell. *Min & Met* 189:53-4 S '22

On the theory of the hardening of metals. K. Honda. *Chem & Met Eng* 25:1001-3 N 30 '21

Optical properties of molten metals. A. K. Aster. *Phys R* 20:349-57 O '22

Practical treatise on the metals used in marine engineering. W. H. Colpitts. 211p Van Nostrand '22

Production of single metallic crystals and some of their properties. H. C. H. Carpenter. *diags Iron & Steel Inst J* 107:175-202 pl 5-9 no 1 '23; Same. *Engineering* 115:579-82, 636-8 My 11-18 '23; Same cond. *Engineer* 135:551-2 My 25 '23; Discussion. *Iron & Steel Inst J* 107:203-11 no 1 '23; *Engineering* 115:612-13 My 18 '23; *Engineer* 135:546-555-6 My 25 '23

Properties of metals and alloys at low temperatures. *Aviation* 12:511 My 1 '22

Pure metals. *Engineer* 134:337-8 O 13 '22

Rarer metals; a symposium held at the recent meeting of the American electrochemical society. *Chem & Met Eng* 28:897-8 My 2 '23; *Iron Age* 111:1325-8 My 10 '23

Reduction of some rarer metal chlorides by sodium. M. A. Hunter and A. Jones. *Am Electrochem Soc Trans* v 44 (preprint 4) 35-41 S '23

Structure and related properties of metals. *il diags U S Bur Stand Circ* 113:1-104 '21

Twenty years in the metal industries. *Metal Ind* 21:1-4 Ja '23

Ueber die anlauffarben von metallen. G. Tammann. *Stahl & Eisen* 42:615-19 Ap 20 '23

What causes slip to halt? O. A. Knight. *Chem & Met Eng* 25:1036-7 D 7 '21

Year's progress in metals. R. E. Search. *Metal Ind* 20:18-19, 63-4 Ja-F '22

Year's progress in metals. R. E. Search. *Metal Ind* 21:9-10, 60-1 Ja-F '23

See also Acid-resisting materials; Alloys;

Aluminum; Amalgams; Annealing; Anti-

mony; Assaying; Babbitt metal; Bearing

metals; Bismuth; Brass; Bronze; Cadmium;

Cast iron; Chromium; Cobalt; Copper; Cor-

rosion and anti-corrosives; Earths, Rare;

Electrodeposition of metals; Electrometal-

lurgy; Elektron metal; Fatigue in metals;

Foundry practice; Gallium; Geology; Ger-

manium; Gold; Hardening; Hardness; Heat

treatment; Iron; Lead; Manganese;

Mercury; Metal trade; Metallography; Metal-

lurgy; Mineralogy; Mines and mineral re-

sources; Molybdenum; Monel metal; Nickel;

Ore deposits; Ores; Pickling (metals); Plat-

inum; Potassium; Precious metals; Radium;

Sheet metal; Silver; Slag; Smelting; Sodium;

Solder and soldering; Solutions, Solid; Steel;

Stellite; Strength of materials; Strontium;

Thallium; Tin; Titanium; Tungsten; Van-

adium; Welding; Zinc; Zircon; also British

non-ferrous metals research association

Failure

Change of density of iron due to overstrain. J. W. Landon. *Iron & Steel Inst J* 107:455-63 no 1 '23

Failure of metals under internal and prolonged stress. F. S. Spiers, ed. 215p Faraday society, London '21

Strain and fracture in metals; notes on Dr Rosenhain's lecture tour. *il Chem & Met Eng* 28:1026-30 Je 11 '23

See also Fatigue in metals

Hardness

See Hardness

Prices

Annual and monthly average of metals; tabulation. *Brass W* 17:341-2 N '21

Annual and monthly average prices of metals. *Brass W* 19:25 Ja '23

Current metal prices. See weekly numbers of *Iron age*

Current wholesale prices in New York market. Published in weekly numbers of *Chemical and metallurgical engineering*

etals—Prices—Continued

- Diagrams showing fluctuations in the prices of metals from Christmas, 1920, to Christmas, 1921. Engineering 112:896 D 30 '21
- Diagrams showing fluctuations in the prices of metals from Christmas, 1921, to Christmas, 1922. Engineering 114:811 D 29 '22
- Fluctuations in prices of pig tin, aluminum, antimony, lake copper, zinc, lead, tin plate and galvanized sheets, 1903-1921; chart. Iron Tr R 70:80a Ja 5 '22
- Fluctuations in prices of pig tin, aluminum, antimony, lake copper, zinc and lead, 1904-1922; chart. Iron Tr R 72:98a Ja 4 '23
- Market value of ores from Mexico. S. F. Shaw. Eng & Min J 114:550-1 S 23 '22
- Metals, tin plate and sheets for twenty-one years, 1901-1921. Iron Age 109:66-7 Ja 5 '22
- Price and statistical review—1921. Brass W 18:27-35 Ja '22
- Quarter century of fluctuations in carload prices of copper, lead, tin and spelter in New York and tin plate and no. 28 black and galvanized sheets in Pittsburgh; chart. Iron Age 111:77-8 Ja 4 '23
- Yearly average prices of principal metals, 1895-1922. Eng & Min J 115:155-7 Ja 20 '23

Standards

- Non-ferrous metal specifications; report on proposed revision of S. A. E. standards. Soc Auto Eng J 9:423-7 D '21
- L'unification des méthodes d'essai des métaux. Génie Civil 80:530 Je 10 '22

Testing

- American society for testing materials meeting, Atlantic City. Chem & Met Eng 27:14-16 Jl 5 '22
- Behaviour of metals under compressive stresses. H. I. Coe. Engineering 116:349-51 S 14 '23
- Bericht über die tätigkeit des materialprüfungsamtes zu Berlin-Dahlem im Jahre 1920 (21). Stahl & Eisen 42:1178-80 Jl 27 '22
- Correlation between metallurgical and service tests. W. Rosenhain. Automotive Ind 46:566-8 Mr 9 '22
- Corrosion as affecting the metals used in the mechanical arts. W. H. Hatfield. il Engineer 134:639-43 D 15 '22; Discussion. Engineering 114:747-8 D 15 '22
- Effect of repetition stresses on materials. F. C. Lea. Engineering 115:217-19, 252-4 F 16-23 '23
- Effect of temperature on some of the properties of metals. F. C. Lea. il Engineering 113:829-32; Discussion. 806 Je 30 '22
- Effect of temperature, pressure and structure on mechanical properties of metal. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:747-51 O 11 '22
- Endurance of duralumin, electron metal and manganese bronze; abstracts. R. R. Moore. Chem & Met Eng 29:58 Jl 9 '23; Eng N 91:26-7 Jl 5 '23
- Fatigue in metals. C. F. Jenkin. diags Engineer 134:612-14 D 8 '22; Same. Roy Aeronautical Soc J 27:89-99 Mr '23; Same. Chem & Met Eng 28:811-15 My 7 '23; Same. Brass W 19:192-5 Je '23; Abstract. Engineering 114:750 D 15 '22; Discussion. Roy Aeronautical Soc J 27:99-104 Mr '23
- Fatigue or progressive failure of metals under repeated stress. H. F. Moore. J. B. Kommers and T. M. Jasper. diags Am Soc T M Pro 22 pt 2:266-87; Discussion. 288-311 '22
- Flow of metal during forging; abstract. H. F. Massey. Engineering 112:700-1 N 18 '21; Discussion. 112:728, 756-7, 786; 113:72-3, 104, 165 N 25-D 9 '21, Ja 20-27, F 10 '22
- Impact tests of metals. D. J. McAdam. jr. diags Am Soc T M Pro 22 pt 2:37-54 '22
- Influence of surface flaws on strength of metals. H. C. Knerr. il diags Automotive Ind 45:1216-17 D 22 '21
- Laboratory control of the manufacture of water works, plumbing and gas brass goods. W. E. Mueller. il Am Water Works Assn J 10:686-94 Jl '23
- Mechanical model illustrating the behaviour of metals under static and alternating loads. C. F. Jenkin. diags Engineering 114:603 N 17 '22

- Mechanical properties as affected by grain size. Z. Jeffries and R. S. Archer. il Chem & Met Eng 27:789-92 O 18 '22
- Mechanical properties of commercial iron. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:694-7 O 4 '22
- New forms of apparatus for determining linear shrinkage and for bottom-pouring of cast metals and alloys. F. Johnson and W. G. Jones. Brass W 18:294-5 O '22; Same abr. Iron Age 110:999 O 19 '22; Same. Metal Ind 20:385 O '22
- New instrument for testing hardness. il Sci Am 129:187 S '23
- Overstrain, internal stresses and creep. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:833-7 O 25 '22
- La pratique des essais mécaniques des métaux. J. Durand. il Génie Civil 82:525-8 Je 2 '23
- Putting the X-ray to work in everyday production of metals. A. St John. il diag Chem & Met Eng 29:280-3 Ag 13 '23; Same. Iron Age 112:467-9 Ag 23 '23; Same. Brass W 19:301-4 S '23; Same. Iron Tr R 73:1299-1303 N 8 '23
- Recent developments in fatigue of metals. H. F. Moore and T. M. Jasper. diag Iron Age 110:779-84 S 23 '22
- Resumé of American practice in notched bar impact tests of metals. C. L. Warwick. Am Soc T M Pro 22 pt 2:78-82 '22
- Strength and structure of steel and other metals. W. E. Dalby. 176p Longmans '23
- Suggested methods of tension testing of metallic materials; report by the committee E-1 of A. S. T. M. diags Engineering 116:280-2 Ag 31 '23
- Tearing tests on metals. H. L. Heathcote and C. G. Whinfrey. diags Chem & Met Eng 27:310-11 Ag 16 '22; Abstract. Mech Eng 44:671 O '22
- Testing of materials and its effect on engineering. G. B. Upton. Soc Auto Eng J 13:296-9; Discussion. 299-300, 312 O '23
- Testing of materials used in the manufacture of electrical equipment. C. Dawson. diag Inst E E J 61:59-64 D '22
- La variation des propriétés mécaniques des métaux et alliages aux basses températures. L. Guillet and J. Cournot. Génie Civil 80:162 F 18 '22
- Verfestigung und zugfestigkeit. F. Körber. il diags Stahl & Eisen 42:365-70 Mr 9 '22; Abstract (Tensile strength of plastic metals). Mech Eng 44:392-3 Je '22; Discussion. Stahl & Eisen 42:975-6, 1687; 43:196-9 Je 22, N 9 '22, F 8 '23
- Das verhalten der metalle bei wiederholter beanspruchung. P. Ludwik. Stahl & Eisen 43:632-4 My 10 '23
- Why weary metal fails under light loads; the causes of steel fatigue. G. H. Dacy. il Sci Am 125A:109-10 D '21
- X-ray examination of materials. A. G. Warren. il diags Inst E E J 61:949-59 S '23; Abstract. Elec R (Lond) 92:672-3 Ap 27 '23
- See also Bearing metals—Testing; Brinell hardness test; Electric welding—Testing; Impact welding, Arc—Testing; Hardness; Electric; Magnetic testing; Scleroscope; Sheet metal—Testing; Testing machines; Welding—Testing; also subdivision Testing under names of metals; e.g. Copper—Testing, Steel—Testing
- Metals, Cold working of**
Properties of cold-worked metals. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:882-9 N 1 '22
- Metals, Hardening of.** See Hardening; Steel, Hardening of
- Metamorphism**
Stratigraphy of the crystalline schists of Pennsylvania and Maryland. E. B. Knopf and A. I. Jonas. map Am J Sci 5th ser 5:40-62 Ja '23
- Suggested explanation of the high ferric oxide content of the limestone contact zones. B. S. Butler. Econ Geol 18:398-404 Je '23

Metasomatism

Metasomatic processes in silicate rocks. V. M. Goldschmidt. *Econ Geol* 17:105-22; Bibliography. 123 Mr '22

Meteorites

Meteorite iron from Odessa, Ector co., Texas. G. P. Merrill. *il Am J Sci* 5th ser 3:335-7 My '22

New Baltimore, Somerset county, Pennsylvania, meteorite iron. G. P. Merrill. *il Am J Sci* 5th ser 6:262-4 S '23

Newly found iron meteorite from Somerset county, Pennsylvania. G. P. Merrill. *Am J Sci* 5th ser 5:175-6 F '23

Pitts meteorite. S. W. McCallie. *Am J Sci* 5th ser 3:211-15 Mr '22

Recently found meteorite iron from Glasgow, Barren county, Kentucky. G. P. Merrill. *Am J Sci* 5th ser 5:63-4 Ja '23

Temperature of a black spherical meteorite. A. T. Jones. *Am J Sci* 5th ser 5:247-55 Mr '23

Meteorograph

Meteorographs. J. A. C. Warner. *il U S Nat Advisory Com for Aeronautics* 1921:555-60 '23

Meteorological charts

Daily meteorological charts of the world. E. H. Bowie. *Nat Research Council Bul* 3 pt 2:36-41 Mr '22

Interpretation of meteorological maps. C. L. Meisinger. *Aviation* 13:774-6 D 11 '22

Meteorological instruments

Airman's weather-finder. *il Sci Am* 127:35 J1 '22

Wind indicator at Arlington. *Aviation* 13:163 Ag 7 '22

See also Altimeters; Anemometer; Barometers; Hygrometer; Thermometers and thermometry

Meteorological stations

Some principles governing the establishment of meteorological stations along air routes. P. Aujames. *Aerial Age* 15:175-6 My 1 '22

Meteorology

Aerological aid for aviators. map *Aerial Age* 16:276-8 Je '23

Air and its ways. W. N. Shaw. 237p University press, Cambridge (Eng.) '23

Aviation weather for military operations. W. F. Reed, jr. *Aviation* 12:569 My 15 '22

Compilation of meteorological data by water departments. S. G. Highland. *Can Eng* 44:580-1 Je 12 '23; Excerpt. *Eng & Contr* (W W) 59:1314-15 Je 13 '23

Meteorological advice for the air traffic. A. Schmauss. *Aerial Age* 15:467-8 S '22

Meteorology. A. E. M. Geddes. 410p Van Nostrand '21

Meteorology; the science of the atmosphere. C. F. Talman. 384p P. F. Collier & son co., New York '22

New air world. W. L. Moore. 326p Little, Brown & co., Boston '22

New tasks for the weatherman. *Sci Am* 127:240 O '22

Scientific papers presented before the American geophysical union at its second annual meeting. *Nat Research Council Bul* 3 pt 2:27-53 Mr '22

What the Weather bureau is doing for aviation. W. R. Gregg. *il map Aerial Age* 16:120-3 Mr '23

See also Air; Atmosphere; Atmospheric electricity; Atmospheric temperature; Auroras; Climate; Clouds; Floods; Fog; Humidity; Ice on rivers, lakes, etc.; Lightning; Magnetism, Terrestrial; Rain and rain-fall; Snow; Solar radiation; Storms; Thunderstorms; Weather; Winds; also United States—Weather bureau

Meteors

Heavens in May, 1923. H. N. Russell. *Sci Am* 128:336 My '23

Meter inspectors. See Gas companies—Meter inspectors

Meter reading

Anticipating the complaint; Virginia railway & power co. investigates any unusual consumption of energy before the bill is rendered. G. H. Smith. *Elec W* 80:1047-8 N 11 '22

Check on registration of power meters. *Elec W* 81:528 Mr 3 '23

Combined system of collections for water, gas and light. *Eng N* 88:642 Ap 20 '22

Direct billing by meter readers cuts cost. J. R. Kaiserman. *Elec W* 77:1251-2 My 28 '21; Excerpts. *Eng & Contr* 57:143 F 8 '22

Extraordinary hazards of meter reading. *Munic Eng* 62:68-9 F '22

Patrons now know date of meter readings. C. L. McGowan. *Am Gas J* 115:544 D 17 '21

Reading gas meters difficult task. *Gas Age* 51:705-6 Je 2 '23

Meters

Meters for ammonia liquors. A. Thau. *diags Chem & Met Eng* 25:1062-3 D 7 '21

See also Air flow; Electric meters; Flow meters; Gas meters; Meter reading; Micrometers; Steam meters; Tachometers; Venturi meters; Viscosimeters; V-notch meter; Water meters; Weirs

Meters, Graphic. See Graphic meters

Methane

Action of oxygen on mixtures of methane and ethylene and their oxidation products. T. S. Wheeler and E. W. Blair. *Soc Chem Ind J* 42:260-2 Je 15 '23

Ascertaining explosibility of methane in oxygen. *Coal Age* 23:904 My 31 '23

Combustion of complex gaseous mixtures. W. Payman and R. V. Wheeler. *Chem Soc J* 121:363-79 Mr '22

Equation of state for methane gas phase. F. G. Keyes, L. B. Smith and D. B. Joubert. *diags Refrig Eng* 9:312-18 Ap '23

Ignition of gases; ignition by a heated surface; mixtures of methane and air. W. Mason and R. V. Wheeler. *Chem Soc J* 121:2079-91 O '22

Oxidation of hydrocarbons, with special reference to the production of formaldehyde. T. S. Wheeler and E. W. Blair. *Soc Chem Ind J* 42:81-6, 87-92 Mr 9-16 '23

Purification of gases from methane. G. R. Fonda and H. N. Van Aernem. *J Ind & Eng Chem* 14:539-40 Je '22

Thermodynamic properties of methane. F. G. Keyes, R. S. Taylor and L. B. Smith. *diags Refrig Eng* 9:280-9 Mr '23

Über die chlorierung des methans. A. Schleede and C. Luckow. *diags Deutsche Chem Gesell Ber* 55:3710-26 D '22; Abstract. *Chem Soc J* 124 pt 1:83-4 F '23

Utilization of methane gas from Imhoff tanks. K. Imhoff. *il diags Eng N* 91:512-14 S 27 '23

Viscosities and molecular dimensions of methane, sulphuretted hydrogen, and cyanogen. A. O. Rankine and C. J. Smith. *Philos Mag* 6th ser 42:615-20 N '21

Methanetetracetic acid

Experiments on the synthesis of the poly-acetic acids of methane; iso-butylene- α,γ,γ -tricarboxylic acid and methanetetracetic acid. C. K. Ingold and L. C. Nickolls. *Chem Soc J* 121:1638-48 Ag '22

Methanetriacetic acid

Experiments on the synthesis of polyacetic acids of methane; conditions of formation by the cyanoacetic ester method of stable methanetriacetic esters. C. K. Ingold and E. A. Perren. *Chem Soc J* 119:1865-8 N '21

Experiments on the synthesis of the poly-acetic acids of methane; methanetriacetic acid and its unstable esters. C. K. Ingold and E. A. Perren. *Chem Soc J* 121:1414-20 J1 '22

See also Carboxymethanetriacetic acid

Methanol. See Alcohol, Wood

Methodoids

Dye stuffs derived from heterocyclic bases containing reactive methyl groups. J. L. B. Smith. *Chem Soc J* 123:2288-96 S '23

ethoxy compounds

Studies in phototropy: the reversed phototropy of cinnamaldehydesemicarbazone and its methoxy-derivatives. I. M. Heilbron, H. E. Hudson and D. M. Huish. *Chem Soc J* 123:2273-9 S '23

ethoxy-acetophenone

Relation between molecular structure and odor in tri-substituted benzenes; derivatives of para-methoxy-acetophenone. M. T. Bogert and L. P. Curtin. *Am Chem Soc J* 45:2161-7 S '23

ethoxybenzoic acids

Nitro- and amino-derivatives of *o*- and *p*-methoxybenzoic acids and of α - and β -methoxynaphthoic acids. V. Froelicher and J. B. Cohen. *Chem Soc J* 121:1652-60. Ag '22

ethoxybenzyl bromides

Reciprocal induced polarity effects in cresols and their derivatives; properties of the isomeric methoxybenzyl bromides. A. Lapworth and J. B. Shoesmith. *Chem Soc J* 121:1391-1400 JI '22

ethoxydioxindole

Über methoxy-5-dioxindol und methoxy-5-isatin. J. Halberkann. *Deutsche Chem Gesell Ber* 54:3079-90 D '21; Abstract. *Chem Soc J* 122 pt 1:172-3 F '22

ethoxyisatin

Abkömmlinge der chininsäure. J. Halberkann. *Deutsche Chem Gesell Ber* 54:3090-3107 D '21; Abstract. *Chem Soc J* 122 pt 1:174-5 F '22

Über methoxy-5-dioxindol und methoxy-5-isatin. J. Halberkann. *Deutsche Chem Gesell Ber* 54:3079-90 D '21; Abstract. *Chem Soc J* 122 pt 1:172-3 F '22

ethoxyl group

Distribution of methoxyl in the products of cooking jack pine by the soda process. S. S. Aiyar. *Ind & Eng Chem* 15:714-16 JI '23
Distribution of methoxyl in the products of wood distillation. L. F. Hawley and S. S. Aiyar. *J Ind & Eng Chem* 14:1055-7 N '22
Methoxyl in wood charcoal. L. F. Hawley. *Ind & Eng Chem* 15:697 JI '23

ethoxynaphthoic acids

Nitro- and amino-derivatives of *o*- and *p*-methoxybenzoic acids and of α - and β -methoxynaphthoic acids. V. Froelicher and J. B. Cohen. *Chem Soc J* 121:1652-60 Ag '22

Methoxy-triphenylmethyl

Triphenylmethyl; para-benzyloxy- and paramethoxy-triphenylmethyl. M. Gomberg and C. C. Buchler. *Am Chem Soc J* 45:207-22 Ja '23

Methyl acetate

Rate of hydrolysis of methyl acetate by hydrochloric acid in solutions containing sucrose. G. J. Burrows. *Chem Soc J* 119:1798-1802 N '21

Methyl alcohol. See Alcohol, Wood

Methyl anthranilate

Methyl anthranilate in grape beverages and flavors. R. D. Scott. *Ind & Eng Chem* 15:732-3 JI '23

Methyl chloride

Analysis of gas mixtures containing methyl chloride. R. H. McKee and S. P. Burke. *Ind & Eng Chem* 15:578-9 Je '23
Chlorination of natural gas. G. W. Jones, V. C. Allison and M. H. Meighan. *U S Bur Mines Tech Pa* 255:1-42 '21
Conversion of methyl chloride to methanol. R. H. McKee and S. P. Burke. *diag Ind & Eng Chem* 15:682-8, 788-95 JI-Ag '23
Methyl chloride refrigeration. C. H. Herter. *Refrig W* 58:13-16 JI '23
Properties of methyl chloride. C. H. Herter. *Refrig W* 58:15-18 Ap '23

Methyl ether

Oxonium compounds in the vapor state; methyl ether-hydrogen chloride. O. Maass and D. M. Morrison. *diag Am Chem Soc J* 45:1675-82 JI '23

Methyl green

Safranine and methyl green as staining agents in microscopic work. H. J. Conn. *Color Tr J* 12:192-3 My '23

Methyl group

Reactivity of methyl groups in heterocyclic bases. W. H. Mills and J. L. B. Smith. *Chem Soc J* 121:2724-37 D '22

Methyl mercaptan

Darstellung von methylmercaptan. F. Arndt. *Deutsche Chem Gesell Ber* 54:2236-42 O '21

Methyl nitrobenzoate

Hydrolysis of methyl ortho-nitrobenzoate in acid solution. G. E. K. Branch and D. S. McKittrick. *Am Chem Soc J* 45:321-7 F '23

Methyl orange

Improved methyl orange. J. Moir. *Chem Age (Lond)* 9:313 S 22 '23; Same. *Color Tr J* 13:159 N '23

Methyl pentoses

Optical rotations of the sugars; the methyl pentoses and the glucosides. J. G. Maltby. *Chem Soc J* 123:1404-9 Je '23

Methyl red

Preparation of methyl red. A. W. Schorger. *Ind & Eng Chem* 15:742-3 JI '23

Methyl selenoquinazolone

Researches on selenium organic compounds; synthesis of 2-methyl-4-seleno-quinazolone, 2-phenyl-benzoselenazole, and some derivatives of the latter. M. T. Bogert and Y. Chen. *Am Chem Soc J* 44:2352-7 O '22

Methyl sulfate

Action of methyl sulphate on diphenylamine and on methylaldiphenylamine. C. S. Gibson and D. C. Vining. *Chem Soc J* 123:831-41 Ap '23

Methyl violet

Future possibilities in the production of methyl violets. R. Sansone. *diags Color Tr J* 11:51-3, 97-100, 193-5 Ag-S, N '22

Methylallantoin

Allantoin und seine methylderivate. H. Biltz and F. Max. *Deutsche Chem Gesell Ber* 54:2451-76 O '21; Abstract. *Chem Soc J* 120 pt 1:893-5 D '21

Methylallantoxaidin

3-methyl-oxonsäure und 3-methyl-allantoxaidin. H. Biltz and R. Robl. *Deutsche Chem Gesell Ber* 54:2448-51 O '21

Methyl-amino-chlorophenol sulfate

N-methyl-para-amino-ortho-chlorophenol sulfate, a new photographic developer. W. G. Christiansen. *Am Chem Soc J* 45:2192-4 S '23

Methylaniline hydrochloride

Zur umwandlung von methyl-anilin-chlorhydrat in toluidin-chlorhydrat. E. Beckmann and E. Correns. *Deutsche Chem Gesell Ber* 55:852-6 Ap '22

Methylation

Methylation of xylose. A. Carruthers and E. L. Hirst. *Chem Soc J* 121:2299-2308 O '22

Triazole compounds; some substituted hydroxybenzotriazoles and their methylation products. O. L. Brady and J. N. E. Day. *Chem Soc J* 123:2258-67 S '23

Über die methylierung der poly-amylosen (beiträge zur chemie der stärke). H. Pringsheim and W. Persch. *Deutsche Chem Gesell Ber* 54:3162-8 D '21

Methylbenzothiazolone

Studies in the benzothiazole series; thio-2-methylbenzothiazolone and its oxidation products. W. H. Mills. L. M. Clark and J. A. Aeschlimann. *Chem Soc J* 123:2362-70 S '23

Methylbutinenol

Synthetische versuche mit äthynyl-carbinolen; überführung von 3-methyl-butinol in 3-methyl-butenin, 3-methyl-butanol und dessen kondensationsprodukte. H. Scheibler and A. Fischer. *Deutsche Chem Gesell Ber* 55:2903-23 S '22; Abstract. *Chem Soc J* 122 pt 1:1108-10 D '22

Methylcatheline

Über den abbau des methyl-kakothelins und seine violette farbreaktion mit natriumsulfat; (über strychnos-alkaloide). H. Leuchs, B. Winkler and W. R. Leuchs. *Deutsche Chem Gesell Ber* 55:3936-50 D '22; Abstract. *Chem Soc J* 124 pt 1:133-5 F '23

Methylcyclopropylcarbinol

Über vinyl-cyclopropan, einige derivate des methyl-cyclopropyl-carbinols und die isomerisation des cyclopropan-ringes. N. J. Demjanow and M. Dojarenko. Deutsche Chem Gesell Ber 55:2718-27 S '22

Methyldiphenylamine

Action of methyl sulphate on diphenylamine and on methyldiphenylamine. C. S. Gibson and D. C. Vining. Chem Soc J 123:831-41 Ap '23

Methylene blue

Absorption of methylene-blue by cotton; effect of bleaching. C. Birtwell, D. A. Clibbens and B. P. Ridge. diag Textile Inst J 14:T297-313 S '23

Adsorption by activated sugar charcoal. F. E. Bartell and E. J. Miller. Am Chem Soc J 44:1866-80 S '22

Certified methylene blue for biochemical stains. Color Tr J 13:86-7 S '23

Notes on the manufacture of methylene blues. R. Sansone. diags Color Tr J 9:237-40; 10:6-10 D '21-Ja '22

Volumetric estimation of small amounts of phosphorus, using a standard solution of methylene blue. W. M. Thornton, jr. and H. L. Elderdice, jr. diag Am Chem Soc J 45:668-73 Mr '23

Methylenecyclobutane

Methylen-cyclo-butan und dimethyl-[cyclobutyl-methyl]-amin. N. J. Demjanow and M. Dojarenko. Deutsche Chem Gesell Ber 55:2727-30 S '22

Über das chlorhydrin und oxyd des methylen-cyclobutans und über die umwandlung des ersteren in cyclopentanon. N. J. Demjanow and M. Dojarenko. Deutsche Chem Gesell Ber 55:2730-7 S '22

Methylenediquinaldine

Some derivatives of methylenediquinaldine and their relationship to the carbocyanines. F. M. Hamer. Chem Soc J 123:246-59 F '23

Methylenequinones

Quinonemethides (methylenequinones) and pseudophenolhalogenides; abstract. H. Lindemann. Chem Soc J 124 pt 1:686-8 JI '23

Methylethyl ketone

Condensation products of methylethyl ketone. J. B. Ekeley and W. W. Howe. Am Chem Soc J 45:1917-25 Ag '23

Intermolecular condensation of methyl ethyl ketone in the presence of calcium carbide. O. Becker and J. F. Thorpe. Chem Soc J 121:1303-6 JI '22

Ketonic decomposition of methylethyl ketone. C. D. Hurd and C. Kocour. Am Chem Soc J 45:2167-70 S '23

Methylfructoside

γ -methylfructoside. R. C. Menzies. Chem Soc J 121:2238-47 O '22

Methylglutaric acids

Conditions underlying the formation of unsaturated and cyclic compounds from halogenated open-chain derivatives; products derived from α -halogenated β -methylglutaric acids. C. K. Ingold. Chem Soc J 121:2676-95 D '22

Methylglyoxaline

Bromo-derivatives of 4-methylglyoxaline. F. L. Pyman and G. M. Timmis. Chem Soc J 123:494-503 Mr '23

Bromo-derivatives of 2-methylglyoxaline. L. Light and F. L. Pyman. Chem Soc J 121:2626-30 N '22

Methylguanidine

Preparation of methylguanidine, and of $\beta\beta$ -dimethylguanidine by the inter-action of dicyanodiamide, and methylammonium and dimethylammonium chlorides respectively. E. A. Werner and J. Bell. Chem Soc J 121:1790-4 S '22

Methylmercuric acetate

Preparation of methylmercuric acetate and the isolation of methylmercuric hydroxide. M. C. Sneed and J. L. Maynard. Am Chem Soc J 44:2942-5 D '22

Methylmercuric hydroxide

Preparation of methylmercuric acetate and the isolation of methylmercuric hydroxide. M. C. Sneed and J. L. Maynard. Am Chem Soc J 44:2942-5 D '22

Methylnaphthalenes

Series of the methylnaphthalenes. F. Mayer and O. Schnecko. Chem Soc J 124 pt 1:773-4 Ag '23

Untersuchungen in der reihe des 2-methylnaphthalins. K. Fries and W. Lohmann. Deutsche Chem Gesell Ber 54:2912-24 N '21

Untersuchungen und ringschlüsse in der reihe der methyl-naphthaline. F. Mayer and others. Deutsche Chem Gesell Ber 55:1835-59 Je '22; Abstract. Chem Soc J 122 pt 1:740-4 Ag '22

Methylpiperidylethane

Über das 1-[α -N-methyl-piperidyl]-[äthan-1-on]. K. Hess and W. Corleis. Deutsche Chem Gesell Ber 54:3010-20 D '21

Methylstannonic acid

Derivatives of methylstannonic acid; their bearing upon its constitution. H. Lam-bourne. Chem Soc J 121:2533-40 N '22

Metol

Determination of para-amidophenol in the presence of metol. W. F. A. Ermen. Soc Chem Ind J (Chem & Ind) 42:538 Je 1 '23
Preparation of metol. W. F. A. Ermen. Soc Chem Ind J (Chem & Ind) 42:486-7 My 18 '23

Metric system

America and the metric system. Nation's Business 10:19-20 Mr '22

English-metric conversion chart. Power 58:370 S 4 '23

Friction factors in the metric system. W. S. Weeks. Eng & Min J 116:25 JI 7 '23

International metric system of weights and measures. U S Bur Stand misc pub 2:1-16 '22

Japan adopts metric system. Am Mach 55:785 N 10 '21

Mental inertia must be overcome to establish metric system. M. L. Staley. Elec W 79:633 Ap 1 '22

Metric system assailed as favoring minority. E. C. Peck. Am Mach 56:84b Ja 12 '22

Metric system bill a live issue; text of bill. Automotive Ind 45:1224 D 22 '21

Metric system for engineers. C. B. Clapham. 181p Dutton '22

Metric system in electrical industry. B. L. Newkirk. Elec W 81:1117-18 My 12 '23

Metric versus English system. Eng & Contr 56:426-7 N 2 '21

Metric versus the English system of weights and measures. (National industrial conference board, Research rep. no. 42) 261p Century co. '21; Digest, 11p The Board, 15 Beacon st., Boston; Review. L. D. Burlingame. Mech Eng 44:71-2 Ja '22

Metric weights and measures. H. Adams. Min & Sci P 123:665-6 N 12 '21

Metric weights and measures. S. B. Talmage. Min & Sci P 124:114 Ja 28 '22

Progress in metric standardization and list of technical firms which will hereafter purchase pure chemicals and chemical supplies as far as practicable in metric units. E. C. Bingham. J Ind & Eng Chem 14:332-4 Ap '22

Report of special committee of N.W.D.A. on metric weights and measures. Oil Paint & Drug Rep 104:25+ O 17 '23

Standardized method of translating inches to millimeters. Am Mach 56:710 My 11 '22

Summary of arguments in favor of further adoption of metric system. J Ind & Eng Chem 14:421 My '22

Systematic handling of dyestuffs in practice and the practical application of the metric system. W. F. Deady. Am Dyestuff Rep 12:322-5 Ap 23 '23

World metric standardization. A. Drury and others. 524p World metric standardization council, San Francisco, New York '22

See also Decimal system

Bibliography

Metric system. Special Lib 13:1-16 Ja '22

Metropolitan life insurance company

Annex to Metropolitan life insurance company building, New York city; views and drawings. *Am Arch* 121:472a-e, 473-6 *Je* 7 '22

Departure in housing finance. *J. T. Boyd, jr. diag plans Arch Rec* 52:132-42 *Ag* '22

Housing program of the Metropolitan life insurance co. *Arch Forum* 36:229-30 *Je* '22

Housing project of the Metropolitan life insurance company, il plans *Am Inst Arch J* 10:225-8 *Jl* '22; *Am Arch* 122:89-93 *Ag* 2 '22

Mammoth New York housing operation; Metropolitan life insurance company builds fifty tenement houses, il plans *Arch Forum* 37:29-30 *Jl* '22

Metropolitan life insurance co. annex, New York, il *Arch & Bldg* 53:85-6, pl 170-3 *N* '21

Why the Metropolitan life insurance company is using advertising. *A. E. Haase. Ptr Ink* 120:25-8 *Ag* 3 '22

Meuse river

Les travaux de canalisation de la Meuse néerlandaise; construction des bajoyers de la nouvelle écluse de Linne. *A. Bijls. il diag Génie Civil* 81:296-9 *S* 30 '22

See also Canals—Netherlands

Mexican petroleum company

Mexican petroleum earned \$44.06 a share in 9 months, report shows. *Nat Pet N* 14:47+ *N* 8 '22

Mexican seaboard oil company

Official statement to the New York stock exchange in connection with the listing of stock without nominal or par value. *Comm & Fin Chr* 115:319-22 *Jl* 15 '22

Mexicans

Mexican labor-contract, day's pay, and task. *W. W. Shelby. Eng & Min J* 114:587-8 *S* 30 '22

Mexico

When banditry and mechanics conspired. *S. M. Sutherland, il Pop Mech* 40:508-14 *O* '23

With death at the throttle in Mexico. *S. M. Sutherland, il Pop Mech* 40:834-9 *D* '23

See also Advertising—Mexico; Architecture—Mexico; Banks and banking—Mexico; Floods—Mexico; Geology—Mexico; Hydro-electric plants—Mexico; Paleontology—Mexico; Railroads—Mexico

Antiquities

City buried by volcano found in Mexico. *il Pop Mech* 40:232-3 *Ag* '23

Commerce

British trade with Mexico. *Engineer* 136:340 *S* 28 '23

Dry goods jobber's experiences in building trade in Mexico. *J. R. Sprague. Ptr Ink* 117:77-8+ *N* 17; 150+ *N* 24 '21

Trading with Mexico. *W. Thompson. 271p Dodd* '21

Economic conditions

Conditions in Mexico. *Min & Sci P* 124:299-300 *Mr* 4 '22

Mexican business situation. *Am Ind* 23:41-2 *Ag* '22

Oil industry awakens sleeping Mexican market. *W. C. Platt. Ptr Ink* 118:138+ *Mr* 23 '22

Recognition and Mexican trade. *Nation's Business* 11:23-5 *O* '23

Wages, standards of living, and unemployment in Mexico. *Monthly Labor R* 13:1050-1 *N* '21

See also Cost of living—Mexico; Debts, Public—Mexico; Taxation—Mexico

Foreign relations**United States**

Charges in Mexican chamber of deputies of censorship of affairs by U. S. denial by Secretary of state Hughes—text of proposed oil law. *Comm & Fin Chr* 115:2428-30 *D* 2 '22

Closing of Mexican consulate at New York.

Comm & Fin Chr 115:1888 *O* 28 '22

Commissioners representing United States and Mexico to further mutual understanding. *Comm & Fin Chr* 116:1839 *Ap* 28 '23

Mexico and the United States. *Am Ind* 24:40-1 *O* '23

Minister de la Huerta criticizes newspaper reports from Washington regarding international relations. *Comm & Fin Chr* 115:456-7 *Jl* 29 '22

Recognition and Mexican trade. *Nation's Business* 11:23-5 *O* '23

Reopening of Mexican consulate general's offices in New York. *Comm & Fin Chr* 115:1992-3 *N* 4 '22

Signing of conventions between United States and Mexico for adjustment of claims. *Comm & Fin Chr* 117:1309-10 *S* 22 '23

Industries and resources

Mining industry of Mexico: a historical sketch. *R. G. Cleland, il map Min & Sci P* 123:13-20, 638-45 *Jl* 2, *N* 5 '21

See also Automobile industry and trade—Mexico; Cotton manufacture—Mexico; Gold mines and mining—Mexico; Mines and mineral resources—Mexico; Petroleum—Mexico; Petroleum industry and trade—Mexico; Silver mines and mining—Mexico; Zinc mines and mining—Mexico

Law

Laws of Mexico affecting oil development. *R. H. Flamm. Eng & Min J* 112:823-4 *N* 19 '21

Mexican mining law under the new constitution of 1917. *D. A. Richardson. Eng & Min J* 113:525-7 *Ap* 1 '22

Recent Mexican mining decrees. *P. X. Stoffel. Eng & Min J* 116:451-2 *S* 15 '23

See also Petroleum laws and regulations—Mexico

Mexico City, Mexico**Antiquities**

Second Pompeii; remains of an ancient metropolis discovered beneath the cellars of Mexico City. *F. G. Jopp. il Sci Am* 126:114 *F* '22

Rapid transit

First report since 1914 submitted. *Elec Ry J* 60:924 *D* 9 '22

Meyer, Eugene, jr., 1875-

Mining men of note. *por Eng & Min J* 112:897 *D* 3 '21

Miami, Florida

Islands in the making. *il Sci Am* 128:310 *My* '23

Miami copper company

Facts for the stockholder. *Eng & Min J* 115:1134 *Je* 23 '23

Miami valley, Ohio

Appraisal of flood protection benefits and damages in the Miami valley. *Eng N* 89:831-5 *N* 16 '22

Relation of the flood control works of the Miami conservancy district to power development. *C. H. Paul, map Am Water Works Assn J* 10:431-8 *My* '23

Mianin. See Choramine—T

Mica

Dielectric constant of mica. *J. R. Weeks, jr. Phys R* 19:319-22 *Ap* '22

Geology and mining of mica. *J. V. Lewis, il Eng & Min J* 113:856-64 *My* 20 '22

Marketing of mica. *O. Bowles. Eng & Min J* 115:55-60 *Ja* 13 '23; Excerpts. *Elec W* 82:536-7 *S* 15 '23

Mica. *Min & Sci P* 124:336 *Mr* 11 '22

Mica clears radio tones of metallic sounds. *Pop Mech* 40:773 *N* '23

Mica deposits of Alabama. *G. H. Clark. (Alabama Geol. S. Bul. 24) 115p University, Ala.* '21

Mica deposits of the United States. *D. B. Sterrett, diag plans U S Geol S Bul* 740:1-333, pl 1-29 '23

Mica from South America. *K. Thomas. Eng & Min J* 114:276 *Ag* 12 '22

Mica—*Continued*

- Mica in 1921. B. H. Stoddard. U S Geol S Min Res of U S 1921, pt 2:77-82 '22
Mica industry during 1921 was below normal. Eng & Min J 113:669 Ap 22 '22
Mica industry of Argentina. Eng & Min J 113:361 Mr 4 '22; Same. Min & Sci P 124:92 Ja 21 '22

Properties and uses of micas; report of the British electrical and allied industries research association. Inst E E J 60:339-42 Mr '22; Same. Electrician 88:446-7 Ap 14 '22; Same cond. Elec R (Lond) 90:609 Ap 28 '22

Several methods used for separation of mica from feldspar. Eng & Min J 114:949 N 25 '22

Micarta

Effects produced by aging in synthetic resin molded products of the phenol-formaldehyde group. E. J. Casselman. Am Electrochem Soc Trans v 44 (preprint 14):153-9 S '23

Michael reaction

Reversibility of the Michael reaction. C. K. Ingold and W. J. Powell. Chem Soc J 119:1976-82 D '21

Ring-chain tautomerism; the occurrence of tautomerism of the three-carbon (glutaconic) type between a homocyclic compound and its unsaturated open-chain isomeric. C. K. Ingold, E. A. Perren and J. F. Thorpe. Chem Soc J 121:1765-89 S '22

Michell bearing. See Thrust bearings

Michigan

See Architecture, Domestic—Michigan; Hydroelectric plants—Michigan; Motor bus lines—Michigan; Roads—Michigan

Michigan Central railroad

Michigan Central earns \$12,818,271 after charges. Ry Age 75:163-4 J1 28 '23

Michigan Central reflects increasing prosperity. Ry Age 72:1493-4 Je 17 '22

76th annual report for year ended December, 1921. Ry Age 72:1511-13 Je 17 '22; Same. Comm & Fin Chr 114:2728-9 Je 17 '22

77th annual report, 1922. Comm & Fin Chr 117:450-2 J1 28 '23; Same cond. Ry Age 75:183-4 J1 28 '23

Michigan gas association fellowships

Michigan trains gas leaders. A. H. White. Gas Age 50:373-5 S 23 '22

Michigan United railways

Reorganization. Elec Ry J 60:992-3 D 23 '22

Michigan. University**Chemical engineering laboratory**

New chemical engineering laboratory at the University of Michigan. A. H. White. plans Ind & Eng Chem 15:643-4 Je '23

Transportation department

University of Michigan establishes department of transportation. Ry Age 73:836 N 4 '22; Ry R 71:687 N 11 '22

Michler's hydrol

Some condensation reactions with para-*para*-bis (dimethylamino)-benzohydrol (Michler's hydrol). M. T. Bogert and A. Ruderman. Am Chem Soc J 44:2612-21 N '22

Microbalance. See Balances

Microgag. See Gages

Micrography

See Microscopic engraving

Micro-incineration

Mikro-veraschung. A. Schoeller. Deutsche Chem Gesell Ber 55:2191-2 J1 '22

Micro-indicator. See Indicators

Micromanometer. See Manometers

Micrometers

Accurate internal micrometer. Il Sci Am 125A:138 D '21

Accurate measuring by the Bureau of standards. Am Mach 59:611 O 25 '23; Same. Eng & Contr (Bldgs) 60:839 O 24 '23

Application of the ultra-micrometer to the measurement of small increments of temperature. W. Sucksmith. diags Philos Mag 6th ser 43:223-6 Ja '22

B. & S. Rex micrometer. Il Am Mach 56:945 Je 22 '22

Inside micrometer for gaging cylinder. Il Iron Age 110:1282 N 16 '22

Jaques special micrometer. Il Am Mach 57:237 Ag 10 '22

Making a beam micrometer. diags l'op Mech 40:633-4 O '23

Measuring in millionths; the latest recording ultramicroscope. Il diag Sci Am 126:115 F '22

New paper micrometer for measuring the thickness of a sheet of paper under various measured pressures. Paper 30:16-17 Ap 12 '22

Pratt & Whitney super-micrometer. Il Am Mach 57:355 Ag 31 '22; Iron Age 110:535 Ag 31 '22; Iron Tr R 71:592 Ag 31 '22; Mach 29:68-9 S '22

Recording ultramicroscope; its principles and application. J. J. Dowling. diags Philos Mag 6th ser 46:81-100 J1 '23

Reed inside micrometer with height-gage attachment. Il Mach 28:1014 Ag '22

Study of commercial dial micrometers for measuring the thickness of paper. P. L. Houston and D. R. Miller. diags U S Bur Stand Tech Pa 226:125-52 '23; Abstract. J Fr Inst 195:700-2 My '23

Swivel arm micrometer holder. Sci Am 125A:139 D '21

Ultramicroscope used as a differential micromanometer. R. Whiddington and A. Hare. Philos Mag 6th ser 46:607-8 O '23

Microorganisms

Destructive effect of micro-organisms on raw cotton and cotton fabrics. D. Armistead and S. C. Harland. Textile Inst J 14:1157-60 Je '23; Same. Color Tr J 13:72-4 Ag '23; Abstract. Soc Dyers & Col J 39:307 O '23

Discussion on micro-organisms and their application to industry and research. Soc Chem Ind J 42:169-80 Ap 27 '23

Industrial applications of micro-organisms; symposium. Chem Age (Lond) 8:35-6 Ja 13 '23

Microbiology and theory of activated sludge. A. M. Buswell and H. L. Long. Am Water Works Assn J 10:309-21 Mr '23; Excerpts. Eng N 90:119-21 Ja 18 '23; Discussion. 90:742 Ap 26 '23

Microorganisms in the Baltimore water supply. J. R. Baylis. Am Water Works Assn J 9:712-30 S '22

See also Bacteriology; Protozoa; Thio-bacillus thiooxidans

Microphones

Diaphragmless microphone for radio broadcasting. P. Thomas. diags Am Inst E E J 42:219-22 Mr '23; Discussion. 42:979-81 S '23

Hot wire microphone and its applications to the problems of sound. W. S. Tucker. diags Engineer 134:600-1 D 8 '22; Abstracts. Engineering 114:749-50 D 15 '22; Elec R (Lond) 92:151-2 Ja 26 '23

Improving radio broadcasting. Il Sci Am 129:44 J1 '23

Magneto microphone at WGY reproduces true piano tones. Il Wireless Age 10:66 S '23

Resistance of a hot wire in an alternating air current. R. C. Richards. Philos Mag 6th ser 45:926-34 My '23

See also Thermophone

Microscope and microscopy

Analytical microscopy. T. E. Wallis. 149p [bibliog p 139-43] Longmans '23

Book of the microscope. A. F. Collins. 245p Appleton '23

Critical microscopy. A. C. Coles. 100p Van Nostrand '22

Determination of the fiber content of paper. E. O. Reed and R. R. Machmer. Paper Tr J 76:47-9 Ap 26 '23

Microscope and microscopy—Continued

Elementary chemical microscopy. E. M. Chamot. 2d ed. enl. 479p Wiley '21
Improved method for sectioning textiles. N. O. Howard and W. H. Snell. *diag Textile World* 63:747-8 F 3 '23; Same. *Am Dyestuff Rep* 12:202-4+ Mr 12 '23

Meaning and microscopic measurement of average particle size. G. St J. Perrott and S. P. Kinney. *il diags Am Cer Soc J* 6: 417-39 F '23

Microscope aids steel selection. E. C. Smith. *il Iron Tr R* 73:673-7+ S 6 '23

Microscope in the mantle industry. Gas J (Lond) 161:751 Mr 21 '23

Microscopic analysis of fabrics. L. A. Hausman. *Textile World* 62:1023+ Ag 19 '22

Microscopy of foods; a study of starch, the world's premier alimental substance. L. A. Hausman. *il diags Sci Am* 127:256-7 O '22

Microscopy of paint and rubber pigments. H. Green. *il Chem & Met Eng* 28:53-7 Ja 10 '23

Modern microscopy. M. I. Cross and M. J. Cole. 5th ed. rev. 315p Baillière, Tindall & Cox, London '22

Monster microscope to aid in detecting criminals. *il Pop Mech* 38:524 O '22

Recent development in the art of rubber microsectioning. H. Green. *il diags J Ind & Eng Chem* 13:1130-2 D '21

Solving metallurgical problems with the reflecting microscope. G. M. Schwartz. *Eng & Min J* 116:237-8 Ag 11 '23

Some applications of the microscope in research. H. Leffmann. *il J Fr Inst* 193:81-8 Ja '22

Uses of the microscope in paper mills. J. Strachan. *Paper* 31:7-10 N 8 '22; 7-10 Ja 17 '23

With eye-piece and camera; recent British developments in petrological and metallurgical microscopy and photography. A. A. Hopkins. *il Sci Am* 126:23-4 Ja '22

See also Metallography; Microtelescope; Photomicrography

Microscopic engraving

Writing for the microscopic eye. A. McEwen. *il Sci Am* 128:398 Je '23

Microseismograms

Analysis of microseismograms. J. B. Dale. *Philos Mag* 6th ser 43:463-71 Mr '22

Microtelescope

Davon microtelescope and supermicroscope. F. Davidson. *Mech Eng* 45:131 F '23

Middle classes

Return of the middle class. J. Corbin. 353p Scribner '22

Middle western states

Unrest in the Middle West; interview with George E. Roberts. S. Bent. *Nation's Business* 11:18-20 S '23

Middletown, Ohio

Impressions of Middletown. *Iron Age* 111:959-60 Ap 5 '23

Takes the mystery out of business. V. B. Guthrie. *Nat Pet N* 15:29 Ap 4 '23

Midgley, Thomas, jr.

Nichols medal awarded to Thomas Midgley, jr. *por Chem & Met Eng* 28:485-6 Mr 14 '23

Midvale company, Philadelphia

From claybank to steelworks. *Iron Tr R* 73: 605-9 Ag 30 '23

Midvale operations. *Iron Age* 111:1718 Je 14 '23

Midwest refining company

8th annual report for the year ending December 31, 1921. *Comm & Fin Chr* 114:2139 My 13 '22

General counsel of Midwest supplies information on marketing. *Nat Pet N* 14:47+ S 27 '22

Mifflin, Fort

Fort Mifflin. C. A. Ziegler. *il Am Arch* 121: 47-50 Ja 18 '22

Migration (chemistry). See Molecular rearrangements

Mildew

Destructive effect of micro-organisms on raw cotton and cotton fabrics. D. Arm-

stead and S. C. Harland. *Textile Inst J* 14:T157-60 Je '23; Same. *Color Tr J* 13: 72-4 Ag '23

Mildew in cotton; its cause and cure. P. Bean. *Textile Col* 45:180+ Mr '23; Same. *Textile World* 64:833+ Ag 11 '23

Miles acid process. See Sewage disposal—Miles acid process

Military aeronautics. See Aeronautics, Military

Military airplanes. See Airplanes, Military

Military architecture

See Armories

Military art and science

Principles of warfare, business, and engineering. R. Rainsford. *Eng Soc W Pa* 39:117-27; Discussion. 128-33 My '23

Tentative system of subject headings for the literature of military science. F. Rider, comp. 301p Cumulative digest corp., New York '22

See also Aeronautics, Military; Artillery; Chemical warfare; Disarmament; Gases in warfare; Naval art and science; Projectiles; Tractors, Military

Military bridges

Military engineering. v.3 307p Gt. Brit. War office, London '21

Military camps. See Camps, Military

Military engineering

See also Concrete construction, Military; Fortification

Study and teaching

Training officers in the Corps of engineers, U. S. army. L. H. Beach. *Eng N* 88:109 Ja 19 '22

Military explosives. See Explosives, Military

Military industries

Japan

Military industries of Japan. U. Kobayashi. 269p Oxford '22

Military lighting. See Light signals; Searchlights, Military

Military searchlights. See Searchlights, Military

Military tractors. See Tanks (military science); Tractors, Military

Milk

Milk and ice cream as fatty foods. J. Alexander. *Ind & Eng Chem* 15:254 Mr '23

Nation of milk producers and users. *diags Sci Am* 129:149 S '23

See also Cheese; Milk supply

For additional references consult Agricultural Index

Analysis

Dosage rapide de l'acide phosphorique. H. Co-paux. *Chimie & Ind* 10:43-4 Jl '23

Method of detecting biochemical reactions in various fluids by means of aniline dyes. E. W. Hammond. *Can Chem & Met* 6:58 Mr '22

Pipet for lactose determination in milk. E. G. Mahin. *diag Ind & Eng Chem* 15:943 S '23

Quantitative method for determination of peroxidase in milk. F. E. Rice and T. Han-zawa. *J Ind & Eng Chem* 14:201-2 Mr '22

Bacteriology

Meaning of grade A, grade B or grade C with reference to milk. *Sci Am* 129:391 Je '23

Preservation

Preservation of milk for beverage use. *Chem Age* 30:53 F '22

Sterilization

La pasteurisation du lait. M. H. van Laer. *il Chimie & Ind* 6:699-703 N '21

Pasteurisation of milk. J. Race. *Soc Chem Ind J (Chem & Ind)* 42:166-9 F 23 '23

Studies on the electropure process of treating milk. F. W. Robison. *il diags Ind & Eng Chem* 15:514-18 My '23

Milk—Continued**Transportation**

- Container car for milk shipments. *il diag*
 Ry R 71:777-9 D 2 '22
Handling milk in specially constructed tank cars. *il Ry Mech Eng* 95:763-4 D '21
 Milk car for freight or passenger train service. *il Ry R* 72:246 F 10 '23
Milk car for the Boston & Maine. *il Ry Age* 74:1450 Je 16 '23
 Milk-container car. *il Sci Am* 128:311 My '23
 6,000 gallon refrigerator-tank car for milk. *il plan Ry R* 73:61-5 Jl 14 '23
 Thermos cars and trucks transport milk. *il diag Pop Mech* 37:6-8 Ja '22
 Vacuum-bottle milk-car. *il Sci Am* 126:202 Mr '22

Milk, Condensed

- Are you profiting by the economies of electric operation? What the Carnation milk products company is doing. R. Sibley. *il J Elec* 47:469-70 D 15 '21

Milk, Evaporated

- Evaporating milk; patent. *Chem & Met Eng* 28:271 F 7 '23

Advertising

- Advertising whole milk, to sell evaporated milk. *Ptr Ink* 123:49-50+ Ap 12 '23

Milk, Filled

- Fats in the evaporated milk industry. H. F. Zoller. *Ind & Eng Chem* 15:278-9 Mr '23

Milk, Skimmed

- Skimmed milk made into articles of beauty. *il Pop Mech* 40:396 S '23

Milk bottles**Advertising**

- Winning dealer co-operation with moving posters. *Ptr Ink* 124:169-70 S 20 '23

Milk cans**Repair**

- Facilities for milk can repairing. *diags Sheet Metal Worker* 13:619 O 13 '22

Milk cars. See **Milk—Transportation****Milk drivers**

- Need for selling sense among semi-sales workers. *Ptr Ink* 117:41 N 17 '21

Milk river

- International division of St Mary and Milk rivers. *Eng N* 87:1052-3 D 29 '21

Milk supply

- Legislative and departmental interference with industry and the common weal. H. E. Armstrong. *Soc Chem Ind J (Chem & Ind)* 42:9-11 Ja '23

Milk trade

- Grocers made sole distributors for Meadow-gold milk. *Ptr Ink* 121:92 N 30 '22
 Merchant on wheels—teaching him how to sell. P. D. Fox. *Ptr Ink M* 4:25-6 Ap '22
 Report of the Federal trade commission on milk and milk products 1914-1918. 234p U.S. Federal trade commission, Washington '21

Advertising

- Lesson from New England on how to advertise a dairy product. C. Moran. *Ptr Ink* 122:113-14+ Mr 29 '23
 Multiplicity of campaigns to increase milk consumption. A. H. Uim. *Ptr Ink* 118:25-7+ Mr 16 '22
 Norfolk dairy company is converted to advertising. *il Ptr Ink* 119:28 Je 29 '22

See also **Milk, Evaporated—Advertising**

Mill construction. See **Building, Mill construction****Miller, Benjamin Leroy, 1874-**

- Sketch. *por Eng & Min J* 114:1060 D 16 '22

Miller, Willet G.

- Prominent Canadian mining geologist. *por Eng & Min J* 116:664 O 20 '23

Miller & Reeves, architects

- Domestic architecture by Miller & Reeves; illustrated from recent work at Columbus, Ohio. W. D. Smith. *il plans Arch Forum* 38:19-24, pl 15-16 Ja '23

Millikan, Robert A.

- Edison medal presented to Dr Robert A. Millikan. *Am Inst E E J* 42:1221-4 N '23

Milline

- Weighing the advertising message. B. Jefferson. *Ptr Ink* 124:17-20 Jl 12 '23

Milline chart

- How a Milline chart may lessen chances of a sales slump. B. Jefferson. *Ptr Ink* 123:25-8 My 31 '23

Millinery

- Modern millinery. H. B. Lyon. 200p Millinery trade pub. co., New York '22

Millinery industry

- Simplification put our sales in the \$1,000,000 class; Nemo hat company. L. L. Smith. *il System* 43:478-80+ Ap '23

Milling

- Art of milling in 1750. L. L. Thwing. *il diags Am Mach* 57:267-8 Ag 17 '22

- Face milling journal-boxes. R. Brainard. *il Am Mach* 59:304 Ag 23 '23

- Geared milling head for profile work. A. B. Bassoff. *diags Mach* 28:729-30 My '22

- High-speed lathe milling attachment. V. A. Vidgen. *diags Eng & Ind Management* 7:387 My 4 '22

- Initial milling operations speeded up. J. E. Schipper. *il Automotive Ind* 46:470-1 F 23 '22

- Internal thread milling tricks. J. V. Romig. *diags Am Mach* 58:163 Ja 25 '23

- Milling a curved surface with an end-mill. A. Dowel. *diag Mach* 28:994 Ag '22

- Milling a multi-threaded nut. R. D. Fox. *il Am Mach* 56:111-182 Ja 19 '22

- Milling an elliptical hole in a steel plate. G. A. Luers. *diag Mach* 29:945 Ag '23

- Milling automobile connecting-rods. C. Littlemann. *il diags Mach* 29:133-5 F '23

- Milling cams for a textile machine. *il Mach* 29:555 Mr '23

- Milling clearance on combination center drills. K. J. Bogardus. *diags Am Mach* 56:545 O 5 '22

- Milling connecting-rods. R. Mawson. *il Mach* 29:142 O '22

- Milling forty driving-box wedges in eight hours. F. H. Colvin. *il diags Am Mach* 59:183-4 Ag 2 '23

- Milling hexagon shapes. F. M. Weston, jr. *diags Am Mach* 59:526 O 4 '23

- Milling locomotive main rods. *il Mach* 29:98-101 O '22

- Milling locomotive side-rods. *il Mach* 29:385-7 Ja '23

- Milling of screws and other problems in the theory of screw-threads. H. H. Jeffcott. *Engineering* 113:441-2; Discussion. 412-14 Ap 7 '22; Discussion. *Engineer* 133:392-3 Ap 7 '22

- Milling pedestal jaws. *il Elec Ry J* 60:79-80 Jl 15 '22

- Milling pipe threads. J. D. Spalding. *il diags Mach* 29:634-7 Ap '23

- Milling profile of small internal cams. C. S. Culver. *diags Mach* 29:56 S '22

- Milling shifter fork trunnions. A. H. Schwab. *diags Mach* 28:614 Ap '22

- Milling tapered wedge keys with an automatic hacksawing machine. H. Flower. *il diags Am Mach* 56:749 My 18 '22

- On the art of milling. J. Airey and C. J. Oxford. *diags Am Mach* 55:924-9, 969-76 D 8-15 '21; Same cond. *Mech Eng* 43:783-9+ D '21; Same cond. *Ry Mech Eng* 96:97-100 F '22

- Reducing costs by continuous milling. *il Mach* 28:369-70 Ja '22

- Tool for milling hexagons on valves. *il diag Iron Age* 112:202 Jl 26 '23

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- Chart for calculating speeds and feeds of solid and inserted-blade milling cutters. F. W. Curtis. *Am Mach* 59:472 S 27 '23

- Chip formation by milling cutters. C. F. Roby. *il Mech Eng* 45:586 O '23

Milling cutters—Continued

- Effect of variations in design of milling cutters on power requirements and capacity. B: P. Graves and J. A. Hall. *Mech Eng* 45:155-8+ Mr '23; Discussion. 45:267 Ap '23
- Finding spiral angle of milling cutter. C. A. Macready. *diag Mach* 28:988 Ag '22
- Formed milling cutters and hobs with top and side rake. H. E. Harris. *diags Mach* 28:527-8 Mr '22
- Geometric milling tool. *il diag Am Mach* 59: 72 J1 12 '23
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- Inexpensive formed milling cutter. G. C. Hanneman. *diags Mach* 29:115 O '22
- Inserted blade cutter of exacting requirements. M. Wright. *il Am Mach* 57:387 S 7 '22
- Interchangeable counterboring, spot facing and end milling cutters. *il Engineer* 133:580 My 26 '22
- Multi-cutting tool arrangements. J. Horner. *diags Engineering* 115:673-5 Je 1 '23
- On the art of milling. J. Airey and C. J. Oxford. *diags Am Mach* 55:924-9, 969-76 D 8-15 '21; Same cond. *Mech Eng* 43:783-9+ D '21; Same cond. *Ry Mech Eng* 96: 97-100 F '22
- Performance of high-speed cutting tools. J. Strauss. *il Iron Age* 111:1103+ Ap 19 '23
- Power required for cutting metal. F. A. Parsons. *diags Mech Eng* 45:35-41 Ja '23; Summary. *Mach* 29:500 F '23
- Stellite cutters for milling. C. W. Metzger. *il diags Mach* 29:589-93, 717-20 Ap-May '23
- Thread milling cutters and hobs. A. Nugent. *diags Am Mach* 57:934 D 14 '22
- Unusual gang of interchangeable milling cutters. *il diags Ry Mech Eng* 97:382 Je '23
- Use and abuse of milling cutters. H. S. Steele. *Am Mach* 59:383 S 6 '23
- West inserted-tooth milling cutters. *il Am Mach* 57:162 J1 27 '22
- Ward interlocking milling cutters. *il Am Mach* 57:710 N 2 '22

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Milling machines

- Adjusting milling machines for high speeds. C. W. Metzger. *diags Mach* 29:972-3 Ag '23
- Aligning and inspecting Cleveland milling machines. *il Mach* 28:866-9 J1 '22
- Billings & Spencer die-milling machine. *il Am Mach* 56:942 Je 22 '22; *Iron Age* 109: 1594 Je 8 '22; *Mach* 28:832 Je '22
- Brown & Sharpe automatic milling machine. *il Iron Age* 111:889-90 Mr 29 '23; *Am Mach* 58:602-3 Ap 19 '23; *Automotive Ind* 48:758 Ap 5 '23
- Center-aligning device for Lincoln milling machine. W. C. Adams. *diag Am Mach* 59: 487 S 27 '23
- Cincinnati Acme duplex valve milling machine. *il Am Mach* 57:863 N 30 '22
- Cincinnati 48-inch worm-driven automatic milling machine. *il Am Mach* 58:645-8 My 3 '23
- Continuous milling fixture for spring shackles. G. H. Simon. *diag Am Mach* 59:63 J1 12 '23
- Design of the Cleveland milling machine. *il diags Mach* 28:373-6 Ja '22
- Double-headed milling machine for scarfing plates. *il diags Engineer* 135:418 Ap 20 '23
- Duplex valve stem milling machine. *il Iron Age* 109:484 F 16 '22
- Étude expérimentale des meilleures conditions de travail de la fraiseuse verticale. N. Sawine. *diags Génie Civil* 82:545-7 Je 9 '23
- General-purpose milling fixtures. A. J. Cayouette. *diags Mach* 28:564-6 Mr '22
- Ingersoll adjustable rotary milling machine. *il Ry Mech Eng* 96:227-9 Ap '22
- Milling attachment for engine lathe. J. V. Romig. *diag Mach* 30:60 S '23
- Milling machine for copper firebox plates. *il diags Engineer* 135:478-9 My 4 '23
- Multi-cutting tool arrangements. J. Horner. *il plans Engineering* 115:731-4, pl 45 Je 15 '23

- New automatic manufacturing type milling machine. *il diags Mach* 29:519-22 Mr '23
- Newton continuous milling machine for milling small automotive parts. *il Automotive Ind* 47:277 Ag 10 '22
- Newton model C-76 four-spindle knee-type milling machine. *il Am Mach* 57:505 S 28 '22
- Newton planer type milling machines. *il Iron Age* 111:1836 Je 28 '23
- Newton 30-in. continuous milling machine. *il Am Mach* 56:983 Je 29 '22; *Iron Age* 109: 1741 Je 22 '22
- P. & W. semi-automatic milling machine becomes full automatic. E. Sheldon. *il Am Mach* 57:856-7 N 30 '22
- Pawling & Harnischfeger table-type horizontal boring, drilling and milling machine. *il Iron Age* 109:1827 Je 29 '22; *Am Mach* 57: 31-2 J1 6 '22; *Mach* 28:917-18 J1 '22
- Planer type milling machine makes record. J. Martin. *il diags Ry Mech Eng* 95:766-8 D '21
- Production milling. E. K. Hammond. 278p Industrial press, New York '21
- Radius milling fixture. F. Server. *diags Mach* 29:979 Ag '23
- Robbins profiling and milling machine. *il Am Mach* 57:236 Ag 10 '22
- Rockford no. 3 high-power all-gearied milling machine. *il Am Mach* 57:159 J1 27 '22; *Iron Age* 110:203-4 J1 27 '22; *Mach* 28:1012-13 Ag '22
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- Standard automatic milling machine. *il Am Mach* 57:904 D 7 '22
- Superior duplex hand milling machine. *il Iron Age* 109:584 Mr 2 '22
- T-slot milling machine. *il Iron Age* 112:740 S 20 '23
- Transmission case milling fixture. W. Owen. *diags Mach* 29:140 O '22
- Treatise on milling and milling machines. 441p Cincinnati milling machine co., Cincinnati, O. '22
- Two-way milling fixture. C. J. Dorer. *il diag plan Mach* 29:540-1 Mr '23
- See also* Gear cutting machines; Machine tools; Milling cutters

Manufacture

- Beaman & Smith manufacturing planer-type milling machines. *il Am Mach* 56:114 Ja 19 '22
- Manufacturing operations on milling machines. R. Mawson. *il diags Am Mach* 55: 996-7 D 22 '21
- Some grinding operations on the Brown & Sharpe milling machine spindle. M. Wright. *il Am Mach* 58:173-7 F 1 '23

Milling of ores. *See* Ore treatment

Milwaukee, Wisconsin

- Milwaukee city planning. *plan Pub Works* 52:192-3 Mr 18 '22
- See also* Electric plants (central stations) —Milwaukee

Bridges

- North avenue viaduct, Milwaukee. *il diags Pub Works* 52:97-100, 277-80, 303 F 11, Ap 22-29 '22

Public library

- Taking the library to a convention. F. Olcott. *il Special Lib* 13:161-5 N '22

Rapid transit

- Purchase contract terms drawn. F. W. Luenning. *Elec Ry J* 62:152-3 J1 28 '23
- Trackless trolley franchise is sought in Milwaukee. *Wis. Elec Ry J* 59:166 Ja 28 '22

Sanitary affairs

- American chemical society impressed by Milwaukee's technical progress. *il Chem & Met Eng* 29:571-4 S 24 '23

Water supply

- Linwood avenue tunnel, Milwaukee water works. *il Pub Works* 51:407-10 N 26 '21

Milwaukee electric railway & light company
Net up 11.51 per cent. Elec Ry J 61:195 Mr
17 '23

Mine accidents

Accident prevention at the Calumet & Arizona mines and smelter. A. W. Allen. diags
Min & Sci P 124:227-31 F 18 '22

Accident prevention by the United States
Bureau of mines. H. F. Bain. Int Labour
R 5:723-30 My '22

Accidents in metal mines. H. F. Lunt. Min
& Sci P 124:117-18 Ja 28 '22

Accidents in mineral industry in 1921. Eng
& Contr (Ry) 58:92 N 15 '22

Anaconda accidents and fatalities. J. L.
Boardman. Min & Met 189:33-4 S '22

Better trained workmen are necessary to
reduce mine accidents. C. A. Allen. Safety
Eng 43:209-12 My '22; Abstract. Min & Met
185:32-3 My '22

Influence of bad habits in mine safety. C. L.
Coburn. Il Nat Safety N 7:35 F '23

Iron-mine accidents in the United States, in
1920. Monthly Labor R 13:1105-6 N '21

Metal-mine accidents in the United States
during the calendar year 1920. W. W.
Adams. U S Bur Mines Tech Pa 299:1-98
'22

Metal-mine accidents in the United States
during the calendar year 1921. W. W.
Adams. U S Bur Mines Tech Pa 331:1-96
'23

Responsibility for the Argonaut disaster. P.
E. Barbour. Min & Met 190:3-4 O '22

See also Blasting—Safety devices and
measures; Coal mines and mining—Acci-
dents and explosions; Coal mines and min-
ing—Safety measures; Firedamp; Mine fires;
Mine rescue work; Mine subsidences; Min-
ing engineering—Safety measures; Safety
lamps

Mine accounting

Accounting for depletion and dividends of min-
ing companies. H. B. Fernald. 24p H: B.
Fernald, 54 Wall St., New York

Accounting for depletion of minerals. M.
Bailey. J Account 33:187-95 Mr '22

How should depletion and depreciation be
charged? T. O. McGrath. Eng & Min J 113:
993 Je 10 '22

How should depletion and depreciation be
charged? J. H. Vivian. Eng & Min J 114:
444-5 S 9 '22

Some problems in mine accounting. G. E. H.
Goodner. Eng & Min J 114:145-7 J1 22 '22

Stope cost records and mine contracts of the
Anaconda copper mining co.; abstract. C. L.
Berrien. Min & Met 182:54-5 F '22

See also Mine valuation

Mine air

Air for the miners. Sci Am 126:231 Ap '22

Is the mixture explosive? the depletion of
oxygen, in a mixture of air and inflam-
mable gas. Coal Age 21:455-6 Mr 16 '22

Mine refrigeration: air-cooling plant installed
at the Morro Velho mine, Brazil; abstracts.
E. Davies. diags Refrig W 58:23-4 F '23;
Mech Eng 44:832 D '22

Refrigeration in mines; a notable air-cooling
plant in Brazil. Refrig Eng 9:135-6 O '22

Underground ventilation at Butte. D. Har-
rington. U S Bur Mines Bul 204:1-131 pl 1-3
'23; Abstract. Engineering 116:405-7 S 28 '23

When mines are moistened by steam it may
be necessary to do it split by split. F. C.
Cornet. diags Coal Age 22:169-70 Ag 3 '22;
Discussion. 22:497-8, 921, 1000-1, 1043-4 S
28, D 7, 21-28 '22

See also Mine gases; Mine ventilation

Mine buildings

Concrete for mines and mine buildings. B. G.
Best. Il diags plans Concrete 20:69-70, 117-
20 F-Mr '22

See also Concrete construction in mines;
Mine shaft houses; Mine shops; Mine
stables; Miners' houses; Powder houses

Mine cages. *See* Mine hoisting

Mine cars

Calculating the capacity of mine cars. diags
Coal Age 21:968-9 Je 8 '22

Changes in design of mine cars made nec-
essary by the substitution of mechanical
for animal haulage. G. M. Gillette and J.
W. Reed. Il Coal Age 24:655-7 N 1 '23

Cutting derailin at costs by suitable precau-
tions. A. F. Brosky. Il diags Coal Age 23:
251-6 F 8 '23

Eight-ton cars will be built for mines. Il
diags Coal Age 22:580-1 O 12 '22

How roller-bearing wheels reduce operating
costs. P. B. Liebermann. Coal Age 23:
1004-6 Je 21 '23

Huntington show suggests modern ways of
reducing coal cost; typical West Virginia
mine cars. Il diags Coal Age 22:629-30 O
19 '22

Improved automatic mine car. L. S. Farnham.
Il Eng & Min J 113:633-4 Ap 15 '22

Improved mine car of the La Follette coal
and iron co. decreases cost. L. C. Crewe.
diags plans Coal Age 22:704-6 N 2 '22

Locking car on self-dumping cage. Coal Age
22:761 N 9 '22

Mine car axle and bearings. H. A. Sutcliffe.
diags Eng & Min J 113:494 Mr 25 '22

Mine car stops on grade if hoist rope breaks.
G. F. Paul. Il Pop Mech 39:27-8 Ja '23

Safety man car which will not run away on
a steep incline when rope is severed. Il
diags Coal Age 22:286-7 Ag 24 '22

Self-dumping cars traveling on loop track aid
slate disposal and coal discharge. A. F.
Brosky. Il Coal Age 21:651-3 Ap 20 '22

Self-dumping gable-bottom mine-refuse car
builds its own inclined track. A. F. Brosky.
Il diags Coal Age 22:89-91 J1 20 '22; Same.
Ind Management (Lond) 8:198-9, 233 Q 5-19
'22

Track block prevents runaway mine cars.
A. F. Brosky. Il diags Coal Age 24:78 J1 12
'23

Varying track gage and bearings would not
prevent standardizing the mine-car run-
ning gear. F. H. Cadmus. diags Coal Age
21:525-7 Mr 30 '22

Weight saved and stiffness added to cars by
use of pressed steel units. Il Coal Age 22:92-3
J1 20 '22

See also Car couplings; Dump cars; Mine
haulage

Mine construction

Driving a 1,200-ft. waste-pass; San Luis
Potosi, Mexico. C: F. Williams. Il diags
Eng & Min J 116:227-9 Ag 11 '23

See also Concrete construction in mines;
Mine buildings; Mine doors; Mine roofs;
Mine shafts; Mine timbering; Mine tipples

Mine crossheads

Improved safety crosshead for bucket shafts.
H. F. Lunt. diags Eng & Min J 115:851-2
My 12 '23

Mine doors

Mechanically operated air door. T. A. Miller.
plan Eng & Min J 114:376 Ag 26 '22

Mine doors and safety. G: Edwards. Coal
Age 23:760-1 My 10 '23

Mine doors, their construction and use. Eng
& Min J 115:541 Mr 24 '23

Mine drainage

Siphon problem in mine drainage. diags Coal
Age 23:864-5 My 24 '23

See also Mine pumping; Mine water

Mine dust

See Coal dust; Mine air

Mine equipment

Mine machinery exhibits at American mining
congress convention in Cleveland. Eng &
Min J 114:747-8 O 21 '22

Operation and maintenance of electrical equip-
ment approved for permissibility by the
Bureau of mines. L. C. Isley. U S Bur
Mines Tech Pa 306:1-23 '22

Permissible explosives, mining equipment and
apparatus approved prior to January 1,
1923. S. P. Howell and others. U S Bur
Mines Tech Pa 333:1-22 '23

Mine equipment—Continued

What the exhibitors had to show at American mining congress and National safety council. *il* diag Coal Age 24:590-2 O 18 '23

See also Electricity in mining; Fans, Mine; Mine cars; Mine doors; Mine hoisting; Mining machinery

Mine examination

Methods of estimating ore on the Gogebic range. J. F. Wolff. *Min & Met* 189:45-6 S '22

Sampling and estimating Lake Superior iron ores. J. F. Wolff, E. L. Derby and W. A. Cole. *Min & Met* 189:41-5 S '22

Titles in mine examination. J. Underhill. *Eng & Min J* 114:1151-2 D 30 '22

See also Mine reports; Mine surveying; Mine valuation; Prospecting

Mine explosions

See Coal mines and mining—Accidents and explosions; Coal mines and mining—Safety measures; Mine accidents; Mine fires; Mine gases

Mine fans. *See* Fans, Mine

Mine firebosses

Alabama firebosses' examination, Birmingham, Jan. 25-28, 1922. *Coal Age* 21:539, 579 Mr 30-Ap 6 '22

Alabama firebosses' examination, Birmingham, Jan. 22, 1923. *Coal Age* 24:184 Ag 2 '23

Annual bituminous examinations, Pa. foremen and firebosses. *Coal Age* 24:256, 292 Ag 16-23 '23

Dangers to which mine examiners are daily exposed. D. A. Young. *Coal Age* 21:577-8 Ap 6 '22

Examination for mine examiners, Springfield, Ill., Mar. 19, 1923. *Coal Age* 23:981, 1019 Je 14-21 '23

Fireboss's marks. *Coal Age* 21:538-9, 782-3, 1091-2, 22:135-6 Mr 30, My 11, Je 29, Jl 27 '22

Illinois mine examiners' examination, Springfield, May 2-3, 1921. *Coal Age* 20:727 N 3 '21

Indiana mine bosses' examination, Indianapolis, 1922. *Coal Age* 22:595, 639 O 12-19 '22

Indiana mine firebosses' examination, Indianapolis, Oct. 1, 1921. *Coal Age* 21:252 F 9 '22

Mine foremen's and firebosses' examination, Charleston, W. Va.—1921. *Coal Age* 21:173 Ja 26 '22

Responsibilities in firebossing. *Coal Age* 22:171 Ag 3 '22

Mine fires

Anthraxite inspectors discuss blasting, electrical and mine fire dangers. *Coal Age* 21:15 Ja 5 '22

Apparatus men load out heated material from a mine fire in a cooling current of oxygen-depleted air. C. A. Allen and A. C. Watts. *il* *Coal Age* 21:479-83 Mr 23 '22

Argonaut disaster. T. A. Rickard. *diag Eng & Min J* 114:577-8, 620, 664 S 30-O 14 '22; Discussion. 114:885, 1021; 115:4 N 18, D 9 '22, Ja 6 '23

Argonaut mine disaster. *diag Eng N* 89:734-5 N 2 '22

California mine safety organization. L. H. Eddy. *Eng & Min J* 114:754-5 O 28 '22

Can mine fires be successfully fought by the aid of cooled boiler gases? J. J. Walsh. *diags Coal Age* 21:328-9 F 23 '22

Carbon dioxide succeeds in fighting Bitner mine fire when the flooding of the workings fails. C. L. Jones. *il* *plan Coal Age* 24:3-10, 132-4 Jl 5, 26 '23

Chemical engineer's part in the rescue work at the Argonaut mine disaster. L. H. Duschak. *il* *Chem & Met Eng* 28:349-50 F 21 '23

Committee recommends fire-control measures. *Eng & Min J* 114:914-15 N 18 '22

Difficulties of fighting mine fires. R. J. Duncan. *Eng & Min J* 114:1149-50 D 30 '22

Discussion of measures for preventing and fighting fires in metal mine workings. C. A. Mitke. *Eng & Min J* 115:309-13 F 17 '23

Erection of barricades during mine fires or after explosions. J. W. Paul, B. O. Pickard and M. W. von Bernewitz. *il* *diags U S Bur Mines Circ* 25:1-28, pl 1-3 '23; Excerpts. *Safety Eng* 46:248-9 N '23

L'exploitation des mines à feux. Génie Civil 81:93-5 Jl 22 '22

Extinguishing mine fires. G. D. Miller. *Eng & Min J* 114:1150 D 30 '22

Fighting mine fires with carbon dioxide. R. Hamilton. *plan Coal Age* 24:440 S 20 '23

Finding of forty-seven bodies ends twenty-two day rescue effort at Argonaut mine. *Eng & Min J* 114:557-8 S 23 '22

Fire on a heavily timbered mine parting. *Coal Age* 21:701 Ap 27 '22

Fire prevention and fighting in metal mines. H. M. Wolfkin. *Min & Met* 182:25-6 F '22

Fire prevention in the Sunday Lake mine. S. Royce. *Eng & Min J* 114:934-5 N 25 '22

Fires in steeply pitching Southern anthracite beds are fought with silt and water and by sealing. J. B. Warriner. *diags plan Coal Age* 21:645-7 Ap 20 '22

Hazard of fire underground. T. A. Rickard. *Eng & Min J* 114:884 N 18 '22

Heat from steam pipe of pump ignites coal in slope at Springhill, Nova Scotia; how fire is extinguished. J. C. Nicholson. *Coal Age* 20:711-13 N 3 '21

Heroic rescue attempt by Argonaut miners. *il* *diag Pop Mech* 35:682-3 N '22

In Utah outcrop fires, wants in coal seam and sluffing ribs present unusual and difficult mine problems. J. B. Forrester. *maps Coal Age* 20:1044-6 D 29 '21

Lessons from the Granite Mountain shaft fire, Butte, D. Harrington. *U S Bur Mines Bul* 188:1-50, pl 1-5 '22

Metal-mine fires. D. Harrington, B. O. Pickard and H. M. Wolfkin. *Eng & Min J* 114:937-41 N 25 '22

Metal-mine fires. D. Harrington, B. O. Pickard and H. M. Wolfkin. *U S Bur Mines Tech Pa* 314:1-20, pl 1-7 '23

Method of cutting off mine fire by trenching. *il* *Eng & Contr (Ry)* 60:627-8 S 19 '23; Same. *Coal Age* 24:622 O 25 '23

Mine-fire control safety orders issued in California. *Eng & Min J* 115:548-9 Mr 24 '23

Mine-fire regulations. T. A. Rickard. *Eng & Min J* 115:524 Mr 24 '23

Mine fires and hydraulic filling; abstract. H. J. Rahilly. *Min & Met* 182:41-2 F '22

Mining under fire conditions. W. G. Scott and S. A. Mewhirer. *diags Eng & Min J* 116:101-6 Jl 21 '23

Putting out a mine fire in a big anthracite shaft. D. C. Ashmead. *il* *diags Coal Age* 21:613-16 Ap 13 '22

Red Ash co.'s mine fire, thought to be slushed out, blazes up, threatening near-by properties. D. C. Ashmead. *il* *map Coal Age* 21:769-72 My 11 '22

Rescue work at Argonaut mine fire of 1922. B. O. Pickard. *diags Min & Met* 191:27-34 N '22

Safety in mines in California. *Monthly Labor R* 16:816-17 Ap '23

Should high pressure and small volumes be used in underground fire fighting and how? B. F. Tillson. *diags Coal Age* 23:595-600 Ap 12 '23

Underground fire prevention by the Anaconda copper mining co.; abstract. E. M. Norris. *plan Min & Met* 182:37-8 F '22

What can be done to prevent electrical mine fires. *Coal Age* 22:994-6 D 21 '22

See also Firedamp; Mine accidents; Mine gases; Safety lamps

Mine floods

Flooding prevents operation of slope mine. *Coal Age* 24:291, 439, 671-2 Ag 23, S 20, N 1 '23

Mine foremen

Alabama examination, Birmingham, Jan. 22, 1923. *Coal Age* 23:647, 723, 763 Ap 19, My 3-10 '23

Alabama mine foremen's examination, Birmingham, July 24-27, 1922. *diags Coal Age* 22:329, 366, 416 Ag 31-S 14 '22

Mine foremen—Continued

- Alabama mine foremen's examination (first class), Birmingham, July 23, 1923. Coal Age 24:562 O 11 '23
- Alabama second-class examination, Birmingham, July 23-28, 1922. Coal Age 21:495 Mr 23 '22
- Analyzing the foremen. J. Thompson. Coal Age 22:365 S 7 '22
- Anthrarcite foremen and assistant foremen examination, fifteenth and sixteenth districts. Coal Age 21:743, 785, 848, 887 My 4-25 '22
- Anthrarcite foremen's examination, districts 3-7 incl., 1923. Coal Age 24:328, 366 Ag 30-S 6 '23
- Anthrarcite foremen's examination, districts 8-14, incl., 1923. Coal Age 24:406, 442 S 13-20 '23
- Bituminous examinations, Pa. foremen and firebosses. Coal Age 24:256, 292 Ag 16-23 '23
- Bituminous (Pa.) mine foremen's examination held April 11-13, 1922. Coal Age 22:98, 137 JI 20-27 '22
- Examination for mine foremen, Olympia, Wash., Aug. 1, 1923. Coal Age 24:600, 638, 674 O 18-N 1 '23
- Foreman supreme in the mine. J. W. Jones. Coal Age 21:1051-2 Je 22 '22
- How vagaries of foremen affect cost of production. J. Thompson. Coal Age 21:333-4 F 23 '22
- Is the game worth the candle; qualities of the successful foreman. Coal Age 22:19-20 JI 6 '22
- Kentucky mine foremen's examination, Lexington, May 30, 1922. Coal Age 22:174, 212, 678 Ag 3-10, O 26 '22
- Mine foremen's examination, Lexington, Ky., 1922. Coal Age 23:305, 342 F 15-22 '23
- Mine foremen's qualifications required in different coal-producing states. Coal Age 21:847-8 My 18 '22
- Securing capable mine officials greatest factor in safety. T. Allen. Coal Age 23:824-5 My 17 '23
- Tennessee mine foremen's examination held at Knoxville, Oct. 18-20, 1921. Coal Age 20:929, 969 D 8-15 '21
- Tennessee mine foremen's examination, Knoxville, May 30-June 1, 1922. Coal Age 21:1094 Je 29 '22
- West Virginia mine foremen's and firebosses' examination, Charleston, 1921. Coal Age 21:173 Ja 26 '22
- West Virginia mine foremen's and firebosses' examination, Charleston, 1922. Coal Age 23:227 F 1 '23

See also Mine management**Mine gases**

- Automatic gas sampler for mine explosions. il Pop Mech 37:530 Ap '22
- Chemical engineer's part in the rescue work at the Argonaut mine disaster. L. H. Duschak. il Chem & Met Eng 28:349-50 F 21 '23
- Effect of rise and fall of barometer on the escape of gas in mines. Coal Age 21:928-9 Je 1 '22
- Explosibility of gaseous mixtures. M. Suter. Coal Age 22:364-5 S 7 '22
- Hot high-nitrogen gas in a metal mine. Sci Am 126:45 Ja '22; Same cond. Min & Sci P 123:788 D 3 '21
- Making a test for gas in a room. diag Coal Age 23:531-2 Mr 29 '23
- Percentage of gas estimated from volume generated per ton of coal mined. Coal Age 22:60-1 JI 13 '22
- See also** Blackdamp; Carbon monoxide; Firedamp; Mine ventilation

Mine gases as fuel

- Estimating calorific value of mine feeder gas. Coal Age 22:328-9 Ag 31 '22

Mine haulage

- Belting to revolutionize mining methods. Coal Age 23:593-4 Ap 12 '23
- Cambria steel co. drops coal down well, loads it at bottom and hauls it to ovens. G. A. Richardson. il diags plans Coal Age 22:313-17 Ag 31 '22
- Chain grip for rope haulage. diag Eng & Min J 114:636 O 7 '22

- Continuous car supply in rooms. F. C. Cornet. diag Coal Age 22:720 N 2 '22
- Dispatching of mine cars at the rolling mill mine. G. A. Richardson. il Coal Age 23:333-4 F 22 '23
- Electric bell trapper for partings. C. Rowe. diag Coal Age 22:1030-1 D 28 '22
- Enlisting the turntable in mechanical coal loading. E. N. Zern. diags Coal Age 22:283-5 Ag 24 '22
- Estimating equipment for engine-plane haulage. Coal Age 22:499-500 S 28 '22
- Estimating number of cars needed to operate mine. Coal Age 22:173 Ag 3 '22
- Examples of successful gravity planes. plan Coal Age 22:592 O 12 '22
- Gathering without animals, locomotives or conveyors. F. C. Cornet. diags Coal Age 23:631-3 Ap 19 '23
- Handling ore in mines of Butte district; abstract. H. R. Tunnell. Min & Met 182:45-6 F '22
- Haulage arrangements in pitching seams. C. M. Schloss. Coal Age 21:926 Je 1 '22
- Kinds of haulage and cutting machines in coal mines of United States in 1921; abstracts. W. W. Adams. Coal Age 21:1018 Je 15 '22; Eng & Contr 57:589 Je 21 '22
- La méthode des longues tailles à transporteurs, dans les veines minces en plateau. M. Berthoud. Génie Civil 83:257-8 S 15 '23
- Mule haulage in metal mines. W. F. Boericke. Eng & Min J 112:853-5 N 26 '21
- Owl Creek coal co., at Gebu, Wyoming, mines steeply pitching bed by rooms driven on the strike. C. M. Schloss. il diags plan Coal Age 21:439-42 Mr 16 '22
- Reporting delays lowers production costs. G. Edwards. Coal Age 22:790 N 16 '22
- Rope haulage in slopes of variable grades. Coal Age 20:768-9 N 10 '21
- Safer and more economical methods in mine haulage. A. F. Brosky. il diags Coal Age 23:209-12 F 1 '23
- Self-acting gravity plane. diag Coal Age 22:211-12 Ag 10 '22
- Speed in locomotive haulage in mines. Coal Age 21:494, 884-5 Mr 23, My 25 '22
- Study of coal mine haulage in Illinois, including cost tables. H. H. Stoeck, J. R. Fleming and A. J. Hoskin. il diags maps Ill U Eng Exp Sta Bul 132:1-134 '22; Abstract. Engineering 115:49 Ja 12 '23
- Value of the aerial ropeway in mining. Ind Management (Lond) 8:387-8 D 28 '22
- Wire rope is tough, but faulty installation and careless operation quickly destroy it. J. F. Howe. il Coal Age 22:825-8 N 23 '22
- Wiring a mine for locomotive haulage. C. M. Schloss. diag Coal Age 20:926-7 D 8 '21
- See also** Locomotives, Mine; Mine cars; Mine hoisting; Mine tipples; Mine tracks; Motor trucks in mining; Snow motor

Cost

- When should battery locomotives replace mules and when be preferred to trolley equipment? C. E. Stuart. diags map Coal Age 21:277-82 F 16 '22

Safety devices

- Pinch bar with changeable grip cannot slip and fall and will block wheel. il Coal Age 23:183 Ja 25 '23
- Safe methods for electric mine haulage that insure protection to motorman and equipment. J. F. MacWilliams. il Coal Age 24:619-22 O 25 '23

Mine hoisting

- A.I.M.E. discusses safety and life of hoisting ropes. Coal Age 21:408-11 Mr 9 '22
- Auxiliary shaft both hoists and lowers coal at two-team Navajo no. 5 mine in New Mexico. H. B. Cooley. flow sheet il diags plan Coal Age 24:237-45 Ag 16 '23
- Calculation of horsepower required for unbalanced uncounterweighted hoist in shallow shaft. F. L. Stone. il Coal Age 22:577-80 O 12 '22
- Calculation of power required for a counterweighted hoist and one in balance, shallow shaft. F. L. Stone. il Coal Age 22:625-8 O 19 '22

Mine hoisting—Continued

- Chain-and-bucket elevator device. A. W. Allen. diags plan Eng & Min J 114:553 S 23 '22; Discussion. F. W. Collins. 115:1096-7 Je 23 '23
- Counterbalancing a small hoist at the Hibernia mine. F. E. Wormser. il diags plan Eng & Min J 114:725-7 O 21 '22
- Coverdale mine to hoist 4,000 tons per day is fitted with two-car self-dumping cages. A. F. Brosky. il diags plan Coal Age 22:865-71 N 30 '22
- Cutting hoisting costs at a shaft with five levels. D. C. Ashmead. il plans Coal Age 22:1027-30 D 28 '22
- Hoist and compressor on common bedplate driven by internal-combustion engine. il Coal Age 20:765 N 10 '21
- Hoist for men and supplies at Arizona copper mine. R. E. Donovan. Eng & Min J 113:56 Ja 14 '22
- Increasing rope capacity of hoist. H. H. Hunner. il Eng & Min J 113:333 F 25 '22
- Large winding drum. il diags Engineer 135:662, 670 Je 22 '23
- Load on knuckle sheave, hoisting on incline. Coal Age 20:928 D 8 '21
- Made over 2,100 hoists in eight hours. C. F. Sherman. plan Coal Age 23:566-7 Ap 5 '23
- Scraper hoist operated on compressed air. il Coal Age 21:628 O 25 '23
- Scraping and loading in mines with small compressed-air hoists. W. Royce. il diags plans Eng & Min J 112:925-31 D 10 '21
- Seneca's novel man cage. H. M. Payne. Eng & Min J 113:1056 Je 17 '22
- Shaft arrangements for hoisting. Eng & Min J 113:729 Ap 29 '22
- Speed of moving men in mine shafts. M. W. von Bernewitz. Eng & Min J 116:15-16 Jl 7 '23
- Study of stresses and design of head sheaves for coal-mine shafts. J. S. Watts. diags Coal Age 22:127-30 Jl 27 '22
- Surface arrangements for hoisting. Eng & Min J 113:824 My 13 '22
- Two independent shafts, which serve two distinct but connected mines, dump coal over one tippie. il Coal Age 20:884-5 D 1 '21
- Types of cages and skips. Eng & Min J 113:682 Ap 22 '22
- Use of taper ropes for hoisting. Eng & Min J 112:936 D 10 '21
- What equipment should be provided for hoisting men and ventilating mine when electric power fails. G. Bright. il Coal Age 24:433-5 S 20 '23
- Would so slant cage hoods as to prevent coal or water from falling on cagers. R. W. Lightburn. Coal Age 21:780-1 My 11 '22
- See also* Dumping appliances; Hoisting machinery; Mine cars; Mine crossheads; Mine haulage

Safety devices

- Cage-operated stop makes caging safe and efficient. D. C. Ashmead. il Coal Age 21:12-13 Ja 5 '22
- Controlling apparatus for preventing hoisting accidents. J. J. Bourquin. Eng & Contr 56:576 D 21 '21; Same abr. Min & Sci P 123:931 D 31 '21
- Safety devices for mine shafts; abstract. R. Kudlich. Min & Met 182:50-1 F '22
- Safety gates at Cresson slowly opened by rack and pinion electrically operated. il diags Coal Age 21:777 My 11 '22
- Safety guides for inclined shafts. E. D. Gardner. diags Eng & Min J 115:500 Mr 17 '23
- Safety practice for hoisting ropes; abstracts. R. M. Raymond. diags Min & Met 182:46-8 F '22; Engineer 133:368 Mr 31 '22
- This room hoist is totally inclosed to forestall accident. il Coal Age 21:617 Ap 13 '22

Mine hoisting, Electric

- Coal hoist will have capacity of 2000 T. per hr. Power Pl Eng 27:853 Ag 15 '23
- Electric elevators such as serve office buildings are suitable for some kinds of mine hoisting. C. M. Means. Coal Age 21:1045-6 Je 22 '22

- Electricity in mines. il diags Engineer 136:88-91, 116-19, 126, 142-3 Jl 27-Ag 10 '23
- Electrified copper mine. J. B. Johnson and C. L. Gerhardt. il diags plan Elec W 32:905-9 N 3 '23
- Enclosed room hoist is safe, sturdy, easily portable and convenient. il Coal Age 23:821-3 My 17 '23
- Hoists that accelerate, slow themselves down or work unattended and substations needing no attendant. C. E. H. von Sothen. il Coal Age 22:537-40 O 5 '22
- Induction motor operated mine hoist with dynamic braking. R. W. McNeill. il diags Elec J 20:97-100 Mr '23
- Iron and steel electric engineers discuss applications of mine hoists. Coal Age 23:932 Je 7 '23
- Large electric winders in a South Wales colliery. il Electrician 89:129 Ag 4 '22; Same. Elec R (Lond) 90:760-1 Je 2 '22
- Largest electrical winding plant. diags Engineer 135:126-7 F 2 '23
- Liquid controller reduces peak loads by providing for uniform acceleration of large mine hoist. Dr. J. Baker. il diag Coal Age 21:487-90 Mr 23 '22
- Mine-hoist control equipment for large installations. H. W. Chadbourne. il diag Coal Age 24:659-61 N 1 '23
- Problems when selecting type of motor drive for large mine hoisting plants. G. Bright. il diags Coal Age 23:933-6 Je 7 '23
- Scheme for meeting peak hoisting loads. J. L. Knight. Coal Age 20:764 N 10 '21
- Selecting equipment for vertical shaft hoisting. M. A. Maxwell. il Coal Age 24:581-5 O 18 '23
- Speed-reducing gear lowers headroom needed for loading-boom hoist. il Coal Age 22:362 S 7 '22

Mine inspectors**Examination**

- Alabama first-class examination, Birmingham, July 25-28, 1921. Coal Age 20:769, 809, 849 N 10-24 '21
- Alabama first-class examination, Birmingham, Jan. 23-26, 1922. Coal Age 21:416 Mr 9 '22
- Mine inspectors' institute of America**
- Inspectors' institute advances art of mine safety at 13th annual meeting. E. W. Davidson. Coal Age 22:133 Jl 27 '22
- Mine inspectors' institute advances cause of safety at its 14th annual convention. E. W. Davidson. Coal Age 24:113, 149-51 Jl 19-26 '23

Mine interconnection

- Interconnection of contiguous mines. G. J. Young. Eng & Min J 116:547-8 S 29 '23

Mine layout

- Laying out mine for coal-loading shovel operations. W. Whaley. diags plans Coal Age 22:87-8 Jl 20 '22
- Making the mine layout match the surface equipment. D. D. Wilcox. plans Coal Age 22:53-6 Jl 13 '22
- Plan for shaft mine giving large capacity and saving in stoppings, overcasts, doors and air costs. O. J. Pleschner. Coal Age 22:83-4 Jl 20 '22

Mine lighting

- Effect of lighting conditions on output in coal mines. Illum Engr 16:25-6 Ja '23
- Lighting of coal mines and mining properties. S. G. Hibben. il Elec J 19:36-41 Ja '22
- Lighting of mines in relation to miners' nystagmus; first report of the miners' nystagmus committee. Illum Engr 15:97-100 Mr '22
- Safe method of lighting coal mines. W. M. Thornton. Elec R (Lond) 93:552-3 O 12 '23

Mine management

- Factors in mine management that lead to loss and waste. P. Yeatman. Min & Met 183:25-32 Mr '22
- Geological department of Phelps Dodge corporation at Tyrone, N.M. D. Eyoub. map Eng & Min J 113:1047-8 Je 17 '22
- Getting around the labor shortage. G. L. Walker. Eng & Min J 116:230 Ag 11 '23

Mine management—Continued

How mechanical and electrical engineers can increase their usefulness in the operation of mines. W. C. Shunk. *Coal Age* 22:447-9 S 21 '22

Industrial relations at Tennessee copper company. J. N. Houser. *Min & Met* 192:19-20 D '22

Mine labor. H. J. C. MacDonald. *Eng & Min J* 114:236-8 Ag 5 '22

Operations at the Buck Passer mine. *Eng & Min J* 115:981-3; 116:356-7, 729-30 Je 2, S 1, O 27 '23

Personal touch in management. G. Edwards. *Coal Age* 23:303-4 F 15 '23

Stope cost records and mine contracts of the Anaconda copper mining co.; abstract. C. L. Berrien. *Min & Met* 182:54-5 F '22

See also Coal mines and mining—Management; Mine accounting; Mine firebosses; Mine foremen; Mine signals; Miners

Mine managers

Illinois mine managers' examination. Springfield, July 17, 18, 1922. *Coal Age* 22:500, 552 S 28-O 5 '22

Mine managers' examination. Springfield, Ill., Mar. 19, 1923. *Coal Age* 23:865, 905, 943 My 24-Je 7 '23

Mine maps

Advantage of using isometric mine map bearing selected operating data. T. F. Kennedy. *diags maps Coal Age* 20:753-60 N 10 '21

Designation of polymetallic ore deposits with flag-marks. A. K. Boldrev. *diags Eng & Min J* 115:408-9 Mr 3 '23

Geological department of Phelps Dodge corporation at Tyrone, N.M. D. Eyoub. *map Eng & Min J* 113:1047-8 Je 17 '22

See also Mine surveying

Mine officials

See also Mine firebosses; Mine foremen; Mine management; Mine managers

Certification

Certificate and safety. L. Blenkinsopp. *Coal Age* 22:326-7 Ag 31 '22

Certificate vs. experience. R. W. Lightburn; W. H. Luxton. *Coal Age* 21:291-2 F 16 '22

Certification in England. W. Dickinson. *Coal Age* 22:19 J1 6 '22

Certification upheld. J. Thompson. *Coal Age* 20:726 N 3 '21

Certified men in demand. I. C. Parfitt. *Coal Age* 20:767 N 10 '21

Certify the mine superintendent. *Coal Age* 20:180, 684-5, 1016-17, 21:212; 22:18-19 Ag 4, O 27, D 22 '21, F 2, J1 6 '22

Value of certification law appreciated. *Coal Age* 20:807-8; 21:211 N 17 '21, F 2 '22

Why worry over change in certificate law. *Coal Age* 21:658-9 Ap 20 '22

Mine power. See Mining engineering—Power**Mine pumping**

Damming water in the Star crosscut. *Eng & Min J* 113:871 My 20 '22

Direct-current motors for pump driving. *il Coal Age* 21:452 Mr 16 '22

Economical mine pumping. P. K. Lucke. *diag plan Eng & Min J* 116:184 Ag 4 '23

Effect of exhausting or blowing on pumping. *Coal Age* 21:1052-3 Je 22 '22

How the Law shaft is protected against high water. D. C. Ashmead. *il diag Coal Age* 23:850-2 My 24 '23

Installing pipe lines in shaft at Rosiclare mine. E. C. Reeder. *diags Eng & Min J* 115:1116-17 Je 23 '23

Large sump and night pumping lower peak load when electric power displaces steam at Isabella. A. F. Brosky. *il diags Coal Age* 23:627-30 Ap 19 '23

One hundred tons of water per ton mined. *Coal Age* 21:874 My 25 '22

Pumping the Big Muddy river out of a mine to save machinery and 300,000 tons of coal. C. L. Moorman. *il chart diag map Coal Age* 22:907-10 D 7 '22

Revolutionizing mine pumping with automatically primed, started and controlled centrifugal pumps. E. Gealy. *il diags Coal Age* 24:392-6 S 13 '23

Les travaux de dénoyage des houillères du Nord et du Pas-de-Calais. *il Génie Civil* 83:202-4 S 1 '23

Uses of compressed air in mining. W. R. Wade. *diag Eng & Min J* 113:172-3 Ja 28 '22

Mine pumps

Belt-driven mine pump suited to low coal. *il Coal Age* 21:1087 Je 29 '22

Centrifugal vs. reciprocating pumps. *Eng & Min J* 113:62-3, 171 Ja 14-28 '22

Deepwell pumps adapted to mine drainage; submergence a favorable condition. *diags Coal Age* 23:1010 Je 21 '23

How to make stubborn pumps pick up water. J. Walls, sr. *Coal Age* 22:918 D 7 '22

Mine pumps. G. A. Drysdale. *Eng & Min J* 114:308 Ag 12 '22

Revolutionizing mine pumping with automatically primed, started and controlled centrifugal pumps. E. Gealy. *il diags Coal Age* 24:392-6 S 13 '23

Suggestions as to the construction and location of mine gathering pumps. *Coal Age* 24:658 N 1 '23

Triplex mine pumps. *il Eng & Min J* 115:476 Mr 10 '23

What to watch in running a high-lift centrifugal mine pump. *Coal Age* 23:48-9 Ja 11 '23

Protection

Submersible pumproom will not flood till water rises one hundred and twenty feet above pumps. D. C. Ashmead. *il plan Coal Age* 23:257-8 F 8 '23

Mine railroads

See Locomotives, Mine; Mine ties; Mine tracks

Mine records

Progress and lost-material records aid in map making and inventory keeping. *Coal Age* 21:530-1 Mr 30 '22

Mine refuse. See Culm**Mine reports**

Analytical method of summarizing mining reports. F. C. Fearing. *Eng & Min J* 116:713-18 O 27 '23; Discussion. L. C. Stuckey. 116:1036 D 15 '23

Describing a small mine. L. W. Wickes. *Eng & Min J* 116:368 S 1 '23

Preliminary descriptions of mining prospects. E. E. Erich. *Eng & Min J* 115:894-5 My 19 '23

Mine rescue work

Chemical engineer's part in the rescue work at the Argonaut mine disaster. L. H. Duschak. *il Chem & Met Eng* 28:349-50 F 21 '23

Cooperative mine station and its safety work. C. L. Colburn. *il Nat Safety N* 7:33-4 Je '23

Liquid air boiling away at partially regulated speed used to supply mine rescuers and rescued. H. Briggs. *il diags Coal Age* 21:609-12 Ap 13 '22

Mine rescue standards. U S Bur Mines Tech P 334:1-44 '23

Mine rescue work and organization. H. F. Bulman and F. P. Mills. 171p Van Nostrand '22

Mine rescue work in the Southwest. R. H. Marks. *il Nat Safety N* 7:33-4 My '23

Radio may direct rescuers in mine emergencies. G. E. Mitchell. *il diag Wireless Age* 10:55-6 Ja '23

Rescue work at Argonaut mine fire of 1922. E. O. Pickard. *diags Min & Met* 191:27-34 N '22

Signalling by wireless telegraphy to entombed miners. *Engineer* 134:551 N 24 '22

6th annual first-aid and mine-rescue meet at Salt Lake City. *Coal Age* 24:367-8, 443-4 S 6, 20 '23

See also Mining engineering—Safety measures

Mine roofs

Abnormal roof conditions require special study. *diags Coal Age* 24:253-4 Ag 16 '23

Mortar ejected from cement gun protects roof from injurious effects of mine atmosphere. *il diag Coal Age* 23:807-11 My 17 '23

Mine roofs—Continued

Supporting roof over roadway to avoid accidents. G: Bowker. diags Coal Age 24:363 S 6 '23

Unsafe roof conditions often develop suddenly. Coal Age 22:288-9 Ag 24 '22

Mine sampling. See Ore sampling

Mine sanitation

Underground hygiene and sanitation. R. R. Sayers. Eng & Contr 58:274-6 S 20 '22

Mine shaft houses

Method and cost of building reinforced concrete shaft houses. J. E. Hayden and L. Eaton. il diags plans Eng & Contr 58:297-9 S 27 '22

Mine shafts

Big new shaft will have steel-concrete lining. Eng & Min J 116:473 S 15 '23

Concrete for mines and mine buildings. B. G. Best. diags plan Concrete 20:247-51 Je '22

Cost of concreting mining shafts. E. E. Campbell. Eng & Contr 56:466 N 16 '21

East Butte's mining operations. F. E. Wormser. il diags Eng & Min J 115:449-54 Mr 10 '23

Gallup American coal co. displaces four long slopes with one ultra-modern 5,000-ton shaft mine. H. B. Cooley. il diags maps plans Coal Age 24:165-70 Ag 2 '23

Inspiration consolidated's Porphyry shaft. A. C. Stoddard. il diags plans Eng & Min J 115:265-71 F 10 '23

Lining a shaft in sixty-foot sections, starting from near top downward, greatly reduces cost. A. F. Brosky. il diags plan Coal Age 21:563-6 Ap 6 '22

Octagonal shaft at an American mine. diags Engineer 134:644 D 15 '22

Present practice in the design and sinking of mine shafts. R. G. Johnson. diags plans Eng Soc W Pa 39:134-53 My '23; Same. Engineering 116:250-2 Ag 24 '23; Same cond. Coal Age 21:397-400 S 13 '23; Discussion. Eng Soc W Pa 39:154-8 My '23

Procédé de fonçage des puits de mines par creusement et muraillement simultanés. diags Génie Civil 82:112-13 F 3 '23

Shaft sinking methods, mine layout, trip handling and two-compartment skip hoist at Springdale. A. F. Brosky. il diags plans Coal Age 20:999-1008 D 22 '21

Sinking a shaft in Illinois through quicksand. D. P. Buchanan. il diags Coal Age 22:1032-4 D 28 '22

Steel timbers and grouted lagging of steel and brick make durable and dry shaft bottom at Revloc. Pa. R. B. Woodworth. il diags plan Coal Age 20:1041-3 D 29 '21

Triple-compartment hoisting and airshaft. diags plan Coal Age 22:677-8 O 26 '22

Use of cement and concrete in the underground workings of the North Butte mining company. R. Linton. il diags plans Eng Soc W Pa 38:76-96; Discussion. 97-107 Ap '22

World's largest salt shaft nearing completion. il Pop Mech 36:823 D '21

See also Mine crossheads; Mine hoisting; Mine timbering; Mine ventilation; Shaft sinking

Mine shops

At Library the Pittsburgh coal co. conducts a central machine shop for repair and storage of equipment. A. F. Brosky. il Coal Age 21:317-20 F 23 '22

Machine shop, bathhouse, houses and other accessory buildings at the new Gallup American mine. H. B. Cooley. il diags plans Coal Age 24:427-32 S 20 '23

Maintenance and repair methods in the shops of the Consolidation coal co. at Jenkins. Ky. A. F. Brosky. il diags Coal Age 23:513-18 Mr 29 '23

Mine blacksmith's tools and how he uses them. G. A. Radebaugh. il diags Coal Age 22:707-11 N 2 '22

Mine signals

Block-signal and dispatching systems in metal mines. R. T. Murrill. il diags plan Min & Met 182:21-4 F '22

Block signal for mine track. C. Rowe. diags Coal Age 24:77-8 Jl 12 '23

Block signals control trips at Indianola; flickering lamp shows when fan runs. A. F. Brosky. il Coal Age 20:963-4 D 15 '21

Collapsible danger signal for fireboses acts as warning and a fence. R. W. Lightburn. diags Coal Age 21:14-15 Ja 5 '22

Electric signal installations in Butte mines; abstract. C. D. Woodward. diags Min & Met 182:43-4 F '22

Mine safety-signal system audible and visible. il Pop Mech 39:190 F '23

Shaft signaling system at Ironton mine, Bessemer, Mich. W. H. Carrick. il diags Eng & Min J 115:852 My 12 '23

Underground signaling with radio. diags Elec W 82:490 S 8 '23

Utilizes lighting circuits for signaling. diags Coal Age 23:485-6 Mr 22 '23

Mine stables

Structural details of underground stable. A. F. Brosky. il Coal Age 23:489 Mr 22 '23

Mine subsidences

Coal mine subsidence damages concrete girder bridge. G. F. Burch. il diags Eng N 90:1046-7 Je 14 '23

Ground movement and subsidence. G: S. Rice. Min & Met 186:34 Je '22

Mine superintendents. See Mine management; Mine officials

Mine surveying

Anaconda copper mining co.'s triangulation of the Butte district. J. L. Hayes. il diags Eng & Min J 115:1100-5 Je 23 '23

Geological methods of the Homestake mining co., Lead, S.D. L. B. Wright and J. O. Hosted. il map Eng & Min J 112:886-9 D 3 '21

Mineral land surveying. J. Underhill. 3d ed., rev. 237p Wiley '22

Shaft plumbing under special conditions. C. E. Wuensch. diags Eng & Min J 116:461-2 S 15 '23

Tunnel surveying at Potrerillos, Chile. J. E. Harding. diags Eng & Min J 115:353-5 F 24 '23

Underground orientation by three-wire method. J. R. Jahn. diags Eng & Min J 115:587-8 Mr 31 '23

Use of geophone in mine surveying. Eng & Contr (Ry) 59:171-2 Ja 17 '23

See also Geophone; Surveying instruments

Mine taxation

Backwoods taxation bandits. Eng & Min J 115:1005; 116:728 Je 9, O 27 '23

Burden of mine taxation—its special problems. H: B. Fernald. Eng & Min J 113:163-6 Ja 28 '22

How remedy tax evils that beset mine properties? Coal Age 22:635 O 19 '22

Proceedings of the conference on mine taxation held in conjunction with the twenty-fifth annual convention of the American mining congress, Cleveland, Ohio, October 9-14, 1922. 174p American mining congress, Washington, D.C. '22

Recent Mexican mining decrees. P. X. Stoffel. Eng & Min J 116:451-2 S 15 '23

State taxation of mines. M. W. Krieh. Eng & Min J 113:13-15 Ja 7 '22

See also Coal—Taxation

Mine telephones

Eliminating the noises from mine-telephone circuits. Coal Age 23:974 Je 14 '23

Laws compelling use of telephones at mines and provisions that make them safe and durable. D. E. A. Charlton. il diags Coal Age 22:323-5 Ag 31 '22; Same. Eng & Min J 114:365-8 Ag 26 '22

Mine-type telephones unsafe in gas. L. C. Hsley. Coal Age 21:569 Ap 6 '22

Paleigh coal co. keeps in touch with key workmen by automatic telephones. A. F. Brosky. il Coal Age 23:490 Mr 22 '23

Safety of mine-type telephones. Engineer 133:219 F 24 '22

Telephone circuits in shafts should be independent; safety precautions taken at Pettenbone colliery. D. C. Ashmead. il plan Coal Age 21:242-3 F 9 '22

- Mine ties**
Steel mine tie with tee clamps fitting into lug holds rails to gage. diag Coal Age 21: 13 Ja 5 '22
Use of steel mine track ties in heavy motor haulage. Coal Age 24:405-6, 671 S 13, N 1 '23
- Mine timber, Recovery of**
Recovering mine timber at Cananea. diags Eng & Min J 114:376 Ag 26 '22
Withdrawing mine timber when robbing pillars. il diag Coal Age 24:20, 440-1 J1 5, S 20 '23
- Mine timbering**
Creosoting experience at two small mining plants. T: R. Clark. diags Coal Age 24: 357-S 6 '23
Cut mine timbers to measure. J. H. Taylor. Coal Age 20:460, 968; 21:453-4; 22:18, 550-1 S 22, D 15 '21, Mr 16, J1 6, O 5 '22
Douglas fir for mine timbers. C. J. Hogue. il Eng & Min J 116:316-19 Ag 25 '23
Economy in use of mine timber. R: Bowen. diag Coal Age 22:800-1 N 16 '22
Finding length of prop timber on steep pitches. diag Coal Age 24:255-6 Ag 16 '23
Growing need for the preservation of mine timbers. R. R. Hornor. Coal Age 21:246-8 F 9 '22
Das grubenholz von der erziehung bis zum verbrauch. M. Lincke. 422p P. Parey, Berlin '21
In retimbering a shaft bottom, posts and foot timbers are set in deep trenches. il diags Coal Age 21:289 F 16 '22
Methods of supporting roof of roadways adopted at the Indianola mine. A. F. Brosky. il diags Coal Age 20:923 D 8 '21
Mine-timber preservation. R. R. Hornor and G. M. Hunt. Coal Age 21:451-2 Mr 16 '22
Mining timber statistics. Engineering 113:209 F 17 '22
Peel and season timber to save freight and prepare wood for preservation. Coal Age 20:714-15 N 3 '21
Plant established to reduce timber costs is operated largely by a single boy. il Coal Age 21:825 My 18 '22
Posting the face of the coal in driving rooms. Coal Age 24:181, 635-6 Ag 2, O 25 '23
Principles relating to post timber. diags Coal Age 22:136-7, 592-3 J1 27, O 12 '22
Rapid erection of five-piece arch sets in pump chambers. A. I. Long. diags Eng & Min J 115:1024-5 Je 9 '23
Retimbering an old slope when opening a longwall mine. diag Coal Age 23:380, 644-5; 24:109 Mr 1, Ap 19, J1 19 '23
Roadway and other permanent supports in coal mines of Great Britain. J. Roberts. diags Coal Age 22:238-40 Ag 17 '22
Stunt in timbering haulage roads. G: Edwards. Coal Age 23:225-6 F 1 '23
Things to keep in mind in the selection of mine timbers. Eng & Min J 116:712 O 27 '23
Timber frames in headings. T. Allen. diags plan Coal Age 22:209 Ag 10 '22
Timbering hard roof and bottom. Coal Age 22: 414-15 S 14 '22
Timbering high cave on roadway. A. C. Watts. diags Coal Age 21:453 Mr 16 '22
Timbering high falls on entries. diags Coal Age 23:760 My 10 '23
Timbering in the Pittsburgh seam in Ohio. Coal Age 21:886; 22:134-5 My 25, J1 27 '22
Timbering of metal mines. E. A. Holbrook. R: V. Ageton and H. E. Tuft. il diags U S Bur Mines Bul 215:1-72, pl 1-17 '23
Waste of mine timber. W. H. Luxton. Coal Age 21:333 F 23 '22
Wood preservative which makes putrescible matter stable, strengthens timber, making it fire resistant. F. G. Zinsser. il Coal Age 20:793-6 N 17 '21
See also Mine shafts; Props
- Bibliography**
Bibliography of articles relating to the preservation of mine timber. R. R. Hornor. 6p Rep. of Investigations U S Bur Mines 2343 '22 (typew)
- Cost**
Cost of timber in Illinois between one and sixteen cents per ton mined. Coal Age 23: 856 My 24 '23
- Mine tipples**
At Coverdale mine nut and lump are picked on circular picking tables. A. F. Brosky. il diags Coal Age 22:985-7 D 21 '22
One tippie serves two mines through long conveyor. il Pop Mech 37:266-7 F '22
Parkers Run tippie has two-speed picking table, prop hoist and boom to feed cars or domestic-coal bin. A. F. Brosky. il Coal Age 21:523-4 Mr 30 '22
St. Bernard mining co. has tippie making thirteen sizes and size groupings. R. G. Lawry. il Coal Age 23:563-4 Ap 5 '23
- Mine tracks**
Calculating dimensions of turnout or cross-over switch. plan Coal Age 22:801-2 N 16 '22
Calculating room switch, fixed points. J: Walls, sr. diag Coal Age 20:766 N 10 '21
Contracted landing area at head of plane makes difficult mine-track problem. W: Reid. il Coal Age 21:168-9 Ja 26 '22
Curve resistance greatly impedes mine haulage; much track spread needed on sharp turns. J. D. Martin. Coal Age 24:351-3 S 6 '23
Frog, guard rails and fishplates cast as unit save mine trips from wrecks. il Coal Age 21:654 Ap 20 '22
How rearrangement of track raised the tonnage of an anthracite colliery. D. C. Ashmead. il plan Coal Age 22:703-4 N 2 '22
Latch which passing cars reverse. diag Coal Age 23:1014 Je 21 '23
Lowering cost of room-neck switches. R. W. Mayer. Coal Age 21:524 Mr 30 '22
Measuring voltage drop on rail or feedwire. F. C. Sinback. diag Coal Age 21:492 Mr 23 '22
Methods and practices of E. E. White coal co. at Statesbury, W. Va. A. F. Brosky. il diags plan Coal Age 22:197-201 Ag 10 '22; Excerpt (Track device detects loose wheels). Eng N 89:305 Ag 24 '22
New machine facilitates work of shifting track. il diags Eng & Min J 116:307 Ag 18 '23
Prevention of false flange on locomotive wheels. diag Coal Age 23:937 Je 7 '23
Rerailing device in room permits car to be placed near working face. diags Coal Age 23:821 My 17 '23
Right and wrong ways of laying room switches. G. W. Breeden. diag Coal Age 21: 372 Mr 2 '22
Safer and more economical methods in mine haulage. A. F. Brosky. il diags Coal Age 23:209-12 F 1 '23
Safety switch at slope mouth catches runaway cars. il Coal Age 24:284-5 Ag 23 '23
Standardization of mine tracks. J. D. Martin. Eng Soc W Pa 38:59-68; Discussion. 69-75 Ap '22
Standardizing mine switches. G: Edwards. Coal Age 20:766-7 N 10 '21
Supplies required in mine track work. G: J. Young. chart Eng & Min J 113:1056-7 Je 17 '22
Track device automatically regulates traffic to bottom of slope. A. F. Brosky. diags Coal Age 24:179 Ag 2 '23
Trackage in mines. O. Kennett. Coal Age 23: 60-1 Ja 11 '23
What hard-coal mines are doing to lessen derailments; symposium contributed by six leading anthracite officials. D. C. Ashmead, comp. il Coal Age 22:872-4 N 30 '22
With track shifter one man can raise and throw over railroad track. diags Coal Age 24:249 Ag 16 '23
See also Mine ties
- Mine valuation**
Appraisal of ore-reserves. C. A. Grabill. Min & Sci P 124:219-20 F 18 '22
Graphic appraisal of mining property. A. B. Morris. Eng & Min J 116:241-2 Ag 11 '23
How to calculate tonnage and grade of an orebody. J. E. Harding. diags Eng & Min J 116:445-8 S 15 '23

Mine valuation—Continued

- Present value in its relation to ore reserves, plant capacity, and grade of ore. E. S. Berry. *Min & Met* 187:11-16 *Je* '22
- Problem of depletion. *Eng & Min J* 113:662, 1037-8 *Ap* 22, *Je* 17 '22
- Technical side of our natural resources. H. L. Simcoe. *Eng & Min J* 113:927-8 *My* 27 '22
- Valuation of placer deposits. W. H. Grant. *Eng & Min J* 113:329-31 *F* 25 '22
- Valuing partly exhausted mines. W. Webber. *diags Min & Sci P* 122:385-9, 489-94 *Mr* 19, *Ap* 9 '21; Discussion. 122:486, 524, 667-8, 703-4; 123:5-6, 568; 124:151-3 *Ap* 9-16, *My* 14-21, *Jl* 2, *O* 22 '21, *F* 4 '22

See also Mine accounting; Prospecting

Mine ventilation

- Air-cooling plant at the Morro Velho mine of the St John Del Rey mining company, ltd., Brazil. E. Davies. *Mech Eng* 44:832 *D* '22
- Better lungs for miners. *il Sci Am* 128:311 *My* '23
- Better ventilation as an aid to mining efficiency. *il Coal Age* 21:445-7 *Mr* 16 '22
- Blowing vs. exhaust systems in fan ventilation. *Coal Age* 23:494 *Mr* 22 '23
- Compressed air blowers in metal-mine ventilation. *Eng & Min J* 113:450 *Mr* 18 '22
- Compressed air in mining. *Coal Age* 21:926-7 *Je* 1 '22
- Conditions that invite mine explosions. C. W. Atkins. *Coal Age* 23:378-9 *Mr* 1 '23
- Continuous operation of mine ventilating fan. O. Bullock. *Coal Age* 22:95 *Jl* 20 '22
- Difficult ventilation question asked in mining examination. *Coal Age* 22:1002-3 *D* 21 '22
- Essentials in ventilation. W. J. Walker. *Coal Age* 21:171-2 *Ja* 26 '22
- Exhaust vs. blowing ventilation, slope mine. *diags Coal Age* 24:365-6 *S* 6 '23
- Experimental observations upon the relation between atmospheric conditions and the production of fatigue in mine laborers. A. J. Orenstein and H. J. Ireland. *bibliog il J Ind Hygiene* 4:30-46, 70-91 *My-Je* '22
- Explosion results from stoppage of fan. O. H. Jones. *Coal Age* 23:1018 *Je* 21 '23
- Fan ventilating two seams. G. F. Libiez. *Coal Age* 21:171 *Ja* 26 '22
- General mine potential for split circulations. *Coal Age* 22:415-16 *S* 14 '22
- How mines can be moistened without use of a big force fan or obstruction of haulage roads. T. Chester. *diag Coal Age* 24:663-4 *N* 1 '23
- Increasing ventilation in a drift mine. *diag Coal Age* 22:365-6 *S* 7 '22
- Keeping the mine safe. O. H. Jones. *Coal Age* 22:719-20 *N* 2 '22
- Longwall retreat with face and main conveyors and many air splits giving positive ventilation. F. C. Cornet. *il diags Coal Age* 23:7-10 *Ja* 4 '23
- Making the mine safe. J. Rose. *Coal Age* 22:59-60 *Jl* 13 '22
- Metal-mine ventilation in the Southwest. C. A. Mitke. *Min & Met* 190:35-6 *O* '22
- Mine managers' examination. Nova Scotia, 1922. *Coal Age* 22:762 *N* 9 '22
- Position of mine regulator and effect of air leaks. *diag Coal Age* 23:341-2 *F* 22 '23
- Position of water gage when taking mine readings. *diags Coal Age* 23:1056-7 *Je* 28 '23
- Practical mine ventilation. J. R. Robinson. 225p J. R. Robinson, Pittsburgh, Pa. '22
- Problem in mine ventilation. C. N. Schuette. *il diags Eng & Min J* 114:54-7 *Jl* 8 '22
- Reducing resistance to flow of air in fan shaft. *Coal Age* 24:561 *O* 11 '23
- Reducing ventilation in a mine when firing shots. I. C. Parfitt. *Coal Age* 22:550 *O* 5 '22
- Removing gas accumulated on falls. *Coal Age* 21:292, 620 *F* 16, *Ap* 13 '22
- Should metal-mine air currents be reversible? D. Harrington; C. A. Mitke. *Eng & Min J* 116:291 *Ag* 18 '23
- Solution by equivalent orifice; ventilation of shaft mine increased by adding another airway. R. I. Currie. *Coal Age* 23:379-80 *Mr* 1 '23
- Speed of fan at firing time. O. H. Jones. *Coal Age* 21:492-3 *Mr* 23 '22

- Speedy, safe and economical entry driving attained by use of self-acting pipes. F. C. Cornet. *diags Coal Age* 22:91-2 *Jl* 20 '22
- Successful use of flexoid tubing in sinking mine shaft and slope. *Coal Age* 21:966 *Je* 8 '22
- Underground hygiene and sanitation. R. R. Sayers. *Eng & Contr* 58:274-6 *S* 20 '22
- Underground ventilation at Butte. D. Harrington. *U S Bur Mines Bul* 204:1-131 *pl* 1-3 '23; Abstracts. *Safety Eng* 46:81 *Ag* '23; *Engineering* 116:405-7 *S* 28 '23
- Ventilating two seams. *Coal Age* 20:848 *N* 24 '21
- Ventilation as a safety factor in mining. C. L. Colburn. *Coal Age* 21:532 *Mr* 30 '22
- Ventilation by continuous current. J. Wall, sr. plan *Coal Age* 21:332 *F* 23 '22
- Ventilation in metal mines. D. Harrington. *U S Bur Mines Tech Pa* 251:1-43 '21; Abstracts. *Min & Sci P* 123:609-12 *O* 29 '21; *Min & Met* 182:39-40 *F* '22
- Ventilation of Butte mines of Anaconda copper mining co.; abstract. A. S. Richardson. *il Min & Met* 182:40-1 *F* '22
- Ventilation of gassy and dusty mines. J. Rose. *Coal Age* 21:170-1 *Ja* 26 '22
- Ventilation of mines with flexible conduits. *diags Coal Age* 22:587-9 *O* 12 '22
- When mines are moistened by steam it may be necessary to do it split by split. F. C. Cornet. *diags Coal Age* 22:169-70 *Ag* 3 '22; Discussion. 22:497-8, 921, 1000-1, 1043-4 *S* 28, *D* 7, 21-28 '22

See also Brattice cloth; Coal dust; Fans, Mine; Mine air; Mine doors; Mine gases

Bibliography

- Recent publications by the U. S. Bureau of mines on metal mine ventilation. p. 3-6
Rep. of Investigations *U S Bur Mines* 2374 '22

Tables, calculations, etc.

- Friction factors in the metric system. W. S. Weeks. *Eng & Min J* 116:25 *Jl* 7 '23
- Wahlen micromanometer accurately measures static and velocity heads in mine ventilation. L. W. Huber. *il diags Coal Age* 23:669-74 *Ap* 26 '23

Mine washhouses

- Machine shop, bathhouse, houses and other accessory buildings at the new Gallup American mine. H. B. Cooley. *il diags plans Coal Age* 24:427-32 *S* 20 '23

Mine water

- Acid-resisting alloys for use in mine water. G. M. Enos. *il diags plan Coal Age* 23:665-8 *Ap* 26 '23
- Chromium, nickel and silicon alloys best resist acidulous mine waters. *Coal Age* 23:523 *Mr* 29 '23
- Corrosion of metals in acid mine water. *Ind Management (Lond)* 10:220+ *O* 18 '23
- Deposition of copper carbonate from mine water. P. D. Wilson. *Min & Met* 188:37 *Ag* '22
- Germicidal effect of acid mine drainage. W. L. Stevenson. *Pub Works* 53:264-5 *D* '22; Same. *Eng N* 90:713-14 *Ap* 19 '23
- Minerals deposited by bacteria in mine water. J. Parry. *il Eng & Min J* 115:1011-16 *Je* 9 '23
- Nature of acid water from coal mines and the determination of acidity. W. A. Selvig and W. C. Ratliff. *J Ind & Eng Chem* 14:125-7 *F* '22
- Pollution of water supplies by coal mine drainage. C. P. Collins. *diags Eng N* 91:638-41 *O* 18 '23
- Report of sub-committee V of A. S. T. M. on total immersion tests. *il Am Soc T M Pro* 21:157-90 '21
- Underground waters in the Kent coalfield and their incidence in mining development. E. O. F. Brown. *Engineering* 114:658 *N* 24 '22
- Water supplies from iron mines in the Lake Superior district. O. Forsberg. *Am Water Works Assn J* 10:322-4 *Mr* '23
- Water supply contamination by mine drainage. J. W. Ledoux. *Eng & Contr (W W)* 59:389-94 *F* 14 '23; Abstract. *Eng N* 90:698 *Ap* 19 '23

Mine water—Continued

- What shall be done about the growing evil of the pollution of streams by mine drainage? A. B. Crichton. map Coal Age 23:447-51 Mr 15 '23
- Will neutralize mine water with marl before pumping it to surface. W. C. Mason. il Coal Age 22:201-2 Ag 10 '22

See also Mine drainage; Mine pumping

Mineral industries

- Foreign trade in non-ferrous metals and minerals. F. E. Wormser. Eng & Min J 115:147 Ja 20 '23
- Future of the non-metallic minerals. R. B. Ladoo. Eng & Min J 113:146-7 Ja 21 '22
- General review. Eng & Min J 115:90-164 Ja 20 '23
- International disposition of minerals. Min & Sci P 124:148-50 F 4 '22
- Marketing of metalliferous ores and concentrates. A. B. Parsons. Eng & Min J 114:1109-14, 1155-62 D 23-30 '22
- Mineral industry. G. A. Roush and A. Butts. 950p McGraw-Hill '23
- Report of the proceedings of the twenty-fifth annual convention of the American mining congress, Cleveland, Ohio, Oct. 9-14 '22. 776p Am. mining congress, Washington, D.C. '23
- Summary of mineral production in foreign countries 1919 and 1920. L. M. Jones. U S Geol S Min Res U S 1921, pt 1:513-64 '23
- Undesirable diversity in non-metallic mineral products. O. Bowles. Min & Met 182:34 F '22

See also Filling materials; Iron industry and trade; Metal trade; Metallurgy; Mineralogy; Mines and mineral resources; Mining industry and finance; Oil industries; Petroleum industry and trade; Potash; Smelting contracts

Bibliography

- Classified catalog of the books in the reading room of the U.S. Bureau of mines experiment station. (pt. 9) 37p U.S. Bur. of Mines Exp. Sta., Pittsburgh, Pa. '22 (typew)

Societies

- List of mining trade associations. Eng & Min J 114:1009 D 2 '22

Canada

- Prepared non-metallics in Canada. S. J. Cook. Can Chem & Met 7:226-31 S '23

United States

- Non-metallic minerals in 1921. W. M. Foote. Eng & Min J 113:242-6 F 11 '22
- War problems in minerals. Eng & Min J 112:500-2, 570-5, 651-6, 730-6, 892-4 S 24, O 8, 22, N 5, D 3 '21

See also War minerals relief act

Mineral lands

- Closing the door on the miner. C. P. Yore. Eng & Min J 115:658-9 Ap 14 '23
- Procedure for patenting lode claims. Eng & Min J 112:898 D 3 '21

See also Coal lands; Gas, Natural; Mine examination; Mines and mineral resources; Mining law; Oil lands; Ore deposits; Petroleum laws and regulations

Mineral oils. See Petroleum**Mineral rubber. See Rubber, Mineral****Mineral waters**

- Les gaz rares des gaz naturels. C. Moureu. Chem Soc J 123:1905-25 Ag '23

Mineral wool

- Designing and operating a slag wool plant. H. Lang. plan Chem & Met Eng 29:365-7 Ag 27 '23

Mineralogy

- Anleitung zur mikroskopischen bestimmung und untersuchung von erzen und aufbereitungsprodukten besonders im auffallenden licht, by H. Schneiderhöhn. Review, by E. Sampson. Econ Geol 18:604-11 S '23
- Compressibility of minerals and rocks at high pressures. L. H. Adams and E. D. Williamson. il diags J Fr Inst 195:475-529 Ap '23

- Elements of optical mineralogy. N. H. Winchell and A. N. Winchell. 2d ed. 216p Wiley '22

Field book of common rocks and minerals. F. B. Loomis. 277p Putnam '23

- Manual of determinative mineralogy. J. V. Lewis. 3d ed., rev. & enl. 298p Wiley '21

Manual of determinative mineralogy. C. H. Warren. 2d ed. 163p McGraw-Hill '22

- Microscopic determination of the nonopaque minerals. E. S. Larsen. il U S Geol S Bul 679:1-294 '21

- Mineralogy of Pennsylvania. S. G. Gordon. 255p Academy of natural sciences of Philadelphia '22

- Minerals of California. A. S. Eakle. (State mining bur. bul. 91) 328p [bibliog. p. 306-21] California state ptg. off., Sacramento '23

- Some etching tests on pyrrhotite. H. C. Boydell. Econ Geol 17:491-7 S '22

- Text-book of mineralogy. E. S. Dana. 3d ed., rev. & enl. 720p Wiley '22

See also Crystallography; Geology; Metals; Mines and mineral resources; Phosphorescence; Precious stones; Rocks; also names of minerals, e.g. Bentonite, Coal, Feldspar, Graphite, Mica, Petroleum

Terminology

- Suggestion for the terminology of certain mineral deposits. W. Lindgren. Econ Geol 17:292-4 Je '22

Minerals

- Coloring and thermophosphorescence produced in transparent minerals and gems by radium radiation. S. C. Lind and D. C. Bardwell. il J Fr Inst 196:375-90 '23

- Minerals that are used as crystal detectors. E. Bade. il diags Wireless Age 11:52-3 N '23

See also Mineral lands; Mineralogy; Mines and mineral resources; Precious stones; also names of minerals, e.g. Feldspar, Quartz

Minerals Separation limited

- Jackling and Minerals Separation settle flotation litigation. Eng & Min J 113:784-5, 801 My 6-13 '22

Miners

- Human element in labor cost. W. F. Boericke. Eng & Min J 115:847-8 My 12 '23

- Increasing efficiency of mine labor. B. F. Tillson. Eng & Min J 113:400-2 Mr 11 '22

- Labor situation. A. B. Parsons. Eng & Min J 115:140-1 Ja 20 '23

- Mexican labor-contract, day's pay, and task. W. W. Shelby. Eng & Min J 114:587-8 S 30 '22

- Mine labor. H. J. C. MacDonald. Eng & Min J 114:236-8 Ag 5 '22

- Prohibition and the mining industry: symposium. Eng & Min J 114:891-5, 977 N 18, D 2 '22

- Shortage of skilled miners. Eng & Min J 114:707 O 21 '22

- Some aspects of mine labor. A. B. Parsons. Eng & Min J 115:748-53 Ap 28 '23

- Training machine miners. D. C. Gilbert. Eng & Min J 114:578-9 S 30 '22

- Training miners for efficiency. A. Notman. Eng & Min J 113:98-9 Ja 21 '22

- Where are the miners? Eng & Min J 114:974-5 D 2 '22

See also Coal miners; Mine firebosses; Mine foremen; Miners' houses; Mining camps; Mining towns; United mine workers of America

Diseases and hygiene

- Experimental observations upon the relation between atmospheric conditions and the production of fatigue in mine laborers. A. J. Orenstein and H. J. Ireland. bibliog il J Ind Hygiene 4:30-46, 70-91 My-Je '22

- Lead poisoning at Broken Hill and miners' diseases reported on. P. G. Tait. Eng & Min J 114:336 Ag 19 '22

- Occupational diseases in South African mines. Int Labour R 8:593-4 O '23

- Prevention of illness among miners. R. R. Sayers. Min & Met 186:31-3 Je '22

See also Coal miners—Diseases and hygiene; Miners' nystagmus; Miners' phthisis

Miners—Continued**Alaska**

Miners' wages in Alaska. Monthly Labor R 15: 595-6 S '22

France

La mine et les mineurs. C. Bartuel and H. Rullière. 577p G. Doin, Paris '23

Great Britain

Miners' wages in Great Britain. Monthly Labor R 14:1183-5 Je '22

Illinois

Earnings of hand and machine miners in Illinois, 1921-22. Monthly Labor R 16:1271 Je '23

India

Coolie labor in India. H. J. Volker. II Eng & Min J 113:905-7 My '22

Mexico

Labor law drawn by Guanajuato commission seems moderate. K. A. Cunningham. Eng & Min J 115:948 My '23

Poland

Mining agreement in Dabrowa basin, Poland. Monthly Labor R 14:1204-6 Je '22

South Africa

Strike in the gold mines of South Africa. A. C. Key. Int Labour R 6:893-916 D '22
Strike on the Rand. T. A. Rickard. Eng & Min J 113:757-8, 948 My '22

Tennessee

Industrial relations at Tennessee copper company. J. N. Houser. Min & Met 192: 19-20 D '22

United States

Present situation at the mines. A. B. Parsons. Eng & Min J 114:653 O '22
Shortage of miners in the West. T. A. Rickard. Eng & Min J 114:357 Ag '22
Situation at the mines in February; wages paid in various districts. Eng & Min J 113: 427 Mr 11 '22
Wage and board rates in Western mining districts, 1923. Monthly Labor R 16:1267-9 Je '23

Miners' consumption. See Miners' phthisis

Miners' houses

Cambria steel co. finds that good housing increases output. G. A. Richardson. II plans Coal Age 23:812-18 My '23
Concrete tile in house construction. B. E. Brooke. Am Concrete Inst Pro 18:151-4 '22; Same. Concrete 20:105-6 Mr '22
Logans Ferry has front lawns, street lights, open fires, lined flues, roomy cellars and other conveniences. Coal Age 20:1012-14 D '22 '21

Where to build our mining towns and what type of house we should erect in them. T. F. Downing, jr. II plan Coal Age 24:63-7 J 12 '23

Miners' nystagmus

British report on miners' nystagmus. Monthly Labor R 15:140-1 J 12 '22
Eyesight of miners. Min & Sci P 124:231 F 18 '22
Lighting of mines in relation to miners' nystagmus; first report of the miners' nystagmus committee. Illum Engr 15:97-100 Mr '22
Miners' nystagmus from the point of view of the workmen's compensation act. T. L. Llewellyn. bibliog J Ind Hygiene 4:335-45 D '22

New theory of miner's nystagmus. F. Robson. Int Labour R 8:591-3 O '23
Notes on industrial hygiene. Int Labour R 6: 442-5 S '22

Miners' phthisis

Miners' consumption in the mines of Butte, Montana. D. Harrington and A. J. Lanza. U S Bur Mines Tech Pa 260:1-19 '21
Phthisis on the Rand. Eng & Min J 114:617-18 O 7 '22

Miners' tools

Sharp tools in every miner's working place. Coal Age 20:806-7 N 17 '21

Mines, Experimental

Mining laboratory of the Missouri school of mines. C. R. Forbes. II diags Min & Sci P 124:359-60 Mr 18 '22

Mines and mineral resources

International conservation of minerals. C. E. Juhlhn. Chem Age 31:412 S '23

See also Asbestos; Coal; Coal mines and mining; Copper mines and mining; Diamond mines and mining; Diamonds; Geology; Gold mines and mining; Hydraulic mining; Iron mines and mining; Lead; Lignite; Magnesite; Manganese; Mercury; Metals; Mine accidents and other headings beginning Mine; Mineral lands; Miners; Mining engineering; Mining industry and finance; Mining law; Mining machinery; Molybdenum; Oil shales; Ore deposits; Ore sampling; Petroleum; Phosphates; Potash; Precious metals; Prospecting; Quarries and quarrying; Salt; Salt domes; Shale; Silver; Silver mines and mining; Sulfur; Talc; Tin; Tin mines and mining; Tungsten; Zinc; Zinc mines and mining

Government ownership

See Coal mines and mining—Government ownership

Taxation

See Mine taxation

Alaska

Alaskan mining industry in 1920. A. H. Brooks. U S Geol S Bul 72—A:1-74 '21
Chromite of Kenai Peninsula, Alaska. A. C. Gill. U S Geol S Bul 742:1-52, pl 1-4 '22
Hyder district, in Alaska, scene of much digging. H. P. Crowther. map Eng & Min J 116:30-1 J 17 '23
Kotsina-Kuskulana district, Alaska. F. H. Moffit and J. B. Mertie, jr. II diags maps plans U S Geol S Bul 745:1-149, pl 1-19 '23
Mineral deposits of the Wrangell district, southeastern Alaska. A. F. Buddington. maps U S Geol S Bul 739—B:51-75, pl 1 '22
Mineral resources of Alaska. A. H. Brooks and others. diags maps plan U S Geol S Bul 722:1-266 '22
Mineral resources of Alaska; report on progress of investigations in 1921. A. H. Brooks and others. maps U S Geol S Bul 739:1-169, pl 1-3 '23
Mining along the Alaska railroad. Eng & Min J 116:149 J 12 '23
Mining in Alaska in 1921. Min & Sci P 124: 55-7 Ja 14 '22
Present status of mining in Alaska. H. J. Phillips. II Eng & Min J 115:446-8 Mr 10 '23
See also Coal mines and mining—Alaska; Petroleum—Alaska

Alsace

See Potash—Alsace

Argentina

See Petroleum—Argentina

Arizona

Bisbee mining district: past, present, and future. M. J. Elsing. bibliog II map Eng & Min J 115:177-81 Ja 27 '23
Calumet & Arizona. J. H. McClintock. Eng & Min J 113:209 F 4 '22
Mining in Arizona and Utah during 1921. V. C. Heikes. Min & Sci P 124:95 Ja 21 '22
Ore deposits of the Sierrita mountains, Pima county, Arizona. F. L. Ransome. diags map U S Geol S Bul 725—J:407-28, pl 16-19 '22
Relation of mining to the development of the state. L. D. Ricketts. Min & Sci P 124:7-9 Ja 7 '22

See also Copper mines and mining—Arizona; Geology—Arizona

Arkansas

Bauxite; occurrence, mining, and uses. R. B. Ladoo. II Eng & Min J 114:805-9 N 4 '22

Mines and mineral resources—Arkansas—Cont.

Deposits of manganese ore in the Batesville district, Arkansas. H. D. Miser. U S Geol S Bul 734:1-273, pl 1-17 '22

Diamond-bearing peridotite in Pike county, Arkansas. H. D. Miser and C. S. Ross. bibliog U S Geol S Bul 735-1:279-322, pl 8-15 '23; Abstract. Econ Geol 17:662-74 D '22

Diamond deposits in Arkansas. G. J. Mitchell. bibliog il diag map Eng & Min J 116:255-7 Ag 18 '23

Minerals in Arkansas. J. G. Ferguson. 160p Arkansas Bur. of mines, Little Rock '22

See also Petroleum—Arkansas

Australasia

Australasia. P. G. Tait. Eng & Min J 115:138-9 Ja 20 '23

Australia

Australian mining conditions. P. G. Tait. il Eng & Min J 113:289-92 F 18 '22

See also Iron ores—Australia

Belgium

See Coal mines and mining—Belgium

Borneo

See Petroleum—Borneo

Brazil

Mineral resources of Brazil. E. Hambloch. Engineering 113:84 Ja 20 '22

See also Iron mines and mining—Brazil; Petroleum—Brazil

British Columbia

British Columbia batholith and related ore deposits. P. D. Wilson. map Min & Met 188:34-7 Ag '22

British Columbia's 1921 metal production estimated. Eng & Min J 113:8 Ja 7 '22

Mining and metallurgy in British Columbia. Can Chem & Met 7:103-4 Ap '23

Mining in British Columbia. T. A. Rickard. Eng & Min J 115:48; 116:533 Ja 13, S 29 '23

Mining in British Columbia in 1921. H. Mortimer-Lamb. Min & Sci P 124:10 Ja 7 '22

Mining in the Kootenay. T. A. Rickard. Eng & Min J 114:312 Ag 19 '22

Operations in the Cariboo, British Columbia. D. D. Fraser. Eng & Min J 113:490-1 Mr 25 '22

See also Coal mines and mining—British Columbia; Copper mines and mining—British Columbia; Gold mines and mining—British Columbia; Silver mines and mining—British Columbia

British Guiana

See Diamond mines and mining—British Guiana

Burma

Burma and the Bawdwin mines. R. G. Hall. il Eng & Min J 115:617-23, 660-6, 712-15, 757-63 Ap 7-28 '23; Discussion. T. A. Rickard. 115:747 Ap 28 '23

Geography and Burma mines, limited. A. B. Parsons. Eng & Min J 114:215-17 Jl 29 '22

Jade, amber and precious stones are produced in Burma. Eng & Min J 116:628 O 13 '23

See also Silver mines and mining—Burma

California

Los Burros district, Monterey county, California. J. M. Hill. U S Geol S Bul 735-1:223-9 '23

Metal output of California in 1921. Min & Sci P 124:156 F 4 '22

Mining in California during 1921. Min & Sci P 124:340 Mr 11 '22

Review of mining in California during 1919-1921. 2v California State mining bureau, Sacramento '20-'22

See also Gold mines and mining—California; Otalite; Petroleum—California; Petroleum industry and trade—California

Canada

Canadian regional summaries. R. E. Hore. Eng & Min J 115:130-1 Ja 20 '23

Mineral production in Canada during the six months ending June 30, 1922. Can Chem & Met 6:213 O '22; Excerpt. Can Eng 43:415 O 3 '22

Mineral production in Canada, 1921. Can Chem & Met 6:93-4 Ap '22

Mining and metallurgical progress in Canada. S. Brunton. Can Chem & Met 7:119-20 My '23

Preliminary report, mineral production of Canada, 1922. Can Chem & Met 7:69-70 Mr '23

See also Petroleum—Canada

Chile

Sulphur resources of Chile. H. G. Officer. il diags map Eng & Min J 113:995-1000 Je 10 '22

See also Copper mines and mining—Chile; Sodium nitrate

China

Antimony mines of Shiu Chow, China. G. D. Hubbard. il diags map Am J Sci 5th ser 4:453-60 D '22

Mining and metallurgical industries in central China. P. S. Heintzleman. U S Bur For & Dom Com Trade Information Bul 26:1-9 '22

See also Coal mines and mining—China; Mercury mines and mining—China; Petroleum—China; Salt mines and mining—China

Colombia

See Petroleum—Colombia

Colorado

Geology and ore deposits of the Creede district, Colorado. W. H. Emmons and E. S. Larsen. il diags maps U S Geol S Bul 718:1-198, pl 1-12 '23

Gold, silver, copper, lead and zinc in Colorado in 1921. C. W. Henderson. U S Geol S Min Res of U S 1921, pt 1:479-511 '23

Mining in Colorado. T. A. Rickard. Eng & Min J 114:5-6 Jl 1 '22

Occurrence of carnotite near Denver. J. H. Wilson. Eng & Min J 116:239-40 Ag 11 '23

Sorting, hauling, and sampling carnotite ore. H. S. Worcester. flow sheet il Eng & Min J 115:1068-71 Je 16 '23

Tests of low-grade and complex ores in Colorado. W. H. Coghill and C. O. Anderson. flow sheets map U S Bur Mines Tech Pa 283:1-67 '23

See also Coal—Colorado; Coal mines and mining—Colorado; Geology—Colorado; Silver mines and mining—Colorado

Cuba

Cuba. C. M. Weld. Eng & Min J 115:132 Ja 20 '23

Cuba's duty-free manganese ore supply. P. M. Tyler. Iron Age 111:275-7 Ja 25 '23

Mineral resources of Cuba. J. F. C. Abelspies. Eng & Min J 114:535 S 23 '22

Mineral resources of Cuba. E. S. Murias. Eng & Min J 114:197-8 Jl 29 '22

Ecuador

Mineral production of Ecuador. F. W. Golding. Eng & Min J 113:961 Je 3 '22

England

Mining in early England. H. H. Manchester. il Eng & Min J 116:152-5 Jl 28 '23

Tin mining in Cornwall in the year sixteen hundred. J. C. Murray. Eng & Min J 115:754-6 Ap 28 '23

Europe

See Iron ores—Europe

Federated Malay States

Dredge and power-plant construction in the Far East. P. R. Parker. il Eng & Min J 113:807-12 My 13 '22

Mining in the Federated Malay States. Engineer 134:142 Ag 11 '22

Mines and mineral resources—Continued**Finland**

Mineral resources and mining possibilities of Finland. J. J. Sederholm. il maps Eng & Min J 113:157-62 Ja 28 '22

See also Copper mines and mining—Finland

Florida

Mining and washing phosphate in Florida. W. J. Dobbins. flow sheets il Eng & Min J 116:577-81 O 6 '23

Mining phosphate rock in Florida. H. M. Payne. il Eng & Min J 115:710-11 Ap 21 '23

See also Petroleum—Florida

France

See Iron ores—France; Metallurgical plants—France; Petroleum—France

Germany

German aluminum industry. Eng & Min J 116:448 S 15 '23

La production des combustibles minéraux et des minerais de fer en Allemagne, en 1920. Génie Civil 82:185 F 24 '23

See also Coal mines and mining—Germany; Iron ores—Germany; Petroleum—Germany

Great Britain

Our mineral statistics. Engineer 133:289-90; 134:596-8 Mr 17, D 8 '22

See also Coal—Great Britain; Tin mines and mining—Great Britain

Greece

Eubœan magnesite field. H. C. Boydell. map il Eng & Min J 112:771-6; 113:44 N 12 '21, Ja 14 '22

Magnesite deposits of Eubœa. H. C. Boydell. maps Econ Geol 16:507-23 D '21

Idaho

Central Idaho—a rugged mining region. G. J. Bancroft. il Eng & Min J 113:438-41 Mr 18 '22

Metal mining in Idaho. Eng & Min J 116:373 S 1 '23

See also Gold mines and mining—Idaho; Petroleum—Idaho

Illinois

See Coal—Illinois; Coal mines and mining—Illinois; Petroleum—Illinois; Potash—Illinois

India

Gariajore manganese mine, in Gangpur state, India. J. F. Spedding. il Eng & Min J 113:403-5 Mr 11 '22

India. W. A. Doman. Eng & Min J 115:139 Ja 20 '23

Mineral resources of Burma. N. M. Penzer. 176p Routledge, Dutton '22

See also Iron industry and trade—India; Iron mines and mining—India

Ireland

Mineral resources of Ireland. E. P. Rathbone. Eng & Min J 114:22 Jl 1 '22

Mining barytes in Ireland. F. H. Ahier. flow sheet il Eng & Min J 114:404-5 S 2 '22

Japan

Geological distribution of the important ore deposits of Japan. M. Watanabé. maps Econ Geol 18:173-89 Mr '23

Mining in old Japan. H. H. Manchester. il Eng & Min J 115:889-93 My 19 '23

Principal mines of Japan. H. Nishihara. map Eng & Min J 114:239-44 Ag 5 '22

See also Coal mines and mining—Japan; Copper mines and mining—Japan

Jugoslavia

Geology & mineral resources of the Serb-Croat-Slovene state. D. A. Wray. 107p H. M. Geological survey of Great Britain, Dept. of scientific & industrial research, London '21

Kansas

See Petroleum—Kansas

Kentucky

See Coal—Kentucky; Oil shales—Kentucky; Petroleum—Kentucky

Kongo, Belgian

Belgian Congo. S. H. Ball. Eng & Min J 115:137 Ja 20 '23

Korea

Present situation in Korean mining. A. H. Colbran. Eng & Min J 114:895 N 18 '22

Latin America

Minerals, earths and clays of Latin America. O. Wilson. il Chem & Met Eng 26:631-6, 697-700, 745-9 Ap 5-19 '22

Madagascar

Les mines de Madagascar. map Génie Civil 83:207-8 S 1 '23

Mexico

Barranca del Cobre—Mexico's grand canyon. H. H. Taft. il Eng & Min J 116:708 O 27 '23

Camp of Guanacevi. A. T. Benitez. il map Eng & Min J 114:139-44 Jl 22 '22; Discussion. P. X. Stoffel. 114:580 S 30 '22

Constancia mining properties in Coahuila. S. F. Shaw. il Eng & Min J 113:722-4 Ap 29 '22

Diamond drilling in El Potosi mine. H. A. Walker. plans Eng & Min J 114:896-902 N 18 '22

Engineer tells of prospects in Yaqui country. J. L. Drug. il Eng & Min J 116:719-22 O 27 '23

Mexico. H. M. Payne. Eng & Min J 115:132 Ja 20 '23

Mining history of Mexico. H. A. C. Jenison. Eng & Min J 115:364-8 F 24 '23

Mining industry of Mexico: a historical sketch. R. G. Cleland. il map Min & Sci P 123:130, 638-45 Jl 2, N 5 '21

Mining reconnaissance from Mazatlan. F. D. Pagliuchi. il maps Eng & Min J 115:542-6 Mr 24 '23

Ore deposits of Sierra Mojada, Coahuila, Mexico. S. F. Shaw. Min & Met 188:33-4 Ag '22

Present mining conditions in Mexico. S. F. Shaw. Min & Met 180:23-4 D '21

Recent developments in mining in Jalisco and Nayarit, Mexico. H. M. Payne. il map Eng & Min J 112:1045-8 D 31 '21

Sierra Madre of northwestern Mexico. H. H. Taft. Eng & Min J 113:48-50 Ja 14 '22

See also Petroleum—Mexico; Silver mines and mining—Mexico; Zinc mines and mining—Mexico

Minnesota

Magnetite pegmatites of northern Minnesota. F. F. Grout. Econ Geol 18:253-69 Ap '23

See also Iron mines and mining—Minnesota; Iron ores—Minnesota

Missouri

Joplin district in 1921. J. A. Zook. Eng & Min J 113:208 F 4 '22

Montana

See Gas, Natural—Montana; Petroleum—Montana

Nevada

Candelaria silver district. A. Knopf. diag map U S Geol S Bul 735—A:1-22 '22

Hornsilver mining district. J. K. Turner. map Min & Sci P 124:93-4 Ja 21 '22

Jarbridge mining district, Nevada. F. C. Schrader. U S Geol S Bul 741:1-83, pl 1-20 '23

Ore deposits of Cedar Mountain mineral county, Nevada. A. Knopf. diag map U S Geol S Bul 725—H:361-82 '21

Ore deposits of the Pioche district, Nevada. J. C. Anderson. il plans Eng & Min J 113:279-85 F 18 '22

Mines and mineral resources—Nevada—Cont.

Résumé of geology of United Comstock mines. W. H. Grant. *Min & Met* 191:39-41 N '22
 Round Mountain district, Nevada. H. G. Ferguson. diag maps U S Geol S Bul 725—I: 333-406 '21
 Status of Nevada mining. Eng & Min J 116: 672 O 20 '23

See also Gold mines and mining—Nevada

New Jersey

See Iron ores—New Jersey

New Mexico

Mining in New Mexico. T. A. Rickard. Eng & Min J 114:92 J1 15 '22
 Taylor Creek tin deposits, New Mexico. J. M. Hill. map U S Geol S Bul 725—G:347-59 '21
 See also Copper mines and mining—New Mexico; Geology—New Mexico; Iron ores—New Mexico; Petroleum—New Mexico

New South Wales

Mineral production of New South Wales. R. H. Cambage. Eng & Min J 116:589 O 6 '23

North Dakota

Lignite in the western part of the Fort Berthold Indian reservation south of Missouri river. C. M. Bauer and F. A. Herald. diags map pls U S Geol S Bul 726—D:109-72 '21

Nova Scotia

Manganese deposits of Lunenburg county, Nova Scotia. F. C. Fearing. il maps Eng & Min J 115:11-15 Ja 6 '23; Discussion. 115: 307-8, 482-3, 746, 1008-9 F 17, Mr 17, Ap 28, Je 9 '23

Ohio

Economic geology of the Summerfield and Woodsfield quadrangles, Ohio. D. D. Condit. U S Geol S Bul 720:1-156, pl 1-12 '23
 See also Coal mines and mining—Ohio; Petroleum—Ohio

Oklahoma

Phosphate in Permian red beds of Oklahoma and Texas. A. C. Shead. *Chem Age* 31: 319-20 J1 '23

See also Geology—Oklahoma; Petroleum—Oklahoma

Ontario

Mineral production of Ontario, 1922. W. R. Rogers. *Can Chem & Met* 7:71-2, 101-2 Mr-Ap '23
 Ontario's metal production for first nine months of 1921. Eng & Min J 112:1078 D 31 '21

See also Silver mines and mining—Ontario

Oregon

Oregon metal mines have light output. Eng & Min J 114:144 J1 22 '22

See also Coal mines and mining—Oregon; Mercury mines and mining—Oregon; Priceite

Panama

See Petroleum—Panama

Pennsylvania

See Coal—Pennsylvania; Coal mines and mining—Pennsylvania

Peru

Opportunities for prospectors in Peru. R. F. Letts. Eng & Min J 114:797-8 N 4 '22

See also Copper mines and mining—Peru; Petroleum—Peru

Quebec

Asbestos mining and milling in Quebec. W. A. RuKeyser. il Eng & Min J 113:617-25, 670-7 Ap 15-22 '22

Rhodesia

Rhodesian mineral production. Eng & Min J 113:523 Ap 1 '22

Russia

Non-metallic mineral wealth of Russia. S. H. Ball. Eng & Min J 114:985-9 D 2 '22
 Retards manganese ore output. B. Schapira. map Iron Tr R 72:1164-5 Ap 19 '23
 Russian metallurgy under soviet rule. *Min & Sci P* 123:637 N 5 '21

See also Coal mines and mining—Russia; Gold mines and mining—Russia; Iron mines and mining—Russia; Mining industry and finance—Russia; Petroleum—Russia.

Russian Far East

See Mines and mineral resources—Siberia

Saar valley

Les cokes de la Sarre et de la Haute-Silésie. diag Génie Civil 81:299-300 S 30 '22

Saskatchewan

Economical mineral resources of northern Saskatchewan. W. A. MacLeod. *Can Chem & Met* 6:35-7 F '22

Siam

See Tin mines and mining—Siam

Siberia

New aspects of the geology of the principal ore-bearing provinces of Siberia. P. P. Goudkoff. map Econ Geol 17:260-73 Je '22
 Outlines of the mining industry in the Russian Far East. P. P. Goudkoff. *Min & Met* 186:23-4 Je '22
 Tiu-Tiu-He zinc-lead-silver deposit, on the Siberian coast. C. W. Purington. map Eng & Min J 113:362-3 Mr 4 '22
 See also Petroleum—Siberia

Sicily

Sulphur mines of Sicily. C. L. Sagui. diags Econ Geol 18:278-87 Ap '23

Silesia

Poles get Upper Silesian mills. B. Schapira. Iron Tr R 70:599-600 Mr 2 '22
 Tableaux des principales propriétés minières attribuées à la Pologne, lors du partage de la Haute-Silésie par la Société des nations. *Chimie & Ind* 7:407-9 F '22
 Zinc-lead-silver in Upper Silesia. Eng & Min J 113:331 F 25 '22

South Africa

See Diamond mines and mining—South Africa

South America

South America; regional summaries. G. W. Tower, jr. Eng & Min J 115:133-4 Ja 20 '23

South Dakota

Geology of the Homestake mine. S. Paige. il diags maps Econ Geol 18:205-36; Discussion. 236-7 Ap '23

See also Petroleum—South Dakota

Spain

See Copper mines and mining—Spain; Iron ores—Spain

Sweden

Sweden's metal and mineral production in 1920. Eng & Min J 113:15 Ja 7 '22

Syria

Mineral resources of Syria. I. M. Toll. map Eng & Min J 112:846-51; Bibliography. 851-2 N 26 '21

Tasmania

Tasmanian mineral production, 1921. Eng & Min J 113:679 Ap 22 '22

Tennessee

Mining and washing phosphate rock in Tennessee. R. W. Smith. flow sheet il map Eng & Min J 115:221-6 F 3 '23

Texas

See Petroleum—Texas; Potash—Texas

Mines and mineral resources—Continued**Transvaal**

See Gold mines and mining—Transvaal

Trinidad

Trinidad as a field for the study of the origin of petroleum. P. Carmody. *Inst Pet Tech J* 7:298-313; Discussion. 313-25 O '21

United States

14th census of the United States taken in the year 1920; mines and quarries 1919. 443p U.S. Bureau of the census, Washington '22
Mineral resources of the United States, 1920. G. P. Loughlin. U S Geol S Min Res of U S 1920, pt 1:5a-155a '23
Moment position of the mining industry. A. H. Hubbell. *Eng & Min J* 113:128-9 Ja 21 '22

United States; regional summaries. A. B. Parsons. *il Eng & Min J* 115:124-9 Ja 20 '23

See also Coal—United States; Coal mines and mining—United States; Iron mines and mining—United States; Mining industry and finance—United States; Petroleum—United States; Potash—United States

Utah

Alunite and its products. R. H. Tingley. *il diag Eng & Min J* 115:194-7 Mr 17 '23

Economic geology of the Ophir mining district. S. G. Olmstead. *Econ Geol* 16:433-56 N '21

Mining camps of North America; Park City: a lead-silver district, in Utah. G. R. McKay. flow sheet *il diag Eng & Min J* 116:7-14 Jl 7 '23

Mining in Arizona and Utah during 1921. V. C. Heikes. *Min & Sci P* 124:95-6 Ja 21 '22

Uranium-bearing asphaltite sediments of Utah. F. L. Hess. *il map Eng & Min J* 114:272-6 Ag 12 '22

See also Coal mines and mining—Utah; Petroleum—Utah

Washington (state)

Iron ores, fuels and fluxes of Washington. S. Shedd and others. 160p Washington (state). Dept. of conservation, Olympia '22

Metal mines of Washington. E. N. Patty. (Bul. 23) 366p Washington Geol. survey, Olympia '21

Mineral resources of Washington, with statistics for 1919. E. N. Patty and S. L. Glover. (Bul. 21) 155p Washington Geol. survey, Olympia '21

West Virginia

See Coal mines and mining—West Virginia

Wisconsin

Magnetic surveying on the copper-bearing rocks of Wisconsin. H. R. Aldrich. map *Econ Geol* 18:562-74 S '23

Wyoming

See Coal mines and mining—Wyoming; Petroleum—Wyoming

Yukon region

Mayo district in Yukon territory. C. F. Williams. *il map Eng & Min J* 113:1039-46 Je 17 '22

Yukon's future not dark in eyes of gold commissioner. R. Dunn. *il Eng & Min J* 115:991 My 19 '23

Minimeters

Hirth minimeter. *il Am Mach* 55:861 N 24 '21

Minimum income. See Income**Minimum wage**

Brief for constitutionality of minimum wage law of District of Columbia. *Monthly Labor R* 16:1017-19 My '23

Cave report on the British Trade board acts, 1909-1923. 108p National consumers' league, New York '23

Constitutionality of the minimum wage law of the District of Columbia. *Monthly Labor R* 15:1391-6 D '22

Effects of the operation of the California minimum wage law. L. Bloch. *Monthly Labor R* 17:297-308 Ag '23

Enforcement of minimum wage acts in Canada. *Int Labour R* 8:612-15 O '23

Fair wage. E. Batten. 90p Pitman '23

Minimum wage. See monthly numbers of Monthly labor review

Minimum wage decision. *Nation's Business* 11:44 Je '23

Minimum wage law in District of Columbia declared unlawful. *Comm & Fin Chr* 115:2115 N 11 '22

Minimum wage legislation for low-paid industries in Europe. *Int Labour R* 4:320-50 N '21

Report to the Minister of labour of the Committee appointed to enquire into the working and effects of the Trade boards acts. 55p Gt. Brit. Ministry of labour, London '22
Success of minimum wage legislation. 108p National consumers' league, 44 East 23d st., New York '23

Supreme court passes upon minimum wage laws; editorial. *Comm & Fin Chr* 116:1588-9 Ap 14 '23

United States Supreme court holds minimum wage law unconstitutional; text. *Comm & Fin Chr* 116:1608-12 Ap 14 '23; Excerpts. *Monthly Labor R* 16:1020-9 My '23

Views of a Massachusetts employer on the minimum wage. *Monthly Labor R* 17:116-18 Jl '23

See also Great Britain—Trade boards

Mining, Cooperative

Cooperative coal mining experiment. *Monthly Labor R* 14:1306-8 Je '22

Mining camps

Boarding house at small mines. C. N. Schuette. *Eng & Min J* 114:720-1 O 21 '22

Machine shop, bathhouse, houses and other accessory buildings at the new Gallup American mine. H. B. Cooley. *il diag plans Coal Age* 24:427-32 S 20 '23

Miner on the mine-labor problem. C. E. Griffin. *Eng & Min J* 116:772 N 3 '23

Preservation of natural scenery and attractiveness of mining camps. G. F. Kunz. *Min & Met* 186:33 Je '22

See also Oil camps

Mining companies

See Mining industry and finance; also Butte & Superior mining company

Mining corporation of Canada

Mining corporation of Canada. T. A. Rickard. *Eng & Min J* 113:1081 Je 24 '22

Mining costs

Asbestos mining and milling in Quebec. W. A. Rukeyser. flow sheets *il diag Eng & Min J* 113:670-7 Ap 22 '22

Constancia mining properties in Coahuila. S. F. Shaw. *il Eng & Min J* 113:722-4 Ap 29 '22

Cost of explosives only 2 per cent of total mining expense at Dos Estrellas. *Eng & Min J* 116:366 S 1 '23

Cost of steam-shovel and underground mining of Nevada Consolidated. *Eng & Min J* 115:1159 Je 30 '23

Cost of timber in Illinois between one and sixteen cents per ton mined. *Coal Age* 23:856 My 24 '23

Costs at the North Star mines. *Eng & Min J* 115:675 Ap 14 '23

Costs of McIntyre-Porcupine gold-mining operations. *Eng & Min J* 116:726 O 27 '23

Costs of operation of shoveling machines in mines. *il Coal Age* 21:833-9 My 18 '22; Same cond. *Eng & Contr* 57:585-9 Je 21 '22

Gold mining at Carson Hill, California. G. J. Young. *il Eng & Min J* 112:725-9 N 5 '21

How to select prospecting equipment. G. J. Young. *diag Eng & Min J* 116:491-8 S 22 '23

Improved condition of the Witwatersrand gold mines. *Eng & Min J* 114:544 S 23 '22

Mining and milling costs of the Belmont surf inlet mines. *Eng & Min J* 115:882 My 19 '23
Mining and milling costs of United Eastern mining company. *il Min & Met* 192:26-8 D '22

Mining costs—Continued

- Mining operations of Nevada Consolidated in 1921. Eng & Min J 113:1092 Je 24 '22
 Reduction of costs. J. R. Finlay. Eng & Min J 113:102-3 Ja 21 '22
 Silver mining and milling costs of Tonopah Belmont. Eng & Min J 115:937 My 26 '23
 Tigre mining reports decreased costs for 1921. Eng & Min J 114:279 Ag 12 '22

See also Coal mines and mining—Costs

Mining engineering

- Caving systems of mining. J. P. Channing. Min & Met 181:7-10 Ja '22; Correction. 182:4 F '22
 Coal- and metal-mining methods contrasted. D. Harrington. il Coal Age 23:961-7 Je 14 '23
 Diamond drilling in El Potosi mine. H. A. Walker. plans Eng & Min J 114:896-902 N 18 '22
 Driving a 1,200-ft. waste-pass; San Luis Potosi, Mexico. C. F. Williams. il diags Eng & Min J 116:227-9 Ag 11 '23
 Driving drifts and small crosscuts. D. M. Houston. diags Eng & Min J 114:462-3 S 9 '22
 Elements of mining. G. J. Young. 2d ed., rev. 671p McGraw-Hill '23
 Engineer's relation to elimination of waste in mining. J. P. Channing. Min & Met 183:41-2 Mr '22
 Hanging scaffold for taking down loose back in high ground. I. H. Cornell. il diags Eng & Min J 113:966-7 Je 3 '22
 Hollinger mine and mill. Eng & Min J 113:415-16 Mr 11 '22
 Incline slicing method as applied to large orebodies. J. P. Hodgson and J. Kiddie. diags plans Eng & Min J 113:914-16 My 27 '22
 Methods of underground metal mining; chart. F. W. Sperr. Min & Met 182:28-9 F '22; Same. Eng & Min J 113:298-9 F 18 '22
 Mining by Briggs underhand square setting. R. H. Dickson. diags map Eng & Min J 115:5-6 Ja 6 '23
 Mining by Ratterree modification of underhand square setting. R. H. Dickson. diags plan Eng & Min J 115:191-2 Ja 27 '23
 Mining methods; with chart. C. F. Jackson. Min & Met 187:27-8 Jl '22
 Mining physics and chemistry. J. W. Whitaker. 268p Longmans '21
 Mining practice. G. J. Young. Eng & Min J 115:109-12 Ja 20 '23
 Mining under fire conditions. W. G. Scott and S. A. Mewhirter. diags Eng & Min J 116:101-6 Jl 21 '23
 Mucking in mines with portable hoists. J. A. Noyes. il diags Eng & Contr (Ry) 60:822-7 O 17 '23
 Proceedings of the third National standardization conference, held in connection with the twenty-fifth annual convention of the American mining congress, Cleveland, Ohio, Oct. 9-14, 1922. 387p American mining congress, Washington, D.C. '23
 Promoting efficiency in drilling and blasting. B. F. Tillson. il diag Eng & Min J 113:446-50 Mr 18 '22; Discussion. 113:853-5 My 20 '22
 Proposed mining methods of United Comstock mines company. J. R. Reigart. diags Min & Met 191:41-3 N '22
 Quincy mining co.'s practice. H. M. Payne. il Eng & Min J 114:23-4 Jl 1 '22

- Spies open-stope system of mining. S. R. Elliott. plans Min & Met 183:58-60 Mr '22
 Transportation, power, and mining at Bawdwin. R. G. Hall. il Eng & Min J 115:660-6 Ap 14 '23

See also Blasting; Coal mines and mining; Copper mines and mining; Diamond mines and mining; Drilling and boring (earth and rocks); Electricity in mining; Hydraulic mine filling; Hydraulic mining; Iron mines and mining; Mine construction; Mine drainage; Mine haulage; Mine hoisting; Mine management; Mine sanitation; Mine shafts; Mine shops; Mine surveying; Mine timbering; Mine ventilation; Mines and mineral resources; Mining engineering societies; Mining engineers; Mining machinery; Mining schools and education; Ore

handling; Ore sampling; Prospecting; Rock drills; Salt mines and mining; Shaft sinking; Tin mines and mining; Tunnels and tunneling; Water supply for mines; Zinc mines and mining

Bibliography

See Mining libraries, Private

History

- Illustrated history of mining and metallurgy. H. H. Manchester. il map Eng & Min J 114:409-13, 447-50, 495-9, 545-9 S 2-23 '22
 Mining in early England. H. H. Manchester. il Eng & Min J 116:152-5 Jl 28 '23

Power

- Large use of Diesel engines by Arizona mining company. C. Legrand. il Elec W 81:1405-7 Je 16 '23
 Power distributing system for deep metal mines; abstract. C. D. Woodward. Min & Met 182:42 F '22
 Producer gas from wood for mine power supply. A. W. Allen. il Eng & Min J 114:813-14 N 4 '22
 Relation of the various mine power costs discussed at Illinois institute. Coal Age 22:951-2 D 14 '22
 See also Coal mines and mining—Power; Electricity in mining

Safety measures

- California mine safety organization. L. H. Eddy. Eng & Min J 114:754-5 O 28 '22
 Conference on mine safety problems. Coal Age 22:799, 960 N 16, D 14 '22
 Efficient mine safety organization. Safety Eng 43:55-6 F '22
 Erection of barricades during mine fires or after explosions. J. W. Paul, B. O. Pickard and M. W. von Bernewitz. U S Bur Mines Circ 25:1-28, pl 1-3 '23; Excerpts. Safety Eng 46:248-9 N '23
 Fire prevention and fighting in metal mines. H. M. Wolfkin. Min & Met 182:25-6 F '22
 Ground phone to help save the lives of miners. Pop Mech 40:408 S '23
 Interconnection of contiguous mines. G. J. Young. Eng & Min J 116:547-8 S 29 '23
 Introduction to mining science. J. B. Coppock and G. A. Lodge. 2d ed. 252p Longmans '23
 Lessons from the Granite Mountain shaft fire, Butte, D. Harrington. U S Bur Mines Bul 183:1-50, pl 1-5 '22
 Mine safety in the Southwest. C. L. Colburn. il Nat Safety N 7:25-6 Ap '23
 Operation and maintenance of electrical equipment approved for permissibility by the Bureau of mines. L. C. Ilsley. U S Bur Mines Tech Pa 306:1-23 '22
 Preventing accidents from falls of roof in the mine. J. W. Reed. Nat Safety N 8:41-2 Jl '23
 Progress in mine safety during 1922. C. L. Colburn. Nat Safety N 7:39 Ja '23
 Responsibilities of a mine foreman. J. L. Johnson. Nat Safety N 8:36 Ag '23
 Safe mechanical equipment for use in shaft sinking. R. H. Kudlich. diags U S Bur Mines Tech Pa 276:1-12 '22; Excerpts. Eng & Contr (Ry) 58:64, 78-9 N 15 '22
 Safeguarding the miner. il Sci Am 129:174-5 S '23
 Safety. H. F. Lunt. Min & Met 186:28 Je '22
 Safety council debates hazards to health and limb. R. D. Hall. Coal Age 22:411-12, 450-2 S 14-21 '22
 Safety council's mining section discusses industry's most burning question: safety in transportation. il diags Coal Age 24:629-32 O 25 '23
 Underground fire prevention by the Anaconda copper mining co.; abstract. E. M. Norris. plan Min & Met 182:37-8 F '22

See also Blasting—Safety devices and measures; Coal mines and mining—Safety measures; Mine crossheads; Mine hoisting—Safety devices; Mine rescue work; Mine signals; Mine telephones; Mine ventilation

Mining engineering—Continued

Standards

Proceedings of the third National standardization conference. 387p Am. mining congress, Washington '23
Standardization in mining. C. A. Mitke. Eng & Min J 113:99-102 Ja 21 '22

Study and teaching

Graphical system of picturing mining methods. C. M. Haight. il Eng & Min J 115:803-5 My 5 '23
Mine examination questions and answers. J. T. Beard. 3v McGraw-Hill '23
Scope of geologic teaching in mining engineering. C. L. Dake. Eng Educ 13:527-36 Ap '23
See also Mining laboratories; Mining schools and education

Mining engineering societies

Functions and future of the professional organizations within the mining industries. T. A. Rickard. Eng & Min J 115:143-4 Ja 20 '23
Functions of institutes. T. A. Rickard. Eng & Min J 113:613, 661, 708 Ap 15-29 '22

Mining engineers

Arthur Thacher, mining engineer; an interview. T. A. Rickard. il Min & Sci P 124:253-8 F 25 '22
Education of a mining engineer. T. A. Rickard. Min & Sci P 123:811-16 D 10 '21
How should a mining engineer be trained? A. H. Rogers. Eng & Min J 113:119-23 Ja 21 '22
Philip N. Moore, of St Louis. T. A. Rickard. Min & Sci P 124:45-50 Ja 14 '22
Question confronting the graduate. R. H. Fraser. Min & Sci P 123:595-7 O 29 '21
T. A. Rickard, engineer-editor; an interview. C. Butters and W. J. Loring. Eng & Min J 113:528-36 Ap 1 '22
See also Hoisting engineers; Mining schools and education; *also* Fuller, John T.

Mining industry and finance

Analytical method of summarizing mining reports. F. C. Fearing. Eng & Min J 116:713-18 O 27 '23
Five greatest mining enterprises. Eng & Min J 114:903 N 18 '22
General review. Eng & Min J 115:90-164 Ja 20 '23
Investing in copper shares. A. B. Parsons. Min & Sci P 124:157-66 F 4 '22
Mining booms. M. W. von Bernewitz. Eng & Min J 114:536 S 23 '22
Mining game. F. E. Green. Eng & Min J 114:1105-6 D 23 '22
Mining investments. T. A. Rickard. Eng & Min J 115:1010 Je 9 '23
Mining prosperity and the railroad problem. F. R. Raiff. Eng & Min J 113:117-19 Ja 21 '22
Risks and security in mining investments. P. Yeatman and E. S. Berry. Eng & Min J 112:837-8 N 19 '21
Trade association and the mining industries. F. E. Wormser. Eng & Min J 113:725-7 Ap 29 '22
See also Coal mines and mining—Finance; Diamond mines and mining; Metal trade; Mine accounting; Mine reports; Mine taxation; Mine valuation; Mineral industries; Mining costs; Smelting contracts; *also* Barnsdall corporation, Hollinger consolidated gold mines, ltd.

Advertising

Miners' sales problems that advertising will help solve. J. H. Collins. Ptr Ink 123:89-90+ Je 14 '23

Statistics

Chile copper co. Eng & Min J 115:41 Ja 6 '23
Company reports. Published in weekly numbers of Engineering and mining journal—press
See also Kennecott copper corporation

British Columbia

Mining and metallurgy in British Columbia. Can Chem & Met 6:163-4 Jl '22

Canada

See Mining corporation of Canada

China

Mining regulations in Mongolia. W. F. Collins. Eng & Min J 113:962 Je 3 '22

Mexico

Mining history of Mexico. H. A. C. Jenison. Eng & Min J 115:401-3 Mr 3 '23

Nevada

Comstock lode in the 'sixties. R. H. Stretch. Min & Sci P 123:739-44 N 26 '21
Early Comstock days. R. K. Colcord. Min & Sci P 124:327-30 Mr 11 '22

New Mexico

Chino enterprise. T. A. Rickard. il map Eng & Min J 116:753-8, 803-10 N 3-10 '23

Russia

Mining in Russia. Min & Sci P 123:676-9 N 12 '21
Recent negotiations of Russo-Asiatic with soviet government. Min & Met 192:21-3 D '22
Russia reopened for mining. L. Urquhart. Min & Met 190:13-14 O '22
Russian mining industry since 1917. E. Werchowisky. Min & Met 188:19-21 Ag '22
Russian soviet wants private capital for mine development. Eng & Min J 116:74 Jl 14 '23
See also Russo-Asiatic consolidated company

Turkey

Why the mines of Asia Minor are not worked. P. A. Georgiades. Eng & Min J 113:917 My 27 '22

United States

Details of Mohawk-Wolverine-Michigan merger released. Eng & Min J 116:120 Jl 21 '23
Dividends from mines. United States and Canada. Min & Sci P 124:267-8 F 25 '22
Dividends of mining and metallurgical companies in the United States, 1920 and 1921. Eng & Min J 113:149-50 Ja 21 '22
Mining companies and tables of statistics. 91p Hayden, Stone & co., New York '22
See also United States—Mines, Bureau of

Western states

Western mining operations are definitely on the upgrade. F. L. Sizer. J Elec 48:105-6 F 1 '22

Mining laboratories

Mining laboratory of the Missouri school of mines. C. R. Forbes. il diags Min & Sci P 124:359-60 Mr 18 '22

Mining law

Administration of laws regulating conditions in mines. E. A. Holbrook. Coal Age 23:443-6 Mr 15 '23
Alabama law re gaseous mines. Coal Age 21:210-11, 576 F 2, Ap 6 '22
Certificate vs. experience. R. W. Lightburn; W. H. Luxton. Coal Age 21:291-2 F 16 '22
Certification upheld. J. Thompson. Coal Age 20:726 N 3 '21
Certify the mine superintendent. Coal Age 20:180, 684-5, 1016-17; 21:212 Ag 4, O 27, D 22 '21, F 2 '22
Eminent authority in favor of mining law revision. H. V. Winchell. Min & Met 183:52-3 Mr '22
Judgment in interpreting mining laws. Coal Age 20:846-7, 1053-4 N 24, D 29 '21
Labor law drawn by Guanajuato commission seems moderate. K. A. Cunningham. Eng & Min J 115:948 My 26 '23

Mining law—Continued

- Laws and regulations governing the operation of metal mines. 94p Illinois Dept. of mines and minerals, Springfield '22
- Legislation and the mining industry. M. C. Rhodes. Eng & Min J 113:125-6 Ja '21
- Loi du 16 décembre 1922. A. Lainé. Génie Civil 82:305-7 Mr 31 '23
- Make mining laws complete. R. A. Marshall. Coal Age 20:725 N 3 '21
- Mexican mining law under the new constitution of 1917. D. A. Richardson. Eng & Min J 113:525-7 Ap 1 '22
- Mine foremen's qualifications required in different coal-producing states. Coal Age 21:847-8 My 18 '22
- Mine laws lax on handling and storing of explosives. il Coal Age 23:565-6 Ap 5 '23
- Mining law and the geologist. C. K. Leith. Min & Sci P 124:232-4 F 18 '22
- Mining law revision. Min & Sci P 123:697-8, 735-6, 841-7, 920; 124:339-40 N 19-26, D 17, 31 '21. Mr 11 '22
- Mining laws, federal and state. G. B. Morgan. 73p Wyoming, Office of state geologist, Cheyenne '21
- Mining regulations in Mongolia. W. F. Collins. Eng & Min J 113:962 Je 3 '22
- Misconstruing the mining law. J. Northover. Coal Age 21:577 Ap 6 '22
- Need of the certification of shotfirers in the practice of coal mining. A. Waugh. Coal Age 21:1050-1 Je 22 '22
- New mining law; abolition of extralateral rights. J. G. Murphy. Eng & Min J 112:1004-5 D 24 '21
- Northwest mining association's position. F. A. Ross. Min & Met 183:51-2 Mr '22
- Oil and gas wells in vicinity of coal mines; Illinois law. G. F. Libiez. Coal Age 21:740 My 4 '22
- Operating regulations to govern the methods of mining oil shale, phosphate, sodium, and potash, and the safety and welfare of employees in connection therewith. 7p U.S. Bureau of mines, Washington '22
- Principal features of the Bulgarian mining law. P. R. Cook. Eng & Min J 112:517 N 19 '21
- Proposed new mining law. H. H. Taft; M. L. Keizur. Eng & Min J 113:436-7 Mr 18 '22
- Proposed revision of the mining law. C. M. Eve. Min & Sci P 124:323-4 Mr 11 '22
- Proposed revision of the mining law; report adopted by the mining committee of the Commercial club of Salt Lake City. Min & Sci P 123:817-20 D 10 '21
- Prospector, scout, exploration company, and revision of the mining law. S. F. Hunt. Eng & Min J 114:579-80 S 30 '22
- Purpose of revised certificate law. Coal Age 20:968-9 D 15 '21
- Recent Mexican mining decrees. P. X. Stoffel. Eng & Min J 116:451-2 S 15 '23
- Revision of the mining law. P. E. Barbour. Min & Met 184:3-4 Ap '22
- Revision of the mining law. W. R. Ingalls. Min & Met 186:19-21 Je '22
- Revision of the mining law. F. R. Ingalsbe. Min & Met 187:25-6 JI '22
- Revision of the mining law. L. S. Ropes. Eng & Min J 114:137-8 JI 22 '22
- Revision of the mining law. F. F. Sharpless. diag Min & Met 181:19-23 Ja '22
- Revision of the mining laws. H. G. Moulton. Eng & Min J 112:804-5 N 19 '21
- United States mining act. Eng & Min J 112:964-5 D 17 '21
- United States mining laws and regulations thereunder. (Circ. no. 430) 99p U.S. Dept. of the interior, General land office, Washington '22
- Value of certification law appreciated. Coal Age 20:807-8; 21:211 N 17 '21, F 2 '22
- Why change the Colorado law? R. A. Marshall. Coal Age 22:498-9 S 28 '22
- Why worry over change in certificate law. Coal Age 21:658-9 Ap 20 '22

See also Mine taxation; Mine telephones; Mineral lands; Petroleum laws and regulations

Mining libraries, Private

- Four-foot shelf of books for a mining engineer. T. A. Rickard. Eng & Min J 114:224-7 Ag 5 '22; Discussion. 114:753-4 O 28 '22

Mining machinery

- Buying mining machinery. L. Childs. Eng & Min J 116:220 Ag 4 '23
- Conference on mine cables would condition permissibility on frequent inspection. Coal Age 21:442 Mr 16 '22
- Goodman mining handbook for coal and metallurgical mine operators, managers, etc. 4th ed. 288p Goodman mfg. co., Chicago, New York '22
- How to select prospecting equipment. G. J. Young. diags Eng & Min J 116:491-8 S 22 '23
- Mayne loader. il Eng & Min J 115:299-300 F 10 '23
- New machinery. D. E. A. Charlton. Eng & Min J 115:162-4 Ja 20 '23
- Present status of the wet stoping drill. H. G. Snyder. Eng & Min J 112:742-3 N 5 '21
- Recent developments in underground mechanical loading. C. E. van Barneveld. il diags Eng & Min J 116:501-11 S 22 '23; Abstract. Eng & Contr (Equip R) 60:905-6 O 31 '23
- Scraping and loading in mines with small compressed-air hoists. W. Royce. il diags plans Eng & Min J 112:925-31, 973-7, 1014-19 D 10-24 '21
- Sublevel slicer. W. H. Newett. il diags Eng & Min J 113:921-2 My 27 '22
- Underground loading devices in metal mines. C. L. Colburn. il Min & Sci P 124:119-28 Ja 28 '22
- Use of scrapers underground. L. Eaton. il diags Min & Sci P 123:703-7 N 19 '21
- See also Coal mining machinery; Electricity in mining; Hoisting machinery; Mine haulage; Shoveling machines

Exhibitions

- Mining exhibition at the Agricultural Hall. il diags Engineering 115:711-13, 716, 738-41, 746 Je 8-15 '23; Elec R (Lond) 92:917-18 Je 8 '23; Engineer 135:604-6, 632 Je 8-15 '23; Ind Management (Lond) 9:406-8 Je 23 '23
- 25th annual convention of the American mining congress, Cleveland, Ohio. Coal Age 22:715-16 N 2 '22

Inspection

See Locomotives, Mine—Inspection

Standards

- Standardization in mining. C. A. Mitke. Eng & Min J 113:99-102 Ja 21 '22

Mining research

- Prospecting and research. A. S. Dwight. Min & Met 184:7-10 Ap '22
- Summarized reports of principal investigations being conducted by the Bureau of mines for fiscal year beginning July 1, 1921. J. D. Secrest, comp. 186p U S Bur Mines S '21 (typew)
- See also United States—Mines, Bureau of—Experiment station

Mining schools and education

- College of mining—University of California. G. J. Young. il Eng & Min J 113:4-8 Ja 7 '22; Discussion. 113:237, 395-6 F 11, Mr 11 '22
- Colleges offer summer mining courses. il Coal Age 23:852-4 My 24 '23
- Education of the mining engineer. Eng & Min J 112:742 N 5 '21
- How should a mining engineer be trained? A. H. Rogers. Eng & Min J 113:119-23 Ja 21 '22
- M.I.T.'s new summer school at Dover. A. H. Hubbell. il Eng & Min J 116:674-5 O 20 '23
- Mining and allied educational institutions; list in the United States, Canada, and Mexico, in which mining engineering subjects are taught. Eng & Min J 115:158-9 Ja 20 '23
- Mining and metallurgy at Yale university. G. J. Young. il Eng & Min J 114:682-4 O 14 '22
- Mining at Stanford university. G. J. Young. il Eng & Min J 113:364-6 Mr 4 '22
- Mining curriculum at Lehigh university. G. J. Young. diags Eng & Min J 113:239-41 F 11 '22

Mining schools and education—Continued

- Mining curriculum at the Massachusetts institute of technology. G: J. Young. Eng & Min J 114:58-60 JI 8 '22
 Mining instruction at Harvard. G: J. Young. il Eng & Min J 113:959-61 Je 3 '22
 Vocational education in the mining industry. Int Labour R 8:443-58 S '23

Mining terms

See Ore (term)

Mining towns

- Building a town for a mountain community; a glimpse of Jenkins and nearby villages. il map Coal Age 23:560-3 Ap 5 '23
 Community building project beautifies Inspiration. L: Ware. il Eng & Min J 116:163-4 JI 28 '23
 Logans Ferry has front lawns, street lights, open fires, lined flues, roomy cellars and other conveniences. Coal Age 20:1012-14 D 22 '21

Where to build our mining towns and what type of house we should erect in them. T: F. Downing, jr. il plan Coal Age 24:63-7 JI 12 '23

See also Miners' houses; Mining camps; also Zeigler, Illinois

Minneapolis, Minnesota**Bridges**

- Design of 400-ft. concrete arch of the Caple-Dean memorial bridge. il diags Eng N 90:148-52 Ja 25 '23

Rapid transit

- City's expert fixes Minneapolis valuation at \$11,000,000. Elec Ry J 62:193 Ag 4 '23
 Preliminary valuation presented. Elec Ry J 60:212 Ag 5 '22
 \$2,049,597 accounting sought. Elec Ry J 59:978-9 Je 17 '22

Streets

- Minneapolis experimental wood block pavement after 15 years' service. J. D. MacLean. diag Eng & Contr 56:415-17 N 2 '21; Same. Pub Works 51:485-8 D 24 '21

Minneapolis & St Louis railway

- Trouble with the Minneapolis & St Louis. F. J. Lisman. map Ry Age 75:347-8 Ag 25 '23

Minneapolis, St Paul & Sault Ste Marie railway

- Annual report, 1922. Ry Age 75:121-2, 138 JI 21 '23

Minnesota

See Electric plants (central stations)—Minnesota; Geology—Minnesota; Iron mines and mining—Minnesota; Iron ores—Minnesota; Motor bus lines—Minnesota; Roads—Minnesota; Water power—Minnesota

Minnesota federation of architectural and engineering societies

- Joint meeting, Feb. 21-23. Eng N 88:373-4 Mr 2 '22

Mint products company

- Intensive effort makes last six months of 1921 best in company's history. R. Cole. Ptr Ink 118:41-2+ Ja 19 '22

Mirrors

- Mirrors for reflecting heat. C: Féry. Engineer 132:545 N 18 '21
 Re-silvering mirrors. C: H. Proctor. Metal Ind 21:193 My '23

See also Reflectors

Misbranding

- Can Federal trade commission prevent misbranding? C. P. Carter. Ptr Ink 118:59-60 Mr 2 '22

False marking and description of goods with special reference to origin. T. Rich. Elec R (Lond) 91:148-50 Ag 4 '22

U.S. Supreme court upholds Federal trade commission in the Winsted hosiery case. Comm & Fin Chr 114:1856 Ap 29 '22

Mission San José

- Mission San José. A. B. Ashby. il Arch & Bldg 54:109-10 D '22

Mississippi

See Petroleum—Mississippi

Mississippi river

- Aerial survey of the Mississippi delta. S. R. Winters. il Aviation 12:103-4 Ja 23 '22
 Battling with the Devil's Hole in the Mississippi flood. A. L. Dabney. il diag plans Eng N 88:988-92 Je 15 '22
 Curbing the Mississippi; levee construction the only practicable method for restraining the flooded river. J. B. Walker. il diag map Sci Am 127:108-10 Ag '22
 Fighting floods on the Mississippi above Vicksburg. W. W. DeBerard. il (supp) maps Eng N 88:814-19 My 18 '22
 Find new gulf outlet for Mississippi. il map Marine R 52:347-9 Ag '22
 Flood control of the Mississippi river. J. A. Ockerson. il map Am Soc C E Pro 48:1168-84 My '22; Abstract. Eng N 88:703-4 Ap 27 '22
 Flood water conditions on the lower Mississippi. W. W. De Berard. il diags plan Eng N 88:868-70 My 25 '22
 Give our waterways a chance; barge line between St Louis and New Orleans. C. A. Newton. il Nation's Business 11:26-8 Je 5 '23
 Hydrologic record of the Mississippi floods from 1882 to 1922. E: N. Chisolm. maps Eng N 90:112-16 Ja 18 '23
 Lighting the Mississippi. G: H. Dacy. il Sci Am 127:390 D '22
 Lighting the Mississippi. L. R. Freeman. il Pop Mech 37:347-50 Mr '22
 Lower Mississippi river problems discussed by A.S.C.E. at New Orleans. Eng N 90:752-3 Ap 26 '23
 Making the Mississippi rebuild its banks. il Sci Am 128:30 Ja '23
 Mississippi problem in light of the 1922 flood. map Eng N 90:21-7 Ja 4 '23
 Mississippi river problem. Sci Am 127:14 JI '22
 Modern boatin' on the Mississippi. J. O'Hara. il Nation's Business 10:28 Ja '22
 New era in transportation; a proposed 1100-mile system of train ferriage on the Father of waters. S: W. Allender. il diag Sci Am 127:94-5 Ag '22
 New river-and-rail terminals on the Mississippi. diags maps Eng N 89:18-20 JI 6 '22
 Possibilities in inland waterway development. C. A. Newton. Munic Eng 65:40-3 JI '23; Same. Nation's Business 11:26-8 Je 5 '23
 River and harbor problems of the lower Mississippi; a symposium. Am Soc C E Pro 49:1133-1249, 1722-31 Ag. O '23; Discussion. 49:1624-43, 1792-8, 1929-35 S-N '23
 Upper Mississippi opened by canal and lock. C. Gaines. il Pon Mech 39:564-5 Ap '23
 Why the spillway will not solve the Mississippi problem. C. M. Townsend. Eng N 90:24-7 Ja 4 '23; Discussion. 90:362-4 F 22 '23

Mississippi valley

- Mississippi valley a world feeder. W. Parker. il Am Ind 23:9-13 My '23

Missouri

See also Mines and mineral resources—Missouri; Roads—Missouri

Negro industrial commission

- Report of the Missouri negro industrial commission. Monthly Labor R 16:1187-9 Je '23

Missouri & North Arkansas railway

- Missouri & North Arkansas resumes operation. K. H. Koach. il map Ry Age 72:1341-3 Je 10 '22

Missouri, Kansas & Texas railway

- Missouri, Kansas & Texas railway system. 15p National city co., New York '21

M. K. & T. reorganization plan announced. Ry Age 71:1043-4 N 26 '21

Waco, Tex., celebrates opening of Katy shops. Ry Age 75:519-20 S 22 '23

Missouri Pacific railroad

- 5th annual report for twelve months ended December 13, 1921. Comm & Fin Chr 114:2134-5 My 13 '22; Same. Ry Age 73:136-7 JI 15 '22

Missouri Pacific railroad—Continued

6th annual report for year ended December 31, 1922. *Comm & Fin* Chr 116:2026-7 My 5 '23; Same. *Ry Age* 74:1300-1 My 26 '23

Missouri Pacific progress hindered by strikes. *map Ry Age* 74:1275-6 My 26 '23

Operating characteristics of Missouri Pacific. *Ry Age* 73:113-14 Jl 15 '22

Missouri river

Missouri river banks protected by tree retard. il *diag map Eng N* 87:966-8 D 15 '21
Wire and willow mat revetment on the Missouri river. il *diags Eng N* 90:258-9 F 8 '23

Mitchell-Vance company

How a possibility was discovered to expand a going business. E. H. Rowe. *Ptr Ink* 122:157-8+ Mr 15 '23

Mitchell, Sidney Z.

Pioneer in public utility work. *por Elec W* 79:916 My 13 '22

Mitchell, William Edward, 1882-

Sketch. *por Elec W* 81:672 Mr 24 '23

Mitchill, Samuel Latham

Samuel Latham Mitchell—a father in American chemistry. E. F. Smith. *J Ind & Eng Chem* 14:556-60 Je '22

Miter cutting

Short cuts in mitre cutting. T. A. Klinefelter and F. C. Parsons. *diags Am Cer Soc J* 6:786-9 Jl '23

Mitscherlich pulp. See Paper making**Mitten, Thomas Eugene, 1864-**

Handling men, the Mitten way. R. Spillane. *por Nation's Business* 11:29-31 F '23

Why Thomas E. Mitten succeeds in Philadelphia. E. A. Muschamp. *Ptr Ink* 118:41-2+ Mr 30 '22

Mixers

See Concrete mixers; Paving mixers; Sagger mixers

Mixers, Rubber. See Rubber machinery**Mixing machines**

Loring machine for adding liquids to powders. il *diags Engineering* 115:492-3 Ap 20 '23

Mixing and kneading with machinery. H. B. Vollrath. il *Chem & Met Eng* 29:444-5 S 10 '23

Mixtures

Conditions for perfect rectification of binary mixtures. C. C. Van Nuys. *diags Chem & Met Eng* 28:207-10, 255-6 Ja 31-F 7 '23

Conditions for reversible rectification. C. C. Van Nuys. *diag Chem & Met Eng* 28:408-13 F 28 '23

Distillation studies of nitric acid and sulphuric-nitric acid mixtures. P. Pascal. *diags Chem & Met Eng* 25:1103-6, 1145-50 D 14-21 '21

Molecular scattering of light in liquid mixtures. C. V. Raman and K. R. Ramanathan. *Philos Mag* 6th ser 45:213-24 Ja '23

Properties of mixtures of ethyl ether, sulphuric acid, and water. J. R. Pound. *diag Chem Soc J* 121:941-5 My '22

Relation between the composition of vapor and liquor in distillation. E. Piron. *diags Chem & Met Eng* 26:317-20 F 15 '22

Separation of liquid mixtures by centrifuging. R. S. Mulliken. *Am Chem Soc J* 44:1723-30 Ag '22

Separation of miscible liquids by distillation. A. F. Dufton. *Chem Soc J* 119:1988-94 D '21

Solubilities in mixtures of two solvents. G. Pucher and W. M. Dehn. *Am Chem Soc J* 43:1753-8 Ag '21

Study of the factors influencing compound formation and solubility in fused salt mixtures. J. Kendall, E. D. Crittenden and H. K. Miller. *Am Chem Soc J* 45:963-96 Ap '23

Study of the fluidity relationships in the system, nitric acid, sulfuric acid and water. E. C. Bingham and S. B. Stone. *J Phys Chem* 27:701-38 N '23

System ethyl alcohol—water—aromatic hydrocarbons from 30°C. to -30°C. W. R. Ormandy and E. C. Craven. *diag Inst Pet Tech J* 7:422-39 D '21

Mixtures, Inflammable. See Inflammable mixtures

Mnemonic symbols. See Symbols, Mnemonic

Mobile, Alabama

Harbor

Ports of the nation—Mobile. G. Smith. il *Am Ind* 23:29-32 My '23

Model towns

Building a new town. *plan Bldg Age* 44:34 Je '22

Factory in a garden; the practical idealism of George Cadbury and the monument it created. P. B. Redmayne. *Ind Management* 65:233-7 Ap '23

Kohler; a village of homes and the home of a great industry. Y. Adams. il *Sanitary & Heat Eng* 96:277-80 N 4 '21

Longview, Washington. il *map Eng & Contr (Bldgs)* 60:657-61 S 26 '23; Same *abr. Am Ind* 23:31-3 Jl '23

Mariemont—a model village. W. Brinkman. il *plan Pop Mech* 38:893-4 D '22

Model town in new logging center in Oregon. il *Pop Mech* 39:238 F '23

Shawshen; a model textile community. il *Textile World* 61:659+ F 4 '22

See also Company towns

Models

Mechanical model illustrating the behaviour of metals under static and alternating loads. C. F. Jenkin. *diags Engineering* 114:603 N 17 '22

Model engineer exhibition. il *Engineer* 133:42 Ja 13 '22

Models in civil engineering instruction. J. T. Thompson. il *Eng N* 89:71-2 Jl 13 '22

Revising street intersections with the aid of a model. il *Sci Am* 126:190 Mr '22

Toy models help to solve many problems for the engineer and inventor. il *Pop Mech* 40:931-6 D '23

See also Airplanes—Models; City planning—Models; Ship models

Models, Anatomical. See Anatomical models

Models, Architectural. See Architectural models

Models, Astronomical. See Astronomical models

Models, Geographical. See Relief maps

Models, Paper

Accurate mechanical solution of statically indeterminate structures by use of paper models and special gages. G. E. Beggs. il *diags Am Concrete Inst Pro* 18:58-78 '22; Same *abr. Am Arch* 122:32-6, 69-74 Jl 5-19 '22; Discussion. *Am Concrete Inst Pro* 18:79-82 '22

Design of elastic structures from paper molds. G. E. Beggs. il *diags Am Concrete Inst Pro* 19:53-65; Discussion. 66 '23

Models, Ship. See Ship models

Modena, Nicoletto Da, 1470-1525

Great ornamentalists. F. T. Singleton. *Ptg Art* 38:561 F '22

Modjeski, Ralph, 1861-

Presentation of the Franklin medal and certificate of honorary membership to Dr Ralph Modjeski and Sir Joseph John Thomson. *por J Fr Inst* 194:362-77 S '22

Mohair

Mohair growing industry. L. M. Murphy. *Textile World* 64:711+ Ag 4 '23

See also Astrachan fabrics

Moisture

Humidity equilibria of various common substances. R. E. Wilson and T. Fuwa. *J Ind & Eng Chem* 14:913-18 O '22

See also Evaporation; Humidity; Hygroscopicity; Water

Moisture of soils. See Soil moisture

Molasses

Low-grade molasses yields fuel and potash. *Pop Mech* 40:777 N '23

Recent progress in the chemistry of sirups and molasses. F. W. Zerban. *Ind & Eng Chem* 15:7-9 Ja '23

See also Boston molasses company

Molders union of North America, International.
See International molders union of North America

Molding (metal). See Foundry practice

Molding machines

Arcade jolt stripper molding machine. *il* Iron Age 110:138 J1 20 '22

Beardsley-Piper sandslinger. *il* Automotive Ind 49:173 J1 26 '23; *Am Mach* 59:229 Ag 9 '23

British rollover molding and core machine. *il* Foundry 51:533 J1 15 '23

Compares molding practices; considering European versus American molding machines. E. Ronceray. *il* diag Foundry 51:131-5 F 15 '23

Eine deutsche umrollformmaschine. U. Lohse. *il* diags Stahl & Eisen 41:1889-92 D 29 '21

Develops air and electric machine. *il* Foundry 50:75-6 Ja 15 '22

Eliminating skilled foundry labor; special machines and conveyors result in producing 500 Chevrolet 4-cylinder castings per day. F. L. Prentiss. *il* diag Iron Age 111: 949-54 Ap 5 '23

French molding methods are rapid. *il* Foundry 50:153-5 F 15 '22

Gear molding rig cuts pattern expense. *il* Foundry 51:713-14 S 1 '23

German molding machine exhibited in Liege, Belgium. *il* Foundry 50:324-5 Ap 15 '22

Improved molding machine made by American foundry equipment co. *il* Brass W 19:127 Ap '23

Jolt machines mold segment castings. *il* Foundry 51:263-7 Ap 1 '23

Large split-pattern molding machine. *il* Iron Age 110:1504 D 7 '22

Molding machine. W. J. Reardon. *il* Metal Ind 20:423-4 N '22

Molding machine modern necessity. H. D. Dickinson. Foundry 50:371-2 My 1 '22

Mumford type combination jolt and squeeze machine. *il* Foundry 50:1014 D 15 '22

Nicholls car-wheel molding machine. *il* Am Mach 58:814 My 31 '23

Nicholls portable duplex molding machines. *il* Am Mach 56:867-8 Je 8 '22; *Iron Age* 109: 1373 My 18 '22

Osborn direct-draw roll-over jolt molding machine. *il* Am Mach 56:460 Mr 23 '22; *Iron Age* 109:530 F 23 '22

Osborn molding machine has new features. *il* Foundry 51:465-6 Je 1 '23

Specialized molding machine problem; how thin cylinder castings with internal ribs are made successfully on machines. *il* Iron Age 109:1507-9 Je 1 '22

Molding sand. See Sand, Foundry

Molds (botany)

Industrial mold enzymes. K. Oshima and M. E. Church. bibliog *il* Ind & Eng Chem 15: 67-70 Ja '23

Molds (for casting)

Casting iron in long-life molds. R: Moldenke. *il* Iron Tr R 72:1299-1302 My 3 '23; Same. *Iron Age* 111:1251-4 My 3 '23; Foundry 51: 410-13 My 15 '23; Same. *Engineering* 115: 726-7 Je 8 '23; Same. *Génie Civil* 82:576-7 Je 16 '23; Same. *Chem & Met Eng* 29:231-2 Ag 6 '23

Die casting rubber molds. *il* India Rubber W 68:767-8 S '23

Developments in surface treated concrete. R. F. Havlik. *il* Am Concrete Inst Pro 19: 75-87 '23; Same. *Concrete* 22:83-8 Mr '23

Increased life for tire molds. A. M. Candy. *il* Automotive Ind 47:69-70 J1 13 '22

Making a mold for a large bracket. M. E. Duggan. diags Mach 29:283 D '22

Making water turbine castings. H. E. Diller. *il* Foundry 49:873-8, 920-5 N 15-D 1 '21; Abstract. Stahl & Eisen 42:338-40 Mr 2 '22

Mold for reservoir having a large cored chamber. M. E. Duggan. diag Mach 29:55 S '22

Moulds for magnesite, chrome and silica brick. E. E. Ayars. *il* Am Cer Soc J 5:67-84 F '22

Permanent molds. W: H. Parry. Metal Ind 20:341 S '22

Producing steel castings. R. A. Bull. Foundry 51:619-20 Ag 1 '23; Same. *Iron Tr R* 73:385-6 Ag 9 '23

Three-part molds advocated. W: H. Parry. diags Foundry 50:806-7 O 1 '22

Ein verfahren zur herstellung von modellplatten. *il* diags Stahl & Eisen 41:1726-31 D 1 '21

Molds, Cast iron

Standardizing labor operations on special and various products; machining metal molds for bottles. W: J. Donkel. *il* Management Eng 3:139-43 S '22

See also Steel ingots—Molds

Molds, Steel

Die cast golf ball molds. *il* diags India Rubber W 69:83-4 N '23

Cold molded hard plastics. *il* diag India Rubber W 67:350-2 Mr '23

Hobbing process of mold making. *il* diags plan India Rubber W 67:285-7 F '23

Making duplicate molds by hobbing. *il* diags India Rubber W 68:557-8 Je '23

Making steel molds by hobbing. *il* Mach 29: 936-8 Ag '23

Molds for hard plastics. *il* India Rubber W 67:145-7 D '22

Zur frage der verwendung von stahlokollen statt graugussformen. F. Schivetz. Stahl & Eisen 42:1897-1900 D 28 '22

Molecular attraction

Vapor densities at low pressures and over an extended temperature range; the properties of ethylene oxide compared to oxygen compounds of similar molecular weight. O. Maass and E. H. Boomer. *Am Chem Soc J* 44:1709-28 Ag '22

Molecular compounds. See Addition compounds

Molecular dynamics

Microforces; with reference more especially to orientation and curvature. F. Hannan. *Can Eng* 44:556-8 Je 5 '23

Molecular thermodynamics. B. A. M. Cavanagh. *Philos Mag* 6th ser 43:606-36; 44:226-47, 610-40 Mr, J1, S '22

See also Maxwell's distribution law

Molecular orientation

Adsorption and orientation of the molecules of dibasic organic acids and their ethereal salts in liquid-vapor interfaces. H. H. King and R. W. Wampler. *Am Chem Soc J* 44: 1894-1902 S '22

Microforces; with reference more especially to orientation and curvature. F. Hannan. *Can Eng* 44:556-8 Je 5 '23

Molecular rearrangements

Aromatic mercuri-organic derivatives; the Hofmann rearrangement and the nature of valences of mercury in mercuri-organic derivatives. M. S. Kharasch. *Am Chem Soc J* 43:1888-94 Ag '21

Benzil rearrangement; Cannizzaro's reaction. A. Lachman. *Am Chem Soc J* 45:2356-63 O '23

C₁₈ fatty acids; a rearrangement of the benzylic acid type in the aliphatic series. B. H. Nicolet and A. E. Jurist. *Am Chem Soc J* 44:1136-41 My '22

C₁₈ fatty acids; molecular rearrangements in some derivatives of unsaturated higher fatty acids. B. H. Nicolet and J. J. Pelc. *Am Chem Soc J* 44:1145-9 My '22

Capacity for migration of acyl residues in acyl derivatives of the phenylhydrazones of hydroxy-ketones; abstract. E. von Auwers, E. Hilliger and E. Wulf. *Chem Soc J* 122 pt 1:1192-4 D '22

Complex platinum compounds; molecular rearrangements observed with complex platinum compounds; abstract. L. A. Tschugaev and N. K. Pschenicyn. *Chem Soc J* 122 pt 2:856-7 D '22

Diacyl derivatives of ortho-hydroxybenzylamine. L. C: Raiford and E. P. Clark. *Am Chem Soc J* 45:1738-43 J1 '23

Effect of relative positions of hydroxyl and amino radicals in the migration of acetyl from nitrogen to oxygen. L. C: Raiford and H. A. Iddles. *Am Chem Soc J* 45:469-75 F '23

Molecular rearrangements—Continued

- Isomeric transformations of halides of alcohols, and of sulphovinic acids leading to the regrouping of carbon atoms; abstract. A. E. Favorski. *Chem Soc J* 124 pt 1:430-2 My '23
- Mechanism of the pinacol-pinacolin and Wagner-Meerwein transformations. C. K. Ingold. *Chem Soc J* 123:1706-13 JI '23
- Migration of acyl from nitrogen to oxygen. L. C. Raiford and J. R. Couture. *Am Chem Soc J* 44:1792-8 Ag '22
- Molecular rearrangement of symmetrical bis-triphenylmethylhydrazine. J. Stieglitz and R. L. Brown. *Am Chem Soc J* 44:1270-92 Je '22
- Molecular rearrangement of the camphor series; structure of isocampholactone. P. K. Porter and W. A. Noyes. *Am Chem Soc J* 45:2366-73 O '23
- New hydroxamic acids derived from cyclopropane carboxylic acid, isobutyric acid and dibenzyl-acetic acid; a comparative study of the Beckmann rearrangement of their derivatives. L. W. Jones and A. W. Scott. *Am Chem Soc J* 44:407-23 F '22
- Polymorphic transformations of antimony trisulfide. S. Wilson and C. R. McCrosky. *Am Chem Soc J* 43:2178-9 O '21
- Reactions of alpha-phenyl-beta-hydroxy-urea, and of alpha-phenyl-diphenyl-beta-hydroxy-urea interpreted from the standpoint of their hydroxamic acid structures. C. D. Hurd. *Am Chem Soc J* 45:1472-89 Je '23
- Rearrangement of benzil to benzoic acid. A. Lachman. *Am Chem Soc J* 44:330-40; 45:1509-14, 1522-35 F '22, Je '23
- Rearrangements of some new hydroxamic acids related to heterocyclic acids and to diphenyl- and triphenyl-acetic acids. L. W. Jones and C. D. Hurd. *Am Chem Soc J* 43:2422-48 N '21
- Über das Verhalten von allyl- und benzylaminoxiden gegen natronlauge. J. Meisenheimer, H. Greeske and A. Willmersdorf. *Deutsche Chem Gesell Ber* 55:513-22 F '22
- Zur kenntnis der Beckmannschen umlagerung. J. Meisenheimer. *Deutsche Chem Gesell Ber* 54:3206-13 D '21; Abstract. *Chem Soc J* 122 pt 1:152-3 F '22
- Molecular reflection.** See Reflection, Molecular
- Molecular refraction.** See Refraction, Molecular
- Molecular velocities.** See Maxwell's distribution law
- Molecular weights**
- Determination of the molecular weight of substances in alcoholic solution from the elevation of the flash point. R. Wright. *diag Chem Soc J* 121:2247-50 O '22
- Mikro-molekulargewichts-bestimmung im schmelzpunktsapparat. K. Rast. *Deutsche Chem Gesell Ber* 55:1051-4 Ap '22
- Mikro-molekulargewichts-bestimmung im schmelzpunkts-apparat; arbeiten mit äusserst geringen mengen. K. Rast. *Deutsche Chem Gesell Ber* 55:3727-8 D '22
- Molecular weight of the sodium-tellurium complex in liquid ammonia as derived from vapor-pressure measurements. C. A. Kraus and E. H. Zeitfuchs. *diag Am Chem Soc J* 44:2714-28 D '22
- Eine verbesserung der Bangerschen methode der molekulargewichts-bestimmung. K. Rast. *Deutsche Chem Gesell Ber* 54:1979-87 S '21
- Molecules**
- Analysis of molecular volumes from the point of view of the Lewis-Langmuir theory of molecular structure. R. N. Pease. 16p Princeton univ., Princeton, N.J. '21
- Application of probabilities to the movement of gas-molecules. F. Y. Edgeworth. *Philos Mag* 6th ser 43:241-58 F '22
- Atoms and molecules. A. C. Crehore. *il Philos Mag* 6th ser 43:886-914 My '22
- Calculation of the electric moment of the molecule of a substance. C. P. Smyth. *Philos Mag* 6th ser 45:849-64 My '23
- Cohesion and molecular forces; discussion. W. H. Bragg and others. *Engineer* 136:302-4 S 21 '23; *Engineering* 116:359-60 S 21 '23; *Soc Chem Ind J* (Chem & Ind) 42:930-4 S 28 '23
- Double and triple bonds, and electron structures in unsaturated molecules. E. D. Eastman. *Am Chem Soc J* 44:438-51 Mr '22
- Hydrogen molecule. A. C. Crehore. *diags Philos Mag* 6th ser 43:1025-38 Je '22
- Molecular structure of carbon oxysulphide and carbon bisulphide. A. O. Rankine. *Philos Mag* 6th ser 44:292-300 Ag '22
- Partition of energy. C. G. Darwin and R. H. Fowler. *Philos Mag* 6th ser 44:450-79 S '22
- Research and lubrication. *Am Mach* 57:803 N 23 '22
- Restricted movements of molecules at very low pressures; a limit of applicability of the second law of thermodynamics. A. Fairbourn. *diags Philos Mag* 6th ser 43:1047-56 Je '22; Discussion. H. H. Platt. 45:414-15 Mr '23
- Size of a molecule. R. S. Ridgway. *il diag Sci Am* 127:334 N '22; Same. *Brass W* 18:336-7 N '22
- Structure of some gaseous molecules; abstracts. A. O. Rankine. *Engineering* 112:827 D 16 '21; *Elec R* (Lond) 90:245-6 F 17 '22
- Über auflockerung der brückenbindungen. C. Wahl. *Deutsche Chem Gesell Ber* 55:1449-57 My '22; Abstract. *Chem Soc J* 122 pt 1:653-4 JI '22
- Vaporization in steps as related to surface formation. W. D. Harkins and L. E. Roberts. *Am Chem Soc J* 44:653-70 Ap '22
- Viscosities and molecular dimensions of methane, sulphuretted hydrogen, and cyanogen. A. O. Rankine and C. J. Smith. *Philos Mag* 6th ser 42:615-20 N '21
- Viscosity and molecular dimensions of gaseous ammonia, phosphine, and arsine. A. O. Rankine and C. J. Smith. *diag Philos Mag* 6th ser 42:601-14 N '21
- See also Atoms; Optical rotation; Stereochemistry
- Moleskin**
- Dressing and dyeing moleskins. *Color Tr J* 10:122 Mr '22
- Molybdenite**
- Concentrating an ore of wolfram, bismuth, and molybdenite in Australia. H. W. Bowater. *flow sheets Min & Sci P* 123:821-4 D 10 '21
- Crystal structure of molybdenite. R. G. Dickinson and L. Pauling. *diags Am Chem Soc J* 45:1466-71 Je '23
- Electrical conductivity of molybdenite. A. T. Waterman. *Phys R* 21:540-9 My '23
- Optical properties of some metallic sulfides. E. P. T. Tyndall. *diags Phys R* 21:162-80 F '23
- Thermoelectric vs. photoelectric reactions in molybdenite. *Am Inst EE J* 41:308 Je '22
- Various photo-electrical investigations. W. W. Coblenz. *U S Bur Stand Sci Pa* 462:585-607 '22
- Molybdenum**
- Determination of small amounts of molybdenum in tungsten. D. Hall. *Am Chem Soc J* 44:1462-5 JI '22
- Determination of small quantities of molybdenum in tungsten. W. J. King. *diags Ind & Eng Chem* 15:350-4 Ap '23
- Electrometric titration of molybdenum with titanous salt. H. H. Willard and F. Fenwick. *Am Chem Soc J* 45:928-33 Ap '23
- Graphs for calculation of electron emission from tungsten, thoriated tungsten, molybdenum and tantalum. S. Dushman and J. W. Ewald. *Gen Elec R* 26:154-60 Mr '23
- Ilsemanite at Ouray, Utah. F. L. Hess. *il map U S Geol S Bul* 750—A:1-16 '23
- Marketing molybdenum products. A. W. G. Wilson. *Eng & Min J* 116:231-6 Ag 11 '23
- Mineral industry of the British Empire and foreign countries, 1913-1919. 87p Gt. Brit. Imperial mineral resources bureau, London '23
- Penetration of cathode rays in molybdenum. D. L. Webster and A. E. Hennings. *diags Phys R* 21:301-11 Mr '23
- Separation of molybdenum and tungsten by means of selenium oxychloride. H. B. Merrill. *Am Chem Soc J* 43:2383-7 N '21

Molybdenum—Continued

Series in the arc spectrum of molybdenum. C. C. Kiess. U S Bur Stand Sci Pa 474: 113-29 '23

X-ray isochromats of molybdenum. D. L. Webster and A. E. Hennings. Phys R 21:312-25 Mr '23

See also Ilsemannte

Molybdenum alloys

See Diamond alloy; Molybdenum steel

Molybdenum dichloride

Über die chloride des zweiwertigen molybdäns, wolframs und tantal. K. Lindner and others. Deutsche Chem Gesell Ber 55:1458-65 My '22; Abstract. Chem Soc J 122 pt 2:509-10 J1 '22

Molybdenum steel

Chrome-molybdenum steel applications from the consumer's viewpoint. C. N. Dawe. Soc Auto Eng J 10:47-50+ Ja '22; Same cond. Iron Age 109:725-8 Mr 16 '22; Abstracts. Automotive Ind 46:120-1 Ja 19 '22; Chem & Met Eng 26:369-70 F 22 '22; Discussion. Soc Auto Eng J 10:334-7 My '22

Constituents found in tungsten and molybdenum steels. A. M. Portevin. Iron & Steel Inst J 104:141-4, pl 12-13 no 2 '21

Experiments with rare metal steels. H. W. Gillett and E. L. Mack. Il Am Electrochem Soc Trans v 43 (preprint 15):163-74 My '23

Modern methods of making shovels of molybdenum steel. F. H. Colvin. Il Am Mach 58:365-9 Mr 8 '23

New rolls for steel mills. Il Blast F & Steel Pl 10:358-9 Je '22

Use of molybdenum steel in the automotive industry. J. D. Cutter. diags Soc Auto Eng J 10:340-2; Discussion. 342-4+ My '22

Molybdenum sulfates

Oxidizing properties of sulphur dioxide; molybdenum sulphates. W. Wardlaw and N. D. Sylvester. diags Chem Soc J 123:969-80 My '23

Molybdenum sulfide. See Molybdenite**Monadnocks**

Blue Ridge in New England. R. H. Brown. Am J Sci 5th ser 6:15-21 J1 '23

Monasteries

See Cloisters

Monazite

Analysis of monazite. Eng & Min J 114:992 D 2 '22

Determination of thorium in monazite sand by an emanation method. H. H. Helmick. diags Am Chem Soc J 43:2003-14 S '21

See also Mesothorium

Monel metal

Fatigue limit and proportionality of monel metal. Engineering 116:88 J1 20 '23

Mill to roll monel metal. F. C. Watson. Iron Age 110:1011-12 O 19 '22

Mills built for rolling nickel and monel. Il Blast F & Steel Pl 10:605-11 D '22

Modern equipment for dyeing bleaching and finishing operations. E. A. Turner. Il Am Dyestuff Rep 12:165-9 F 26 '23

Monel for flame safety lamp gauzes. A. B. Hooker and R. A. Kearns. Safety Eng 46: 23-4 J1 '23

Monel metal. J. J. Arnott. Engineering 115:495 Ap 20 '23

Monel metal, a natural nonferrous alloy. M. A. Hall. Il plans Brass W 18:76-9, 107-11 Mr-Apr '22

Monel metal and its suitability for waterworks use. H. S. Arnold. N E Water Works Assn J 36:86-93; Discussion. 93-4 Mr '22

Nickel and its alloys. P. D. Merica. Il Am Mach 57:450-2, 484-7 S 21-28 '22

Nickel and monel metal in corrosion-resisting machinery. R. J. McKay. Il Ind & Eng Chem 15:555-9 Je '23; Abstract. Chem & Met Eng 28:686-7 Ap 16 '23

Quantity methods in production of quality metals and alloys. R. S. McBride. flow sheet Il Chem & Met Eng 29:745-51 O 22 '23

Refinery and rolling mill for monel metal. W. L. Wotherspoon. flowsheet diags map plans Engineering 115:25-8 Ja 5 '23; Same. Mech Eng 45:285-8+ My '23

Side line tides foundry over depression; sporting goods castings. M. A. Hall. Il Iron Age 109:519-21 F 23 '22

Some electrical properties of nickel and monel wires. M. A. Hunter, F. M. Sebast and A. Jones. Min & Met 185:30-1 My '22

Some mechanical properties of hot-rolled monel metal. P. D. Merica, R. G. Waltenberg and A. S. McCabe. Am Soc T M Pro 21:922-38; Discussion. 939 '21

Some typical uses and properties of monel metal. E. S. Wheeler and R. J. McKay. Eng Soc W Pa 37:311-24; Discussion. 325-30 J1 '21

Thermal expansion of nickel, monel metal, stellite, stainless steel, and aluminum. W. H. Souder and P. Hidnert. U S Bur Stand Sci Pa 426:497-519 '22

Use of monel metal by the electro-plater. O. E. Servis. Il Metal Ind 20:259-60 J1 '22

Use of monel metal in dyeing machinery. Il Color Tr J 13:63 Ag '23

Weld monel metal using deoxidizers. P. D. Merica and J. G. Schoener. Foundry 50:796-7 O 1 '22

Money

Banking and currency. W. J. Weston. 330p University tutorial press, 25, High Street, London '22

Currency and credit. R. G. Hawtrey. 2d ed. 442p Longmans '23

Déflation ou dévaluation; deux notes soumises à la Conférence de Gênes. Chimie & Ind 8: 943-9 O '22

Everybody's money. E. McCullough. 175p Putnam '23

Fluctuations in values essential to commerce. R. Estcourt. Annalist 20:320-1+ O 2 '22

French reply to Professor Cassel's theories regarding stabilization of European currencies. Annalist 21:825+ Je 18 '23

International currencies. L. R. Gottlieb. Annalist 20:103-4 J1 31 '22

Lombard street. W. Bagehot. new ed. 348p Dutton '21

London money market. W. F. Spalding. 215p Pitman '22

Mr. Edison and money. Comm & Fin Chr 114: 2289-90 My 27 '22

Monetary crisis in Europe. Annalist 21:11-12+ Ja 1 '23

Monetary reconstruction. R. G. Hawtrey. 147p Longmans '23

Monetary theory before Adam Smith. A. E. Monroe. 312p Harvard univ. press, Cambridge, Mass. '23

Money. W. T. Foster and W. Catchings. 409p Houghton '23

Money. D. H. Robertson. 182p Harcourt, Brace & co., New York '22

Money and credit. C. J. Melrose. 232p W. Collins sons & co., London '22

Money and currency. J. F. Johnson. New ed. 425p Ginn '21

Money and foreign exchange after 1914. G. Cassel. 287p Macmillan '22; Review. Comm & Fin Chr 116:220-1 Ja 20 '23

Money as a medium of exchange. W. T. Foster. Annalist 19:633-4 Je 12 '22

Money as a standard of value. W. T. Foster. Annalist 19:513-14 My 8 '22

Money as suspended purchasing power. W. T. Foster. Annalist 19:317+ Mr 13 '22

Money, credit and commerce. A. Marshall. 369p Macmillan '23

Money in relation to goods. W. T. Foster. Annalist 19:487-8 My 1 '22

Proposed experiment in finance. R. Estcourt. Annalist 20:659-60 D 18 '22

Relation of foreign exchange to currency. R. Estcourt. Annalist 18:485-6 N 21 '21

Reply to Edison's questionnaire on the issuance of money based on property. H. P. Gillette. Eng & Contr 57:228-9 Mr 8 '22

Restoration of the world's currencies. R. A. Lehfeldt. 146p P. S. King & son, London '23

Some aspects of the relation of foreign securities to the monetary systems. W. E. Lagerquist. Administration 4:647-55; 5:59-67 D '22-Ja '23

Stabilisation. E. M. H. Lloyd. 128p G. Allen & Unwin Ltd., London '23

Money—Continued

Stabilization of purchasing power of money; hearings before the Committee on banking and currency of the House of representatives, sixty-seventh Congress, 127-164p Govt. print. off., Washington '23

Thomas A. Edison's proposal for currency based on warehouse receipts, G. Garrett. *Comm & Fin Chr* 115:369-71 J1 '22

Unemployment and some causes; possible fault seen in our system of exchange, H. Bilgram. *Am Ind* 23:29-32+ O '22

Unjust results of money plans—dangers in so-called energy dollars, H. P. Willis. *Comm & Fin Chr* 117:1733 O 20 '23

Wages governed by per capita money, H. P. Gillette. *Brick & Clay Rec* 60:761-2 My 16 '22

Why stick to the gold standard? questions by T. A. Edison; answers by D. P. Kingsley. *Nation's Business* 10:16-18 My '22

World's currency problem. *Comm & Fin Chr* 115:1175-6 S 9 '22

See also Banks and banking; Barter; Capital; Coins; Credit; Finance; Foreign exchange; Gold as money; Index numbers (economics); Inflation (finance); Investments; Negotiable instruments; Paper money; Prices; Rubber money

Tables, calculations, etc.

Jokel's rapid conversion tables, sterling and decimal currencies. J. Jokel. 901p *Century* co. '22

Central America

Central American currencies. J. P. Young. *Annalist* 18:582, 608-9 D 19-26 '21

Chile

Chilean currency and exchange in 1921. C. A. McQueen. *U S Bur For & Dom Com Trade Information Bul* 37:1-11 '22

Europe

European currencies from different points of view. R. Estcourt. *Annalist* 20:29-30 J1 10 '22

Germany

Continental currency experiences, E. A. Bradford. *Annalist* 22:205+ Ag 13 '23

Stabilization of the mark, M. J. Bonn. 56p *First National bank of Chicago* '22

India

Future of exchange and the Indian currency. H. S. Jevons. 264p *Oxford* '22

United States

Federal reserve board's efforts to stabilize the dollar. R. Bean. *Annalist* 22:329 S 10 '23

Money, International

International currency to stabilize world conditions. J. F. Jacobs. *Annalist* 18:585 D 19 '21

True basis of an international currency. R. Estcourt. *Annalist* 19:127-8 Ja 16 '22

Uniformity of international money systems. D. R. Crissinger. *Comm & Fin Chr* 114:790-2+ F 25 '22

Will currency become international? R. Estcourt. *Annalist* 22:367-8+ S 17 '23

Money raising campaigns

Advertising aids in eight-year endowment campaign. *Ptr Ink* 122:89-90 Ja 11 '23

Charity workers directed by direct mail. *Ptr Ink* 118:69-70+ F 16 '22

Faith in honesty of men pays big dividends. *Ptr Ink* 123:72 Ap 26 '23

How the University of Maine advertises to reach alumni. *Ptr Ink* 122:127-8 F 1 '23

Professional advertising men write charity copy. *Ptr Ink* 121:89-90 D 21 '22

Russian famine fund buys advertising to save lives. *Ptr Ink* 117:10+ D 22 '21

Monomolecular reactions

Statistical theory of monomolecular reactions. W. H. Rodebush. *Am Chem Soc J* 45:607-14 Mr '23

Monoplanes. See Airplanes**Monorail railroads. See Railroads, Monorail**

Monorail traction system. *See* Telferage

Monothioethylene glycol

Monothioethylene glycol. G. M. Bennett. *Chem Soc J* 121:2139-46 O '22

Some derivatives of monothioethylene glycol. G. M. Bennett and E. M. Whincop. *Chem Soc J* 119:1860-4 N '21

Monotype

Adjustments of the casting machine for students of the casting machine course of the monotype school. 204p *Lanston monotype machine co.*, Philadelphia '22

Straight matter composition for students of the keyboard operating course of the Monotype school. 119p *Lanston monotype machine co.*, Philadelphia '21

Tabular composition. 166p *Lanston monotype machine co.*, Philadelphia '21

Monroe doctrine

Aims of Monroe doctrine not a policy of aggression, but self-defense. C. E. Hughes. *Comm & Fin Chr* 117:1080-1 S 8 '23

Secretary Hughes and the Monroe doctrine. *Comm & Fin Chr* 117:1174-5 S 15 '23

Mont Blanc. *See* Blanc, Mont

Mont St Michel

Refectoire, Mont St Michel; measured and drawn by R. M. Blackall. *Am Arch* 122:65-7 J1 19 '22

Salle des Hôtes, Mont St Michel. *il plans* *Am Arch* 121:469-70 Je 7 '22

Salles des Chevaliers, Mont St Michel. *il diags* *Am Arch* 122:367-70 O 25 '22

Montan wax. *See* Waxes

Montana

See Gas, Natural—Montana; Petroleum—Montana; Water power—Montana

Monticellite

Genetic features of alnoitic rocks at Isle Cadieux, Quebec. N. L. Bowen. *diags* *Am J Sci* 5th ser 3:1-34, pl 1 Ja '22

Montreal, Quebec

Montreal situation with reference to town planning. J. Ewing. *Can Eng* 42:323-6 Mr 21 '22

See also Geology—Montreal

Harbor

Constructional activities at the port of Montreal. *Can Eng* 43:581 N 28 '22

Montreal port shows rapid growth. E. L. Chicanot. *il Marine R* 52:239-40 Je '22

Port of Montreal. F. W. Cowie. *il Mech Eng* 45:521-4 S '23

Rapid transit

New power distribution center for Montreal. *il diags* plan *Elec Ry J* 59:861-6 My 27 '22

Tramways realize \$187,947 for year's operation. *Elec Ry J* 60:409 S 16 '22

Water supply

Montreal filtration plant extension. *diags* *Can Eng* 43:557 N 21 '22

Monuments

Monument Count Ugo, La Badia. *il diags* *Am Arch* 121:164, 172-3, 178 Mr 1 '22

See also Memorials; Tombstones; *also* Washington monument, Washington, D.C.; *also* subdivision Memorials under names of noted men, e.g. Grant, Ulysses S.—Memorials; Lincoln, Abraham—Memorials; Washington, George—Memorials

Moody, Walter Sherman, 1864-

Sketch. *por* *Elec W* 81:200 Ja 27 '23

Moore, Eliakim Hastings, 1862-

President of the American association for the advancement of science. M. Benjamin. *por* *Sci Am* 125A:137 D '21

Mordants. *See* Dyes and dyeing—Mordants

Morley, Edward Williams, 1838-1923

Sketch. H. S. Booth. *por* *Ind & Eng Chem* 15:194-5 F '23

Sketch. O. F. Tower. *por* *Am Chem Soc J* 45:sup93-8 Je '23

Mormon temples. *See* Temples, Mormon

Morning newspaper association of America
Morning newspapers form organization. *Ptr Ink* 122:142 Ja 25 '23

Morocco
Traveling in Morocco. J. P. Hutchins. *il Eng & Min J* 112:1006-8 D 24 '21
See also Agriculture—Morocco; Railroads—Morocco

Morphine
Manufacture of morphine from adulterated Indian opium and its waste products by the Robertson-Gregory process. J. N. Rakshit. *Soc Chem Ind J* 42:351-2 Ag 24 '23
Morphine group; a discussion of the constitutional problem. J. M. Gulland and R. Robinson. *Chem Soc J* 123:980-96, 998-1011; *Bibliography*. 996-8 My '23
Zur kenntnis des morphins. E. Speyer and G. Becker. *Deutsche Chem Gesell Ber* 55: 1329-39 My '22; *Abstract*. *Chem Soc J* 122 pt 1:675-6 JI '22

Morris, Shiras, 1875-
Sketch. *por Elec W* 78:1208 D 17 '21

Morris, William, 1834-1896
William Morris, regenerator of the typographic art. H. L. Bullen. *por Inland Ptr* 69:352, 369-74 Je '22

Morris canal, New Jersey
Advertising to help sell two canals. J. G. Condon. *Ptr Ink* 117:25-7+ N 17 '21

Morris plan banks
Character as collateral. J. W. Evans. *Nation's Business* 11:42+ Mr '23
What about loans to employees? W. G. Walling. *System* 41:701-2+ Je '22

Morrison, George Francis
Sketch. *por Elec W* 80:1370 D 23 '22

Mortality
In England, as here, coal miner lives long; table of mortality among various occupations in England and Wales, 1910-1912. *Coal Age* 22:540 O 5 '22

Mortar
Choice of materials for use as sand in hydraulic mortars. R. Feret. *Am Cer Soc J* 5(Cer A 1):240-2 S '22
Disintegration of cement in sea water. W. G. Atwood and A. A. Johnson. *Eng & Contr (Bldgs)* 59:1425-36 Je 27 '23; *Same*. *Am Soc C E Pro* 49:1038-58; *Bibliography*. 1058-64 Ag '23; *Discussion*. *Am Soc C E Pro* 49:1762-6, 1914-23 O-N '23; *Concrete* 23:234-8 D '23
Fatigue of mortar. W. K. Hatt. *il Am Concrete Inst Pro* 18:167-73 '22
Fire clay mortar for furnaces. C. C. Brown. *Power Pl Eng* 27:1074 N 1 '23
Good mortar, mortar joints and mortar colors. *Concrete* 23:97 S '23
Lime cement brick mortar; abstract. *Am Inst Arch J* 11:XIII My '23
Requirements of a refractory mortar. R. F. Lindsay. *Chem & Met Eng* 28:1080 Je 18 '23
Shrinkage of Portland cement mortars and its importance in stucco construction. J. C. Pearson. *il Am Concrete Inst Pro* 17:133-49 '21; *Same*. *Eng & Contr* 55:187-90 F 23 '21
Specifications for mixing mortar. *Am Arch* 124: 137-8 Ag 1 '23
Strength of cal mortar in laying of brick work. *diag Concrete* 22:231-2 Je '23
See also Trass

Testing

About mortar. *Concrete* 23:45-6 Ag '23
Ball test applied to cement mortar and concrete. R. B. Crepps and R. E. Mills. *il diag Purdue U Eng Sta Bul* 12:1-32 '23
Ball test applied to concrete. W. K. Hatt. *il diag Pub Roads* 4:25-6 N '21; *Same*. *Eng & Contr* 56:522 D 7 '21; *Same*. *Concrete* 20: 76-7 F '22
Effect of repeated loads on concrete slabs. R. B. Crepps. *Eng & Contr (R & S)* 69: 209-12 Ag 1 '23; *Abstract*. *Eng N* 91:142-3 JI 26 '23
Note on the ball test applied to cement mortar. W. K. Hatt. *il diag Am Concrete Inst Pro* 18:52-7 '22

Relations between voids and plasticity of cement mortars at different relative water contents. F. E. Richart and E. E. Bauer. *Am Soc T M Pro* 22 pt 2:385-403 '22; *Abstract*. *Eng N* 89:109 JI 20 '22

Mortgages

Business factors in architectural practice. C. S. Taylor. *Arch Forum* 38:51-4, 227-30 F, My '23
Investment mortgage survey. R. D. Maxwell. *Arch Forum* 38:sup88 F '23
Mortgage and trust agreements. *Elec W* 82: 331-2 Ag 18 '23
Mortgage loan values. B: H. Dugdale. 248p B: H. Dugdale, 1220 State life bldg., Indianapolis, Ind. '22

Mosaics

Mosaic designs by Frank Brangwyn in Saint Aidan's church at Leeds. A. Finch. *il Arch Rec* 52:143-53 Ag '22

Mosques

Mosque Asaf-ud-Daula Imambara at Lucknow. *il Am Arch* 121:530-1 Je 21 '22
Only Mohammedan mosque in western world. *il Pop Mech* 37:891 Je '22

Mosquitoes

Fighting the mosquito; how minnows, oil, and drainage are freeing Florida of a leading enemy of immigration. D. H. George. *il Sci Am* 129:30 JI '23
Mosquito control in Massachusetts. G: C. Whipple. *Boston Soc C E J* 9:249-61; *Discussion*. 262-8 N '22
Mosquito eradication. W. E. Hardenburg. 248p McGraw-Hill '22
Sanitary engineer and mosquito extermination. H. F. Ferguson and A. F. Dappert. *Engineer* 135:482-3 My 4 '23; *Same cond*. *Eng N* 90: 626 Ap 5 '23
Using dynamite in mosquito eradication. *Munic Eng* 65:sup24 S '23

Mosul

Mosoul: a country of great resources and half-civilized peoples. R. S. Blatchley. *il Nat Pet N* 15:67-8 Ap 18 '23

Mother-of-pearl, Artificial

La synthèse de la nacre. L. Clément and C. Rivière. *Chimie & Ind* 8:782-4 O '22

Mothers' pensions

Meaning of family endowment. M. D. Stocks. 45p Labour pub. co.; G. Allen & Unwin, London '21

Moths

Scientist investigating moth radiograms. L. D. Lotton. *il diag Pop Mech* 37:711-12 My '22

See also Gipsy moth

Motion

See Dynamics; Force and energy; Kinematics; Mechanics; Precession; Wave motion, Theory of

Motion study

Determining the best way to do work; stereoscopic view of magazine rolls of moving picture photographs on paper, of time and motions. F. B. Gilbreth. *Iron Tr R* 71:1419-20 N 23 '22; *Same cond*. *Ind Management (Lond)* 8:311-12 N 30 '22
Motion study in metal polishing. *Eng & Ind Management* 6:738-42 D 29 '21; *Same*. *Metal Ind* 20:133-6 Ap '22; *Abstract*. *Mech Eng* 44: 195-6 Mr '22
Motion study in metal polishing. E. Farmer and R. S. Brooke. 65p Gt. Brit. Industrial fatigue research board, London '21
Motion study reduces handling of distribution orders. R. A. Hammock. *chart Elec W* 80:182 JI 22 '22
Rhythm in machine processes. A. Whitehead. *diag Ind Management (Lond)* 9:169-73 Mr 22 '23
Time and motion study. E. Farmer. *Eng & Ind Management* 7:70-5, 95-8, 136-9, 221-3, 247-50, 361-5 Ja 19-F 2, 23, Mr 9, Ap 20 '22; *Excerpts*. with bibliog. *J Ind Hygiene* 4:154-69 Ag '22
Time and motion study defined. W: Baum. *Iron Tr R* 72:810-12 Mr 15 '23

Motion study—Continued

Using motion studies to make more sales in less time. R. Barstow. System 44:167-9+ Ag '23

Weave room production in silk mills. J. A. Hunter. Textile World 61:3689+ Je 17 '22
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Motor-meter company

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Motor and accessory manufacturers' association

Annual credit convention, Buffalo, Sept. 13-15. J. Dalton. Automotive Ind 47:551-63 S 21 '22
First M.A.M.A. export session portends greater foreign business. Automotive Ind 47:562-3 S 21 '22
Real convention of the industry held by M. & A.M.A. at Boston. J. Dalton. Automotive Ind 49:613-14 S 27 '23

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Coastal motor boats (C.M.B.): their design and service during the war. J. E. Thornycroft and Bremner. Engineering 115:393-5, pl 26 Mr 30 '23; Same cond. Engineer 135:345-6+ Mr 30 '23; Discussion. Engineering 115:372-3 Mr 23 '23

Motor boats. F. Strickland. 116p Pitman '23
Motor craft building at Cowes. Il diags Engineer 136:184 Ag 17 '23

1922 and the motorboat industry. H. H. Brautigam. Soc Auto Eng J 12:302-3 Mr '23
Recent developments in motor lifeboats. J. R. Barnett. diags plans Engineering 113:506-8; Discussion. 484-5 Ap 21 '22

Tendencies in high-speed marine-engine design. J. G. Vincent. diags Soc Auto Eng J 12:257-62 Mr '23; Discussion. 13:168-70 Ag '23
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Six-cylinder bus engine developed by Herschell-Spillman. diags Automotive Ind 48:1129-31 My 24 '23

Motor bus industry

High spots in the bus industry. Bus Transportation 2:10-11 Ja '23

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Finance companies demand assurance of a good risk from motor bus purchasers. G. McIntyre. Bus Transportation 2:225-7 My '23
How buses can be bought on time. L. Swan. Bus Transportation 2:227-9 My '23

Motor bus lines

Battle of the bus and the street car. F. H. Warren. Bus Transportation 1:85-8 F '22

Bus and the electric railway as essentials in transportation. G. A. Green. Bus Transportation 1:293-5 My '22; Discussion. G. W. Gifford. 1:392-3 Jl '22

Bus as a common carrier. J. N. Shannahan. Elec Ry J 61:6 Ja 6 '23

Bus facts I learned abroad. C. D. Emmons. Aera 10:666-72 Mr '22

Bus not a major transit facility. K. A. Simmon. Elec J 20:355 O '23

Buses prominent at the American electric railway association convention. Il Bus Transportation 1:541-7 O '22

City of Manchester, England, finds the tram-car is supreme. Aera 12:635-45 N '23

Country bus. S. E. Garcke. Engineering 114:714-15 D 8 '22

Discussion of the motor bus at mid-year meeting. Aera 10:785-93 Ap '22

Experiences of bus operators outlined by committee. Automotive Ind 49:784; Discussion. H. W. Alden. 784-5 O 13 '23

Future of motor transportation. J. A. Ritchie. Il Am Ind 23:5-10 O '22

Joint sessions of the Wisconsin gas association and the Wisconsin electrical association in connection with their annual meeting in Milwaukee, March 22-24. Elec Ry J 59:563-4 Ap 1 '22

Motor bus as a factor in highway transport. J. N. Mackall. Il Eng N 88:23-4 Ja 5 '22

Motor bus becomes vital transportation factor in this country. S. Gluck. Automotive Ind 46:233-5 F 2 '22

Motor bus transport extending. Can Eng 42:332 Mr 21 '22

Motor-vehicle transportation; report. Elec Ry J 60:819 N 18 '22

New England club committee analyzes one-man car and bus situation. Elec Ry J 59:241-3; Discussion. 239-41 F 11 '22

New Englanders hold meeting to study motor bus and trackless trolley. Bus Transportation 1:124-9, 191-3 F-Mr '22

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Past, present and future of the motor-omnibus. W. Jackson. Soc Auto Eng J 10:200-3 Mr '22; Abstract. Bus Transportation 1:62-3 Ja '22; Discussion. Soc Auto Eng J 10:88-90, 395-400 F, My '22

Place of the motor bus. J. W. Welsh. Elec Ry J 62:299-300 Ag 25 '23

Railway men discuss the bus and its relation to rail transportation. Bus Transportation 1:195-6 Mr '22

Railway vs. bus to radio audience. H. L. Brown. Elec Ry J 62:260-1 Ag 18 '23

Recent developments in motor bus transportation. G. A. Kissel. Munic Eng 63:sup 19-20 S '22

Relationship of bus transportation to electric railways. H. Hyde. Automotive Ind 46:576-7 Mr 9 '22

Service is first demand in transport. A. Reeves. Automotive Ind 49:726-7 O 11 '23

Tabular presentation of recent bus projects. See monthly numbers of Bus transportation

Trackless transportation versus rail transportation; advantages and disadvantages. K. A. Simmon. Il Elec Ry J 59:233-6 F 11 '22

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Economic fields of trolley car and bus. V. Topping. Elec Ry J 62:289-91 Ag 25 '23; Same. Can Eng 45:265-7 Ag 28 '23

Motor bus—today and tomorrow. W. Jackson. Il Automotive Ind 46:1247-52 Je 8 '22

Report of the T. & T. A. committee on bus operation. Elec Ry J 62:638-41 O 13 '23

Some California bus operating costs. Bus Transportation 2:307-8 Je '23

Studies of municipal bus operation. Bus Transportation 2:512 N '23

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Place of the bus analyzed by Massachusetts commission. Bus Transportation 1:41-3 Ja '22

Rail car and buses in city service. J. C. Thirlwall. Bus Transportation 1:504-5 S '22

Rail cars cheapest and best. J. C. Thirlwall. Aera 11:331-2+ O '22; Abstract. Elec Ry J 60:715-16; Discussion. 716-17 O 28 '22

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London bus earnings increase. Bus Transportation 1:208 Mr '22

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Opportunities exist for rapid transit motor bus service. W. T. Thorn. Bus Transportation 1:208 Mr '22

Respective fields of the rail car, trolley bus, and gasoline bus in city transportation. J. C. Thirlwall. il Gen Elec R 24:974-85 D '21; Same cond. Can Eng 43:549-52 N 21 '22; Same. Eng & Contr (Ry) 58:121-5 D 20 '22

Synopsis of the annual report of the Fifth avenue coach co. for the year ended June 30, 1921. Bus Transportation 1:74 Ja '22

\$25,000,000 bus policy favored. Elec Ry J 59: 136 Ja 21 '22

\$25,071 deficit in Baltimore. Bus Transportation 1:360-1 Je '22

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Ohio commission issues bus regulations under Freeman-Collister act. Bus Transportation 2:431-2 S '23; Elec Ry J 62:159 Jl 28 '23

Ohio enforcement progressing slowly. Bus Transportation 2:551 N '23

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Trend of bus regulation. E. V. Kuykendall. Bus Transportation 2:28-9 Ja '23

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Fundamentals in the operation of motor bus lines. G. A. Green. 7p Nat. automobile chamber of commerce, New York

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A.E.R.A. committee report on trackless transportation. Elec Ry J 62:619-20 O 13 '23

Auto bus and truck good as interurban feeders. H. Reid. Elec Ry J 59:359-60 Mr 4 '22

Automotive industry offers to cooperate with railways. A. Reeves. Aera 12:593-606 N '23; Abstract. Elec Ry J 62:614-15 O 13 '23; Same. Bus Transportation 2:527-8 N '23

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Motor bus and the electric railway. J. W. Welsh. Eng & Contr (Ry) 60:592-4 S 19 '23

Motor bus, trolley bus and electric railway. W. B. Potter. Eng & Contr (Equip R) 60:937-9 O 31 '23

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Street railways need assistance of automotive engineers. Automotive Ind 48:654-5 Mr '23

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Use of buses by traction lines is warmly advocated. Automotive Ind 49:721-3 O 11 '23

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Chicago company stresses direct communication in its application for certificate. Bus Transportation 1:615-16 N '22

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New Chicago bus franchise. Elec Ry J 60:864 N 25 '22

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Motorizing Everett trolley lines. G. Newell. Aera 11:749-51 F '23

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 Motor buses are changing social life in Far East. Automotive Ind 49:430-1 Ag 30 '23

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 Political favoritism a factor in securing bus permits. Elec Ry J 60:759 N 4 '22
 \$25,000,000 for buses in New York. map Bus Transportation 1:135-7 F '22
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 Turnpikes turn to bus routes in Empire state. maps Bus Transportation 1:383-9 Jl '22

Newburgh, New York

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West Virginia

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 British develop large single-deckers. il plan Bus Transportation 2:426 S '23
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Detroit's low-floor double-deck prepayment bus has several novel features. *il plan Bus Transportation* 1:479-80 S '22

Development of London general omnibus motor vehicles. G. J. Shave. *Bus Transportation* 2:399-400 Ag '23

Double-deck buses. J. F. Collins. *Bus Transportation* 2:44-5 Ja '23

Eight-wheel bus. C. W. Geiger. *il Sci Am* 127:101 Ag '22

English char-a-bancs and motor buses. *Automotive Ind* 45:1281 D 29 '21

Fiat one-man bus has sixteen seats. *il Bus Transportation* 2:420 S '23

Five-compartment bus serves Minneapolis territory. *il Bus Transportation* 2:381 F '23

Gasoline bus or trolley bus—which? W. Jackson. *Automotive Ind* 46:597-600 Mr 16 '22

Hotel bus service height of comfort and luxury. *il Pop Mech* 36:837 D '21

Hotel operates bus service for its guests. *il Bus Transportation* 1:111-12 F '22

Kissel producing 18-passenger coach. *il Automotive Ind* 47:413-14 Ag 31 '22

Large-capacity motor bus has detachable body. *il Pop Mech* 38:391 S '22

Low-frame bus with double service door. *il Bus Transportation* 1:654, 655 D '22

Low frames, air-brakes and 6-cylinder engines feature new buses. H. Chase. *il diags Automotive Ind* 49:779-84 O 18 '23

Motor bus becomes vital transportation factor in this country. S. Gluck. *Automotive Ind* 46:233-5 F 2 '22

Motor bus session at S.A.E. meeting causes widespread interest. H. Chase. *Automotive Ind* 46:1418-19 Je 29 '22

Motor bus—today and tomorrow. W. Jackson. *il Automotive Ind* 46:1247-52 Je 8 '22

Motor-bus travel attains world scope. H. A. Lane. *il Pop Mech* 37:176-81 F '22

Municipal bus line Montebello's sole means of transportation; type of bus used. *il Bus Transportation* 2:279-80 Je '23

New bus weighs 157 lb. per seat. *il plans Bus Transportation* 1:269-70 My '22

New city coach has 26-in. floor level. *il Bus Transportation* 1:346 Je '22

New coaches for Youngstown & suburban railway have individual wicker chairs. *il Bus Transportation* 2:319-20 Jl '23

New London bus differs materially from previous models. M. W. Bourdon. *il diags Automotive Ind* 48:1319-21 Je 21 '23

New model designed solely for bus service. *Sci Am* 126:273 Ap '22

New Sedan-type bus for 17 passengers. *il Bus Transportation* 1:498 S '22

New sixty-nine-passenger double-decker installed in Chicago. *il diags Bus Transportation* 2:427-30 S '23

Les omnibus automobiles à six roues, de Paris. *il diags plan Génie Civil* 81:605-7 D 30 '22; Abstract (Six-wheel motor omnibus). *Mech Eng* 45:188 Mr '23

Report of the committee on trackless transportation to the A.E.R.A. *Elec Ry J* 60:576-7 O 7 '22

Republic interurban bus. *il Bus Transportation* 1:554 O '22

Safety and comfort chief factors in motor coach design. F. R. Fageol. *Automotive Ind* 48:1379-80 Je 28 '23

Schuylkill county bus feeder service operates buses with drive on the front and rear wheels. *il plans Bus Transportation* 2:27-8 Ja '23

Sedan-type bus carries twenty-five passengers. *il Bus Transportation* 2:294-5 Je '23

Service established in Akron by railway. *il map Bus Transportation* 1:252-3 Ap '22

Some fundamental characteristics of present-day buses. R. E. Plimpton. *il diags plan Soc Auto Eng J* 11:163-71 Ag '22; Same cond. *Bus Transportation* 1:375-8 Jl '22; Excerpt. *Automotive Ind* 46:1377-9 Je 22 '22; Discussion. *Soc Auto Eng J* 11:171-2 Ag '22

Some recent developments in the motor bus field. *il Automotive Ind* 46:907-9 Ap 27 '22

Standard brings out another model. *Bus Transportation* 1:655 D '22

Ten-passenger bus of touring-car type; the Standard. *il Bus Transportation* 1:555 O '22

What constitutes a perfect motor bus. G. A. Green. *diag India Rubber W* 66:805 S '22

See also Advertising mediums—Motor buses; Brakes, Motor bus; Electric buses; Jitney buses; Motor bus lines; Railroads—Motor vehicle auxiliaries; Trackless trolley; also Fifth avenue coach company, New York

Axles

Axle designed especially for bus applications. H. Chase. *diags Automotive Ind* 46:549-50 Mr 9 '22

Britton comes out with bus rear axles. *diags Bus Transportation* 1:242-3 Ap '22

Bus axle for either gasoline or electric drive. *diags Bus Transportation* 1:189 Mr '22

Continental model 600 motorbus front axle. *diags Automotive Ind* 49:469 S 6 '23

Double-reduction axle for twenty-passenger bus. *il Bus Transportation* 1:600 N '22

Huck double reduction truck axle employs planetary gears. *diags Automotive Ind* 48:1076-7 My 17 '23; *Bus Transportation* 2:292-3 Je '23

Internal-gear axle for heavy-duty buses. *il Bus Transportation* 1:297+ My '22

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Bodies

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Building omnibus bodies. *il (supp) diags Engineer* 136:102-3 Jl 27 '23

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Bus body light in weight. *il Bus Transportation* 1:395-6 Jl '22

Central aisle features new de luxe body. *il Bus Transportation* 2:343 Jl '23

Standard body for Reo chassis. *plan Bus Transportation* 1:655 D '22

Windows disappear in this all-steel body. *il Bus Transportation* 1:652 D '22

Chassis

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Federal experiments with chassis designed for bus service. *il Automotive Ind* 48:512-13 Mr 1 '23

Goodwin-Guildler chassis designed especially for bus service. *il Automotive Ind* 47:1224 D 21 '22

New chassis has almost uniform weight distribution. *il Bus Transportation* 1:442-3 Ag '22

New designs added to growing list of special bus chassis. *il Automotive Ind* 46:1003-5 My 11 '22

Principles of motorbus design and operation. G. A. Green. *il diags Soc Auto Eng J* 11:13-26 Jl '22; Same cond. *Automotive Ind* 46:1364-71 Je 22 '22; Same cond. *Bus Transportation* 1:369-78 Jl '22; Discussion. *Soc Auto Eng J* 11:188-92 Ag '22

Progress in construction of motor-bus chassis. C. T. Myers. *il Bus Transportation* 2:11-15 Ja '23

What's what in chassis for bus service. *il Bus Transportation* 1:487-9+ S '22

Cleaning

London buses have special cleaning facilities. *il Bus Transportation* 1:421 Ag '22

Shower bath speeds up job of washing motor bus. *il Pop Mech* 38:430 S '22

Cost of operation

Private school charges \$125 a year for bus service. *il Bus Transportation* 1:368 Jl '22

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- Buses need better brakes and universal joints, street railway executive thinks. E. L. Atchley. *Automotive Ind* 49:281 Ag '23
- Flat springs and Hotchkiss drive favored in bus design. A. F. Masury. *diags Automotive Ind* 49:163-5 Jl '26 '23
- Future of bus and truck construction. J. E. Thernycroft. *Bus Transportation* 1:502-3 S '22
- German buses follow truck lines with special features added. B. R. Dierfeld. *diags Automotive Ind* 47:114-16 Jl '20 '22
- Motor bus design proposed by electric railway engineers. *diags Bus Transportation* 1:193-4 Mr '22
- Principles of motorbus design and operation. G. A. Green. *il diags Soc Auto Eng J* 11:13-26 Jl '22; Same cond. *Automotive Ind* 46:1364-71 Je '22 '22; Same cond. *Bus Transportation* 1:369-78 Jl '22; Discussion. *Soc Auto Eng J* 11:188-92 Ag '22
- Rapid advance in stage design in Washington; the Pacific Northwest traction co. operates two stages. *il Bus Transportation* 1:527-9 O '22
- Some data on motor bus construction. G. G. Bell. *Bus Transportation* 1:399-400 Jl '22
- Some details of the Paris six-wheel buses. *diags plan Bus Transportation* 2:220 My '23
- Some factors which must be considered in bus transportation. E. W. Clark. *il Bus Transportation* 1:14-16 Ja '22
- What are fundamental factors which govern motor bus design? A. F. Masury. *diags Automotive Ind* 49:112-16 Jl '19 '23; Discussion. R. A. Whittingham. 49:487-9 S 6 '23
- White chassis designed especially for bus service. J. E. Schipper. *il diags Automotive Ind* 46:655-6 Mr '23 '22
- Yellow coach has new bus chassis with single or two-deck bodies. J. E. Schipper. *il diags Automotive Ind* 49:314-20 Ag 16 '23

Doors

- Opening devices for bus doors. *diag Bus Transportation* 1:440 Ag '22

Electric equipment

- Electrical equipment for bus service. T. L. Lee and G. R. Fessenden. *il diag Bus Transportation* 2:273-4 Je '23
- Electrical equipment for motor buses placed on market. *il Automotive Ind* 48:553 Mr 8 '23

Exhibitions

- Buses at the Boston auto show. *il Bus Transportation* 2:172-3 Ap '23
- Commercial motor exhibition; trend of design in heavy vehicles. *il diags Automobile Eng* 11:362-8 N '21
- Motor bus activities at the National automobile shows. *il Bus Transportation* 2:77-80 F '23

Heating

- Heating system includes tuning-up valve. *Bus Transportation* 1:602-3 N '22
- Register type of bus heater. *il diag Bus Transportation* 2:294 Je '23

Lighting

- Generators for bus lighting. *il Bus Transportation* 1:601 N '22
- Interior lighting of buses. L. C. Porter and R. W. Jordan. *plans Bus Transportation* 1:57-60 Ja '22
- Lighting fixture for bus use. *il Bus Transportation* 1:601 N '22
- Suggestions on the lighting of buses. L. C. Porter and R. W. Jordan. *il diags Bus Transportation* 1:218-20 Ap '22

Lubrication

- Lubricating the bus mechanism. *il diag Bus Transportation* 1:435-6 Ag '22

Manufacture

- A bus a day turned out by operator. *il diags plan Bus Transportation* 2:515-18 N '23

- Bus building by bus operators. *il Bus Transportation* 2:269-71 Je '23
- Makes large aluminum cowl. D. Partridge. *il Foundry* 50:820-2 O 15 '22

Repair

- English tramways company builds and operates buses. *il diag map Bus Transportation* 1:493-5 S '22
- How one company averages 53,500 miles per bus annually. Twin City motor bus company. *il Bus Transportation* 1:263-7 My '22
- London's motor-bus repair plant. *il Pop Mech* 40:87-9 Jl '23
- Maintaining dependable service on heavy grades and rough roads; Yosemite transportation system. *il Bus Transportation* 2:316-19 Jl '23
- Maintaining stages on a large western system. *il map Bus Transportation* 2:167-71 Ap '23
- Omnibus overhauling depot. *il diags Engineer* 133:121-4, 130, 137 F 3 '22
- Repair works of the London General omnibus company. *il Engineering* 113:140, 145-7 F 3 '22
- Repairing London's omnibuses. I. W. Chubb. *il diags Am Mach* 58:761-3, 797-800, 857-9 My 24-31, Je 14 '23
- Service discussed at New York. R. E. Fielder. *Bus Transportation* 2:252 My '23
- See also Motor bus lines—Shops

Seats

- Wicker chairs in this de luxe bus, the Fageol. *il Bus Transportation* 1:602 N '22

Specifications

- American gasoline motor bus specifications; tabulation. *Automotive Ind* 48:416-19 F 22 '23
- Condensed specifications of motor vehicles for bus service. See monthly numbers of *Bus transportation*

Springs

- Auxiliary springs take up shocks. *il diag Bus Transportation* 2:536 N '23
- Eliminating spring shackles. *diags Sci Am* 128:121 F '23
- Flat springs and Hotchkiss drive favored in bus design. A. F. Masury. *diags Automotive Ind* 49:163-5 Jl '26 '23

Standards

- Bus and standardization. C. F. Clarkson. *Bus Transportation* 2:218 My '23

Suspension systems

- British use pneumatic bus body suspension. *diags Automotive Ind* 49:633 S 27 '23
- Carrying the body on ball bearings. *il Bus Transportation* 2:345 Jl '23

Transmission

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- Flat springs and Hotchkiss drive favored in bus design. A. F. Masury. *diags Automotive Ind* 49:163-5 Jl '26 '23

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- Easy riding on heavy motor vehicles; tire and felloe construction. *il diag Bus Transportation* 1:277-80 My '22
- Eight wheels improve riding qualities. *il Bus Transportation* 1:121-3 F '22
- Six-wheel stage is developed in California. *il diag Bus Transportation* 2:265-7 Je '23
- Steel wheels solve problems in use of dual tires. *il diags Bus Transportation* 1:172 Mr '22

Motor buses, Steam

- Q. E. D. steam motor bus uses Winslow boiler. *il Automotive Ind* 49:121 Jl '19 '23
- Steam motive-power tried out for bus service. *il Bus Transportation* 2:381-2 Ag '23

Motor buses and roads

- Comparative deflection tests favor the motor stage. *Bus Transportation* 2:9 Ja '23; Same. *Eng N* 90:263 F 8 '23

Motor buses and roads—Continued

Street space occupied by cars and buses. D. L. Turner. Elec Ry J 61:957-8 Je 9 '23;
Same cond. Bus Transportation 2:277-8 Je '23

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Australian gasoline rail motor car. il Ry Age 73:622 S 30 '22
Auto engineering solving local passenger problems. il Ry R 69:860-3 D 24 '21
Automotive rail-cars and their future development. L. G. Plant. Soc Auto Eng J 11:484-6 D '22; Same. Ry R 70:930-4 Je 17 '22;
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Automotrice à moteur Diesel et à transmission électrique, construite par les établissements Suizer frères. 1^o. Ostertag. il diags plan Génie Civil 81:607-10 D 30 '22
Bowen gasoline motor driven passenger car. il diags plan Ry Age 71:841-3 O 29 '21;
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Developments in bus-type rail cars for local service. il Ry R 70:633-5 My 6 '22
Developments in the motor rail car field. il diags Ry R 73:201-4 Ag 11 '23
Diesel-electric motor cars for railway service. il Ry Age 72:1183-4 My 20 '22; Same. Ry Mech Eng 96:314-15 Je '22
Diesel-electric railroad car. P. Ostertag. Mech Eng 45:256 Ap '23
Electric brake and axle with reverse gear are successful railcar units. D. A. Hampson. il diags plan Automotive Ind 48:606-9 Mr 15 '23
L'exploitation des chemins de fer d'intérêt local par automotrices à moteurs à explosion. P. Jacquinet. il diags plans Génie Civil 82:73-9 Ja 27 '23
Field for the rail motor-car. R. V. Wright. Soc Auto Eng J 11:481-2; Discussion. 486-90 D '22
Four-wheel drive motor car and trailer. il Ry Age 74:1474-6 Je 16 '23; Same. Ry Mech Eng 97:596-7 Ag '23
Four-wheel-drive trucks in rail service. il Sci Am 128:49 Ja '23
French petrol rail car. il diags Engineer 135:47-8 Ja 12 '23
Gas-driven railroad car for passenger service. il Pop Mech 38:919 D '22
Gas-electric-battery car for railway service. R. J. Needham. diags Ry R 73:535-9 O 13 '23
Gasoline-driven motor-coach for railroad service. C. O. Guernsey. il Soc Auto Eng J 11:275-8 S '22; Abstract. Ry Age 72:1008-9 Ap 29 '22; Discussion. Soc Auto Eng J 11:278-80+ S '22
Gasoline-driven rail cars cut operating costs. il Pop Mech 38:73 Jl '22
Gasoline motor car and trailer for the Baltimore & Ohio. il Ry Age 73:170-1 Jl 22 '22; Ry Mech Eng 96:453-4 Ag '22; Ry R 71:191-2 Ag 5 '22
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Gasoline motorized coach for the C. & N. W. il diags plan Ry Age 75:585-7 S 29 '23; Same. Ry Mech Eng 97:694-6 O '23
Gasoline rail-car. il Sci Am 127:341 N '22
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Gasoline rail car shows good fuel economy. il Ry Age 74:273-4 Ja 27 '23
Gasoline rail coach. il Sci Am 127:163 S '22
Gasoline rail equipment developed for Seattle power project. il Elec Ry J 59:278-9 F 18 '22
Gasoline railroad trains cut operating costs. il Pop Mech 38:748 N '22
German railcar departs from conventional truck practice. B. R. Dierfeld. il diags Automotive Ind 47:664-6 O 5 '22
Light weight gasoline car for heavy grade line. il Ry Age 73:1012 N 25 '22; Same. Ry Mech Eng 97:41 Ja '23
Mack chassis now adapted for use as rail cars. H. Chase. il diags plan Automotive Ind 45:918-21 N 10 '21

Making motor rail cars from auto trucks. D. A. Hampson. il Ry R 70:191-2 F 11 '22
Meeting auto competition on western short lines; operation of White gasoline rail car improves service and cuts operating cost on light traffic lines. il Ry R 69:792-6 D 10 '21
Modern motor rail cars and the local passenger problem. L. G. Plant. il Ry R 70:519-22 Ap 15 '22
Motor cars on the Mississippi river and Bonne Terre Ry. il Ry R 70:501 Ap 8 '22
Motor cars on the New Haven. il Ry Age 72:474 F 25 '22
Motor rail car earns its salt. il Ry R 70:656 My 6 '22
Multiple unit control for self-propelled cars. il diags plan Ry R 73:610-17 O 27 '23
New features in Service railway motor coach. il Ry Age 72:1069-70 My 6 '22; Ry Mech Eng 96:337-8 Je '22; Eng N 88:792 My 11 '22
New gasoline car may revolutionize rail transportation on branch lines. Munic Eng 61:sup10 D '21
New Haven using motor cars on branch lines. il diags plan Ry Age 72:315-17 F 4 '22; Same. Ry Mech Eng 96:129-41 Mr '22
New Jersey short line railroad finds gasoline cars profitable. il Nat Pet N 14:83 My 24 '22
New motor flat car built by Rochester railway. il Elec Ry J 59:971 Je 17 '22
New rail car for the Canadian National. il Ry R 71:207-9 Ag 12 '22
Northwestern company builds rail cars. il Ry R 70:614-15 Ap 29 '22
La nouvelle automotrice Renault-Scemia pour chemins de fer d'intérêt local. il diags plans Génie Civil 83:337-40 O 13 '23
Les nouvelles automotrices à moteur à explosion des chemins de fer de l'état. P. Calfas. il diags Génie Civil 81:381-4 O 28 '22
Nouvelles automotrices légères à essence, avec remorques, des Tramways des Deux-Sèvres. il Génie Civil 82:284 Mr 24 '23
Novel gasoline motor truck for railway car bodies. R. S. Zeitler. diags Ry R 71:852-4 D 16 '22
Oil industry must meet new demand from gasoline railroad cars. P. Truesdell. il diags plan Nat Pet N 14:19-21 F 15 '22
Operating economy is keynote in new rail car design. il Ry R 70:49-50 Ja 14 '22
Operating experiences indicate scope of rail car market. Automotive Ind 48:666-7 Mr 22 '23
Operating results with gasoline motor cars on the Pittsburgh & Shawmut. Ry Age 72:516 Mr 4 '22
Operation of motor cars on the Pittsburgh & Shawmut. D. C. Morgan. il Ry R 70:928-9 Je 17 '22
Petrol-driven rail cars. il diags Engineering 114:308 S 8 '22
Power behind the modern gasoline motor rail car. il diags Ry R 70:669-73 My 13 '22
Power plant of new rail car located at rear end. il diags Automotive Ind 49:282-3 Ag 9 '23
Powerful gasoline motor driven train. il plan Ry Age 75:291-2 Ag 18 '23; Same. Ry Mech Eng 97:640-2 S '23
Present status of the rail car. J. Decroës. Elec Ry J 60:751-2 N 4 '22
Progress in motor-coach design. il Sci Am 128:265 Ap '23
Rail car design changes are suggested as result of operating experiences. Automotive Ind 49:268-70 Ag 9 '23
Rail car with six-cylinder engine used successfully nine years. L. H. Kirk. il diags Automotive Ind 48:775-6 Ap 5 '23
Railcars are needed—bus what type? H. Chase. il Automotive Ind 46:1150-2 Je 1 '22
Railroad uses motor trucks on Hetch Hetchy line. il Pop Mech 37:419 Mr '22
Railway motor car of special design. il Sci Am 126:380 Je '22
Recent development in the railcar field. il diags Automotive Ind 46:556-7 Mr 9 '22

Motor cars (railroad)—Continued

- Recent developments in gasoline motor rail cars; abstracts. W. L. Bean. *il map Ry R 70:741-7 My '22; Ry Age 73:17-20 Jl 1 '22; Eng & Contr 58:161-2 Ag 16 '22; Mech Eng 44:605 S '22*
- Recent developments of the motor coach. C. E. Brooks. *il Mech Eng 45:463-6 Ag '23; Same. Ry Mech Eng 97:626-30 S '23; Same. Can Eng 45:289-93 S 4 '23; Same cond. Ry Age 75:431-4 S 8 '23; Discussion. Mech Eng 45:466-7 Ag '23; Same. Ry Mech Eng 97:630-1 S '23; Same. Ry Age 75:434 S 8 '23*
- Rendering a service that the modern public want; self-propelled car destined to become potent factor in Canadian National railway service. *il diags Ry R 72:715-19 Ap 28 '23*
- Report on motor cars. Ry Age 73:999 N 25 '22
- Reversing facilities for use with or on rail cars. D. A. Hampson. *il diags Automotive Ind 45:1209-13 D 22 '21*
- Russell gasoline motor car train for M. & P. Ry. *il diags Ry R 70:934-7; 71:718-21 Je 17, N 18 '22*
- Russell motor driven rail car with high power unit. *il plan Ry Age 73:943-4 N 18 '22; Same. Ry Mech Eng 96:697-8 D '22*
- Self-propelled cars for branch line service; report of A.E.R.A. committee. Ry Age 75: 829-35 N 3 '23; Eng & Contr (Ry) 60:1059-61 N 21 '23
- Self-propelled railway car runs on waste fuel. *il Pop Mech 39:753 My '23*
- Short lines find gasoline rail car practical. J. W. Cain. Ry R 71:239-40 Ag 19 '22; Excerpt. Eng & Contr 58:266 S 20 '22
- Some requirements for the rail motor-car. W. L. Bean. *diags plan Soc Auto Eng J 11: 482-4; Discussion. 486-90 D '22*
- Successful gasoline electric car is designed for Swiss railroad. *il J Elec 50:17 Ja 1 '23*
- Sulzer Diesel-electric rail car. *il diags Engineer 134:692, 696-9 D 29 '22; Ry Age 74: 377-8 F 10 '23; Ry Mech Eng 97:209-10 Ap '23*
- Swedish railways increase use of Diesel electric. *il diags plans Elec Ry J 60:193-5 Ag 5 '22*
- Two-car automotive train on the Seaboard air line. Ry. seats 66 passengers. *il diags Ry R 71:683-4 N 11 '22*
- Two pneumatically synchronized engines used in new railcar. *il diags Automotive Ind 49: 749-51 O 11 '23*
- L'utilisation des automotrices sur rails. Génie Civil 82:110-11 F 3 '23
- Utility of gas-motored rail cars; views of railroad men in varied positions. Ry R 71: 123-4 Jl 22 '22
- White gasoline motor car on Tennessee, Kentucky & Northern. *il Ry Age 72:886 Ap 8 '22*
- White gasoline rail car. *il plan Ry Age 72: 1125-6 My 13 '22; Elec Ry J 59:874 My 27 '22; Ry Mech Eng 96:407-8 Jl '22*
- Why railroads don't buy more rail cars. D. A. Hampson. *diags Automotive Ind 47:571-5 S 21 '22; Discussion. 47:936-7 N 9 '22*

See also Railway motor finance corporation

Cost of operation

- Cost of operating railway motor cars. Eng & Contr (Ry) 59:1366 Je 20 '23
- Gasoline rail car operated at 40 cents a mile. *il Elec Ry J 59:672 Ap 22 '22*
- Gasoline rail car operating cost. Elec Ry J 60:393 S 16 '22

Line cars

- New lightweight railway motor car. *il Ry Age 72:920 Ap 15 '22*

Specifications

- Gasoline rail car specifications; tabulation. Automotive Ind 48:384-5 F 22 '23

Steam

- Design and operation of the unit railway steam car. *il diags plan Ry R 71:433-7 S 30 '22; Ry Age 73:711-13 O 14 '22; Mech Eng 44:841 D '22*
- Steam-propelled unit railway motor car. *il diag Ry Mech Eng 96:620-2 N '22*

Storage battery

- Railway storage battery cars. L. Klopman. Ry Age 71:1025-6 N 26 '21
- Storage battery cars on the Canadian National. E. B. Walker. *il Ry Age 74:1147-50 My 12 '23*

Testing

- Experience gained as a result of road tests of railcars. D. A. Hampson. *il diags Automotive Ind 46:754-6 Ap 6 '22*

Motor cars (street railroad)

- Automotrice à essence et à deux essieux pour chemins de fer d'intérêt local. G. Tartary. *il Génie Civil 80:115 F 4 '22; Abstract (French gasoline rail car). Elec Ry J 59: 513 Mr 25 '22*
- Motor busses on rails replace street cars. *il Pop Mech 37:855 Je '22*
- Nouvelle voiture motrice de tramway de la Société des transports en commun de la région parisienne. *il diag plan Génie Civil 81: 464-7 N 18 '22*
- Rail cars must combine automotive and railroad practice. C. Guernsey. *il Elec Ry J 59:685-6 Ap 22 '22*
- Rail motor buses replace interurban cars. *il Elec Ry J 60:43 Jl 8 '22*
- Self-propelled car replaces trolley. *il Elec Ry J 59:419 Mr 11 '22*

Motor cultivators. See Cultivators, Motor**Motor cycle engines**

- All-aluminum cycle engine light and powerful. *il Pop Mech 39:720 My '23*
- Barr and Stroud 3 h.p. cycle engine. *il diags Automobile Eng 12:115-17 Ap '22*
- Burt-McCullum sleeve valve type of motor-cycle engine. *diags Automotive Ind 45:11 Ja 5 '21*
- Moteur de motocyclette Barr and Stroud à manchon-valve. *diags Génie Civil 81:71-2 Jl 15 '22*
- Single-cylinder air-cooled sleeve-valve motor-cycle engine. *il diags Engineering 113:44-5 Ja 13 '22*
- Sleeve-valve engines for motorcycles. *il Sci Am 127:391 D '22*

Cooling

- Oil-cooling the motorcycle engine. *il Sci Am 128:385 Je '23*

Fuel

- Crude-oil motor without a carburetor. *il Sci Am 129:342 N '23*

Ignition

- Reducing size of combined ignition and lighting systems. F. J. Hoffman. *diags Automotive Ind 47:418-20 Ag 31 '22*

Motor cycle industry and trade

- Automotive production statistics show industrial stability. R. B. Prescott. Automotive Ind 46:325-9 F 16 '22
- Better knowledge of the factory by the dealer speeds up sales. P. F. O'Shea. *Ptr Ink 122: 125-6+ Ja 25 '23*
- Final registration figure for U.S. 12,364,377 cars and trucks. Automotive Ind 48:372-6 F 22 '23
- Marketing the motorcycle. N. G. Shidle. Automotive Ind 45:1028-31, 1123-6 N 24, D 8 '21; Discussion. 45:1230-1 D 22 '21
- Markets are no bigger than advertiser's imagination; the Harley-Davidson motor company's campaign. M. Hastings, jr. *Ptr Ink 120:17-19 Ag 31 '22*
- Motorcycle and tractor exports increase. N. G. Shidle. Automotive Ind 49:540-1 S 13 '23
- Motorcycle exports from 1913 to 1922; tabulation. Automotive Ind 48:476-7 F 22 '23
- Motorcycle turns a corner. N. G. Shidle. Automotive Ind 47:274-5 Ag 10 '22
- Revised figures show U.S. car and truck registration of 10,505,660. Automotive Ind 46: 320-4 F 16 '22

Motor cycles

- Development of the single-cylinder solo motor cycle. H. D. Teage. *il diags Automobile Eng 11:382-6 N '21*
- Motorcycle delivery truck. J. R. Koontz. *il Pop Mech 37:957 Je '22*

Motor cycles—Continued

- Motor cycle noises and the low audiometer. *il Engineer* 134:335-6 S 29 '22
- Motor cycles and side-cars. H. Corbishley. 152p Funk & Wagnalls co., New York '22
- Multiplicity of models feature British motorcycle show. M. W. Bourdon. *il diags Automotive Ind* 45:1264-8 D 29 '21
- 1921 motorcycle racing records. *Automotive Ind* 46:428-9 F 16 '22
- Raleigh motor bicycle. *il diags Engineering* 114:264-6 S 1 '22
- Round-you-go motorcycle runs on single wheel. *il Pop Mech* 40:447 S '23
- Steam-driven motorcycle economical to operate. *il Pop Mech* 37:204 F '22
- See also Motor cycle engines

Cost of operation

- Light car and the motor cycle and sidecar compared. W. H. Hingston. *diags Automobile Eng* 12:346-51 N '22

Design

- British motorcycle trends. M. W. Bourdon. *Automotive Ind* 46:384-5, 388-9 F 16 '22
- Showing up the weak spots in motorcycle design. M. W. Bourdon. *Automotive Ind* 47:766-7 O 19 '22
- Sidecar design. D. Leechman. *diags Automobile Eng* 13:78-82 Mr '23
- Trend in American motorcycle design as revealed by the 1922 specifications. *Automotive Ind* 46:380-1 F 16 '22

Exhibitions

- Cycle and motor-cycle show at Olympia. *Engineering* 114:683-4, 705-7, 734-6 D 1-15 '22; *Automobile Eng* 13:16-23 Ja '23
- Cycle and motor-cycle show at Olympia. *il diags Engineering* 116:503-6, 519-22 O 19-26 '23
- Motor cycle show held at Olympia, Nov. 28-Dec. 3. *il diags Automobile Eng* 12:13-19 Ja '22; *Engineering* 112:764 D 2 '21
- Multiplicity of models feature British motorcycle show. M. W. Bourdon. *il diags Automotive Ind* 45:1264-8 D 29 '21
- Smaller engines feature British motor-cycle show. W. M. Bourdon. *il diags Automotive Ind* 48:28-31 Ja 4 '23

Gearing

- Gear boxes for motor cycles. I. Cohen. *Automobile Eng* 13:125-7 Ap '23

Manufacture

- Machining motor cycle hubs. *il diags Automobile Eng* 12:7-8 Ja '22
- Seamless steel tubing in motorcycle construction. W. W. Hackett. *diags Automotive Ind* 46:662-5 Mr 23 '22

Specifications

- American motor cycle specifications, 1922; tabulation. *Automotive Ind* 46:380 F 16 '22
- American motor cycle specifications; tabulation. *Automotive Ind* 48:442-3 F 22 '23
- British motorcycle specifications—1922; tabulation. *Automotive Ind* 46:382-3 F 16 '22
- British motorcycle specifications; tabulation. *Automotive Ind* 48:444-5 F 22 '23
- German motorcycle specifications, 1922; tabulation. *Automotive Ind* 46:385 F 16 '22
- German motorcycle specifications; tabulation. *Automotive Ind* 48:442-3 F 22 '23

Statistics

- Exports of domestic motorcycles from the United States, January to September, 1921, inclusive; tabulation. *Automotive Ind* 45:931 N 10 '21

Motor fuel. See Automobile engines—Fuel; Gas and oil engines—Fuel; Motor truck engines—Fuel

Motor generators. See Electric motor generators

Motor omnibuses. See Motor buses

Motor ships

- Big Canadian Diesel engined tug. *il Marine R* 53:255 Jl '23
- Big motorship, Thalatta, delivered to Norse owner. *Marine R* 52:488 D '22

- Big U.S. built motorship, the Californian. *il plans Marine R* 52:229-31 Je '22
- Complete new Danish motorship Arizona. *il Marine R* 53:220-1 Je '23
- Diesel auxiliary schooner yacht Hussar IV. *il plan Marine Eng* 28:602-3+ O '23
- Diesel-engined derrick lighter Worthington. *il diag Marine Eng* 27:240-2 Ap '22; Same abr. *Marine R* 52:215-17 My '22; Same abr. *Iron Tr R* 70:1253-4 My 4 '22
- Diesel engined lighter shows remarkable economy in operation as compared with steam lighter. *Marine Eng* 27:521 Ag '22
- Diesel machinery for single-screw motor ships. J. Richardson. *diags plans Engineering* 113:416-19 Ap 7 '22; Same. *Marine Eng* 27:372-7 Je '22; Same, without diags. *Engineer* 133:448-9 Ap 21 '22; Discussion. *Engineering* 113:449-52 Ap 14 '22; *Engineer* 133:445-6 Ap 21 '22
- Elder Dempster motor liner Adda. *il Engineer* 134:587, 624-5, 636 D 1, 15 '22
- First motor passenger liner; the Aba. A. P. Chalkley. *il diags plans Marine Eng* 27:31-6 Ja '22
- Fourth British built motor passenger liner fitted with Diesel engines just commissioned. *il Marine Eng* 28:305-6 My '23
- Freight and passenger vessel for Florida service; Mobile shipyard building wooden motorship, reinforced with steel. *diags plan Marine Eng* 27:788-9 D '22
- Growth of motor ships is shown in report. *Marine R* 52:26 Ja '22
- Influence of speed on economy of motorships. L. B. Chapman. *Marine Eng* 28:435-6 Jl '23
- Large British steamship companies build motorships. *il Marine Eng* 27:305-6 My '22
- Largest two cycle engined motorship Dalgoma. *il Marine Eng* 28:429-31 Jl '23
- Motor cargo ship Dalgoma. *il diag Engineer* 135:576-8, 580 Je 1 '23
- Motor passenger liner Domala. *il diags plans Marine Eng* 27:100-6 F '22
- Motorship Malia; first vessel equipped with Camellaird Fullagar engines. A. P. Chalkley. *il Marine Eng* 26:935-6 D '21
- Motorship Missourian given successful try-out. J. C. Shaw. *il Marine Eng* 27:556-9 S '22
- Motor ship Sevilla. *il diags Engineering* 113:12-14, 16, pl 1 Ja 6 '22
- Motorship with a non-reversing engine. A. McNab. *il Marine Eng* 27:127-8 F '22
- Motorship year book. Miller Freeman & co., New York
- Motorships for both lake and coastwise service. *il diags plans Marine Eng* 28:594-7 O '23; *Marine R* 53:378-80 O '23
- Motor ships in 1921. *il (supp) Engineer* 133:6-8 Ja 6 '22
- Motor ships in 1922. *il (supp) Engineer* 135:16-18 Ja 5 '22
- Motor tank ship Zoppot. *il diags plans Marine Eng* 27:113-20 F '22
- New American motorships Californian and Missourian. *il diags plans Marine Eng* 27:93-9 F '22
- 9,000-ton deadweight Norwegian motorship Handicap; with cost comparisons. E. B. Pollister. *il diag plan Marine Eng* 27:494-8 Ag '22
- Norwegian motorship Teneriffa. *il Marine Eng* 27:431-2 Jl '22
- Number and tonnage of motorships. *Soc Auto Eng J* 12:9 Ja '23
- Oil engines versus steam for tugboats. H. A. Christensen. *diags Marine Eng* 27:121-4 F '22
- Powering of motor ships. K. C. Barnaby. *Engineering* 115:412-14; Discussion. 391-2 Mr 30 '23; *Engineer* 135:366 Ap 6 '23
- Probable trend in the adoption of motorships. W. W. Smith. *Marine Eng* 28:677-8 N '23
- Progress of motorship building in Europe. *il Marine Eng* 26:933-4; 27:185-6, 381-2, 503-4, 559-61; 28:31-4, 223-4 D '21, Mr, Je, Ag-S '22, Ja, Ap '23
- Proposed 40,000 horsepower motor-ship. L. J. Le Mesurier. *diags Power* 57:776-7 My 15 '23
- Royal mail orders two 20,000-ton motor liners. *il Marine Eng* 28:494-6 Ag '23

Motor ships—Continued

- Save weight and space in motorship. *il* diags Marine R 53:365-8 O '23
- Small motor cargo ships for the eastern trade. *il* Marine Eng 27:649-50 O '22
- 3,000 horsepower single screw motorship, Dominion Miller. *il* Marine Eng 27:237-9 Ap '22
- 3,000-I.H.P. single-screw motor ship Eknaren. diags Engineering 114:579-82, 611-14, pl 37-8 N 10-17 '22
- Twin-screw Diesel motorship Tennessee. *il* Marine Eng 28:88-92 F '23; Same. Marine R 53:130-2 Ap '23
- What part will motorships play in our shipping? A. Conti. *il* Marine Eng 28:671-7 N '23
- William Penn completes voyage around the world. *il* Marine Eng 27:313-14 My '22
- See also Diesel engines, Marine; Gas and oil engines, Marine; Motor boats

Cost of operation

- Are motorships the most economical type of vessel? *il* Marine Eng 28:301-3 My '23
- Comparison of steamships and converted motorships. L. B. Chapman. Marine Eng 28:137-41 Mr '23
- Fuel costs of new fruit carrying motorship. Marine R 52:99-100 Mr '22
- Relative economy of steam and motor vessels. L. B. Chapman. Marine Eng 28:38-41 Ja '23

Steamboat conversion

- Convert American freighter to Diesel. *il* Marine R 53:437-8 N '23
- Cost of converting to Diesel power an 8000-ton shipping board. L. R. Ford. Mech Eng 45:660 N '23

Testing

- Sea trial of the motor ship Pizarro. *il* Engineer 135:65 Ja 19 '23
- Sea trials of the motorship Californian. *il* Marine Eng 27:378-80 Je '22
- Trials of a Doxford motor ship. Engineering 114:436 O 6 '22
- Trials of the motor ship Eknaren. Engineer 134:354 O 6 '22
- Trials of the motor ship Pinzon. *il* diags plan Engineer 133:146-8 F 10 '22
- Trials of the motor ship Segovia. Engineering 113:521-2 Ap 28 '22

Motor transport service. See United States—Army—Motor transport service

Motor truck driving

- Commercial driver's relation to safety. G. S. Gelston. Nat Safety N 7:31 Mr '23; Same. Safety Eng 45:213-15 Je '23

Courtesy is common sense on the highways; truck road hogs promote unfavorable vehicle legislation. Automotive Ind 47:16-17 Jl 6 '22

Keeping the commercial driver sold on safety. *il* Nat Safety N 7:29-31 My '23

Ley company men make safe driving record. *il* Nat Safety N 8:16 S '23

Making drivers cautious. H. A. Johnstown. Factory 28:578+- My '22

Making the motor truck pay better. Factory 29:194+- Ag '22

Training the mall truck driver in safety. C. C. Rausch. *il* Nat Safety N 8:15-17 Ag '23

Motor truck engines

Air cleaner applied to truck engines. Automotive Ind 46:558-9 Mr 9 '22

Engine for three kinds of service. *il* Bus Transportation 1:444 Ag '22

Newcomb engine is characterized by high economy at part load. H. Chase. *il* diags Automotive Ind 48:1022-5 My 10 '23

Peugeot to produce automotive injection engine. W. F. Bradley. *il* diags Automotive Ind 46:269-71 F 9 '22

Type K-4 Continental truck engine goes into production. *il* diags Automotive Ind 48:231-2 F 1 '23

See also Automobile engines

Design

- American-LaFrance makes own units for new line of trucks. H. Chase. diags Automotive Ind 48:916-20 Ap 26 '23
- Features of recent development in truck parts design. P. M. Heldt. *il* diags Automotive Ind 45:12-18 Ja 5 '22
- Good example of modern engine design. J. E. Schipper. diags Automotive Ind 46:699-700 Mr 30 '22

Fuel

- Les camions à gaz pauvre. C. Dantin. *il* diags Génie Civil 82:100-3, 130-3 F 3-10 '23
- Charcoal producer gas. J. E. Kirchner. *il* diags Automobile Eng 13:138 My '23
- Coke as a fuel for commercial vehicles. T. Clarkson. Engineering 112:579-80 O 21 '21; Abstract. Automobile Eng 11:389-90 N '21
- French are testing producer gas trucks. Sci Am 128:337 My '23
- French suction gas lorries. *il* diags Engineer 134:332-4 S 29 '22; Abstract. Mech Eng 44:836 D '22
- Hungary uses charcoal producer gas as truck fuel. J. E. Kirchner. *il* diags Automotive Ind 48:283-4 F 8 '23
- Motor-transport performance with varied fuel-volatility. C. T. Coleman. Soc Auto Eng J 12:343-50 Ap '23
- One hundred ton-miles per gallon. J. B. Fisher. diags Soc Auto Eng J 13:139-43 Ag '23
- Oxidized kerosene as truck fuel. Sci Am 129:339 N '23
- Producer gas used as fuel in British trucks. *il* Eng N 89:861 N 16 '22
- Thornycroft three-ton suction gas lorry. *il* diags Engineer 134:19-20, 228-9 Jl 7, S 1 '22

Manufacture

- Features in manufacture of Mack motors. L. S. Love. *il* Iron Age 112:389-92, 481-4 Ag 16-23 '23
- Rotating indexing jigs reduce labor cost in engine manufacture. J. E. Schipper. *il* Automotive Ind 48:612-15, 828-31 Mr 15, Ap 12 '23

Piston displacement

Piston displacement factors found for motor trucks. P. M. Heldt. Automotive Ind 49:66-7 Jl 12 '23

Radiators

- Motor-truck radiator-design. R. S. Wentworth. Soc Auto Eng J 13:393 N '23
- New truck cooling system adopted by Mack. *il* Automotive Ind 48:718 Mr 29 '23
- Protecting truck radiators against frame distortion. M. W. Bourdon. diags Automotive Ind 46:1106-7 My 25 '22
- Radiator core built up of copper tubes. *il* Bus Transportation 1:441+- Ag '22

Specifications

- American stock engine specifications for 1922; tabulation. Automotive Ind 46:386-7 F 16 '22
- American stock engine specifications; tabulation. Automotive Ind 48:428-31 F 22 '23

Motor truck industry and trade

- Farmers are eager to buy motor trucks. J. C. Dalton. Automotive Ind 46:209-12 F 2 '22
- Handling truck sales and service in the small town. H. Tipper. Automotive Ind 47:532-3 S 14 '22
- Market research increases motor truck sales. P. H. Smith. Automotive Ind 46:1206-9 Je 8 '22
- More specific data needed on truck market possibilities. H. Tipper. Automotive Ind 47:282-3 Ag 10 '22
- Passenger car dealers offer means for truck distribution. H. Tipper. Automotive Ind 47:832-3 O 26 '22
- Truck makers perplexed by baffling fundamental problems. J. Dalton. Automotive Ind 47:301-3 Ag 17 '22
- We seldom lose on trade-ins. K. L. Mengert. System 44:169-70 Ag '23
- What is right with the motor truck industry. S. G. Thompson. Soc Auto Eng J 12:446-8 My '23

Motor truck industry and trade—Continued

What the A.E.A. means to the car and truck manufacturers. C. Jennings. *Automotive Ind* 46:1431-3 Je 29 '22

Who are the potential truck buyers? H. Tipper. *Automotive Ind* 47:382-3 Ag 24 '22

See also *Automobile industry and trade*;
also *International motor truck corporation*

Finance

Financing at root of motor truck industry evils. E. C. Shumard. *Automotive Ind* 48:1237 Je 7 '23; Discussion. 49:86 Jl 12 '23

Financing sales on deferred payment plan. H. Farmer. *Bus Transportation* 2:250 My '23

How truck paper can be made more attractive to bankers. H. Farmer. *Automotive Ind* 48:170-1 Ja 25 '23

Statistics

14,743,468 motor vehicles registered throughout the world. *Automotive Ind* 48:365-71 F 22 '23

Study of 1922 statistical story shows few trend shifts. *Automotive Ind* 48:359-64 F 22 '23

12,588,949 motor vehicles in use throughout the world. D. Beecroft. map *Automotive Ind* 46:309-19 F 16 '22

Used trucks

Can factory rebuilding of trucks be made a success? P. H. Smith. *Automotive Ind* 46:1385 Je 22 '22

Brazil

Truck market in Brazil expanding rapidly. F. P. Santos. *Automotive Ind* 46:1337 Je 15 '22

Gold Coast

Why trucks can be sold to the Gold Coast. E. C. Petrie. *Automotive Ind* 47:778-9 O 19 '22

Great Britain

British association seeks truck tariff. *Automotive Ind* 48:592 Mr 8 '23

United States

Automotive production statistics show industrial stability. R. B. Prescott. *Automotive Ind* 46:325-9 F 16 '22

Farmers a potential truck market. *il Sci Am* 126:131 F '22

Final registration figure for U.S. 12,364,377 cars and trucks. *Automotive Ind* 48:372-6 F 22 '23

How the motor truck has changed transportation problems. *diag Munic Eng* 63:sup19-24+ O '22

Revised figures show U.S. car and truck registration of 10,505,660. *Automotive Ind* 46:320-4 F 16 '22

10,449,785 cars and trucks were registered in 1921. *Automotive Ind* 46:69-72 Ja 12 '22

10,608,127 cars and trucks registered on July 1, 1922. *Automotive Ind* 47:151-4 Jl 27 '22

13,048,128 was registration total on July 1, 1923. *Automotive Ind* 49:55-8 Jl 12 '23

Time has come for sale of trucks to southern farmers. *Automotive Ind* 48:317-18 F 15 '23

Truck exports from 1913 to 1921; tabulation. *Automotive Ind* 46:406-7 F 16 '22

Truck exports from 1914 to 1922; tabulation. *Automotive Ind* 48:474-5 F 22 '23

What's wrong with the truck industry? J. Dalton. *Automotive Ind* 47:1009-11 N 23 '22

Where is the truck industry going? J. Dalton. *Automotive Ind* 49:771-3 O 18 '23

Motor truck terminals

Highway transport clearing house. T. Snyder. *Munic Eng* 62:sup17-18+ Je '22

Motor truck tires. See Tires, Motor truck**Motor truck trailers**

Automotive transportation by trailers. E. R. Greer. *il Soc Auto Eng J* 12:19-20; Discussion. 20 Ja '23

Garbage collection in Saint Paul. J. W. Routh. *il map Pub Works* 54:307-9 O '23

Innovation in trailers. *il Sci Am* 127:51 Jl '22

Lorry conversion attachment; Royal agricultural show, Cambridge. *il diags Engineering* 114:54 Jl 14 '22

Moving a village eleven miles by truck and trailer. W. A. Carpenter. *il Munic Eng* 63:sup17-19 S '22

New trailer has wide range of adaptability. *il Pop Mech* 37:256 F '22

Special trailer for moving power shovel in city work. *il Eng & Contr (Ry)* 58:119 D 20 '22

Trailer registration fees high in many states. *Automotive Ind* 45:1225-7 D 22 '21

Transfer company provides for the moving of heavy equipment. *il Eng & Contr (R & S)* 60:483 S 5 '23

Motor trucks

Acid test for the eight-wheel truck. *il Sci Am* 129:235 O '23

Addition to federal truck line. *Automotive Ind* 47:1163 D 14 '22

Advantages of gasoline and electric trucks with interchangeable parts. M. Walter. *il Gen Elec R* 25:251-3 Ap '22

Camion automobile à gaz pauvre portant son gazogène. *diags Génie Civil* 80:213-14 Mr 4 '22

Les camions à gaz pauvre; le concours de véhicules à gazogène de l'Automobile-club de France (juillet 1922). C. Dantin. *il diags Génie Civil* 82:100-3, 130-3 F 3-10 '23

Chart shows trucks needed with mechanical and hand loading. W. H. Bosworth. *Eng N* 91:200-1 Ag 2 '23

Engineering features of British trucks at the Olympia show. *il diags Automotive Ind* 45:905-11, 958-63 N 10-17 '21

Granary on wheels. *Ind Management (Lond)* 10:19-21 Jl 12 '23

High-tower truck for street-lighting maintenance. *il Elec W* 78:979-80 N 12 '21

Interchangeable parts feature United Motors truck line. *il Automotive Ind* 48:265-F 8 '23

Many features contained in highway maintenance truck. *il Eng N* 88:691 Ap 27 '22

Mason Road King, new Durant product. *il Automotive Ind* 47:965 N 16 '22

Motor-driven commercial vehicle. V: W. Page. See monthly numbers of the *Scientific American*

Motor truck convertible into tractor. *il Pop Mech* 38:399 S '22

Motor truck transportation, the principles governing its success. F: V. Lane. 153p Van Nostrand '21

Motor vehicles and their engines. E: S. Fraser and R. B. Jones. 2d ed., rev. & enl. 374p Van Nostrand '22

New Albion 30-cwt. lorry. *il diags Engineer* 135:452-3 Ap 27 '23

New Vim truck redesigned throughout. D. D. Blanchard. *il Automotive Ind* 47:357-8 Ag 24 '22

Notes on motor trucks. C. T. Myers. *il diags Soc Auto Eng J* 11:333-41; Discussion. 341-5 O '22

Overcoming trade evils with truck service; pressing clothes at customer's door. *Ptr Ink* 124:73-4+ Ag 23 '23

Reo delivery wagon built on taxicab chassis. *il Automotive Ind* 49:217 Ag 2 '23

San Diego motor truck runs on eight wheels. *il Pop Mech* 39:566 Ap '23

Self-propelled line car made from Ford truck useful on interurban. *il Elec Ry J* 62:96-7 Jl 21 '23

6-ton motor vehicle for service at high altitudes. *Engineering* 116:140, pl 12 Ag 3 '23

Some common interests of highway and rail transportation. Z. W. Carter. *Munic Eng* 63:sup20-7 Jl '22

Stewart adds one-ton speed truck to line. *il Automotive Ind* 48:753 Ap 5 '23

Stewart utility wagon has Buda engine. *il Automotive Ind* 47:22 Jl 6 '22

Telephone-repair truck with novel features. *il Pop Mech* 37:63 Ja '22

30-cwt. Talbot subsidy motor lorry. *il Engineering* 116:174-5, 178, pl 13 Ag 10 '23

Three-wheeled motor car for delivery purposes. *il Pop Mech* 37:496 Ap '22

Motor trucks—Continued

Use of motor trucks in woods operations. F. W. Fenn. Paper 29:22-3 N 23 '21
Walter now producing four-wheel drive tractor truck. *il* Automotive Ind 48:1184 My 31 '23

Warehouse motor truck serves many purposes. *il* Pop Mech 36:878 D '21

See also Advertising mediums—Motor trucks; Automobiles; Electric trucks; Motor truck driving; Motor truck engines; Motor truck industry and trade; Motor truck trailers; Tires, Motor truck; Tractors; Traveling stores; also National team and motor truck owners' association

Axles

American stock axle specifications; tabulation. Automotive Ind 48:432-5 F 22 '23

Axle standardization suggested. C. T. Myers. Automotive Ind 46:712-13 Mr 30 '22

Dual reduction rear axle. F. H. Colvin. *il* Am Mach 56:663-5 My 4 '22

Government tests develop new facts about rear axle efficiency. *diags* Automotive Ind 48:1030-5 My 10 '23

Huck double reduction truck axle employs planetary gears. *diags* Automotive Ind 48:1076-7 My 17 '23; Bus Transportation 2:292-3 Je '23

Investigation of some heavy-duty truck drive-axles. S. Von Ammon. *il* *diags* Soc Auto Eng J 12:517-34 Je '23

Machining motor truck rear axles. H. F. Blanchard. *il* Mach 29:193 N '22

New line of bevel and internal gear axles for trucks. *il* *diag* Automotive Ind 46:752-3 Ap 6 '22

New line of internal gear truck axles. *diags* Automotive Ind 45:921 N 10 '21

Penrod double spiral gear for motor truck axles. *il* Automotive Ind 45:859 N 3 '21

Rear axle making and testing. F. H. Colvin. *il* Am Mach 57:304-5 Ag 24 '22

Rear axles for trucks. E. Favary. *diags* Soc Auto Eng J 13:151-66 Ag '23; Abstracts. Automotive Ind 46:707-11 Mr 30 '22; Bus Transportation 1:247-9 Ap '22; Discussion. Soc Auto Eng J 13:234-46 S '23

Specifications of American stock axles for 1922; tabulation. Automotive Ind 46:388-9 F 16 '22

Thomson double reduction truck axle. *il* *diags* Automotive Ind 46:458-9 F 23 '22

Triple reduction features new 5-ton L M truck axle. *diags* Automotive Ind 48:518-19 Mr 1 '23

Truck axle efficiencies compared; abstract. S. Von Ammon. Soc Auto Eng J 12:490-1 My '23

Bodies

Commercial-body supply and service. C. M. Manly and C. B. Veal. *il* Soc Auto Eng J 10:179-86+ Mr '22; Discussion. 11:179-80 Ag '22

Motor-truck cabs; proposed S.A.E. recommended practice. *diags* Soc Auto Eng J 11:547; 12:315 D '22, Mr '23

Truck with elevating body for dumping. *il* Pop Mech 38:590 O '22

We broadened our business by narrowing our market; Martin-Parry corporation. F. M. Small. *il* System 42:245-9+ S '22

Chassis

Facts builders should know about truck operation. P. L. Sniffen. Bldg Age 45:77-8 Je '23

Advantages of bolted chassis parts.

il Sci Am 129:49 Jl '23

Cost of operation

Engineering features of fleet operation. E. La Schum. Am Mach 58:617-20 Ap 26 '23; Same. Soc Auto Eng J 13:276-9 O '23; Abstracts. Automotive Ind 48:911-13 Ap 26 '23; Bus Transportation 2:248-9 My '23; Discussion. Soc Auto Eng J 13:279-83 O '23

Five-ton truck pays for itself in 18 months on construction work. G. A. Van Dusen. *il* Munic Eng 61:sup14+ N '21

Formula covering costs of heavy motor trucking. C. Hine. *il* Ry Age 71:1045-6 N 26 '21

Knowledge of operating costs will increase truck sales. Automotive Ind 46:472-3 F 23 '22

Light motor truck haulage as applied to the construction of concrete highways. A. E. Horst. Munic Eng 64:sup21-4+ Ap '23; Same cond. Eng N 90:658-9 Ap 12 '23

Motor truck and team haulage on county roads. C. Talbot. Can Eng 44:431 Ap 24 '23

Motor vehicles in the postal service. Automotive Ind 45:1153 D 15 '21

Study of truck operating costs. Munic Eng 65:192, 194 O '23

Truck earns owner \$2,000 in 27 days on Minnesota road work. C. A. Harrington. *il* Munic Eng 61:sup9 D '21

Truck operating costs. B. H. Petty. Eng & Contr (R & S) 59:1288-94; 60:33-43 Je 6, Jl 4 '23

See also Electric trucks—Cost of operation

Design

American trucks approach standard design in major features. Automotive Ind 48:402-3 F 22 '23

Continental truck design stagnant. W. F. Bradley. Automotive Ind 48:421 F 22 '23

Features of recent development in truck parts design. P. M. Heldt. *il* *diags* Automotive Ind 45:12-18 Ja 5 '21

Future of bus and truck construction; abstracts. J. E. Thornycroft. Bus Transportation 1:502-3 S '22; Automotive Ind 47:366-8 Ag 24 '22

German truck design shows little change. B. R. Dierfeld. Automotive Ind 48:418-19 F 22 '23

Motor truck design from the truck buyer's viewpoint. C. T. Myers. *il* *diags* Ind Management 63:273-81 My '22

Six-wheelers prominent in current British truck design. M. W. Bourdon. Automotive Ind 48:420 F 22 '23

Tendencies in British truck design for 1922. M. W. Bourdon. Automotive Ind 46:363 F 16 '22

35 h.p. Halley chassis. *il* *diags* Automobile Eng 11:370-7 N '21

Trend in truck design as revealed by specifications for 1922 models. Automotive Ind 46:349, 362 F 16 '22

Electric equipment

Electrical equipment for trucks. H. E. Derr. Automotive Ind 47:780-1 O 19 '22

Engines

See Motor truck engines

Equipment

Combined mechanical hoist and winch for trucks; Pyramid mechanical hoist-winch. *diags* Automotive Ind 47:611 S 23 '22

Loading and unloading device for motor vehicles. *il* *diags* Engineering 116:490-1 O 19 '23

Exhibitions

Commercial motor exhibition; trend of design in heavy vehicles. *il* *diags* Automobile Eng 11:362-8 N '21

Engineering features of British trucks at the Olympia show. *il* *diags* Automotive Ind 45:905-11, 958-63 N 10-17 '21

Le XVI^e salon de l'automobile et du cycle (Paris, 5-16 octobre 1921). G. Birlé. *diags* Génie Civil 79:397-9 N 5 '21

Le XVII^e salon de l'automobile et du cycle (Paris, 4-15 octobre 1922). G. Delanghe. *il* *diags* Génie Civil 81:412-17 N 4 '22

Gearing

Advantages of the chain drive. Sci Am 128:121 F '23

American stock gearset specifications for 1923; tabulation. Automotive Ind 48:436 F 22 '23

Front wheel drive truck features gearset with hydraulic control. B. R. Dierfeld. *il* *diags* Automotive Ind 48:759-62 Ap 5 '23

Motor trucks—Gearing—Continued

Pros and cons of various types of rear axles for trucks; abstracts. E. Favary. *Automotive Ind* 46:707-11 Mr 30 '22; *Bus Transportation* 1:247-9 Ap '22

Specifications of American stock gear-sets for 1922; tabulation. *Automotive Ind* 46:388-9 F 16 '22

Laws and regulations

California counties place weight limit on auto trucks. Eng N 88:287 F 16 '22

Connecticut to restrict weight of loads on highways. *Good Roads* 65:137 O 24 '23

Limitations of truck loads on highways. N. K. Brown. Eng & Contr (R & S) 59:1267 Je 6 '23

New motor truck regulations in New York. *Good Roads* 62:243 Ap 26 '22

Prejudice against trucks seen in Texas law. A. L. Reed. *Munic Eng* 62:sup20+ Mr '22

Regulation of overloading of motor trucks. D. C. Fenner. Eng & Contr (R & S) 56:150-3 D 6 '22; Same. *Munic Eng* 63:sup19-21 D '22; Same. *Good Roads* 63:201-2 D 13 '22; Excerpt. Eng N 90:106 Ja 18 '23; Same cond. Soc Auto Eng J 12:210 F '23

Regulations covering speed, etc. of motor trucks. Can Eng 42:554 My 30 '22

State laws and their effect upon motor truck sales. charts *Automotive Ind* 45:1070-9 D 1 '21

State regulation of state motor vehicle common carriers. H. Meixell. *Automotive Ind* 46:722-6 Mr 30 '22

States plan to bar unsafe trucks from highways. *Automotive Ind* 47:278-9 Ag 10 '22

Truck load limits reduced by new California law. Eng N 90:116 Je 28 '23

What should be the weight limit for trucks operating on highways? *Automotive Ind* 46:1053-4 My 18 '22

See also Automobile laws and regulations; Motor vehicles—Law

Load

Analysis of motor vehicle traffic on Connecticut highways. Eng & Contr 57:413-14 My 3 '22

How highway officials can check up truck loads. il *Munic Eng* 63:sup20-1 S '22

Maximum weights, speeds and widths of motor trucks. C. W. Cornell. *Good Roads* 63:15-16+ Jl 12 '22; Same, without table. Can Eng 43:135-6 Jl 11 '22

Regulation of overloading of motor trucks. D. C. Fenner. Eng & Contr (R & S) 56:150-3 D 6 '22; Same. *Munic Eng* 63:sup19-21 D '22; Same. *Good Roads* 63:201-2 D 13 '22; Excerpt. Eng N 90:106 Ja 18 '23; Same cond. Soc Auto Eng J 12:210 F '23

Relation of motor truck overloading to road construction and maintenance. J. G. McKay. *Good Roads* 62:165-70 Mr 22 '22; Same abr. Eng & Contr 57:416-19 My 3 '22; Same abr. Can Eng 42:580-2 Je 6 '22; Excerpt Eng N 88:826-30 My 18 '22

Truck overloads threaten life of city pavements. Eng N 90:832-4 My 10 '23

See also Motor trucks—Laws and regulations

Lubrication

Chassis lubrication. C. T. Myers. il Soc Auto Eng J 11:34-1 O '22

Management

Analysis and control of factory transportation. F. A. Pope. il *Factory* 27:747-51 D '21

Department store men discuss use of truck in delivery service. D. Beecroft. *Automotive Ind* 48:682-3 Mr 22 '23

Engineering brains in fleet operation. J. F. Winchester. Soc Auto Eng J 12:506 My '23

Engineering features of fleet operation. E. E. La Schum. Am Mach 58:617-20 Ap 26 '23; Same. Soc Auto Eng J 13:276-9 O '23; Abstracts. *Automotive Ind* 48:911-13 Ap 26 '23; sion. Soc Auto Eng J 13:279-83 O '23

Getting the most out of motor trucks. System 40:753+; 41:51-2, 332+ D '21-Ja, Mr '22

Graphical control of motor truck transportation. H. B. May. *Factory* 28:410-12 Ap '22

Hauling; when, why and how. P. L. Sniffin. il *Bldg Age* 44:48-9 O '22

How we cut our truck expense. J. A. Schwantes. il *Factory* 30:293 Mr '23

Keeping 100 trucks busy. D. D. Bush. Eng & Contr 58:160 Ag 16 '22

Making extra dividends possible with trucks. C. F. Wark. il *System* 44:603-5+ N '23

Making motor trucks more profitable. il *System* 41:559-60+; 43:765+ My '22, Je '23

Making the motor truck pay better. *Factory* 28:234+, 578+; 29:340+, 544+ F, My, S, N '22

Motor truck operation on county road work. C. Talbot. Eng & Contr (R & S) 59:755-6 Ap 4 '23

Organising deliveries; how motor transport increases the efficiency of a London stores parcel distribution service. il *Ind Management* (Lond) 9:342-5 My 31 '23

Organization and operation of motor equipment. J. F. Winchester. *Munic Eng* 62:sup 19+ My '22; Same abr., with charts. Eng & Contr 57:423-6 My 3 '22

Our three trucks do the work of five. *System* 44:435+ O '23

Profitable use of automobiles and trucks. See monthly numbers of *System*

Three ways to reduce trucking costs. N. J. Smith. il *System* 44:32-4+ Jl '23

Time cards control truck haulage. Eng N 89:711 O 26 '22

Trend in trucking. S. G. Thompson. *System* 44:366-7+ S '23

Truck operation in winter. P. L. Sniffin. il *Bldg Age* 45:66-7 Ja; 63+ F '23

Watch truck appearance. P. L. Sniffin. il *Bldg Age* 45:82-3 My '23

We broadened our business by narrowing our market; Martin-Parry corporation. F. M. Small. il *System* 42:245-9+ S '22

See also Motor trucks—Records

Manufacture

Building motor trucks in a southern California shop. F. H. Colvin. il Am Mach 59:293-5 Ag 23 '23

Heat treating equipment in a truck plant. il Am Mach 59:415-16 S 13 '23

Machining motor parts for Northway trucks. R. Mawson. il Am Mach 55:748-50 N 10 '21

Mack truck frame and chassis. F. H. Colvin. il Am Mach 56:317-18 Je 1 '22

Manufacturing parts of Northway trucks. R. Mawson. il Am Mach 56:101-3 Ja 19 '22

Miscellaneous operations on the Mack truck. F. H. Colvin. il Am Mach 56:846-8 Je 8 '22

Rating

Motor-truck rating. Soc Auto Eng J 12:126-7 Ja '23

Records

Motor truck transportation. J. F. Winchester. Eng & Contr 57:423-6 My 3 '22

Specifications

American gasoline truck specifications; tabulation. *Automotive Ind* 48:404-15 F 22 '23

American trucks specifications, 1922; tabulation. *Automotive Ind* 46:350-61 F 16 '22

British gasoline truck chassis specifications; tabulation. *Automotive Ind* 48:422-3 F 22 '23

British truck chassis specifications for 1922; tabulation. *Automotive Ind* 46:364-5 F 16 '22

British war department modifies 1½ ton truck specification. *Automotive Ind* 49:585 S 20 '23

British war office specifies 3360 lb. truck for future use. M. W. Bourdon. *Automotive Ind* 47:312-15 Ag 17 '22

Continental commercial vehicle chassis specifications—1922; tabulation. *Automotive Ind* 46:366-7 F 16 '22

Continental gasoline truck chassis specifications; tabulation. *Automotive Ind* 48:424-7 F 22 '23

Springs

New departure in vehicle spring design. il *diags Automotive Ind* 46:173-4 Ja 26 '22

Motor trucks—Springs—Continued

Unusual spring design in new Indiana truck.
 il Automotive Ind 47:368 Ag 24 '22

Standards

Axle standardization suggested. C. T. Myers.
 Automotive Ind 46:712-13 Mr 30 '22
 Commercial-body supply and service. C. M.
 Manly and C. B. Veal. il Soc Auto Eng J
 10:179-86+ Mr '22; Discussion. 11:179-80
 Ag '22

Motor-truck cabs; proposed S.A.E. recom-
 mended practice. diag Soc Auto Eng J 12:
 584-5 Je '23

Three-joint propeller-shafts for trucks; pro-
 posed S. A. E. recommended practice.
 diags Soc Auto Eng J 9:434-5 D '21

Steering knuckles

Steering knuckles for the Mack truck. F.
 H. Colvin. il Am Mach 56:882-3 Je 15 '22

Storage

Live-loads for motor-truck storage. E. L.
 Verveer. Eng N 88:238-41 F 9 '22

Subsidies

Britain issues plan to subsidize trucks. Auto-
 motive Ind 49:559 S 13 '23

Testing

Chassis efficiency tests; a consideration of
 Professor Riedler's investigation of a Bus-
 sing lorry. O. D. North. diags Automobile
 Eng 12:237-42 Ag '22

Motor truck performance on grades influ-
 ences highway design. diags Automotive
 Ind 48:319-20 F 15 '23

Production tests of loaded chassis at the
 G. M. C. truck plant. il diag Automotive
 Ind 48:224-6 F 1 '23

Some road tests with a new type of accel-
 erometer; the Drewry testometer. S. H.
 Woods. diag Automotive Ind 45:970-2 N 17
 '21

Tires

See Tires, Motor truck

Track laying equipment

Device provides track for truck wheels. il Pop
 Mech 39:614 Ap '23

Emergency traction device for motor trucks.
 il diag Automotive Ind 48:6 Ja 4 '23

Wheels

Motor-truck front-axle hubs. Soc Auto Eng
 J 10:476 Je '22

New process of manufacturing truck wheels.
 il Automotive Ind 47:270-3 Ag 10 '22

Notes on motor trucks. C. T. Myers. il diags
 Soc Auto Eng J 11:333-41; Discussion. 341-5
 O '22

Resilient motor truck wheel. diags Auto-
 motive Ind 47:218 Ag 3 '22

Rolled steel motor lorry wheels. il Engineer
 134:45 Jl 14 '22

Segmental section hollow spoke metal wheel.
 il Automotive Ind 46:185 Ja 26 '22

Some confessions of a six-wheeler. il diag Bus
 Transportation 2:529-31 N '23

See also Tires, Motor truck

Motor trucks, Amphibious

Amphibious tank, novel engineering develop-
 ment, swims Hudson river. il Automotive
 Ind 47:1164-5 D 14 '22

Motor trucks, Armored

Armored trucks to transport mail in cities.
 il Pop Mech 37:514 Ap '22

Motor trucks, Industrial

Clark gasoline elevating platform truck. il
 Am Mach 56:531 Ap 6 '22; Eng & Ind Man-
 agement 7:518 Je 15 '22; Ry Age 73:263 Ag 5
 '22

Custody and delivery of railway materials.
 il Ry R 72:86-9 Ja 6 '23

What type of industrial truck do I need? W.
 T. Spivey. il Factory 30:416-19+ Ap '23

See also Tractors, Industrial

Motor trucks, Military

France tests trucks and tractors for military
 service. W. F. Bradley. il Automotive Ind
 46:182-3 Ja 26 '22

Motor trucks, Municipal

Detroit's municipal automobile equipment.
 Pub Works 51:431-2 D 3 '21

Motorization of refuse collection service in
 Los Angeles, California. il Munic Eng 62:
 sup17 My '22

New York city buys 128 more White trucks. il
 Munic Eng 63:sup21-2 S '22

Motor trucks, Steam

British steam truck. diag Sci Am 126:339 My
 '22

Coke as a fuel for commercial vehicles. T.
 Clarkson. Engineering 112:579-80 O 21 '21.

Abstract. Automobile Eng 11:389-90 N '21

5-ton steam wagon with uniflow engine. il
 diags Engineering 113:162-3, pl 6 F 10 '22

Garrett under-type steam wagon. il diags
 (supp) Engineer 133:384-6, 388 Ap 7 '22

Gear-box and back axle of the Clarkson
 steam lorry. diags Engineering 112:630 N 4
 '21

Lorry conversion attachment; Royal agricul-
 tural show, Cambridge. il diags Engineering
 114:54 Jl 14 '22

New Sentinel steam wagon. il Engineer 135:
 427 Ap 20 '23; Engineering 115:462-4 Ap 13
 '23

Self-loading steam truck reduces delays. il
 Pop Mech 39:520 Ap '23

Steam wagon from the designer's point of
 view. F. J. Bretherton. diags Automobile
 Eng 13:156-9 My '23

Steam wagon at the Royal agricultural show
 at Cambridge. il Engineering 114:40 Jl 14 '22

Use and limitations of the steam wagon; ab-
 stracts. C. Le M. Gosselin. Engineer 135:419
 Ap 20 '23; Engineering 115:499-500 Ap 20 '23

Winslow automotive boiler. C. B. Page. il diags
 Soc Auto Eng J 11:265-71; Discussion. 271-2+
 S '22

Motor trucks and roads

Chassis efficiency tests; a consideration of
 Professor Riedler's investigation of a Bus-
 sing lorry. O. D. North. diags Automobile
 Eng 12:237-42 Ag '22

Definite ruling on heavy trucks is urged.
 Automotive Ind 46:523-4 Mr 2 '22

Distribution of wheel loads on pavement sec-
 tions. H. F. Clemmer and C. A. Hogen-
 togler. Good Roads 62:273-8 My 17 '22;

Same. Eng & Contr 58:5-9 Jl 5 '22

Economics of motor transport. M. S. Horine.
 il chart Soc Auto Eng J 10:415-22; Discus-
 sion. 422-9 My '22

Effect of speed on highways. W. G. Robert-
 son. Can Eng 42:307-8 Mr 14 '22; Same cond.
 Automotive Ind 46:673-4 Mr 23 '22

Federal government seeks to solve heavy
 motor truck problem. Munic Eng 62:sup
 25-6 Mr '22

Heavy truck weights observed on Massachu-
 setts roads. A. P. Porter. Eng N 88:641 Ap
 20 '22; Same. Pub Works 52:258-9 Ap 15 '22;

Same cond. Eng & Contr 58:20 Jl 5 '22

Heavy trucks and permanent highways. E. J.
 McCaustland. Good Roads 62:199-201 Ap 5
 '22

Highway researches and what the results
 indicate. A. T. Goldbeck. il Good Roads
 62:223-6, 228-30 Ap 19 '22

Highway transport research is foundation of
 automotive progress. H. S. Fairbank. map
 Automotive Ind 46:1239-46 Je 8 '22

Highway transportation as it affects the au-
 tomotive engineer. E. W. Templin. il diags
 Soc Auto Eng J 10:212-16 Mr '22; Same.

Sibley J 36:51-4 Mr '22; Discussion. Soc
 Auto Eng J 10:216-17+ Mr '22

Maximum weights, speeds and widths of
 motor trucks. C. W. Cornell. Good Roads
 63:15-16+ Jl 12 '22; Same, without table.

Can Eng 43:135-6 Jl 11 '22

Mechanical vehicles and road surfaces. Lord
 Montagu. Engineering 114:30 Jl 7 '22; Same.

Automobile Eng 12:245-6 Ag '22; Same. Eng
 & Contr 58:213-14 Ag 30 '22

Motor truck impact tests of the Bureau of
 public roads. E. B. Smith. il diags Pub
 Roads 4:1-16+ D '21

Motor truck performance on grades influ-
 ences highway design. diags Automotive Ind
 48:319-20 F 15 '23

Motor trucks and roads—Continued

- Motor truck tractive resistances on road surfaces. T. R. Agg. *il Eng N 89:982-5 D 7 '22*
- Multi-wheel and track motor vehicles. T. G. Tulloch. *Automobile Eng 13:123-5 Ap '23*
- Pocket strain gage gives stresses in concrete roads. A. T. Goldbeck. *il diag plans Eng N 90:575-6 Mr 29 '23*
- Regulate trucks or destroy highways—which? J. N. Mackall. *Good Roads 63:13-14 Jl 12 '22*; Same. *Pub Works 53:120-1 Ag '22*
- Relation of motor truck overloading to road construction and maintenance. J. G. McKay. *Good Roads 62:165-70 Mr 22 '22*; Same *abr. Eng & Contr 57:416-19 My 3 '22*; Same *abr. Can Eng 42:580-2 Je 6 '22*; Excerpt. *Eng N 88:826-30 My 18 '22*
- Results of heavy traffic on Pittsburg, California, test road. *il diag Eng N 88:1066-9 Je 29 '22*
- Separate roadways for commercial trucks. A. H. Nelson. *Eng N 91:729 N 1 '23*
- Severe motor road test. *Concrete 19:236 D 21*
- State highway section makes evident motor traffic fallacies. D. Beecroft. *Automotive Ind 48:1134-5 My 24 '23*
- Tests for tractive resistance of roads. W. E. White. *il diag Eng & Contr (R & S) 58:77-82 N 1 '22*
- Tests of impact on pavements by the Bureau of public roads. C. A. Hogentogler. *il diag Pub Roads 4:3-18 O: 1-18 N '21*; Same. *Good Roads 61:225-8+, 235-6+, 246-8+, 255-6+, 267-9+, 278-80+, 289-92*; *62:1-4+ N 16 '21-Ja 4 '22*; Excerpts. *Automotive Ind 46:277-80 F 9 '22*; Abstract. *Eng N 87:944-7 D 8 '21*
- Traffic facts shown by highway transportation surveys. *Automotive Ind 46:917-19 Ap 27 '22*; Same. *Good Roads 62:265-8 My 10 '22*
- Truck operating costs a factor in highway economics. *Good Roads 61:186+ O 12 '21*
- Truck overloads threaten life of city pavements. *Eng N 90:832-4 My 10 '23*
- Truck sizes and traffic capacity of highways. F. S. Besson. *Eng N 91:220 Ag 9 '23*
- Trucks versus highways. *Pub Works 53:115-16 Ag '22*
- See also Automobiles and roads; Motor trucks—Load; Road traffic; Tires, Motor truck

Motor trucks in construction work

- Data on truck operations and construction costs of concrete pavement in Sioux county, Iowa. T. J. Lough. *il Eng & Contr 57:17-18 Ja 4 '22*
- Fast loading of motor trucks speeds road work. *il diag plan Eng N 88:525-6 Mr 30 '22*
- Heavy truck haulage on highway construction. C. H. Fry. *Munic Eng 64:sup19-21 F '23*; Same. *Good Roads 64:92-3 Mr 7 '23*; Excerpts. *Concrete 23:28 Jl '23*
- Highway maintenance truck for Kern county. C. W. Geiger. *il Pub Works 52:158-60 Mr 4 '22*
- How modern, motorized equipment speeded up work on Johnson Creek, Wisconsin road job. *Munic Eng 62:sup16+ Ja '22*
- Light motor truck haulage as applied to the construction of concrete highways. A. E. Horst. *Munic Eng 64:sup21-4+ Ap '23*; Same *cond. Eng N 90:658-9 Ap 12 '23*
- Motor truck and team haulage on county roads. C. Talbot. *Can Eng 44:431 Ap 24 '23*
- Motor truck haulage on 750,000 cubic yds. rock excavation job. *il Eng & Contr 57:65 Ja 18 '22*
- Motor truck operation on county road work. C. Talbot. *Eng & Contr (R & S) 59:755-6 Ap 4 '23*
- Novel highway maintenance truck. *il Elec Ry J 60:707 O 28 '22*
- Motor trucks in freight service**
- All-highway freight traffic in England. *Ry Age 72:799-800 Mr 25 '22*
- Army develops highway transport plan for emergencies. B. Taylor. *map Automotive Ind 48:676-8 Mr 22 '23*

- Auto bus and truck good as interurban feeders. H. Reid. *Elec Ry J 59:359-60 Mr 4 '22*
- Automobile freight carriers in New England. G. Fort. *Ry Age 71:927-8 N 12 '21*
- Automotive transportation by trailers. E. R. Greer. *il Soc Auto Eng J 12:19-20*; Discussion. *20 Ja '23*
- Better to run trucks until junked than to trade for new vehicles say members of National team & motor truck owners' association. D. Beecroft. *Automotive Ind 49:12-13 Jl 5 '23*
- California railroads seek to crush highway transport. *Automotive Ind 47:202-5 Ag 3 '22*
- Co-operation versus competition between motor truck and railroad transportation. W. H. Lyford. *Good Roads 63:181-3, 185-7 N 22-29 '22*; Same. *Eng & Contr (Ry) 58:85-92 N 15 '22*; Same. *Ry Age 73:991-4 N 25 '22*; Excerpts. *Automotive Ind 47:882-4 N 2 '22*; Abstract. *Eng N 89:933-6 N 30 '22*
- Coordination of motor-truck and railroad transportation. W. J. L. Banham. *Soc Auto Eng J 13:122-4+ Ag '23*
- Development of highway transportation. H. W. Howard. *Munic Eng 64:195-9 My '23*; Same *abr. Eng & Contr (R & S) 60:484-7 S 5 '23*
- Economics of motor transport. M. C. Horine. *il chart Soc Auto Eng J 10:415-22*; Discussion. *422-9 My '22*
- Electric railway and truck transport combined by use of container cars. D. M. McDonald. *il Automotive Ind 49:678-80 O 4 '23*
- English cartage-practice a standard for our railway-terminal trucking. F. C. Horner. *il Soc Auto Eng J 12:437-45*; Discussion. *492-5 My '23*
- Erie adopts direct freight delivery at New York. *il Ry Age 72:233-4 Ja 21 '22*; *Ry R 70:81-2 Ja 21 '22*
- Expediting textile shipments. W. T. White. *il Textile World 63:989+ F 3 '23*
- Farmer wants more motor transportation. *Automotive Ind 46:975-8 My 4 '22*
- Highway transport's astounding growth based upon service to public. R. D. Chapin. *Automotive Ind 48:1066-8 My 17 '23*
- How motor transport influences interurban operation. M. Ackerman. *Elec Ry J 59:205-6 F 4 '22*
- How motor transport was saved from destruction in England. M. W. Bourdon. *Automotive Ind 47:428-9 Ag 31 '22*
- How the motor truck has changed transportation problems. *diag Munic Eng 63:sup19-24+ O '22*
- Interests of railroads and automotive industry identical. G. Fort. *Automotive Ind 49:571-2 S 20 '23*
- Interstate control of trucks rejected. *Automotive Ind 45:1289 D 29 '21*
- Long-distance trucking justified in emergencies. *il Sci Am 126:58 Ja '22*
- Motor transport as feeder system will aid railroads. E. Lee. *Ry R 71:413 S 23 '22*
- Motor truck and our railroads. E. Lee. *Soc Auto Eng J 12:151-4+ F '23*; Same *cond. Automotive Ind 48:139-41 Ja 18 '23*; Same *cond. Ry R 72:145-7 Ja 20 '23*; Excerpt. *Ry Age 74:386 F 10 '23*; Excerpt. *Eng & Contr (Ry) 59:438-40 F 21 '23*
- Motor truck and the railroad. P. White. *Am Ind 23:16-18 Jl '23*
- Motor truck as an asset to railroad operation. R. S. Parsons. *Am Soc C E Pro 48:345-9 F '22*; Same. *Eng & Contr 57:246-7 Mr 15 '22*
- Motor truck competition. *Ry Age 73:1249-50 D 30 '22*
- Motor truck helps to lower costs. F. W. Fenn. *il Textile World 61:1404+ Mr 4 '22*
- Motor truck traffic on highways. J. D. Fauntleroy. *Good Roads 64:27-9+ Ja 17 '23*
- Motor vehicle transportation in relation to the railways. *Eng & Contr (Ry) 58:118-19 D 20 '22*
- Opportunity for truck transport. J. Dalton. *Automotive Ind 47:635 S 28 '22*
- Progress report by the National chamber of commerce committee on relation of highways and motor transport to other transportation agencies. A. H. Swayne. *Aera 11:1427-9 Je '23*

Motor trucks in freight service—Continued

- Railroad goose and truck gander. G. Fort. Nation's Business 10:23-5 Ap '22
- Railroads are urged to enter highway transport field. J. Dalton. Automotive Ind 48:309-12 F 15 '23
- Railway companies and road transport. Automobile Eng 12:113-14 Ap '22
- St Louis roads coordinate rail and motor service. il Ry Age 74:1689-91 Je 30 '23; Same abr. Eng & Contr (Ry) 60:113-15 Jl 18 '23
- Speaking for the motor truck. A. J. Brosseau. Nation's Business 10:25-7 Ap '22
- Spokesman for railroads bewails subsidies for motor vehicles. C. H. Markham. Automotive Ind 48:1071-2 My 17 '23
- State highway census makes evident motor traffic fallacies. D. Beecroft. Automotive Ind 48:1134-5 My 24 '23
- Taxation of automobile lines. W. V. Hill. Aera 10:1076-9 Jl '22
- Terminal relief by direct freight delivery; with discussion. W. W. Drinker. Ry Age 73:514-16 S 16 '22
- Theory and practice of store door delivery. T. C. Powell. Ry Age 72:826-8 Ap 1 '22
- Truck, the railroad's ally. R. D. Chapin. Nation's Business 11:30-1 Je 5 '23; Same. Munic Eng 65:43-6 Jl '23
- Trucks help other carriers to handle freight. J. F. Murphy. Automotive Ind 48:957-9 My 3 '23
- Two-thirds of truck hauls are less than 30 miles. J. G. McKay. Automotive Ind 49:846-7 O 25 '23
- Use of motor trucks for handling freight. il Eng & Contr 58:63-4 Jl 19 '22
- Will railways use buses and trucks in Britain? Bus Transportation 1:13 Ja '22
- See also* Highway transportation; Motor truck terminals; Tank trucks

Motor trucks in lumber handling

- Lumber company has efficient delivery. Sci Am 126:271-2 Ap '22

Motor trucks in mining

- Motor-truck in mining. F. W. Fenn. il Min & Sci P 123:745-7 N 26 '21

Motor trucks in postal service

- Motor trucks to move mails if railway strike comes. Automotive Ind 47:331 Ag 17 '22
- Motor vehicles in the postal service. Automotive Ind 45:1153 D 15 '21

Motor trucks on rails

- Motor trucks operate on rails in city and interurban passenger service. Munic Eng 62:sup18+ Ap '22
- Motorailer; device for enabling motor vehicles to travel on rails and vehicles built for railway service to travel on roadways. diags Engineer 136:402 O 12 '23; Engineering 116:472 O 12 '23; Elec Ry J 62:868 N 17 '23
- Truck rides railroad tracks or highways. il Pop Mech 39:385 Mr '23

Motor trucks on the farm

- Corn belt farmers think poor roads chief handicap to truck use. Automotive Ind 48:970-1 My 3 '23
- Motor trucks on eastern farms. H. R. Tolley and L. M. Church. il diags U S Agric Farmers' Bul 1201:1-23 '21

- Present status of the farm as motor truck market. Automotive Ind 45:928-9 N 10 '21
- Small percentage of farmers use trucks and tractors. Automotive Ind 47:315 Ag 17 '22

Motor vehicles

- Military motor transportation. 414p Coast artillery journal, Fort Monroe, Virginia '23
- Motor vehicle registration and revenue in 1921. Eng N 88:861 My 25 '22
- Motor vehicle year book. Ware bros. co., Philadelphia
- Weight reduction in rolling stock and motor vehicles. il Elec R (Lond) 92:644-6 Ap 27 '23

See also Automobiles; Electric trucks; Electric vehicles; Jitney buses; Motor boats; Motor buses; Motor cars (railroad); Motor cycles; Motor ships; Motor trucks; Motor trucks, Amphibious; Tractors

Caterpillar type

- New caterpillar development. F. Rowlinson. il diags Sci Am 126:194-5 Mr '22
- Le propulseur Kégresse à bande souple. G. Delanghe. il diags map Génie Civil 82:293-300 Mr 31 '23
- Le XVI^e salon de l'automobile et du cycle (Paris, 5-16 octobre 1921). G. Birlé. il diags Génie Civil 79:405-6 N 12 '21
- See also* Motor trucks—Track laying equipment

Law

- A.E.R.A. committee report on uniform motor vehicle regulatory law. Elec Ry J 60:577+ O 7 '22
- A.E.R.A. report on uniform motor vehicle regulatory laws. Elec Ry J 62:620-1 O 13 '23; Same. Aera 12:354-6 O '23
- Automotive legislation must be met fairly but fearlessly. Automotive Ind 47:253-5 Ag 10 '22
- Bus law main topic in Iowa convention. Elec Ry J 62:24-5 Jl 7 '23
- California state railroad commission recommends uniform accounting for all motor utilities. Elec Ry J 58:878 N 12 '21
- Increased licenses in Indiana. Aera 11:1668-71 Jl '23
- Iowa law of convenience and what it implies. D. N. Lewis. Elec Ry J 62:605 O 13 '23
- Michigan's regulatory law. Aera 11:1672-3 Jl '23
- Motor vehicle control. G. W. Munford. Am Soc C E Pro 48:350-5 F '22
- Motor vehicle interests uniting to support sound legislation. Automotive Ind 48:578-9 Mr 8 '23
- Motor vehicle regulation and special taxation. Aera 11:1245-50 My '23
- New motor vehicle law in Texas. Aera 11:1497-1501 Je '23
- Ohio enacts a regulatory law. Aera 11:1505-11 Je '23
- Pennsylvania now has motor vehicle certificate of title law. Munic Eng 65:90-1 Ag '23
- Regulation of motor vehicle common carrier. D. C. Fenner. Elec Ry J 61:208-9 F 3 '23
- State and the Connecticut motor vehicle. il Nat Safety N 7:29-30 Je '23
- State motor vehicle laws in force June 1, 1922. 36p Motor vehicle conference committee, 366 Madison Av., New York '22
- State restrictions on motor vehicle operation. 16p Motor vehicle conference committee, 366 Madison av., New York '23
- Take highways out of politics, demand of engineers; far-reaching recommendations result of Governor Pinchot's conference. J. Dalton. Automotive Ind 48:708-13 Mr 29 '23
- Trend of proposed legislation. il Bus Transportation 2:85-7 F '23
- Uniform motor vehicle law. Aera 11:434-7 N '22
- See also* Automobile laws and regulations; Jitney buses—Regulation; Motor buses—Laws and regulations; Motor trucks—Laws and regulations

Taxation

- Abolish the subsidy. C. D. Cass. Elec J 19:407-8 O '22
- British vehicle tax change under consideration. Eng N 89:782-3 N 9 '22
- German government revises motor vehicle taxes. Automotive Ind 48:778 Ap 5 '23
- German motor vehicle taxes have been revised. Automotive Ind 47:165 Jl 27 '22
- Heavier motor vehicle taxes are recommended. Automotive Ind 49:723-4 O 11 '23
- Industry trying to decide what is fairest form of tax. Automotive Ind 48:1185-6 My 31 '23
- Logical method of computing motor-vehicle fees. R. C. Barnett. Eng N 90:797-8 My 3 '23; Discussion. 91:277-8 Ag 16 '23
- Metering highway transportation to public. J. N. Mackall. Good Roads 64:53-5+ F 7 '23; Same. Eng & Contr (R & S) 59:329-33 F 7 '23; Abstract. Eng N 90:167 Ja 25 '23
- Minnesota's successful new highway development plan. Munic Eng 62:sup34-8 Je '22

Motor vehicles—Taxation—Continued

- Motor taxes are building the roads. Eng N 91:86-7 JI 19 '23
- Motor vehicle in highway financing. H. Meixell. Am Soc C E Pro 48:340-4 F '22
- Motor vehicle interests uniting to support sound legislation. Automotive Ind 48:578-9 Mr 8 '23
- Motor vehicle regulation and special taxation. Aera 11:1245-50 My '23
- Motor vehicle users pay bigger tax bill than railroads. J. Dalton. Automotive Ind 47:1109-11 D 7 '22
- Public-utility motor vehicles should pay more than private cars. W. Jackson. Eng N 87:1034 D 22 '21
- Special taxation for motor vehicles. 24p Motor vehicle conference committee, 366 Madison av., New York '23
- States alone should make tax levies. H. Meixell. Automotive Ind 49:618 S 27 '23
- Suggested taxation of motor benzole. W. G. Adam. Gas J (Lond) 162:683-4 Jc 13 '23
- Tax situation in California. W. V. Hill. Aera 10:1076-9; 11:405-6 JI, N '22
- Taxes on motor transportation. Comm & Fin Chr 115:1703-4 O 14 '22
- Ton-mile tax in Iowa. Aera 11:1502-5 Jc '23
- Trend of proposed legislation. il Bus Transportation 2:85-6 F '23
- Urges fuel tax in place of all other motor vehicle imposts. Automotive Ind 48:174-6 Ja 25 '23
- Who builds the highways? Ry R 71:456-7 S 30 '22; Same. Ry Age 73:1082 D 9 '22

See also Automobiles—Taxation; Gasoline—Taxation; Motor bus lines—Taxation

Motorailer. See Motor trucks on rails**Motors**

- Catalogue of the mechanical engineering collection in the United States National museum. C. W. Mitman. (Eul. 119) 118p Smithsonian institution, Washington '22
- Power from a whip. diags Sci Am 128:114 F '23

See also Airplane engines; Automobile engines; Diesel engines; Electric motors; Gas and oil engines; Hydraulic motors; Motor bus engines; Motor cycle engines; Motor truck engines; Turbines; Wave motors

Motors, Electric. See Electric motors**Motors, Hydraulic.** See Hydraulic motors**Motors, Water.** See Hydraulic motors**Moulds.** See Molds**Moultrop, Irving Edwin, 1865-**

Sketch. por Elec W 79:1206 Jc 17 '22

Mount Morris, Illinois

Twin printers of Mount Morris. F. M. Donovan. Inland Ptr 70:823-4 Mr '23

Mountain ash

Die säuren der vogelbeeren. E. O. von Lippmann. Deutsche Chem Gesell Ber 55:3040-1 O '22

Mountain railroads

- Conquest of the Khyber Pass. H. J. Shepstone. il Pop Mech 39:222-3 F '23
- Electrical operation in mountain districts; what is being done on the Chicago, Milwaukee & St Paul. F. Rusch. Ry Age 72:833-4 Ap 1 '22; Same. Eng & Contr 57:474-5 My 17 '22; Same. Gen Elec R 25:362-4 Jc '22
- Pump-power railroad; how gravity, through water-filled tanks, draws passengers up a German mountain. A. Gooback. il Sci Am 126:241 Ap '22
- Railroad building in the Andes. L. Matters. il Sci Am 128:104 F '23
- Transportation problem paramount in plant construction. il diag Eng N 88:475-7 Mr 23 '22

See also Cableways; Railroads—Switzerland

Mountain roads

Difficulties of transportation to mountain power projects; Kerckhoff development finished in record time by ingenuity in handling and forwarding materials. R. C. Starr. il J Elec 48:53-4 Ja 15 '22

- Eighteen-mile one-way road to Mt. Mitchell. map Pop Mech 39:121 Ja '23
- Elk district highway. S. H. Lea. il Good Roads 63:85-6 S 6 '22
- Lebanon mountain road. il Concrete 20:75-6 F '22
- Looping Mount Hood. S. Gertsmon. il map Pop Mech 38:559-60 O '22
- Mountain road in Klamath National park. il Eng N 89:812 N 9 '22
- Tenderfoot spiral drive. J. H. Freeman. il Pop Mech 38:395-8 S '22
- Twin roads spiral into crater of volcano. W. K. Boone. il Pop Mech 39:584-5 Ap '23

Mountain states ice manufacturers' association
Eighth annual convention, Denver, Colo., Jan. 13-14. J. B. Dillon. Power Pl Eng 26:247 F 15 '22

Mountain streams

Controlling a mountain torrent in Switzerland. K. Haller. il Eng N 88:354-6 Mr 2 '22

Mountaineering

- Conquering Mount Rainier in midwinter. L. W. Pedrose. il Pop Mech 37:713 My '22
- Making motion pictures at the summit of Mount Hood. M. Wharton. il Pop Mech 39:24-5 Ja '23

See also Everest, Mount

Mountains

Glaciation of the mountains of Japan. N. Yamasaki. Am J Sci 5th ser 3:131-7 F '22

See also Mountaineering; Volcanoes; also Rocky mountains

Movable dams. See Dams, Movable**Moving**

How we moved—making a profit out of a nuisance. G. G. Powers. il plan Factory 29:27-9+ JI '22

Moving of structures

- Chimney moved to new site eight feet distant. il Pop Mech 38:720 N '22
- Creating more business by moving and remodeling old buildings. E. W. LaPlant. il Bldg Age 45:52-3 F '23
- Farmers, horses, oxen, and sleds move house. il Pop Mech 39:580-1 Ap '23
- Five-story Chicago warehouse moved in two directions. il diags Eng N 90:754-5 Ap 26 '23
- Helpful hints on house moving. E. W. LaPlant. il diags Bldg Age 45:64-6 Mr '23
- Hotel moved to new site, 120 feet distant. il Pop Mech 38:547 O '22
- House-moving by ferry. il Sci Am 129:245 O '23

How a steel water tank was moved two miles without being dismantled. il Eng & Contr 57:595 Jc 21 '22

Large church moved for street widening. E. Dauenbauer. il Pub Works 51:395-6 N 19 '21

Los Angeles hotel moved to new site. Eng N 91:314 Ag 23 '23

Modern moving of buildings. il Bldg Age 45:52 S '23

Moving a church of 3200 tons. il Sci Am 128:186 Mr '23

Moving a house of glass. F. G. Jopp. il Sci Am 126:387 Jc '22

Moving a town by motor truck. il Sci Am 128:99 F '23

Moving a village eleven miles by truck and trailer. W. A. Carpenter. il Munic Eng 63:sup17-19 S '22; Excerpts. Eng & Contr 58:277 S 20 '22; Excerpts. Eng N 89:623-4 O 12 '22

Moving large glass studio is delicate operation. il Pop Mech 37:561 Ap '22

Moving of brick buildings. il diags plan Engineering 112:342-4 D 23 '21

Narrow-gage tracks used in moving houses to new location. E. G. McGill. il Eng N 91:314 Ag 23 '23

Nine-room house moved to new site by motor truck. il Eng N 90:1053 Jc 14 '23

Pivoting buildings during moving. E. W. LaPlant. il diags Bldg Age 45:64-6 JI '23

Raising and moving frame buildings. E. W. LaPlant. diags Bldg Age 45:71-3 My '23

Moving of structures—Continued

- 7,500-ton office building is moved 85 feet. il Ry Age 75:867-8 N 10 '23; Eng N 91:771-2 N 8 '23
- Service to tenants unbroken during moving of three-story building. W. C. Bushfield. il Eng N 88:642 Ap 20 '22
- Signal tower moved intact with wrecking crane. il Pop Mech 39:511 Ap '23
- Silo moved from one farm to another on a wagon. il Pop Mech 38:332-3 S '22
- Simple methods of trussing and bracing extra wide buildings for moving. E. W. LaPlant. il diag Bldg Age 45:70-2 Je '23
- Stone-church front moved 30 feet with jacks. il Pop Mech 36:900 D '21
- Tank of 40,000-gal. capacity supported by timber bents moved on flat cars. il Eng N 88:1034 Je 22 '22
- Two-story house is moved across 20-foot cañon. il Pop Mech 40:258 Ag '23

See also Bridge moving

Moving picture censorship

- State censorship of motion pictures. J. R. Rutland. comp. Ref Shelf 2:1-177 no 1 '23

Moving picture films

- Absorption of light by toned and tinted motion picture film. L. A. Jones and C. W. Gibbs. J Fr Inst 192:676-7 N '21
- Aluminum films. il Sci Am 127:43 Jl '22
- Les films inflammables. L. Clément and C. Rivière. Chimie & Ind 8:322-4 Ag '22
- Moving-picture film prepared on running train. J. A. Bristol. il Pop Mech 37:420 Mr '22
- Rewinding machine for motion-picture films. il Pop Mech 39:456 Mr '23
- Safety standard motion picture films and the pathoscope. il Safety Eng 44:74-5 Ag '22
- Use and care of motion picture film. C. Roach. (Eng. Ext. Dept. Bul. 49) 16p Iowa state col. agric. & mech. arts. Ames '21

See also Moving picture photography—By-products

Moving picture industry

- Film industry. D. Boughey. 110p Pitman '21

Advertising

- Fiction writer takes up movie advertising. R. Dickinson. Ptr Ink 121:44+- N 2 '22
- Timely advertising for motion pictures. R. Dickinson. Ptr Ink 123:37-8+ Ap 26 '23

Egypt

- Le commerce des films cinématographiques en Égypte. Chimie & Ind 10:599-602 S '23

Moving picture machines

- Flickerless projector. A. Gradenwitz. il diag Sci Am 128:29 Ja '23
- Investigations on kinema projectors. Illum Engr 16:73 Mr '23
- Motion picture projection with incandescent lamps. C. M. Doolittle. il diag Elec J 20:226-8 Je '23
- Moving-picture projector for schools and homes. il Pop Mech 38:725 N '22
- New motion-picture outfit for amateurs is simple. il Pop Mech 39:590 Ap '23
- New parabolic lens for motion picture projection. il diag Am Inst E E J 42:1105 O '23
- Simplified motion picture. il Sci Am 127:47 Jl '22
- Some features of the high-intensity motion-picture arc. F. A. Benford. il Gen Elec R 25:555-9 S '22

Testing

- Motion-picture projectors tested in tunnel. il Pop Mech 39:383 Mr '23

Moving picture photography

- Appareil pour la dissociation rapide des images dans la cinématographie par étincelle électrique. L. Bull. diag Génie Civil 80:388 Ap 29 '22
- Camera attachment takes slow-motion pictures. il Pop Mech 37:363 Mr '22
- Camera that analyzes motion. il Sci Am 126:45 Ja '22
- Combining motion pictures with clockwork. il Sci Am 126:57 Ja '22
- Homemade motion-picture camera. R. E. Best. il diags Pop Mech 38:969-74 D '22

- How the moving-picture camera lies. il Pop Mech 40:878-81 D '23
- Keeping track of surgical operations with a motion-picture camera. il Sci Am 126:45 Ja '22
- Kinematograph studio technique. L. C. MacBean. 111p Pitman '22
- Latest motion picture outfit for amateurs. il Sci Am 129:111 Ag '23
- Making motion pictures at the summit of Mount Hood. M. Wharton. il Pop Mech 39:24-5 Ja '23
- Motion picture photography for the amateur. C. E. K. Mees. il J Fr Inst 196:227-45 Ag '23
- New motion-picture camera has unusual features. il Pop Mech 39:253 F '23
- New moving-picture camera records operations. il Pop Mech 36:820-1 D '21
- One hundred feet of film finished at same time. il Pop Mech 38:761 N '22
- Spectacles for the motion-picture camera. C. A. Byers. il Sci Am 126:189 Mr '22
- Use of artificial illuminants in kinema studios. L. A. Jones. Illum Engr 15:247-54, 271-5 S-O '22

By-products

- Recovering silver from movie laboratory waste. C. A. Byers. il Eng & Min J 114:373-4 Ag 26 '22
- Silver recovery from movie waste develops as an industry. G. F. Paul. il Metal Ind 21:364-5 S '23
- Tons of silver from waste hypo; by-product of the motion-picture industry. C. A. Byers. il Sci Am 126:258 Ap '22

Moving picture screens

- New movie screen reduces glare and eyestrain. il Pop Mech 39:95 Ja '23

Moving picture studios

- Moving large glass studio is delicate operation. il Pop Mech 37:561 Ap '22
- Washing London fog out of the atmosphere of a motion picture studio. C. H. Bell. il Sci Am 126:255 Ap '22

Lighting

- Artificial daylight for the movies. il Sci Am 126:62-3 Ja '22
- Effect on vision of lights used in kinema studios. Illum Engr 14:179-80 S '21
- High-intensity searchlight for moving pictures. il Elec R 79:878 D 10 '21
- Lighting for motion picture studios. F. S. Mills. il Illum Eng Soc 18:143-50 F '23
- Sunburned eyes—a film-studio problem. il Sci Am 129:243 O '23
- Use of artificial illuminants in kinema studios. L. A. Jones. Illum Engr 15:247-54, 271-5 S-O '22

Moving picture theaters

- Beaux-arts institute of design award. il Am Arch 121:169-70 Mr 1 '22
- Eastman theatre and school of music. il Am Arch 123:180-4, 194a-9 F 28 '23
- Movie theatre and assembly hall form community center for small town. il plans Bldg Age 45:48-50 Mr '23
- Strand theatre, Yonkers, N.Y. il Arch & Bldg 54:62-3, pl 97-9 Je '22
- Two San Francisco motion picture theaters. il plans Arch Forum 37:183-8, pl 69-70 O '22
- Vancouver theater beats high cost of ground. Pop Mech 38:676 N '22

Electric equipment

- Electrical equipment of the Theatre Royal, Manchester. il Elec R (Lond) 92:484-5 Mr 30 '23
- Pavilion, Shepherd's Bush. il Elec R (Lond) 93:633 O 26 '23
- Regent theatre, Brighton. il Elec R (Lond) 90:89-93, Ja 20 '22

Heating and ventilation

- Baltimore theaters heated by gas. E. B. Milener. Gas Age 51:591 My 5 '23
- Cellar to dome in six months; old McVickers theatre, Chicago, razed and a new building erected in six months. il Dom Eng 101:170-2 N 4 '22

Moving picture theaters—Heating and ventilation—Continued

Heating and ventilating system and sound-proofing for the Eastman theatre and school of music. A. S. Crocker. *Am Arch* 123:200-2 F '28 '23

Ventilation of motion picture theatres. W. L. Durand and G. Grill. *Diags plan Sanitary & Heat Eng* 97:182-3 Ap 7 '22

Lighting

Artistic color lighting in motion picture theatres. S. L. Rothafel. *Illum Eng Soc* 18: 413-18; Discussion. 426-33 My '23

Electrical and illuminating equipment of the Eastman theater and school of music. F. A. Mott and L. A. Jones. *il diags plans Am Inst E E J* 42:569-82 Je '23; Same cond. *Am Arch* 123:511-15, 565-70 Je 6-20 '23

Regent theatre, Brighton. *il Elec R (Lond)* 90:89-93 Ja 20 '22

Stage mechanism

Noises for the movies. A. A. Hopkins. *il Sci Am* 126:30-1 Ja '22

Moving pictures

Are we exporting bad manners? P. W. Wilson. *Nation's Business* 10:14-15 D '22

Broadcasting photographs and motion pictures. *il Pop Mech* 38:824 D '22

Cinema handbook; a guide to practical motion picture work of the nontheatrical order. A. C. Lescarboua. 507p Munn & co., New York '21

Kinema operator's handbook, theory and practice. W. W. S. Ibbetson. 151p Spon '21

Motion picture projection. T. O. Sloane. 303p Falk pub. co., New York '22

Motion pictures by radio. C. H. Claudy. *il Sci Am* 127:320 N '22

Richardson's handbook of projection for theatre managers and motion picture projectionists. F. H. Richardson. 4th ed. 942p Chalmers pub. co., New York '22

Silent envoys win South America; American motion pictures and press associations. F. E. Ackerman. *Am Ind* 22:41-3+ My '22

Thrills made to order in the movies at the risk of life and limb. *il Pop Mech* 40:380-7 S '23

Setting and scenery

Building a cathedral for the movies. *il Bldg Age* 45:38-41 S '23

Castles of plaster and steel; how engineering methods are being introduced in the building of motion picture sets. D. E. Davenport. *il Sci Am* 127:176-7 S '22

Cinema architect. S. D. Barnes. *Am Arch* 123:169-72 F 14 '23

Movies call for aid on the building industry. *il Bldg Age* 44:32-4 Jl '22

Pilgrims in make-believe land. *il Sci Am* 128: 383 Je '23

Rubber creations in motion picture production. *il India Rubber W* 66:487-8 Ap '22

Something new in movie scenery. *il Sci Am* 127:23 Jl '22

Moving pictures, Stereoscopic

Determining the best way to do work; stereoscopic viewer of magazine rolls of moving picture photographs on paper, of time and motions. F. B. Gilbreth. *Iron Tr R* 71:1419-20 N 23 '22; Same cond. *Ind Management (Lond)* 8:311-12 N 30 '22

Motion pictures in three dimensions thru use of the televiev. *il diags Sci Am* 128:5 Ja '23

Movies seen in relief with colored glasses. *il Pop Mech* 39:513 Ap '23

Wearing red and green spectacles to see stereoscopic movies. *il Sci Am* 128:105 F '23

Moving pictures, Talking

Broadcasting from films; pallophotophone has many important applications. *il Wireless Age* 10:58-9+ D '22

De Forest demonstrates his phonofilm, the talking motion picture. *Elec W* 80:442 Ag 26 '22

Light speaks!—little selenium cell provides voice for motion pictures. H. A. Lane. *il Pop Mech* 38:334-6 S '22

Pallophotophone. C. A. Hoxie. *il diags Am Inst E E J* 42:520-4 My '23

Pallophotophone. J. Liston. *il Gen Elec R* 26:31-2 Ja '23

Pictures that talk. *il Sci Am* 128:19+ Ja '23

Sound photographed for broadcasting. *Wireless Age* 10:56+ N '22

Swedish invention makes talking movies possible. *Pop Mech* 36:835 D '21

When light speaks; recording and reproducing sounds by means of light intensities. L. DeForest. *il Sci Am* 129:94 Ag '23

Moving pictures in advertising

Automatic daylight movies for the store window. *il Sci Am* 127:117 Ag '22

Helping the prospect to sell himself; how to test baking powder. K. K. Bell. *il System* 41:683 Je '22

Motion pictures backed by newspapers get new dealers. E. F. Stevenson. *Ptr Ink M* 5:46+ Je '22

Selling machine tools by motion pictures. E. K. Hammond. *Mach* 29:96-7 O '22

See also Moving pictures in industry

Moving pictures in education

Animated movies for geometry students. F. N. Hollingsworth. *il Pop Mech* 40:5-6 Jl '23

Cost of moving-picture instruction. J. H. Pound. *Eng Educ* 12:175-83 D '21

The film; its use in popular education. M. J. Wrigley. 124p H. W. Wilson co. '22

Moving picture films of industrial and educational value. *J Ind & Eng Chem* 14:1125 D '22

Moving pictures to illustrate Einstein theory. *il Pop Mech* 37:892 Je '22

Relativity in the films. *il Sci Am* 127:92 Ag '22

Moving pictures in engineering

Dummy aircraft observer. *il Sci Am* 129:111 Ag '23

Measuring rail deformation by moving picture photography. *il Ry R* 70:483-4 Ap 8 '22; *Ry Age* 72:916 Ap 15 '22; *Eng & Contr* 57:465 My 17 '22; *Pop Mech* 38:236-7 Ag '22

Motion pictures of a stoker furnace in operation. R. S. Riley. *il diag Mech Eng* 44:103-4 F '22

Movie machine to make continuous construction record. *il Eng N* 91:689 O 25 '23

Moving pictures in industry

Bettering the industrial film. G. J. Zehring. *Am Ind* 23:17+ Ap '23

Developing foreign trade by pictures. L. W. Moffett. *Iron Age* 109:931 Ap 6 '22

Electrified Ohio a feature film. *Elec W* 82: 496 S 8 '23

Films reduce losses from scrap. W. G. Hall. *Iron Tr R* 70:681-2 Mr 9 '22

How advertisers are using agricultural films. *Ptr Ink* 125:154+ O 25 '23

How moving pictures help in saving lives and preventing industrial injury. *il Safety Eng* 43:138-9+ Ap '22

Industrial films available to engineering societies. *Eng N* 89:329 Ag 24 '22

Industrial picture conference. *Am Ind* 22:21 Ap '22

Industrial pictures coming back. A. H. Loucks. *Am Ind* 24:12+ S '23

Lining up our silent salesmen. M. F. Leopold. *il Am Ind* 22:17-20 Ap '22

Motion-pictures as an aid to business. P. A. Raibourn and R. L. Davis. *Administration* 5:301-8, 445-53, 587-94, 719-26 Mr-Je '23

Motion pictures in freight claim prevention. *il Ry R* 72:821-3, 886-8, 949-51; 73:15-18 My 12, 26, Je 9, Jl 7 '23

Motion pictures save money for the Illinois Central. *il Ry Age* 74:954 Ap 14 '23

Movies as trade makers. R. E. Hutchinson. *Nation's Business* 10:18 Jl '22

Movies in cotton research. *il Textile World* 61:3330+ Je 3 '22

Movies teach textile skill. A. A. Talmage. *il Textile World* 63:761+ F 3 '23

Moving pictures in the machine tool industry. D. S. Hazen. *Am Mach* 57:530 O 5 '22

See also Moving pictures in advertising

Moving pictures in science

Flight of atoms photographed. W. D. Harkins. *il Pop Mech* 39:337-8 Mr '23

Moving pictures in science—Continued

Method for photographing the disintegration of an atom, and a new type of rays. W. D. Harkins and R. W. Ryan. *il diags Am Chem Soc J* 45:2095-2107 S '23

Movies show sun's eclipse for science. *il Pop Mech* 40:694-5 N '23

Mysteries of invisible world are portrayed on movie screen by insect actors. *il Pop Mech* 40:713-15 N '23

When wood shrinks. B. B. Borchers. *il Sci Am* 129:250 O '23

Moving platforms

Rapid transit on a moving belt. *il Sci Am* 128:10, 11 Ja '23

Moxie company

Keeping a growing business friendly; unusual personal touch copy of Moxie company. J. M. Mosely. *Ptr Ink* 122:124+ Ja 4 '23

Mozambique**Industries and resources**

Portuguese East Africa, its resources, industries and trade. S. W. Honaker. *U S Sp Cons Rep* 85:1-30 '23

Mucic acid

Commercial production of mucic acid. *Chem & Met Eng* 26:1118 Je 14 '22

Determination of mucic acid. E. O. Whittier. *Am Chem Soc J* 45:1391-7 Je '23

Muconic acid

Conditions underlying the formation of unsaturated and cyclic compounds from halogenated open-chain derivatives: products formed from halogen derivatives of muconic acid; the constitution of muconic acid. J. P. C. Chandrasena and C. K. Ingold. *Chem Soc J* 121:1306-19 Ji '22

Mud

Fighting a mud run. P. J. Risdon. *il Sci Am* 127:113 Ag '22

Mud cracks

Mud-crack and associated joint structure. E. M. Kindle. *il Am J Sci* 5th ser 5:329-30 Ap '23

Mud cracks. F. Ward. *il Am J Sci* 5th ser 6:308-9 O '23

Mudd, Seeley W., 1861-

Mining engineers of note. *por Eng & Min J* 116:315 Ag 25 '23

Mufflers. See Gas and oil engines—Mufflers**Mufflers. Airplane. See Airplane engines—Mufflers****Mufflers. Automobile. See Automobile engines—Mufflers****Mules**

Cost of feeding mules. *Eng & Contr* 56:562 D 21 '21

Multibestos company

Getting dealer co-operation by solving a dealer problem; how the Multibestos company sells brake lining. R. W. Johnson. *Ptr Ink* 120:3-4+ Ag 3 '22

Munder, Norman T. A.

Man who made his dream come true; Norman T. A. Munder. A. Highton. *por Inland Ptr* 70:829-30 Mr '23

Municipal accounting

Municipal accounting. J. O. McKinsey. *J Account* 35:81-94 F '23

Municipal accounting in New Jersey. E. L. Suffern. *J Account* 33:321-30 My '22

Municipal book keeping and auditing. O. J. Godfrey. *2v Carswell co., Toronto* '20-'21

Municipal advertising

City's gain from its advertising; Denver advertises the scenic beauties of Colorado. H. N. Burhans. *Ptr Ink* 123:93+ Ap 5 '23

Dallas counts its blessings. *Ptr Ink* 117:99-100 D 8 '21

Police buy advertising space to halt bogus check operators. *Ptr Ink* 121:50+ D 28 '22

Putting a city on the map; Lebanon, Pa. *Ptr Ink* 117:165+ N 24 '21

Seattle seeks tourists and industries by segregating appeal. W. Brindley. *Ptr Ink* 117:117-18 D 15 '21

Vancouver coaxes tourists with advertising.

Ptr Ink 118:140+ F 2 '22

Municipal bonds

Course of prices of New York state and city securities during the year 1922. *Comm & Fin Chr* 116:49 Ja 6 '23

Federal taxation of state and municipal bonds. C. Heer. *Administration* 4:331-8 S '22

Municipal bond market in 1922 in the Central west. C. W. McNear. *Comm & Fin Chr* 116:350-1 Ja 27 '23

Municipal bond sales in December and for the year 1921. *Comm & Fin Chr* 114:97-8 Ja 7 '22

Municipal bond sales in 1921. *Comm & Fin Chr* 114:3-8 sec 2 Je 24 '22

Municipal bond sales in 1921 top all previous records. *Eng N* 88:18-19 Ja 5 '22

Municipal bond sales in 1922. *Comm & Fin Chr* 116:3-8 sec 2 Je 30 '23

Municipal bond sales in November. *Comm & Fin Chr* 113:2523-6 D 10 '21 [continued monthly]

Municipal bonds. F. Brown. 231p Prentice-Hall '22

Raising \$50,000 by means of a bond issue (5 per cent). *Administration* 4:503-5 O '22

Report of municipal securities committee of the Investment bankers' association. *Comm & Fin Chr* 115:1806-7 O 21 '22

St. Louis bond election significant. *Eng N* 90:332 F 22 '23

Should the state purchase small town bond issues? K. C. Gaynor. *Munic Eng* 65:95 S '23

Text of municipal bond acts; state of Ohio. *Comm & Fin Chr* 116:2794-5 Je 16 '23

United States and municipal bonds. Published in monthly Bank and quotation section of Commercial and financial chronicle

Why Mt. Pleasant, Mich., paid \$39,750 for a \$15,000 water improvement. C. H. Peterson. *Munic Eng* 64:85-6 F '23

See also Taxation, Exemption from

Municipal buildings

15th Paris prize—a city hall. *Am Arch* 122:233-40, 242-3 S 13 '22

Municipal building for the city of Boston. *il plans Am Arch* 123:546n-p, 547-8 Je 20 '23

Municipal building. New York (1908). *Am Arch* 121:426a, 433 My 24 '22

Town hall and fire house; excellent type of building for housing various municipal departments. *il plans Eldg Age* 43:44-5 D '21

Town Hall, Greenfield, N.Y. *Arch Forum* 36:pl 46 Mr '22

Town hall, Littleton, Col.; view. *Am Arch* 124:pl 152j Ag 15 '23

Two town halls. J. M. Rosé and G. N. Rosé. *il plans Arch Rec* 50:481-8 D '21

See also Community centers; Fire houses;

Public buildings; Public comfort stations; Schoolhouses

Municipal centers

Denver civic centre. T. M. Fisher. *il plan Arch Rec* 53:189-201 Mr '23

See also Squares (cities)

Municipal corporations

Municipal code of Ohio. W. H. Ellis. 6th ed. 1432p W. H. Anderson co., Cincinnati '22

Municipal electrical association. See Incorporated municipal electrical association

Municipal employees

Act relating to municipal employees' annuity and benefit fund, Chicago. 130p Municipal employees' annuity and benefit fund, Chicago

New standards for municipal employment. *Eng N* 89:940 N 30 '22

Salaries

Standardization of salaries of municipal employees in St Paul. *Monthly Labor R* 17:406-10 Ag '23

Municipal engineering

Engineering in the small municipality. E. G. Orbert. *Munic Eng* 63:31 Ji '22

Municipal engineering—Continued

Public works, roads and transport congress, London, Nov. 18-24, 1921. Engineering 112: 737-8 N 25 '21; Engineer 132:571-2, 590 N 25-D 2 '21

See also City planning; Drainage; Electricity supply, Municipal; Parks; Pavements; Public comfort stations; Public works; Refuse collection; Refuse disposal; Sanitary engineering; Sewage disposal; Sewerage; Street cleaning; Street lighting; Streets; Water purification; Water supply; Water supply engineering

Municipal engineers

Compensation of engineers in the employ of Philadelphia. J. W. Follin. Eng N 88:735-6 My 4 '22
Selecting engineers for city service in Philadelphia. C. S. Shaughnessy. Munic Eng 64: 191-3 My '23
Sidelines for the engineer in public service. Munic Eng 64:133-4 Ap '23
Some vicissitudes of a municipal engineer. J. F. Druar. Munic Eng 65:186-9 O '23

Classification

Classification of engineering positions in public service. J. L. Jacobs. Eng & Contr (Ry) 59:167-71 Ja 17 '23

Municipal ferryboats. See Ferryboats, Municipal

Municipal finance

Financial statistics of cities having a population of over 30,000. 157p U.S. Bur. of the census, Washington '22
State and city section of the Commercial & financial chronicle; New England, Middle and Central states. Comm & Fin Chr 116: 3-187 sec 2 Je 30 '23 [Published annually in June]
State and city section of the Commercial & financial chronicle; Western, Pacific and Southern states and island possessions. Comm & Fin Chr 115:1-220 sec 2 D 30 '22 [Published annually in December]
Trend of municipal legislation and finance. Munic Eng 63:125-6 O '22
Wealth, debt, and taxation, 1923. 42p U.S. Bur. of the census, Washington '22

See also Municipal accounting; Municipal bonds; Pavements—Finance

Municipal franchises

See Public utilities—Franchises; Street railroads—Franchises

Municipal government

Active citizenship. C. Davidson. 2d ed. 51p H. W. Wilson co. '21
City charter making in Minnesota. W. Anderson. (Bur. for research in government. Pub. no. 1) 198p Univ. of Minnesota, Minneapolis '22
Current problems in municipal government. L. T. Beman. [Bibliographies] 542p H. W. Wilson co. '23
Features of the proposed new Chicago constitution. il W Soc E J 27:[current news] 193-4 O '22
Handbook of municipal government. C. M. Fasset. 192p Thomas Y. Crowell co., New York '22
Modern city and its government. W. P. Capes. 269p Dutton '22
Trend of municipal legislation and finance. Munic Eng 63:126-7 O '22

See also Motor bus lines, Municipal; Municipal bonds; Municipal finance; Municipal ownership; Municipal reference libraries; Police

City manager plan

Are city managers attempting too much? J. F. Druar. Munic Eng 64:137-8 Ap '23
City manager system. C. J. Yorath. Can Eng 43:563-4 N 21 '22
City managers for small towns. A. W. Seng. Eng & Contr 58:264 S 13 '22
Experience with city manager government at Sacramento, California. C. L. Seavey. Munic Eng 64:14-19 Ja '23
Experience with the city manager plan. R. E. McDonnell. Munic Eng 62:155 Ap '22

Government by representatives versus government by experts. Eng & Contr (R & S) 58:4 O 4 '22

Practical public administration under a city manager. E. J. Fort. Eng N 87:1025-6 D 22 '21

Progress of city manager plan. Eng & Contr 56:419 N 2 '21

What does a city manager do? chart Eng & Contr (R & S) 58:112-13 N 1 '22

Municipal heating. See Heating from central stations, Municipal

Municipal improvement

Boston asks students' aid in solving city problems. Eng N 89:944 N 30 '22
Community development. W. Holden. il Prof Eng 8:9-10 F '23
Municipal exhibition of the New York and Brooklyn chapters of the American institute of architects. J. V. Van Pelt. il plans Am Arch 124:7-14 Jl 4 '23
Organization of metropolitan districts. L. Pearse. Can Eng 42:227-30 F 14 '22; Excerpt. Pub Works 52:12-13 Ja 7 '22

See also Assessment; City planning also American society for municipal improvement

Municipal law

Legal status of municipal coal and wood yards. J. N. Moonan. Munic Eng 65:56-9 Ag '23

Municipal ownership

Detroit and Seattle experiments in municipal ownership are watched with keen interest by newspapers of country. N E L A Bul 9:726-9 D '22
Mathematical solutions of public ownership problems. Eng & Contr 57:124 F 8 '22
Side lights on Toronto M. O. meeting. Elec Ry J 62:459 S 22 '23
Why municipal ownership has proved a failure. P. P. Haynes. Am Gas J 117:657-60 D 9 '22; Excerpts. Elec W 80:1167-8 N 25 '22

See also Asphalt plants, Municipal; Electric plants, Municipal; Electric utilities—Municipal ownership; Heating from central stations, Municipal; Hydroelectric plants, Municipal; Ice plants, Municipal; Motor bus lines, Municipal; Motor trucks, Municipal; Refuse disposal—Reduction plants, Municipal; Street railroads—Municipal ownership; Street railroads, Municipal

Municipal purchasing. See Purchasing, Municipal

Municipal reference libraries**Bibliography**

Library and the municipal official. S. Hall. 11 mm. p. University of Wisconsin, Madison '23

Municipal reports

Municipal records are opened to the public by California Supreme court. Eng & Contr 57: 217 Mr 8 '22

Municipal research

Library for research in government. S. Greer. Special Lib 13:83-6 Je '22

Municipal sign posts. See Sign posts, Municipal

Municipal supplies

Overcoming difficulties in selling city governments. W. A. Cather. Ptr Ink 122:3-4+ Ja 25 '23

Municipal testing laboratories. See Testing laboratories, Municipal

Municipal tramways association (inc.)

Annual conference, Newcastle-on-Tyne, Sept. 13-15. Elec R (Lond) 91:368-9, 408-10, 463-4 S 15-29 '22; Elec Ry J 60:825 N 18 '22

Annual conference, Portsmouth, Aug. 21-25. Elec R (Lond) 93:276-7, 312-15, 370-2 Ag 24-S 7 '23

Munition factories

Progress in conversion of war factories. S. H. Bunnell. Iron Age 109:1433-5 My 25 '22

Munition workers

Trade unionism and munitions. G. D. H. Cole. 251p Oxford '23

Munitions of war

Les fabrications industrielles de guerre, d'après l'expérience de la grande guerre. Génie Civil 82:557-8 Je 9 '23
 Government's plans for the mobilization of industry. J. True, *Ptr Ink* 124:87-8+ Ag 2 '23
 Ordnance industrial mobilization. C. C. Williams, charts map *Mech Eng* 45:627-31 N '23
 Preparing for war production. Iron Tr R 72:1687-9 Je 7 '23

Munroe, Charles Edward

American contemporaries. H. W. Wiley, *por Ind & Eng Chem* 15:648-9 Je '23

Mural painting and decoration

Arthur F. Mathews; institute gold medalist in painting, 1923. R. Boynton. *Am Inst Arch J* 11:131-3, 141-9 Ap '23
 Etruscan mural paintings found in their tombs. L. V. Solon, *il Arch Rec* 52:531-3 D '22
 Ezra Winter's decorations for the New York cotton exchange. R. Flint, *il Am Inst Arch J* 11:386-386d O '23
 Sargent decorations in the Boston Museum of fine arts. C. H. Blackall, *il Am Arch* 121:241-4 Mr 29 '22

Muriatic acid

Muriatic acid effective in removing scale from pipes. *Power* 57:301, 532, 867 F 20, Ap 3, My 29 '23
 Tank cars for transportation of muriatic acid lined with unvulcanized rubber. J. M. Rowland, *il Chem Age* 30:299-301 Jl '22

Murphy door bed company

Advertising apartment houses to sell beds. J. True, *Ptr Ink* 119:41-2 Ap 6 '22

Murray, Thomas Edward, 1860-

Sketch. *por Elec W* 79:516 Mr 18 '22

Murray, William Spencer, 1873-

Sketch. *por Elec W* 79:1156 Je 10 '22

Muscarine

Isolation of muscarine, the potent principle of *Amanita muscaria*. H. King. *Chem Soc J* 121:1743-53 S '22

Muscle

Muscle as a motor. J. M. Dockstader, *il Sci Am* 127:407 D '22
 Recovery process of excitable tissues. D. Adrian, *Sci Am* 125A:131 D '21
 Role of hydrogen- and hydroxyl-ion diffusion in nerve and muscle action. E. Q. Adams, *J Phys Chem* 26:639-46 O '22

See also Muscular power

Muscle Shoals project

Alabama Power makes offer for Muscle Shoals. *Elec W* 79:345-6, 399-400 F 18-25 '22
 Another offer made for Muscle Shoals by Charles L. Parsons. *Power* 55:596 Ap 11 '22
 Bidders for Muscle Shoals likely to be asked to increase offers. *Elec W* 79:747-8 Ap 15 '22
 Bill proposes federal concern to operate Muscle Shoals. *Eng N* 88:973 Je 8 '22
 Building the world's largest monolith; significance of Wilson dam to navigation and industry. L. McClung, *il Sci Am* 129:8-9 J '23; Same abr. N E L A Bul 10:472-4 Ag '23
 Close-up of Muscle Shoals. F: Simpich, *il Nation's Business* 10:10-12 Ja '22
 Common sense—and fertilizer manufacture at Muscle Shoals. W. S. Landis, *Chem Age* 30:149-50 Ap '22
 Congress comparing Muscle Shoals offers. *Power* 55:402 Mr 7 '22
 Congress gets new Muscle Shoals Ford offer. *Elec W* 79:247-8 F 4 '22
 Congress may put Muscle Shoals' disposal up to Secretary Weeks. *Elec W* 79:847-8 Ap 29 '22
 Congressional opposition to Henry Ford's Muscle Shoals project. *Comm & Fin Chr* 115:377-80 Jl 22 '22
 Deadlock in Congress over Muscle Shoals. *il Elec W* 79:697-8 Ap 8 '22
 Discussion of disposal of Muscle Shoals features joint meeting of engineering societies. *Chem & Met Eng* 26:757 Ap 19 '22
 Disposal of Muscle Shoals. R. S. McBride, *il map Power* 55:288-91 F 21 '22

Domestic potash, Muscle Shoals and Henry Ford. C: H. MacDowell, *Chem Age* 30:271-2 Je '22; Same abr. *Oil Paint & Drug Rep* 101:20 Je 26 '22
 Engineering resources and possibilities of Muscle Shoals. J. W. Joyes, map *Mech Eng* 44:272-3 Ap '22
 Federal operation needless. *Elec W* 80:1347-8 D 16 '22
 Fifty-year limit on Muscle Shoals lease again proposed. *Power* 56:513 S 26 '22
 Ford Muscle Shoals offer still stands. *Eng N* 91:652 O 18 '23
 Ford offer denounced in House and Senate. *Power* 55:1032 Je 27 '22
 Ford offer goes to Congress with Secretary Weeks' report. *Power* 55:239 F 7 '22
 Ford tells what he hopes to do with Muscle Shoals. J. Dalton, *Automotive Ind* 47:751-4 O 19 '22
 Gorgas plant at Muscle Shoals is sold to Alabama power company. *Elec W* 82:670-S 29 '23
 Government plant at Muscle Shoals will be operated by Alabama power company for another year. *Elec W* 80:895 O 21 '22
 Heavy power demand awaiting Muscle Shoals development. *Elec W* 79:799-800 Ap 22 '22
 J. C. McKenzie defends Ford's Muscle Shoals offer. *Power* 57:75 Ja 9 '23
 Making power subsidize fertilizer; Mr Engstrom's offer. *Power* 55:147-8 Ja 24 '22
 Military affairs committee considers merits of Muscle Shoals offers. *Chem & Met Eng* 26:423 Mr 1 '22
 Minority report of Senate committee urging acceptance of Henry Ford's Muscle Shoals offer. *Comm & Fin Chr* 115:711-12 Ag 12 '22
 Minority would accept Ford's Muscle Shoals offer. *Power* 56:264 Ag 15 '22
 Muscle Shoals and Henry Ford. *Chem Age* 30:67-8 F '22
 Muscle Shoals, close-up no. 2. C: H. MacDowell, *Nation's Business* 10:21-2 F '22
 Muscle Shoals plant and the nitrogen supply. J. K. Clement, *il Mech Eng* 44:357-9 Je '22
 Muscle Shoals propositions, 1208p U. S. Congress, House, Committee on military affairs, Washington '22
 Muscle Shoals—the Wilson dam. L. McClung, *il Concrete* 21:71-4 S '22
 New bill for Muscle Shoals by Representative Dickinson. *Elec W* 80:1286 D 9 '22
 New minority report on Muscle Shoals assails Ford offer. *Elec W* 79:1285-6 Je 24 '22
 New York engineers discuss Muscle Shoals. *Power* 55:670 Ap 25 '22
 Possibilities for commercial development of Muscle Shoals. R: C. Tolman, *Chem & Met Eng* 26:465-6 Mr 8 '22
 Power development in the Southeast. C: G. Adsit, maps *Mech Eng* 44:291-4+ My '22
 Public utilities deadlock. I. C. Waterbury, *Annalist* 19:440 Ap 17 '22
 Secretary Weeks analyzes Ford's offer for Muscle Shoals. *Chem & Met Eng* 26:272-6 F 8 '22
 Senate committee rejects Ford proposal. *Elec W* 80:189-90 Jl 22 '22
 Seventy-five mile city; what Henry Ford wants to do with Muscle Shoals. L. McClung, *il Sci Am* 127:156-7+ S '22
 Summing up the Ford proposal. *Eng N* 89:158-9 Jl 27 '22
 Views of House committee on Muscle Shoals. *Power* 55:990-1 Je 20 '22
 Why Henry Ford wants Muscle Shoals. J. Dalton, map *Automotive Ind* 47:401-7 Ag 31 '22
 Would create commission to settle Muscle Shoals problem. *Elec W* 79:495-6 Mr 11 '22

Muscular power

Athletics and oxygen supply. *Sci Am* 128:321 My '23
 Discussion of the method of A. D. Waller for computing energy output, and results of experiments determining energy expenditure during some household tasks. S. Cairns and M. K. O'Brien, *J Ind Hygiene* 4:283-91; Bibliography. 291-2 N '22
 Physical work and the human machine. *Min & Sci P* 124:76-8 Ja 21 '22

Muscular power—Continued

Physiological cost of muscular work; abstract. A. D. Waller and G. De Decker. *J Ind Hygiene* 3:sup260-1 Mr '22

Museums

See also Art galleries and museums; Natural history museums; also Field museum of natural history, Chicago; New York (city)—American museum of natural history; Paris, France—Conservatoire national des arts et metiers; United States—National museum

Lighting

Lighting of public buildings. A. L. Powell and E. Parker. *il Illum Eng Soc* 16:540-3 no 9 '21

Loss of colour in objects exposed to light. S. F. Harmer. *Illum Engr* 15:308-10 N '22

Recent departures from usual lighting practice in public spaces and offices; Field museum of natural history. A. D. Curtis and J. L. Stair. *il plans Illum Eng Soc* 16:558-67 no 9 '21

Museums, industrial

See American steel and wire company—Industrial museum

Mushroom paste

Brewery becomes a mushroom plantation and advertises. C. B. Larrabee. *Ptr Ink* 122:77-8+ Ja 11 '23

Music

See Phonograph records; Transposition (music)

Music halls**Heating and ventilation**

Ventilating equipment for a music hall; features of installation in Kilbourn Hall, Rochester, N.Y. *il plan Heat & Ven* 19:46-7 Je '22

Music printing

Engraving machine makes music-printing plates. *il Pop Mech* 36:889 D '21

Music engraving and printing. S. H. Horgan. *Inland Ptr* 69:856 S '22

Music notes defied mechanical typesetting. G. Barnard. *Pop Mech* 40:433-4 S '23

Music recorders

Musical typewriter—a device for transposing and recording music. *il diag Sci Am* 127:315 N '22

Simple transposing device and musical typewriter. *il Pop Mech* 39:192 F '23

Music trade**Advertising**

Music get you? then play in band, Conn advertising suggests. *Ptr Ink* 120:121-2+ Jl 13 '22

Musical ability tests

Are you a musician; Professor Seashore's specific psychological tests for specific musical abilities. H. Cary. *il Sci Am* 127:376-7 D '22

Musical education

Scientific methods used in musical education. H. S. White. *il Pop Mech* 38:172-3 Ag '22

Musical instruments

From tom-toms to jazz, music's magic lure is traced through ages. *il Pop Mech* 40:545-9 O '23

Some engineering aspects of the design of musical instruments. W. B. White. *diags plan Mech Eng* 45:230-3; Discussion. 233 Ap '23

See also Drums; Organs; Pianos; Stringed instruments; Xylophone

Testing

Wires are made to sing by electric forks. *il Pop Mech* 40:445 S '23

Musical typewriter. See Music recorders

Musicians

See Musical ability tests

Musk, Artificial

Le musc artificiel. E. Noelting. *Chimie & Ind* 6:719-35; Bibliography. 735-6 D '21

Muskeg

Difficulties of stripping muskeg. *Eng & Min J* 115:1048 Je 9 '23

Muskegon, Michigan**Rapid transit**

From abuse to popularity in three years in Muskegon. *Elec Ry J* 60:780 N 11 '22

Muslin. See Cotton fabrics

Mustard gas

Acceleration of the hydrolysis of mustard gas by alkaline colloidal solutions. R. E. Wilson, E. W. Fuller and M. O. Schur. *Am Chem Soc J* 44:2762-83 D '22

Hydrolysis of $\beta\beta'$ -dichlorodiethyl sulphide; synthesis of divinyl sulphide and the preparation of a non-vesicant isomeride of $\beta\beta'$ -dichlorodiethyl sulphide. S. H. Bales and S. A. Nickelson. *Chem Soc J* 121:2137-9 O '22

Hydrolysis of the sulphoxide and the sulphone of $\beta\beta'$ -dichlorodiethyl sulphide. A. E. Cashmore. *Chem Soc J* 123:1738-45 Jl '23

Production and reactions of $\beta\beta'$ -dichlorodiethyl sulphide. F. G. Mann and W. J. Pope. *Chem Soc J* 121:594-603 Ap '22

Recherches sur la protection contre le dichlorosulfure d'éthyle (ypérite). A. Desgrez, H. Guillemard and A. Labat. *Chimie & Ind* 6:842-4 D '21

Solubility and specific rates of hydrolysis of mustard gas in water. R. E. Wilson, E. W. Fuller and M. O. Schur. *Am Chem Soc J* 44:2867-78 D '22

Sulphilimines, a new class of organic compounds containing quadrivalent sulphur. F. G. Mann and W. J. Pope. *Chem Soc J* 121:1052-5 Je '22

Mutarotation. See Optical rotation

Mutual induction

Mutual induction between two circular currents. D. N. Mallik. *Philos Mag* 6th ser 43:604-6 Mr '22

Myopia

Consequences of myopia as an industrial disease of the eyes. N. B. Harman. *J Ind Hygiene* 4:371-4 Ja '23

Myrobalans

Loss of tannins during the drying of myrobalans. A. N. Srivastava. *Soc Chem Ind J* 42:272 Je 22 '23

Myrtle

Popularity of myrtle wood reduces limited supply. *il Pop Mech* 37:426 Mr '22

Mytilolol

Über den mytilol, eine natürlich vorkommende cyclose. D. Ackermann. *Deutsche Chem Gesell Ber* 54:1938-43 S '21

N**Nabacis, British Guiana****Water supply**

Unique water-works for Nabacis, British Guiana. *Eng N* 89:281 Ag 17 '22

Nails

Machine produces wire nails rapidly. *il Iron Tr R* 70:975 Ap 6 '22

Nally, Edward Julian, 1859-Sketch. *por Elec W* 79:466 Mr 11 '22

Name plates

Placing the name-plate on the product. J. N. Brownlee. *Ptr Ink* 119:125-6+ Ap 27 '22

Proper marking of nameplates. B. Lester. *Elec W* 81:303-4 F 3 '23

See also Advertisements—Name plates

Manufacture

Making brass name plates. F. V. Faulhauer. *Brass W* 19:285-7 S '23

Manufacture of name-plates. F. V. Faulhaber. *il Metal Ind* 20:53-5 F '22

Names, Corporate. See Corporate names

Names, Trade. See Trade names

Naphtha

L'utilisation des faibles gites de naphte; appareil de distillation des benzines. Effere. diag Génie Civil 79:378-9 O 29 '21

Naphthavindulines

Dyes derived from phenanthraquinone; naphthavindulines. S. Dutt. Chem Soc J 121: 1951-5 S '22

Naphthaldehydes

Azomethine derivatives of the 2- and 4-hydroxy- α -naphthaldehydes. G. T. Morgan and H. G. Reeves. Chem Soc J 121:1-7 Ja '22

Naphthalene

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; über den ringschluss bei zweifach benzoilylierten naphthalinen. R. Scholl und H. Neumann. Deutsche Chem Gesell Ber 55:118-26 Ja '22
Chemistry of naphthalene and its derivatives: chemical peculiarities of the naphthalene nucleus; abstract. N. N. Voroshcov. Chem Soc J 122 pt 1:1135-6 D '22

Coal tar as a source of fuel for internal combustion engines. W. J. Huff. Chem Age 31: 147-8 Ap '23; Same. Ind & Eng Chem 15: 455-6 My '23; Same. Gas Age 52:93-4 JI 28 '23
Equations for vapor pressures and latent heats of vaporization of naphthalene, anthracene, phenanthrene, and anthraquinone. O. A. Nelson and C. E. Senseman. Ind & Eng Chem 15:621-2 Je '23
Ethylation of benzene and naphthalene. C. H. Milligan and E. E. Reid. Am Chem Soc J 44:206-10 Ja '22

Hydrogenated naphthalenes and their transformations; nitro- and amino-derivatives of tetrahydronaphthalene; abstract. G. Schroeter and others. Chem Soc J 122 pt 1:123-6 F '22

Hydrogenated naphthalenes and their transformations; tetrahydronaphthalenesulphonic acids, tetrahydronaphthols, and their derivatives. G. Schroeter and others. Chem Soc J 122 pt 1:126-30 F '22

Hydrogenation of naphthalene; tetra and decahydro naphthalenes as new industrial products. R. G. Furness. Chem Age 30:173-6 Ap '22

Naphthalene and its extraction from coal gas. B. Richardson. Soc Chem Ind J 42:152-4 Ap 13 '23

Naphthalene deposits and their removal as affecting mains and services. A. H. Anderson. Am Gas J 117:274-5 S 23 '22; Same. Gas Age 50:727-8 N 25 '22

Naphthalene gas. F. J. Taylor. diags Am Gas J 117:700 D 23 '22

Naphthalene: its occurrence and removal. W. H. Fulweiler. Am Gas J 118:354-8+ Ap 23 '23; Same cond. Gas Age 51:205-7 F 17 '23
Naphthalene stoppages. A. V. Hendrickson. Gas J (Lond), sup 2:140 Ag 29 '23

Phthalic anhydride; the preparation of phthalic anhydride by the catalysis of the vapor phase reaction between naphthalene and atmospheric air. C. Conover and H. D. Gibbs. diag J Ind & Eng Chem 14:120-5 F '22

Removal of naphthalene. O. L. Kowalke and A. W. Pesch. Am Gas J 116:347-9 Ap 15 '22; Same. Gas Age 49:433-5 Ap 8 '22

Removing naphthalene from gas. D. E. Collier. Am Gas J 118:545 Je 23 '23

Removing naphthalene from gas by gas oil. H. C. Hubbard and O. L. Kowalke. diag Am Gas J 119:187 S 8 '23

Role of mercuric nitrate in the catalyzed nitration of aromatic substances; nitration of naphthalene. T. L. Davis. Am Chem Soc J 44:1588-91 JI '22

Some hydrogenation products of benzene and naphthalene. N. Heaton. Chem Age (Lond) 8:486-7 My 5 '23

Structure of the benzene nucleus; synthesis of a naphthalene derivative involving a bridged phase of the nucleus; the constitution of naphthalene and anthracene. W. A. P. Challenger and C. K. Ingold. Chem Soc J 123:2066-81 Ag '23

Sulphonation and nitration of naphthalene. H. E. Fierz-David. Soc Chem Ind J 42:421-4, 425-6 N 2-9 '23; Abstract. Chem Age (Lond) 9:309-10 S 22 '23

Über die reduktion von naphthalin- und naphthol-carbonsäuren. H. Weil und H. Ostermeier. Deutsche Chem Gesell Ber 54:3217-19 D '21

Utilisation de la naphthaline pour la fabrication d'un carburant national. L. Roman. Soc Ing Civils Bul 76:180-208 Ja '23

Vapor pressure determinations on naphthalene, anthracene, phenanthrene, and anthraquinone between their melting and boiling points. O. A. Nelson and C. E. Senseman. diags J Ind & Eng Chem 14:58-62 Ja '22; Discussion. B. F. Dodge. 14:569-70 Je '22

Zum benzol-problem; die naphthalin formel. A. v. Weinberg. Deutsche Chem Gesell Ber 54:2163-71 S '21

See also Dihydronaphthalene; Tetralin

Bibliography

Bibliography of articles on naphthalene removal. Gas Age 49:570-1 My 6 '22

Naphthalenesulfonic acids

Beiträge zum mechanismus der kupplungsreaktion; über 1.8-naphthsultam und sein N-methyl-derivat als azokomponenten. W. König und K. Köhler. Deutsche Chem Gesell Ber 55:2139-49 JI '22

Naphthalenesulfonic acids: solubilities of some amino salts of naphthalenesulfonic acids. H. Wales. J Ind & Eng Chem 14:317-18 Ap '22

Substituted naphthalene-sulfonic acids; a method for identifying H-acid and its intermediates obtained from naphthalene-2,7-disulfonic acid. D. F. J. Lynch. J Ind & Eng Chem 14:964-5 O '22

Über die 1.8-naphthsultam-4-sulfonsäure und einige ihrer abkömmlinge. W. König und J. Keil. Deutsche Chem Gesell Ber 55:2149-55 JI '22

Naphthsultam sulfonic acid. See Naphthalene-sulfonic acids

Naphthathiam blue

Über eine klasse neuer schwefel und stickstoff enthaltender küpenfarbstoffe. A. Reiser. Deutsche Chem Gesell Ber 55:858-73 Ap '22; Abstract. Chem Soc J 122 pt 1:583-4 Je '22

Naphthazine. See Anthrapyridine

Naphthenic acids

Naphthenic acids derived from Japanese petroleum. Y. Tanaka and S. Nagai. Am Chem Soc J 45:754-6 Mr '23

Naphthofuranones

Über die autoxydation des 2 aceto 1 naphthols in alkalischer lösung. K. Fries and H. Leue. Deutsche Chem Gesell Ber 55:753-63 Mr '22

Naphthoic acid

Über isomere naphthoesäure-sulfamide, ein beitrag zur theorie dulcigener gruppen. H. P. Kaufmann and H. Zobel. Deutsche Chem Gesell Ber 55:1499-1508 Je '22

Naphthol AS

Dyeing with naphthol AS and NA. Color Tr J 10:169-71 Ap '22

Naphthol AS; its properties and application to dyeing and color printing. J. R. Minevitch. Color Tr J 10:18-21, 74-6, 132-3 Ja-Mr '22

New developments of compounds of naphthol AS. J. Rath. Color Tr J 13:157-9 N '23

Naphthol NA

Dyeing with naphthol AS and NA. Color Tr J 10:169-71 Ap '22

Naphthol sulfide

Isomerism of β -naphthol sulphide and the analogous isomerism of aromatic o-hydroxy-sulphides. R. Lesser and G. Gad. Chem Soc J 124 pt 1:561-4 Je '23

Naphtholcarboxylic acid

Über die reduktion von naphthalin- und naphthol-carbonsäuren. H. Weil and H. Ostermeier. Deutsche Chem Gesell Ber 54:3217-19 D '21

Naphtholcarboxylic acid—Continued

Über die reduktion von naphthol-carbonsäuren zu aldehyden. H. Weil and W. Heerd. Deutsche Chem Gesell Ber 55:224-30 Ja '22; Abstract. Chem Soc J 122 pt 1: 256-7 Mr '22

Naphthols

Beta naphthol. C. E. May. Am Chem Soc J 44:650-1 Mr '22
Catalytic ammonolysis of beta-naphthol and chlorobenzene in the vapor state. A. M. Howald and A. Lowy. diags Ind & Eng Chem 15:397-401 Ap '23
Determination of beta-naphthol in alpha-naphthol and of alpha-naphthol in beta-naphthol. J. Prochazka. Ind & Eng Chem 15: 944-5 S '23
Developed dyestuffs. J. Rath. Color Tr J 12: 9-11 Ja '23

Naphtholsulfonic acid

Preparation of β -naphthol-4-sulphonic acid. G. T. Morgan and E. Jones. Soc Chem Ind J 42:97-8 Mr 16 '23

Naphthoquinols

Zur kenntnis der 1,2-naphthochinole. K. Fries. Deutsche Chem Gesell Ber 54:2925-30 N '21

Naphthoquinone

Dinaphtha-1:7:1':7'-diquinone. G. T. Morgan and D. C. Vining. Chem Soc J 119:1707-14 N '21
New green dyestuff from alpha-naphthoquinone; patent. Color Tr J 12:18-19 Ja '23

Naphthylamine

Alpha-naphthylamine. Chem Age 31:237 My '23
Analysis of beta-naphthylamine. H. R. Lee and D. O. Jones. J Ind & Eng Chem 14: 961-3 O '22
Catalytic ammonolysis of beta-naphthol and chlorobenzene in the vapor state. A. M. Howald and A. Lowy. diags Ind & Eng Chem 15:397-401 Ap '23

Preparation of beta-naphthylamine without isolation of intermediate beta-naphthol product. A. F. Campbell. Color Tr J 10:240-1 Je '22

Über die struktur der bei der oxydation der β -naphthylamin-azoester-additionsprodukte entstehenden verbindungen. O. Diels and H. Wackermann. Deutsche Chem Gesell Ber 55:2413-50 S '22

Naphthylarsinic acid

Sulfonated naphthylarsinic acid. A. E. Hill and A. K. Balls. Am Chem Soc J 44:2051-4 S '22

Naphthylnitroamine

α -naphthyl-nitramin und seine umlagerungen. E. Bamberger. Deutsche Chem Gesell Ber 55:3383-92 N '22

Naptha soap

Unfair sales methods furnish charge in Naptha soap dispute. Chem & Met Eng 28:1043 Je 11 '23

Narcotics

Narcotic situation reported to Geneva. Oil Paint & Drug Rep 102:20 Jl 10 '22

Prize awarded discoverer of harmless opiate. Pop Mech 37:41 Ja '22

Law

Jones-Miller narcotic bill comes to life. Oil Paint & Drug Rep 101:36e Ap 3 '22

Narcotic conference insists upon tighter sale and production laws. Oil Paint & Drug Rep 103:19 My 7 '23

Narcotic import limit is practically amount actually received last year. Oil Paint & Drug Rep 104:19 S 3 '23

Narcotic imports are not embargoed pending sale of government surplus. Oil Paint & Drug Rep 104:19 Jl 16 '23

Narcotic law interpretations summarized by U.S. bureau. Oil Paint & Drug Rep 102:61 Ag 14 '22

Narcotic law rules limit entry ports; text of regulations. Oil Paint & Drug Rep 102:19+ N 20 '22

Proposed model State narcotic act. Oil Paint & Drug Rep 104:11+ O 17 '23

Narcotine

Influence of papaverine on the optical activity of narcotine in acid solution. H. E. Annett. Chem Soc J 123:376-9 F '23

Narrows tunnel. See New York (city)—Harbor**Nash, Luther Roberts, 1871-**

Portrait. Elec W 82:368 Ag 25 '23

Nashville, Tennessee**Bridges**

Nashville concrete bridges show serious deterioration. il diags Eng N 87:934-8 D 8 '21

Rapid transit

Nashville traffic survey completed. maps Elec Ry J 59:395-402 Mr 11 '22

Streets

Nashville traffic survey completed. maps Elec Ry J 59:395-402 Mr 11 '22

Nashville, Chattanooga & St Louis railway

72d report, year ended December 31, 1922. Comm & Fin Chr 116:2003-4 My 5 '23
Statistics. map Ry Age 71:919 N 12 '21

Bibliography

Bibliography of the Nashville, Chattanooga and St Louis railway. 28p Library of Bureau of railway economics, Washington, D. C. '22 (Typew)

Nassau, Bahamas**Hotels**

New Colonial hotel. il plans Am Arch 123: 541-6e Je 20 '23

Nation planning

Seaports in nation and world planning. C. Kehr. Can Eng 43:461-2 O 17 '22

See also Regional planning

National academy of sciences

National focus of science and research. G. E. Hale. il plan (Reprint and Circ. Ser. 39) p. 515-30 25c National research council, 1701 Massachusetts av, Washington, D.C.
New home of the National academy of sciences. V. M. Whiting. il Sci Am 128:85 F '23; Same. Brass W 19:52 F '23

National advisory committee for aeronautics. See United States—National advisory committee for aeronautics**National aero congress**

2d National aero congress, Detroit, Oct. 12-13. Aviation 13:586-601 O 30 '22

National aeronautic association of the U.S.A.

Homogeneous air organization. B. H. Mulvihill. Aerial Age 16:131-2 Mr '23

Memorandum of chapters together with definitions, applications for charters and by-laws. Aerial Age 16:189-91 Ap '23; Same. Aviation 14:378-80 Ap 2 '23

National aeronautic association organized for the advancement of American aeronautics. Aerial Age 15:583-5 D '22

National aeronautic association's policy. H. E. Coffin. Aviation 14:553-5 My 21 '23

Officers and governors. Aviation 13:593-4 O 30 '22

Official bulletin. See weekly numbers of Aviation

Organization meeting at the second National aero congress, Detroit, Oct. 12-13. Aviation 13:586-90 O 30 '22; Aerial Age 15:553 N '22; Soc Auto Eng J 11:413-14 N '22

Progress of National aero association. Aviation 13:36-7 Jl 10 '22

2d annual convention, St Louis, Oct. 2. Aviation 15:508-20 O 22 '23; Soc Auto Eng J 13: 399-400 N '23

National agreements. See Railroads—Employees—National agreements and Labor board rules**National agricultural conference**

National agricultural conference at Washington. Comm & Fin Chr 114:363-70, 472-3 Ja 28-F 4 '22

National agricultural conference in the United States. Int Labour R 6:115-19 Jl '22

National air institute

National air institute, preliminary to the opening of the National air congress, held on Oct. 11 in Detroit. Aviation 15:594-601 O 30 '22

National association of brass manufacturers

Annual meeting, New York, Dec. 7. Sanitary & Heat Eng 98:362 D 15 '22

National association of building owners and managers**Building planning service**

New service available to architects in planning office buildings. Arch Forum 39:sup73 Ag '23

National association of commercial organization secretaries

8th annual meeting, Detroit, October 23-25. Nation's Business 10:52+ D '22

National association of cost accountants

Publications of the National association of cost accountants. Special Lib 14:46-7 Mr '23

National association of cotton manufacturers

Committee reports at Atlantic City convention. Textile World 62:2014c-d+ O 7 '22

Committee reports at N.A.C.M. convention, Boston. Textile World 61:2720b-c+ My 6 '22

Fall meeting, Atlantic City, Sept. 27-28. Textile World 62:1955-6+ O 7 '22

11th meeting, Boston. Textile World 60:2643+ N 5 '21

112th annual meeting, Boston, April 27-28. Textile World 61:2651-2+ My 6 '22

114th annual meeting, Providence, R.I. Textile World 63:2779-80+ Ap 28 '23

Papers and addresses at N.A.C.M. convention. Textile World 62:1995+; 63:2821+; 64:2653+ O 7 '22, Ap 28, N 3 '23

Textile show and convention, Boston, Oct. 31-Nov. 1. Textile World 64:2393+, 2634-5+ O 27-N 3 '23

National association of electrical contractors and dealers. See Association of electragists international**National association of farm equipment manufacturers**

29th annual convention, Chicago, Oct. 18-20. Iron Age 110:1067-8 O 26 '22

30th annual convention, Cleveland, Oct. 24-26. Automotive Ind 49:901-2 N 1 '23; Iron Age 112:1178-80 N 1 '23

National association of glue manufacturers

Meeting, Atlantic City, Dec. 10-11. Chem Age 31:71 F '23

National association of hosiery and underwear manufacturers

18th annual meeting, Philadelphia. Textile World 61:3113-14+ My 27 '22

19th annual convention, Philadelphia. Textile World 63:2243-4+, 2267-8+ Ap 7 '23

Bettering an entire industry's methods with simplification; work of National association of hosiery and underwear manufacturers. Il System 43:466-9 Ap '23

National association of ice industries

5th annual convention, Chicago, Oct. 11-14. Refrig W 57:13-24 O '22

National association of ice-cream supply men

Fair practices code of the National association of ice-cream supply men. R. Everett. System 43:342-3+ Mr '23

National association of manufacturers

Colonel Egan, N. A. M. founder, dies. W: M. Benney. Am Ind 22:23 F '22

Special tariff convention, Washington, Jan. 30-31. Am Ind 22:7-8, 41-4+ F '22

27th annual convention, New York city, May 8-10. Am Mach 56:760-a My 18 '22; Am Ind 22:7-18+ Je '22

28th annual convention, New York city, May 14-16. Am Mach 58:782b-c My 24 '23; Am Ind 23:5-47 Je '23

National association of master plumbers

40th annual convention, Detroit, Michigan, June 6-8. Dom Eng 99:501-19 Je 17 '22; Sanitary & Heat Eng 97:343-53+ Je 16 '22

41st annual convention, Atlantic City, June 26-28. Sanitary & Heat Eng 99:431-44 Je 29 '23; Dom Eng 104:3-21 Jl 7 '23

National association accomplishments. Sanitary & Heat Eng 99:254-5 Ap 20 '23

President's report. J: S. Irvine. Sanitary & Heat Eng 99:451-4 Je 29 '23

Resolutions adopted. Dom Eng 104:14-15 Jl 7 '23

Women's auxiliary 5th meeting, Atlantic City. Dom Eng 104:22-3 Jl 7 '23

Work of the National association. J: S. Irvine. Sanitary & Heat Eng 99:84-6 F 9 '23

National association of music merchants

Music trades convention, Chicago, June 4-7. Ptr Ink 123:148 Je 14 '23

National association of practical refrigerating engineers

Annual convention, Philadelphia, Nov. 30-Dec. 3. Power 54:946 D 13 '21

13th annual convention, St Louis, Nov. 1-4. Power 56:780-1 N 14 '22; Power Pl Eng 26:1131 N 15 '22; Refrig W 57:23-6 N '22

National association of purchasing agents

7th annual meeting, Rochester. Iron Age 109:1437-9 My 25 '22

8th annual convention, Cleveland, May 14-18. Iron Tr R 72:1550+ My 24 '23; Iron Age 111:1495-7 My 24 '23

National association of railway and utilities commissioners

Proceedings of the 34th annual convention, Detroit, Mich., Nov. 14-17, 1922. 454p State law reporting co., 233 Broadway, New York '23

34th annual convention, Detroit, Nov. 14-17. Elec Ry J 60:819-22, 851-2 N 18-25 '22; Elec W 80:1118-20, 1174-5 N 18-25 '22; Eng N 89:905 N 23 '22; Ry Age 73:926-7, 1001-6 N 18-25 '22; Bus Transportation 1:656-9 D '22; N E L A Bul 9:707-25 D '22

National association of sheet metal contractors

Annual convention, Indianapolis, Ind., May 16-19. Sheet Metal Worker 13:293-300 My 26 '22

19th annual convention, St Louis, June 26-29. Sheet Metal Worker 14:459-67+ Jl 6 '23

National association of stationary engineers

40th annual convention, Des Moines, Sept. 11-15. Power 56:474-5 S 19 '22; Power Pl Eng 26:974-8 O 1 '22

41st annual convention, Buffalo, Sept. 10-15. Power 58:474-6 S 18 '23; Power Pl Eng 27:1003-12 O 1 '23

National association of taxicab owners

Taxicab owners adopt code of ethics. Ptr Ink 120:58+ Jl 27 '22

National association of wool fibre manufacturers

Annual meeting, Boston, November 4. Textile World 60:2856-7 N 12 '21

National association of wool manufacturers

Annual meeting, Boston. Textile World 61:1037 F 11 '22

National association of woolen and worsted overseers

38th annual convention, Boston, November 19. Textile World 60:3095+ N 26 '21

39th annual meeting, Boston, Nov. 18. Textile World 62:3009+ N 25 '22

40th semi-annual meeting, Rocky Point, R.I. Textile World 63:3479-80 My 26 '23

National association of worsted and woolen spinners

5th annual meeting, Atlantic City, May 22. Textile World 61:3121-3+ My 27 '22

6th annual meeting, New York, May 10. Textile World 63:3145-6 My 12 '23

National automobile chamber of commerce

Problems frankly analyzed at N.A.C.C. service managers convention. Automotive Ind 45:1026-7 N 24 '21

Library

How a special library helps the automobile business. W. L. Powlison. Special Lib 13:165-7 N '22

National automobile dealers' association

Plain truths are spoken freely at N.A.D.A. Chicago convention. J. Dalton. Automotive Ind 48:259-61 F 8 '23

National better business commission

Meeting, Chicago, April 13-14. *Ptr Ink* 119:76 Ap 20 '22

Semi-annual meeting, Washington, Oct. 16-19. *Ptr Ink* 121:185+ O 26 '22

National biscuit company

Big drive on monthly leaders gets more sales for whole line. C. B. Larrabee. *il Ptr Ink* M 4:25-6 Ja '22

Glimpse into the works of the National biscuit company. *il Ind Eng* 81:174-5 Ap '23

How the National biscuit company controls 2,200 salesmen. C. B. Larrabee. *Ptr Ink* 118:3-4+ F 16 '22

National board for jurisdictional awards in the building industry

Activities of the National board of jurisdictional awards. R. P. Miller. *Mech Eng* 45:75 Ja '23

Industry's own arbitrators; what the National board for jurisdictional award has done. S. Bent. *Nation's Business* 10:16-17 Ap '22

National brick manufacturers' association

Influence and achievements along technical lines. T. A. Randall. *Am Cer Soc J* 6:224-6 Ja '23

National bureau of economic research

Bureau of economic research. *Ind Management* 63:54 Ja '22

National cash register company

Death of John H. Patterson of National cash register company. *Ptr Ink* 119:25-7+ My 11 '22

Manufacturing methods in making the National cash register. L. S. Love. *il Iron Age* 112:531-2, 677-81, 1105-9 Ag 30, S 13, O 25 '23

N.C.R.'s informal letters get large returns. E. P. Corbett. *Ptr Ink* 121:97-8+ N 2 '22

What 55 years in business taught me about managing. S. Crowther. *System* 42:533-7+, 688-91+; 43:48-51+, 169-72+, 318-22+, 454-8+, 601-5+, 758-62+; 44:36-40+, 162-6+, 287-92+, 445-9+, 587-91+, 745-50+ N '22-D '23

National coal association

National coal association, in convention, adopts labor platform; nationwide support given. *Coal Age* 21:935-6 Je 1 '22

6th annual convention, Atlantic City, June 19-22. *Coal Age* 23:1058-61 Je 28 '23

Speech of acceptance. J. C. Brydon. *Coal Age* 23:1062-3 Je 28 '23

National concrete stave silo association

6th annual convention, Chicago, Dec. 6-8. *Concrete* 20:34-5 Ja '22

7th annual meeting, Dec. 5-7. *Concrete* 22:23 Ja '23

National conference of business paper editors

Meeting at Middletown, Ohio. *Iron Age* 111:959-60 Ap 5 '23

National conference on city planning

15th annual conference, Baltimore, April 30-May 2. *Eng N* 90:842-3 My 10 '23

Papers and discussions on city planning presented at National conference, Springfield, Mass., June 5-7. *Eng N* 88:1002-4 Je 15 '22

National council of lighting fixture manufacturers

Fixture manufacturers, dealers and glassware guild hold successful conventions at Milwaukee, Jan. 30-Feb. 4. *Elec W* 79:310-11 F 11 '22

National country newspaper association

National country newspaper association. *Inland Ptr* 69:230 My '22

National district heating association

13th annual convention, Cedar Point, O., June 20-23. *Heat & Ven* 19:45-8 J1 '22; *Power* 56:30-1 J1 4 '22; *Sanitary & Heat Eng* 98:50-2 J1 28 '22

14th annual convention, Cedar Point, Ohio, June 20-22. *Power* 58:32-3 J1 3 '23; *Heat & Ven* 20:49-52 J1 '23

National drainage congress

Future of the drainage congress. J. W. Dapert. *Eng N* 89:900 N 23 '22

National drug trade conference

Eighth annual meeting. *Oil Paint & Drug Rep* 100:23+ sec 1 D 19 '21

National economic council (Germany). See Germany—National economic council**National electric light association**

45th convention, Atlantic City, May 15-19. *Elec Ry J* 59:872-4 My 27 '22; *Elec W* 79:991-1035 My 20 '22; *N E L A Bul* 9:323-65 Je '22

46th annual convention, New York city, June 4-8. *Power* 57:947-57 Je 12 '23; *Elec W* 81:1315-65 Je 9 '23; *N E L A Bul* 10:387-9+ J1 '23

Summary of reports of technical national committees for 1922. N. A. Carle. *Elec J* 19:179-81 My '22

Great Lakes division

Annual meeting, French Lick Springs, Ind., Sept. 27-29. *Elec W* 82:723-4 O 6 '23

Pacific coast division

Great Pacific coast convention. F. S. Myrtle. *N E L A Bul* 10:504-7 Ag '23

6th annual convention, Los Angeles, May 31-June 1. *Elec W* 79:1190 Je 10 '22; *J Elec* 48:503-8 Je 15 '22; *N E L A Bul* 9:421-5 J1 '22

7th annual convention, San Francisco, June 19-22. *J Elec* 51:7-12 J1 1 '23; *Power Pl Eng* 27:753-4 J1 15 '23

National electrical code

Changes in National electrical code. E. H. Hubert. *Ind Eng* 81:187-8+ Ap '23

Code at a glance. H. S. Wynkoop. 96p National assn. of electrical contractors and dealers, New York '21

Delay in changing the code. R. S. Hale. *Elec W* 82:102 J1 14 '23; *Discussion*. J: A. Hoeveler. 82:387 Ag 25 '23

Evolution of the code. C. M. Goddard. *Elec W* 80:551-3 S 9 '22

Major changes in National electrical code. *Elec W* 81:689-91 Mr 24 '23

N.E.L.A., on code revision. *Elec W* 81:594-5 Mr 10 '23

National electrical code. C. W. Mitchell. *J Elec* 51:212-13, 292-3 S 15, O 15 '23

Safety should not wait on the printer. R. S. Hale. *Elec W* 81:1037-8 My 5 '23

Trial installation under special supervision is going to meet the complaint that the National electrical code blocks new products. D. Pierce. *Elec W* 82:256-7 Ag 4 '23

Western inspectors recommend few changes in National electrical code. *Elec W* 79:300 F 11 '22

Wire sizes for motor circuits as required by the National electrical code. E. P. Slack. *diag Power* 55:129-30 Ja 24 '22

National electrical safety code

National electrical safety code and its relation to distribution. M. G. Lloyd. *diag Safety Eng* 44:22-5 J1 '22

National exposition of chemical industries. See Chemical industries—Exhibitions**National federation of construction industries**

5th annual meeting, Chicago, April 3-5. *Brick & Clay Rec* 60:611-12 Ap 18 '22

National federation of retail merchants, proposed

Federation of retailers' organizations is proposed. *Ptr Ink* 124:117 J1 12 '23

National fertilizer association

29th annual meeting, White Sulphur Springs, W. Va. *Oil Paint & Drug Rep* 101:20 Je 26 '22

Convention, White Sulphur Springs, W. Va., June 12-14. *Chem & Met Eng* 28:1105-8 Je 25 '23

Story of Reporter trade associations. J. D. Toll. *Oil Paint & Drug Rep* 101:17 Mr 28 '22

National fire protection association

Convention, Atlantic City, May 8-11. *Safety Eng* 43:240-1+ Je '22

27th annual convention, Chicago, May 8-10. *Safety Eng* 45:178-81 Je '23

National foreign trade convention

9th convention, Philadelphia, May 10-12. *Am Mach* 56:758-9 My 18 '22; *Iron Age* 109:1355-8 My 18 '22; *Iron Tr R* 70:1420-1 My 18 '22; *Am Ind* 22:33-4 Je '22; *Nation's Business* 10:57+ J1 '22

National foreign trade convention—Continued

Official report of the ninth National foreign trade convention, held at Philadelphia, May 10-12, 1922. 621p National foreign trade convention headquarters, New York '22
10th convention, New Orleans, May 2-4. Nation's Business 11:38 J1 '23

National foreign trade council

Lower production and selling costs needed to maintain prosperity. G: E. Quisenberry. Automotive Ind 48:1012-13 My 10 '23

National founders' association

25th annual convention, New York, Nov. 16-17. Iron Age 108:1348-50 N 24 '21; Iron Tr R 69:1366-7 N 24 '21
26th annual convention, New York, Nov. 22-23. Am Mach 57:866 N 30 '22; Iron Age 110:1413-17 N 30 '22; Iron Tr R 71:1502-3 N 30 '22

National gas council

5th annual general meeting. Gas J (Lond) 162:727-30 Je 20 '23

National good roads show

English engineer's impressions of the road show. Eng & Contr 57:118-19 F 1 '22
13th show. plans Good Roads 62:14-18, 19, 55-8 Ja 11, 25 '22

National hardware association

Autumn meeting of metal branch, Atlantic City, N.J., Oct. 19. Sheet Metal Worker 13: 660-1 O 27 '22
11th annual meeting, Cleveland, June 9-10. Sheet Metal Worker 13:367-70 Je 23 '22
12th annual meeting of the metal branch, Cleveland, May 25-26. Iron Age 111:1575-6 My 31 '23; Sheet Metal Worker 14:372+ Je 8 '23

National highway traffic association

Annual meeting, New York city, May 12. Good Roads 62:283-4 My 17 '22
Annual meeting, New York, May 10. Bus Transportation 2:298-9 Je '23

National industrial conference board

Conference board issues report on railroads. Ry Age 75:393-4 S 1 '23

National industrial council

9th semi-annual conference of the advisory committee and state industrial association executives, New York, May 11-13. Am Ind 22:35 Je '22

National industrial traffic league

Annual meeting, Chicago. Ry Age 71:999-1001 N 19 '21
Annual meeting, New York city, Nov. 15-16. Ry Age 73:981-3 N 25 '22
Annual meeting, Dallas, Tex., April 18-19. Ry Age 74:1067-8 Ap 28 '23

National knitted underwear association

Annual convention. Cleveland, Oct. 25-27. Textile World 64:2629-30, 2853-4+ N 3-10 '23
Committee reports at annual meeting in Chicago. Textile World 62:2155-6+ O 14 '22

National lead company

Facts for the stockholder. Eng & Min J 115:253 F 3 '23

National life insurance company building, Montpelier, Vermont

National life insurance company building, Montpelier, Vt. Arch Forum 38:205, pl 37-41 Ap '23

National lime association

4th annual convention, Cleveland, Ohio, June 13-16. Chem & Met Eng 26:1221-2 Je 28 '22; Concrete 21:sup6-7 J1 '22

5th annual convention, New York city, June 13-15. Chem & Met Eng 28:1112-13 Je 25 '23

National lime association organized for extensive research work. Munic Eng 65:sup17-18 Ag '23; Chem Age 31:372 Ag '23

National machine tool builders' association

Autumn meeting, Lenox, Mass., Oct. 2-4. Am Mach 59:570a O 11 '23; Iron Age 112:957-60 O 11 '23; Iron Tr R 73:1038-9 O 11 '23; Mach 30:183-4 N '23

Spring convention, Atlantic City, April 25-26. Iron Age 109:1139-41, 1210 Ap 27-May 4 '22; Am Mach 56:672-4 My 4 '22; Iron Tr R 70:1268-9 My 4 '22; Mach 28:707 My '22

20th spring convention, White Sulphur Springs, W.Va., May 9-11. Am Mach 58: 750e-g My 17 '23; Iron Age 111:1403-8 My 17 '23; Mach 29:776-7 Je '23

21st annual convention, Lenox, Mass., Oct. 3-5. Am Mach 57:590-1 O 12 '22; Iron Age 110:923-6 O 12 '22; Iron Tr R 71:1002 O 13 '22

21st annual convention, Lenox, Mass., Oct. 3-5. Mach 29:189-90 N '22

National marine engineers' beneficial association

47th annual convention, Washington, D.C., Jan. 16-21. Power 55:200 Ja 31 '22

48th annual convention, Washington, Jan. 15. Power 57:155 Ja 23 '23

National metal trades association

24th annual convention, New York, April 19-20. Am Mach 56:652 Ap 27 '22; Iron Age 109:1129-33 Ap 27 '22; Iron Tr R 70:1196-8 Ap 27 '22; Mach 28:712 My '22

25th annual meeting, New York, April 18-19. Am Mach 58:644b-c Ap 26 '23; Iron Age 111:1185-7 Ap 26 '23

National motor transport association

Constitution, by-laws and officers. Bus Transportation 1:660-1, 674-5 D '22

National museum. See United States—National museum**National oil shale conference**

American mining congress, Cleveland, O., Oct. 9-14. (Quarterly v. 17, no. 4, supp. B) 56p Colorado school of mines, Golden, Col. O '22

National paint, oil and varnish association

1st regional meeting of the Western zone, Portland, Ore., July 13-14. Oil Paint & Drug Rep 102:20 J1 17 '22

Regional meeting of western zone members, Del Monte. Oil Paint & Drug Rep 103:20 Je 25 '23

Story of Reporter trade associations. G: V. Horgan. Oil Paint & Drug Rep 101:21 Mr 28 '22

34th annual convention, Atlantic City, Oct. 24-27. Oil Paint & Drug Rep 100:3+ N 2 '21

35th annual convention, Atlantic City, Nov. 15-17. Oil Paint & Drug Rep 102:3+ N 23 '22

36th annual convention, Chicago, Oct. 17-19. Oil Paint & Drug Rep 104:29 O 1; 3+ O 30 '23

National paper trade association of the United States

Meeting, Chicago, Oct. 18. Paper Tr J 75:38+ O 26 '22

20th annual meeting, New York. Paper Tr J 76:317+ Ap 12 '23

Paper men hold conference in Chicago. Paper Tr J 77:62+ O 18 '23

National park-to-park highway

America's master scenic highway. il map Good Roads 65:80-1 S 5 '23

National parks and reserves

See United States—National park service

National personnel association

1st annual convention, Pittsburgh, Nov. 8-10. Am Mach 57:828a N 23 '22; Iron Tr R 71: 1357-8 N 16 '22; Ry R 71:763-4 N 25 '22

Meeting, New York, 1922. Management Eng 2:307 My '22

Organization meeting. Elec Ry J 60:270 Ag 19 '22

Personnel association activities. Ind Management 65:83 F '23

Name changed to American management association, March, 1923

National petroleum association

20th annual meeting, Atlantic City, N.J., Sept. 20-22. Oil Paint & Drug Rep 102:44d-g+ O 2 '22; Nat Pet N 14:21-2 S 27 '22

21st annual meeting. Oil Paint & Drug Rep 104:44e-g O 1 '23

21st annual meeting, Atlantic City, Sept. 19-21. W. C. Platt. Nat Pet N 15:28+ S 26 '23

National petroleum marketers association

Convention, Chicago, Oct. 10. Oil Paint & Drug Rep 102:47+ O 16 '22; Nat Pet N 14:17-18, 32a-d O 18 '22

National petroleum marketers association—Cont.

Jobbers in record-breaking convention re-elect Nicholas unanimously. *Nat Pet* N 15: 30-1, 32e-h O 31 '23

South Carolina oil jobbers meet to form an affiliation with the National petroleum marketers association. *Nat Pet* N 14:21-2 Ja 25 '22

Spring convention, Kansas City, April 4-7. *Nat Pet* N 14:17-21 Ap 12 '22

National physical laboratory, Teddington, England

Annual inspection and report. *Elec R* (Lond) 91:30-1 J1 7 '22; *Electrician* 89:12-13 J1 7 '22

Annual inspection. *Engineering* 115:809-11; 116:13-15, 59-60, 93-4, 121-2, 155-7 Je 29-Ag 3 '23; *Elec R* (Lond) 93:37, 75-6 J1 6-13 '23

Comments on the work of the National physical laboratory in 1921. *Engineering* 113:820-1; 114:7-9, 51-2, 84-6, 121-2, 133-5, 212-14, 230-1 Je 30-Ag 4, 18-25 '22

National pipe and supplies association

13th annual convention, Pittsburgh, May 16-17. *Dom Eng* 99:386-8 My 27 '22; *Sanitary & Heat Eng* 97:328-30 Je 2 '22

14th annual convention, Cincinnati, Ohio, May 15-16. *Sanitary & Heat Eng* 99:367-70 Je 1 '23; *Dom Eng* 103:390-2 My 26 '23

National publishers association

4th annual meeting. *Ptr Ink* 124:36 S 27 '23
Need of co-operation in the publishing industry. H. M. Swetland. *Ptr Ink* 120:69-72 S 28 '22

National radio chamber of commerce

Organization, Washington, July 26. *Elec W* 80: 354 Ag 12 '22

National radio conference

Uncle Sam and radio. G. H. Dacy. *il Sci Am* 126:375 Je '22

National railway service corporation

Bill for federal incorporation of National railway service corporation. *Comm & Fin Chr* 115:723 Ag 12 '22

Central clearing house agency as a remedy for car shortage. S. D. Warfield. *Comm & Fin Chr* 116:137 Ja 13 '23

National research council

Engineering foundation; Division of engineering, of National research council: their origin, work, plans, needs. A. D. Flinn. *Am Soc C E Pro* 49:518-23 Mr '23

From grasshopper to man. J. B. Morrow. *Nation's Business* 11:48+ F '23

National research council fellowships in physics and chemistry. *J Ind & Eng Chem* 14:565-7 Je '22

National research council to coordinate research throughout country. *Mech Eng* 44: 114-18 F '22

Partial list of the publications of the National research council to January 1, 1922. (Reprint and Circ. Ser. 25) 15p '22 25c National research council, 1701 Massachusetts av, Washington, D.C.

Advisory board on highway research

Highway research board meets, Jan. 16. *Eng N* 88:125+ Ja 19 '22

Proceedings of 2d annual meeting of the Advisory board on highway research division of engineering, National research council, Washington, Nov. 23, 1922. W: K. Hatt. *Nat Research Council Bul* v 6, pt 1:1-89 My '23

2d annual meeting, Washington, Nov. 23-24. *Soc Auto Eng J* 12:129 Ja '23

Division of geology and geography

Functions of the Division of geology and geography of the National research council. N. M. Fenneman. (Reprint & Circ. Ser. 43) 7p '22 20c National research council, 1701 Massachusetts av, Washington, D.C.

Research information service

Informational needs in science and technology. C. L. Reese. *J Ind & Eng Chem* 14:364-8 My '22

Research information service. R. M. Yerkes. *Special Lib* 12:207-9 N '21

The National research council has a research information service which is a clearing house for information about the mathematical, physiological and biological sciences and their applications in industry, commerce and education. No charge is made for replies to inquiries which do not necessitate a special search.

National retail coal merchants' association

6th annual convention, Scranton, June 25-28. *Coal Age* 23:1065; 24:23 Je 28-J1 5 '23

National rivers and harbors congress

17th convention, Washington, D.C., March 1-2. 208p S. A. Thompson, 824 Colorado bldg., Washington '22

National safety council

Annual safety congress program. *Safety Eng* 44:90-3 Ag '22

Resolution endorsing a safety platform for 1923. *Blast F & Steel Pl* 10:519 O '22

10th annual meeting, 1921, Boston. Monthly Labor R 13:1316-18 D '21

11th annual congress, Detroit, Mich., Aug. 28-Sept. 1. *Iron Tr R* 71:659+ S 7 '22; *Ry Age* 73:467-8 S 9 '22; *Coal Age* 22:411-12, 450-2 S 14-21 '22; *Elec Ry J* 60:362-5 S 9 '22; *Safety Eng* 44:107-10 S '22

12th annual congress, Buffalo, Oct. 1-5. *Automotive Ind* 49:752-3 O 11 '23; *Coal Age* 24: 629-32 O 25 '23; *Iron Age* 112:979-81 O 11 '23; *Iron Tr R* 73:1035-7 O 11 '23; *Safety Eng* 46:170-3 O '23; *Nat Safety N* 8:9-10 N '23

National school supply association

Illiteracy—a target for advertising; Better schools league plans. *Ptr Ink* 124:25-6 J1 26 '23

National shrine of the Immaculate Conception.

See Washington, D.C.—Churches

National slate association

Slate association votes for advertising campaign. *Ptr Ink* 122:131 F 1 '23

National steel fabricators' association.

See American institute of steel construction

National supply and machinery dealers' association

17th annual convention, Atlantic City, N.J., May 8-10. *Am Mach* 56:760c My 18 '22; *Iron Age* 109:1364+ My 18 '22

Convention, Cincinnati, May 17-19. *Iron Tr R* 72:1545-6 My 24 '23; *Am Mach* 55:782d My 24 '23; *Iron Age* 111:1491-2+ My 24 '23

National team and motor truck owners' association

Better to run trucks until junked than to trade for new vehicles. D: Beecroft. *Automotive Ind* 49:12-13 J1 5 '23

National trade extension bureau

Activities of the National trade extension bureau. W: J. Woolley. *Sanitary & Heat Eng* 99:467-70 Je 29 '23

Dealer education work of one association. *Ptr Ink* 118:136+ Ja 12 '22

Program for 1922. *Sanitary & Heat Eng* 97: 12-13 Ja 13 '22

Report. W. J. Woolley. *Sanitary & Heat Eng* 97:350-1 Je 16 '22

2d conference of advertising and sales managers. *Sanitary & Heat Eng* 96:323-4 N 18 '21

Trade extension. W: C. Groeniger. *Sanitary & Heat Eng* 98:188-9 O 6 '22

Trade extension bureau for 1922. R. E. Maloney. *il plan Dom Eng* 102:22-3 Ja 6 '23

National transportation institute

National transportation institute advocated. *Ry Age* 73:1131-2 D 16 '22

National transportation institute begins work. *Ry Age* 75:771-2 O 27 '23

National transportation institute strongly endorsed. *Ry Age* 73:29-30 J1 1 '22

National transportation institute's plan for organized work. J: W. Gorby. *Ry R* 73:495-7 O 6 '23

Plans for National transportation institute. *Am Mach* 56:908c Je 15 '22

Proposed National transportation institute. *Ry Age* 73:1120 D 16 '22; *Ry R* 71:862-5 D 16 '22

National transportation institute—*Continued*
Transportation institute seeks incorporation.
Ry Age 74:1015 Ap 21 '23

National varnish manufacturers' association
19th annual meeting, Chicago. Oil Paint &
Drug Rep 100:23+ sec 1 N 21 '21
20th annual meeting, Atlantic City, Nov. 13.
Oil Paint & Drug Rep 102:79+ N 23 '22
21st annual meeting, Chicago, Oct. 15. Oil
Paint & Drug Rep 104:67+ O 30 '23
Story of Reporter trade associations. G. B.
Heckel. Oil Paint & Drug Rep 101:21 Mr
28 '22

National war labor board. See United States—
National war labor board

**National warm-air heating and ventilating
association**

9th annual meeting, Cleveland, Ohio, April
19-20. Sheet Metal Worker 13:223-5 Ap 28
'22; Heat & Ven 19:51-2 My '22

10th annual meeting, Cleveland, April 18-19.
Sheet Metal Worker 14:260-1+ Ap 27 '23

National wholesale druggists' association
49th annual convention, Cleveland, Ohio, Oct.
8-11. Oil Paint & Drug Rep 104:21 S 24; 3+
O 17 '23

Story of Reporter trade associations. C. H.
Waterbury. Oil Paint & Drug Rep 101:19
Mr 28 '22

National wholesale dry goods association
18th annual convention. Textile World 61:
305 Ja 21 '22

19th annual convention, New York. Textile
World 63:337 Ja 20 '23

National women's trade-union league of America
8th biennial convention, Waukegan, Ill., June
5-10. Monthly Labor R 15:423-5 Ag '22

Natural bridges. See Bridges, Natural
Natural dyes. See Dyes and dyeing—Natural
dyes

Natural gas. See Gas, Natural

**Natural gas and petroleum association of Can-
ada**

3d annual convention, Hamilton, Ontario, Oct.
21. Gas Age 48:638 N 12 '21

Natural gas association of America
Adopt new constitution for N.G.A. W. V.
Turner. Gas Age 49:643-6 My 27 '22

18th annual convention in Louisville is big
success; Cleveland in 1924. L. E. Smith.
Nat Pet N 15:32a+ Ap 25 '23

Natural gasoline manufacturers, Association of.
See Association of natural gasoline manu-
facturers

Natural history museums

Behind the scenes in a great museum. J. T.
E. Jones. Il Pop Mech 40:409-13 S '23

Evolution in museum technique. Il Sci Am
126:399 Je '22

Heads and horns museum, New York city.
Arch & Bldg 54:81, pl 139-40 Ag '22

See also New York (city)—American mu-
seum of natural history

Natural resources

Trade association's relation to natural re-
sources. Paper 32:11-12 S 12 '23

See also Coal; Forests and forestry; Gas,
Natural; Mines and mineral resources; Peat;
Petroleum; Reclamation of land; Water
power; Water supply

Natural resources, Conservation of. See Con-
servation of resources

Natural steam. See Steam, Natural

Nautical instruments

Finds ship position by machine. Il Marine R
52:432-3 O '22

Navajo mines. See Coal mines and mining—
New Mexico

Naval architects, Institution of. See Institution
of naval architects

Naval architecture

Naval architecture; a first course in ship cal-
culations. W. M. Gray. 201p Methuen & co.,
London '23

Ocean travel by combined steamship and air-
plane. Il Sci Am 129:5, 16 Jl '23

Only ships best meeting requirements are
efficient. J. L. Bates. Marine Eng 28:474-
6 Ag '23

Remarks on some of the present-day prob-
lems in the design of ships. A. C. F.
Henderson. Engineering 115:383-4 Mr 23 '23;
Same cond. Engineer 135:334-5 Mr 30 '23;
Discussion. Engineering 115:373-4 Mr 23 '23;
Engineer 135:335-6 Mr 30 '23

Theoretical naval architecture. E. L. Att-
wood. New ed. 512p Longmans '22

See also Airplane carriers; Barges; Boats;
Bulkheads (naval architecture); Fire boats;
Freight ships; House boats; Load line;
Marine engineering; Motor ships; Propell-
ers; Salvage ships; Ship propulsion; Ship
resistance; Shipbuilding; Ships; Ships, Con-
crete; Steamboats; Submarine boats; Tank
ships; Torpedo boat destroyers; Torpedo
boats; Towboats; Warships; Yachts

Designs and plans

Big U.S. built motorship, the Californian. Il
plans Marine R 52:229-31 Je '22

Builds fur carrier for Hudson Bay trade.
plans Marine R 52:467-8 N '22

Canadian Pacific coastwise steamer Princess
Louise. R. Allan and A. F. Menzies. Il diags
plans Marine Eng 27:483-93 Ag '22

Canadian-Pacific liner Empress of Canada. Il
diags Engineering 114:255-8, 317-20, 333, 385-
8, pl 19-24, 26, 28-31 S 1, 15, 29 '22

Cargo steamer steel traveler of 10,050 tons D.
W. diags plans Marine Eng 27:547-52 S '22

Coastal motor boats (C.M.B.s); their design
and service during the war. J. E. Thorny-
croft and Bremner. Engineering 115:393-5,
pl 26 Mr 30 '23; Same cond. Engineer 135:
345-6+ Mr 30 '23; Discussion. Engineering
115:372-3 Mr 23 '23

Convert freighter to lay cable. R. C. Hill.
diags plans Marine R 53:4-6 Ja '23

Cunard twin-screw geared turbine steamer
Franconia. Engineering 115:651-2, 680 pl 39-
40 My 25-Je 1 '23

Diesel-engined ferry boat for motor cars. Il
diags plans Engineer 136:80-1 Jl 20 '23

Dutch river lighters. A. M. Schippers. diags
map Engineering 116:311-14 S 7 '23

Express passenger and freight steamship
Haleakala. Il plans Marine Eng 28:149-56
Mr '23

Express steamers ordered for Eastern steam-
ship line. plans Marine Eng 23:156-8 Mr
'23

Freight and passenger vessel for Florida
service; Mobile shipyard building wooden
motorship, reinforced with steel. diags plan
Marine Eng 27:788-9 D '22

Great Eastern railway steamer Malines. diags
Engineering 113:387-8, 394, 453, 458, pl 18,
20 Mr 31, Ap 14 '22

Great Lakes freighter Frontenac. diags plans
Marine Eng 28:536-9 S '23

Hamburg-American liner Albert Ballin. Il diags
Engineer 136:271-2, 273, 299-302 S 14-21 '23

Machinery of the T.S.S. Cuba; Compagnie
générale transatlantique. Il diags Engineer-
ing 116:112-13, 116, pl 9-11 Jl 27 '23

Motor passenger liner Domala. Il diags plans
Marine Eng 27:100-6 F '22

Motor yacht Flying Cloud. Il diags Engineer
136:50-3 Jl 13 '23

Motorships for both lake and coastwise ser-
vice. Il diags plans Marine Eng 28:594-7 O
'23

New American motorships Californian and
Missourian. Il diags plans Marine Eng 27:
93-9 F '22

New Australian liner Moreton Bay. Il diags
plans Marine Eng 27:422-8 Jl '22

New coastwise steamships Alleghany and
Berkshire. Il plans Marine Eng 28:328-37 Je
'23

New Savannah liner, City of Chattanooga,
added to Atlantic coastwise fleet. Il diags
plans Marine Eng 28:696-702 N '23

New 17,200-ton anchor liner Tuscania. diags
plans Marine Eng 27:613-20 O '22

New vessels for Savannah line. diags Marine
R 53:77-9 F '23

Naval architecture—Designs and plans—Cont.

- Le nouveau paquebot Majestic (ex-Bismarck). P. Calfas. *Il plan Génie Civil* 81:101-5, pl 5 J1 29 '22
- Passenger and cargo steamship City of Nagpur. *Il diag plans Marine Eng* 28:80-5 F '23
- Peninsular and oriental liner Mongolia. *Il diag Engineering* 116:231-4, pl 15-17 Ag 24 '23
- Proposed Diesel-electric vessel. A. H. Jansson and T. A. Gamon. *diag Marine R* 53: 188-91 My '23
- Reconditioning of the President Buchanan. *diag plans Marine Eng* 28:217-21 Ap '23
- Reconditioning of the steamship Leviathan. *il plans Marine Eng* 27:673-85 N '22
- Sea-going dredge of 1250 cubic yards capacity. T. R. Vogel and L. D. Norsworthy. *diag Marine Eng* 27:232-6 Ap '22
- Shallow draft refrigerator steamers. *diag plans Marine Eng* 27:173-7 Mr '22
- Special service vessel Sir Frederick Dumayne for Calcutta. *il Engineering* 113:520, pl 22 Ap 28 '22
- Steam yacht Restless. *il plans Engineer* 136: 155 Ag 10 '23
- Stern-wheel towboat for Mississippi river service. *diag plans Marine Eng* 27:369-71+ Je '22
- Supply ship for Commercial Pacific cable company. *diag plans Marine Eng* 28:92-5 F '23
- Twin-screw geared turbine Cunard steamer Samaria. *il Engineering* 115:8-9, 16, 40, pl 1-4 Ja 5-12 '23
- Twin-screw steamships Aconcagua and Teno. *il plans Engineering* 115:487-90, 496, pl 32 Ap 20 '23
- Twin-screw turbine steamer Albert Ballin. I. E. Foerster. *il diag plans Marine Eng* 28: 457-70 Ag '23
- Two excursion steamers built for the Wilson line. *il diag plans Marine Eng* 28:526-35+ S '23
- White Star liner Majestic. *il diag Engineering* 114:3-5, pl 1-6 J1 7 '22

Study and teaching

See Naval education

Subdivision

See Bulkheads (naval architecture)

Tables, calculations, etc.

- Economic efficiency of merchant ships. J. Tutin. *Marine Eng* 27:386-90+ Je '22
- Influence of the bulbous bow on resistance. D. W. Taylor. *Marine Eng* 28:540-8 S '23

Naval art and science

Tactical relations between different classes of men-of-war and their embodiment in design; abstract. W. L. Rodgers. *Marine Eng* 26:900-1 D '21

See also Marine engineering; Marine engineers; Navies; Navigation; Sea power; Seamen; Shipbuilding; Signals and signaling

Bibliography

Classified analytical index to the proceedings of the United States naval institute, March 1902-October 1919. J. M. Saunders. 171p United States naval institute, Annapolis, Md. '21

Naval education

South Kensington royal school of naval architecture—1864-1873. *Engineering* 116:101-3 J1 27 '23

Naval guns

- Adapting the double-barrel idea to naval gunnery. *il Sci Am* 127:161 S '22
- Elevation and range of British naval guns. H. C. Bywater. *Sci Am* 129:26+ J1 '23
- First, and last, 18-inch naval gun. H. C. Bywater. *il Sci Am* 126:234+ Ap '22
- World's biggest naval gun tested at Aberdeen. *il Pop Mech* 36:805 D '21

Manufacture

- Naval gun factory at Washington, S. G. Koon. *il diag Iron Age* 110:87-90 J1 13 '22
- Naval oil reserves. See Oil reserves (U.S. navy)
- Naval stores**
- Key industry of the South; utilizing wood waste from turpentine production and converting it into kraft paper. H. W. Holcombe. *Paper* 32:13-11 Je 27 '23
- Manufacture of naval stores from the dead wood of the Southern pines. C. M. Sherwood. *il Chem & Met Eng* 25:994-8 N 30 '21; Discussion. 26:148-9 Ja 25 '22
- Naval-stores accounting. V. E. Bennett. *J Account* 33:22-31 Ja '22
- Naval stores: market review. *Oil Paint & Drug Rep* 103:50-1 Mr 29 '23
- Progress in the chemistry of naval stores, 1920-1921. F. P. Veitch and V. E. Grotlich. *bibliog J Ind & Eng Chem* 14:781-4 S '22
- Report of naval stores committee. *Oil Paint & Drug Rep* 100:46 N 2 '21
- See also Tar; Turpentine

Bibliography

Progress in the chemistry of naval stores, 1920-1921. F. P. Veitch and V. E. Grotlich. *J Ind & Eng Chem* 14:784 S '22

History

History of naval stores. *Oil Paint & Drug Rep* 101:29 Mr 28 '22

Prices

Naval stores markets. See weekly numbers of Oil paint and drug reporter

Navies

L'évolution des constructions navales depuis 30 ans. Laubeuf. *Génie Civil* 80:83-7 Ja 28 '22

Future structure of sea power. *Engineering* 116:533-4 O 26 '23

Limitation of naval armaments. *Engineer* 132:541-2 N 18 '21

Naval construction in 1921. *Engineer* 133:48-9 Ja 13 '22

Naval construction in 1922. *Engineer* 135:6-7 Ja 5 '23

Naval disarmament proposals. *Engineering* 112:704 N 18 '21

Naval ratio agreement between the United States, Great Britain and Japan. *Comm & Fin Chr* 113:2559 D 17 '21

Naval strength of five great powers as allowed for next 20 years. *Marine R* 52:119 Mr '22

Reduction of naval armaments. *Engineering* 112:858 D 23 '21

Ten-year naval holiday. *il Sci Am* 126:95-6 F '22

See also Coaling stations; Disarmament; Naval art and science; Sea power; Submarine boats; Warships; also subdivision Navy under names of countries, e.g. Great Britain—Navy; United States—Navy; also Conference on the limitation of armaments—Five-power naval treaty

Navigation

International navigation congress. *Engineer* 136:10-12, 38-40, 65-7 J1 6-20 '23; *Engineering* 116:20-5, 42-6, 73-8 J1 6-20 '23; *Can Eng* 45:274-5 Ag 28 '23

Position finding at sea based on the method of De Aquino. G. F. Chase. 17p Van Nostrand '23

Practical advanced navigation. C. H. Cugle. 53p Dutton '22

Safeguards navigation by sound. H. C. Hayes. *Marine R* 51:404-5, 466-8+, 493-5; 52:411-14 S-N '21, O '22

Ship control on modern battleships. A. M. Charlton. *il diag plan Marine Eng* 27:198-200+ Mr '22

Standard seamanship for the merchant service. F. Riesenbergh. 942p Van Nostrand '22

Navigation—Continued

XIII^e Congrès international de navigation. P. Barrillon. diags Génie Civil 83:253-6, 273-8, 297-300, 320-3 S 15-O 6 '23

See also Azimuth; Direction finding apparatus; Fog signals; Harbors; Hydrographic surveying; Lighthouses; Load line; Maritime law; Motor boats; Nautical instruments; Oil removal from harbors etc.; Oil waste; Pilots and pilotage; Radio beacons; Rivers; Safety at sea; Sextant; Shipbuilding; Shipping; Signals and signaling; Steamboats; Steering gear; Submarine boats; Tides; Waterways; Yachts; also International congress of navigation

Navigation, Aerial. See Aeronautics; Aviation

Navigation, Inland. See Waterways

Navigation congress, International. See International congress of navigation

Navigation laws. See Maritime law

Near East

New slant on the Near East. B. Miles. Nation's Business 11:31-2 Mr '23

Situation in the Near East. Comm & Fin Chr 115:1489-91 S 30 '22

Near East conference, Lausanne, 1922-23

End of Lausanne conference near. Comm & Fin Chr 116:470-2, 563-5 F 3-10 '23

Near East treaty signed at Lausanne. Comm & Fin Chr 117:395-6 J1 28 '23

Nebraska

See also Roads—Nebraska

Capitol

Nebraska state capitol. B. G. Goodhue. il Am Arch 121:375-81 My 10 '22

Neckties**Advertising**

Capitalizing novel feature sells in loaded market; Standard neckwear co. introduces new tie. J. M. Mosely. Ptr Ink 119:89-90+ My 11 '22

Neem oil

Odorous and bitter constituents of neem oil. E. R. Watson, N. G. Chatterjee and K. C. Mukerjee. Soc Chem Ind J 42:387-9 S 28 '23

Negatron

Negatron: a new negative resistance device for use in wireless telegraphy. J. Scott-Taggart. il diags Engineering 112:534-5 O 21 '21; Same abr. Wireless Age 9:22-4 Ja '22; Abstracts. Elec R (Lond) 89:449 S 30 '21; Electrician 87:386 S 23 '21

Negligence

Contributory negligence defined in legal decisions. J. Simpson. Gas Age 52:363-7 S 29 '23

Law for the motorist at railroad crossings; rights and duties of automobilists and others, as defined in recent state and federal court decisions. Ry Age 75:761-5 O 27 '23

Leakages and explosions decisions of gas company cases tried during the past three years. J. Simpson. Gas Age 50:663-5+ N 11 '22

See also Carriers; Damages; Employers' liability; Manufacturers' liability; Occupations, Dangerous

Negotiable Instruments

Cases on the law of bills and notes, selected from decisions of English and American courts. H. L. Smith and W. U. Moore. 2d ed. 847p West pub. co., St Paul '22

Domestic and foreign exchange. I. B. Cross. 572p Macmillan '23

Law of negotiable instruments. J. M. Ogden. 2d ed. 848p Callaghan & co., Chicago '22

Negotiable instruments. 480p American Institute of banking, New York '22

See also Acceptances; Bonds; Checks; Letters of credit

Negro salesmen. See Salesmen, Negro

Negroes

Next great problem, Africa and her people. Comm & Fin Chr 114:2066-7 My 13 '22

Directories

Simms' blue book and national negro business and professional directory. 305p J. N. Simms, 3532 S. State st., Chicago '23

Employment

Economic condition of the negro in West Virginia. Monthly Labor R 16:713-15 Ap '23

Negro women in industry. U S Women's Bur Bul 20:1-65 '22

Selected articles on the negro problem. J. E. Johnsen, comp. p 259-79 H. W. Wilson co. '21

See also Missouri—Negro industrial commission

Migration

Careful selection of negroes urged. L. W. Moffett. Iron Age 112:892-3 O 4 '23

Migration of the negro to the Northern states. Comm & Fin Chr 117:160-2 J1 14 '23

Negro migration. Monthly Labor R 16:1186-7 Je '23

Negro migrations and migrants. Monthly Labor R 14:42-8 Ja '22

Our immigrant, the negro. A. J. Hain. il Iron Tr R 73:730-6 S 13 '23

Neilson, Reid and company, Hyde Park locomotive works

Short histories of famous firms; Messrs. Neilson and co. (subsequently Neilson, Reid and co.), Hyde Park locomotive works, Glasgow. E. L. Ahrons. il Engineer 134: 570-2, 580 D 1 '22

Neish, Arthur C.

President-elect, Canadian institute of chemistry. por Can Chem & Met 7:143-4 Je '23

Nela Park, Cleveland, Ohio

Development of an industrial group—new buildings at Nela Park in Cleveland, M. Price. il plans Arch Rec 53:382-95 My '23

Neo-arsphenamine. See Neosalvarsan

Neodymium

Wave length measurements in the arc spectra of neodymium and samarium. C. C. Kiess. U S Bur Stand Sci Pa 442:201-19 '22

Neolin soles

Right marketing plan routs injurious competition; manufacturers of Neolin soles adopt policy that heads off imitations. H. E. Agnew. Ptr Ink 118:122+ F 9 '22

Neon

Frequency of the electrons in the neon atom. L. St C. Broughall. diags Philos Mag 6th ser 43:339-44 F '22

Static electrical charges detected by neon tester. B. E. Shackelford. Chem & Met Eng 26:703 Ap 12 '22

Theoretical aspects of the neon spectrum. L. St C. Broughall. diags Philos Mag 6th ser 44: 204-14 J1 '22

See also Argon

Neon lamps. See Electric lamps, Neon

Neosalvarsan

Examination of neoarsphenamine; the constitution of the French drugs. A. D. Macallum. Am Chem Soc J 44:2578-82 N '22

Salvarsan and neosalvarsan. Sci Am 126:393 Je '22

Toxicity of neo-arsphenamine. M. C. Hart and W. B. Payne. diags Am Chem Soc J 44:1150-60 My '22

United States selling price upheld in neosalvarsan case. Am Dyestuff Rep 12:702-4 S 24 '23

Analysis

Estimation of sulfate in neoarsphenamine. E. Elvove. J Ind & Eng Chem 14:624-5 J1 '22

Nephelometer

Simple theory of the nephelometer. P. V. Wells. Am Chem Soc J 44:267-76 F '22

Nernst effect

Effect of tension on change of resistance and thermoelectromotive force by transverse magnetization. A. W. Smith. Phys R 22: 58-65 J1 '23

Nervous system

Nature of the nerve impulse. C. S. Sherrington. *Sci Am* 128:251 Ap '23

Netherlands

Trade statistics of Holland. *Elec R* (Lond) 92:671 Ap '27 '23

See also Automobile industry and trade—Netherlands; Cost of living—Netherlands; Electric industries—Netherlands; Gloethoorn, Netherlands; Housing—Netherlands; Machine tool industry—Netherlands; Printing—Netherlands; Railroads—Netherlands; Steel works—Netherlands; Unemployment—Netherlands; Zuider Zee

Economic conditions

Profound changes in the economic structure. J. Gerritsz. *Annalist* 22:273-4 Ag '27 '23

Foreign relations**Belgium**

Economic aspects of the tension existing between Holland and Belgium. C. Hervy-Cousin. *Annalist* 21:791+ Je 11 '23

Nets

One-man fish net spreads like a huge fan. *il Pop Mech* 40:441 S '23

Neumann bands

Neumann bands as evidence of action of explosives upon metal. F. B. Foley and S. P. Howell. *Min & Met* 189:53-4 S '22

Neutralization, Heat of. See Chemical reactions, Heat of

Nevada

See Geology—Nevada; Gold mines and mining—Nevada; Mines and mineral resources—Nevada; Mining industry and finance—Nevada; Silver mines and mining—Nevada

Nevada consolidated copper company

Facts for the stockholder. *Eng & Min J* 115:649 Ap '23

Never-stop train system. See Electric railroads—Automatic operation

New Bedford, Massachusetts**Water supply**

Description of New Bedford water system. S. H. Taylor. *N E Water Works Assn J* 36:370-7; Discussion. 377-84 S '22

New Bedford textile school

Graduation. *Textile World* 61:3510-12+ Je 10 '22

New Bedford textile school graduates 139. *Textile World* 63:3927+ Je 16 '23

New Brunswick

See Hydroelectric plants—New Brunswick

New Cornelia copper company

Story of the New Cornelia. T. A. Rickard. *Eng & Min J* 115:7-10 Ja 6 '23

New England

New England at the crossroads. H. R. Simonds. *Iron Tr R* 70:464-7 F 16 '22

See also Electricity supply—New England; Railroads—New England

Industries and resources

Commercial granites of New England. T. N. Dale. *il diags maps U S Geol S Bul* 738:1-488, pl 1-34 '23

Some industries of New England. 70p State street trust co., Boston '23

Why manufacturing location has not hindered Carter's ink. W. H. Greenleaf. *Ptr Ink* 125:185+ O 4 '23

New England association of advertising clubs

3d annual convention, Providence, Nov. 16-18. *Ptr Ink* 121:141-2 N 23 '22

4th annual convention. *Ptr Ink* 125:174+ O 4 '23

New England association of gas engineers

52d annual convention, Boston. R. O. Jasperson. *Gas Age* 49:189-90 F 18 '22

52d annual meeting, Boston, Feb. 15. *Am Gas J* 116:172-3 F 18 '22

New England foundrymen's association

26th annual meeting, Boston, Jan. 11. *Am Mach* 56:84g Ja 12 '22

New England newspaper association

Annual meeting, Boston, May 16. *Ptr Ink* 119:72 My 25 '22

New England street railway club

New England club meeting, Boston, Oct. 25. *Elec Ry J* 62:787-9 N 3 '23

New England water works association

Annual convention, New Bedford, Mass., Sept. 12-15. *Pub Works* 53:188-90 O '22

42d annual convention, Burlington, Vermont, Sept. 18-21. *Eng N* 91:515-17, 528 S 27 '23; *Eng & Contr (W W)* 60:572-3 S 12 '23; *Pub Works* 54:318-22 O '23

New Hampshire

See Electric plants (central stations)—New Hampshire; Geology—New Hampshire; Hydroelectric plants—New Hampshire

New Jersey

See also Iron mines and mining—New Jersey; Iron ores—New Jersey; Mines and mineral resources—New Jersey; Motor bus lines—New Jersey; Potash—New Jersey; Roads—New Jersey; Street railroads—New Jersey

Industrial safety museum

New Jersey's contribution to safety and fire prevention; the achievements of Lewis T. Bryant, John Roach and the New Jersey state industrial safety museum. A. C. Caruthers. *il Safety Eng* 46:6-10 Ji '23

Industries and resources

Chemical preeminence of New Jersey. *Chem Age* 29:484 D '21

New Jersey, Public service corporation of. See Public service corporation of New Jersey

New Jersey zinc company

Facts for the stockholder. *Eng & Min J* 115:342 F 17 '23

New Mexico

Prospective oil field of New Mexico; its history and setting. J. J. Moroney. *Nat Pet N* 15:41-2+ Ji 25 '23

See Coal mines and mining—New Mexico; Copper mines and mining—New Mexico; Geology—New Mexico; Gold mines and mining—New Mexico; Iron ores—New Mexico; Mines and mineral resources—New Mexico

New Orleans, Louisiana**Architecture**

Ornamental ironwork of New Orleans. I. T. Frary. *il Am Arch* 124:56-8 Ji 18 '23

Harbor

Canal joins Mississippi and Pontchartrain. T. E. Dabney. *il Pop Mech* 39:532-4 Ap '23

Find new gulf outlet for Mississippi. *il map Marine R* 52:347-9 Ag '22

Mississippi valley a world feeder. W. Parker. *il Am Ind* 23:9-13 My '23

New Orleans' big port improvement. S. G. Roberts. *il plan Sci Am* 127:236 O '22

New Orleans learns the lesson of this year's flood; entire commercial river front being raised. T. E. Dabney. *il diag Pop Mech* 38:369-73 S '22

New Orleans navigation canal nears completion. *map Mech Eng* 44:271 Ap '22

Port development problem of the lower Mississippi. S. M. Young. *diags Am Soc C E* Pro 49:1177-84 Ag '23

Port of New Orleans. J. F. Coleman. *diags map plan Am Soc C E* Pro 49:1167-76 Ag '23

Ports of the nation—New Orleans. W. Parker. *il Am Ind* 23:33-7 Ag '22

Rapid transit

Belt lines abandoned and through routes established; second section of Beeler report. *maps Elec Ry J* 61:885-7 My 26 '23

Canal street rearrangement, New Orleans. *plans Elec Ry J* 61:925-7; 62:427 Je 2, S 15 '23

New Orleans, Louisiana—Rapid transit—Cont.

Compromise in New Orleans; valuation of \$44,700,000 and rate of return at seven and one-half per cent sustained. Elec Ry J 59: 651 Ap 15 '22

Financial aspects in New Orleans report. Elec Ry J 61:1079-81 Je 30 '23

Proposed service improvements in New Orleans. Elec Ry J 61:961-4 Je 9 '23

Reorganization. Elec Ry J 59:1013; 60:143 Je 24, Jl 22 '22

Sweeping changes recommended in New Orleans. map plan Elec Ry J 61:716-19 Ap 28 '23

Traffic survey in New Orleans. Elec Ry J 60: 324 S 2 '22

Sanitary affairs

Rapid growth of New Orleans creates sewer and water supply problem. il Dom Eng 100:369-70 Ag 26 '22

Water supply

Rapid growth of New Orleans creates sewer and water supply problem. il Dom Eng 100:369-70 Ag 26 '22

New Orleans railway & light company

Lifting of receivership likely. Elec Ry J 59: 765 My 6 '22

New Orleans utilities show vast improvement. Am Gas J 117:167-9 Ag 19 '22

New Orleans, Texas and Mexico railway (Gulf coast lines)

Gulf coast lines show increasing prosperity. il map Ry Age 73:480-2 S 9 '22

7th annual report—year ending Dec. 31, 1922. Comm & Fin Chr 116:1887 Ap 28 '23

New Rochelle, New York

Sign posts for the city of New Rochelle, N. Y.; views. Arch Rec 54:253-63, 295 S '23

New South Wales

See Electricity supply—New South Wales; Labor and laboring classes—Australia

New uses. See Advertisements—Use appeal; Markets, New

New York (city)

For those who are fond of fine old writing; N. Y. city plan of 1807. H. W. Levy. Munic Eng 65:14-17 Jl '23

Greater New York's silver jubilee. Comm & Fin Chr 116:2949-50 Je 30 '23

Land studies in New York city. C. S. Stein. Am Inst Arch J 10:390-4 D '22

Municipal exhibition of the New York and Brooklyn chapters of the American institute of architects. J. V. Van Pelt. il plans Am Arch 124:7-14 Jl 4 '23

New York city centralizes control of purchases. H. M. Hitchcock. Ptr Ink 124:113-14+ Ag 9 '23

Plan for New York and its environs. H. Hoover. Eng N 88:835-6 My 18 '22

Plan of New York and its environs. 25p Russell Sage foundation, New York '22

Why not pay New York a visit? Gas Age 50: 539-40 O 21 '22

See also Electric plants (central stations)—New York (city); Housing—New York (city); Jamaica Bay boulevard

American museum of natural history

Visit to New York's Natural history museum. P. B. McDonald. Eng & Contr 56:599 D 28 '21

Architecture

Building of Manhattan; tenements. F. L. Ackerman. il Am Inst Arch J 10:114-20 Ap '22

Heckscher building, New York. il plans Arch & Bldg 54:17, pl 19-21 F '22

Influence of zoning on New York's skyline. H. W. Corbett. il Am Arch 123:1-4 Ja 3 '23

Pershing Square building; its technique of materials. F. S. Laurence. il Am Arch 124: 319-24 O 10 '23

Pomander walk, New York. il plans Arch & Bldg 54:2-5 Ja '22

Pyramids of New York. J. W. Harrington. il Am Ind 24:5-9 Ag '23

Rebuilding American cities; two notable New York examples. il Am Arch 124:145-8 Ag 15 '23

Reclamation of neglected city locations. il plan Am Arch 122:259-61 S 27 '22

Residence of Colonel Michael Friedsam. M. Price. il diag plans Arch Rec 52:86-102 Ag '22

Residence of Mrs H. Lorillard Cammann, 7 Sutton place. il Arch Rec 51:131-9 F '22

Town house of a new régime. H. D. Eberlein. il diag plans Arch Rec 52:402-14 N '22

Town house of Thomas W. Lamont. M. Price. il plans Arch Rec 51:210-32 Mr '22

See also High buildings; Housing—New York (city); New York (city)—Churches; New York (county)—Court house; also names of buildings, e.g. Cunard building, New York; Garment center capital, New York; New York (city)—Mail service building; Standard oil building, New York

Banks

Seaboard national bank, New York city. M. Price. il plans Arch Rec 51:477-85 Je '22

Bridges

Building a bridge within a bridge; a plan for strengthening the Brooklyn Bridge and enlarging its carrying capacity. G. Lindenthal. il Sci Am 127:226-8 O '22

Building Brooklyn bridge pier. il Pub Works 53:266-8 D '22

Fifth East river bridge planned by New York city. diag map Eng N 90:36-7 Ja 4 '23

High Bridge not to be destroyed. Eng N 91: 30 Jl 5 '23

Municipal vandalism; proposed destruction of High Bridge. Sci Am 128:300 My '23

Trolley deck of Manhattan bridge converted to roadway. diag Eng N 88:1087 Je 29 '22

See also Hudson river bridges

Churches

Lighting in varied hues at St Mark's-in-the-Bowwerie. N E L A Bul 8:667-8 N '21; Elec R 79:919-20 D 17 '21

Park avenue Baptist church, New York. il Arch & Bldg 54:59-60, pl 83-6 Je '22

See also St John the Divine, Cathedral of

Commerce

Why New York city needs store-door delivery. W. H. Connell. Munic Eng 63:144-7 O '22

Harbor

Area of water surface as a controlling factor in the condition of polluted harbor waters. R. H. Gould. map Am Soc C E Pro 47:603-16 D '21; Discussion. 48:711-16, 991-9 Mr-Apr '22

Blasting a channel through a river's rocky bottom. il plan Sci Am 127:408-9 D '22

City vs. bi-state plans for port of New York. W. J. Wilgus. map Eng N 88:248-51 F 9 '22

Cleansing New York harbor. Sci Am 128:114 F '23

Hearing on New York port conditions. Ry Age 74:955-6 Ap 14 '23

New Claremont freight terminal, L.V.R.R. il diag plans map Ry R 72:726-31 Ap 28 '23; Ry Age 74:1195-1201 My 19 '23

New York city's largest pier project near completion. il Eng N 87:900-3 D 1 '21

New York city's Staten Island docks. il Sci Am 126:328-9 My '22

New York port authority bill signed. Comm & Fin Chr 115:262 Jl 15 '22

New York port plan—act of New York legislature ratifying same. Comm & Fin Chr 114:913-16 Mr 4 '22

New York's terminal projects. map Eng & Contr 57:255-6 Mr 15 '22

Pollution of tidal harbors by sewage with especial reference to New York harbor. K. Allen. Am Soc C E Pro 47:622-4 D '21

Port authority of New York approves order of I.-S.C.C. directing carriers to co-operate in port development. Comm & Fin Chr 115: 2753-4 D 23 '22

New York (city)—Harbor—Continued

- Port authority presents arguments against Narrows tunnel. Eng N 88:285-6 F 16 '22
- Port of New York authority explains its comprehensive plan for the development of the port of New York. Comm & Fin Chr 114:911-13 Mr 4 '22; Excerpts. Eng N 88:26-9 Ja 5 '22
- Port of New York authority's noteworthy plan for the development of local terminal facilities ratified by legislatures of New York and New Jersey. Comm & Fin Chr 114:909-11 Mr 4 '22
- Ports of the nation—New York. N. B. Kastl. il Am Ind 22:7-11+ J1 '22
- Rehabilitation of old piers to reduce the cost of handling freight. F. L. Stuart. Can Eng 42:529-31 My 23 '22
- Sanitary condition of New York harbor. K. Allen. map Pub Works 51:428-31 D 3 '21
- Staten Island piers, Stapleton, N.Y. il Arch & Bldg 53:87, pl 174-80 N '21
- Why New York city opposes the joint port plan. A. M. Tuttle. Eng N 88:118 Ja 19 '22

Hotels

- Heating, ventilating and mechanical equipment of the Hotel Pennsylvania in New York city. A. K. Ohmes. il diag. plans Am Soc Heat & V E J 28:85-95 Mr '22; Same. Sanitary & Heat Eng 97:66-7 F 10 '22

Industries and resources

- Character of metropolitan service. il map Elec W 81:1188-1217 My 26 '23

Bibliography

- Investigations of industries in New York city, 1905-1921. Rev. ed. 35p Vocational guidance and employment service for juniors, 17 Lexington Av., New York '21

Libraries

- Manual of the New York library club. 122p New York library club, New York '22

Mail service building

- Mail service building, New York. Arch & Bldg 54:8-9, pl 12 Ja '22

Population

- Predicts 29,000,000 population in New York in year 2000. Elec Ry J 62:110 J1 21 '23

Railroads

- Another hearing on unification of port of New York terminals. Ry R 73:438-9 S 22 '23
- City vs. bi-state plans for port of New York. W. J. Wilgus. map Eng N 88:248-51 F 9 '22
- New York law calls for electrification throughout N.Y. city. Ry Age 74:1364 Je 9 '23
- New York's proposed belt railway. W. J. Wilgus. map Sci Am 126:40-1 Ja '22
- Original Grand Central station, New York. il Ry R 70:sup32-3 Je 24 '22
- Port authority of New York approves order of I.-S.C.C. directing carriers to co-operate in port development. Comm & Fin Chr 115:2753-4 D 23 '22
- Port authority presents arguments against Narrows tunnel. Eng N 88:285-6 F 16 '22
- Port of New York authority explains its comprehensive plan for the development of the port of New York. Comm & Fin Chr 114:911-13 Mr 4 '22; Excerpts. Eng N 88:26-9 Ja 5 '22
- President Rea urges improved facilities in N.Y. city. Ry R 71:949-50 D 30 '22
- Problem of the port of New York. Ry Age 74:214-15, 455-6 Ja 20, F 24 '23
- Proposed belt line for the port of New York. map Ry R 69:827-30 D 17 '21
- Railroad traffic in New York city. Elec Ry J 60:236-7 Ag 12 '22
- Railroads to co-operate with Port authority. Eng N 91:572 O 4 '23
- Setting the practical limits of terminal unification. F. R. Ford. Eng N 90:249 F 8 '23
- Tentative program for elimination of grade crossings in New York city. Ry R 73:646-7 N 3 '23
- Terminal situation at the port of New York. Ry R 73:147 J1 28 '23

Rapid transit

- As Wall Street sees it. Elec Ry J 59:496 Mr 18 '22

B.R.T. reorganization approved. Elec Ry J

- 61:982 Je 9 '23
- Bus in New York's transit plan. D. L. Turner. Bus Transportation 1:398-9 J1 '22
- City transit problem: report by the committee on city traffic; with 9 maps and charts. 92p Merchants' association of New York '23
- Commission favors improvements in Brooklyn rapid transit cars. Elec Ry J 60:798 N 11 '22
- Drastic program reported in New York. Elec Ry J 61:184 Ja 27 '23
- \$4,464,826 loss by I.R.T. Elec Ry J 59:493 Mr 18 '22
- 49,036,746 passengers at one station. Elec Ry J 61:115-6 Ja 20 '23
- Hearing on New York transit bill. Elec Ry J 61:491-2 Mr 17 '23
- Hearings completed for year by the New York transit commission. Elec Ry J 58:1122-4 D 24 '21
- Holding company and \$114,211,634 of securities to be wiped out in reorganization of I. R. T. Elec Ry J 60:659 O 21 '22
- How can the New York transit problem be solved? D. L. Turner. Elec Ry J 59:281-3; Discussion. 283-4 F 18 '22
- Injunction ready to serve. Bus Transportation 2:407 Ag '23
- Interborough asks \$400,000,000. Elec Ry J 59:727 Ap 29 '22
- Interborough-Manhattan readjustment plan operative. Elec Ry J 60:890 D 2 '22
- I.R.T. allowed security issue in connection with reorganization. Elec Ry J 60:762 N 4 '22
- I. R. T. doing well on basis of readjustment. Elec Ry J 60:924 D 9 '22
- I. R. T. reorganized. Elec Ry J 61:102 Ja 13 '23
- Interlocking practice of the Interborough rapid transit Ry. W. A. Bartley. Ry R 70:113-15 Ja 28 '22
- Mayor Hylan would scrap surface and elevated railways in New York city and use buses. Comm & Fin Chr 113:2373 sec 1 D 3 '21
- Mayor's plan ridiculed. Elec Ry J 60:720 O 28 '22
- Minority report on reorganization plan. Comm & Fin Chr 117:1885-6 O 27 '23
- Mr Shearn stresses Interborough dividend policy; examination by New York commission. Elec Ry J 58:962-3 N 26 '21
- New Jersey commuter in New York subway. D. L. Turner. Elec Ry J 58:1151-2 D 31 '21
- New maintenance facilities for New York & Harlem traction lines. il diag. plans map Elec Ry J 59:441-5 Mr 18 '22
- New \$100,000,000 line suggested. Elec Ry J 62:572-3 O 6 '23
- New transit bill appears. Elec Ry J 61:655-6 Ap 14 '23
- New York city creates a Transit bureau of its own. Elec Ry J 62:111 J1 21 '23
- New York commissions report to state. Elec Ry J 61:99-100 Ja 13 '23
- New York Consolidated railroad—readjustment plan. Comm & Fin Chr 116:2130 My 12 '23
- New York lines improve. Elec Ry J 62:233-4 Ag 11 '23
- New York, London, Paris and Berlin transit compared. D. L. Turner. map Elec Ry J 61:79-84, 153-6 Ja 13, 27 '23
- New York transit commission begins hearings. Elec Ry J 58:917-18 N 19 '21
- 93,404,550 more passengers in New York city in 1922. Elec Ry J 60:618 O 7 '22
- Ninth Avenue railroad converted to one-man operation. map Elec Ry J 59:1002 Je 24 '22
- 126,321,809 more passengers. Elec Ry J 59:85 Ja 14 '22
- Plan for the reorganization of the B.R.T. system. Comm & Fin Chr 116:1273-4 Mr 24 '23
- Propose new rapid transit routes for New York. map Eng N 88:842, 843 My 18 '22
- Rapid transit in N.Y. city; street railway traffic. Comm & Fin Chr 117:1887 O 27 '23
- Readjustment plan outlined. Elec Ry J 59:768 My 6 '22
- Receiver for Queens line. Elec Ry J 61:142 Ja 20 '23
- Rental agreement proposed between I. R. T. and Elevated. Elec Ry J 59:611 Ap 8 '22

New York (city)—Rapid transit—Continued

- Reorganization planned for New York railroads. Elec Ry J 62:718 O 20 '23
- Rerouting in Manhattan. D. L. Turner. maps. Elec Ry J 58:1109-11 D 24 '21
- Review of New York's transit situation. L. T. Harkness. map. Elec Ry J 62:553-9 O 6 '23
- Security holders accept I.R.T. reorganization plan. Elec Ry J 60:648-9 O 14 '22
- Service order issued; 350 additional cars to be bought. Elec Ry J 59:770 My 6 '22
- Service standards to be promulgated. Elec Ry J 59:426 Mr 11 '22
- \$600,000,000 construction program. Elec Ry J 60:335 S 2 '22
- Statistics of New York railroads. Elec Ry J 58:1065-8 D 17 '21
- Statistics of New York traffic. Elec Ry J 58:941-4 N 26 '21
- Subpoenas resorted to in New York; directors of Interborough decline to appear voluntarily. Elec Ry J 58:1003-4 D 3 '21
- Tentative reorganization plan of New York railroads. Comm & Fin Chr 117:1775-8 O 20 '23
- Third avenue railway co.; annual report for year ended June 30, 1923. Comm & Fin Chr 117:1881 O 27 '23
- Third avenue's previous year's deficit absorbed by improvement. Elec Ry J 60:795 N 11 '22
- Traffic and earning figures compared. Elec Ry J 61:493-4 Mr 17 '23
- Transit bills pass. Elec Ry J 61:615 Ap 7 '23
- Transit commission act of 1921 for New York city held valid. Comm & Fin Chr 114:264-6 Ja 21 '22
- Transit commission requires B.R.T. to add sixty trains in rush and forty in non-rush hours. Elec Ry J 60:145 Jl 22 '22
- Transit commission standardizes time-table. Elec Ry J 60:906-7 D 9 '22
- Transit law valid. Elec Ry J 59:128-9 Ja 21 '22
- Transit measure introduced at Albany. Elec Ry J 61:299-300 F 17 '23
- Transit plan for New York city surface roads would greatly reduce trolley mileage. Comm & Fin Chr 113:2685 D 24 '21
- Trolleys favored for surface transport in large cities. J. A. Beeler. Bus Transportation 2: 72-6 F '23; Same abr. Elec Ry J 61:87-9 Ja 13 '23
- \$25,000,000 bus policy favored. Elec Ry J 59:136 Ja 21 '22
- \$25,000,000 for buses in New York. map Bus Transportation 1:135-7 F '22
- 2,491,909,178 passengers in 1921; 437 rides per capita in New York city. Elec Ry J 59:806-7 My 13 '22
- \$218,000,000 construction program. map. Elec Ry J 59:803 My 13 '22
- \$2,340,000 saving expected. Elec Ry J 59:169 Ja 28 '22

See also Hudson river vehicular tunnel; New York (city)—Subways; *also* Fifth avenue coach company

Valuation

- Commission valuation rejected. Elec Ry J 60:28 Jl 1 '22
- New York commission prepares for valuations. Elec Ry J 58:1156 D 31 '21
- Opening gun in New York railway valuation. Elec Ry J 59:333-6 F 25 '22
- Preliminary valuation report of New York city traction and rapid transit properties. Comm & Fin Chr 114:1250-2 Mr 25 '22; Same. Eng & Contr 57:380-2 Ap 19 '22
- Valuation as of June 30th, 1921, of the physical property of rapid transit and street surface railroads. State of New York. Transit comm., Bur. of valuation, Albany '22
- Valuation of New York city traction properties by transit commission generally rejected by company and security interests. Comm & Fin Chr 114:1244-50 Mr 25 '22; Abstract. Eng & Contr 57:481-3 My 17 '22
- Valuation of New York city transit properties tentatively submitted. Comm & Fin Chr 114:803-5 F 25 '22

Valuations all protested in New York. Elec Ry J 59:538 Mr 25 '22

Sanitary affairs

Making an island from city refuse; Riker's Island, N.Y.C. W: B. Goodwin. il Pop Mech 37:740-2 My '22

Sewerage

Pollution of tidal harbors by sewage. K. Allen. Am Soc C E Pro 47:622-4 D '21

Sanitary condition of New York harbor. K. Allen. map Pub Works 51:428-31 D 3 '21

Use of fine sewage screens in New York city. K. Allen. il Munic Eng 61:219-21 D '21; Same. Eng & Contr 56:434 N 9 '21

Streets

Arcades to relieve street traffic—New York city. A. S. Tuttle. il plan Eng N 90:710-11 Ap 19 '23

Elevated sidewalks of reinforced concrete for New York city. M. Hirschthal. plan Eng N 90:974 My 31 '23

Fifth avenue. Reilly. Am Inst Arch J 9:341-2 N '21

Saving hundreds of lives a year in one city's traffic. il Am Inst E E J 42:864 Ag '23

Select design for Fifth avenue traffic signal towers. il Eng N 87:788 N 10 '21

Signal control of traffic. J. A. Hariss, J. O'Brien and S. W. Taylor. Illum Eng Soc 17:245-55; Discussion. 260-8 My '22

Solving the street traffic problem; speeding up traffic by separating the through and the local traffic. il map Sci Am 129:36-7 Jl '23

Some engineering aspects of New York traffic. A. Schaeffer. Eng N 88:1029 Je 22 '22

Sunken boulevard for automobiles. il Sci Am 129:221 O '23

Subways

Building the new Queensboro subway extension. S. G. Roberts. il Aera 12:188-95 S '23

Improvements possible in subway construction and operation. P. Sachs. diags Elec Ry J 62:441-4 S 22 '23

Industrial class plan for subway. D. L. Turner. Elec Ry J 59:329 F 25 '22

Modern subway cars and their operation. S. Haar. bibliog il Mech Eng 45:647-50 N '23

More subways proposed. Elec Ry J 60:683 O 21 '22

New subways to cost \$218,000,000 proposed for New York City. Eng & Contr 57:601 Je 21 '22

Review of recent accidents in New York subways. R. Ridgway. Eng N 89:325-6 Ag 24 '22

Say it with shovels; slogan of Citizens' committee of one thousand. Elec Ry J 62:188 Ag 4 '23

Separate subway service for commuters recommended. Elec Ry J 62:117 Jl 21 '23

600,000 passengers discommoded by power failure. Elec Ry J 60:177 Jl 29 '22

Subway construction costs have increased. R. Ridgway. Elec Ry J 61:1037 Je 23 '23

Subway crowding must end. Elec Ry J 59:497 Mr 18 '22

Subways for city transportation; abstracts. R. Ridgway. Eng & Contr 56:574-6 D 21 '21; Eng N 87:778-9 N 10 '21

Theaters

Music box theatre, West 45th street, New York. C. H. Crane. Am Arch 121:98a-e, 99, 100-4 F 1 '21

Tunnels

Progress report. City of New York. Bd. of estimate & apportionment, New York '22

See also Hudson river tunnels; Hudson river vehicular tunnel

Water supply

After Ashokan—what? S. G. Roberts. il diag Sci Am 127:102-3 Ag '22

Delaware river for New York water supply. Pub Works 54:87-8 Mr '23

New York (city)—Water supply.—*Continued*
Prevention of tastes and odors due to microscopical organisms; history of New York's problem. W; W. Brush. il map Eng & Contr 57:560-1 Je 14 '22; Same. Can Eng 42:673-4 Jl 4 '22

Schoharie development of the Catskill water system of the city of New York. J. W. Smith. il diags maps Am Water Works Assn J 10: 797-828 S '23

Synura and other organisms in Catskill water supply. W; W. Brush. il map plan Eng N 88:266-71 F 16 '22

Taste and odor in the New York city's supplies. F. E. Hale. Am Water Works Assn J 10:829-37 S '23; Same cond. Sci Am 129: 332-4 N '23

World's greatest water supply. F. E. Ackerman. il Am Ind 22:15-19 F '22

See also Catskill aqueduct; Gilboa dam

New York (county)

Court house

Foundations of New York County court house. F. W. Skinner. il diag Arch Forum 38:201-4 Ap '23

New York (state)

See also Automobile industry and trade—New York; Hydroelectric plants—New York; Iron mines and mining—New York (state); Petroleum—New York; Roads—New York; Street railroads—New York; Taxation—New York; Water power—New York; Zinc mines and mining—New York (state)

Architect

State architect and his works. A. D. F. Hamlin. il diag plans Arch Rec 53:27-43; 54:265-76 Ja, S '23

Politics and government

Home rule measures in contemplation. Elec Ry J 60:921-2 D 9 '22

Public works

New York public works law arousing interest. Eng N 90:1061 Je 14 '23

New York academy of medicine

Medical academy gets \$2,000,000 for temple of science. Special Lib 14:24 Mr '23

New York advertising club

How the New York advertising club doubled its membership. A. E. Haase. Ptr Ink 123: 190-1 Ap 26 '23

New York & Ontario power company

St Lawrence navigation and power investigation. Can Eng 42:139-45 Ja 17 '22

New York architectural league

Architectural league exhibition. J. T. Boyd, jr. Arch Rec 51:283-4 Mr '22

New York cannery, inc.

Annual report. Comm & Fin Chr 116:954 Mr 3 '23

New York Central railroad

Annual report for year ended Dec. 31 1921. Comm & Fin Chr 114:2369-71 My 27 '22; Ry Age 72:1259-61 My 27 '22

Annual report for year ended December 31, 1922. map Ry Age 74:1521-4, 1670-2 Je 23 '23; Comm & Fin Chr 116:2820-1, 2894-5 Je 23 '23; Annalist 21:850 Je 25 '23

Castleton cut-off of the New York Central R. R. il diags Ry R 73:41-52 Jl 14 '23

Hearing before Inter-state commerce commissioner Hall on linking of Central R.R. of New Jersey with New York Central. Comm & Fin Chr 116:2951-3 Je 30 '23

Improvement work of the New York Central R. R. Ry R 73:73-4 Jl 14 '23

New York Central acquires Chicago terminal facilities. Ry R 70:766 My 27 '22

New York Central authorized to acquire Chicago Junction. Ry Age 72:1244-6 My 27 '22

N. Y. C. proposal to acquire P. & R. and C. of N.J. map Ry Age 75:173-4 Jl 28 '23

Proposed new trunk line, Chicago to New York. P. E. Crowley. map Ry R 73:527-8 O 13 '23

Rapid progress being made on Castleton cut-off. il diags maps Ry Age 74:1681-6 Je 30 '23
Surplus in 1921 after dividends, \$9,747,588. Ry Age 72:1239-40 My 27 '22

New York, Chicago & St Louis railroad

Brief on Nickel Plate consolidation. Ry Age 74:1327-8 Je 2 '23

I. C. C. opinion in Nickel Plate consolidation case. Ry Age 75:37 Jl 7 '23

Legal questions in S.P. and Nickel Plate cases. Ry Age 74:1382-4 Je 9 '23

Nickel Plate averages 44.1 miles per car per day. Ry Age 74:341-3 F 3 '23

Nickel Plate consolidation approved by I.C.C. Ry R 72:1182 Je 30 '23

Oral argument on Nickel Plate consolidation. Ry Age 74:1472 Je 16 '23

35th annual report for the year ended December 31, 1921. Comm & Fin Chr 114:2142-3 My 13 '22; Ry Age 72:1202 My 20 '23

36th annual report for the year ended December 31, 1922. Comm & Fin Chr 116:2147-8 My 12 '23; Excerpts. Ry Age 74:1188 My 12 '23

Van Sweringens acquire C. & O. stock interest. map Ry Age 74:193-4, 296 Ja 13, 27 '23; Ry R 72:111-12 Ja 13 '23

New York community trust. See Community trusts

New York consolidated stock exchange

Former administration of the exchange condemned. Comm & Fin Chr 117:388 Jl 28 '23

W. S. Silkworth to resign presidency of Consolidated stock exchange. Comm & Fin Chr 116:2586 Je 9 '23

New York cotton exchange

Ezra Winter's decorations for the New York cotton exchange. R. Flint. il Am Inst Arch J 11:386-386d O '23

Formal opening of new building of New York cotton exchange. Comm & Fin Chr 117:275-6 Jl 21 '23

New York cotton exchange. Arch & Bldg 55: 89, pl 176-80 S '23

New York cotton exchange installed in new home. il Textile World 64:481-2 Jl 28 '23

Story of the New York cotton exchange. il Annalist 22:114-16 Jl 23 '23

Trading on floor of new Cotton exchange building. Comm & Fin Chr 117:385-6 Jl 28 '23

New York curb market

New York curb exchange. 11p The Graduate school of business administration of New York univ., New York '22

Transactions on the New York curb. See weekly numbers of the Annalist and Commercial and financial chronicle

Transactions on the New York curb—1922. Annalist 21:84-5 Ja 8 '23

New York Edison company

Forty years of Edison service, 1882-1922. T: C. Martin. 181p New York Edison co., New York '22

Advertising

Carrying the trade character through all your advertising; the Edison man. C. B. Larabee. il Ptr Ink M 5:20-2-1 Ag '22

New York electric railway association

40th annual meeting, Bluff Point, June 24. Elec Ry J 60:17-18 Jl 1 '22

Meeting. Bluff Point, N.Y., June 23. Elec Ry J 61:1089-90 Je 30 '23

25th midwinter meeting, New York, Jan. 24. Elec Ry J 59:154-6 Ja 28 '22

New York library club

Manual of the New York Library club. 122p New York library club, New York '22

New York linseed association

Story of Reporter trade associations. G: W. Fortmeyer. Oil Paint & Drug Rep 101:17 Mr 28 '22

New York, New Haven & Hartford railroad

51st annual report—year ending Dec. 31, 1922. Comm & Fin Chr 116:1640-1 Ap 14 '23

Joint New England railroad committee report suggests plans to rehabilitate B. & M. and New Haven roads. Comm & Fin Chr 117:87-8, 170-5 Jl 7-14 '23

New York, New Haven & Hartford railroad —Continued

New Haven operation has justified electrification. S. Withington. *il Ry R* 72:71-3 Ja 6 '23

New Haven should soon realize on improvements. *il Ry Age* 72:1019-21 Ap 29 '22

New Haven valuation report issued. *Ry Age* 73:1038 D 2 '22

New Haven's policy of improving way and equipment yields benefits. *Ry R* 70:531-3 Ap 15 '22

New Haven's views of joint committee report. *Ry Age* 75:307-10 Ag 18 '23; Same. *Comm & Fin Chr* 117:749-50 Ag 18 '23

Reason for recent embargo. E. J. Pearson. *Comm & Fin Chr* 115:2343 N 25 '22

Tentative valuation of N. Y. N. H. & H. R. R. completed. *Ry R* 71:832-4 D 9 '22

New York paper exchange

New York paper exchange opens. *Paper* 33: 9 O 25 '23

New York petroleum marketers' association

New York jobbers' association launched at Syracuse meeting. P. Truesdell. *Nat Pet* N 14:23 My 10 '22

New York railroad club

New York railroad club celebrates golden jubilee. *Ry Age* 73:1143-4 D 16 '22; *Ry R* 71:872 D 16 '22

New York state barge canal

Developing traffic on the State barge canal. *Sci Am* 127:307 N '22

History of the barge canal of New York state. N. E. Whitford. 610p J. B. Lyon co., Albany '22

New York barge canal in use to only one-fifteenth of capacity. *Comm & Fin Chr* 114:1025 Mr 11 '22

Terminal elevator for State barge canal. *il diags Sci Am* 127:36-7 Jl '22

Western shippers neglect New York barge canal. *Ry R* 70:299-301 Mr 4 '22

Advertising

Advertising to help sell two canals. J. G. Condon. *Ptr Ink* 117:25-7+ N 17 '21

New York (state) college of agriculture

State architect and his works. A. D. F. Hamlin. *il plans Arch Rec* 54:265-76 S '23

New York state oil producers association

Two hundred New York producers meet in fifth annual session. L. E. Smith. *Nat Pet* N 14:29+ O 4 '22

New York stock exchange

Amendment of constitution of New York stock exchange restricting operations of members acting for affiliated corporations. *Comm & Fin Chr* 116:2942 Je 30 '23

Bond record, Friday, weekly and yearly. See weekly numbers of Commercial and financial chronicle

Buying for the long pull. J. R. Spears. 201p Gregg '23

Efforts to improve methods. S. L. Cromwell. *Comm & Fin Chr* 115:25-6 Jl 1 '22

Listings on the New York stock exchange for the year 1921. *Comm & Fin Chr* 114: 1951-4 My 6 '22

Listings on the New York stock exchange for the year 1922. *Comm & Fin Chr* 116:2448-52 Je 2 '23

Modern executive and the stock exchange. J. E. Meeker. *Administration* 3:174-80 F '22

Monthly and yearly record. Published in monthly Bank and quotation section of Commercial and financial chronicle

New York Senate passes Lockwood bill for regulation of exchanges, blue sky bill, &c.—brief of New York stock exchange in opposition. *Comm & Fin Chr* 116:1123-6 Mr 17 '23

New York stock exchange questionnaire. E. V. Portway. *J Account* 34:161-73 S '22

New York stock exchange transactions. See weekly numbers of the Annalist

New York stock exchange transactions, 1921. *Annalist* 19:93-102 Ja 9 '22

New York stock exchange transactions—1922. *Annalist* 21:101-10 Ja 8 '23

Prices in 1921 at the New York stock exchange. *Comm & Fin Chr* 114:38-52 Ja 7 '22

Problems and policies of the New York stock exchange. S. L. Cromwell. *Comm & Fin Chr* 117:110-14 sec 2 O 13 '23

Reminiscences of a stock operator. E. Lefèvre. 299p Doran '23

Stock exchange bond trading. See weekly numbers of the Annalist

Stock record, daily, weekly and yearly. See weekly numbers of Commercial and financial chronicle

Work of the stock exchange. J. E. Meeker. 633p Ronald press '22

Advertising rules

Change in advertising rules of New York stock exchange. *Ptr Ink* 117:89 D 1 '21

Dire result of the New York stock exchange's attitude toward advertising. *Ptr Ink* 121: 95-6 D 21 '22

Why the New York stock exchange has strict advertising rules. J. Westerfield. *Ptr Ink* 117:126+ D 15 '21

New York stock exchange building

Heavy steelwork in New York stock exchange extension; four trusses weighing 150 tons each required. J. W. Pickworth. *il diags plans Eng N* 87:842-6 N 24 '21

New addition, New York stock exchange. *il Arch & Bldg* 54:114-15, pl 208-11 D '22

New York telephone company

Annual report, fiscal year ended Dec. 31, 1922. *Comm & Fin Chr* 116:2386-7 My 26 '23

New York Tribune building

New building for the New York Tribune. *il plans Am Arch* 123:465-70 My 23 '23

Tribune building. *Arch & Bldg* 55:46-8 pl 106-9 My '23

New York university

New York university runs prestige campaign. *Ptr Ink* 117:120+ D 15 '21

New Zealand

See also Electricity supply—New Zealand; Hydroelectric plants—New Zealand; Labor and laboring classes—New Zealand

Economic conditions

Trade conditions in New Zealand. *Elec R* (Lond) 89:653-4 N 11 '21

See also Labor and laboring classes—New Zealand; Wages—New Zealand

Industries and resources

See Electric industries—New Zealand; Machine tool industry—New Zealand

Newark, New Jersey

Pooling—the first step toward organization. E. B. Meyer. *il Bus Transportation* 1:165-7 Mr '22

Harbor

Newark develops port terminal. *il map Marine R* 52:480-2 D '22

Rapid transit

Eight-cent fare in Jersey. *Elec Ry J* 61:1024 Je 16 '23

Water supply

Progress on the Wanaque project. *il Pub Works* 54:149-53, 191-4 My-Je '23

Newark Meadows

Chemical industry on the Newark Meadows. P. DeWolf. *il Chem Age* 30:390-3 S '22

Newark technical school

College of engineering of the Newark technical school. *il map Chem Age* 30:11-14 Ja '22

Newburgh, New York

Rapid transit

Newburgh likes the bus. *Bus Transportation* 2:469-70 O '23

Newbury, Frank D.

Portrait. *Elec W* 80:698 S 30 '22

Newburyport, Massachusetts**Bridges**

Steel and wrought-iron trusses efficiently combined in railway bridge reconstruction. *il diags plans Eng N 89:973-8 D 7 '22*

Newburyport mines. See Silver mines and mining—Massachusetts**Newcomb engine**

Newcomb engine is characterized by high economy at part load. *H. Chase. *il diags Automotive Ind 48:1022-5 My 10 '23**

Newcomen society

Summer meeting, London. *Engineer 133:642-3 Je 9 '22*

Newfoundland

See Paper industry and trade—Newfoundland

Newport, Rhode Island**Sanitary affairs**

Refuse disposal and street work in Newport. *Pub Works 52:10 Ja 7 '22*

Newport company

Chemical department of the Newport company. *ports Chem Age 29:516-17 D '21*

Newspaper ethics

President Harding says fitting code of ethics was never so essential to press; text of code adopted by American society of newspaper editors. *Comm & Fin Chr 116:2209-10 My 19 '23*

Vigilance work in Great Britain. *H. S. Imber. Ptr Ink 123:81-2+ Je 14 '23*

Bibliography

Journalism; a list of references in English. *C. L. Cannon. New York Pub Lib Bul 27:440-5 My '23*

Newspaper libraries**Bibliography**

Newspaper reference libraries. *Lib J 48:280 Mr 15 '23*

Newspaper offices

Monument to printing. *M. Price. *il Ptg Art 38:331-5 D '21**

New building for the New York Tribune. *il plans Am Arch 123:465-70 My 23 '23*

Philadelphia Ledger building. *M. Price. *il Arch Rec 51:140-51 F '22**

Tribune building, New York. *Arch & Bldg 55:46-8, pl 106-9 My '23*

See also Chicago Tribune building

Newspaper presses. See Printing presses**Newspapers**

Aerial newspaper delivery service in Florida. *il Aviation 14:423 Ap 16 '23*

Classified advertising has first call. *R. T. Patten. Inland Ptr 69:839-40 S '22*

Community newspaper. *E. P. Harris and F. H. Hooke. 378p Appleton '23*

Country editor looks back a half century. *T. Coleman. Inland Ptr 72:111-12 O '23*

Few hunches for small-town paper. *J. E. Allen. Inland Ptr 70:53-4 O '22*

Founding a country newspaper—then and now. *G. L. Caswell. Inland Ptr 69:723-5 Ag '22*

Growing country publisher. *Inland Ptr 71:97-8 Ap '23*

Historical edition a big success. *W. L. Schrantz. Inland Ptr 69:228 My '22*

History of arbitration in American newspaper publishing industry. *D. Weiss. Monthly Labor R 17:15-33 Jl '23*

How to gain circulation. *G. L. Caswell. Inland Ptr 72:141 O '23*

John Bull's fling in newspaper insurance. *Ptr Ink M 6:68 Ja '23*

Just one Nate K. Dean in the newspaper game. *G. L. Caswell. Inland Ptr 71:245-6 My '23*

News and the newspaper. *il Univ of Missouri Bul v 24, no 15:1-124 '23*

Newspaper and the historian. *L. M. Salmon. 566p Oxford '23*

Newspaper convention endorses agency commission system. *Ptr Ink 119:25-8+ My 4 '22*

Newspaper making in Alaska. *J. Mowat. *il Inland Ptr 71:221-2 My '23**

Newspaper work. *G. L. Caswell. See monthly numbers of the Inland printer Newspaperman. T. Williams. 209p Scribner '22*

Personal touch in the printing office. *W. H. Mayes. Inland Ptr 70:214-15 N '22*

Printing the country news. *Inland Ptr 69:229-30 My '22*

Review of newspapers and advertisements. *J. L. Frazier. See monthly numbers of Inland printer*

Samples of splendid special editions. *Inland Ptr 70:93 O '22*

Solving problems of doubt in articles we read today. *D. F. Young. Inland Ptr 68:775-6 Mr '22*

Some newspapers and newspaper-men. *O. G. Villard. 345p Knopf '23*

Talking to plain folks. *S. O. Rice. Ptr Ink M 5:17-18 N '22*

See also Advertising, Soliciting of; Advertising mediums—Newspapers; Audit bureau of circulations; Editors; Foreign-language press; House organs; Journalism; Newspaper offices; Periodicals; Press agents; Press law; Printing, Practical; Trade journals; also Morning newspaper association of America; National country newspaper association

Accounting

Newspaper accounting. *H. Bossert. J Account 32:422-43 D '21*

Reports on newspaper revenues and expense. *G. L. Caswell. Inland Ptr 71:397 Je '23*

Advertising

Selling yourself on advertising before selling your prospects; advertising by newspapers. *G. O. McCarthy. Inland Ptr 71:692 Ag '23*

See also Advertising mediums—Newspapers

Costs

Statistical report on newspaper costs. *Inland Ptr 71:558 Jl '23*

Illustrations

Intricacies of the newspaper halftone that are being mastered. *Ptr Ink 124:49-50+ Jl 26 '23*

Manuel Rosenberg course in newspaper art. *M. Rosenberg. 192p M. Rosenberg, Cincinnati, O. '22*

Law

See Press law

Newspapers, County

Future of the county agricultural weekly. *W. A. Freehoff. Inland Ptr 69:679-80 Ag '22*

Newspapers, Shop. See Employees' magazines**Newsprint, Recovery of.** See Waste paper**Newton, Alfred Edward, 1862-**

Sketch. *por Elec W 80:110 Jl 15 '22*

Newton, Massachusetts**Water supply**

Sub-surface system for collecting water; how Newton, Mass., obtains its supply from ground water. *E. H. Rogers. Eng & Contr (W W) 60:784-5 O 10 '23*

Niagara falls

Driving a 32-ft. hydraulic pressure tunnel around the American Niagara. *il diags plans map Eng N 88:678-82 Ap 27 '22*

National aspects of Niagara falls developments. *Elec W 81:521, 693 Mr 3, 24 '23*

Proposed 450,000-hp. development at Niagara falls. *diag maps Power 56:636-7 O 24 '22*

See also Hydroelectric plants—Ontario; Queenston-Chippawa canal

Niagara Falls, New York

New junior and elementary schools of Niagara Falls. *W. B. Ittner. *il plans Am Arch 123:185-90 F 28 '23**

Niagara-Queenston canal

Ontario hydro to build another power canal. *Can Eng 43:231 Ag 8 '22*

Niagara river

- N.Y.C. plans new Niagara river crossing. map
 Ry Age 75:575-7 S 29 '23
 Water supply of the Niagara frontier. R. C.
 Snowden. Am Water Works Assn J 9:323-9
 Mr '22

Nicaraguan canal (proposed)

- Proposed second Isthmian canal. Engineer
 135:256 Mr 9 '23
 What is the need of a new Isthmian canal.
 Nation's Business 11:48 Ap '23

Nicholas, L. V., oil company

- Nicholas ran a successful business investi-
 gation is showing. W. C. Platt. Nat Pet N
 15:23+ J1 18 '23
 Transfer of Nicholas oil co. assets to new
 company was irregular. W. Ritchie, jr. Nat
 Pet N 15:23+ J1 25 '23

Nichols, Ernest Fox, 1869-

- Resigns as president of the Massachusetts
 institute of technology. por Elec R 79:900
 D 10 '21

Nichols, John, 1744-1826

- The William Bowyers and other printers
 contemporary with them. H: L. Bullen. por
 Inland Ptr 68:814-15 Mr '22

Nichols, William H.

- William H. Nichols. C: R. Smith. por Ind &
 Eng Chem 15:124-5 Ap '23

Nicholson, Samuel Lindzey

- Sketch. por Elec W 78:1058 N 26 '21

Nickel

- Catalytic hydrogenation with nickel. R.
 Thomas. Soc Chem Ind J 42:21-6 Ja 19 '23
 Comparison of the atomic weights of terres-
 trial and meteoric nickel; analysis of nickel-
 oxide chloride. G. P. Baxter and F. A. Hilton,
 jr. Am Chem Soc J 45:694-700 Mr '23
 Competition increasing in the nickel industry.
 Eng & Min J 114:529-30 S 23 '22
 Concentrated HCl as metallographic etching
 reagent for nickel. H: S. Rawdon and M.
 G. Lorentz. il Chem & Met Eng 25:955-6
 N 23 '21
 Dial copper and 12% watch nickel. W: B.
 Price. il Metal Ind 21:58-9, 104-5, 148 F-Ap
 '23
 Effect of small quantities of nickel upon
 high-grade bearing metal. A. H. Munday
 and C. C. Bissett. Engineering 116:347-9
 S 14 '23; Same. Metal Ind 21:433-4 N '23
 Effect of tension on change of resistance and
 thermoelectromotive force by transverse
 magnetization. A. W. Smith. Phys R 22:58-
 65 J1 '23
 Emission of secondary electrons from nickel.
 E. W. B. Gill. Philos Mag 6th ser 45:864-78
 My '23
 Hall, Ettingshausen, Nernst and Leduc effects
 in cadmium, nickel and zinc. A. E. Caswell.
 Phys R 20:280-2 S '22
 Hydrogenation of ethylene in contact with
 nickel. E. K. Rideal. Chem Soc J 121:309-18
 F '22
 Influence of temperature, pressure and sup-
 porting material for the catalyst on the
 adsorption of gases by nickel. A. W. Gauger
 and H. S. Taylor. Am Chem Soc J 45:920-8
 Ap '23
 International nickel company's rolling mills.
 il Metal Ind 20:420-2 N '22; Same cond.
 Iron Tr R 71:1213-16 N 2 '22
 Katalytische hydrierungen unter druck bei
 gegenwart von nickelsalzen; chinolin-basen.
 J. v. Braun, A. Petzold and J. Seemann.
 Deutsche Chem Gesell Ber 55:3779-92 D '22;
 Abstract. Chem Soc J 124 pt 1:136-8 F '23
 Katalytische hydrierungen unter druck bei
 gegenwart von nickelsalzen; der carbazol-
 komplex. J. v. Braun and H. Ritter. Deutsche
 Chem Gesell Ber 55:3792-3803 D '22; Ab-
 stract. Chem Soc J 124 pt 1:141-3 F '23
 Katalytische hydrierungen unter druck bei
 gegenwart von nickelsalzen; hexahydro-
 dinhenylenoxyd aus o-dinhenol. J. v. Braun.
 Deutsche Chem Gesell Ber 55:3761-70 D '22;
 Abstract. Chem Soc J 124 pt 1:103-5 F '23
 Katalytische hydrierungen unter druck bei
 gegenwart von nickelsalzen; phenetidin. J.
 v. Braun and E. Hahn. Deutsche Chem
 Gesell Ber 55:3770-9 D '22; Abstract. Chem
 Soc J 124 pt 1:102-3 F '23

Die katalytische hydrogenisation organischer
 verbindungen mit unedlen metallen bei
 zimmertemperatur; die aktivitat der bei
 verschiedenen temperaturen hergestellten
 nickel-katalysatoren; der einfluss des
 sauerstoffes auf den nickel-katalysator. C.
 Kelber. Deutsche Chem Gesell Ber 54:1701-5
 S '21

Madsenell nickel. L. J. Buck. Metal Ind 20:
 401-2 O '22

Magnetostriction and magnetolectric effects
 in iron, nickel and cobalt. P. McCorkle.
 Phys R 22:271-8 S '23

Metallographic etching reagents for copper al-
 loys, nickel, and the alpha alloys of nickel.
 H: S. Rawdon and M. G. Lorentz. il U S
 Bur Stand Sci Pa 435:635-76 '22

Mineral industry of the British Empire and
 foreign countries, 1913-1919. 56p Gt. Brit.
 Imperial mineral resources bureau, London
 '22

Nickel. F. B. H. White. 118p Pitman '23

Nickel and its alloys. P. D. Merica. il Am
 Mach 57:397-9, 450-2, 484-7 S 14-28 '22

Nickel and monel metal in corrosion-resisting
 machinery. R. J. McKay. il Ind & Eng Chem
 15:555-9 Je '23

Nickel in igneous rocks. J. H. L. Vogt.
 Econ Geol 18:307-53 Je '23

Nickel industry in 1921-1922. A. J. Wadhams.
 Ind & Eng Chem 15:409-10 Ap '23

Nickel mining in 1921. T: W. Gibson. Eng &
 Min J 113:90 Ja 21 '22

Non-ferrous metal research affects design of
 small automotive parts. Automotive Ind
 46:1289-91 Je 8 '22

Outlets of nickel in industry. T: W. Gibson.
 Eng & Min J 116:364-6 S 1 '23

Production and uses. Min & Sci P 123:900 D
 24 '21

Scattering of electrons by nickel. C. Davis-
 son and C. H. Kunsman. Phys R 19:253-5
 Mr '22

Some electrical properties of nickel and monel
 wires. M. A. Hunter, F. M. Sebast and A.
 Jones. Min & Met 185:30-1 My '22

Thermal expansion of nickel, monel metal,
 stellite, stainless steel, and aluminum. W.
 H. Souder and P. Hidnert. U S Bur Stand
 Sci Pa 426:497-519 '22

Two's company, three's a crowd, in the nickel
 industry. Eng & Min J 115:214 F 3 '23

Analysis

Determination of cobalt and nickel in arse-
 nide ores. C. A. Knittel. Can Chem & Met
 6:201-3 S '22

Determination of nickel in cast iron. Foun-
 dury 50:498a, 548a Je 15-J1 1 '22

Tentative methods of chemical analysis of
 nickel. Am Soc T M Pro 21:522-6 '21

Specifications

Tentative specifications for nickel. Am Soc
 T M Pro 21:495-8 '21

Nickel alloys

Chesterfield cutting-tool metal. Mach 28:848
 Je '22

Constitution of the alloys of iron and nickel.
 D. Hanson and J. R. Freeman, jr. diag Iron
 & Steel Inst J 107:301-14, pl 14-15 no 1 '23;
 Same. Engineering 115:667-70 My 25 '23;
 Discussion. Iron & Steel Inst J 107:315-21
 no 1 '23; Engineering 115:646 My 25 '23

Crystal structure of iron-nickel alloys. L. W.
 McKeehan. Phys R 21:402-7 Ap '23

Electrolytic etching for microstructure of
 nickel alloys. W. Velguth. Brass W 17:317
 N '21

Metallographic etching reagents; for copper
 alloys, nickel, and the alpha alloys of
 nickel. H: S. Rawdon and M. G. Lorentz.
 il U S Bur Stand Sci Pa 435:635-76 '22

Nickel and its alloys. P. D. Merica. il Am
 Mach 57:397-9, 450-2, 484-7 S 14-28 '22

Permalloy, an alloy of remarkable magnetic
 properties. H. D. Arnold and G. W. Elmen.
 J Fr Inst 195:621-32 My '23; Abstract.
 Elec R (Lond) 92:1023-4 Je 29 '23

Ureus use of nickel alloys. W. R. Barclay.
 Foundry 51:873-4 N 1 '23

See also Monel metal; Nickel-chromium
 alloys; Nickel silver; Nickel steel

Nickel chlorides

Comparison of the atomic weights of terrestrial and meteoric nickel; analysis of nickelous chloride. G. P. Baxter and F. A. Hilton, jr. *Am Chem Soc J* 45:694-700 Mr '23

Equilibrium in the systems, nickel chloride, cobalt chloride, cupric chloride—hydrochloric acid—water. H. W. Foote. *Am Chem Soc J* 45:663-7 Mr '23

Specific gravity of anhydrous nickelous chloride; the determination of specific gravity by displacement of air. G. P. Baxter and F. A. Hilton, jr. *Am Chem Soc J* 45:700-2 Mr '23

Nickel-chromium alloys

Cast nickel-chromium alloys. E. F. Lake. *il Foundry* 50:452-4 Je 1 '22

Chromel castings, bars, wire and ribbons. E. F. Lake. *il Brass W* 18:158-61, 165-7 My-Je '22

Drawing chromel wire. E. F. Lake. *il Mach* 28:793-7 Je '22

Estimation of chromium in nickel-chrome alloys. *Chem Age (Lond)* 9:364 O 6 '23

Nickel chromium steel. See Chromium nickel steel; Nickel steel

Nickel halide hexammoniates

Crystal structures of the hexammoniates of the nickel halides. R. W. G. Wyckoff. *Am Chem Soc J* 44:1239-45 Je '22

Nickel hydroxide

Preparation of colloidal solutions of nickel and cobalt hydroxides and some other compounds of these metals. O. F. Tower and M. C. Cooke. *J Phys Chem* 26:728-35 N '22

Nickel metallurgy

Development of the Mond nickel process. C. V. Corless. *Chem Age (Lond)* 8:646-7 Je 16 '23

Develops new property of nickel. *il Iron Tr R* 71:521-3 Ag 24 '22

Extraction of nickel and alumina from Cuban iron ores. C. R. Hayward. *flow sheet diags Chem & Met Eng* 26:261-6 F 8 '22

Mills built for rolling nickel and monel. *il Blast F & Steel Pl* 10:605-11 D '22

Quantity methods in production of quality metals and alloys. R. S. McBride. *flow sheet il Chem & Met Eng* 29:745-51 O 22 '23

Simple, rapid and economical method of separating nickel and copper from iron. E. G. R. Ardagh and G. M. Broughall. *Can Chem & Met* 7:198-200 Ag '23

Some applications of electrical equipment in the metallurgy of nickel. J. L. McK. Yardley. *flow sheet il Eng & Min J* 114:810-12 N 4 '22

Nickel nitrate hexammoniate

Composition and crystal structure of nickel nitrate hexammoniate. R. W. G. Wyckoff. *Am Chem Soc J* 44:1260-6 Je '22

Nickel oxides

Constitution of the higher oxide of nickel. O. R. Howell. *diag Chem Soc J* 123:1772-83 Jl '23

Higher oxide of nickel. O. R. Howell. *Chem Soc J* 123:669-76 Mr '23

Nickel Plate railroad. See New York, Chicago & St Louis railroad

Nickel plating

Acidity of nickel depositing solutions. M. R. Thompson. *il Am Electrochem Soc Trans v* 41 (preprint 17):233-58 Ap '22

Application of contractometer to the study of nickel deposition. E. A. Vuilleumier. *diag Am Electrochem Soc Trans v* 42 (preprint 16):159-68; Discussion. 168a-e S '22

Building up worn metal parts by electro-deposition. W. E. Hughes. *Chem & Met Eng* 26:267-9 F 8 '22

Control of acidity in nickel deposition. W. Blum and M. R. Thompson. *Brass W* 19:8-11 Ja '23

Details of a plating installation. C. H. Proctor. *diags plan Metal Ind* 20:69-70 F '22

Effect of impurities in nickel salts used for electrodeposition. M. R. Thompson and C. T. Thomas. *Am Electrochem Soc Trans v* 42 (preprint 14):123-38; Discussion. 138a-e S '22

Effect of iron on the electrodeposition of nickel. M. R. Thompson. *il Am Electrochem Soc Trans v* 43 (preprint 16):175-208 My '23; Same. *Brass W* 19:183-5, 227-30, 247-52 Je-Ag '23

Electrodeposition of nickel on zinc. A. K. Graham. *Am Electrochem Soc Trans v* 43 (preprint 26):345-56 My '23; Same. *Brass W* 19:323-6 O '23

Nickel conductivity. C. H. Proctor. *Metal Ind* 20:110 Mr '22

Nickel plated production pattern plates. W. H. Parry. *Metal Ind* 21:358 S '23

Nickel plating on aluminum. T. Ledin. *Metal Ind* 20:351-2 S '22

Peeling of nickel deposits. E. A. Vuilleumier. *il Metal Ind* 19:419; 20:109-10 O '21, Mr '22

Plating cutlery. *Metal Ind* 20:147-8 Ap '22

Plating nickel upon a zinc deposit. J. A. Warner. *Metal Ind* 21:152 Ap '23

Plating of die castings. S. Herrick. *Metal Ind* 20:354 S '22

Survey of nickel solutions. J. Haas, jr. *Metal Ind* 19:364-6; 20:430-1; 21:64-5, 230-1, 273-4 S '21, N '22, F, Je-Jl '23

Nickel silver

Concerning the manufacture of German silver for pressing and free cutting. L. Kroll. *Brass W* 18:349-51 D '22

Electric furnace melting of nickel silver. F. C. Thompson. *Am Electrochem Soc Trans v* 40 (preprint 18):259-62 S '21; Same. *Brass W* 17:287-8 O '21; Same. *Metal Ind* 19:476 D '21

Nickel and its alloys. P. D. Merica. *il Am Mach* 57:450-2 S 21 '22

Some mechanical properties of nickel-silver; abstracts. F. C. Thompson and E. Whitehead. *Engineering* 113:318 Mr 17 '22; *Engineer* 133:351 Mr 31 '22; Discussion. *Engineering* 113:318-19 Mr 17 '22; *Engineer* 133:351-2 Mr 31 '22

Nickel steel

Acid open hearth process for manufacture of gun steel and fine steel; abstracts. W. P. Barba and H. M. Howe. *Blast F & Steel Pl* 10:183-91, 235-8, 287-8 Mr-My '22; *Iron Tr R* 70:749-53, 893-4, 1117-23 Mr 16, 30, Ap 20 '22; *Min & Met* 181:32-4 Ja '22; *Chem & Met Eng* 26:392-3, 929-31 Mr 1, My 17 '22

Alloy castings from electric furnaces. L. J. Barton. *Iron Age* 110:784-6 S 28 '22

Alloy steel in motor car manufacture. *Blast F & Steel Pl* 11:198+ Mr '23

Aus der geschichte der herstellung der panzerplatten in Deutschland. E. Ehrensberger. *il diags Stahl & Eisen* 42:1129-36, 1276-82, 1320-30 Ag 10-24 '22

Changes of volume of steels during heat treatment. L. Aitchison and G. R. Woodvine. *Iron & Steel Inst J* 106:175-90; Discussion. 191-2 no 2 '22

Dip-brazing with 80:20 brass and the heat-treatment of brazed joints. E. V. Schaal. *il Chem & Met Eng* 26:1121-5 Je 14 '22

Heat treating changes volume. L. Aitchison and G. R. Woodvine. *diag Iron Tr R* 71:915-18 O 5 '22; Same. *Engineering* 114:568-70 N 3 '22

Influence of nickel and chromium upon the solubility of steel in relation to corrosion. W. H. Hatfield. *il diag Engineering* 116:415-16; Discussion. 403-4 S 28 '23

Invar and related nickel steels. *il diags U S Bur Stand Circ* 58:1-93 '23

Die kennzeichnenden kurven eines nickel-stahles und eines chromstahles. H. Jungbluth. *il Stahl & Eisen* 42:1392-6 S 7 '22

Manufacture of alloy steel for airplane shafts. E. Kothny. *Chem & Met Eng* 27:1020-4 N 22 '22

Mechanical gearing. C. A. Parsons, S. S. Cook and H. M. Duncan. *il diags Engineering* 115:408-11 Mr 30 '23; Same cond. *Engineer* 135:349-50 Mr 30 '23; Discussion. *Engineering* 115:388-9 Mr 30 '23; *Engineer* 135:335-6 Mr 30 '23

Nickel chrome forgings. T. H. Turner. *il Iron Tr R* 71:1695-1700 D 21 '22; Same abr. *Engineering* 114:662-4 N 24 '22

Nickel steel direct from the ore. F. H. Mason. *Iron Age* 112:753-4 S 20 '23

Nickel steel—Continued

Pouring sound ingots of fine steel. diags
Chem & Met Eng 27:350-2 Ag '22

See also Invar

Nickel sulfate

Solubility of nickel sulfate by floating
equilibrium method. F. C. Vilbrandt and
J. A. Bender. Ind & Eng Chem 15:967-9 S
'23

Nickel sulfide

Oxidation of nickel sulphide. J. S. Dunn and
E. K. Rideal. Chem Soc J 123:1242-51 My '23

Night work

Out of my experience in handling night crews.
Il Factory 31:307-8 S '23

Nipissing mines company, ltd.

Facts for the stockholder. Eng & Min J 115:
1301 Je 2 '23

Nirvanol

Researches on hydantoin; synthesis of the
soporific, 4,4-phenylethyl-hydantoin (nir-
vanol). W. T. Read. Am Chem Soc J 44:
1746-55 Ag '22

Niter. See Potassium nitrate

Niter cake

Nitre cake for bleaching and dyeing. A. B.
Norton. Textile Col 45:631-3 O '23 (to be
cont)

Nitre cake; suggestions for its utilisation and
an improvement in the manufacture of
nitric acid. H. H. Gray. Soc Chem Ind J
(Chem & Ind) 42:225-6 Mr 9 '23

Recrystallization of niter cake at 12°. B.
Saxton. J Ind & Eng Chem 14:281-5 Ap '22

Nitrate of potash. See Potassium nitrate

Nitrate of soda. See Sodium nitrate

Nitrate plant, Oppau

Facts and fancies about the Oppau explosion.
J. Kendall. Chem & Met Eng 25:814-15, 818-
22, 949 N 2, 23 '21

Oppau disaster; facts and conjectures as to
its cause. P. J. Mallmann. Il Sci Am 126:
198 Mr '22

Nitrate plants

German and American synthetic-ammonia
plants. R. S. Tour. diag Chem & Met Eng
28:245-8, 307-11, 359-62, 411-15, 463-5 F 8-
Mr 8 '22; Same. Am Inst Chem Eng Trans
v 13 pt 2:273-323 '20-'21

Nitrogen industry in the United States. H.
Seymour. Chem Age (Lond) 8:6-8 Ja 6 '23

See also Muscle Shoals project

Nitrate plants, Federal

L'usine hydro-électrique de Muscle Shoals
(Alabama) pour la fixation de l'azote. J:
Frazier. Il Chimie & Ind 9:615-21 Mr '23

Nitrates

L'azote ammoniacal; sous-produit de la dis-
tillation de la houille. A. Grebel. Soc Ing
Civils Bul 75:293-312 Ap '22

Cultivation and nitrogen fertilization. H. A.
Noyes, J. H. Martsoff and H. T. King. J
Ind & Eng Chem 14:299-302 Ap '22

Determination of total nitrogen in cyanamide
and nitrate mixtures—Davisson-Parsons
method. K. D. Jacob and W. J. Geldard. J
Ind & Eng Chem 14:1045-6 N '22

Nitrate plans up for industrial mobilization.
Oil Paint & Drug Rep 103:20 My '23

Nitrates in 1922. G. R. Mansfield. U S Geol
S Min Res of U S 1922, pt 2:39-40 '23

Les produits azotés synthétiques, et l'ammon-
iaque obtenus comme sous-produits de dis-
tillation de la houille. A. Grebel. Génie Civil
80:567-70 Je 24 '22

See also Ammonium nitrate; Potassium
nitrate; Sodium nitrate

Nitration

Einige beiträge zur kenntnis des stick-
stoffdioxids. H. Wieland. Deutsche Chem
Gesell Ber 54:1776-84 S '21; Abstract. Chem
Soc J 120 pt 1:778-9 N '21

Nitration of benzaldehyde and the monotropy
of o-nitrobenzaldehyde. O. L. Brady and
S. Harris. Chem Soc J 123:484-94 Mr '23

Nitration of halogenated phenols. L. C.
Raiford. Am Chem Soc J 44:158-65 Ja '22

Nitration of 1,1'-binaphthyl. C. S. Schoepfle.

Am Chem Soc J 45:1566-71 Je '23

Nitration of 3-chloroacenaphthene. G. Far-
nelli. Chem Soc J 123:60-1 Ja '23

Products of nitration of toluene. W. H. Gib-
son, R. Duckham and R. Fairbairn. Chem
Soc J 121:270-83 F '22

Role of mercuric nitrate in the catalyzed ni-
tration of aromatic substances; nitration of
naphthalene. T. L. Davis. Am Chem Soc J
44:1588-91 Jl '22

Sulphonation and nitration of naphthalene. H.
E. Fierz-David. Soc Chem Ind J 42:421-4,
425-6 N 2-9 '23; Abstract. Chem Age (Lond)
9:309-10 S '23

Über die einwirkung von salpetersäure auf
α,α-diphenyl-äthan und α,α-diphenyl-äthylen.
R. Anschütz and A. Hilbert. Deutsche Chem
Gesell. Ber 54:1854-9 S '21

Weitere studien über den nitrationsvorgang.
H. Wieland and F. Rahm. Deutsche Chem
Gesell Ber 54:1770-5 S '21

Zur kenntnis der pyrrole; nitrirung von sub-
stituierten pyrrolen. H. Fischer and W. Zer-
weck. Deutsche Chem Gesell Ber 55:1949-55
Je '22

Zur kenntnis des tetranitro-methans; tetranit-
ro-methan als nitrationsmittel. E. Schmidt
and others. Deutsche Chem Gesell Ber 55:
1751-9 Je '22; Abstract. Chem Soc J 121 pt
1:733-4 Ag '22

Nitric acid

Action of nitric acid on coal. A. V. Hen-
drickson. Gas J (Lond) 162:592 Je 6 '23

Air bleaching of nitric acid. W. G. Whitman
and L. Evans. Chem & Met Eng 27:686-8 O
4 '22

Concentrating dilute nitric acid solutions. C.
D. Carpenter and J. Babor. diags Chem &
Met Eng 26:443-4; 27:121-4 Mr 8, Jl 19 '22

Distillation and concentration of dilute nitric
acid. E. Berl and O. Samtleben. diags
Chem & Met Eng 27:1025-30 N 22 '22

Distillation studies of nitric acid and sul-
phuric-nitric acid mixtures. P. Pascal. diags
Chem & Met Eng 25:1103-6, 1145-50 D 14-21
'21

Electrolytic concentration of aqueous solu-
tions of nitric acid. H. J. M. Creighton.
J Fr Inst 193:89-95 Ja '22

Halogenation: the action of bromine and
nitric acid on organic compounds; prepara-
tion of nitrosyl tribromide and the forma-
tion of tetrabromoquinone. R. L. Datta and
N. R. Chatterjee. Am Chem Soc J 45:480-2
F '23

How to cut risks in shipping nitric acid.
Safety Eng 43:144 Ap '22

Introduction of niter into sulphuric acid
processes as mixed acid. E. L. Larison.
diags Chem & Met Eng 26:642-4 Ap 5 '22

Nitre cake; suggestions for its utilisation and
an improvement in the manufacture of
nitric acid. H. H. Gray. Soc Chem Ind J
(Chem & Ind) 42:225-6 Mr 9 '23

Nitric acid from saltpeter or synthetic am-
monia. G. B. Taylor. Chem Age 30:244-6
Je '22; Same. Chem & Met Eng 26:1217-19
Je 28 '22

Oxidation of sucrose by nitric acid. F. D.
Chattaway and H. J. Harris. Chem Soc J
121:2703-9 D '22

Plant of the Northern explosives co., limited.
Dragon, P.Q. J. R. Donald. Can Chem &
Met 6:101-4 My '22

La polémique de l'azote; le procédé à l'arc.
F. Gros. Soc Ing Civils Bul 75:173-202 Ap
'22; Abstract. Génie Civil 80:411 My 6 '22

Solubility of aluminum nitrate crystals in
solutions of nitric acid of various strengths
at various temperatures. L. H. Milligan.
Am Chem Soc J 44:567-70 Mr '22

Study of the fluidity relationships in the sys-
tem, nitric acid, sulfuric acid and water.
E. C. Bingham and S. B. Stone. J Phys
Chem 27:701-38 N '23

Über die einwirkung von salpetersäure auf
phenol-äther. K. H. Meyer and H. Gottlieb-
Billroth. Deutsche Chem Gesell Ber 55:823-6
Ap '22

Nitric acid—Continued

U.S. government explosives plant C, Nitro, West Virginia; the manufacture of nitric acid. M. F. Chase. *il diags J Ind & Eng Chem* 14:677-81 Ag '22

Vapor pressures of aqueous solutions of nitric acid. W. C. Sproesser and G. B. Taylor. *diag Am Chem Soc J* 43:1782-7 Ag '21

Nitric oxide. See Nitrogen dioxide; Nitrogen oxides

Nitrification

Determination of nitrate nitrogen in the presence of cyanamide and some of its derivatives. K. D. Jacob. *Ind & Eng Chem* 15: 1175-7 N '23

Fixation biologique de l'azote de l'air et solubilisation de l'azote organique par les bactéries ammonifiantes du sol. Génie Civil 83:306 S 29 '23

See also Bacteria, Nitrifying

Nitrifying bacteria. See Bacteria, Nitrifying

Nitriles

Condensation of certain nitriles and various poly-hydroxyphenols to form phenolic acids. W. D. Langley and R. Adams. *Am Chem Soc J* 44:2320-30 O '22

Delta ketonic nitriles and their relation to cyclic compounds. E. P. Kohler and B. L. Souther. *Am Chem Soc J* 44:2903-14 D '22

Some delta ketonic nitriles and their relation to cyclic compounds. E. P. Kohler, A. Graustein and D. R. Merrill. *Am Chem Soc J* 44:2536-56 N '22

Nitro, West Virginia

U.S. government explosives plant, Nitro, West Virginia. M. F. Chase and F. E. Pierce. *diags J Ind & Eng Chem* 14:260-8, 498-503, 677-81 Ap, Je, Ag '22

Nitro compounds

Bemerkungen über die salzbildung aromatischer nitrokörper. J. Lifschitz. *Deutsche Chem Gesell Ber* 55:1631-4 Je '22

Catalytic reduction of nitro compounds; gamma-nitro ketones. E. P. Kohler and N. L. Drake. *Am Chem Soc J* 45:2144-50 S '23

Catalytic reduction of nitro compounds; α,β -unsaturated nitro compounds. E. P. Kohler and N. L. Drake. *Am Chem Soc J* 45:1281-9 My '23

Estimation of aliphatic nitrate esters in the presence of certain nitro-aromatic compounds. W. J. Huff and R. D. Leitch. *Am Chem Soc J* 44:2643-5 N '22

Influence of nitro-groups on the reactivity of substituents in the benzene nucleus. H. Burton and J. Kenner. *Chem Soc J* 121: 489-96, 675-82 Mr-Apr '22

Influence of nitro-groups on the reactivity of substituents in the benzene nucleus; reactions of 2,5- and 4,5-dinitro-m-xylenes. K. Ibbotson and J. Kenner. *Chem Soc J* 123: 1260-8 My '23

Die katalytische reduktion aromatischer nitroverbindungen und eine neue darstellungsweise von β -aryl-hydroxylaminen. K. Brand and J. Steiner. *Deutsche Chem Gesell Ber* 55:875-87 Ap '22; Abstract. *Chem Soc J* 122 pt 1:536-7 Je '22

Labile nature of the halogen atom in organic compounds; the tautomeric hydrogen hypothesis, and the removal of the halogen atom from aromatic nitro-compounds. A. K. Macbeth. *Chem Soc J* 121:1116-21 Je '22

Labile nature of the halogen atom in organic compounds; titanium reductions of substituted nitroparaffins. T. Henderson and A. K. Macbeth. *Chem Soc J* 121:892-903 My '22

Nitro-derivatives of m-cresol. G. P. Gibson. *Chem Soc J* 123:1269-77 My '23

Nitro-derivatives of m-nitrodimethylaniline. A. Forster and W. Coulson. *Chem Soc J* 121:1988-97 O '22

Über die einwirkung von natriumbisulfit auf nitroverbindungen der benzol-reihe. H. Weil and E. Moser. *Deutsche Chem Gesell Ber* 55:732-7 Mr '22

Über reduktionen mit titan-trichlorid. H. Rathsburg. *Deutsche Chem Gesell Ber* 54: 3183-4 D '21

See also Nitrohydrazo-compounds; Nitro-phenols

Nitroanilines

Constitution of the dichlorohydroxy-ethylidene-bis-nitro-anilines. A. S. Wheeler and S. C. Smith. *Am Chem Soc J* 45:1839-42 JI '23

New fast acid dyes from nitro-aniline-sulfamides; patent. *Color Tr J* 12:54 F '23

Study of the nitro-anilines. M. S. Kharasch, F. W. M. Lommen and I. M. Jacobsohn. *Am Chem Soc J* 44:793-805 Ap '22

Über die einwirkung von bisulfit auf nitro-aniline. H. Weil and P. Wassermann. *Deutsche Chem Gesell Ber* 55:2533-42 S '22; Abstract. *Chem Soc J* 122 pt 1:1006-7 N '22

See also Paranitraniline

Nitrobenzaldehydes

Nitration of benzaldehyde and the monotropy of o-nitrobenzaldehyde. O. L. Brady and S. Harris. *Chem Soc J* 123:484-94 Mr '23

Solubility and volatility of the nitrobenzaldehydes. N. V. Sidgwick and M. W. Dash. *Chem Soc J* 121:2586-92 N '22

Über die reaktionsfähigkeit der nitro-benzaldehyde. G. Heller, H. Lauth and A. Buchwaldt. *Deutsche Chem Gesell Ber* 55:483-9 F '22

Nitrobenzene

Catalytic preparation of azobenzene and aniline. C. O. Henke and O. W. Brown. *J Phys Chem* 26:324-48 Ap '22

Cryoscopic measurements with nitrobenzene. H. M. Roberts and C. R. Bury. *Chem Soc J* 123:2037-43 Ag '23

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the reduction of nitrobenzene by sodium in liquid ammonia. G. F. White and K. H. Knight. *Am Chem Soc J* 45: 1780-7 JI '23

Nitrobenzoic acid

Studien über die Kjeldahlisation der mononitro-phenole, mononitro-benzoesäuren und der mononitro-zimtsäuren. E. M. Margosches and E. Vogel. *Deutsche Chem Gesell Ber* 55:1380-9 My '22; Abstract. *Chem Soc J* 122 pt 2:522-3 JI '22

Nitrobenzyl chloride

Über kondensationen von p-nitrobenzyl-chlorid mit zimtaldehyd und mit furfural. E. Kleucker. *Deutsche Chem Gesell Ber* 55:1634-54 Je '22; Abstract. *Chem Soc J* 122 pt 1:734-5 Ag '22

Nitrocarbazole

Preparation of N-derivatives in the carbazole series. T. S. Stevens and S. H. Tucker. *Chem Soc J* 123:2140-7 S '23

Nitrocellulose

Ammonia as nitrocellulose solvent. *Chem & Met Eng* 28:123 Ja 17 '23

Cellulose nitrate as an emulsifying agent. H. N. Holmes and D. H. Cameron. *Am Chem Soc J* 44:66-70 Ja '22

Colloiding agents for nitrocellulose. T. L. Davis. *J Ind & Eng Chem* 14:1140-1 D '22

Manufacture of cellulose nitrate for pyroxylin plastics. J. R. DuPont. *il diags Chem & Met Eng* 26:11-16, 65-70 Ja 4-11 '22

Reclaiming nitrocellulose from pyro smokeless powder. *Chem & Met Eng* 28:128 Ja 17 '23

Solvents for cellulose esters. H. F. Willkie. *Chem & Met Eng* 25:1186-8 D 28 '21

Study of nitrocellulose. E. C. Bingham and W. L. Hyden. *J Fr Inst* 194:731-40 D '22

See also Cellulose

Nitrocyclopropanes

Reaction between alkalies and certain nitrocyclopropane derivatives. E. P. Kohler and L. I. Smith. *Am Chem Soc J* 44:624-31 Mr '22

Nitroform

Labile nature of the halogen atom in organic compounds; the electrical conductivities and the reduction of derivatives of nitroform. T: Henderson, E. L. Hirst and A. K. Macbeth. *Chem Soc J* 123:1130-7 My '23

Nitrogen

Absorption of nitrous gases. H. W. Webb. 372p Longmans '23

Active modifications of hydrogen and nitrogen produced by α rays. F. H. Newman. *diags Philos Mag* 6th ser 43:455-62 Mr '22

Advantage of nitrogen in the boiler furnace. *Power* 54:647, 819, 902 O 25, N 22, D 6 '21

Combustion of nitrogen under high pressures. F. Häusser. *Soc Chem Ind J* (Chem & Ind) 42:750 Ag 3 '23

Configuration of the doubly-linked tervalent nitrogen atom. W: H. Mills and H. Schindler. *Chem Soc J* 123:312-23 F '23

Equation of state for pure nitrogen, gas phase. L. B. Smith and R. S. Taylor. *diags Am Chem Soc J* 45:2107-24 S '23

Explosion of acetylene and nitrogen. W: E: Garner and K. Matsuno. *diags Chem Soc J* 119:1903-14; 121:1729-36 D '21, S '22

Industrial nitrogen. P. H: S. Kempton. 104p Pitman '22

Low voltage arcs in diatomic gases. O. S. Duffendack. *diags Phys R* 20:665-87 D '22

Die Luftstickstoffindustrie. B. Waeser. 586p O. Spamer, Leipzig '22

Mathematics of the dicyclic colour theory, and a new theory of the structure of the nitrogen atom. J. Moir. *Chem Soc J* 121:1808-13 S '22

Mobility of electrons in pure nitrogen. L. B. Loeb. *diag Phys R* 19:24-37 Ja '22

Muscle Shoals plant and the nitrogen supply. J. K. Clement. *il Mech Eng* 44:357-9 Je '22

Nature of the negative and positive ions in air, oxygen and nitrogen. H: A. Erikson. *diags Phys R* 20:117-26 Ag '22

Nitrogen and the food supply. F. W. Parsons. *Gas Age* 49:513-14+ Ap 29 '22

Nitrogen compounds in alfalfa hay. H. G. Miller. *Am Chem Soc J* 43:2656-63 D '21

Nitrogen distribution in verticals. C. H. Stone. *Gas Age* 51:241-3; 52:195 F 24, Ag 18 '23; Same cond. *Chem & Met Eng* 28:507-8 Mr 14 '23

Nitrogen industry. J. R. Partington and L. H. Parker. 336p Van Nostrand '22

Nitrogen supply of the world. A. B. Lamb. *J Ind & Eng Chem* 13:1166-7 D '21

Nitrogen survey by the Department of commerce. H. A. Curtis. *Chem & Met Eng* 29: 842-3 N 5 '23

Recovery of nitrogen from sewage in the activated sludge process. E: Ardern, C. Jepson and P. Gaunt. *Soc Chem Ind J* 42:230-4 My 25 '23

Reversibility of the reaction between nitrogen, carbon and sodium carbonate. C. K. Ingold and D. Wilson. *Chem Soc J* 121:2278-86 O '22

Spectra of hydrogen, nitrogen and oxygen in the extreme ultraviolet. J. J. Hopfield. *diag pl Phys R* 20:573-83 D '22

Über organische radikale mit vierwertigem stickstoff. H: Wieland and F. Kögl. *Deutsche Chem Gesell Ber* 55:1798-1803 Je '22; Abstract (Nitrogen in iron and steel). *Chem & Met Eng* 27:944 N 8 '22

Zweiwertiger stickstoff; über das α,α -diphenyl- β -trinitrophenyl-hydrazyl. S. Goldschmidt and K. Renn. *Deutsche Chem Gesell Ber* 55:628-43 Mr '22

Zweiwertiger stickstoff; über diaryl-acyl-hydrazyle. S. Goldschmidt and K. Euler. *Deutsche Chem Gesell Ber* 55:616-28 Mr '22

See also Fixed nitrogen research laboratory; Nitrates; Nitrogen fixation; Steel—Nitrogen content

Analysis

Analysis of hydrogen for traces of nitrogen. R. L. Dodge. *diag Am Chem Soc J* 45:1688-91 JI '23

La détermination du pouvoir comburivore et le dosage de l'azote du gaz d'éclairage. M. Nicloux. *Chimie & Ind* 9:866-71 My '23

Determination of nitrate nitrogen in the presence of cyanamide and some of its derivatives. K. D. Jacob. *Ind & Eng Chem* 15: 1175-7 N '23

Determination of nitrogen in steel. F: Hurum and H: Fay. *diag Chem & Met Eng* 26: 218-22 F 1 '22

Determination of total nitrogen in cyanamide and nitrate mixtures—Davisson-Parsons method. K. D. Jacob and W. J. Geldard. *J Ind & Eng Chem* 14:1045-6 N '22

Studien über die Kjeldahlisation der mononitro-phenole, mononitro-benzoesäuren und der mononitro-zimtsäuren. B. M. Margosches and E. Vogel. *Deutsche Chem Gesell Ber* 55:1380-9 My '22; Abstract. *Chem Soc J* 122 pt 2:522-3 JI '22

Ueber ein stickstoffbestimmungsverfahren in stahl und roheisen und über den stickstoff bei den hüttenprozessen. F. Wüst and J. Duhr. *Stahl & Eisen* 42:1290-6 Ag 17 '22

Nitrogen, Liquid

Metal vacuum vessels and liquefied gases; report of the Oxygen research committee. *Engineering* 116:501-2 O 19 '23

Nitrogen chlorides

Attempt to prepare nitro-nitrogen trichloride; the conduct of mixtures of nitrogen and chlorine in a flaming arc. W: A. Noyes. *diags Am Chem Soc J* 43:1774-82 Ag '21

Nitrogen compounds

L'azote en Allemagne avant, pendant et après la guerre. H: Muraour. *Chimie & Ind* 8:169-75 JI '22

Equilibria in systems involving calcium, hydrogen and nitrogen. C: A. Kraus and C: B. Hurd. *diag Am Chem Soc J* 45:2559-74 N '23

Labile nature of the halogen atom in organic compounds; action of hydrazine on nitrogen-halogen compounds and on bromomalonate esters. E. L. Hirst and A. K. Macbeth. *Chem Soc J* 121:904-11 My '22

Photocatalysis: the photosynthesis of naturally occurring nitrogen compounds from carbon dioxide and ammonia. E: C: C. Baly, I. M. Heilbron and H. J. Stern. *il Chem Soc J* 123:185-97 Ja '23

Photocatalysis: the photosynthesis of nitrogen compounds from nitrates and carbon dioxide. E: C: C. Baly, I. M. Heilbron and D. P. Hudson. *Chem Soc J* 121:1078-88 Je '22

Qualitative scheme for detection of cyanamide and related compounds. G. H. Buchanan. *Ind & Eng Chem* 15:637-40 Je '23

La situation actuelle de l'industrie des matières azotées en Allemagne. C. Matignon. *map Chimie & Ind* 8:176-84 JI '22

Studies of the activity of organic nitrogenous compounds. C. S. Robinson, O. B. Winter and S. Bandemer. *Ind & Eng Chem* 15:1179-82 N '23

Über die genauigkeit der Dumasschen bestimmungsmethode des stickstoff-gehaltes sehr stickstoff-reicher verbindungen. E. Mohr. *diags Deutsche Chem Gesell Ber* 54:2758-67 N '21

See also Nitro compounds

Nitrogen dioxide

Action of nitric oxide on the metallic carbonyls. R. L. Mond and A. E: Wallis. *Chem Soc J* 121:32-5 Ja '22

Einige beiträge zur kenntnis des stickstoffdioxids. H. Wieland. *Deutsche Chem Gesell Ber* 54:1776-84 S '21; Abstract. *Chem Soc J* 120 pt 1:778-9 N '21

Oxidation of nitric oxide and its catalysis. C: L. Burdick. *diags Am Chem Soc J* 44: 244-51 F '22

Über die einwirkung von stickoxyd- und hydroxylamin-verbindungen auf tert. natrium-arsenit. A. Gutmann. *Deutsche Chem Gesell Ber* 55:3007-12 O '22

Nitrogen fixation

Adoption, par la Chambre des députés, du projet de loi pour la fabrication de l'ammoniaque par le procédé Haber. *Génie Civil* 82:196-9 Mr 3 '23

Nitrogen fixation—Continued

- Atmospheric nitrogen fixation. E. A. Lof, *il Gas Age* 50:649-51, 697-8, 737-40+ N 11-25 '22; Same. *Gen Elec R* 26:136-42, 238-44 Mr-Apr '23
- L'azote; la fixation de l'azote atmosphérique et son avenir industriel. L. Hackspill. 271p Masson & c^{ie}, Paris '22
- Bucher process for the fixation of nitrogen. M. deK. Thompson. *diags Chem & Met Eng* 26:124-7 Ja 18 '22
- Casale nitrogen fixation patents. *Can Chem & Met* 7:12 Ja '23
- Developments in nitrogen fixation. J. M. Braham. *J Ind & Eng Chem* 14:791-2 S '22
- Economic status of nitrogen fixation in Germany. W. T. Daugherty. *Chem & Met Eng* 28:62-4 Ja 10 '23
- Experiments on the arc process for nitrogen fixation. E. D. McCollum and F. Daniels. *diag Ind & Eng Chem* 15:1173-5 N '23
- Explosives and fertilizers. A. H. White. *Chem & Met Eng* 26:161-5 Ja 25 '22
- La fabrication de la cyanamide. Garaix. *diags Soc Ing Civils Bul* 75:270-92, pl 26 Ap '22
- Financial results of Norwegian hydro-electric nitrogen company. *Elec W* 81:212 Ja 27 '23
- La fixation biologique de l'azote de l'air et la solubilisation de l'azote organique par certaines bactéries du sol. G. Truffaut. *il Chimie & Ind* 9:1094-1108 Je '23
- Fixation by hydrolysis? K. G. Falk and R. H. McKee. *bibliog Chem & Met Eng* 29:224-5 Ag '23
- Fixation of atmospheric nitrogen. J. Knox. 2d ed. 124p Van Nostrand '21
- Fixation of atmospheric nitrogen by activated sludge. C. L. Peck. *Eng N* 90:187-9 Mr 15 '23; Discussion. 90:843-5 My 10 '23
- Future of nitrogen fixation in the United States. J. K. Clement. *Chem Age* 30:197-8 My '22
- Government research in nitrogen fixation. *Chem Age* 30:535-6 D '22
- How Norsk hydro absorbs its dilute nitrous gases. T. C. Hagemann. *il diag plan Chem & Met Eng* 29:502-3 S 10 '23
- Importance of nitrogen fixation. H. S. van Klooster. *Chem Age* 31:160-2 Ap '23
- Nitrates from the air; abstracts. E. K. Scott. *Elec R (Lond)* 92:712 My 4 '23; *Soc Chem Ind J (Chem & Ind)* 42:498-9 My 18 '23; Discussion. *Elec R (Lond)* 92:768 My 18 '23
- Nitrogen fixation by the cyanide process. F. E. Bartell. *il diag J Ind & Eng Chem* 14: 699-704 Ag '22
- Nitrogen from the air. K. M. Chance. *Chem Age (Lond)* 9:95 Jl 28 '23
- Nitrogen industry; discussion. *Engineer* 134: 359 O 6 '22; *Engineering* 114:473 O 13 '22; *Elec R (Lond)* 91:495-6 O 6 '22
- Notes on the nitrogen position in Germany. H. E. Watts. *Chem Age (Lond)* 9:226-7 S 1 '23
- Oxidation of ammonia—the work of the Sheffield experiment station. H. A. Curtis. *Chem & Met Eng* 27:699-703 O 4 '22
- La politique de l'azote; le procédé à l'arc. F. Gros. *Soc Ing Civils Bul* 75:173-202 Ap '22; Abstract. *Génie Civil* 80:411 My 6 '22
- Position of the nitrogen industry in France. M. Deschiens. *Soc Chem Ind J (Chem & Ind)* 42:228-9 Mr 9 '23
- Post-war progress in the fixation of nitrogen. J. A. Harker. *Engineering* 114:536-7 O 27 '22
- Le procédé Haber. Patart. *diags Soc Ing Civils Bul* 75:203-52, pl 23 Ap '22; Abstract. *Génie Civil* 80:499-501 Je 3 '22; Discussion. 80:523-5 Je 10 '22
- Production of nitrogen and hydrogen for synthetic ammonia manufacture. H. S. Taylor. *flow sheet diags Chem & Met Eng* 27:1263-6 D 27 '22
- Some aspects of the relationship between water power and nitrogen fixation. E. B. Maxted. *Engineering* 114:537-8 O 27 '22
- Sur la fabrication de l'ammoniaque synthétique. C. Lormand. *Chimie & Ind* 9:183-7 Ja '23
- La synthèse de l'ammoniaque. G. Claude. *diags Soc Ing Civils Bul* 75:253-69, pl 25 Ap '22; Abstract. *Génie Civil* 80:501-4 Je 3 '22; Discussion. 80:523-5 Je 10 '22

Synthèses de guerre et synthèses futures; le problème agricole de l'azote. *Chimie & Ind* 9:400-1 F '23

Taking nitrogen from the air. L. McClung. *il Sci Am* 128:298-9 My '23

La théorie thermique de la distillation et de la rectification de l'air. P. Mion and L. Gay. *diags Chimie & Ind* 9:463-8, 674-84 Mr-Apr '23

Les tubes du procédé Georges Claude. L. Guillet. *diag Soc Ing Civils Bul* 75:320-5, pl 27 Ap '22; Abstract. *Mech Eng* 44:734 N '22

L'usine hydro-électrique de Muscle Shoals (Alabama) pour la fixation de l'azote. J. Frazer. *il Chimie & Ind* 9:615-21 Mr '23

Nitrogen oxides

L'absorption et l'analyse des oxydes gazeux de l'azote. A. Sanfourche. *Chimie & Ind* 9: 530-1 Mr '23

Action of nitrous gases on unsaturated compounds; the action of nitrogen trioxide on the monoxime of benzilidenediacetyl. O. Diels. *Chem Soc J* 124 pt 1:822-5 Ag '23

Absorption of mixed gases by charcoal; carbon dioxide and nitrous oxide. L. B. Richardson and J. C. Woodhouse. *diag Am Chem Soc J* 45:2638-53 N '23

Analytical determination of oxides of nitrogen in gas mixtures. C. L. Burdick. *J Ind & Eng Chem* 14:308-10 Ap '22

Boiling points of ammonia, sulfur dioxide, and nitrous oxide. F. W. Bergstrom. *diags J Phys Chem* 26:876-94 D '22

Determination of oxides of nitrogen. V. C. Allison, W. L. Parker and C. W. Jones. *diags U S Bur Mines Tech Pa* 249:1-13 '21; Abstract. *Eng & Min J* 112:891 D 3 '21

Formation of gaseous ions in the oxidation of nitric oxide. A. K. Brewer and F. Daniels. *diag Am Electrochem Soc Trans v* 44 (preprint 17):171-82 S '23

Formation of oxides of nitrogen in the slow combustion and explosion methods in gas analyses. G. W. Jones and W. L. Parker. *J Ind & Eng Chem* 13:1154-7 D '21

Low temperature electrolyte. W. H. Rodebush and T. O. Yntema. *diags Am Chem Soc J* 45:332-7 F '23

Motion of electrons in carbon monoxide, nitrous oxide, and nitric oxide. M. F. Skinner and J. V. White. *Philos Mag* 6th ser 46:630-7 O '23

Oxides of nitrogen produced by ozone apparatus. G. W. Jones, W. P. Yant, and O. W. Armspach. *il Am Soc Heat & V E J* 23:191-8 Mr '22

Poisoning by oxides of nitrogen. *Min & Sci P* 124:89 Ja 21 '22

Production of nitric oxides and ozone by high voltage electric discharges. K. B. McEachron. *Am Electrochem Soc Trans v* 44 (preprint 8):71-86 S '23

Production of nitric oxides and ozone by high voltage electric discharges. K. B. McEachron and R. H. George. (*Eng. exp. sta. bul.* 9) 189p Purdue univ., Lafayette, Ind. '22

Production of nitrogen oxides from ammonia by catalysis. *Chem & Met Eng* 27:1137 D 6 '22

Remarques sur le procédé de fabrication par l'arc électrique des oxydes d'azote. G. Courtois. *diags Soc Ing Civils Bul* 75:313-19, pl 24 Ap '22

Solubility of CO₂ and N₂O in certain solvents. W. Kunerth. *diag Phys R* 19:512-24 My '22

Specific heats of nitrous and nitric oxides. J. R. Partington and W. G. Shilling. *diag Philos Mag* 6th ser 45:416-30 Mr '23

Über das salpetrigsäure-anhydrid. F. Feorster. *Deutsche Chem Gesell Ber* 55:490-1 F '22

See also Nitrogen dioxide; Nitrogen pentoxide; Nitrogen tetroxide

Nitrogen pentoxide

Decomposition of nitrogen pentoxide in the presence of ozone. F. Daniels, O. R. Wulf and S. Karrer. *Am Chem Soc J* 44:2402-4 N '22

Thermal decomposition of nitrogen pentoxide in solution. R. H. Lueck. *diag Am Chem Soc J* 44:757-69 Ap '22

Nitrogen tetroxide

Oxidation of nitrogen tetroxide by ozone. O. R. Wulf, F. Daniels and S. Karrer. *diag Am Chem Soc J* 44:2398-2401 N '22

Nitrogen trichloride

Attempt to prepare nitro-nitrogen trichloride; the conduct of mixtures of nitrogen and chlorine in a flaming arc. W. A. Noyes. *diags Am Chem Soc J* 43:1774-82 Ag '21

Chlorination and the formation of chloroamines by means of nitrogen trichloride. G. H. Coleman and W. A. Noyes. *Am Chem Soc J* 43:2211-17 O '21

Nitroglycerin

Nitro shooters usually are fatalists and many die violently. D. A. Dennison. *Nat Pet N* 14:79+ F 15 '22

Premature explosions of nitroglycerin in oil well drilling operations. C. W. Porter. *J Ind & Eng Chem* 14:212 Mr '22

Nitroguanidine

Action of sulfuric acid on nitroguanidine. T. L. Davis. *Am Chem Soc J* 44:868-72 Ap '22

Nitrohydroazo-compounds

Certain *o*-nitrohydroazo-compounds. M. Giua and M. Giua. *Chem Soc J* 124 pt 1:608-11 Je '23

Nitromalic acid

Nitromalic acid. A. Lachman. *Am Chem Soc J* 43:2084-91 S '21

Nitro-naphthylamines

Azo-dyes from nitro- α -naphthylamines (1.5 and 1.8). G. T. Morgan and F. R. Jones. *Soc Chem Ind J* 42:341-3 Ag 17 '23

Nitrophenanthraquinone

Über die gewinnung von phenanthrenchinon- und phananthren-abkömmlingen aus 2-nitro-phenanthrenchinon. J. Schmidt and O. Spoun. *Deutsche Chem Gesell Ber* 55:1194-1211 My '22; Abstract. *Chem Soc J* 122 pt 1:665-6 Jl '22

Nitrophenols

Mercury nitrate in the preparation of nitrophenols. *Chem Age* 30:334 Jl '22

Metallic derivatives of nitrophenolic compounds; nitrophenoxides of the alkali metals. D. Goddard and A. E. Goddard. *Chem Soc J* 121:54-8 Ja '22

Metallic derivatives of nitrophenolic compounds; some complex nitrophenoxides of magnesium, silver and lead. A. E. Goddard and J. B. Ward. *Chem Soc J* 121:262-6 F '22

Process for making nitro-phenols. *Color Tr J* 11:244 D '22

Solubilities and cooling curves for the mononitrophenols. L. L. Carrick. *J Phys Chem* 25:628-59 N '21

Studien über die Kjeldahlisation der mononitro-phenole, mononitro-benzoesäuren und der mononitro-zimtsäuren. B. M. Margosches and E. Vogel. *Deutsche Chem Gesell Ber* 55:1380-9 My '22; Abstract. *Chem Soc J* 122 pt 2:522-3 Jl '22

Über die einwirkung von brom auf nitrophenol-sulfon- und -sulfon-carbonsäuren. E. Sakellarios. *Deutsche Chem Gesell Ber* 55:2846-53 S '22; Abstract. *Chem Soc J* 122 pt 1:1144-5 D '22

See also Dinitrophenol

Nitrophenoxides

Metallic derivatives of nitrophenolic compounds; some complex nitrophenoxides of magnesium, silver and lead. A. E. Goddard and J. B. Ward. *Chem Soc J* 121:262-6 F '22

Nitrophenoxycetic acids

Preparation of *o*-, *m*-, and *p*-nitrophenoxycetic acids and various nitrotyloxyacetic acids and their derivatives. T. H. Minton and H. Stephen. *Chem Soc J* 121:1591-8 Ag '22

Nitrophenyldithiochloride

Beiträge zum valenzproblem des schwefels; über das *o*-nitrophenyl-dithiochlorid. H. Lecher and K. Simon. *Deutsche Chem Gesell Ber* 55:2423-32 S '22

Nitrophenylhydrazine

Preparation of *p*-nitrophenylhydrazine and other aromatic hydrazines. W. Davies. *Chem Soc J* 121:715-21 Ap '22

Nitroquinones

Über äther des oxy-dihydro-brucinolons und die violette farbreaktion von nitro-chinonen daraus; (über strychnos-alkaloide). H. Leuchs, J. Grüss and H. Heering. *Deutsche Chem Gesell Ber* 55:3729-38 D '22; Abstract. *Chem Soc J* 121 pt 1:131-2 F '23

Nitro-salicylaldehydes

Mercury derivatives of salicylaldehyde and the nitro-salicylaldehydes. F. C. Whitmore and E. B. Middleton. *Am Chem Soc J* 45:1330-4 My '23

Nitrosates

Über die coniferen-harzsäuren: nitroso-chlorid, nitrosit und nitrosat der pinabietinsäure und abietinsäure; die konstitution der abietinsäure und des abietins. O. Aschan and others. *Deutsche Chem Gesell Ber* 55:2944-59 O '22; Abstract. *Chem Soc J* 122 pt 1:1152-3 D '22

Nitroso compounds

N-oximino-ethers; *N*-aryl ethers of 2:4- and 2:6-dinitrobenzaloximes. F. Barrow, E. D. Griffiths and E. Bloom. *Chem Soc J* 121:1713-17 S '22

Zur kenntnis der nitrosophenol-farbstoffe. H. Decker and B. Solonina. *Deutsche Chem Gesell Ber* 54:2427-35 O '21

Nitrosohydroxyindazole

Über nitroso-*N*-oxy-indazol. E. Bamberger. *Deutsche Chem Gesell Ber* 55:3371-5 N '22

Nitroso-phenols

Fast green O and its related dyes. J. M. Matthews. *Color Tr J* 13:42-5 Ag '23

Nitrosyl chloride

Action of nitrosyl chloride on normal heptane. E. V. Lynn and O. Hilton. *Am Chem Soc J* 44:645-8 Mr '22

Reaction of nitrosyl chloride on toluene. E. V. Lynn and H. L. Arkley. *Am Chem Soc J* 45:1045-7 Ap '23

Nitrosyl tribromide

Halogenation: the action of bromine and nitric acid on organic compounds; preparation of nitrosyl tribromide and the formation of tetrabromoquinone. R. L. Datta and N. R. Chatterjee. *Am Chem Soc J* 45:480-2 F '23

Nitrosylselenic acid

Nitrosyl selenic acid. J. Meyer and W. Wagner. *Am Chem Soc J* 44:1032-3 My '22; Same. *Deutsche Chem Gesell Ber* 55:690-2 Mr '22

Nitrosylsulfuric acid

Absorption spectra of nitrosylsulfuric acid and of the complex compounds of copper sulfate and of ferrous sulfate with nitric oxide. H. I. Schlesinger and A. Salathe. *Am Chem Soc J* 45:1863-78 Ag '23

Nitrothianthrene

Synthesis of substituted thianthrens; thianthren and nitrothianthren. S. Krishna. *Chem Soc J* 123:156-60 Ja '23

Nitrotoluene

Products of nitration of toluene. W. H. Gibson, R. Duckham and R. Fairbairn. *Chem Soc J* 121:270-83 F '22

Studies on the nitrotoluenes; binary systems of *m*-nitrotoluene with another mononitrotoluene. J. M. Bell and J. L. McEwen. *J Ind & Eng Chem* 14:536-8 Je '22

See also Chlorodinitrotoluenes; Dinitrotoluene; Trinitrotoluene

Nitrotolyloxides

Metallic derivatives of nitrophenolic compounds; some nitrotolyloxides of metals of group II. D. Goddard and A. E. Goddard. *Chem Soc J* 119:2044-8 D '21

Nitrotolyoxyacetic acids

Preparation of *o*-, *m*-, and *p*-nitrophenoxycetic acids and various nitrotolyoxyacetic acids and their derivatives. T. H. Minton and H. Stephen. *Chem Soc J* 121:1591-8 Ag '22

Nitrous oxide. See Nitrogen oxides**Nitroxylene**

Manufacture of nitroxylol. L. O. Koons. *Color Tr J* 10:143-4 Ap '22

Nitroxylol. See Nitroxylenes

Nobbs and Hyde, architects

Illustrations of work in Canada from the offices of Nobbs & Hyde. *Am Arch* 124:14a-1 J1 4 '23

Noble, Alfred, 1844-1914

Unveiled bronze tablet as memorial to Alfred Noble. *il Eng N* 88:504 Mr 23 '22

Noise

Architectural acoustics; the nature and reduction of office noises. P. E. Sabine. *il Am Arch* 121:441-4, 487-90, 527-9 My 24-Je 21 '22
 Conquering the noise. H. P. Maxim. *il diags Power* 57:630-3 Ap 24 '23
 Cost of noise. B. Daniels. *Inland Ptr* 68:791 Mr '22
 Detection, location and comparison of sound; testing machinery by sound. C. E. Noël-Storr. *Mech Eng* 45:52 Ja '23
 Eliminating noise in heating systems. H. A. Jahnke. *diags Power* 51 *Eng* 26:666-8 J11 '22; Discussion. M. W. Ehrlich. 26:963 O 1 '22
 Evaluation of noise. *il diags Automobile Eng* 13:109-12 Ap '23
 Influence of industrial noises. D. J. Glibert. *bibliog J Ind Hygiene* 3:264-75 Ja '22
 Investigation of machinery noises. *Engineering* 115:375 Mr 23 '23
 Motor cycle noises and the low audiometer. *il Engineer* 134:335-6 S 29 '22
 Noises for the movies. A. A. Hopkins. *il Sci Am* 126:30-1 Ja '22
 Production of noise and vibration by certain squirrel-cage induction motors. F. T. Chapman. *diags Inst E E J* 61:39-48 D '22
 Reduction of noise in banks and offices. C. M. Swan. *Arch Forum* 38:309-10 Je '23
 Rubber heels and efficiency. D. Baker. *Ptg Art* 38:563-4 F '22
 Silences suction noises of air compressors. *il Power* 56:54 J11 '22

Nomography

Abgasanalytische fluchtlinien-rechentafeln zweiter art (für kollektive verbrennung). W. Ostwald. *Stahl & Eisen* 41:1489-91 O 20 '21
 Graphical trim calculation and a trim nomogram. E. V. Telfer. *il diags Engineering* 115:565-7 My 4 '23; Discussion. 115:423 Ap 6 '23
 Nomographic chart for designing illumination. E. Kun. *Elec W* 81:801+ Ap 7 '23
See also Charts (calculating)

Nonane

Dicyclic and polycyclic compounds with bridged linking; dicyclo-[1, 3, 3]-nonane and its derivatives. H. Meerwein and others. *Chem Soc J* 124 pt 1:221-4 Mr '23

Non-conductors. *See* Dielectrics; Insulation (electric)

Non-ferrous metals research association, British. *See* British non-ferrous metals research association

Non-producer (term)

Non-productive costs. A. L. De Leeuw. *Am Mach* 56:13-14 Ja 5 '22

Nonyl nitrite

Rotatory and refractive dispersions and the absorption spectrum of d-γ-nonyl nitrite. R. H. Pickard and H. Hunter. *Chem Soc J* 123:434-44 Mr '23

Nordhoff, California. *See* Ojai, California

Norfolk, Virginia

Rapid transit

City and company \$6,000,000 apart. *Elec Ry J* 61:902-3 My 26 '23

Water supply

New water purification plant. *il diags Eng N* 90:824-5 My 10 '23

Water supply of cities; general and fundamental principles. D. H. Maury. *map W Soc E J* 28:115-13 Ap '23; Same, without map. *Munic Eng* 65:11-13 J1 '23

Norfolk and Western railway

Norfolk & Western has record gross income. *map Ry Age* 74:811-13 Mr 21 '23

N. & W. increases net operating revenue in 1921. *il Ry Age* 72:881-3 Ap 8 '22

26th annual report for the year ending December 31, 1921. *Comm & Fin Chr* 114:1419-23 Ap 1 '22

27th annual report for the year ending December 31, 1922. *Comm & Fin Chr* 116:1295-9 Mr 21 '23; Same. *Ry Age* 74:836-40 Mr 21 '23

Norite-micropegmatite

Chemical composition of the norite-micropegmatite, Sudbury, Ontario, Canada. C. W. Knight. *Econ Geol* 18:592-4 S '23

North America**Economic conditions**

Source book for the economic geography of North America. C. C. Colby. 2d ed. 460p Univ. of Chicago press, Chicago '22

North American company

32d annual report—for the fiscal year ended December 31, 1921. *Comm & Fin Chr* 114:964-7 Mr 4 '22

33d annual report, for the fiscal year ended Dec. 31, 1922. *Comm & Fin Chr* 116:950-3 Mr 3 '23

North American steel corporation

Three-company steel merger abandoned. *Iron Age* 110:873-4 O 5 '22

See also Steel mergers

North Carolina

See also Roads—North Carolina

Industries and resources

See also Coal mines and mining—North Carolina; Iron ores—North Carolina; Water power—North Carolina

North central electric association

Convention, St Paul, Minn., June 13-15. *N E L A Bul* 9:126-7 J1 '22

North Dakota

See Mines and mineral resources—North Dakota

North Dakota agricultural college**School of chemistry**

Service of the technical school to industry and the people. W. T. Pearce. *il Chem Age* 30:439-40 O '22

North Dakota. University**Ceramics department**

Development of ceramic work at the University of North Dakota. M. K. Cable. *il Am Cer Soc J* 5:140-5 Mr '22

North Platte river

Flood and drought control on the North Platte. S. R. Winters. *il Sci Am* 126:315 My '22

Northcliffe, Alfred Harmsworth, Viscount

Remarkable career of Viscount Northcliffe. *Ptr Ink* 120:20+ Ag 17 '22

Northern hemlock and hardwood manufacturers' association

Federal trade commission on the Northern hemlock and hardwood manufacturers' association of Oshkosh. *Comm & Fin Chr* 116:2216-17 My 19 '23

Northern Pacific railway

Accomplishments of the road. H. Elliott. *Comm & Fin Chr* 117:1850 O 27 '23

Improvement program of the Northern Pacific Ry. for 1923. *Ry R* 72:668 Ap 14 '23

Northern Pacific not reporting good earnings. *map Ry Age* 75:349-51 Ag 25 '23

Northern Pacific ton-mileage cut 33 per cent in 1921. *Ry Age* 72:1293-5 Je 3 '22

25th annual report for the year ending December 31, 1921. *Comm & Fin Chr* 114:2485-8 Je 3 '22; *Ry Age* 72:1314-16 Je 3 '22

26th annual report, 1922. *Comm & Fin Chr* 116:3009-13 Je 30 '23; Same abr. *Ry Age* 75:363-5 Ag 25 '23

Northern states power company

Report for the year ended December 31, 1921. *Comm & Fin Chr* 114:1788-90 Ap 22 '22

Report for the year ended December 31, 1922. *Comm & Fin Chr* 116:1671-2 Ap 14 '23

Northwest electric light and power association
15th annual convention, Boise, Idaho, June 7-10. N E L A Bul 9:425-6 J1 '22; J Elec 49:16-18 J1 1 '22
16th annual convention, Seattle, June 27-30. J Elec 51:54-5 J1 15 '23

Northwest mining association
27th annual convention, Spokane, Feb. 14-18. H. W. Power. Eng & Min J 113:336-7 F 25 '22

Northwest wheat growers, associated
Poor rule that works only one way; the case of the Portland cement manufacturers and the Northwest wheat growers associated. Annalist 20:221-2 S 4 '22

Norton, A. J.
A. J. Norton, who makes a business of operating 25 clubs in as many cities. L. D. Brown. por System 41:549-51 My '22

Norton, Thomas
Thomas Norton, an alchemist of Bristol. E. J. Holmyard. Soc Chem Ind J (Chem & Ind) 42:574-7 Je 15 '23

Norway
See also Hydroelectric plants—Norway; Labor and laboring classes—Scandinavia; Lumber trade—Norway; Unemployment—Norway; Water power—Norway

Commerce

Trade conditions in Norway. Chem Age (Lond) 8:567-8 My 26 '23

Economic conditions

Economic situation of Norway. Engineering 116:87-8 J1 20 '23
Foreign securities in American markets; Norway. Annalist 22:209+ Ag 13 '23

Foreign relations

United States

Award to Norway by Hague court in controversy growing out of the requisitioning of vessels by United States. Comm & Fin Chr 115:2112-13 N 11 '22

Industries and resources

Industrial conditions in Norway in 1921. Electrician 88:350-1 Mr 24 '22

See also Forests and forestry—Norway

Population

Norway's loss of population. Annalist 20:564 N 27 '22

Norwood golf club, Long Branch, N.J.
Norwood golf club, Long Branch, N.J. il plans Arch Rec 50:442-52 D '21

Notched bar testing

Effects of hot-dip galvanizing. W. R. Bean. il diags Foundry 51:447-55 Je 1 '23; Abstract. Brass W 19:274 Ag '23
Recent researches on static notched bar testing. H. A. Holz. Chem & Met Eng 26:941-2 My 17 '22
Resumé of American practice in notched bar impact tests of metals. C. L. Warwick. Am Soc T M Pro 22 pt 2:78-99 '22
Ueber kerbwirkungen bei flusseisen. P. Ludwig and R. Scheu. Stahl & Eisen 43:999-1001 Ag 2 '23
Was haben wir an der kerbschlagprobe? M. Moser. il diags Stahl & Eisen 43:935-42 J1 19 '23

See also Metals—Testing; Steel—Testing

Notching machines

Notching press for armature plates and segments. il diags Engineer 133:188 F 17 '22
Saw notching machine with automatic feed. il Engineering 114:55 J1 14 '22

Notions (merchandizing)

Notions. M. A. Souder. 204p Ronald press '22
One way to meet price-cutting competition. L. A. Samstag. System 41:535-8+ My '22
Unit of quantity idea may be profitably upset. W. A. McGarry. Ptr Ink 124:109-10+ J1 12 '23

What can notion manufacturers do for the jobber. C. R. Wiers. Ptr Ink 118:49-50+ F 2 '22

See also Kleinert rubber company

Advertising

New idea, properly advertised, uncovers a new national market; Bartons bias narrow fabric co. R. Cole. Ptr Ink 122:61-2+ F 15 '23

Novelty appeal. *See* Advertisements—Novelty appeal

Novelty package. *See* Package goods

Noviganth

Noviganth, a new sizing paste. Color Tr J 11:265 D '22

Nozzles

Detroit automatic exhaust nozzle covers. il Ry Age 74:1337 Je 2 '23; Ry R 73:548-9 O 13 '23

Entrance nozzle for condenser tubes. il Power 58:572 O 9 '23

Expanding exhaust nozzle for locomotives. P. D. Anderson. diags Ry Mech Eng 97:323-4 Je '23

Experiments on a Pelton wheel and needle nozzle. A. H. Gibson. diag Mech Eng 44:837 D '22

First and second reports of the steam-nozzles research committee. diags Engineering 115:377-83 Mr 23 '23; Abstract. Engineer 135:319-20 Mr 23 '23; Discussion. Engineering 115:356-8, 501-2 Mr 23, Ap 20 '23; Engineer 135:320-1, 415-16 Mr 23, Ap 20 '23

Flow of air and steam in nozzles. G. Stoney and N. Elce. Engineering 112:750-1 D 2 '21; Abstract. Mech Eng 44:119 F '22

Losses in nozzles of rectangular section. D. S. Anderson. diags Engineering 113:764-7 Je 16 '22

Sacramento floating type of aerator nozzle. H. N. Jenks. il diags Eng N 89:384-6 S 7 '22

Spray cooling equipment for ice plants. B. R. Sausen. Power 57:309 F 20 '23

Spray-nozzle cooling theory and practice. B. H. Coffey and G. S. Dauphinee. plan A S R E J 8:177-202 N '21

Use of nozzles in measuring pulsating flow. diags Chem & Met Eng 26:32-4 Ja 4 '22; Same cond. Mech Eng 44:199-200 Mr '22

Use of nozzles in the testing of reciprocating machines and of other machines of the displacement type. diag Heat & Ven 18:56-7 N '21

Yarway involute spray nozzle. il Power 56:319 Ag 29 '22; Power Pl Eng 26:929 S 15 '22

Nu dura tin. *See* Terne plate

Nuisances

See Public health; Sanitation; Smoke prevention; Trade waste

Numerals

See Decimal system

Nurses' homes

Housing of staff and employees. O. Z. Cervin. il plans Arch Forum 37:305-8 D '22
Nurses' home, Boston Lying-in hospital; views and plans. Am Arch 124:pl 106n-p Ag 1 '23
Nurses' home of Hackensack hospital, Hackensack, N.J. il plans Arch Forum 37:286 D '22

Nusselt's formula

Ueber die wärmeübergangszahlen Nusselts und ihren geltungsbereich. A. Schack. Stahl & Eisen 43:942-6 J1 19 '23; Abstract. Mech Eng 45:589-90 O '23

Nut cracking machines

Machine which cracks fifteen tons of walnuts a day. Sci Am 128:334 My '23

Nutrition

L'alimentation dans ses rapports avec le besoin qualitatif d'azote (amino-acides indispensables) et les facteurs accessoires de la nutrition (vitamines). A. Blanchetière. Chimie & Ind 7:870-8; 8:990-1002 My, N '22; Bibliography. 8:1002-4 N '22

Die moderne ernährungslehre. M. Rubner. Deutsche Chem Gesell Ber 55:57-80 sec A Ap '22

Newer aspects of the nutrition problem. F. G. Hopkins. J Ind & Eng. Chem 14:64-9 Ja '22

Nutrition—Continued

Something about calories. *Sci Am* 129:184 S '23

Studies on undernourishment in industry. W. H. Bunn. *bibliog J Ind Hygiene* 4:93-9; 5:149-52 JI '22, S '23

See also Digestion; Milk; Proteins; Vitamins

Nuts (machinery). See Bolts and nuts

Nystagmus, Miners'. See Miners' nystagmus

O

Oak

Der gerbstoff der einheimischen eichen. K. Freudenberg and E. Vollbrecht. *Deutsche Chem Gesell Ber* 55:2420-3 S '22; *Abstract. Chem Soc J* 122 pt 1:1046 N '22

Oak flooring. *Arch & Bldg* 55:103-4 O '23

Oakland, California

Oakland, magic city of the Pacific. G. W. Wolf. *il Am Ind* 24:13-17 S '23

Rapid transit

East Bay electric service of the Southern Pacific railroad. *il Elec Ry J* 61:633-7 Ap 14 '23

Oakley chemical company

Renders a service and sells a product on the side. A. Belden. *Ptr Ink* 124:98+ JI 26 '23

Oakum

Oakum, essential, often overlooked. A. C. Stratford. *Marine R* 52:359 Ag '22

Oat hulls

Production of acetone, alcohol, and acids from oat and peanut hulls. E. B. Fred, W. H. Peterson and J. A. Anderson. *Ind & Eng Chem* 15:126 F '23

Utilization of oat hulls for strawboard and paper pulp. S. D. Wells. *Paper Tr J* 73:40+ N 3 '21

Obelisks

Obelisk-raising explained; how the ancient Egyptian engineers employed a sloping ramp and a sand-pit. *il Sci Am* 129:27 JI '23

Observatories, Astronomical. See Astronomical observatories

Obsolescence. See Depreciation

Obsolescent commodities

Marketing

How can this man sell \$500,000 worth of obsolescent machinery? *Ptr IpK* 118:19-20 Mr 30 '22

How shall a bank proceed when it has distress merchandise for sale? *Ptr Ink* 119:109-10+ Je 8 '22

Occlusion of gases. See Gases—Occlusion

Occupational diseases. See Diseases, Industrial

Occupational hygiene. See Hygiene, Industrial

Occupational therapy

Planning for occupational therapy. T. B. Kidner. *plans Am Arch* 123:291-9 Mr 28 '23

Occupations

Analysis and classification of performance in vocational relations. J. O. Hopwood. 128p R. G. Badger, Boston '22

Building a career. E. W. Weaver. 262p Association press, New York '22

How to make money. J. V. Dunlap. 62p Social mentor publications, New York '22

In England, as here, coal miner lives long; table of mortality among various occupations in England and Wales, 1910-1912. *Coal Age* 22:540 O 5 '22

Occupational morbidity statistics of Norwegian sick funds. *Monthly Labor R* 17:713-15 S 23

Physique of German workers. Meinighausen. *Int Labour R* 4:356-8 N '21

Reclassification of the United States 1920 occupation census, by industry. C. Hookstadt. *Monthly Labor R* 17:1-14 JI '23

Round pegs in square holes. O. S. Marden. 294p Thomas Y. Crowell co., New York '22

Success through vocational guidance. J. McKinney and A. M. Simons. 270p American technical society, Chicago '22

Vocational civics. F. M. Giles and I. K. Giles. 284p Macmillan '22

Bibliography

Choice of vocation. 54p Carnegie library, Pittsburgh '21

Occupations, Dangerous

Coal mining shown to be safe occupation. *Coal Age* 23:811 My 17 '23

Occupation hazards and diagnostic signs. L. I. Dublin and P. Leiboff. *U S Bur Labor Statistics Bul* 306:1-31 '22

Rag sorting and shredding. *Int Labour R* 7:377-401 F '23

Work-a-day heroes. C. C. Fraser. 314p Thomas Y. Crowell co., New York '21

See also Accidents, Industrial; Coal miners; Diseases, Industrial; Employers' liability; Lead poisoning; Longshoremens; Mine accidents; Miners; Railroads—Accidents; Stone cutting

Occupations for disabled. See Disabled, Occupations for

Ocean

Founders of oceanography and their work. W. A. Herdman. 340p Longmans '23

Measurement of gravity at sea. L. J. Briggs. *diags Nat Research Council Bul* 3 pt 2:3-11 Mr '22

Scientific papers presented before the American geophysical union at its second annual meeting. *Nat Research Council Bul* 3 pt 2: 78-108 Mr '22

See also Diving, Submarine; Hydrographic surveying; Icebergs; Navigation; Sea water; Seafaring life; Tides; Waves

Color

Color of the sea. K. Ramanathan. *Philos Mag* 6th ser 46:543-53 S '23

On the color of the sea. W. Shoulejkin. *Phys R* 22:85-100 JI '23

Ocean currents

Effect of a steady wind on the sea-level near a straight shore. H. Jeffreys. *Philos Mag* 6th ser 46:114-25 JI '23

Ocean freight rates. See Freight rates

Ocean travel

Maritime risks. W. S. Abell. *Engineering* 112: 668 N 11 '21

See also Air routes, Transatlantic

Ocher

United States government specification for ocher, dry and paste. *U S Bur Stand Circ* 91:1-8 '22

Octagon house, Washington. See Washington, D. C.—Octagon house

Octanol

Investigations on the dependence of rotatory power on chemical constitution; the normal aliphatic ethers of α - β -octanol. J. Kenyon and R. A. McNicol. *Chem Soc J* 123:14-22 Ja '23

Simplified method for the resolution of methyl- n -hexylcarbinol. J. Kenyon. *Chem Soc J* 121: 2540-2 N '22

Octet theory

Application of the octet theory to single-ring aromatic compounds. E. C. Crocker. *il diags Am Chem Soc J* 44:1618-30 Ag '22

Isostericism of phenyl isocyanate and diazobenzene-imide. W. H. Carothers. *Am Chem Soc J* 45:1734-8 JI '23

Octet theory of induced alternate polarities; the domains occupied by octet-stable and octet-unstable centres. R. Fraser and J. E. Humphries. *Philos Mag* 6th ser 46:331-4 Ag '23

Octroi

La suppression des octrois. M. Prevot. *Chimie & Ind* 10:253-67 Ag '23

Odell, William Henry, 1841-

Reminiscences of a veteran mechanical engineer. *por Power* 57:981-3, 1021-2; 58:17-19, 50-2, 97-8, 141-2, 181-2, 219-20 *Je* 19-Ag 7 '23; *Discussion*. 58:266-7, 306-7, 340-1, 467-8, 545 *Ag* 14-28, S 18, O 2 '23

Odometer

Excess speed recording odometer for varied application. *diag Automotive Ind* 46:1441 *Je* 29 '22

Odometers. See *Gear testing machines*

Odors

Aerators and copper sulphate for tastes and odors. H. M. Ely. *il diag Eng N* 89:70-1 *Jl* 13 '22

Chlorine gas for killing garbage and other offensive odors. W. J. Springborn. *Eng N* 88:646 *Ap* 20 '22

Dipropargyl methylene ether. H. H. Guest. *Am Chem Soc J* 45:1804-7 *Jl* '23

Elimination of industrial organic odors. Y. Henderson and H. W. Haggard. *il J Ind & Eng Chem* 14:548-51 *Je* '22

Gassing bad odors. H. A. Mount. *il Pop Mech* 37:219 *F* '22

Odor elimination, New Bedford garbage plant. W. J. Springborn. *il Pub Works* 52:442-3 *Je* 17 '22

Odorous constituents of apples; evidence of the presence of geraniol. F. B. Power and V. K. Chesnut. *Am Chem Soc J* 44:2938-42 *D* '22

Odors and their travel habits. L. L. Tribus. *Am Soc C E Pro* 47:125-36 *Ag* '21; *Discussion*. 47:733-68; 48:959-61 *D* '21, *Ap* '22

Relation between molecular structure and odor in tri-substituted benzenes; derivatives of para-methoxy-acetophenone. M. T. Bogert and L. P. Curtin. *Am Chem Soc J* 45:2161-7 *S* '23

Removal of the odors in sulphate pulp mills. C. G. Schwalbe. *Paper Tr J* 75:51-2 *N* 23 '22

Sanitary engineering problems and progress; abstracts of papers, reports and discussions at the Am. Soc. C. E. sanitation conference, New York city, Nov. 14-18. *Eng N* 87:906-7 *D* 1 '21

Sulphate mill odors; details of an apparatus for their removal by oxidation and solution. G. F. Enderlein. *diags Paper* 29:3-10 *N* 23 '21

See also *Perfumery*; *Smell*

Office appliances

Accounting and office appliances. *Ry Age* 74:1220 *My* 19 '23

Repairing typewriters and other office appliances. W. W. Griswold. *Ry Age* 74:1224 *My* 19 '23

Use of mechanical devices in the treasury department. F. L. Paetzold. *Ry Age* 73:839 *N* 4 '22

See also *Bookkeeping machines*; *Calculating machines*; *Cash registers*; *Office supplies*; *Tabulating machines*; *Typewriters*

Office buildings

Addition to the American surety company's building, New York city. *il Arch & Bldg* 54:70+, *pl* 118-21 *Jl* '22

American telephone & telegraph company building. *il plan Arch & Bldg* 55:24-5, *pl* 54-61 *Mr* '23

Bar building, New York. *Arch & Bldg* 54:104, *pl* 192-4 *N* '22

Building for Standard oil co. of California, San Francisco; views and plan. *Am Arch* 124:pl 152a-1 *Ag* 15 '23

Canadian Pacific building, New York. *Arch & Bldg* 54:6, *pl* 2-3 *Ja* '22

Constructing modern office buildings in Japan. *il Eng N* 89:476-8 *S* 21 '22

Designing the power company building; new building of the San Joaquin light & power corporation. *il J Elec* 51:131-2 *Ag* 15 '23

Effect of obsolescence on the useful life of office buildings. E. Schultz. *Arch Forum* 37:sup59-60 *N* '22; *Same* *abr. Eng & Contr (Bldgs)* 58:117-18 *D* 27 '22

Eighteen-story concrete structure; the Hide and leather building, New York. R. C. Gautier. *il diag plans Arch Forum* 36:101-4 *Mr* '22

Electrical wiring layouts for modern buildings. N. C. Ross. *diags Arch Forum* 37:31-4 *Jl* '22

Erecting office building over complicated track layout. *il plan Eng N* 90:532-3 *Mr* 22 '23

Fisk building, New York. *il Arch & Bldg* 54:19, *pl* 28-9 *F* '22

Five-story office building only ten feet wide. *il Pop Mech* 40:186 *Ag* '23

Floor loads for office buildings. *Can Eng* 44:589-90 *Je* 12 '23; *Same*. *Eng & Contr (Bldgs)* 59:1411-12 *Je* 27 '23

Hanna building and the Hanna building annex, Cleveland, Ohio. I. T. Frary. *il Arch Rec* 51:16-32 *Ja* '22

Heavy steelwork in new theater and office building. *diags plans Eng N* 88:1036-41 *Je* 22 '22; *Abstract. Eng & Contr (Bldgs)* 59:222-3 *Ja* 24 '23

International mercantile marine building, New York city. *Arch & Bldg* 54:46, *pl* 66-8 *My* '22

Knickerbocker building, 42nd street and Broadway, New York city. *Arch & Bldg* 53:88-9, *pl* 184-8 *N* '21

Live floor loads. C. H. Blackall. *Am Arch* 123:6-8 *Ja* 3 '23

Live loads in office buildings; results of investigations by C. T. Coley. I. H. Woolson. *diags Concrete* 22:133-6 *Ap* '23; *Same* *abr. Arch Forum* 38:199-200 *Ap* '23; *Same*. *Am Arch* 123:281-4 *Mr* 28 '23; *Same*. *Eng N* 90:584-6 *Mr* 29 '23; *Excerpt. Am Mach* 58:447-8 *Mr* 22 '23; *Same*. *Eng & Contr (Bldgs)* 59:927-8 *Ap* 25 '23

New note in building construction; Straus office building. S. J. T. Straus. *System* 44:336-7+ *S* '23

New office building for Scranton. J. Jeffrey. *il Gas Age* 49:551-4 *My* 6 '22; *Same*. *Am Gas J* 116:441-4 *My* 13 '22

New Standard oil building, R. W. Chambers. *il diags plans Am Arch* 122:2740, 275-92 *S* 27 '22

New York cotton exchange. *Arch & Bldg* 54:105, *pl* 195; 55:89, *pl* 176-80 *N* '22, *S* '23

Obsolescence in buildings. *Am Inst Arch J* 10:105-6 *Ap* '22

Office building, 40 Rector street, New York. *Arch & Bldg* 54:37-8, *pl* 54-7 *Ap* '22

Office building of Restriction lumber co., Detroit, Mich.; view. *Am Arch* 123:362 *l* *Ap* 25 '23

Office buildings for individual occupancy. *il plans Arch Forum* 36:97-100, *pl* 40-1 *Mr* '22

Office of Post & Flags, New York. *Arch Forum* 35:237, *pl* 85-7 *D* '21

Park Lexington building, New York city. *Arch & Bldg* 55:90, *pl* 188-90 *S* '23

Parking space for autos in skyscraper plan. *il Pop Mech* 40:226 *Ag* '23

Pershing Square building, New York. *Arch & Bldg* 55:63, *pl* 137-40 *Je* '23

Phases of office building design. C. T. Cooley. *Can Eng* 45:144-5 *Jl* 17 '23

Plumbing construction detail in modern office building. J. K. Raymond. *diags plan Dom*

Eng 99:319-21+ *My* 20 '22

Practical phases of office building design. C. T. Cooley. *Eng & Contr (Bldgs)* 59:939-40 *Ap* 25 '23

Prize winning remodeling job. *il Bldg Age* 44:61 *My* '22

Production of high class office space as affected by architectural design. J. M. Howells. *Arch & Bldg* 55:84-5 *Ag* '23; *Same*. *Eng & Contr (Bldgs)* 60:636-7 *S* 26 '23

Reaching upward with concrete. N. M. Stine-man. *il Sci Am* 129:252 *O* '23

Remodeling of large office building; International mercantile marine co. *il Bldg Age* 44:34-6 *Ja* '22

Remodeling old building to meet modern office requirements. *Eng & Contr* 57:175 *F* 22 '22

Removal of three first-story columns in twenty-seven story building. E. F. Weiskopf. *il diags Eng N* 89:4-7 *Jl* 6 '22

Saving money on construction costs by having some experts pass on plans; Straus building, Chicago. *diags Bldg Age* 45:55-7 *O* '23; *Eng & Contr (Bldgs)* 60:1111-12 *N* 28 '23

Office buildings—Continued

Skyscrapers in Germany. W. C. Behrendt. 11 diags Am Inst Arch J 11:365-70 S '23; Same. Eng & Contr (Bldgs) 60:666-71 S 26 '23; Discussion. W. S. Parker. Am Inst Arch J 11:372 S '23

Small suburban office building where art and advertising unite. Arch & Bldg 55:102, pl 214 O '23

Some features of the S. W. Straus building now being erected in Chicago. 11 Eng & Contr (Bldgs) 60:355-7 Ag 22 '23

Straus building, Chicago, Ill. diags plan Arch & Bldg 55:100-1, pl 198 O '23

Trust company of New Jersey, Jersey City, N.J. 11 Arch & Bldg 54:48, pl 75 My '22

Washington building reconstruction—columns of lower story replaced by girders. T. K. Thomson. 11 diags plans Eng N 87:774-7 N 10 '21

Water service and fire protection for an eleven-story office building. E. Cunningham. diags Dom Eng 98:206-10 F 4 '22

See also High buildings; Insurance company buildings; Mercantile buildings; Newspaper offices; Offices; Printing offices; Publishing buildings; also Chicago Tribune building; National association of building owners and managers—Building planning service; National life insurance company building, Montpelier, Vermont

Accounting

Classification of accounts and standard form of statement of the National association of building owners and managers. 36p National association of building owners and managers, Chicago '22

2d report of the Committee on standardization of office building accounting of the Building managers' association of Chicago. 36p '21

Advertising

Advertises to overcome a luckless reputation; the old Masonic temple of Chicago. Ptr Ink 122:89-90 Mr 15 '23

Selling an office building before it is built. Ptr Ink 125:137-8 O 25 '23

Finance

Building height and income. Am Arch 123:205-6 F 28 '23

Determining rental profits of office buildings. D. G. Scott. Eng & Contr (Bldgs) 59:1180-2 My 23 '23

New ideas in office building management. J. F. Douglas. Management & Adm 6:229-30 Ag '23

Office building income and operating expenses. Arch Forum 38:71-3 Ja '23

Heating and ventilation

Heating and ventilation of a large building; the John Hancock building in Boston. C. L. Hubbard. 11 diags plans Dom Eng 104:70-4 J1 14 '23

Selection of power service for non-industrial buildings. J. O. Batzer. Power Pl Eng 26:160-2 F 1 '22

Ventilation of office buildings. C. L. Hubbard. diags Bldg Age 45:66-8 S '23

Cost

Heating and power cost analysis for office buildings. Heat & Ven 20:40-1 Ja '23

Lighting

Indirect lighting in city office building. G. F. Evans and J. W. Morrison. diags Elec W 80:61-2 J1 8 '22

Recent departures from usual lighting practice in public spaces and offices. A. D. Curtis and J. L. Stair. 11 diags plans Illum Eng Soc 16:551-69; Discussion. 570-3 no 9 '21

See also Office lighting

Management

Industrial office building maintenance. W. Clark. 11 Management & Adm 6:347-52 S '23

Office cleaners

Survey of office cleaners in New York city. Monthly Labor R 16:407-8 F '23

Office employees. See Office workers

Office furniture

See Desks

Office lighting

Hygienic value of light in offices; abstract. A. B. Emmons. Illum Eng Soc 18:93-8 Ja '23

Office management

Better equipped office costs us 33% less. A. T. Rickards. 11 System 41:675-77+ Je '22

Business methods and accountancy in trade unions. J. Lynch. 183p Labour pub. co., London '22

Cutting costs in the factory office. Factory 28:338+, 487+ Mr-Apr '22

Cutting the clerical cost. H. A. Piper. Ind Management 63:119-24 F '22

Efficiency in management. F. W. Parsons. Gas Age 50:1-2+ J1 1 '22

Good industrial relations in the office. W. W. McClench. Administration 3:273-8 Mr '22

Grading the office job. F. A. Kingsbury. Administration 5:393-401, 537-48, 669-80 Ap-Je '23; Management & Adm 6:73-8 J1 '23

Intelligent revision of office methods. W. Clark. Ind Management 66:14-18 J1 '23

Introducing standard practices in the office. H. A. Piper. Office Management 8:5-6 S '22

Managing the office. W. H. Leffingwell, ed. 12 pts A. W. Shaw co., Chicago '22

Measuring the momentum of office work. W. Clark. Administration 4:141-3 Ag '22

Modern study reduces handling of distribution orders. R. A. Hammock. chart Elec W 80:182 J1 22 '22

9 ways to cut office expenses. W. H. Leffingwell. System 41:276-8+ Mr '22

Office administration. G. S. Childs and W. B. Cornell. 310p Alexander Hamilton inst., New York '23

Office control—knowing or guessing? H. B. Wess. Administration 4:697-707 D '22

Office organization and practice. A. Weaver. 144p Ginn '23

Organization of a small business. W. A. Smith. 119p Pitman '22

Practical experience in office management. 48p Chamber of commerce, Boston '21

Problems in office practice and business style. H. Strumpf. 260p Gregg '22

Putting office work on a production basis. S. A. Peck. Ind Management 64:358-9 D '22

Routine chart construction. G. C. Harrison. 11 Management Eng 4:389-94 Je '23

Short cuts that make for profit. 11 System 43:482-3+ Ap '23

Six saving plans. 11 System 41:272-3+ Mr '22

Three office knacks. H. R. Baldwin. 11 System 42:157-8+ Ag '22

Use of routine charts. G. C. Harrison. diags Management Eng 4:223-8 Ap '23

See also Accounting; Advertising departments; Architects' offices—Management; Billing; Business management; Commercial correspondence; Desks; Executives; Files and filing (documents); Mailing departments; Office workers; Orders; Payrolls; Printing offices—Management; Railroads—Office management; Telephone in offices

Bibliography

List of books useful for the office worker. Office Management 8:24 S '22

Office supplies

Economy in inter-departmental envelopes. J. B. M. Clark. Ind Management 64:87-8 Ag '22

Office machines, appliances and methods. W. Desborough. 147p Pitman '21

Office supplies in Brazil. M. A. Cremer. U S Bur For & Dom Com Trade Information Bul 116:1-10 '23

See also Office appliances

Office workers

Analyzing the employee and his job. E. J. Bengel. Factory 30:424-6+ Ap '23

Classifying the office worker. W. L. Stoddard. Management & Adm 6:340 S '23

Have office hours become standardized? A. L. Prickett. Administration 3:66-9 Ja '22

Office workers—Continued

Study of sickness among office workers.
Monthly Labor R 14:1244-5 Je '22
Study of the office hours of 56,000 employees.
A. L. Prickett. *Ptr Ink* 118:17-18 Mr 23 '22
Training the office worker. J. K. Sinclair.
Office Management 8:37-8 O '22

See also Stenographers

Salaries

Premium system in office departments. F. E. Barth. *Ind Management* 65:49-56 Ja '23
Salaries of factory office employees, New York State, 1914-1922. *Chem Age* 31:78 F '23;
Same cond. *Monthly Labor R* 16:557-8 Mr '23

Offices

Architectural acoustics; the nature and reduction of office noises. P. E. Sabine. *il Am Arch* 121:441-4, 487-90, 527-9 My 24-Je 21 '22
Artistic office cuts our payroll. *il System* 42:251-2 S '22

See also Architects' offices; Office buildings; Office management; Physicians' offices

Equipment

See Office appliances; Office supplies

Layout

More office work in the same space. M. W. Osgood and W. M. Stone. *il System* 43:598-9 My '23
Office efficiency increased by rearrangement. *diags plan Ind Management* 63:175 Mr '22

Offset printing. See Printing, Offset**Ohio**

See also Coal mines and mining—Ohio; Electric plants (central stations)—Ohio; Gasoline industry—Ohio; Motor bus lines—Ohio; Petroleum—Ohio; Petroleum industry and trade—Ohio; Roads—Ohio; Steel works—Ohio; Street railroads—Ohio

Public utilities commission

Commission attacked. *Elec Ry J* 61:695-6 Ap 21 '23

Ohio electric light association

Convention, Cedar Point, July 14. *Elec W* 80:191-2 Ji 22 '22
29th annual convention, Cedar Point, July 10-13. *Elec W* 82:145-7 Ji 21 '23

Ohio motor bus owners' association

Ohio state organization formed. *Bus Transportation* 1:662 D '22

Ohio river

Some notes on the location and construction of locks and movable dams on the Ohio river, with particular reference to Ohio river dam no. 18. W. M. Hall. *il diags maps Am Soc C E Pro* 48:3-42 Ja '22; Discussion. 48:731-6, 1003-13, 1275-96, 1705-9; 49:770-8 Mr-My, O '22, Ap '23

Ohio. State university

Construction plant and methods on Ohio stadium. W. S. Hindman. *il diags Eng N* 89:882-3 N 23 '22

Ohmer, Will I.

Men and methods. J. H. McCullough. *por System* 42:696-8 D '22

Oil. See Oils and fats; Petroleum**Oil, Transformer**

Care of transformer oil. J. B. Gibbs. *il diags Power* 55:256-7 F 14 '22
Care of transformer oil. E. R. Sampson. *il Elec J* 19:125-6 Mr '22
Determination of water in transformer oil. J. E. Shrader. *diags Elec W* 79:174-5 Ja 28 '22
Durable insulating oils. C. J. Rodman. *il diags Elec J* 20:51-3 F '23
Inert gas over oil in new transformer. L. H. Hill. *diags Elec W* 81:747-9 Mr 31 '23
Insulating oils are decomposed by passage of current; how to keep and restore their dielectric strength. E. J. Gealey. *diags Coal Age* 22:953-5 D 14 '22
Maintaining dielectric strength of transformer oil. J. A. Miller, Jr. *il Elec Ry J* 61:471-3 Mr 17 '23; Same cond. *Elec W* 81:698-9 Mr 24 '23

Oil qualities desirable for transformers and circuit breakers. C. J. Rodman. *il Elec W* 79:1271-3 Je 24 '22; Discussion. F. M. Farmer. 80:179 Ji 22 '22
Purifying transformer oils. *Elec W* 82:338-9 Ag 18 '23

Report on researches on the chemical and physical properties of insulating oils; British electrical and allied industries research association. *diags Inst E E J* 61:661-74 Je '23; Abstract. *Elec R (Lond)* 93:127-8 Ji 27 '23

Sludge formation in transformer oil and solubility thereof. C. J. Rodman. *Elec W* 81:921-2 Ap 21 '23

See also Dielectricmeter

Testing

Effective oil-testing apparatus. R. Pittman. *diags Elec W* 82:186 Ji 28 '23

Insulating oils—colour and sludging characteristics. E. B. Wedmore. *Inst Pet Tech J* 8:67-72 Ja '22

Joint comparative tests of spark gaps for testing transformer oils. *Am Soc T M Pro* 21:397-408 '21

Oil-testing apparatus. I. Estorff. *diags Elec W* 81:54 Ja 6 '23

Problem of durability tests for transformer oils. T. G. Delbridge. *Am Soc T M Pro* 22 pt 2:532-7; Discussion. 538-40 '22

Tentative methods of testing transformer and switch oils. *Am Soc T M Pro* 21:737-40 '21

Testing set for transformer oil. *il Power Pl Eng* 27:396 Ap 1 '23

Testing transformer oil in field. *Elec W* 81:638 Mr 17 '23

Oil analysis

Determination of acid number of tung and other vegetable oils. L. L. Steele and G. G. Sward. *J Ind & Eng Chem* 14:57-8 Ja '22

Determination of moisture in insulating oils. C. J. Rodman. *diags J Ind & Eng Chem* 13:1149-50 D '21

Determination of phenols in coal-tar oils and crude carbolic acid. J. E. Hill. *Ind & Eng Chem* 15:799-800 Ag '23

Estimation of sulphur and chlorine by the lamp method. S. Bowman. *diags Inst Pet Tech J* 7:334-8 O '21

Examination of hydrocarbon oils and of saponifiable fats and waxes. D. Holde and E. Mueller. 2d English ed. 572p Wiley '22

Iodine and bromine values of petroleum products. E. M. Johansen. *bibliog J Ind & Eng Chem* 14:288-92 Ap '22

Notes on the determination of the acetyl value. J. R. Powell. *Ind & Eng Chem* 15:622 Je '23

Report on testing of paint vehicles. *Am Soc T M Pro* 22 pt 1:367-73 '22

Short hand-book of oil analysis. A. H. Gill. 10th ed., rev. 223p Lippincott '22

Simpler method of determining acetyl values. L. W. Cook. *Am Chem Soc J* 44:392-4 F '22

Standardization of the testing of petroleum and its products. A. E. Dunstan. *Inst Pet Tech J* 8:578-601; Discussion. 601-17 D '22

Tentative method of test for detection of free sulfur and corrosive sulfur compounds in petroleum products. *Am Soc T M Pro* 21:643 '21

Tentative method of test for sulfur in naphthas and illuminating oils. *diags Am Soc T M Pro* 21:644-7 '21

See also Peanut oil; Petroleum—Analysis

Oil as fuel

Burning liquid fuel. W. N. Best. 341p U. P. C. book co. '22; Review by J. A. Kelly. *Marine Eng* 27:794-5 D '22

Campaign of Kansas refiners boosts fuel oil consumption. *Nat Pet N* 14:21 Je 14 '22

Chicago firm is marketing fuel oil on thermal unit basis. W. K. Halbert. *Nat Pet N* 14:24 Je 21 '22

Classification of fuel oils. *Power Pl Eng* 27:895 S 1 '23

Current talk about substitute fuels. F. W. Parsons. *Gas Age* 52:257-8+ S 1 '23

Effects of sulphur in fuel oil. A. F. Brewer. *Power* 55:50-1 Ja 10 '22

Oil as fuel—Continued

- Efficient heating of oil fuel. A. F. Brewer. *il diags Ind Management* 66:36-43 J1 '23
- Factors affecting the use of air in oil burning with comparison of cost. W. C. Buell, jr. *diag Eng Soc W Pa* 38:201-21 J1 '22; Abstracts, *Elast F & Steel Pl* 10:415-17 Ag '22; *Iron Age* 110:269 Ag 3 '22; Discussion. *Eng Soc W Pa* 38:222-6 J1 '22
- French navy and oil fuel. *Engineer* 135:498 My 11 '23
- Fuel oil. G. S. Davison. *Boston Soc C E J* 10:239-54 Je '23
- Fuel oil and viscosity. M. G. Langham. *Power* 58:423-4 S 11 '23
- Fuel oil characteristics and advantages as compared with coal. A. P. Bjerregaard. *Nat Pet N* 15:32a-b O 17 '23
- Growing popularity of oil as fuel serves to minimize price range. W. K. Halbert. *Nat Pet N* 15:41+ F 28 '23
- High flash point for fuel oil is handicap for many crudes. V. H. Manning. *Nat Pet N* 14:22-3 My 31 '22
- How about oil for fuel? C. L. Hubbard. *Factory* 29:532-4+ N '22
- New Jersey clay workers association: symposium on the casting of ceramic bodies and a discussion on the oil firing of kilns. *Chem & Met Eng* 27:1276-7 D 27 '22
- Offers program to industry for keeping sales ahead of production. H. L. Doherty. *Nat Pet N* 15:32a-d S 26 '23
- Oil fuel for textile works. *Eng & Ind Management* 6:597-8 N 24 '21
- Oil power. S. H. North. 122p *Pitman* '22
- Panama traffic increases bunker fuel demand on Pacific industry. *Nat Pet N* 15:47+ Je 27 '23
- Pressure and temperature for fuel oils. *Power* 55:550, 703 Ap 4, My 2 '22
- Relative heating value of coal, oil and natural gas, and relative economies obtainable with each. *chart Power Pl Eng* 26:824-5 Ag 15 '22
- Small industries offer new market for fuel oil jobbers. W. K. Halbert. *Nat Pet N* 14:39-41 N 8 '22
- Standard oil's advertising recognition of the fuel market. N. Clarey. *Ptr Ink* 124:109-10 S 20 '23
- Use of fuel oil. T. S. Remsen. *Paper Tr J* 74: 47-50 Mr 9 '22
- Why fuel oil must continue to compete with coal. E. J. Billings. *Power* 55:417-19 Mr 14 '22
- Will it pay to burn oil instead of coal? N. G. Near. *Power Pl Eng* 27:1032 O 15 '23
- See also* Acetylene; Boilers—Oil firing; Boilers, Marine—Oil firing; Gas and oil engines—Fuel; Gasoline; Locomotives, Gas and oil; Naphthalene; Oil burners

Cost

- Comparative fuel costs of coal and oil. E. T. McCarthy. *diag Power* 57:446-7 Mr 20 '23

Heating plants

- Advantages of oil as fuel. *il diags Sanitary & Heat Eng* 99:14-17+ Ja 12 '23
- Advertising opportunity for oil as a household fuel. A. Bradbury. *Ptr Ink* 124:10+ Ag 30 '23; Same. *Nat Pet N* 15:85 S 26 '23
- Burning liquid fuel in small heating plants. W. J. Ottinger. *Heat & Ven* 20:44-7 Ag '23
- Coal crisis creates popular interest in heating small homes by oil. A. V. Hutchinson. *il diags Bldg Age* 44:43-5 O '22
- Domestic heating with oil fuel still in development stage. H. S. Bell. *diag Nat Pet N* 15: 35-64 N 7 '23
- Fuel by the ton or the gallon; the principal advantages and disadvantages of the oil-burning furnace for domestic use. H. A. Mount. *il diags Sci Am* 128:14-15 Ja '23
- Fuel oil. C. A. Whittemore. *diags Arch Forum* 38:239-42 My '23
- Fuel oil burning in New York city. R. Adamson. *Heat & Ven* 20:64-5 S '23
- Lowering heating costs with fuel oil. W. T. Dean. *il diags Heat & Ven* 19:33-5 S '22
- New oil-burning regulations for domestic equipment. *Heat & Ven* 20:56-7 Ja '23
- Oil as a fuel for house heating. Y. Adams. *il Sanitary & Heat Eng* 98:153-5 S 22 '22

- Oil fuel and the architect. M. M. Osborne. *Arch Forum* 38:27-30 Ja '23
- Points on fuel-oil heating. *Heat & Ven* 19:47-8 S '22
- Use of liquid and gas fuels in heating of small buildings. M. M. Osborne. *Arch Forum* 36:57-8 F '22
- Which, oil or coal? W. F. Schaphorst. *diags Sanitary & Heat Eng* 100:245-6 O 19 '23

Kilns

- Burn 25,500 gals. oil daily in kilns. *il Brick & Clay Rec* 61:793-4 N 28 '22
- Combination fuel oil and gas burning system. *il Brick & Clay Rec* 62:428-3 Mr 6 '23
- Eleven years oil burning experience. M. A. Taylor. *Brick & Clay Rec* 61:246-7 Ag 22 '22
- Fuel oil as applied to periodic up-draft kilns in the manufacture of high tension electrical porcelain. L. H. Brown. *Am Cer Soc J* 6:462-5 F '23
- How we burn face brick with oil. H. T. Horwell. *Brick & Clay Rec* 61:712-14 N 14 '22
- Oil cuts burning cost in half; plant of James Cornhill sons, Ltd., Chatham, Ont. A. L. McCready. *il Brick & Clay Rec* 59:972-4 D 27 '21
- Oil fuel for clay drying. *il Chem Age (Lond)* 8:sup10-11 Je 16 '23
- Substituting fuel oil for producer gas in a continuous glass tank. F. S. Thompson. *Am Cer Soc J* 6:1050-5 O '23; Discussion. (*Bul*) 6:373-4 D '23
- We saved \$1.51 per M by using oil. E. A. Morse. *il Brick & Clay Rec* 61:634-5 O 31 '22

Locomotives

- Advantages of oil as fuel for locomotives. *Ry Age* 75:527 S 22 '23
- Economic aspect of the fuel oil situation. C. E. Beecher. *Ry Age* 75:352-3 Ag 25 '23
- Fuel oil advantage over coal in locomotives. J. N. Clark. *Nat Pet N* 14:75+ N 29 '22
- Importance of oil as fuel for railroads on the Pacific coast. J. C. Martin, jr. *J Elec* 48: 313 Ap 15 '22
- Liquid fuel in locomotives; abstract of report at the International railway congress. H. Fowler. *Engineer* 133:435-6 Ap 21 '22; *Engineering* 113:609 My 19 '22
- Operating and maintaining oil burning locomotives. *Ry Age* 72:1187-8 My 20 '22
- Operating and maintaining oil-burning locomotives; abstracts of report. *Ry Age* 73: 949-50 N 18 '22; *Ry Mech Eng* 96:688-9 D '22; *Ry R* 71:705-6 N 18 '22
- Some fuel determinations made on locomotives operated by the Southern Pacific system. A. H. Babcock. *diags Am Inst E E J* 42:335-42 Ap '23; Same. *Ry Age* 74:1053-5, 1099-1102 Ap 28, My 5 '23; Same. *Ry R* 72: 841-7 My 19 '23; Same. *Ry Mech Eng* 97:265-7, 347-50 My-Je '23; Same cond. *Elec Ry J* 61:770-2 My 5 '23; Same. *Eng & Contr (Ry)* 59:1370-5 Je 20 '23; Discussion. *Am Inst E E J* 42:1198-1203 N '23; *Elec W* 81:1023-4, 1149 My 5, 19 '23

Metallurgical use

- Melts with oil in air furnace; abstracts. D. I. Dobson. *diags Foundry* 51:436-7+ Je 1 '23; *Iron Age* 112:5-6 J1 5 '23; *Iron Tr R* 73:33-4+ J1 5 '23
- Study core oven heat loss. C. F. Mayer. *il diags Foundry* 50:839-43, 885-8 O 15-N 1 '22
- Use of liquid fuel in metallurgical furnaces. R. C. Helm. *diags Blast F & Steel Pl* 10: 549-55 N '22; Abstracts. *Iron Age* 110:1137-9 N 2 '22; *Iron Tr R* 71:1281-3 N 9 '22; Discussion. J. A. Larocca. 71:1487-8 N 30 '22
- Using fuel oil in air furnaces. A. V. Land-schoot. *diags plan Iron Tr R* 73:599-604 Ag 30 '23; Same. *Foundry* 51:862-7 N 1 '23
- Will pulverized coal be substituted for fuel oil in smelting operations? T. H. O'Brien. *Coal Age* 23:1013-14 Je 21 '23

Oil bunkering stations

- Panama traffic increases bunker fuel demand on Pacific industry. *Nat Pet N* 15:47+ Je 27 '23

- World's principal oil and coal bunkering stations. *Marine R* 52:supp J1 '22

Oil burners

- Brûleur pour combustibles liquides, système Cuénod. diag Génie Civil 82:284-5 Mr 24 '23
- Burner tip for fuel oil melting furnaces. M. G. Talcott. il diags Metal Ind 20:324-5 Ag '22
- Burning boiler oil. diags Power 58:209-11, 290-2, 367-9 Ag 7, 21, S 4 '23
- Burning liquid fuel efficiently. H. A. Anderson. Iron Tr R 73:1097-8+ O 18 '23
- Calorific burner. il Heat & Ven 18:59 N '21
- Care of fuel-oil burners. H. Blomgren. Power 54:735 N 8 '21
- Coal situation is increasing oil burner demand; some of the manufacturers of them. Nat Pet N 14:55 O 4 '22
- Combustion fuel-oil burners. il Heat & Ven 19:61 S '22
- Developments in the use of paraffin for coast lighting. il diag Engineering 113:541-4 My 5 '22; Discussion. 113:619, 664, 826 My 19-26, Je 30 '22
- Doherty uses 50 salesmen in pushing domestic oil burners in Toledo. R. B. Stafford. Nat Pet N 15:321-j O 10 '23
- Domestic heating with oil fuel still in development stage. H. S. Bell. diag Nat Pet N 15:35-6+ N 7 '23
- Efficiency of the oil flame. H. A. Geauque and G. T. Parker. Heat & Ven 20:57-8 O '23
- Electrically operated oil burner. diag Power Pl Eng 27:961 S 15 '23
- Enco oil burners. diag Power 54:754 N 15 '21
- Fuel by the ton or the gallon; the principal advantages and disadvantages of the oil-burning furnace for domestic use. H. A. Mount. il diags Sci Am 128:14-15 Ja '23
- Fuel oil waits for the right burner to make it a home fuel. W. K. Halbert. Nat Pet N 14:43+ J1 26 '22
- Furnace arrangement for burning fuel oil. C. C. Brown. diags Power Pl Eng 27:1024-5 O 15 '23
- Hauck oil burner. il Chem & Met Eng 27:1182 D 13 '22; Blast F & Steel Pl 10:649 D '22
- Homemade oil burner for stove. E. J. Bachman. il diags Pop Mech 39:315-16 F '23
- Installs heaters to build winter business. V. B. Guthrie. il Nat Pet N 15:41-2 Ag 29 '23
- Mechanical atomizers for stationary plants. S. E. Derby. Power 55:583-4 Ap 11 '22
- Mechanical oil burner with self-seating holder. diag Marine Eng 28:694 N '23
- Morse oil-burning system. il diags Chem & Met Eng 29:546-7 S 17 '23
- New oil burner supplies own air. il diags Marine R 53:401-3 O '23
- New system burns heavy oil in small heating plants. il Pop Mech 37:251 F '22
- Oil burner for low temperature ovens. il Iron Age 111:1722 Je 14 '23
- Oil burners multiply; builders organize; laboratories give service. Nat Pet N 15:25-6 O 8 '23
- Oil-fired boilers at Amoskeag. E. H. Peabody. il Power 56:218-19 Ag 8 '22
- Rotamisor oil-fuel burner. diags Engineering 112:631-2 N 4 '21
- Schutte & Koerting mechanical oil burner. il diag Power 56:95 J1 18 '22
- Small industries offer new market for fuel oil jobbers. W. K. Halbert. Nat Pet N 14:39-41 N 8 '22
- Steam atomizing oil burner gives conical flame. il diags Power 56:764-5 N 14 '22
- Success claimed for new oil burner designed for home usage. J. H. Schalek. diags Nat Pet N 14:21-2 Ja 11 '22
- Types of fuel oil burners for household use. diags Heat & Ven 19:53-4 O; 60-1 N; 72-3 D '22; 20:61-2 Ag; 66-7 S; 69 O '23
- Oil burning equipment**
- Burning liquid fuel in small heating plants. W. J. Ottinger. Heat & Ven 20:44-7 Ag '23
- Burning oil in a stoker furnace. A. A. Fette. il diags Power 58:535-6 O 2 '23
- Double port air register increases oil burning capacity. il diag Power Pl Eng 27:906 S 1 '23
- Fuel oil. C. A. Whittemore. diags Arch Forum 38:239-42 My '23

- Fuel oil as adapted to the chambered continuous kiln. M. A. Taylor. il diag Am Cer Soc J 6:1056-61 O '23
- Hardinge oil-burning machine. il diag Heat & Ven 18:57-8 N '21
- Heating with fuel oil. il diag Iron Age 108:1602-3 D 22 '21
- How to install and operate a fuel oil system. J. D. Lalor. il diags plans Am Cer Soc J 6:448-59; Discussion. 459-61 F '23
- Installation for heavy fuel oil; heating furnace equipment. W. C. Buell. il diags Iron Age 112:129-32 J1 19 '23
- New oil-burning regulations for domestic equipment. Heat & Ven 20:56-7 Ja '23
- Oil burner control connections. E. P. Hill. diags Ry Mech Eng 97:678 O '23
- Place of advertising in the heating revolution. R. Dickinson. Ptr Ink 124:138+ S 13 '23
- Pump governor for fuel-oil system regulates pressure according to oil temperature. W. R. Pender. diags Power 57:599-600 Ap 17 '23
- See also Oil pipes

Fire protection

- Fire underwriters issue new regulations for domestic oil burners. Nat Pet N 14:103+ D 13 '22

Oil camps

- Comfort for workers features oil camps in California. il Nat Pet N 15:61-2 Je 27 '23
- Mexico too dead, he is drilling wildcat in Panama. P. Wagner. il Nat Pet N 15:49+ Ag 29 '23
- Oil camp sanitation. C. P. Bowie. bibliog il diags plans U S Bur Mines Tech Pa 261:1-32 '21

- Oil chemists society.** See American oil chemists society

- Oil-coal mixtures.** See Fuel, Plastic

Oil companies

- Father, six sons and daughter operate refining, marketing company; the Rio Grande oil co. il Nat Pet N 14:34-5 Mr 29 '22
- Report of the Federal trade commission on foreign ownership in the petroleum industry. 152p The Commission, Washington '23
- Roxana lease. Oil Paint & Drug Rep 103:19 Ap 16; 51 Ap 23; 43 May 21 '23
- See also Gasoline service stations; Oil promoters; also Pan American petroleum and transport company; Pure oil company, Columbus, Ohio; Standard oil company; also Oil reserves (U. S. navy)

Accounting

- Accounting systems to fill jobbers' need and what they can show. D. S. Ross. Nat Pet N 15:27+ S 12 '23
- Simplified bookkeeping as worked out by eastern jobbing concern. Nat Pet N 15:21-2 My 30 '23

Directories

- Indiana jobbers adopt revenue plan at Fort Wayne meeting. Nat Pet N 15:21+ J1 18 '23

Finance

- Appreciation in value of oil shares exceeds half billion dollars. R. B. Stafford. Nat Pet N 14:23 My 24 '22
- Dutch Shell-Union merger put across; stockholders meet Nov. 17. Nat Pet N 13:23-4 N 9 '21
- Gulf-standard of Indiana merger—what it would mean. Nat Pet N 14:23-4+ J1 5 '22
- Presentation through graphs of costs and financial statements. E. G. Willrich. charts Nat Pet N 14:53-4 Je 7 '22

Officials**Salaries**

- Little of motorist's gasoline dollar goes to executive salaries. P. Truesdell. Nat Pet N 15:43-4 Ap 13 '23

Valuation of property

- Advantage of scientific appraisal by disinterested experts explained. R. T. Whitney. Nat Pet N 15:103 Ap 25 '23

Oil companies—Valuation of property.—*Continued*
Physical valuation of oil properties. A. B. Morris. Nat Pet N 14:49+ N 8; 49+ N 15; 65-6+ N 22 '22; 15:82-3+ Ja 3 '23
See also Oil lands—Valuation

Oil coolers

Direct type wash-oil cooler for benzene plants. A. Kuhn. diags Chem & Met Eng 26:32 Ja 4 '22
Tubular oil cooler. diags Engineering 114:89 Jl 21 '22

Oil dehydration. *See* Dehydration

Oil engines. *See* Gas and oil engines

Oil field engineering. *See* Petroleum engineering

Oil filters

Contact process for the filtering of petroleum products. H. L. Kaufman. Nat Pet N 15: 81+ Ja 17 '23

Modern filtering methods for lubricating systems. W. F. Osborne. diags Power 55:930-1 Je 13 '22

Oil-filter alarm warns of clogging. il Pop Mech 39:936 Je '23

Points to remember in designing oil and fuel filters. J. B. Ferguson. diags Automotive Ind 47:818-20 O 26 '22

Purifying transformer oils. Elec W 82:338-9 Ag 18 '23

Removes oil from bilge and ballast discharge. diags Marine R 52:503-4 D '22; Marine Eng 27:768 D '22

Self-cleaning oil strainer at the Olympia exhibition. il diags Engineering 116:357-8 S 21 '23

Storing and clarifying oil in shops. Am Mach 57:125-7 Jl 27 '22

Oil fires

Big fire fighting job quickly ended by organizing forces. il Nat Pet N 14:58-9 D 27 '22

Burning well a production problem. Gas Age 51:539 Ap 28 '23

Extinguishing a burning oil well. A. E. Chambers. diags Engineer 135:453 Ap 27 '23

Fighting fire with steam saves oil wells. il Pop Mech 40:516-17 O '23

Fire and explosion hazards of commercial oils. W. Vlachos and C. A. Vlachos. 292p Press of Otto-Jones co., Philadelphia '21

Fire hazards and fire extinction. J. S. S. Brame. Inst Pet Tech J 9:111-28 Ap '23; Abstract. Engineering 115:336 Mr 16 '23; Discussion. Inst Pet Tech J 9:248-9 Ag '23

How one of fiercest fires in history of Mexico was extinguished. il Nat Pet N 14:65+ Ja 18 '22

Lightning causes most oil fires; carelessness factor. Nat Pet N 15:104 Je 6 '23

Many spectacular fires marked early days at Titusville, Pa. D. A. Dennison. Nat Pet N 14:61+ Ap 5 '22

Oil industry's fire losses are increasing; refiners lead. F. J. Slack. Nat Pet N 15:45+ O 3 '23

Oil-well fire shoots 200 feet into the air. il Pop Mech 39:868-9 Je '23

Protecting against oil fires and extinguishing them when not prevented. Safety Eng 43:68-9 F '22

Results of fierce oil fire show efficiency of explosion hatches. il diags Nat Pet N 15: 35+ Ja 10 '23

Review of recent disastrous oil plant fires; their causes and suggested methods of prevention. Nat Pet N 14:39+ S 6 '22

Snuffing a burning oil well. il Eng & Min J 112:1023 D 24 '21

Using a dynamite explosion to blow out an oil-well fire. F. A. Herr. il Pop Mech 38: 828-9 D '22

See also Oil handling—Safety devices and measures; Oil storage—Fire protection; Oil tanks—Fire protection

Oil flow

Flow of fluids through commercial pipe lines. R. E. Wilson, W. H. McAdams and M. Seltzer. il diags J Ind & Eng Chem 14:105-19 F '22; Same cond. Eng N 89:690-3 O 26 '22

Oil venturi meter. E. S. Smith, jr. Mech Eng 45:297-8+ My '23; Same. Chem & Met Eng 29:20-2 Jl 2 '23

Oil fuel. *See* Liquid fuel; Oil as fuel

Oil gages

Handy oil gauge for light car. E. D. Haigler. il diag Pop Mech 38:968 D '22

Self-acting gauge records contents of oil tanks. il Pop Mech 36:916 D '21

Smith petrol level indicator. Aerial Age 15:40 Mr 20 '22

Oil gas. *See* Gas, Oil

Oil gear system

Front wheel drive truck features gearset with hydraulic control. E. R. Dietrich. il diags Automotive Ind 48:759-62 Ap 5 '23

Hydraulic-power transmission gears; abstract. H. M. Sabine. Mech Eng 44:320-1 My '22

Hydraulic-transmission variable-speed drive for machine tools and manufacturing processes. W. Ferris. il diags Mech Eng 45:238-41 Ap '23; Abstract. Mach 29:496-7 F '23; Discussion. Mech Eng 45:241+ Ap '23

Oil-gear variable-speed power transmission and feed-control system. diag Power 54:1018 D 27 '21

Power transmission by oil. H. S. Hele-Shaw. Engineer 132:500 N 11 '21

Shifting speeds with an oil pump; details of a new British variable-speed gear without gear-wheels. P. J. Risdon. il Sci Am 129: 334+ N '23

Variable speed oil transmission gear. il diags Engineering 114:800-1, 804 D 23 '22

Oil-grooving machines

Mueller oil-grooving attachment. il Am Mach 58:714 My 10 '23; Mach 29:741 My '23

Oil-grooving attachment for a lathe. H. Brown. il Am Mach 59:454 S 20 '23

Oil handling

L'emmagasinage, la manipulation et la distribution pneumatiques des liquides combustibles. P. Maulcère. Génie Civil 78:67 Ja 15 '21

Emptying oil barrels with compressed air. C. S. Klien. diag Power 55:593 Ap 11 '22

Handling bulk quantities of fuel oils. R. June. il Power Pl Eng 27:366-7 Ap 1 '23

Handling oil for use in power plants. C. W. Geiger. il Power Pl Eng 27:1000 O 1 '23

La manipulation automatique des hydrocarbures; abstract. Carbonaro. Génie Civil 82:561-2 Je 9 '23

La manipulation automatique des hydrocarbures par les procédés de la société Hardoil. il diags Génie Civil 81:257-61 S 16 '22

Marland doubts value of gravity in the operation of bulk stations. diag Nat Pet N 15: 35 Je 13 '23

Oil dock on the Manchester ship canal. W. Fox. Engineer 133:309 Mr 17 '22

Oil tanker discharge. diag Ind Management (Lond) 9:345 My 31 '23

Proper handling, care and testing of insulating oils. Coal Age 22:491-3 S 28 '22

Storage and handling of lubricating oil. A. F. Brewer. il Ind Management 64:27-30 Jl '22

System for handling bunker oil from storage. diags Marine Eng 28:49 Ja '23

Unloading tank cars by compressed air. T. M. Gunn. diag Power 57:942 Je 12 '23; Same. Gas Age 51:792 Je 23 '23

See also Gasoline handling; Gasoline service stations; Oil bunkering stations; Oil measurement; Oil storage; Tank cars; Tank ships

Safety devices and measures

Floating caisson serves as fire stop. R. F. Mundorff. il Pop Mech 39:709-10 My '23

Practice fire prevention is the best way to protect one's business. F. A. Bean. Nat Pet N 14:49+ Mr 29 '22

See also Oil industries—Fire regulations; Oil storage—Fire protection; Oil tanks—Fire protection

Oil heaters

Efficient heating of oil fuel. A. F. Brewer. il diags Ind Management 66:36-43 Jl '23

Oil heaters—Continued

Methods of heating fuel oil. *il diags* Heat & Ven 19:51-3 O '22

Oil industries

Fats and oils statistics; data on production, consumption, exports, imports and stocks for first quarter of 1922. *Oil Paint & Drug Rep* 101:40h My 15 '22

Marketing cost, rather than gross sales, is index to jobbing business. W. H. Smith. *Nat Pet* N 15:67 My 9 '23

Report of miscellaneous oils committee. *Oil Paint & Drug Rep* 100:51 N 2 '21

Tank car load of lubricants moving by rail every year; sample distribution by the refining industry of the United States represents an expenditure of \$65,000 annually. W. K. Halbert. *Nat Pet* N 14:23-4 N 8 '22

Vegetable, animal and fish oils. See weekly numbers of *Oil paint and drug reporter*

Vegetable oils and oil materials in international commerce. U S Bur For & Dom Com misc ser 108:1-24 '22

What real co-operation can do for the edible oil industry. J. P. Harris. *Chem & Met Eng* 28:545 Mr 21 '23

See also Coconut oil; Corn oils; Cottonseed oil; Fish oils; Gasoline industry; Gasoline service stations; Kerosene industry; Linseed oil; Oil companies; Olive oil; Petroleum industry and trade; Tariff—United States—Oils and fats

Advertising

Boosts motor oil sales 323 per cent through gospel of lubrication. P. Truesdell. *Nat Pet* N 15:52-4+ JI 25 '23

Must use better lubricating oil merchandising methods. *Nat Pet* N 14:25 Ag 30 '22

Radio road bulletins feature Valvoline's service. *il Nat Pet* N 14:49 JI 26 '22

Teaching motorists to ask for a lubricant by brand name. H. M. Hitchcock. *Ptr Ink* 125:61-2+ O 18 '23

Fire regulations

Illinois fire marshall closes 4 oil plants he considers bad hazards. *Nat Pet* N 14:45 Je 28 '22

New oil storage rules for Ohio covers oil heating. *Nat Pet* N 14:89+ Mr 29 '22

Oil industry organizes for fire prevention work. *Nat Pet* N 14:21-2 My 31 '22

See also Gasoline—Transportation

California

Serves vegetable oil traffic. *il Marine R* 52:39-40 F '22

China

Native oil production in western China. H. K. Richardson. *il diags Chem & Met Eng* 27:1032-6 N 22 '22

With an oil salesman in the Orient. M. C. French. *Nat Pet* N 15:83+ Ag 29 '23

Germany

Die zukünftige gestaltung der schmiermittelversorgung Deutschlands. A. Franke. *Stahl & Eisen* 43:1102-5 Ag 23 '23

Great Britain

Vegetable oil industry of Great Britain. *Oil Paint & Drug Rep* 101:85 Mr 28 '22

United States

Animal and vegetable fats and oils. 16p U.S. Bureau of the census, Washington '22

Gasoline consumption grows relatively faster than production; refined products situation. *Nat Pet* N 14:20-1 My 17 '22

Growth of the American fat and oil industries. W. W. Skinner. *Chem Age* 30:247-50 Je '22

Manual for the oil and gas industry under the Revenue act of 1918. 245p U.S. Office of internal revenue, Washington '21

U. S. production of oils by decades. *Oil Paint & Drug Rep* 101:45 Mr 28 '22

See also Pacific oil company; Standard oil company

Oil inspection

Laws of 1877 make rich political hocus for Tennessee politicians. W. K. Halbert. *Nat Pet* N 15:49-50 Ag 1 '23

Oil inspection fees in Florida collected in advance. *Nat Pet* N 15:30 O 3 '23

State inspector and jobbers hold refinery is place to inspect oil. *Nat Pet* N 15:59 Ap 25 '23

See also Inflammable liquids

Oil lands

Auction sale of leases on Navajo lands announced by government. *Nat Pet* N 15:23 S 5 '23

Bidders at Osage sale show secretary some spirited competition. A. F. Hinton. *Nat Pet* N 15:75-6 Ap 11 '23

Business of oil production. R. H. Johnson, L. G. Huntley and R. E. Somers. 264p Wiley '22

Casing-head gasoline royalty. *Gas Age* 50:57 JI 8 '22

Farmers accused of taking graft from every motorist using gasoline. *Nat Pet* N 15:78-80 Je 27 '23

How the state department can aid foreign oil development. L. H. Woolsey. *Min & Met* 187:21-4 JI '22

Kentucky operators seek re-hearing on adverse lease decision; case of Edward Brooks against the Day oil co. *Nat Pet* N 14:77+ N 22 '22

Osage Indians six million dollars richer by twentieth lease sale. *Nat Pet* N 15:21-2 Ja 24 '23

Petroleum concessions in Persia. I. M. von Toll. *Eng & Min J* 114:377-9 Ag 26 '22

Philippine government removes rule curbing oil exploitation. *Nat Pet* N 14:95 Mr 29 '22

Producers are revising standard lease forms in the Mid-Continent field. *Nat Pet* N 14:78 O 11 '22

Two tracts break previous records for Osage county acreage. *Nat Pet* N 14:25 Mr 8 '22

What oil business owes to grasshoppers. P. Wagner. *Nat Pet* N 15:29-30 S 5 '23

Wildcat oil leases and how to safeguard the purchaser. A. G. Wolf. *Eng & Min J* 116:374-6 S 1 '23

See also Gas, Natural; Oil reserves (U.S. navy); Petroleum laws and regulations

Valuation

Appraisal of oil and gas properties. R. H. Johnson. *Eng Soc W Pa* 38:35-43; Discussion. 44-5 Mr '22

Comparative barrel day values for different sized wells. P. Ruedemann. *Nat Pet* N 14:73+ Je 21 '22

Establishing the value of oil and gas leases as of March 1, 1913. H. S. Wood. *Nat Pet* N 14:43+ O 18 '22

Mathematical determination of decline curves on producing properties. C. S. Larkey. *Nat Pet* N 15:87-8+ Je 20 '23

Time to pay out as a basis for valuation of oil properties; abstract. W. I. Moyer. *Min & Met* 181:35 Ja '22

Trend of future oil prices as basis for appraisal of property. W. H. Wallace. *Nat Pet* N 14:67+ Ag 16 '22

See also Oil companies—Valuation of property

Oil measurement

Fuel determination by scales, meters and counters for coal, by meters for oil. *il diags Power Pl Eng* 27:16-18 Ja 1 '23

Gauging table for 8050-gallon tank car. *Nat Pet* N 14:83 Je 14 '22

Gauging table for 10100 gallon car tank. *Nat Pet* N 14:45+ Ag 30 '22

La manipulation automatique des hydrocarbures par les procédés de la société Hardoll. *il diags Génie Civil* 81:257-61 S 16 '22

Method of correcting volume of oil for temperature variations. T. G. Delbridge. *Nat Pet* N 14:41-2 Je 28 '22

Positive measurement of fuel oil on motorships. *Mech Eng* 45:492-3 Ag '23

Oil measurement—Continued

- Standard tables for correcting oil volume for temperature being made. V. H. Manning. Nat Pet N 15:25 Ap 11 '23
- Tank car outages can be figured closely without higher mathematics. W. K. Halbert. Nat Pet N 15:53-4+ F 28 '23
- Work out fahrenheit table to figure expansion of oil. Nat Pet N 13:43 D 21 '21

See also Oil gages

Oil men's association, American. See American oil men's association**Oil men's association, Independent.** See Independent oil men's association**Oil, paint and drug reporter**

- Fifty years of progress 1871-1921. Oil Paint & Drug Rep 101:3+ Mr 28 '22

Oil pipe lines

See Oil fires; Petroleum pipe lines

Oil pipes

- Pipe sizes for fuel oil. Heat & Ven 20:64 S '23

See also Petroleum—Well casing; Petroleum pipe lines

Storage-in-transit

- Fight develops on storage in transit privilege on pipe. Nat Pet N 15:31-2 Ag 15 '23
- Plan is up to handle oil country pipe on storage-in-transit basis. A. F. Hinton. Nat Pet N 15:31-2 Jl 18 '23

Oil presses

- Tentative standard test methods and percentages of oil and moisture in hair press cloths. F. R. McGowan and C. W. Schoff-stall. U S Bur Stand Tech Pa 231:257-76 '23

Oil promoters

- California's inherent charms set stage for promoter's subtle wiles. P. Wagner. Nat Pet N 15:35+ My 9 '23
- Campaign to rout fake oil promoters bearing fruit in California. Nat Pet N 15:49+ S 12 '23
- Climax near at Fort Worth in drive against fake oil promoters. Nat Pet N 15:23-4 Mr 21 '23
- Government has fallen short in duty of eliminating fake promoter. J. E. Pew. Nat Pet N 15:83+ Ap 11 '23
- How fraudulent oil stock promoters mulch public. L. Lefko. Nat Pet N 15:41+ Ja 10 '23
- Merger type of fake stock promotions hit first in U. S. campaign. Nat Pet N 15:30 Ap 11 '23
- Vigilance committee opposes fake oil promoters with advertising. Ptr Ink 124:33-4 S 13 '23

Oil properties. See Oil lands**Oil pumps**

- La manipulation automatique des hydrocarbures; abstract. Carbonaro. Génie Civil 82:561-2 Je 9 '23
- Oil pump at the Olympia exhibition. il diags Engineering 116:329-30 S 14 '23
- Practical notes on oil pumping. G. W. E. Gibson. il Inst Pet Tech J 9:77-87; Bibliography. 88-9; Discussion. 90-100 Ap '23
- Pressure problem of oil-engine pumps. H. F. Shepherd. diags Power 58:329-30 Ag 28 '23
- St Louis rotary piston oil pump. il diag Power 57:587 Ap 17 '23
- Shifting speeds with an oil pump; details of a new British variable-speed gear without gear-wheels. P. J. Risdon. il Sci Am 129:334+ N '23

See also Gasoline pumps

Oil purification

- Appareil Pfisterer, pour le lavage continu des benzols. diags Génie Civil 81:543 D 9 '22
- Centrifugal machine cleans lubricating oil. il Pop Mech 39:567 Ap '23
- Centrifugal oil purifier proves satisfactory. S. F. Jones. il Elec W 82:664 S 29 '23
- Getting better service from lubricating oils. A. F. Brewer. diags Ind Management 65:13-18 Ja '23

- Maintaining the efficiency of turbine lubricating oil. C. H. Hapgood and F. R. C. Boyd. il diags Gen Elec R 25:548-54 S '22
- Oil is purified by centrifugal action. il Power Pl Eng 26:1228-9 D 15 '22
- Oil purification. il Blast F & Steel Pl 11:397-8 Jl '23
- Purification of vegetable oils. F. M. Turner. Chem Age 31:307-8 Jl '23
- Purifying transformer oils. Elec W 82:338-9 Ag 18 '23

See also Oil filters; Oil reclamation; Oil separators

Oil reclamation

- Apparatus will renew used crankcase oil. il Pop Mech 36:827 D '21
- Increasing production and reducing scrap with clean cutting oil. plan Am Mach 56:784 My 25 '22
- Oil and waste reclaimed with profit in Milwaukee. il Elec Ry J 60:305-8 N 18 '22
- Reclamation of used petroleum lubricating oils. W. H. Herschel and A. H. Anderson. U S Bur Stand Tech Pa 223:93-108 '22
- Reconditioning crankcase lubricating oil by a new method. W. F. Parish. diags Automotive Ind 46:910-11 Ap 27 '22; Same. Nat Pet N 14:49+ Jl 5 '22
- Refiner re-running waste oil claims it has superior quality. R. B. Stafford. Nat Pet N 15:59 F 28 '23
- Simple method of reclaiming lubricating oils. G. A. Drysdale. il Power 56:850 N 28 '22
- Supplying oil to 2,000 automatic screw machines. E. C. Henn. il plan Am Mach 56:4-7 Ja 6 '22
- See also Dehydration; Oil filters; Oil purification; Oil separators

Oil refining

- Applying centrifugal separation in the oil industries. diags Chem & Met Eng 29:328-30 Ag 20 '23
- 14th annual convention of American oil chemists. Chem & Met Eng 28:895-6 My 21 '23
- Losses in the refining of edible oils. B. H. Thurman. Ind & Eng Chem 15:395-7 Ap '23
- Operating practice in refining cracked petroleum distillates. G. Egloff and J. C. Morrell. Chem & Met Eng 29:53-4 Jl 9 '23
- See also Oil reclamation; Petroleum refining

Oil removal from harbors, etc.

- Concrete caisson to close canal against floating oil. R. F. Mundorff. il Eng N 91:171 Ag 2 '23
- Conduit separator for oily ballast water. diags Engineer 135:388 Je 29 '23
- Reclaiming surface oil from Baltimore harbor. N. C. McLoud. il Eng N 90:268 F 8 '23
- Separating barge for oily ballast water. il diags plans Engineer 135:91-2 Ja 26 '23
- Skimming fuel oil from harbor surface. il Sci Am 128:161 Mr '23

Oil reserves (U.S. navy)

- Beaty tells of Texas bid on Teapot; inquiry is recessed. A. E. Heiss. Nat Pet N 15:24-5+ N 7 '23
- Government makes public details of contract with Sinclair interests. Nat Pet N 14:22+ Ap 26 '22
- Marines unaided by artillery, capture Mutual well in frontal attack. M. P. Wear. Nat Pet N 14:21-2 Ag 9 '22
- National producers' association protests Teapot Dome contract. Nat Pet N 14:29+ My 10 '22
- Naval oil-reserve leases explained by Secretary Fall; abstracts. Eng & Min J 113:1058-9 Je 17 '22; Nat Pet N 14:23-4+ Je 14 '22
- Naval reserve inquiry meanders along with Fall chief witness. Nat Pet N 15:23-4 O 31 '23
- Navy to carry out Sinclair contract despite bitter opposition. Nat Pet N 14:27-30 My 3 '22
- President creates naval petroleum reserve in northern Alaska. Nat Pet N 15:49 Mr 7 '23
- Roadless, waterless, rattlesnake pasture, that's Teapot Dome. L. E. Smith. il Nat Pet N 14:33+ Jl 5 '22

Oil reserves (U. S. navy)—Continued

- Senator La Follette attacks lease of Teapot naval oil reserve. *Eng & Min J* 113:779-80 My 6 '22
- Sixty days to see first completion by Mammoth oil co. L. E. Smith. *map Nat Pet N* 14:34-5+ Ag 16 '22
- Teapot Dome development to be no factor in market this year. L. E. Smith. *Nat Pet N* 14:60-1+ My 17 '22
- Teapot Dome drilling contract arouses storm of opposition. *Nat Pet N* 14:23 Ap 19 '22
- Teapot Dome inquiry receives set-back in report of Clapp and Lewis. *Nat Pet N* 15:17 O 24 '23
- Teapot Dome lease investigation is on. *Oil Paint & Drug Rep* 104:21+ O 29 '23
- Teapot oil affair. C. W. Washburne. *Min & Met* 186:7-9 Je '22
- United gets leases to naval reserves. *Nat Pet N* 14:46 Mr 15 '22
- View of the Teapot Dome contract. F. B. Tough. *Nat Pet N* 14:62-3 My 17 '22

Oil separators

- Filters for removing oil from boiler feed water. L. A. Day. *diags Am Water Works Assn J* 10:145-6 Ja '23; Same. *Eng & Contr (W W)* 59:366 F 14 '23
- Removing oil from condensate. A. E. Krause. *diag Power Pl Eng* 26:814-15 Ag 15 '22
- Rocket oil separator. *diag Engineering* 116:492-3 O 19 '23
- Something about separators. W. H. Wake-man. *diags Power* 54:762-3 N 15 '21
- Vickcen centrifugal oil separator. *il diags Engineering* 116:302, 309-10 S 7 '23
- See also Dehydration; Oil filters; Oil purification; Oil reclamation

Oil shale workers

- Occupation dermatoses of the paraffin workers of the Scottish shale oil industry; abstract. A. Scott. *J Ind Hygiene* 4:sup191-4 Mr '23
- Paraffin cancer and its experimental production. A. Leitch. *J Ind Hygiene* 4:sup203-5 Ap '23

Oil shales

- Abuse of the oil-shale industry. *Eng & Min J* 113:850-1 My 20 '22
- Analytical distillation of shale oils. M. J. Gavin. *Eng & Min J* 113:683-4 Ap 22 '22
- Apparatus for studying thermal decomposition of oil shales. R. H. McKee and E. E. Lyder. *diag Chem & Met Eng* 25:1100-1 D 14 '21
- Chemical examination of the organic matter in oil shales. R. H. McKee and R. T. Goodwin. (Quarterly v. 18, no. 1, supp.A) 41p Colorado school of mines, Golden, Col. Ja '23; Abstract. *Ind & Eng Chem* 15:343-9 Ap '23
- Commercial and engineering aspects of the new oil shale industry of the western slope. J. B. Jenson. 46p Century ptg. co., Salt Lake City '21
- Distillation of oil shale. *Eng & Min J* 113:155-6 Ja 28 '22
- Effects of temperature and time of distillation on the crude oils from oil shale. L. C. Karrick. *J Fr Inst* 195:716-17 My '23
- Extraction apparatus with extract-recovery and solvent-regenerative devices. L. C. Karrick and D. Gould. *diag J Fr Inst* 194:537-40 O '22
- Factors influencing the value of oil-shale lands. D. E. Winchester. *il Eng & Min J* 114:61-6 Jl 8 '22
- Gasoline from oil shale. R. H. McKee. *il J Fr Inst* 193:311-26 Mr '22; Same cond. *Chem Age* 30:1-4 Ja '22; Same cond. *Can Chem & Met* 7:4-6 Ja '23; Same. *Soc Chem Ind J (Chem & Ind)* 42:193-6 Mr 2 '23
- Melting-point bridge for petrolatums, shale oils, and shale-oil distillates. L. C. Karrick and V. F. Parry. *plan Ind & Eng Chem* 15:600-2 Je '23
- New rotary oil-shale retort. *il diag Chem Age* 31:9-10 Ja '23
- Observations on oil shale treatment processes. K. Thomas. *Chem Age* 30:344 Ag '22
- Oil-shale; an historical, technical, and economic study. M. J. Gavin. *U S Bur Mines Bul* 210:1-201, pl 1-18 '22

- Oil shale distillation. *Gas Age* 52:510 O 27 '23
- Oil shale distillation tried by a new process. Oil Paint & Drug Rep 102:46 S 25 '22
- Oil shale exploitation. *Min & Sci P* 123:608 O 29 '21
- Oil shales. H. B. Cronshaw. 80p J. Murray, London '21
- Oil shales; a resumé for 1922. V. C. Alderson. (Quarterly v. 18, no. 1, supp.B) 28p Colorado school of mines, Golden, Col. Ja '23
- Problems of the American shale-oil industry present state of our knowledge in various divisions of the field of oil-shale technology. C. L. Jones. *Chem & Met Eng* 26:546-53 Mr 22 '22
- Relation of shale-oil residue to other bitumens. C. W. Botkin. *Chem & Met Eng* 26:445-8 Mr 8 '22
- Sampling of oil shale. C. C. Starr. *il Eng & Min J* 113:873-7 My 20 '22
- Shale oil. *Engineer* 133:311-12 Mr 17 '22
- Shale oil. Heat & Ven 19:49 N '22
- Shale oil. R. H. McKee. *il J Ind & Eng Chem* 14:847-9 S '22
- Shale-oil development. *Power* 56:999 D 19 '22
- Solubility of oil shales. *Eng & Min J* 113:369 Mr 4 '22
- Some factors affecting the products of the destructive distillation of oil shales. L. C. Karrick. *il Chem Age* 30:112-14 Mr '22
- Some mother plants of petroleum in the Devonian black shales. D. White and T. Stadnichenko. *Econ Geol* 18:238-52, pl 5-9 Ap '23
- Study of the saturated and unsaturated oils from shale. C. W. Botkin. *Chem & Met Eng* 26:398-401 Mr 1 '22
- See also Petroleum; also National oil shale congress

Bibliography

- Oil shale; bibliography of recent articles. V. C. Alderson. (Circ. of information) p. 5-8 Colorado school of mines, Golden, Colo.
- Oil shale of the Rocky Mountain region. D. E. Winchester. *U S Geol S Bul* 729:143-202 '23

Laws and regulations

- Oil-shale mining regulations issued by Bureau of mines. *Eng & Min J* 114:421 S 2 '22

Terminology

- Shalology and oil shale nomenclature. J. B. Jenson. *Chem & Met Eng* 26:509-12 Mr 15 '22

Australia

- Australian oil-shale industry now in commercial operation. D. A. Fell. *il Nat Pet N* 14:89+ My 3 '22

Colorado

- Mining of oil-shale in Colorado. R. L. Chase. *il Min & Sci P* 124:373-5 Mr 18 '22
- Oil shales of Colorado. R. D. George. 78p (Colorado. Geol. S. Bul. 25) Eames bros., Denver '21
- Preliminary study of the organic matter of Colorado oil shales. A. J. Franks and B. D. Goodier. (Quarterly v.17, no.4, supp.A) 16p Colorado school of mines, Golden, Col. O '22
- Short papers from the cooperative oil-shale laboratory. M. J. Gavin and L. Sharp. (Bul. no. 1) 68p Colorado cooperative oil shale investigation, Denver '21

Estonia

- Kukkarsite, the oilshale of Estonia. E. H. C. Craig. *Inst Pet Tech J* 8:349-59; Discussion. 359-75 Jl '22; Abstract. *Engineering* 113:624 My 19 '22

Indiana

- New Albany oil shale of Indiana. J. R. Reeves. *Eng & Min J* 114:554 S 23 '22

Kentucky

- Oil shale of Kentucky. V. C. Alderson. *il (Quarterly v.17, no. 4)* 15p Colorado school of mines, Golden, Col. O '22
- Oil shales of Kentucky. C. A. Crouse. *il Chem Age* 30:353-4 Ag '22

Oil shales—Continued**New South Wales**

Oil-shale distillation in situ in New South Wales. C. L. Jones. Chem & Met Eng 26: 196 F 1 '22

Scotland

Shale oil industry of Scotland. E. M. Bailey. Inst Pet Tech J 8:465-90 O '22

Spain

Distillation of oil shales at Puertollano. E. A. Ritter. il Eng & Min J 115:326-7 F 17 '23

United States

What's wrong with the American oil-shale industry? A. J. Hoskin. il Eng & Min J 114: 815-18 N 4 '22

Western states

Oil shale of the Rocky Mountain region. D. E. Winchester. U S Geol S Bul 729:1-143, pl 1-18 '23

Oil ships. See Tank ships**Oil storage**

California crude purchases curtailed further; cracking set back. P. Wagner. Nat Pet N 15:87-8 My 2 '23

Effective system for storing oils. il Ry Mech Eng 97:381-2 Je '23

Evaporation and fire loss problem—sealite. J. M. Jennings. Am Pet Inst Bul 3:122-8 D 30 '22; Same abr. Nat Pet N 14:40d D 13 '22

Gigantic storage construction campaign on for Salt Creek field. Nat Pet N 14:61 Ag 16 '22

Individual crude storage policy big step in advance for oil industry. Nat Pet N 14:23+ Ag 23 '22

Installation d'un dépôt d'essence, à Casablanca. diag plan Génie Civil 80:387 Ap 29 '22

Instruction course for custodians and janitors. E. S. Hallett. Heat & Ven 18:42-3 N '21

Oil storage and piping for circulation. E. Cunningham. diags Dom Eng 101:483-4 D 16 '22

Pit under warehouse floor is used to store barrels of lubes. V. B. Guthrie. il Nat Pet N 15:51+ Ag 22 '23

Risks in handling and storing coal and oil. C. E. Paige. Power Pl Eng 25:1140-1 D 1 '21

Shipyard bulk storage oil and paint plant. il diags Engineering 112:632, 634 N 4 '21

Storing and clarifying oil in shops. Am Mach 57:125-7 J1 27 '22

See also Gasoline storage; Oil tanks

Fire protection

Engineer starts fire prevention study for Petroleum institute. Nat Pet N 14:41+ Mr 15 '22

Fire prevention measures feature plant of Oklahoma P. & R. company. V. B. Guthrie. il Nat Pet N 14:35-6+ Mr 15 '22

Practice fire prevention is best way to protect one's business. F. A. Bean. Nat Pet N 14:49+ Mr 29 '22

Tentative rules for freeing oil tanks of vapors before entering. Nat Pet N 13:57-8 N 16 '21

Tulsa bulk storage plant is rated high for fire safety. W. K. Halbert. il Nat Pet N 14:43 Ap 12 '22

See also Oil industries—Fire regulations; Oil tanks—Fire protection

Oil stoves

Cooking with oil. il Sci Am 127:414 D '22

Advertising

Demonstrating a new product at salesmen's convention. C. M. Harrison. Ptr Ink 120: 89-90+ J1 20 '22

Sells a part of the product first; then the product itself. C. M. Harrison. Ptr Ink 120: 85-6+ J1 27 '22

Oil strainers. See Oil filters**Oil tanks**

Concrete tanks for storage of mineral oils. E. D. Cole. il diags Concrete 19:213-16 D '21

Construction of concrete fuel oil tanks. Can Eng 45:131-3 J1 10 '23

Don't paint your oil tank red. Sci Am 126: 389 Je '22

Fire prevention measures feature plant of Oklahoma P. & R. company. V. B. Guthrie. il Nat Pet N 14:35-6+ Mr 15 '22

Fuel oil storage in concrete tanks. E. L. Heidenreich. il diags Concrete 19:222-5 D '21

Giant concrete oil tank has very thin walls. il Pop Mech 39:763 My '23

Grounded shield protects tanks from lightning. il Pop Mech 39:217 F '23

Life of buried steel fuel oil tanks. Am Arch 121:531-2 Je 21 '22; Abstract. Eng N 88:873 My 25 '22

New connection for tank-roofs claimed to minimize evaporation. diags Nat Pet N 14: 75 My 24 '22

Oil companies win by compromise in spacing of tanks. Nat Pet N 15:95 J1 18 '23

Oil-proof treatment of concrete storage tanks. Nat Pet N 15:47 Ja 3 '23

Oil storage tanks. Power 53:668-9 O 23 '23

Oil tank repaired with super-cement. Concrete 20:50 F '22

Oilproofing concrete tanks. Eng & Contr (Bldgs) 60:399 Ag 22 '23

Removing oil residue from ship tanks. il diag Marine R 53:269-71 J1 '23

Savings by insulating hot tanks. W. L. Stefens. il Gas Age 49:133 F 4 '22

Steel roofed tanks would save oil industry millions yearly. Nat Pet N 14:19-20 F 1 '22

Supporting structure for fuel oil tank. F. W. Brady. Power Pl Eng 26:333-4 Mr 15 '22

Tank held together by clamps, not bolts. il Nat Pet N 13:31 D 28 '21

Use of vapor tight tankage in oil fields to check evaporation losses. diags Nat Pet N 15:43-4+ F 14 '23

See also Oil measurement

Fire protection

All steel tanks, properly vented, carry oil contents safely through fire. H. E. Newell. Nat Pet N 15:119 Je 20 '23

Brick walls isolate each tank. il Nat Pet N 14:37 Ag 9 '22

Design of oil tank fire walls. F. W. Babbitt. diags Eng N 90:1132-3 Je 28 '23

Durable foam seal stops evaporation and reduces fire risk. P. Truesdell. diags Nat Pet N 14:43+ J1 12 '22

Freeing tanks of flammable and explosive vapors, previous to entering them for making repairs. Nat Pet N 14:41 Ap 5 '22

Gatrell roofs for oil tanks found to protect against fires. G. B. James. diags Nat Pet N 14:29 J1 12 '22

Hold fire test on gasoline tank equipped with floating roof. W. K. Halbert. Nat Pet N 15:24 O 24 '23

Interesting fire test on gasoline tank. Ry R 73:594-5 O 20 '23

New method for extinguishing oil fires by solid sheet of water directly above surface. C. W. Geiger. il Power Pl Eng 27:692-3 J1 1 '23; Same abr. Pop Mech 39:854-5 Je '23; Am Gas J 119:34 J1 14 '23; Gas J (Lond) 163:533 Ag 15 '23; Sci Am 129:103 Ag '23

New system removes oil sludge and dangerous gases. G. C. Engstrand. il diag Marine Eng 28:47 Ja '23

Oil tank fires and their prevention. A. C. Carruthers. il Safety Eng 46:51-63 Ag '23

Oil tank protected from fire by cork insulation. il Chem & Met Eng 26:990 My 24 '22

Results of fierce oil fire show efficiency of explosion hatches. il diags Nat Pet N 15:35+ Ja 10 '23

Review of recent disastrous oil plant fires; their causes and suggested methods of prevention. Nat Pet N 14:39+ S 6 '22

Taking the fire hazard out of the oil tank. il Sci Am 126:109 F '22

Tank makers should lead in building fire proof tanks. Nat Pet N 14:27 S 20 '22

Oil tanks—Fire protection—Continued

Tentative rules for freeing oil tanks of vapors before entering. Nat Pet N 13:57-8 N 16 '21

To test screens as fire arrestors in storage-tank air vents. Nat Pet N 15:113 My 9 '23
Why metal tops prevent oil tank fires. Sheet Metal Worker 14:718 O 12 '23

Manufacture

Electric welding used in constructing and repairing large storage tanks. il Nat Pet N 15:85 JI 25 '23

How to make the larger oil tanks. W. Scholl. diags Sheet Metal Worker 14:241-3+ Ap 27 '23

Specifications

Engineer starts fire prevention study for Petroleum institute. Nat Pet N 14:41+ Mr 15 '22

Tentative recommended practice and standard specifications for concrete fuel oil tanks. Am Concrete Inst Pro 19:420-7 '23; Same. Eng & Contr (Bldgs) 59:954-8 Ap 25 '22

Testing

Further tests of concrete tanks for oil storage. G: A. Smith. il diags plans Am Concrete Inst Pro 17:22-39 '21

Oil testing

Five hundred tests on the dielectric strength of oil. J. L. R. Hayden and W. N. Eddy. Am Inst E E J 41:138-9 F '22; Discussion. 41:600-4 Ag '22

Five new petroleum test methods to be presented to A.S.T.M. Nat Pet N 15:99+ Je 27 '23

Flash and fire tests for fuel and lubricating oils. Mach 29:851 JI '23

Improvements in apparatus for testing petroleum products. T. G. Delbridge. il diags Am Soc T M Pro 21:1100-10 '21

Insulating oils—colour and sludging characteristics. E. B. Wedmore. Inst Pet Tech J 8:67-72 Ja '22

Measurement of the property of oiliness. R. E. Wilson and D. P. Barnard. il diags Soc Auto Eng J 11:143-56 Ag '22; Same. J Ind & Eng Chem 14:683-95 Ag '22; Abstract. Nat Pet N 14:45+ N 15 '22; Discussion. Soc Auto Eng J 11:156-7 Ag '22

Methods for testing petroleum products. diags U S Bur Mines Tech Pa 298:1-58 '22

Proper handling, care and testing of insulating oils. Coal Age 22:491-3 S 28 '22

Report of committee D-2 of A.S.T.M. on petroleum products and lubricants. Am Soc T M Pro 22 pt 1:416-51 '22

Report on researches on the chemical and physical properties of insulating oils; British electrical and allied industries research association. diags Inst E E J 61:661-74 Je '23; Abstract. Elec R (Lond) 93:127-8 JI 27 '23

Research on insulating oils; the selection of the best form of spark gap for dielectric strength (breakdown voltage) tests. E. B. Wedmore. il Elec R (Lond) 89:687-9 N 18 '21; Same. Electrician 87:702-4 D 2 '21

Revisions and additions to testing methods. Nat Pet N 15:32e S 26 '23

Specifications for petroleum products and methods for testing. il U S Bur Mines Tech Pa 323:31-88 '23

Standardisation of the testing of petroleum and its products. A. E. Dunstan. Inst Pet Tech J 8:578-601; Discussion. 601-17 D '22

Sulfur compounds and oxidation of petroleum oils. C. E. Waters. J Ind & Eng Chem 14: 725-7 Ag '22; Abstract. Nat Pet N 14:39+ S 20 '22

Temperature-pressure curves of petroleum products. M. B. Cooke. Chem & Met Eng 27:504 S 6 '22

Tentative method of test for oils. Am Soc T M Pro 21:638-78 '21; Same. Nat Pet N 13: 51 N 16; 63+ N 23; 41+ N 30; 57+ D 7; 73+ D 14; 71+ D 21 '21

Tentative method of testing gas oils. Nat Pet N 15:73+ O 24 '23

Tentative methods of testing transformer and switch oils. Am Soc T M Pro 21:737-40 '21

Three changes made in tentative tests method for flash. Nat Pet N 15:41 O 10 '23

Three thousand tests on the dielectric strength of oil. J. L. R. Hayden and W. N. Eddy. Am Inst E E J 41:495-9 JI '22; Discussion. 41: 883-6 N '22

See also Dielectrometer; Gasoline—Testing; Lubrication and lubricants—Testing; Oil, Transformer—Testing; Petroleum—Testing; Road oils—Testing

Oil transportation. See Petroleum—Transportation; Petroleum pipe lines; Tank cars; Tank ships; Tank trucks

Oil waste

British regulations against the discharge of oil into navigable waters. Marine Eng 27: 727-8 N '22

Control of waste fuel oil in harbors. B. Hill. Can Eng 43:412-13 O 3 '22

Oil pollution of navigable waters. J. S. Smith. Comm & Fin Chr 115:1233-9 S 16 '22

Pollution of coast waters and beaches with oil and tar. C. M. Saville. Eng N 89:390 S 7 '22

See also Oil removal from harbors, etc.

Oil wells. See Oil lands; Petroleum; Petroleum—Well boring

Oil wells—Valuation. See Oil lands—Valuation

Oil workers

Drill runners in oil fields averaged \$1.14 per hour. Eng & Min J 114:201 JI 29 '22

Wages and hours of labor in the petroleum industry, 1920. U S Bur Labor Statistics Bul 297:1-153 '22

See also Oil shale workers

Oilcloth

Oilcloth and linoleum. U S Bur Census 9p '22

Oiled roads. See Roads, Oiled

Oiling of tracks. See Railroads—Track oiling

Oils, Essential. See Essential oils

Oils and fats

Acetone as a solvent for bitumens, asphalts, animal and vegetable oils. Chem & Met Eng 27:651 S 27 '22

Action of shortening in the light of the newer theories of surface phenomena. W. Platt and R. S. Fleming. Ind & Eng Chem 15:390-4 Ap '23

Artificial fats and fatty acids. R. Furness. Soc Chem Ind J (Chem & Ind) 42:358-61 Ap 13 '23

Can gasoline be made from animal and vegetable oils? A. Mailhe. Chem & Met Eng 28:821-2 My 7 '23

Capillary relationships of oil and water. C. W. Washburne. Econ Geol 18:598-600 S '23

Catalytic hydrogenation of oils. E. J. Lush. Soc Chem Ind J 42:219-24; Discussion. 224-5 My 25 '23

Change in viscosity of oils with the temperature. W. H. Herschel. J Ind & Eng Chem 14:715-23 Ag '22

Chemical technology and analysis of oils, fats and waxes. J. I. Lewkowitsch. 6th ed. rev. & enl. Macmillan '21

La classification des corps gras au point de vue commercial. G. Wolff. Chimie & Ind 8: 544-8 S '22

Commercial and industrial developments at Hull. A. Tidman. il Ind Management (Lond) 10:212-16 O 18 '23

Contribution à l'étude de quelques graines oléagineuses de l'Indo-Chine. G: Clot. Chimie & Ind 8:1122-4 N '22

Digestibility of fats. C. F. Langworthy. bibliog Ind & Eng Chem 15:276-8 Mr '23

Dry rendering of fats. J: P. Harris. diags Chem & Met Eng 29:93-6 JI 16 '23

Edible fats and oils. W: H. Simmons and C. A. Mitchell. 2d rev. ed. 189p Van Nostrand '21

Examination of hydrocarbon oils and of saponifiable fats and waxes. D. Holde and E. Mueller. 2d English ed. 572p Wiley '22

Extraction of oil from bituminous materials. diags Engineer 135:14, 22-3 Ja 5 '22

Extraction of oil from vegetable matter. J. Davidson. diags Mech Eng 44:313-14 My '22; Same abr. Chem & Met Eng 26:1044 My 31 '22

Oils and fats—Continued

- Fats in the evaporated milk industry. H. F. Zoller. *Ind & Eng Chem* 15:278-9 Mr '23
- Half century's review of the vegetable oil market. *Oil Paint & Drug Rep* 101:39+ Mr 28 '22
- Hydrogénation de quelques huiles d'animaux marins. H. Marcelet. *Chimie & Ind* 6:765-8 D '21
- Hydrogenation of fats; discussion. *Engineering* 114:472 O 13 '22
- Industrial uses of hydrogenated oils. W. W. Myddleton. *Chem Age (Lond)* 8:448-50 Ap 28 '23; Same. *Can Chem & Met* 7:251-2 O '23
- L'isomérisation des huiles grasses et leur importance industrielle. A. Eibner. *Chimie & Ind* 9:760-1 Ap '23
- Manufacture of blown oils. T. H. Anderson. *Chem Age* 31:77 F '23
- Measurement of the relative absorption efficiencies of gas-absorbent oils. R. E. Wilson and H. S. Davis. *Ind & Eng Chem* 15:947-50 S '23
- Native oil production in western China. H. K. Richardson. *il diags Chem & Met Eng* 27:1032-6 N 22 '22
- New method of color measurement for oils. L. W. Parsons and R. E. Wilson. *il J Ind & Eng Chem* 14:269-78 Ap '22; Discussion. 14:1169-70 D '22
- Non-flammable mixtures of organic solvents for vegetable-oil extraction. A. F. Sievers and J. D. McIntyre. *Chem & Met Eng* 26:603-6 Mr 29 '22
- Notes on determination of absolute viscosity of petroleum oils. W. H. Fulweiler and C. W. Jordan. *J Ind & Eng Chem* 14:723-4 Ag '22
- Oil and albumen content of seeds. Kleberger. *Sci Am* 125A:116 D '21
- Oils and fats statistics for third quarter of 1922. *Oil Paint & Drug Rep* 102:44g N 20 '22
- Oils used in the textile industries. L. L. Lloyd. *Am Dyestuff Rep* 12:443-4 Je '23
- Petroleum colorimetry; its importance and summary of methods. P. D. Barton. *Nat Pet N* 14:53-4 My 31 '22
- Production et usages des huiles d'animaux marins. E. André. *Chimie & Ind* 10:437-52 S '23
- Quantitative aspects of the Kreis test. G. E. Holm and G. R. Greenbank. *Ind & Eng Chem* 15:1051-3 O '23
- Relation existant entre les constantes des graisses; abstract. J. Lund. *Chimie & Ind* 10:319-20 Ag '23
- Report of committee on miscellaneous oils. *Oil Paint & Drug Rep* 104:51-2 O 30 '23
- Solvent extraction in the production of oils and fats. L. A. Thiele. *Chem Age* 30:65-6 F '22; Discussion. 30:329-30 JI '22
- Solvent extraction of vegetable oils. C. F. Eddy. *bibliog J Ind & Eng Chem* 14:810-11 S '22
- Some problems connected with the saponification of fatty oils. H. M. Langton. *Soc Chem Ind J* 42:51-7 F 16 '23
- Use of fats and oils in the cotton finishing industry. R. B. Earle. *Am Dyestuff Rep* 12:320-2 Ap 23 '23
- Vegetable oil industry. D. Wesson. *J Ind & Eng Chem* 14:809-10 S '22
- Vegetable oil industry in Great Britain in 1922. *Oil Paint & Drug Rep* 103:55 Mr 29 '23
- Vegetable oils; their expression, extraction, refining and deodorising. H. J. Pooley, R. A. Bellwood and B. F. Flockton. 128p Grif-fith & co., London '22
- See also Acids, Fatty; Castor machine oil; Castor oil; Chenopodium oil; Coconut oil; Corn oils; Cotton seed oil; Creosote; Dehydration; Drying agents; Emulsification; Emulsions; Essential oils; Eucalyptus oils; Fish oils; Gas oil; Gas and oil engines—Fuel; Gasoline; Hydrogenation; Linseed oil; Lubrication and lubricants; Menhaden oil; Neem oil; Oil analysis; Oil filters; Oil industries; Oleomargarine; Olive oil; Palm oil; Peanut oil; Petroleum; Pine oil; Rancidity; Rapeseed oil; Saponification; Soap; Soy bean oil; Sunflower-seed oil; Tung oil

Prices

- Animal, fish, vegetable oils; record of prices. *Oil Paint & Drug Rep* 103:56-8 Mr 29 '23
- High and low price studies of oils, drugs, chemicals, 1871-1921. *Oil Paint & Drug Rep* 101:47+ Mr 28 '22
- Miscellaneous oils; vegetable, animal, fish. See weekly numbers of the Oil paint & drug reporter

Ointments

See Sag paste

Ojai, California

- Ugly Nordhoff becomes beautiful Ojai. C. Moran. *il Pop Mech* 39:411-12 Mr '23

Oklahoma

- Physiographic provinces and sections in western Oklahoma and adjacent parts of Texas. N. M. Fenneman. *maps U S Geol S Bul* 730-D:115-34, pl 16-18 '22

See also Banks and banking—Oklahoma; Gasoline industry and trade—Oklahoma; Mines and mineral resources—Oklahoma; Petroleum—Oklahoma; Petroleum industry and trade—Oklahoma-Kansas district; Petroleum laws and regulations—Oklahoma; Taxation—Oklahoma

Boundaries

- Engineers appointed to retrace Oklahoma-Texas boundary; disputed claims to oil lands in Big Bend area to be settled. *map Eng N* 90:705-6 Ap 19 '23

See also Red river

Old age homes

- Whiteley village, at Burhill, Surrey, R. R. Phillips. *il plans Arch Forum* 36:85-90, pl 38-9 Mr '22

Old age pensions

- Facing old age. A. Epstein. 352p Knopf '22
- New law on old-age pensions in Denmark. *Monthly Labor R* 16:188-90 Ja '23
- Old-age pension and age limit. *Coal Age* 21:1008 Je 15 '22

- Old-age pensions in Denmark. *Monthly Labor R* 16:175-6 Ja '23

- Practice growing of paying old-age pensions. *Ry Age* 75:65-8 JI 14 '23

See also Civil service pensions; Pensions, Industrial

Old Dominion company

- Facts for the stockholder. *Eng & Min J* 116:218 Ag 4 '23

Oldtown, Arkansas**Floods**

- Fighting the Mississippi flood at Oldtown, Arkansas. L. R. Parmelee. *il diags Eng N* 88:946-8 Je 8 '22

Olefines

- Higher alcohols from petroleum olefins. W. W. Clough and C. O. Johns. *Ind & Eng Chem* 15:1030-2 O '23

- Importance of the olefine gases and their derivatives. G. O. Curme, jr. and others. *Chem & Met Eng* 25:907-9, 957-9, 999-1000, 1049-50, 1091-2 N 16-D 14 '21

- Olefine-mono-carboxylic acids. K. von Auwers and others. *Chem Soc J* 124 pt 1:746-50 Ag '23

- Spectrochemistry of olefine-mono-carboxylic acids and their derivatives. K. von Auwers. *Chem Soc J* 124 pt 2:513-14 Ag '23

- Structure of the compounds produced from olefins and mercury salts; mercurated dihydrobenzofurans. R. Adams, F. L. Roman and W. N. Sperry. *Am Chem Soc J* 44:1781-92 Ag '22

- Untersuchungen aus dem gebiet der olefin-magnesiumverbindungen. W. Krestinsky. *Deutsche Chem Gesell Ber* 55:2754-74 S '22; Abstract. *Chem Soc J* 122 pt 1:1128-31 D '22

Oleic acid

- C₁₈ fatty acids; the relation of oleic and elaidic acids to their halogen addition products. B. H. Nicolet. *Am Chem Soc J* 43:2122-5 S '21

Oleomargarine

- Canada prohibits manufacture and importation of oleomargarine. *Chem & Met Eng* 28: 1086 Je 18 '23
- Danish margarine industry during 1921. *Chem & Met Eng* 27:1040 N 22 '22
- Danish margarin industry is constantly expanding. *Oil Paint & Drug Rep* 102:421 Jl 17 '22
- Fifty-seven varieties of food laws. J. S. Abbott. *Am Ind* 23:13-14+ Ja '23
- Improved process of margarin manufacture. W. T. Ashby. *Chem Age* 30:26 Ja '22
- Margarine and vitamins. *Chem Age* 30:41-2 Ja '22
- Vitamines and the future of margarin manufacture. C. Funk. *Chem Age* 30:227-30 My '22

Analysis

- Analysis of margarine. G. D. Elsdon. *Chem Age (Lond)* 8:450-2 Ap 23 '23

Oleoresins

- Oleoresin production. E. Gerry. *U S Agric Bul* 1064:1-46 '22

Olive oil

- Adulteration of olive oil. F. W. Richardson. *Soc Chem Ind J (Chem & Ind)* 42:493-4 My 18 '23
- California olive oil. W. V. Cruess. *il Chem & Met Eng* 29:222-3 Ag 6 '23
- Manufacture of olive oil. *Chem Age (Lond)* 8:452-3 Ap 28 '23
- Oils used in the textile industries. L. L. Lloyd. *Am Dyestuff Rep* 12:443-4 Je '23

Olives

- Évolution et avenir de l'industrie oléicole en Tunisie. G. Ray. *il diags Chimie & Ind* 8: 1318-31 D '22

Advertising

- Olive importers combine to get people to eat more Spanish olives. R. Cole. *Ptr Ink* 119: 69-70+ Ap 27 '22

- Ripe olive folks stage big come-back. M. Hastings, jr. *Ptr Ink* 117:85-6+ D 8 '21

Omaha, Nebraska**Rapid transit**

- Omaha fares unchanged. *Elec Ry J* 62:579-80 O 6 '23

Water supply

- Water filtration plant for Omaha metropolitan district. F. P. Larmon. *il diags Eng N* 90:870-1 My 17 '23

One-man cars. See Street cars—One-man cars**Ontario, Canada**

- Development of townsites in New Ontario. H. T. Routley. *Can Eng* 42:270-2 F 28 '22

- See also* Electric railroads—Ontario; Geology—Ontario, Hydroelectric plants—Ontario; Railroads—Ontario; Roads—Ontario

Commission on hydro-electric railways

- Reports of commission appointed to inquire into hydro-electric railways containing majority and minority reports and appendices. 234p Ontario Commission on hydro-electric railways, Toronto '22

Hydroelectric power commission

- California should profit by the experience of Ontario. R. Sibley. *il chart map J Elec* 48: 229-33, 269-71, 310-12 Mr 15-4p 15 '22
- Cannot avoid shortage of power. A. Beck. *Can Eng* 45:336-7 S 18 '23
- Economic factors in power development in Ontario. T. G. Wood. *Power* 56:179-81 Ag 1 '22
- Government-owned and controlled compared with privately owned and regulated electric utilities in Canada & the United States. W. S. Murray. 223p National electric light assn., New York '22
- Hydro-electric development in Ontario. E. B. Biggar. 202p [biblog. p. 193-5] Ryerson press, Toronto '20
- Hydroelectric power commission of Ontario; thirteenth annual report. *Elec R (Lond)* 89: 694-5; 90:371-2 N 18 '21, Mr 17 '22

- Hydroelectric power commission of Ontario; 14th annual report. *Elec R (Lond)* 91:954-5 D 22 '22

- Hydro-electric system of Province of Ontario investigated; Murray's report. *il Elec W* 79:471-4 Mr 11 '22; *Eng N* 88:453-4 Mr 16 '22; *J Elec* 48:247 Mr 15 '22; *N E L A Bul* 9:131-6 Mr '22

- Murray answers Beck. *Elec W* 80:676-7 S 23 '22

- Murray report on electrical undertakings. *Elec R (Lond)* 91:955-6 D 22 '22

- Ontario hydro accused of deception. *Elec W* 80:1173 N 25 '22

- Reply to Murray-Flood report; abstracts. *Can Eng* 43:252-5 Ag 15 '22; *Elec W* 80:389-90 Ag 19 '22; *Eng N* 89:443-4 S 14 '22

- Statements by Chicago officials refuted. A. Beck. *Can Eng* 45:453-5 O 30 '23

- Successful public enterprise; development and administration of the hydro system. A. Beck. *Can Eng* 45:343-5 S 25 '23

Industries and resources

- How California has out distanced Ontario in economic growth. R. Sibley. *J Elec* 48:310-12 Ap 15 '22

- See also* Gold mines and mining—Ontario; Mines and mineral resources—Ontario; Paper industry and trade—Ontario; Silver mines and mining—Ontario

Public works

- Ontario local improvement act discussed. *Can Eng* 43:625-7 D 12 '22

Ontario good roads association

- Annual convention. *Can Eng* 44:325 Mr 13 '23
- Good roads association makes progress. T. J. Mahoney. *Can Eng* 42:326 Mr 21 '22

Ontario silver mining company

- Facts for the stockholder. *Eng & Min J* 116:350 Ag 25 '23

Onyx

- Onyx in Arizona. *Eng & Min J* 114:408 S 2 '22

Opals

- Queensland black opals may be mined. *Eng & Min J* 115:1151 Je 30 '23

Open and closed shop

- Closed union shop is justifiable. E. L. Bowers, A. B. Buehler and A. G. Buehler. 47p Bowers & Buehler, Tiffin, Ohio '22

- Equal strength in operators' and miners' organizations would protect interests of labor and producer. P. Penna. *Coal Age* 21: 330-1 F 23 '22

- More building under open shop. N. Sargent. *Am Ind* 22:29-32+ F '22

- N. Y. Herald finds open shop gains. *Am Ind* 24:21-3 Ag '23

- Open shop session at the convention of National Association of manufacturers. *Am Ind* 23:22-31 Je '23

- Open shop's benefits three-fold. E. C. Rees. *Am Ind* 22:35-6 My '22

- San Francisco organizes for industrial peace. W. Ryder. *Annalist* 19:272+ F 27 '22

- Selected articles on the closed shop. L. T. Beman. 2d ed., rev. & enl. 282p H. W. Wilson co. '22

- Seven nights debates on closed shop and open shop. F. W. Phelps. 310p School of utilitarian economics, Seattle, Wash. '22

- Transition to an open-shop foundry. P. R. Ramp. *Iron Age* 108:1395-8 D 1 '21

- University debaters' annual; 1920-1921. E. M. Phelps. p.1-53; Bibliography. p.47-53 H. W. Wilson co. '21

- University debaters' annual; 1921-1922. E. M. Phelps. p.335-443; Bibliography. p.439-43 H. W. Wilson co. '22

- What women think of open shop. *Am Ind* 23: 21-5+ My '23

See also* Labor contract*Open door. See China—Foreign relations****Open hearth process**

- Acid open-hearth process for manufacture of gun steel and fine steel; abstracts. W. P. Barba and H. M. Howe. *Blast F & Steel*

Open hearth process—Continued

- Pl 10:183-91, 235-8, 287-8 Mr-My '22; Iron Tr R 70:749-53, 893-4, 1117-23 Mr 16, 30, Ap 20 '22; Min & Met 181:32-4 Ja '22; Chem & Met Eng 26:392-3, 929-31 Mr 1, My 17 '22
- Aluminum in steel. W. H. Keen. Iron Age 110:1574 D 14 '22
- Arrangement of open hearths in Germany. H. Hermanns. diags Blast F & Steel Pl 10:192-4 Mr '22
- Beitrag zur metallurgie des basischen Siemens-Martin-verfahrens und zur frage des einflusses des sauerstoffgehaltes auf die mechanischen eigenschaften des flusseisens, insbesondere des rotruches. H. Monden. il Stahl & Eisen 43:745-52, 732-8 Je 7-14 '23
- Die berechnung des warmebedarfs der Siemens-Martin-oeffen. H. Bansen. Stahl & Eisen 43:1031-9 Ag 9 '23
- Business status halts expansion. J. D. Knox. Iron Tr R 70:39 Ja 5 '22
- Considerations in the design of open-hearth furnaces. E. J. McDonnell. Iron Age 110:1582 D 14 '22
- Constitution of basic slags: its relation to furnace reactions. T. P. Colclough. Iron & Steel Inst J 107:267-86 no 1 '23; Same. Iron Tr R 73:103-6+ JI 12 '23; Abstracts. Engineer 135:547-8 My 25 '23; Engineering 115:614 My 18 '23; Discussion. Iron & Steel Inst J 107:287-99 no 1 '23
- Control of sulphur in the basic open hearth process. S. V. Williams. Blast F & Steel Pl 11:51-4 Ja '23
- Designing furnace regenerators. F. B. Quigley. diag Iron Tr R 73:1172-3+ O 25 '23; Same cond., with discussion. Iron Age 112:1245-6 N 8 '23
- Developments in the open hearth. H. F. Miller, jr. diags Blast F & Steel Pl 11:48-51 Ja '23
- Efficient arrangement of open hearth labor. P. S. Young. Blast F & Steel Pl 10:215-19 Ap '22
- Fluorspar in open-hearth practice. Iron Age 109:783-4 Mr 23 '22
- Fuels used in open-hearth practice. E. F. Cone. Iron Age 108:1589-92 D 22 '21
- Gas and air valves for open hearth furnaces. W. C. Bulmer. diags Blast F & Steel Pl 10:302-6 Je '22; Same cond. Iron Tr R 70:1560-1 Je 1 '22; Excerpts. Iron Age 109:1556-7 Je 1 '22
- Improvements in open hearth furnaces. E. C. Cook. il diags Blast F & Steel Pl 11:61-4 Ja '23
- Improvements in port construction in open hearth steel furnaces. J. W. Kagarise. diags Blast F & Steel Pl 9:682-7 D '21; Same. Iron Age 108:1324, 1326-8 N 24 '21; Same. Iron Tr R 69:1417-21+ D 1 '21; Abstract. Chem & Met Eng 25:952 N 23 '21; Discussion. Iron Tr R 69:1554-6 D 15 '21
- Improves design of open-hearth roof. I. A. Billiar. diags Iron Tr R 70:1407-8 My 18 '22
- Improving open-hearth design. W. McKee. diags Iron Tr R 70:1865-8 Je 29 '22; Same. Iron Age 110:147-9 JI 20 '22; Same. Foundry 50:990-3 D 15 '22
- Krupps build new open hearths at Essen. il diags Iron Tr R 72:661-3 Mr 1 '23
- Leaves from a steel melter's notebook. H. D. Hibbard. Iron Age 109:1219-20, 1735-9 My 4, Je 22 '22
- Loftus improved open-hearth furnace. W. Millward. diags Min & Met 192:25+ D '22
- McKune open-hearth furnace. Iron Age 112:608 S 6 '23
- Making open-hearth bottom. il Iron Age 112:674 S 13 '23
- Making steel in Java. il diags Iron Age 111:820 Mr 22 '23
- Making steel without using pig iron; scrap and carbon basic open-hearth process. E. F. Cone. Iron Age 110:585-6 S 7 '22
- Das moderne Siemens-Martin-Stahlwerk. H. Hermanns. Review by W. de Fries. Blast F & Steel Pl 10:488 S '22
- Movable type open-hearth port. diags Iron Tr R 70:32-9 F 2 '22
- Neuerungen an amerikanischen Siemens-Martin-oeffen. J. W. Kagarise. diags Stahl & Eisen 42:1132-9 JI 20 '22
- Neuerungen im bau amerikanischer Siemens-Martin-oeffen. G. Neumann. diags Stahl & Eisen 42:1641-50 N 2 '22
- New open-hearth port speeds melting. H. F. Miller, jr. diags Foundry 50:145 F 15 '22
- New reversing valves for open hearth furnaces. H. Hermanns. il diags Blast F & Steel Pl 10:228-9 Ap '22
- New Talbot open-hearth furnace of large capacity. diags Iron Age 108:1335 N 24 '21
- New type of open-hearth furnace: Loftus furnace involves new way to apply blow torch principle. il diags plan Iron Age 110:1677-9 D 28 '22
- New type of open-hearth reversing valve. J. Nelson. il Iron Age 111:1560-1+ My 31 '22
- Open-hearth furnace design. A. D. Williams. diags Iron Age 109:577-9, 717-19, 853-5, 1075-6, 1279-81 Mr 2, 16, 30, Ap 20, My 11 '22
- Open hearth furnace makes a record. diag Blast F & Steel Pl 10:48-9 Ja '22
- Oxygen in steel making. Iron Age 112:734-5 S 20 '23
- Les progrès réalisés dans les aciéries Martin. A. Barberot. Chimie & Ind 10:500-2 S '23
- Pulverized coal in the iron and steel industry. F. P. Coffin. il diags Chem & Met Eng 25:971-2 N 23 '21
- Recent developments in open hearth furnaces. H. W. Seldon. Blast F & Steel Pl 10:36-7 Ja '22
- Results follow changes in port design. il Iron Tr R 70:30-2 Ja 5 '22
- Slide rule for open-hearth calculations. B. B. Russell, jr. Iron Age 111:224-5 Ja 18 '23
- Steelmakers strive for higher open-hearth efficiency. E. L. Shaner. il Iron Tr R 72:60-1 Ja 4 '23
- Talbot and other open-hearth processes compared. Iron Age 110:1009-10 O 19 '22
- Thermal efficiency and heat balance of an open hearth furnace. C. L. Kinney, jr. and G. R. McDermott. diags plan Blast F & Steel Pl 10:629-36 D '22; Same cond. Iron Age 110:1131-5 N 2 '22; Same cond. Iron Tr R 71:1274-7 N 9 '22; Discussion. S. S. Ball. Iron Tr R 71:1488-9 N 30 '22
- Ueber bau und berechnung von wärmespeichern und widerhitzern. H. Preussler. diags Stahl & Eisen 42:609-15 Ap 20 '22
- Ueber die aenderung der zusammensetzung von herdofenheizgasen durch erwärmen, insbesondere bei gegenwart von teer- und wasserdämpfen. S. Schleicher. diags Stahl & Eisen 43:593-7 My 3 '23
- Ueber die arbeitsweise im Martinwerk des eisen- und stahlwerks Hoersch unter besonderer berücksichtigung des Hoerschverfahrens und der beheizung der oefen mit koksofengas. O. Schweitzer. diags Stahl & Eisen 43:649-57; Discussion. 657-9 My 17 '23
- Use electric and open-hearth furnaces. il Iron Tr R 69:1221 N 10 '21
- Use of liquid fuel in metallurgical furnaces. R. C. Helm. diags Blast F & Steel Pl 10:549-55 N '22; Abstracts. Iron Age 110:1137-9 N 2 '22; Iron Tr R 71:1281-3 N 9 '22; Discussion. J. A. Larocca. 71:1487-8 N 30 '22
- Use of pulverized coal in open-hearth furnaces. R. H. Lowndes. Mech Eng 45:651-2 N '23
- Using fuel in open-hearth furnaces. H. F. Miller, jr. Iron Age 109:1495+ Je 1 '22; Same. Iron Tr R 70:1646-7+ Je 8 '22
- Versuche mit pressgas-beheizung von Siemens-Martin-oeffen. G. Donner. diags Stahl & Eisen 43:558-63; Discussion. 563-4 Ap 26 '23

See also Siemens furnace**Open price associations.** See Price fixing**Opera houses.** See Theaters**Ophir mining district.** See Mines and mineral resources—Utah**Ophthalmology**

Use of light in the surgical, dental and ophthalmological professions. L. P. Tingley. diags plan Illum Eng Soc 17:9-24; Discussion. 35-43 Ja '22

Opianic acid*m*-opianic acid (4:5-dimethoxy-o-aldehydebenzoic acid). R. G. Fargher and W. H. Perkin, jr. Chem Soc J 119:1724-44 N '21

- Opium**
Smyrna opium—history from 1872 to 1922. *Oil Paint & Drug Rep* 101:39 Mr 28 '22
See also Papaverine
- Oppau explosion.** See Nitrate plant, Oppau
- Optical glass.** See Glass, Optical
- Optical illusions**
Visual illusions. M. Luckiesh. 252p Van Nostrand '22
- Optical instruments**
Les instruments d'optique. H. Pariselle. 218p A. Colin. Paris '23
Theory of modern optical instruments. A. W. Gleich. 2d ed. 365p [bibliog. p. 347-50] Gt. Brit. Dept. of sci. & ind. research, London '21
See also Glass, Optical; Interferometer; Lenses; Microscope and microscopy; Microtelescope; Reading machine; Reflection (optics); Rotostat; Spectrograph; Spectrophotometer; Telescope
- Optical measurements.** See Measuring instruments, Optical
- Optical properties**
Optical constants of certain liquids for short electric waves. J. D. Tear. *Phys R* 21:611-22 Je '23
Optical constants of sodium-potassium alloys. R. Morgan. *diags Phys R* 20:203-13 S '22
Optical properties of molten metals. A. K. Aster. *Phys R* 20:349-57 O '22
Optical properties of some metallic sulfides. E. P. T. Tyndall. *diags Phys R* 21:162-80 F '23
- Optical rotation**
Catalysis of the mutarotation of dextrose by metals. W. E. Garner and D. N. Jackman. *Chem Soc J* 119:1936-48 D '21
Constitution and rotatory powers of mannitol and fructose complexes formed in solutions containing boric acid and sodium hydroxide. G. Van B. Gilmour. *Chem Soc J* 121:1333-40 JI '22
Fluoro-acetyl derivatives of sugars; optical rotation and atomic dimension. D. H. Brauns. *Am Chem Soc J* 45:2331-90 O '23
Influence of papaverine on the optical activity of narcotine in acid solution. H. E. Annett. *Chem Soc J* 123:376-9 F '23
Investigations on the dependence of rotatory power on chemical constitution; a new type of Walden inversion. H. Phillips. *Chem Soc J* 123:44-59 Ja '23
Investigations on the dependence of rotatory power on chemical constitution; some *n*-alkyl ethers of *d*-benzylmethylcarbinol. H. Phillips. *Chem Soc J* 123:22-31 Ja '23
Investigations on the dependence of rotatory power on chemical constitution; the di-*d*- β -octyl esters of the saturated dicarboxylic acids. L. Hall. *Chem Soc J* 123:32-44 Ja '23
Investigations on the dependence of rotatory power on chemical constitution; the di-*l*-menthyl esters of the saturated dicarboxylic acids. L. Hall. *Chem Soc J* 123:105-13 Ja '23
Investigations on the dependence of rotatory power on chemical constitution; the normal aliphatic ethers of *d*- β -octanol. J. Kenyon and R. A. McNicol. *Chem Soc J* 123:14-22 Ja '23
Investigations on the dependence of rotatory power on chemical constitution; the rational study of optical properties including refraction. H. Hunter. *Chem Soc J* 123:1671-82 JI '23
Investigations on the dependence of rotatory power on chemical constitution; the spatial configuration of the unbranched aliphatic chain. R. H. Pickard, J. Kenyon and H. Hunter. *Chem Soc J* 123:1-14 Ja '23
Magnetic rotatory dispersion of certain paramagnetic solutions. R. W. Roberts, J. H. Smith and S. S. Richardson. *Philos Mag* 6th ser 44:912-15 N '22
- Molecular configurations of polynuclear aromatic compounds;** 4:6:4'-trinitrodiphenic acid and its resolution into optically active components. G. H. Christie and J. Kenner. *Chem Soc J* 123:779-85 Ap '23
- Molecular configurations of polynuclear aromatic compounds;** 6:6'-dichlorodiphenic acid; its synthesis and resolution into optically active components. G. H. Christie, C. W. James and J. Kenner. *Chem Soc J* 123:1948-51 Ag '23
- Mutarotation and pseudo-mutarotation of glucosamine and its derivatives.** J. C. Irvine and J. C. Earl. *Chem Soc J* 121:2370-6 N '22
- A new phenomenon.** M. Holmes. *diag Philos Mag* 6th ser 46:335-6 Ag '23
- Optical activation of racemic acid by *l*-malic acid.** A. McKenzie and N. Walker. *Chem Soc J* 121:349-57 Mr '22
- Optical rotations of the sugars.** J. G. Maltby. *Chem Soc J* 121:2608-12; 123:1404-9 N '22, Je '23
- Optically active diazo compounds.** H. M. Chiles and W. A. Noyes. *Am Chem Soc J* 44:1798-1810 Ag '22
- Optically active dyes.** A. W. Ingersoll and R. Adams. *Am Chem Soc J* 44:2930-7 D '22
- Optically active forms of the keto-dilactone of benzophenone-2:4:2':4'-tetra-carboxylic acid.** W. H. Mills and C. R. Nodder. *Chem Soc J* 119:2094-2104 D '21
- Optisch-aktive phenyl-brom-oxy-propionsäuren.** E. Berner and C. N. Riiber. *Deutsche Chem Gesell Ber* 54:1945-60 S '21; Abstract. *Chem Soc J* 120 pt 1:788-91 N '21
- Preparation of optically-active hydrazines: the preparation of di-*p*-secondary-butyl-phenylhydrazine; the resolution of di-*p*-secondary-butyl-aniline.** J. W. E. Glattfeld and E. Wertheim. *Am Chem Soc J* 43:2682-7 D '21
- Rotary dispersive power of organic compounds; the preparation and properties of pure ethyl tartrate.** T. M. Lowry and J. O. Cutter. *Chem Soc J* 121:532-44 Mr '22
- Studies on the dependence of optical rotatory power on chemical constitution; aryl derivatives of bisiminocamphor.** B. K. Singh, M. Singh, and J. Lal. *Chem Soc J* 119:1971-6 D '21
- Über die optische aktivität des catechins.** K. Feist and A. Futtermenger. *Deutsche Chem Gesell Ber* 55:942-4 Ap '22
- Über mutarotation.** C. N. Riiber. *Deutsche Chem Gesell Ber* 55:3132-43 O '22; Abstract. *Chem Soc J* 122 pt 2:807-8 D '22
- See also Dispersion; Polarization (light); Racemization
- Optical trade**
See also Optical instruments
- Advertising**
American optical company achieves unity in national advertising and dealer tie-ups. D. Kirkland. *Ptr Ink* 123:25-7 My 24 '23
Co-operative advertising speeds up optical sales. *Ptr Ink* 119:107-8 Ap 6 '22
Has advertising reached the dignity of finance? R. M. Rhodes. *Ptr Ink* 120:54+ JI 27 '22
Looking at the optician's business through advertising. *il Ptr Ink* 120:141-2+ JI 27 '22
See also Spectacles—Advertising
- Optics**
Colours of mixed plates. C. V. Raman and K. S. Rao. *diags Philos Mag* 6th ser 42:679-95 N '21
Convection of light (Fizeau effect) in moving gases. C. V. Raman and N. K. Sethi. *Philos Mag* 6th ser 43:447-55, pl 6-7 Mr '22
Images obtained by means of a semi-infinite obstacle. S. Ray. *Philos Mag* 6th ser 46:79-80, pl 3 JI '23
Optical methods in control and research laboratories. J. N. Goldsmith, S. J. Lewis and F. Troyman. 2d ed. A. Hilger, London '23
Possible relationship between the focal length of microscope objectives, and the number of fringes seen in convergent polarized light. F. I. G. Rawlins. *Philos Mag* 6th ser 43:766-7 Ap '22
Unit magnification surfaces of a glass ball. A. Everett. *diags Philos Mag* 6th ser 46:450-4 S '23
- See also Absorption of light; Color; Diffraction; Fluorescence; Interference (light);

Optics—Continued

Light; Perspective; Phosphorescence; Photochemistry; Photometry; Radiation; Reflection (optics); Refractive index; Sight; Spectrum; Spectrum analysis

Optics, Geometrical

Aplanatic (or Cartesian) optical surfaces. J. P. C. Southall. diags J Fr Inst 193:609-26; 194:69-73 My, J1 '22

Optics, Physiological

Attempt to determine whether a minimum time is necessary to excite the human retina. J. H. J. Poole. Philos Mag 6th ser 43: 345-8 F '22

Physiological limits to the accuracy of visual observation and measurement. H. Hart-ridge. Philos Mag 6th ser 46:49-79 J1 '23; Discussion. T. Y. Baker. 46:640-2 O '23

Present status of visual science. L. T. Tro-land. Nat Research Council Bul v 5, pt 2:1-110; Bibliography. 111-20 D '22; Abstract. Illum Eng Soc 18:540-3 J1 '23

See also Color sense; Eye; Optical illu-sions; Sight

Orange ade

Making a market for oranges and lemons not yet grown. G. A. Nichols. Ptr Ink 121:81-2+ O 5 '22

Orange-crush company, Chicago

Orange-crush climbs aboard the ice-cream special. Ptr Ink 119:77-8 Ap 27 '22

Oranges

Central-heating system for orange groves. C. R. Baldwin. diag plan Pop Mech 38:499 O '22

Advertising

Sunkist had its most successful year in 1921. Ptr Ink 118:100+ Ja 5 '22

Orbits

Orbits in the field of a doublet. D. Wrinch. Philos Mag 6th ser 43:993-1014 My '22

Orbits in the field of a doublet, and generally of two centres of force. G. Greenhill. Philos Mag 6th ser 46:364-85 S '23

Orientation of the Bohr-Sommerfeld orbits. A. W. Conway. Philos Mag 6th ser 45: 324-6 F '23

Orchard heating. See Frost protection**Order blanks**

Order blanks that help the sale along. A. O'Neill. il Ptr Ink M 5:44+ J1 '22

Order departments

Fewer errors in handling export orders. W. F. Wyman. System 43:472-3 Ap '23

Orders

Speeding shipment by routing sales orders. P. F. O'Shea. il Management Eng 4:165-8 Mr '23

See also Mail orders

Ordnance

See also Artillery; Guns (ordnance)

Testing

Aberdeen proving ground. F. B. Pletcher. il Iron Tr R 73:1091-6 O 18 '23

Ore (term)

Terms of precision. T. A. Rickard. Eng & Min J 115:612 Ap 7 '23; Discussion. D. C. Simpson. 115:878 My 19 '23

Ore analysis. See Metallurgical analysis**Ore bins**

Discharge device for fine ore bins. H. H. Hunner. il Eng & Min J 113:252 F 11 '22

New Timber Butte bins. W. J. Tait. il diag plan Eng & Min J 116:549-50 S 29 '23

Ore cars

High capacity ore cars for the Great North-ern. il Ry Age 74:1437-8 Je 16 '23; Ry R 72: 1175-8 Je 30 '23

Ore deposits

Abriß der lehre von den erzlagerstätten. R. Beck. 408p Gebrüder Borntraeger, Berlin '22

After-effect of igneous intrusion. J. F. Kemp. Eng & Min J 113:338-9 F 25 '22

Ajo enterprise of the new Cornelia copper co. A. W. Allen. il Maps Eng & Min J 113:952-6 Je 3 '22

Antimony in southwestern Arkansas. G. J. Mitchell. diags map Eng & Min J 114:455-6 S 9 '22

Bisbee mining district: past, present, and future. M. J. Elsing. bibliog il map Eng & Min J 115:177-84 Ja 27 '23

Bonanza ores of the Comstock lode, Virginia City, Nevada. E. S. Bastin. diags U S Geol S Bul 735—C41-63 '22

Carnotite in southern Nevada. D. F. Hewett. il Eng & Min J 115:232-5 F 3 '23

Chemistry of enrichment of silver deposits. R. T. Sill. Min & Met 189:21-3 S '22

Contact metamorphic iron-ore deposit near Fairview, New Mexico. D. D. Smythe. Econ Geol 16:410-18, pl 14-15 S '21

Copper in the Sierra Nevada, Spain. C. De-Kalb. il diags map Min & Sci P 124:291-8 Mr 4 '22

Croppings of ore deposits. A. M. Bateman. Econ Geol 17:703-8 D '22

Depth of veins. Eng & Min J 116:707 O 27 '23

Economic geology of the Mount Bischoff tin deposits, Tasmania. J. G. Weston-Dunn. il plan Econ Geol 17:153-93, pl 3 My '22

Effect of climatic change on the superficial alteration of ore deposits. H. H. Knox. Econ Geol 17:655-61 D '22

Electrical phenomena produced by metalliferous deposits. C. Schlumberger and M. Schlumberger. Eng & Min J 113:870 My 20 '22

Filling of fissure veins. J. E. Spurr. diags Eng & Min J 116:329-30 Ag 25 '23; Dis-cussion. J. W. Young. 116:639-40 O 13 '23

Geographical distribution of ore deposits in Australasia. E. C. Andrews. Econ Geol 18: 1-25 Ja '23

Geology and ore deposits of Shoshone county, Idaho. J. B. Umpleby and E. L. Jones, jr. U S Geol S Bul 732:1-151, pl 1-16 '23

Geology and ore deposits of the Creede district, Colorado. W. H. Emmons and E. S. Larsen. il diags maps U S Geol S Bul 718:1-198, pl 1-12 '23

Geology of prospecting. W. H. Emmons. Eng & Min J 115:122-3 Ja 20 '23

Geology of the Braden mine, Rancagua, Chile. W. Lindgren and E. S. Bastin. diags maps Econ Geol 17:75-99 Mr '22; Discussion. R. Marsh, jr. 17:498-501 S '22

Geology of the Broken Hill district. E. C. Andrews. map Econ Geol 17:470-90 S '22

Lead mining district of Lihare and La Caro-lina. E. A. Ritter. flow sheet il Eng & Min J 114:668-72 O 14 '22

Metallogenetic zones. R. H. Rastall. Econ Geol 18:105-21 Mr '23

Nature of the silver veins at Cobalt. J. E. Spurr. il diag Eng & Min J 116:709-12 O 27 '23

New aspects of the geology of the principal ore-bearing provinces of Siberia. P. P. Goudkoff. map Econ Geol 17:260-73 Je '22

Occurrence of carnotite near Denver. J. H. Wilson. Eng & Min J 116:239-40 Ag 11 '23

Occurrences of ladder veins in Minnesota. F. F. Grout. diags Econ Geol 18:494-505 Ag '23

Ore deposits and their genesis in relation to geographical distribution. J. W. Gregory. Chem Soc J 121:750-72 My '22

Ore deposits of Cedar mountain, Mineral county, Nevada. Min & Sci P 124:366 Mr 18 '22

Ore deposits of Sierra Mojada, Coahuila, Mex-ico. S. F. Shaw. Min & Met 188:33-4 Ag '22

Ore deposits of the Pioche district, Nevada. J. C. Anderson. il plans Eng & Min J 113: 279-85 F 18 '22

Ore magmas. J. E. Spurr. 2v 915p McGraw-Hill '23

Origin of metallic concentrations by magma-tion. J. E. Spurr. Econ Geol 18:617-38 O '23

Origin of metallic concentrations by mag-mations; abstract. J. F. Kemp. Eng & Min J 115:942 My 26 '23

Origin of sedimentary iron formations: the Biwabik formation of the Mesabi range. J. W. Gruner. il diags Econ Geol 17:407-60, pl 6-8 S '22

Origin of the zinc ores of Sussex county, N.J. H. Ries and W. C. Bowen. Econ Geol 17: 517-71, pl 9-13 N '22

Ore deposits—Continued

Paragenesis of the martite ore bodies and magnetites of the Mesabi range. J. W. Gruner. *diag Econ Geol* 17:1-14, pl 1-2 Ja '22

Paragenesis of the ores of the Silver Islet mine, Thunder Bay region, Lake Superior. C. H. Chadbourn. *il Econ Geol* 18:77-82 Ja '23

Relations between metal content, lode filling, and country rock. J. A. Weston-Dunn. *Econ Geol* 18:443-73 Ag '23

Rock-alteration and ore-deposition at Telluride, Colorado. M. C. Hurst. *il diags map Econ Geol* 17:675-702 D '22

Round Mountain district of Nevada. Min & Sci P 124:234 F 18 '22

Shear-zone and sheer nonsense. T. A. Rickard. *Eng & Min J* 113:1036 Je 17 '22

Spearulite characteristic of veins at shallow depths. T. Kato. *Econ Geol* 18:695-6 O '23

Supergene processes at Neihart, Mont. E. Hurst. *il Econ Geol* 17:382-8, pl 4-5 Ag '22; Discussion. E. S. Bastin. 18:87-93 Ja '23

Zonal distribution of ores around igneous centers. J. F. Kemp. *Econ Geol* 16:474-8; 17:46-8, N '21, Ja '22

Zonal theory of ore deposition. J. E. Spurr. *Eng & Min J* 113:489 Mr 25 '22

See also Geology; Mine maps; Mines and mineral resources; also special ores, e.g. Copper ores, Gold ores, Iron ores

Ore docks

Builds new ore unloading dock at Claremont, N. J. E. C. Kreutzberg. *il Iron Tr R* 72:653-4 Mr 1 '23

Electrical installation at the Claremont terminal ore dock. M. J. Wohlgemuth. *il diag Elec J* 20:340-2 S '23

Great Northern builds new dock at Superior. H. A. Gerst. *il diags plans Ry Age* 74:1311-14 Je 2 '23

New ore dock of the Great Northern railway at Alouez, Wis., nearly half mile long. *il Iron Tr R* 73:318-19 Ag 2 '23; Same. *Marine R* 53:341 S '23

See also Ore handling

Ore dressing. See Ore treatment

Ore estimates. See Mine valuation

Ore handling

Builds new ore unloading dock at Claremont, N. J. E. C. Kreutzberg. *il Iron Tr R* 72:653-4 Mr 1 '23

Carrying iron ore to Ford furnaces. A. J. Hain. *il Iron Tr R* 71:1121-3 O 26 '22

Coal and ore handling plant at Mobile. D. Holt. *il Eng & Contr (Ry)* 59:681-2 Mr 21 '23

Exporting ore in Sweden; bridge and grab bucket loads ore into vessels. *il Iron Age* 112:344 Ag 9 '23

Machine for shovelling and loading lead ore. *il Engineer* 136:208-9 Ag 24 '23

Material-handling equipment as used in the iron and steel industry. F. L. Leach. *diags Blast F & Steel Pl* 10:265-6 My '22

See also Ore docks

Safety devices and measures

From iron range to freighter. G. E. Wallis. *il Nat Safety N* 7:5-8 F '23

Ore purchasing

Marketing of metalliferous ores and concentrates. A. B. Parsons. *Eng & Min J* 114:1109-14, 1155-62 D 23-30 '22

Ore sampling

Cutting mine samples with machines. D. C. Gilbert. *Eng & Min J* 114:375 Ag 26 '22

Diamond-drill sampling methods. R. D. Longyear. *diag Min & Met* 180:33-4 D '21

Errors latent in mine-sampling. M. Webber. *Min & Sci P* 123:633-5 N 5 '21; Discussion. 123:773-4; 124:220, 286 D 3 '21, F 18, Mr 4 '22

Examination of tin deposits in the Federated Malay States. J. B. Newsom. *il chart Eng & Min J* 115:485-91, 529-34 Mr 17-24 '23

How to calculate tonnage and grade of an orebody. J. E. Harding. *diags Eng & Min J* 116:445-8 S 15 '23

Mechanical ore sampling in Montana. H. B. Pulsifer. (Univ. of Montana bul. Bur. of mines & met. ser. no. 3) 72p State school of mines, Butte, Mont. '20

Mechanical sampling of ore. C. D. Demond and A. C. Halferdahl. *Eng & Min J* 114:280-4 Ag 12 '22; Discussion. 115:1053; 116:136 Je 16, J1 28 '23

New sample cutter. *diags Eng & Min J* 116:396 S 1 '23

Organization of mine sampling at Anaconda; abstract. W. B. Daly and F. A. Linforth. *Min & Met* 182:52-3 F '22

Routine mine sampling at Butte. D. C. Gilbert. *diags Min & Met* 182:31-3 F '22

Sampling and estimating Lake Superior iron ores. J. F. Wolff, E. L. Derby and W. A. Cole. *Min & Met* 189:41-5 S '22

Sampling and estimating ore in Copper Queen mines. R. W. Prouty and R. T. Green. *Min & Met* 191:51-4 N '22

Sampling and estimating zinc and lead ore-bodies in Wisconsin; abstract. W. F. Boericke. *Min & Met* 182:53-4 F '22

Sampling custom ores; practice at the Tom Reed mill, at Oatman, Arizona. W. A. Lindesty. *diags Eng & Min J* 116:281-3 Ag 18 '23; Discussion. F. C. Bond and P. T. Bruhl. 116:641 O 13 '23

Sampling mill heads in cyanidation. F. H. Huff. *Eng & Min J* 115:308 F 17 '23

Sampling spotty gold ores. C. D. Demond and A. C. Halferdahl. *Eng & Min J* 114:948 N 25 '22; Discussion. 114:1063; 115:217-18, 525-7 D 16 '22, F 3, Mr 24 '23

Work of the geological department at a porphyry copper mine. X. B. Starnes. *bibliog Min & Sci P* 124:361-6, 396-404 Mr 18-25 '22

Ore storage

Coal, coke and ore storage. A. D. Williams. *diag Iron Age* 110:352 Ag 10 '22

Ore testing

See Assaying; Metallurgical analysis; Ore sampling

Ore transportation

Freight rates on ore and products. L. S. Ropes. *Eng & Min J* 115:1097-8 Je 23 '23

See also Mine haulage; Ore handling

Ore treatment

Boiling-over concentration. H. T. Darlington. *Min & Sci P* 124:217-18 F 18 '22

Concentrating an ore of wolfram, bismuth, and molybdenite in Australia. H. W. Bowater. *flow sheets Min & Sci P* 123:821-4 D 10 '21

Concentration of Rossland, B. C., ores. D. Lay. *flow sheets il diags Eng & Min J* 114:1118-24 D 23 '22; Discussion. C. M. Eye. 115:350-1 F 24 '23

Developing north Jersey iron ores. E. C. Kreutzberg. *il Iron Tr R* 69:1285-9 N 17 '21

Development of metallurgical practice at the Hollinger mine. P. A. Robbins. *flow sheet Eng & Min J* 113:1093-7 Je 24 '22

Electrical equipment of Rosario mill and mine. F. Krug. *il Eng & Min J* 115:1147-51 Je 30 '23

Factors controlling the capacity of rock crushers; abstract. E. A. Hersam. *Min & Met* 187:33 J1 '22

Historical sketch of ore treatment in Colorado. H. F. Lunt. *Min & Sci P* 123:891-4 D 24 '21

Lead mining district of Linares and La Carolina. E. A. Ritter. *flow sheet il Eng & Min J* 114:668-72 O 14 '22

Magnetic roasting of iron ores. E. W. Davis. *flow sheet il diags Iron Tr R* 70:968-73 Ap 6 '22

Metallurgical progress on the Rand; the New state areas plant. *Eng & Min J* 113:1033 Je 17 '22

Mill design and construction. E. Gayford. *Eng & Min J* 115:121 Ja 20 '23

Milling and flotation. A. F. Taggart. *charts Eng & Min J* 115:113-16 Ja 20 '23

Milling asbestos ore in Quebec. W. D. Hubbard. *flow sheet diags Min & Sci P* 123:932-6 D 31 '21

Ore treatment—Continued

New Candelaria mill. Eng & Min J 114:18 J1 '22

New magnetic concentrating mill at the Richard iron mine, New Jersey. H. M. Roche. flow sheet il diags Eng & Min J 115:923-32, 971-5 My 26-Je 2 '23

New treatment plant of the United Comstock mines. G. J. Young, il diags plans Eng & Min J 114:846-53 N 11 '22

Possibilities of centrifugal force in ore dressing. O. C. Ralston. Eng & Min J 116:673 O 20 '23

Possibilities of sand flotation of ore in a high-density pulp. H. M. Chance. diag Eng & Min J 116:629-30 O 13 '23

Proposed method for reducing mineral waste in the Wisconsin zinc district, Wisconsin. W. H. Coghill and C. O. Anderson. U S Bur Mines Tech Pa 301:1-66 '22

Replot magnetic tailing re-treatment plant. W. R. Canton. il diags Eng & Min J 115:849-50 My 12 '23

Santa Barbara 500-ton mill for concentrating lead carbonate ores. F. M. Heidelberg. flow sheets diags plans Eng & Min J 112:1050-7 D 31 '21

Screen-sorting analyses by hydrostatic separation. S. Bagnara. il Eng & Min J 116:51-4 J1 14 '23

Selective flotation of a complex zinc-lead ore. G. J. Young. flow sheets (supp) il Eng & Min J 116:453-6 S 15 '23

Silver King Coalition's new mill. R. S. Lewis. flow sheet il Eng & Min J 116:369-73 S 1 '23

Solving the treatment problem of complex lead-zinc ores. Eng & Min J 115:522-3 Mr 24 '23

Systematic laboratory instruction in ore dressing. G. J. Young. diags Eng & Min J 112:982-3 D 17 '21

Tests of low-grade and complex ores in Colorado. W. H. Coghill and C. O. Anderson. flow sheets map U S Bur Mines Tech Pa 283:1-67 '23

Text-book of ore dressing. S. J. Truscott. 680p Macmillan '23

Treatment of the tungsten ores of Boulder county, Colo. J. P. Bonardi and J. C. Williams. bibliog il diags U S Bur Mines Bul 187:1-79 '21

Trend in milling practice. G. R. Ruggles. Eng & Min J 113:107-10 Ja 21 '22

United Comstock metallurgy. A. J. Weinig. Min & Met 191:47-9 N '22

See also Chloridizing processes; Classifiers; Copper metallurgy; Crushing; Crushing machinery; Cyanide process; Electrometallurgy; Filters and filtration (metallurgy); Flotation process; Gold metallurgy; Gold milling; Hydrometallurgy; Iron metallurgy; Lead metallurgy; Magnetic separation of ores; Metallurgical plants; Metallurgy; Ore washing; Silver metallurgy; Sintering; Smelting; Tailings; Tube mills; Zinc metallurgy

Cost

Cost of milling and treating ores. Eng & Min J 113:918-20 My 27 '22

Mining and milling costs of the Belmont surf inlet mines. Eng & Min J 115:882 My 19 '23

Mining and milling costs of United Eastern mining company. il Min & Met 192:26-8 D '22

Ore valuation. See Mine valuation

Ore washing

Magnetic log washers in iron-ore concentration. H. H. Wade. il diags Eng & Min J 113:769-71 My 6 '22

Oregon

See Coal mines and mining—Oregon; Hydroelectric plants—Oregon; Mercury mines and mining—Oregon; Mines and mineral resources—Oregon; Motor bus lines—Oregon; Railroads—Oregon

Oregon association of electrical contractors and dealers

11th convention, Corvallis, Oregon, March 30-31. J Elec 48:362-3 My 1 '22

Oregon City, Oregon**Bridges**

Old suspension bridge used in erecting new arch. C. E. McCullough. il diags Eng N 89:730-3 N 2 '22

Oregon public utility information bureau

Bureau of P. U. information organized by Oregon utility men. Gas Age 52:325 S 15 '23

Oregon-Washington railroad and navigation company

Valuation of O.-W.R.R.&N. Ry Age 74:1155-6 My 12 '23

Oreodons

Oreodons of the Lower Harrison beds. F. B. Loomis. il Am J Sci 5th ser 6:222-8 S '23

Ores

See Carnotite; Copper ores; Geology; Iron ores; Metallurgy; Metals; Mineralogy; Mines and mineral resources; Ore deposits; Ore purchasing; Ore sampling; Ore treatment

Prices

See Metals—Prices

Organ. See Organs

Organic chemistry. See Chemistry, Organic

Organization charts. See Organization in industry

Organization in industry

Body, soul and spirit of organization. B. A. Franklin. Ind Management 63:143-5 Mr '22

Charting authority and responsibility to show complex management relationships. B. Fisher. Management Eng 2:281-4 My '22

Cooperators—not just workers. M. Foley. System 40:735-7 D '21

Danger of becoming a titled employee. M. F. Goodman. Ptr Ink 117:89-90+ D 15 '21

Does organization for production pay? H. Varley. Ind Management (Lond) 9:67-9 F 8 '23

Does your organization plan inspire initiative and responsibility in department heads? J. E. Housley. il Elec R 80:131-3+ Mr '22

Factory organisation. N. G. Smith. Ind Management (Lond) 8:111-12, 149-51, 179-80, 211-14, 243-5, 275-7, 312-13, 339-42 S 7-D 14 '22

Factory storekeeping and material control. H. H. Farquhar. Am Mach 56:738-6 My 18 '22

Functions of organization. J. K. Mason. Administration 5:207-9 F '23

How far can functionalization go? O. Sheldon. chart Administration 5:199-206 F '23

Increased efficiency through a decentralization process. H. Tipper. Automotive Ind 45:1032-3 N 24 '21

Leadership necessary in executive supervision. H. Tipper. Automotive Ind 45:32-3 Ja 5 '22

Nine improvements on the way it was always done. W. H. Leffingwell. il plans System 42:274-7+ S '22

Organization and its graphic record. P. M. Atkins. Administration 5:343-52 Mr '23

Organization and operation of the cost control committee plan. J. H. Van Deventer. Ind Management 63:267-72 My '22

Organisation der technischen betriebsüberwachung in der eisen-industrie. K. Daeves. Stahl & Eisen 42:221-4, 1097-1100 F 9, J1 13 '22

Organization efficiency. C. Sorentrue. Am Mach 56:434-5 Mr 23 '22

Organization for chemical production. M. C. Whitaker. Chem Age 31:11-15 Ja '23; Same. Chem & Met Eng 28:104-9 Ja 17 '23; Same. abr. Ind & Eng Chem 15:200-3 F '23

Organization manual. P. M. Atkins and H. F. Wood. Administration 4:466-70 O '22

Organization of a large tool division. H. P. Losely. chart Mach 28:632-7 Ap '22

Organization of an engineering department. W. E. Irish. Ind Management 62:357-61 D '21

Organisation of production. J. W. Curtis. Eng & Ind Management 7:127-30 F 2 '22; Excerpt. Engineer 133:128 F 3 '22

Organization in industry—Continued

- Organisation of production;** editorial. Engineering 113:141-2 F 3 '22
- Organizing a public office to conduct a \$20,000,000 building program.** N. M. Perris. chart Management Eng 3:147-53 S '22
- Organizing maintenance personnel for greater economy.** P. F. O'Shea. *il* Factory 30:156-8+ F '23
- Organizing plant maintenance.** M. W. Dundore. *diag* Iron Tr R 71:1625-30 D 14 '22
- Planning in large contract plants.** G. H. Shepard. Mach 28:268-70 D '21
- Practical operating organization.** D. T. Farnham. Administration 5:427-38 Ap '23
- Principles of organisation and management.** W. Attwood. *Ind Management* (Lond) 9: 109-11, 137-9, 174-6, 202-4 F 22-Ap 5 '23
- Province of the controller.** J. B. Guernsey. Administration 5:681-4 Je '23; [cont. as] Management & Adm 6:197-200, 323-6 Ag-S '23
- Rational works management in factories.** J. A. Davenport and J. I. Emery. *Ind Management* (Lond) 9:259-60, 291-4 My 3-17 '23
- Seven axioms of organization.** P. F. Walker. *Ind Management* 65:144-6 Mr '23
- Solving the manager's present day problems.** J. H. Van Deventer. *Ind Management* 63: 321-4 Je '22
- Three divisions of management.** J. Mayer. Management Eng 4:255-7 Ap '23; Same *abr.* *Ind Management* (Lond) 9:367-8 Je 14 '23
- To whom am I responsible?** P. Bowers. chart Concrete 22:sup69 Ap '23
- Workable organization plan for the small-plant manager.** M. B. Bartlett. *Factory* 28: 640-3+ Je '22
- Working methods for profitable management.** C. E. Knoeppel. Management Eng 4:93-100 F '23

See also Drafting room management; Efficiency, Industrial; Employment management; Engineering departments; Executive boards; Factory management; Industrial councils; Industrial management; Sales departments; Shop clerks

Organosols. See Colloids**Organs**

- Beating tones of overblown organ pipes.** V. Lough. *Philos Mag* 6th ser 43:72-7, pl 1 Ja '22
- Effect of conical horns on the intensity of sound emitted by an organ pipe.** J. H. Cloud. *Phys R* 22:73-7 JI '23
- Mechanism of the pipe organ.** J. F. Springer. *il* Sci Am M 125A:113-16 D '21
- Mysteries of the modern organ.** R. P. Crawford. *il* Sci Am 128:166-7 Mr '23
- Organ installations.** C. A. Whittemore. *Arch Forum* 37:35-6 JI '22
- Relation of pipe organs to architecture.** C. W. Cameron. *il* diags Am Arch 122:168-74, 225-8+, 303-9 Ag 30-S 13, O 11 '22

Oriental goods

- Selling the exotic to Main street;** A. A. Vantine & co. J. Henle. *Ptr Ink* 120:77-8+ S 14 '22

Orientation (architecture)

- How to face a building to secure maximum sunlight effect.** chart Heat & Ven 20:51 Mr '23

Orientation, Molecular. See Molecular orientation**Orifices**

- Discharge through orifices in series.** H. W. Dietart. *diag* Mech Eng 44:764-5 N '22
- Orifice coefficients—data and results of tests.** J. M. Spitzglass. *il* diags plan Mech Eng 45:342-6 Je '23; Abstract. Power 56:920 D 12 '22; Discussion. Mech Eng 45:346-8+ Je '23; Power 56:921 D 12 '22
- Orifice to discharge given quantity of compressed air.** Power 55:706, 987 My 2, Je 20 '22
- Submerged orifices for uniform control of chemical feed.** diags Power 58:244 Ag 14 '23

Origin, False indications of

- False marking and description of goods with special reference to origin.** T. Rich. *Elec R* (Lond) 91:148-50, 184-6, 243-5, 279-80, 315-17 Ag 4-S 1 '22

- Rulings against false indications of origin.** *Ptr Ink* 118:85-6 Mr 9 '22

Ornament. See Design, Decorative; Decoration and ornament**Oropon**

- New method of degumming waste silk with oropon.** Color Tr J 11:267 D '22

Orphanages

- Odd Fellows children's home,** Gilroy, Cal.; views. Am Arch 122:406n-p N 8 '22
- St Francis home for orphan boys,** Detroit, Michigan. Am Arch 120:4301-J, 436-40 D 7 '21

Orsat apparatus. See Carbon dioxide recorders**Orthoclase.** See Feldspar**Orthogenesis**

- Chemistry of life and orthogenesis.** L. T. Henderson. Sci Am 128:39 Ja '23

Orthophosphoric acid. See Phosphoric acid**Osborn, J. M. & L. A., company**

- New sales rooms and warehouse.** *il* Sheet Metal Worker 14:295-6 My 11 '23; Iron Age 111:1442-3 My 17 '23

Osborn, Ohio

- Town moves itself at a profit.** I. E. Houk. *il* map Pop Mech 38:339-42 S '22

Oscillation recording instrument

- Recording riding qualities of cars.** F. Crocker. *il* chart Ry R 71:437-9 S 30 '22

Oscillations

- Decay of oscillation of a solid body in a viscous fluid.** T. H. Havelock. *Philos Mag* 6th ser 42:628-34 N '21

- On the oscillations of certain electrical or mechanical systems due to a periodic impressed force.** I. Herlitz. *Gen Elec R* 25: 686-9 N '22

- Oscillations and fatigue of springs.** J. K. Wood. *diags* Am Mach 58:67-70, 113-17, 155-8, 185-7 Ja 11-F 1 '23

Oscillations (electric circuits)

- Damping coefficients of the oscillations in three-coupled electric circuits.** E. Takagishi. *Philos Mag* 6th ser 44:373-6 Ag '22

- Electrical oscillations on lines.** L. Cohen. *J Fr Inst* 195:45-58 Ja '23

- Forced oscillations in self-maintained oscillating circuits.** W. A. Leyshon. *diags* *Philos Mag* 6th ser 46:686-98 O '23

- Frequency conversion by third class conductor and mechanism of the arcing ground and other cumulative surges.** C. P. Steinmetz. *diag* Am Inst E E J 42:272-9 Mr '23; Discussion. 42:1078-81 O '23

- Oscillation hysteresis in a triode generator with two degrees of freedom.** B. van der Pol. *diags* *Philos Mag* 6th ser 43:700-19 Ap '22

Oscillators

- Oscillator for external heterodyne.** C. R. Leutz. *il* diags Wireless Age, 9:36-7 Ja '22

- Solution of the representative differential equation of the triode oscillator.** E. V. Appleton and W. M. H. Greaves. *Philos Mag* 6th ser 45:401-15 Mr '23

Oscillographs

- Cathode-ray oscillograph.** *diag* *Elec R* (Lond) 91:783 N 24 '22

- Cathode-ray oscillograph.** J. B. Johnson. *il* *diag* Sci Am 129:194 S '23

- Cathode-ray oscillograph and its application to the exact measurement of explosion pressures, potential changes in vacuum tubes and high tension magnetos.** D. A. Keys. *il* diags J Fr Inst 196:577-91 N '23

- Expansion of oscillography by the portable instrument.** J. W. Legg. *il* *diag* Am Inst E E J 42:106-11 F '23; Abstract. *Elec W* 81: 450 F 24 '23; Discussion. Am Inst E E J 42:982-5 S '23

- Investigation of oscillatory phenomena in turbo-generators by means of a vibrograph.** J. Geiger. *diags* Mech Eng 44:528-30 Ag '22

- Mechanics of ordnance figures; electrical oscillograph for determining ejection velocities of projectiles fired from a ship.** *il* Sci Am 125A:105 D '21

- New kathode ray oscillograph.** *diags* Engineering 134:557 N 24 '22

Oscillographs—Continued

- Oscillograph investigation of the Gulstad relay. S. S. Richardson. diags Inst E E J 60: 921-9 Ag '22
- Portable three-element oscillograph. il Elec Ry J 62:150 JI 28 '23; Power Pl Eng 27: 1060 O 15 '23
- Precision high-speed oscillograph camera. E. A. Eckhardt. il diags J Fr Inst 194:49-67 JI '22
- Recording hydraulic-turbine governor operation with an oscillograph; results of seventy-three tests. il Power 58:446-7, 560-4 S 18, O 9 '23

Oscilloscope

- Elverson oscilloscope. il Am Mach 57:898 D 7 '22; Automobile Eng 12:142-3 My '22; Automobile Ind 47:1132-3 D 7 '22; Pop Mech 38: 728 N '22; Iron Age 110:1685 D 28 '22; Génie Civil 82:332-3 Ap 7 '23
- Oscilloscope for testing vibrations of aero engines under working conditions. Aerial Age 14:476 Ja 23 '22
- Oscilloscope; remarkably simple device for seeing what cannot be seen. il diag Sci Am 128:376 Je '23
- Studying mechanisms in motion by the Elverson oscilloscope. P: Davey. il diags Mach 29:927-32 Ag '23
- When optical illusions aid the engineer. F. Rowlinson. il Sci Am 127:316+ N '22

Osgood, Farley, 1874-

- Sketch. por Elec W 81:554 Mr 10 '23

Osmium

- Die alkoholische vergärung des formaldehyds durch osmium. E. Müller. Deutsche Chem Gesell Ber 54:3214-16 D '21
- Occurrence, uses and prices of palladium, iridium, and osmium. Eng & Min J 112:981 D 17 '21

Osmosis

- Anomalous osmosis of solutions of electrolytes with collodion membranes. F. E. Bartell and D. C. Carpenter. J Phys Chem 27:101-16, 252-69, 346-55 F-Ap '23
- Artificial plants in the making; the study of osmosis under natural and artificial conditions. E. Bade. il Sci Am 126:171 Mr '22
- Calculation of the osmotic and activity functions in solutions of uni-univalent salts. J. N. Brönsted. Am Chem Soc J 44:938-48 My '22
- Cataphoresis of proteins. T. Svedberg and E. R. Jette. il diag Am Chem Soc J 45:954-7 Ap '23
- L'electro-osmose. P. Bary. diags Chimie & Ind 7:640-9; Bibliography. 650 Ap '22
- Relation of anomalous osmosis to the swelling of colloidal material. F. E. Bartell and L. B. Sims. diags Am Chem Soc J 44:289-99 F '22
- Studies in electric-endosmose. A. Strickler and J. H. Mathews. diag Am Chem Soc J 44: 1647-62 Ag '22
- See also Osmotic pressure; Solution (chemistry)

Osmotic pressure

- Improvements in the mode of measurement of osmotic pressure. A. Grollman and J. C. W. Frazer. diags Am Chem Soc J 45:1710-16 JI '23
- Interpretation of the influence of acid on the osmotic pressure of protein solutions. J. Loeb. Am Chem Soc J 44:1930-41 S '22
- Osmotic pressures of aqueous solutions of phenol at 30°. A. Grollman and J. C. W. Frazer. Am Chem Soc J 45:1705-10 JI '23
- Osmotic pressures of concentrated solutions of sucrose as determined by the water interferometer. P. Lotz and J. C. W. Frazer. diag Am Chem Soc J 43:2501-7 D '21
- Surface phenomena in sucrose solutions. R. R. Butler. Chem Soc J 123:2060-5 Ag '23

Otalite

- Mining otalite near San Diego. E. B. Stiles-Adams. Eng & Min J 115:497 Mr 17 '23

Otheograph

- Otheograph test tie designed to determine track stresses. il Ry R 73:123-4 JI 28 '23;

Elec Ry J 62:294-5 Ag 25 '23; Eng & Contr (Ry) 60:835 O 17 '23; Ry Mech Eng 97:784 N '23

Otsego, Michigan**Water supply**

- Disinfecting the city water mains of Otsego, Michigan. E: D. Rich. il Eng N 91:431-2 S 13 '23

Ottawa, Ontario

- Proposed federal district for Ottawa. Can Eng 42:681-2 JI 4 '22

Rapid transit

- Conciliation board reports. Elec Ry J 61:976 Je 9 '23
- Report of valuation, proposed extensions and equipment additions. Elec Ry J 60:859 N 25 '22

Sanitary affairs

- Garbage and refuse used for land filling at Ottawa. G: H. Wilson. Eng N 90:106 Ja '23

Outdoor advertising. See Advertising, Outdoor**Outdoor advertising association.** See Painted bulletin advertising association**Ovens**

- Constant-temperature oven. C. M. Mackall, G. E. Miller, and E. E. Reid. diag Ind & Eng Chem 15:121 F '23

See also Coke ovens; Electric ovens; Gas ovens; Kilns

Overalls**Advertising**

- What a close-up of the consumer taught one national advertiser. R. Cole. Ptr Ink 117:3-4+ D 29 '21

Overblown pipes. S. Bharagava and R. N. Ghosh. il Phys R 20:452-5 N '22**Overcoats**

- Fancy heavyweight woolen overcoatings. il Textile World 60:2891+ N 12 '21
- Finishing knitted overcoating. Textile World 64:2415 O 27 '23
- Great overcoating year in men's wear. Textile World 63:851+ F 3 '23
- Mackinaw overcoating construction. Textile World 63:105+ Ja 6 '23
- New styles in men's wear for next fall. il Textile World 63:1699-1700 Mr 10 '23
- Wool and worsted men's wear constructions. il Textile World 61:93+ Ja 7 '22

Overhaul. See Earthwork—Tables, calculations, etc.**Overhead expense**

- Accounting for foundry overhead expense. F. C. Everitt and J. Heywood. Iron Age 112: 67-70, 147-50 JI 12-19 '23
- Contractors' overhead problem. G. F. Meyne. Bldg Age 45:37-8 F '23; Same. Eng & Contr (Bldgs) 59:1178-80 My 23 '23; Same. Can Eng 45:375-6 O 2 '23
- Correct knowledge of overhead cost is needed. F. V. Mitchell. J Elec 51:96 Ag 1 '23
- Cost finding in knitting mills. S. R. Gordon. Textile World 63:3551+ D 23 '22
- Distributing overhead to allow lower sales prices. W. N. Polakov. Factory 28:400-2 Ap '22
- Effect of burden rate on sales and manufacturing programs. N. G. Burleigh. Administration 3:355-9 Mr '22
- Figuring overhead when business falls off. W: R. Lamb. Office Management 8:45 O '22
- Lightening the factory burden. C. W. Bennett. Ind Management 63:103-6 F '22
- Minimum shop operation without loss. D. S. Cole. Ind Management 63:96-7 F '22
- Our profits to-day come from reducing overhead. F. C. Rand. il Factory 29:385-7 O '22
- Overhead as a test of management. H. F. Stratton. Elec W 79:1231 Je 17 '22
- Overhead distribution methods; distributing power charges among departments. F. Brugger. Power Pl Eng 26:413-14 Ap 15 '22
- Overhead expense in hosiery manufacturing. Textile World 61:3557 Je 10 '22
- Overhead in construction work. M. J. Reinhardt. Eng & Contr 56:588 D 28 '21

Overhead expense—Continued

- Overhead in cost-keeping. D. B. Strudley. Can Eng 43:645-6 D 19 '22
- Percentage of overhead expense to material and labor costs. F. V. Mitchell. J Elec 51: 88 Ag 1 '23
- Puzzle of the overhead. W. L. Churchill. Management Eng 3:257-9 N '22
- Relation of overhead to direct labor cost. J. H. Simpson, jr. Ind Management 65:12 Ja '23
- Taking the guesswork out of overhead costs. D. S. Cole. Ind Management 65:324-6 Je '23
- We cut factory overhead despite smaller volume. G. G. Powers. Factory 28:275-9+ Mr '22
- Where the overhead comes in. H. T. Lundquist. Am Mach 58:189-90 F 1 '23
- See also Cost accounting

Overpotential. See Overvoltage**Overshoes**

- Planning rubber footwear production. il India Rubber W 65:253-5 Ja '22

Overtime

- Eight hour day and the problem of overtime in Germany. Leymann. Int Labour R 6:327-33 S '22

Overtones

- Overtones of large tuning forks. S. H. Anderson. Phys R 21:692-4 Je '23

Overvoltage

- Effect of current density on overvoltage. M. Knobel, P. Caplan and M. Eiselein. Am Electrochem Soc Trans v 43 (preprint 5): 51-70 My '23
- Effect of temperature on overvoltage. M. Knobel and D. B. Joy. diag Am Electrochem Soc Trans v 44 (preprint 3):27-34 S '23
- Intermittent current electrolysis; the influence of intermittent current on overvoltage. S. Glasstone. Chem Soc J 123:1745-50 Ji '23
- Measurement of overvoltage. H. V. Tartar and H. E. Keyes. diag Am Chem Soc J 44:557-67 Mr '22
- Overvoltage of the mercury cathode. E. Newbery. Chem Soc J 121:7-17 Ja '22
- La surintensité dans les grands réseaux électriques. E. Vedovelli. diags Soc Ing Civils Bul 76:7-29, pl 39 Ja '23

Owens lake, California

- Drying up of Owens lake reveals new wealth. Pop Mech 39:393 Je '23

- Owens lake and the California big trees. G. Surr. Eng & Min J 113:484 Mr 25 '22

Ox gall

- Use of ox gall in prevention of crawling of glazes. H. Spurrier. Am Cer Soc J 5:937-8 D '22

Oxalacetic acid

- Formation of derivatives of oxalacetic acid from tartaric acid. F. D. Chattaway and G. D. Parkes. Chem Soc J 123:663-9 Mr '23

Oxalates

- Effect of the presence of filter paper on permanganate-oxalate titrations. S. G. Simpson. J Ind & Eng Chem 13:1152-4 D '21

Oxalic acid

- Ethyl formate from oxalic acid, glycerol and ethyl alcohol. W. B. S. Bishop. diag Soc Chem Ind J 42:401-2 O 5 '23
- Hydrated oxalic acid as an oxidimetric standard. A. E. Hill and T. M. Smith. Am Chem Soc J 44:546-57 Mr '22
- Oxidation of acetol with potassium permanganate. W. L. Evans and O. L. Hoover. Am Chem Soc J 44:1730-41 Ag '22
- Oxidation of oxalic acid in the absence of other acids. J. C. Witt. J Phys Chem 26: 435-46 My '22
- Photochemical studies; the photochemical decomposition of solid oxalic acid. W. A. Noyes, jr. and A. B. Kouperman. Am Chem Soc J 45:1398-1400 Je '23
- Preparation of oxalic acid from acetylene. M. L. Kearns, L. Heiser and J. A. Nieuwland. Am Chem Soc J 45:795-9 Mr '23
- Preparing oxalic acid; patent. Chem & Met Eng 28:778 Ap 30 '23

- Über oxalsäure-derivate des diacetonitrils. E. Benary and M. Schmidt. Deutsche Chem Gesell Ber 54:2157-68 S '21; Abstract. Chem Soc J 120 pt 1:776-7 N '21

Oxazines

- New synthesis of oxazines. A. Fairbourn and H. Toms. Chem Soc J 119:2076-8 D '21

Oxidation

- Catalytic oxidation of anthracene to anthraquinone. C. E. Senseman and O. A. Nelson. diag Ind & Eng Chem 15:521-4 My '23
- Catalytic oxidation of carbon monoxide. T. H. Rogers and others. Am Chem Soc J 43:1973-82 S '21
- Catalytic oxidation of carbon monoxide; efficiency of the catalysts, manganese dioxide, cupric oxide and mixtures of these oxides. J. A. Almquist and W. C. Bray. diag Am Chem Soc J 45:2305-22 O '23
- Catalytic oxidation of saturated paraffin hydrocarbons and fatty acids. A. H. Salway and P. N. Williams. Chem Soc J 121:1343-8 Ji '22
- Diedehydrierung von p-kresol. R. Pummerer, D. Melamed and H. Puttfarcken. Deutsche Chem Gesell Ber 55:3116-32 O '22; Abstract. Chem Soc J 122 pt 1:1161-3 D '22
- Effect of substitution on the free energy of oxidation-reduction reactions; benzoquinone derivatives. V. K. LaMer and L. E. Baker. Am Chem Soc J 44:1954-64 S '22
- Mechanism of oxidative processes; oxidation of aldehydes; abstract. H. Wieland and A. Winger. Chem Soc J 124 pt 1:650-2 Ji '23
- Mechanism of the oxidation of drying oils as elucidated by a study of the true oxygen absorption; action of driers. S. Coffey. Chem Soc J 121:17-23 Ja '22
- Oxidation of acetol with potassium permanganate. W. L. Evans and O. L. Hoover. Am Chem Soc J 44:1730-41 Ag '22
- Oxidation of acetone with potassium permanganate. W. L. Evans and L. B. Sefton. Am Chem Soc J 44:2276-83 O '22
- Oxidation of α -dinaphthaxanthens. H. K. Sen-Gupta and S. H. Tucker. diags Chem Soc J 121:557-68 Ap '22
- Oxidation of copper and the reduction of copper oxide by a new method. W. C. Palmer. Chem Age (Lond) 9:311 S 22 '23
- Oxidation of hydrocarbons, with special reference to the production of formaldehyde. T. S. Wheeler and E. W. Blair. Soc Chem Ind J 42:81-6, 87-92, 260-2, 263-6, 415-17, 491-7 Mr 9-16, Je 15-22, O 26, D 21 '23
- Oxidation of isopropyl alcohol with potassium permanganate. W. L. Evans and L. B. Sefton. Am Chem Soc J 44:2271-6 O '22
- Oxidation of nickel sulphide. J. S. Dunn and E. K. Rideal. Chem Soc J 123:1242-51 My '23
- Oxidation of oxalic acid in the absence of other acids. J. C. Witt. J Phys Chem 26: 435-46 My '22
- Oxidation of propylene glycol with potassium permanganate. W. L. Evans. Am Chem Soc J 45:171-6 Ja '23
- Oxidation of sabinene with chromyl chloride. G. G. Henderson, J. M. Robertson and D. C. Brown. Chem Soc J 121:2717-21 D '22
- Oxide equilibria in catalysis. J. M. Weiss, C. R. Downs and R. M. Burns. Ind & Eng Chem 15:965-7 S '23
- Oxidising properties of sulphur dioxide; copper chlorides. W. Wardlaw and F. W. Pinkard. diags Chem Soc J 121:210-21 Ja '22
- Preferential oxidation in presence of catalysts. R. Furness. Soc Chem Ind J (Chem & Ind) 42:196-9 Mr 2 '23
- Pyruvic acid from lactic acid; significance of this problem in electrolytic oxidation. J. G. Smull and P. Subkow. Chem & Met Eng 28:357-8 F 21 '23
- Radikale als zwischenschufen bei chemischen reaktionen. S. Goldschmidt and B. Wurzschnitt. Deutsche Chem Gesell Ber 55:3216-20 O '22
- Recent investigations on the oxidation of sulfur by microorganisms. J. G. Lipman. bibliog Ind & Eng Chem 15:404-5 Ap '23

Oxidation—Continued

Reduction of copper oxide by carbon monoxide and the catalytic oxidation of carbon monoxide in presence of copper and of copper oxide. H. A. Jones and H. S. Taylor. *diag J Phys Chem* 27:623-51 O '23

Study of side-chain oxidations with potassium permanganate. L. A. Bigelow. *Am Chem Soc J* 44:2010-19 S '22

Über den Mechanismus der oxydationsvorgänge. H. Wieland. *Deutsche Chem Gesell Ber* 54:2353-76 O '21; *Abstract. Chem Soc J* 120 pt 1:589-91 D '21

Über die autoxydation des 2 aceto 1 naphthols in alkalischer lösung. K. Fries and H. Leue. *Deutsche Chem Gesell Ber* 55:753-63 Mr '22

Zur kenntnis der oxydation des anilins. S. Goldschmidt and B. Wurzschmitt. *Deutsche Chem Gesell Ber* 55:3220-7 O '22; *Abstract. Chem Soc J* 122 pt 1:1139-40 D '22

See also Corrosion and anti-corrosives; Peroxides

Oxidation, Physiological

Mechanisms of oxidation in the living body. F. G. Hopkins. *Soc Chem Ind J (Chem & Ind)* 42:676-8 J 16 '23

Oxidations and reductions in the animal body. H. D. Dakin. 2d ed. 176p Longmans '22

Studies on oxidation-reduction. W. M. Clark. 2 pts U.S. Public health service, Washington '23

Über den verlauf der oxydations-vorgänge. H. Wieland. *Deutsche Chem Gesell Ber* 55:3639-48 D '22

Oxidation-reduction indicators

Oxidation-reduction indicators. W. M. Clark. *Chem & Met Eng* 28:59 Ja 10 '23

Oxides

Adsorption of gases by oxide catalysts. A. F. Benton. *Am Chem Soc J* 45:887-99 Ap '23

Catalytic decomposition of certain oxides. J. Kendall and F. J. Fuchs. *Am Chem Soc J* 44:1447-8 J 12 '22

Catalytic decomposition of certain oxides. J. B. Taylor and G. A. Hulett. *Am Chem Soc J* 44:1443-5 J 12 '22

Catalytic influence of foreign oxides on the decomposition of silver oxide, mercuric oxide and barium peroxide. J. Kendall and F. J. Fuchs. *diag Am Chem Soc J* 43:2017-31 S '21

Wichte und molekularvolumen des lanthan-, praseodym-, neodym-, samarium-, und europium-oxys. W. Prandtl. *Deutsche Chem Gesell Ber* 55:692-1 Mr '22

Hydrous oxides. H. B. Weiss. *J Phys Chem* 24:277-323, 505-38; 26:401-34, 654-86; 27:501-32 Ap, O '20. My, O '21, Je '23

Influence of dissolved oxides on carburising and hardening qualities of steel. E. W. Ehn. *il Engineering* 114:125-9 J 18 '22

Isolation of the oxide of a new element. A. Scott. *Chem Soc J* 123:311-12 F '23; *Correction. 123:881-4 Ap '23*

Luminescence of incandescent solids. E. L. Nichols and H. L. Howes. *diag Phys R* 19:300-18 Ap '22

Manufacture of organic oxides; patent. *Chem & Met Eng* 28:734 Ap 23 '23

Structure of the halides and oxides of the 5th, 6th and 7th groups. E. B. R. Pridaux. *Soc Chem Ind J (Chem & Ind)* 42:672-5 J 16 '23

Sur la réduction des oxydes métalliques par l'hydrogène et l'oxyde de carbone. G. Chaudron. *diag Chimie & Ind* 8:959-64 N '22

See also Peroxides

Oxidized kerosene. See Kerosene

Oximes

Isomerism of the oximes; carbethoxy-derivatives. O. L. Brady and G. P. McHugh. *Chem Soc J* 123:1190-8 My '23

Isomerism of the oxides; cinnam- and nitrocinnam-aldoximes. O. L. Brady and C. D. Thomas. *Chem Soc J* 121:2098-2110 O '22

Isomerism of the oximes; hydrochlorides. O. L. Brady and F. P. Dunn. *Chem Soc J* 123:1783-1803 J 1 '23

Isomerism of the oximes; phenylethyl-, diethyl-, and α -naphthyl-carbamyl derivatives. O. L. Brady and D. Ridge. *Chem Soc J* 123:2163-74 S '23

Oxime of mesoxamide (isonitrosomalonal-amide) and some allied compounds; the ethers of isonitrosomalonalnitrile, isonitrosomalondimethylamide, and isonitrosomalondibenzylamide. A. G. Rendall and M. A. Whiteley. *Chem Soc J* 121:2110-19 O '22

Piperitone; oximes of *dl*-piperitone. J. Read, H. G. Smith and M. Bentivoglio. *diag Chem Soc J* 121:582-93 Ap '22

Study of amino and oxime derivatives of thymoquinone. R. M. Hixon. *Am Chem Soc J* 15:2333-41 O '23

Oxindigo

Über den verlauf der oxindigo-synthese. K. Fries and H. Hasenjäger. *Deutsche Chem Gesell Ber* 54:2931-4 N '21

Oxindoles

N-substituted oxindoles and isatins. R. Stollé and others. *Soc Chem Ind J (Abstracts)* 42:1014-16 O 26 '23

Oxonic acid

Aufklärung einiger umsetzungen der oxonsäure und des allantoxids. H. Biltz and R. Robl. *Deutsche Chem Gesell Ber* 54:2441-8 O '21; *Abstract. Chem Soc J* 120 pt 1:891-3 D '21

Oxonium compounds

Oxonium compounds in the vapor state; methyl ether—hydrogen chloride. O. Maass and D. M. Morrison. *diag Am Chem Soc J* 45:1675-82 J 1 '23

Researches on residual affinity and coordination; salicylatotetramminocobaltic salts and the constitution of oxonium compounds. G. T. Morgan and J. D. M. Smith. *Chem Soc J* 121:1956-71 S '22

Über die oniumsalze der azokörper. F. Kehrman and R. van der Laar. *Deutsche Chem Gesell Ber* 55:511-12 F '22

Über die zersetzung der oxoniumsalze aus thymol-äthyläther und aus anisol durch wasser oder alkalisch reagierende stoffe. F. Kehrman and C. Schmajewski. *Deutsche Chem Gesell Ber* 54:2435-40 O '21

Oxweld torch

Slotting tool steel cylinders without a cutting tool. I. B. Rich. *diag Am Mach* 57:115-16 J 10 '22

Oxyacetylene apparatus

Flashbacks and backfires in oxyacetylene welding blowpipes. *Safety Eng* 43:114-15 Mr '22

Foundry cutting and welding. G. O. Carter. *Foundry* 50:533-6 J 1 '22; *Same. Iron Tr R* 71:107-10 J 13 '22

An investigation of oxyacetylene welding and cutting blowpipes, with especial reference to their design, safety, and economy in operation. R. S. Johnston. *il diag U S Bur Stand Tech Pa* 200:1-108 '22; *Abstract. J Fr Inst* 193:391-4 Mr '22

Operating oxyacetylene apparatus. H. S. Smith. *Iron Tr R* 71:1557-61 D 7 '22

Safety devices and measures

Gas welding and cutting; rules for safe handling of apparatus. *Am Gas J* 116:328-30+ Ap 8 '22

Safety engineering applied to acetylene, an essential industrial commodity. J. I. Banash. *Safety Eng* 43:88-93 Mr '22

Safety engineering as applied to oxyacetylene cutting and welding apparatus. F. J. Napolitan. *Safety Eng* 43:1-12 Ja '22

Safety in gas welding and cutting. C. F. Worfolk. *Nat Safety N* 8:38 J 1 '23; *Same. Coal Age* 24:105, 216 J 19, Ag 9 '23

See also Oxyacetylene welding

Oxyacetylene cutting

Acetylene-jet machine cuts intricate shapes. *il Pop Mech* 40:778 N '23

Burning out staybolts with gas cutting torch. *il Ry Mech Eng* 97:42-3 Ja '23

Cutting cast iron with the oxyacetylene torch. A. S. Kinsey. *Stevens Ind* 38:287-96 O '21

Oxyacetylene cutting—Continued

- Cutting iron with oxyacetylene. A. S. Kinsey. Iron Tr R 72:948-50 Mr 29 '23; Same. Foundry 51:328-30 Ap 15 '23
- Davis-Bournonville cutting torch. il Am Mach 56:348 Mr 2 '22
- Gas machine cutting in railroad shops; the radiograph—a mechanically-operated torch for cutting sheet metal. il Ry Mech Eng 95:705-6 N '21
- Godfrey jet-cutting machine. il Eng & Ind Management 6:565-6 N 17 '21; Automobile Eng 11:446-7 D '21
- New application of oxy-acetylene cutting. Mach 29:80 S '22
- Oxy-acetylene cutting machine. I. W. Chubb. il Am Mach 56:929-31 Je 22 '22
- Oxy-acetylene cutting tests. J. C. Eichner. Ry Mech Eng 95:713 N '21
- Oxy-acetylene process of cutting metals. il Mach 29:857-9 J1 '23
- Oxy-acetylene welding in railroad car shops. il Mach 30:177-80 N '23
- Removes cast steel by blowtorch. il Iron Tr R 70:1655-7 Je 8 '22
- Salvaging with the acetylene torch. F. A. Pope. Mach 28:655-6 Ap '22
- Scrapping the battleships. J. B. Walker. il diags plan Sci Am 126:185-8 Mr '22
- Submarine cutting torch under water. R. G. Skerrett. il diags Iron Age 109:637-9 Mr 9 '22
- Torch saves gas company \$8,000. R. C. Rohrbacher. il Gas Age 51:7-8 Ja 6 '23

Oxyacetylene flame

- Oxygen-acetylene high-temperature furnace. H. Wilson. diags Am Cer Soc J 4:835-41 O '21

Oxyacetylene welding

- Acetylene welding for sheet metal shops. il Sheet Metal Worker 14:244-5 Ap 27 '23
- Application of the welding torch to railroad repairs. il Am Mach 57:444-8 S 21 '22
- Autogenous pipe welding. H. B. Iglehart. il Power 55:173-4 Ja 31 '22
- Autogenous welding in the petroleum industry. K. V. King. Am Mach 58:472 Mr 29 '23
- Autogenous welding of refrigerating equipment. J. C. Moran. diags Power 55:145-6 Ja 24 '22
- California operators use welded liners. Nat Pet N 14:45+ F 1 '22
- Choosing rods for welding work. J. R. Dawson. il Iron Tr R 70:1033-6+ Ap 13 '22; Same cond. Iron Age 109:468-72 F 16 '22
- Davis-Bournonville tube-welding machine. il Am Mach 56:154 Ja 26 '22; Mach 28:500-1 F '22
- Difficult pipe job. R. D. DeWolf. il Power 56:322-3 Ag 29 '22
- Foundry cutting and welding. G. O. Carter. Foundry 50:533-6 J1 1 '22; Same. Iron Tr R 71:107-10 J1 13 '22
- Gewe automatic welding machine. il Am Mach 57:119 J1 20 '22
- High pressure gas transmission. F. W. Parsons. il Gas Age 49:287-90 Mr 11 '22
- Importance of managerial understanding of welding. G. O. Carter. Iron Age 109:323-4 F 2 '22; Excerpts. Textile World 62:83+ J1 1 '22
- Investigation of oxyacetylene welding and cutting blowpipes, with especial reference to their design, safety, and economy in operation. R. S. Johnston. il diags U S Bur Stand Tech Pa 200:1-108 '22; Abstract. J Fr Inst 193:391-4 Mr '22
- Leakage avoided and economy in cost claimed for welded pipe line. il Nat Pet N 14:35-6+ Ja 18 '22
- Leaking steam line repaired by welding. il Power Pl Eng 27:379 S 1 '23
- Machine for welding large thin tubing. il Iron Age 109:273 Ja 26 '22
- Over-head oxyacetylene welding. N. J. Nyquist. Am Mach 59:478 S 27 '23
- Oxyacetylene process in 1922. G. O. Carter. Power 57:695-6 My 1 '23
- Oxy-acetylene used on high pressure steam line. il diags Sanitary & Heat Eng 100:205-7 O 5 '23

Oxy-acetylene welding in railroad car shops. il Mach 30:177-80 N '23

Oxy-acetylene welding of ammonia pipe lines, coils and pressure vessels. C. Wilkie. diags Refrig Eng 9:325-31; Discussion. 331-2+ My '23

Oxy-acetylene welding practice. R. J. Kehl. 100p American school of correspondence, Chicago '21

Pipe welding in steam heating work. G. B. Nichols. il Heat & Ven 20:41-2 Mr '23

Portable acetylene generator for welding. R. C. Baker. il Eng & Min J 112:779 N 12 '21

Possibilities of the art of welding in pipe construction. F. K. Davis. il Heat & Ven 19:33-6 Ap '22

Principles of oxyacetylene fusion welding. A. S. Kinsey. il Ry Mech Eng 96:279-81, 311-13, 416-18, 472-4, 533-5, 595-7, 651-3, 716-18; 97:49-51 My '22-Ja '23

Progress in cutting and welding with acetylene. Min & Sci P 123:825-6 D 10 '21

Recent welding developments that are of interest to oil men. il Gas Age 48:828 D 17 '21

Rotors of old-style induction motors welded by oxy-acetylene torch. il Elec R 80:304-5 Je '22

Saving a cracked five-ton casting. il Am Mach 59:142 J1 26 '23

Transformer case repaired by welding. il Power Pl Eng 26:323 Mr 15 '22

Welding and cutting oxyacetylene torch saves time. T. C. Fetherston. il Gas Age 52:311-13 S 15 '23

Welding applied to oil-carrying lines and at pumping stations. N. E. Wagner. il Nat Pet N 14:35+ N 29 '22

Welding 8-ton pots by the oxy-acetylene process. Min & Sci P 123:950 D 31 '21

Welding practice on the Southern Pacific. H. J. McCracken and F. J. Hickey. il Ry Mech Eng 97:122-5 F '23

See also Oxyacetylene apparatus**Safety devices and measures**

Dangers from the use of acetylene gas and in oxy-acetylene welding. Eng & Ind Management 7:192-3 F 16 '22

Gas welding and cutting; rules for safe handling of apparatus. Am Gas J 116:328-30+ Ap 8 '22

Health hints for welders. Engineering 116:118-19 J1 27 '23

See also Oxyacetylene apparatus—Safety devices and measures**Oxycellulose**

Notes on oxycellulose. A. J. Hall. Textile Col 45:627-30 O '23

Oxycellulose; abstract. E. Heuser and F. Stöckigt. Chem Soc J 122 pt 1:719-20 Ag '22

Oxygen

Cheap oxygen; a consideration of its application to chemical processes in metallurgy. A. G. Betts. Chem Age 30:21 Ja '22

Coefficient of viscosity of helium and the coefficients of slip of helium and oxygen by the constant deflection method. M. N. States. Phys R 21:662-9; Discussion. 669-71 Je '23

Diffusion of oxygen through silver. L. Spencer. diags Chem Soc J 123:2124-8 S '23

Effects of oxygen on copper. D. Hanson, C. Marvat and G. W. Ford. diags Engineering 116:351-2, 383-4 S 14-21 '23; Discussion. Engineer 136:318 S 21 '23

Einwertiger sauerstoff; über phenanthroxyle. S. Goldschmidt and W. Schmidt. Deutsche Chem Gesell Ber 55:3197-3215 O '22; Abstract. Chem Soc J 122 pt 1:1149-50 D '22

Electrolytic generation of hydrogen and oxygen with special reference to the utilization of off-peak power. W. G. Allan. il Am Electrochem Soc Trans v 41 (preprint 10): 89-123 Ap '22

Electrolytic oxygen-hydrogen production. E. A. Lof. il diags Chem Age 31:109-14 Mr '23

La fabrication électrolytique de l'oxygène et de l'hydrogène, par le procédé Zorzi. il diags plan Génie Civil 79:416-17 N 12 '21

Industrial methods of low temperatures and practical application of low temperatures. K. S. Murray. diags Engineering 114:509-10 O 20 '22; Excerpt. Refrig Eng 9:167-8 N '22

Oxygen—Continued

- Industrial oxygen. T. Campbell-Finlayson. Gas J (Lond) 162:737-40 Je 20 '23; Excerpt. Chem Age (Lond) 8:642-3 Je 16 '23; Discussion. Gas J (Lond) 162:740-1 Je 20 '23; Chem Age (Lond) 8:643-5 Je 16 '23
- Influence of cheap oxygen. E. A. W. Jefferies. Chem Age 29:459-60 N '21
- Mechanism of the reaction of hydrogen with sulphur and its catalysis by oxygen. R. G. W. Norrish and E. K. Rideal. Chem Soc J 123:1689-1705 Jl '23
- Nature of the negative and positive ions in air, oxygen and nitrogen. H. A. Erikson. diags Phys R 20:117-26 Ag '22
- Oxygen in metallurgy. Iron Age 110:1203 N 9 '22
- Oxygen production by the Claude process. Chem Age 30:215-16 My '22
- Oxygen production from liquid air. K. S. Murray. diags Chem Age 30:475-8 N '22
- Pressure of oxygen in equilibrium with silver oxide. F. G. Keyes and H. Hara. diags Am Chem Soc J 44:479-85 Mr '22
- Principles of oxyacetylene fusion welding; oxygen. A. S. Kinsey. il Ry Mech Eng 96: 311-13 Je '22
- Private oxygen plants. diag Gas J (Lond) 163:855 S 19 '23
- Problems of the foundry; differing view of metallurgists regarding the effect of oxygen in gray iron. J. Shaw. Foundry 49:759-61 O 1 '21; Discussion. 49:859-61 N 1 '21
- Proposed process for complete gasification of coal by the use of oxygen. L. F. Willih. Am Gas J 119:253-4 O 16 '23
- Research work on industrial oxygen. T. C. Finlayson. Chem Age (Lond) 8:642-3; Discussion. 643-5 Je 16 '23
- Salvaging skulls with oxygen. il Blast I & Steel Pl 11:432-3 Ag '23
- Science for the sheet metal worker. T. Newton. Sheet Metal Worker 14:493-4 Jl 20 '23
- Simple form of apparatus for observing the rate of reaction between gases and liquids, and its use in determining the rate of solution of oxygen by water under different conditions of mixing. H. G. Becker. il diags Philos Mag 6th ser 45:581-92 Mr '23
- Some applications of oxygen electrode, air electrode, and oxidation potential measurements to acidimetry and alkalimetry. N. H. Furman. Am Chem Soc J 44:2685-97 D '22
- Spectra of hydrogen, nitrogen and oxygen in the extreme ultraviolet. J. J. Hopfield. il diag Phys R 20:573-88 D '22
- Über einwertigen sauerstoff. S. Goldschmidt. Deutsche Chem Gesell Ber 55:3194-7 O '22; Abstract. Chem Soc J 122 pt 1:1148-9 D '22
- Use of oxygen in metallurgical operations. Blast F & Steel Pl 10:555 N '22; Same. Iron Age 110:1179 N 2 '22
- Use of oxygen or oxygenated air in metallurgical and allied processes; abstracts of Bureau of mines report. F. W. Davis. Chem & Met Eng 29:272-5 Ag 13 '23; Chem Age 31: 399-400 S '23; Iron Age 112:717-18, 734-5, 749 S 13-20 '23; Gas Age 52:437-8 O 13 '23
- What are the chances for cheap industrial oxygen? Chem & Met Eng 29:276-8 Ag 13 '23
- Zur katalytischen wasserstoff-anlagerung; einfluss des sauerstoffs auf den katalysator. W. Normann. Deutsche Chem Gesell Ber 55:2193-7 Jl '22
- Zur kenntnis der sauerstoff-wasserstoff-katalyse durch platinmetalle und über die potentiale der kontakte bei gegenwart wässriger elektrolyte. K. A. Hofmann. diags Deutsche Chem Gesell Ber 55:573-88 F '22

See also Oxidation; Ozone

Analysis

- Determination of dissolved oxygen in the presence of iron salts. A. M. Buswell and W. U. Gallaher. bibliog Ind & Eng Chem 15: 1186-8 N '23
- Method of determining traces of oxygen in hydrogen. A. T. Larson and E. C. White. diags Am Chem Soc J 44:20-5 Ja '22
- Ueber ein neues verfahren zur bestimmung des sauerstoffs im eisen. P. Oberhoffer and O. von Keil. Stahl & Eisen 41:1449-53 O 13 '21

Oxygen, Liquid

- Application of liquid oxygen in aeronautical work. E. A. Griffiths. il diags Engineering 114:565-7 N 3 '22
- L'emploi de l'oxygène liquide comme explosif et son prix de revient. Génie Civil 82:87-8 Ja 27 '23
- Industrial methods of liquefaction and practical application of low temperature. K. S. Murray. diags Engineering 114:509-10 O 20 '22; Excerpt. Refrig Eng 9:167-8 N '22
- Liquid-air explosives in Europe. G. Joubert. Eng & Min J 115:627 Ap 7 '23
- Liquid oxygen as an explosive. il Sci Am 129: 169 S '23
- Liquid-oxygen explosive is demonstrated at Martinsburg. W. Va. A. H. Hubbell. il Eng & Min J 115:331-2 F 17 '23; Same. Coal Age 23:376-7 Mr 1 '23
- Liquid-oxygen explosives. Eng & Min J 116:1-2 Jl 7 '23
- Liquid oxygen explosives. C. A. Taylor and W. H. Rinkenbach. Eng & Contr (Ry) 60: 594 S 19 '23
- Liquid oxygen explosives abroad. A. James. Eng & Min J 115:173 Ja 27 '23
- Liquid oxygen for blasting operations. M. H. Curliya and G. H. Clevenger. Eng N 90:677 Ap 12 '23
- Liquid oxygen in a vaporizer used for resuscitation. H. Briggs. diags Coal Age 21:655-6 Ap 20 '22
- Metal vacuum vessels and liquefied gases; report of the Oxygen research committee; abstracts. Engineering 116:501-2 O 19 '23; Chem Age (Lond) 9:422 O 20 '23
- Perfectionnements récents apportés à la réalisation et à l'utilisation des explosifs à oxygène liquide. L'heure. Génie Civil 81: 500-1 N 25 '22
- Practical manufacture and use of liquid oxygen explosive for breaking ore. A. D. Akin. Eng & Min J 114:978-90 D 2 '22
- Progress of investigations on liquid oxygen explosives. S. P. Howell, J. W. Paul and J. L. Sherrick. il 6 pls U S Bur Mines Tech Pa 294:1-80 '23; Abstract. Refrig Eng 10: 70-2 Ag '23
- Review of the work of Ernest A. LeSueur. L. E. Westman. Can Chem & Met 6:29-32 F '22
- Oxygen apparatus**
- Oxygen instruments. F. L. Hunt. il diags U S Nat Advisory Com for Aeronautics 1921:739-59 '23
- See also Respiratory apparatus
- Oxyhydrogen cutting**
- Effect of oxy-hydrogen cutting on locomotive rods. A. F. Pitkin. il Am Mach 55:964-5 D 15 '21
- Precise torch cutting machine. il Sci Am 128: 395 Je '23
- Safety devices and measures**
- Cleaning steel castings. H. R. Simonds. il diag Foundry 51:345-50 My 1 '23
- Oyster shell products corporation**
- Rounding the corner from scratch in nine months. A. R. King. Ptr Ink 119:97-8+ Ap 6 '22
- Oyster shells**
- Conveying 200,000 bushels of oyster shells. il Eng & Ind Management 6:757-8 D 29 '21
- Oyster shells bring rich crops for farmers. il Pop Mech 40:422-3 S '23
- Oysters**
- Dredging oysters on the ice. L. C. Marshall. il Pop Mech 37:55 Ja '22
- Missing link in seaboard sanitation: the role which the oyster may some day play in the conservation of waste. W. Smith. il Sci Am 127:182 S '22
- Purification plant for oysters from polluted water. il Eng N 90:1047 Je 14 '23
- Advertising**
- Pacific coast oyster democratized. Ptr Ink 119:33-4+ Ap 13 '22

Ozone

- Action of ozone on hydrocarbons with special reference to the production of formaldehyde. E. W. Blair and T. S. Wheeler. Soc Chem Ind J 42:343-6, 347-50 Ag 17-24 '23
- Co-operative studies of ozone for air purification. plan Eng N 88:147 Ja 26 '22
- Decomposition of nitrogen pentoxide in the presence of ozone. F. Daniels, O. R. Wulf and S. Karrer. Am Chem Soc J 44:2402-4 N '22
- Decomposition of ozone by light of the visible spectrum. R. O. Griffith and W. J. Shutt. diag Chem Soc J 119:1948-59 D '21
- Essentials in the use of ozone. H. Hamilton, jr. chart Am Soc Heat & V E J 28:311-15 Ap '22
- Field method for determination of ozone. W. P. Yant, G. W. Jones and F. C. Houghten. il Am Soc Heat & V E J 29:413-22 Ji '23
- Heating and ventilation—the twin sciences. F. W. Parsons. Gas Age 51:803-4 Je 23 '23
- Oxidation of nitrogen tetroxide by ozone. O. R. Wulf, F. Daniels and S. Karrer. diag Am Chem Soc J 44:2398-2401 N '22
- Oxides of nitrogen produced by ozone apparatus. G. W. Jones, W. P. Yant and O. W. Armspach. il Am Soc Heat & V E J 28:191-8 Mr '22
- Ozone and bacteria. W. J. Lohman and P. W. MacMillan. Am Soc Heat & V E J 28:316-20 Ap '22; Excerpts. Heat & Ven 19:55 Ap '22
- Ozone and ozonizers. F. E. Hartman. il diags Chem Age 31:125-9 Mr '23
- Ozone and the cure of disease. J. Todd. Heat & Ven 19:33-6 O '22
- Ozone as an aid to ventilation. M. Kimberly. il charts plan Sanitary & Heat Eng 99:179-82+ Mr 23 '23
- L'ozone et ses applications. S: Bruère. il diags Chimie & Ind 7:30-3 Ja '22
- Ozone generators and the industrial application of ozone. F. E. Hartman. il diags Soc Chem Ind J 42:117-26 Mr 23 '23
- Ozone in the St Louis schools. E. S. Hallett. Am Soc Heat & V E J 28:53-60 Ja '22; Discussion. 28:246-51, 723-32 Mr, O '22
- Ozone in ventilation. C. G. Huntley. Heat & Ven 20:57 Mr '23
- Preparation of pure ozone and determination of its molecular weight. S. Karrer and O. R. Wulf. diag Am Chem Soc J 44:2391-7 N '22
- Production of nitric oxides and ozone by high voltage electric discharges. K. B. McEachron and R. H. George. (Eng. exp. sta. bul. 9) 189p Purdue univ., Lafayette, Ind. '22
- Pure ozone. E. H. Riesenfeld. Sci Am 129:41 Ji '23
- Recent progress in the production of ozone with high tension discharges. F. E. Hartman. diags Am Electrochem Soc Trans v 14 (preprint 24):295-306 S '23
- Science for the sheet metal worker. T: Newton. Sheet Metal Worker 14:493-4 Ji 20 '23
- Über die einwirkung von ozon auf aliphatische und aromatische substituitionsprodukte des ammoniak. W: Strecker and M. Baltes. diag Deutsche Chem Gesell Ber 54:2693-2708 N '21; Abstract. Chem Soc J 122 pt 1:14-15 Ja '22
- Über ozon. E. H. Riesenfeld and G. M. Schwab. diags Deutsche Chem Gesell Ber 55:2088-99 Ji '22; Abstract. Chem Soc J 122 pt 2:637-8 S '22
- What about ozone? recently-completed Chicago tests to determine the status of ozone for ventilation. E. V. Hill and J: J. Aeberly. il Heat & Ven 18:31-4 N; 29-33 D '21; 19:37-40 Ja; 33-5 F; 36-7 Mr '22; Excerpt. Eng & Ind Management 7:66-9 Ja 19 '22

P

pH. See Hydrogen ion concentration

Pacific cable board

Annual report. Elec R (Lond) 92:116-17 Ja 19 '23

Pacific claim agents' association

13th annual convention, Los Angeles, June 7-9. Elec Ry J 59:1004 Je 24 '22

Pacific coast

See also Automobile industry and trade—Pacific coast; California; Hydroelectric plants—California; Motor bus lines—Pacific coast

Commerce

Pacific's foreign trade gain. Am Ind 23:46 Ja '23

Pacific coast electrical association. See National electric light association—Pacific coast division

Pacific coast gas association

29th annual convention, Santa Barbara, Cal., Sept. 19-21. Gas Age 50:397-8+, 431-2 S 30-O 7 '22

30th annual convention, Del Monte, Cal., Sept. 11-14. Gas Age 52:381-2 S 29 '23

Pacific gas and electric company

16th annual report for the fiscal year ended December 31 1921. Comm & Fin Chr 114:2372-7 My 27 '22

17th annual report, 1922. Comm & Fin Chr 116:2655-60 Je 9 '23

Pacific Great Eastern railway

Abandonment of Pacific Great Eastern is urged. map Ry Age 73:1243-5 D 30 '22

Pacific logging congress

Pacific logging congress, San Francisco, Oct. 26-29. Eng N 87:789 N 10 '21

Pacific oil company

Annual report; year ended December 31, 1921. Comm & Fin Chr 115:446-7 Ji 22 '22

2d annual report, year ended December 31, 1922. Comm & Fin Chr 116:2661-2 Je 9 '23

Pacific railroads

Official explorations for Pacific railroads. G: L. Albright. (Univ. of Cal. pub. in history v. XI) 187p Univ. of Cal. press, Berkeley '21

Pack, Robert Francis, 1874-

Sketch. por Elec W 81:1504 Je 30 '23

Pack transportation

How they rope pack loads in Colombia. J: Kruttschnitt. il diags Eng & Min J 116:198-9 Ag 4 '23

Ring hitch. G: J. Young. diags Eng & Min J 116:679 O 20 '23

Package goods

Are you neglecting the finishing touches?

C. B. Larrabee. il Ptr Ink M 6:28-30 Ja '23

An assortment always an easy unit to sell.

Ptr Ink M 6:94+ My '23

Bulk goods in packages become nationally advertised leaders of United drug company.

H: Burwen. Ptr Ink 121:3-4+ S 27 '23

Charged package designs that increase sales.

R: B. Franken. Ptr Ink M 6:38-40+ My '23

Combination package that is sample of a line:

Beech-Nut food products. J. F. Cameron. il

Ptr Ink M 5:61 O '22

Does the housekeeper read the copy on your

package? E. C. Norden. Ptr Ink M 4:90+ D

21

Hitching to a prepared market with a new

product; Peter Rabbit crackers. F. B. Barton.

Ptr Ink 123:77-8+ My 17 '23

Innovations in Christmas packages that over-

come an old problem. M. Hastings, jr. Ptr

Ink M 5:84+ D '22

Little things about the package that plus the

sale. Ptr Ink M 4:88+ Ja '22

Making fresh fish a package specialty. J. H.

Collins. Ptr Ink 121:89-90+ O 19 '22

New company puts ham and bacon on drug

store counters; Chicago Freshmor company.

D. M. Hubbard. Ptr Ink 120:19-20 S 14 '22

New package that is quadrupling sales of

Packer tar soap. Ptr Ink 122:25-7+ F 22 '23

New packing and sales unit broadens mar-

98+ N '23

Novelty package—a lever in difficult markets.

ket; Fiberloid toilet ware. il Ptr Ink M 7:

D. Gridley. il Ptr Ink M 6:37-8 F '23

Novelty package that gets resales for a staple

product; Dunbar's molasses. K. B. White.

Ptr Ink M 5:59 S '22

Package goods—Continued

- Old goods supply the need of a novelty; Wallace & company gum drops. J. True. *Ptr Ink* 119:69-70+ Je 15 '22
- Package expresses the product. C. B. Larrabee. *il Ptr Ink M* 4:37 Mr '22
- Package that gets reorders. C. B. Larrabee. *il Ptr Ink M* 4:29-30 My '22
- Packages that tell the story of your whole line. D. Gridley. *il Ptr Ink M* 6:35-6 Mr '23
- Packaging in its relation to marketing. G. W. Gair. *Administration* 3:437-43 Ap '22
- Pocket packages—larger sales, quick turnover, consumer satisfaction. C. B. Larrabee. *il Ptr Ink M* 5:29-30+ S '22
- Principles in the merchandising of Dromedary food products. J. True. *Ptr Ink* 120:33-4+ Jl 20 '22
- Using the combination package to get reorders. D. Gridley. *il Ptr Ink M* 5:26 D '22
- What new packages are doing for old products. C. B. Larrabee. *il Ptr Ink M* 7:30-2 Ag '23
- When a new package increases sales. *bibliog Ptr Ink* 125:10+ O 11 '23

See also Bottled food; Bottled goods; Canned food; Containers; Labels; Packaging machinery; Waxed paper

Advertising

- Backing up the package with advertising. *Ptr Ink* 119:57-8+ Ap 20 '22
- Does your package help your dealers write advertisements? M. Wellsford. *Ptr Ink M* 5:122 O '22
- Helping consumers remember the package. *Ptr Ink* 121:73-4+ D 14 '22
- Let the box sell it. P. W. Kearney. *Ptg Art* 41:369-70 Je '23
- When you show your package in your advertising. K. B. White. *Ptr Ink M* 5:32-3 Je '22
- See also* Raisins—Advertising

Bibliography

- Making the standardized package sell. *Ptr Ink* 119:121-2 Je 29 '22
- Package tying machine**
Machine ties and seals packages at one time. R. H. Moulton. *il Pop Mech* 37:532-3 Ap '22

Packaging machinery

- Modern packaging machinery: the pneumatic system of packing and weighing. *il Ind Management* (Lond) 8:346-8 D 14 '22
- Output of carton packer 18,000 per day. *il Pop Mech* 40:612 O '23

Packard motor car company

- Annual report for year ending August 31, 1921. *Comm & Fin Chr* 113:2195-7 N 19 '21
- New departmental bonus system. E. F. Roberts. *Ind Management* 65:43-5 Ja '23

Packer's tar soap

- Advertising carries the sales load of Packer's tar soap. J. True. *Ptr Ink M* 5:27-8+ Je '22

Packing

- Care of journal boxes. J. M. O'Connor. *Ry Mech Eng* 96:212 Ap '22
- Casting rod packing in a railroad shop. I. B. Rich. *il Am Mach* 57:382 S 7 '22
- Efficiency and capacity of fractionating columns. W. A. Peters, jr. *il diag J Ind & Eng Chem* 14:176-9 Je '22
- Emergency gaskets. *Power Pl Eng* 27:899 S 1 '23
- Gaskets and packing, and how to use them. C. A. Underwood and J. R. Darnell. *diags Power Pl Eng* 27:813-16 Ag 15 '23
- Glass rings—a new filling material for towers. F. C. Zeisberg. *Chem & Met Eng* 28:9-10 Ja '23
- High turbine vacuum by attention to packing. W. E. Thomson. *Elec W* 80:490 S 2 '22
- Machining valve and cylinder packing. E. A. Murray. *il diags Ry Mech Eng* 97:297-9 My '23
- Manufacturing piston and valve rings. *il Ry Mech Eng* 96:411-12 Jl '22
- New locomotive piston packing developed abroad. *diags Ry R* 71:615 N 4 '22; *Mech Eng* 45:56 Ja '23

- Packing and gaskets for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:720-2 N '22
- Packing for compressor stuffing boxes; discussion. *Refrig Eng* 10:118-19 O '23
- Periodical repacking of journal boxes. E. W. Hartough. *il diags Ry Mech Eng* 96:521-2 S '22
- Semi-Diesel cylinder-head packing. *Power* 56:368 S 5 '22
- Sheet packings. *Textile World* 63:1581+ Mr 3 '23
- Solid packing rings for King-type cups. *il Ry Age* 72:839 Ap 1 '22
- Stuffing box should be standardized. *Marine R* 53:187 My '23
- Throttle stuffing box for plastic packing. *il Ry R* 70:166 F 4 '22
- Use of non-metallic packing in refrigerating field. *Refrig W* 57:29-30 N '22
- Waste saturation plant halves oil consumption. *il diags Elec Ry J* 61:676-7 Ap 21 '23
- See also* Piston rings

Packing for shipment

- Another perfect package campaign. *il Ry Age* 73:1198-9 D 23 '22
- Clean plantation rubber; a plea for better packing. E. L. Bower. *il India Rubber W* 66:736 Ag '22
- Comments on wrapping paper used for the shipping of furniture. E. Dahill, jr. *Paper Tr J* 76:51-2 F 15 '23
- Expert packing for export trade. A. W. Ferrin. *il Nation's Business* 11:34-5 Jl '23
- Exporting iron and steel. V. G. Iden. *il Iron Tr R* 70:823-6 Mr 23 '22
- Handling the finished products of industry. G. L. Montgomery. *plans Chem & Met Eng* 27:779-83 O 18 '22
- Helps in packing heavy ware. E. S. Larson. *Factory* 29:178+ Ag '22
- Less material, fewer men, and lower shipping costs. F. J. Ashley. *il Factory* 31:165-7 Ag '23
- Modern packing methods. *il Ind Management* (Lond) 9:359-62 Je 14 '23
- New plans for bringing better profits. *System* 43:59-60+ Ja '23
- Packing and despatching. *Engineer* 135:442 Ap 27 '23
- Packing and shipping. *il Factory* 30:782+; 31:564+ Je. O '23
- Packing cotton yarns for export. *il Textile World* 61:1535 Mr 11 '22
- Packing for shipment. *il Am Mach* 59:366 S 6 '23
- Perfect package campaign a success. *Am Mach* 56:236 F 9 '22
- Perfect package month. *Ry R* 69:732-3 N 26 '21
- Proper packing will cut big losses. *il Marine R* 53:289-91 Ag '23
- Results of the national perfect package campaign. *Ry Age* 72:222 Ja 21 '22
- Shipowners can stop pilferage losses. *diags Marine R* 53:128-9 Ap '23
- Solving the shipping container problem. B. L. Huestis. *il diags Management & Adm* 6:575-80 N '23
- Standard hosiery packing desirable. J. N. McCullough. *Textile World* 63:907+ F 3 '23
- When the packer turns inventor. *il Sci Am* 129:107 Ag '23
- Who is responsible for returned goods? R. E. Roessler. *diags Factory* 31:632+ N '23
- See also* Boxes; Containers; Eggs—Transportation; Package tying machine; Shipment of goods
- Packing house products**
Dry rendering of fats. J. P. Harris. *diags Chem & Met Eng* 29:93-6 Jl 16 '23
- Utilizing all but the squeal; a survey of the by-products produced by our leading meat-packing plants. C. A. Byers. *il Sci Am* 126:383-4 Je 22
- Packing houses**
Building a packing plant by hand. D. C. Retsloff. *il Pop Mech* 39:761-2 My '23
- Packing industry**
Armour and Morris merger may sharpen packing industry advertising. *Ptr Ink* 123:25-6 Ap 5 '23

Packing industry—Continued

Glimpse into the operations in Packingtown, Union stock yards, Chicago. *il Ind Eng* 81: 228-30 My '23

Government complaint against Armour-Morris packing purchase. *Comm & Fin Chr* 116: 895-6 Mr 3 '23

Meat for the nation's millions. F. Gaynor. *il Am Ind* 22:13-17 Ja '22

No government action at present time respecting Armour-Morris packing purchase. *Comm & Fin Chr* 115:2642-3 D 16 '22

Over billion dollars invested in packing industry. E. A. Cudahy, jr. *Comm & Fin Chr* 116:1488 Ap 7 '23

Press all the time—and know what you are doing. *System* 43:178-80 F '23

See also Canned food; Meat industry and trade; *also* Beech-nut packing company; Vestey brothers

Accounting

Costs and accounting methods in the packing industry. J. H. Bliss. *Administration* 3: 279-90 Mr '22

Suggested methods of handling plant operating income and expense accounts. 53p Institute of American meat packers, Chicago '21

Advertising

Boost for advertising expected from packers' merger. *Ptr Ink* 121:19-20 N 23 '22

New packing company makes bid for national fame. *Ptr Ink* 119:17-19 Je 15 '22

Employees

Wage increases in packing industry. *Comm & Fin Chr* 116:1708 Ap 21 '23

Regulation

Packers and stockyards regulation act held valid. *Comm & Fin Chr* 114:2308 My 27 '22

Great Britain

Here's a trust allowed to do it all; the Vestey interests of England. W. Bishop. *il Nation's Business* 11:34-5 N '23

Packing rings. *See* Packing; Piston rings

Padding. *See* Paper pads

Pails

Manufacturing pails and tubs. P. H. Lange. *il diags Mach* 29:214-17 N '22

Paint

Albathal-zinc paints. *Color Tr J* 11:71 Ag '22

Building a paint film. *diags Am Arch* 122: 126-7 Ag 2 '22

Don't paint your oil tank red. *Sci Am* 126: 389 Je '22

Effect of color of walls and ceilings on resultant illumination; abstract. *bibliog Am Inst Arch J* 11:129-30 Mr '23

Effect of white interiors on lighting. A. L. Powell. *il Textile World* 62:70+ J1 1 '22

Factors governing paint consistency. H. Green. *diags Ind & Eng Chem* 15:122-6 F '23

Fundamentals of colloids as applied to paints and varnishes. E. W. Fasig. *Can Chem & Met* 7:90-2 Ap '23

Influence of paint on interior illumination. R. L. Hallett. *illum Eng Soc* 18:338-46; Discussion. 357-65 Ap '23

Microstructure of paint films. H. L. Maxwell. *il Chem & Met Eng* 28:850-2 My 14 '23

Oils, pigments, paints, varnishes, etc. R. H. Truelove. 114p *Pitman* '22

Paint, architecturally considered. C. W. Cousens. *Am Arch* 122:175-6 Ag 30 '22

Paint as a factor in illumination. *Am Arch* 122:249-50 S 13 '22

Paint as an aid to illumination from the machinery painting angle. L. E. Jamme. *il illum Eng Soc* 18:355-7; Discussion. 357-65 Ap '23

Paint characteristics and conditions to be considered in effecting better illumination. C. H. Bryce. *illum Eng Soc* 18:347-54; Discussion. 357-65 Ap '23

Painting mill interiors. *Textile World* 60: 2715+ N 5 '21

Painting radiators. *Power* 56:301 Ag 22 '22; Discussion. R. S. Lane. 56:388-9 S 5 '22

Paints for integrating spheres. A. H. Taylor. *illum Eng Soc* 16:587-90; Discussion. 599-605 no 9 '21

Physical and chemical examination of paints, varnishes, and colors. H. A. Gardner. 219p Institute of paint & varnish research, 19th & B st., N.W., Washington, D.C. '22

Reflection factors of industrial paints and pigments. H. A. Gardner. *illum Eng Soc* 17:318-22 J1 '22

Relation of yield value and mobility of paints to their so-called painting consistency. J. E. Booge, E. C. Bingham and H. D. Bruce. *diags Am Soc T M Pro* 22 pt 2:420-59; Discussion. 460-3 '22

Solubility of lead compounds used in paints. J. J. Fox. *Chem Age (Lond)* 9:417 O 20 '23

Some factors which affect the plasticity of a paint. E. C. Bingham and A. G. Jacques. *Ind & Eng Chem* 15:1033-6 O '23

Some physical properties of paints. P. H. Walker and J. G. Thompson. *Ry R* 71:76-81 J1 15 '22; Same. *Am Soc T M Pro* 22 pt 2: 464-81 '22; Same cond. *Eng & Contr (Bldgs)* 58:90-5 N 22 '22; Abstract. *Ry Eng* 73:689-90 O 14 '22; Same. *Ry Mech Eng* 96:507-8 S '22; Discussion. *Am Soc T M Pro* 22 pt 2: 482-4 '22

Study of the plasticity of paint. E. C. Bingham, H. D. Bruce and M. O. Wolbach, jr. *J Fr Inst* 195:303-17 Mr '23

Substitutes for turpentine and linseed oil. *Ry Mech Eng* 97:751-3 N '23

Use of paint on roads to direct traffic. J. R. McConaghie. *Good Roads* 63:47-9+, 56-8+ Ag 9-16 '22

When we paint our house. I. Ginsburg. *Sci Am* 128:184+ Mr '23

Whitewash and cold water paint; abstract. *Am Inst Arch J* 10:XIII+ J1 '22

Why interior painting should be in light colors. *Eng & Min J* 114:681 O 14 '22

Zinc oxide and lithopone as a basis for paint in bleacheries and dyehouses. B. De-Puyster. *il Color Tr J* 11:223-4 N '22

See also Drying agents; Painting, Structural; Ocher; Pigments; Tung oil; White lead

Bibliography

Leading paint men select technical books for inclusion in the business library of the Mc-Alpin hotel. *Chem & Met Eng* 27:759 O 11 '22

Laws and regulations

Lead paint regulations adopted in England. *Oil Paint & Drug Rep* 102:20 Ag 21 '22

Report of legislative committee. *Oil Paint & Drug Rep* 100:61-2 N 2 '21

Report of legislative committee. *Oil Paint & Drug Rep* 104:29-33 O 30 '23

Manufacture

China clay in paint. *Chem Age (Lond)* 9:sup 11 J1 21 '23

Manufacture and application of automobile varnishes and paints. L. V. Pulsifer. *Soc Auto Eng J* 10:12-16 Ja '22; Excerpts. *Automotive Ind* 46:119-20 Ja 19 '22; Discussion. *Soc Auto Eng J* 10:388-94 My '22

Paint and stain formulas. A. A. Goodyear. 85p Press of Hartzell bros., Carlisle, Pa. '22

Patents

Treating bitumens, asphaltites, and similar substances for the manufacture of black paints, varnishes and japans. *Chem Age (Lond)* 8:546 My 19 '23

Prices

Paint and paint materials. *See* weekly numbers of *Oil paint and drug reporter*

Specifications

Buy specification paints or buy results? L. Ingraham. *Ry Age* 73:235-6 Ag 5 '22

Paint specifications—why? P. L. Maury. *Ry R* 70:564-5 Ap 22 '22

United States government specification for flat interior lithopone paint, white and light tints. *U S Bur Stand Circ* 111:1-8 '22

Paint—Specifications—Continued

- United States government specification for green paint, semipaste and ready mixed. U S Bur Stand Circ 97:1-10 '22
- United States government specification for iron-oxide and iron-hydroxide paints. U S Bur Stand Circ 93:1-9 '22
- United States government specification for volatile mineral spirits for thinning paints. U S Bur Stand Circ 98:1-10 '23
- Why paint specifications present a difficult problem. F. P. Ingalls. Ry R 70:597-600 Ap 29 '22

Storage

- Shipyard bulk storage oil and paint plant. il diags Engineering 112:632, 634 N 4 '21

Terminology

- Tentative definitions of terms relating to paint specifications. Am Soc T M Pro 21:629-30 '21

Testing

- Accelerated weathering of paints on wood and metal surfaces. H. A. Nelson. il diags Am Soc T M Pro 22 pt 2:485-98 '22; Abstract. Chem & Met Eng 27:108 Jl 19 '22; Ry Mech Eng 96:508 S '22; Discussion. Am Soc T M Pro 22 pt 2:499-503 '22
- Investigation of whitewashes and aqueous lime paints. G. J. Fink. il J Ind & Eng Chem 14:503-11 Je '22
- Stress-strain measurements on films of drying oils, paints and varnishes. H. A. Nelson. il diags Am Soc T M Pro 21:1111-34; Discussion. 1135-8 '21

Transportation

- Pigment rate cut barred by I. C. C. Oil Paint & Drug Rep 101:36h Ap 10 '22

Paint, Protective

- Blue lead as a rust preventative. il diags Gas Age 51:301-3+ Mr 10 '23
- Determining a satisfactory waterproof paint. Sheet Metal Worker 13:389 Jl 7 '22
- Discussion of various paints and oils for use in gas plants. Gas Age 51:740+ Je 9 '23
- Durable coat for parts of machines. Color Tr J 10:38 Ja '22
- Fighting corrosion as a major source of waste in industry. R. H. Hubbell. il J Elec 49:9-11 Jl 1 '22
- Lead pigments: protective materials for the chemical engineering industries. J. H. Calbeck. Chem & Met Eng 28:687-8 Ap 16 '23
- Oils and paints, &c., for gas-works preservation and maintenance. Gas J (Lond) 161:460-1 F 21 '23
- Paint as a protection for steel structures. J. Grieve. Can Eng 43:601-3 D 5 '22; Same. Eng & Contr (Bldgs) 58:135-9 D 27 '22
- Paint protection for wood. C. T. Meyers. Soc Auto Eng J 10:348-50 My '22; Same. Mech Eng 44:519-20+ Ag '22; Same. Am Arch 122:337-40, 421-2 O 11, N 8 '22; Same cond. Automotive Ind 47:467-8 S 7 '22
- Paints for the gas works and their selection. J. Grieve. Am Gas J 119:489-90 O 27 '23
- Protecting cement structures. R. C. Sheeler. Textile World 62:69 Jl 1 '22
- Protective coverings for shipbuilding purposes. H. H. Thayer. Marine Eng 28:438-40, 498-501, 570-2, 631-5, 779-81 Jl-O, D '23
- Protecting iron with paint against atmospheric corrosion. Chem & Met Eng 26:132 Ja 18 '22
- Report of committee D-1 of A. S. T. M. on preservative coatings for structural materials. Am Soc T M Pro 21:329-50 '21
- Report of sub-committee XXIII on anti-fouling paints. il Am Soc T M Pro 22 pt 1:394-415 '22
- To paint or galvanize steel structures? Elec W 81:961-5 Ap 28 '23; Summary. Elec Ry J 61:765 My 5 '23
- United States navy's research of ship bottom paint. N. E. Adamson. Marine Eng 27:511-13, 574-8 Ag-S '22
- What it pays to know about corrosion. G. A. Van Brunt. Factory 28:49-52 Ja '22
- See also Corrosion and anti-corrosives; Metal protection

Paint industry and trade

- Great industry in the public service. E. T. Trigg. Oil Paint & Drug Rep 104:40-3 O 30 '23
- Great industry realizing its opportunity. E. T. Trigg. Oil Paint & Drug Rep 100:37-9+ N 2 '21
- New York paint club hears reports on conditions in supplying industries. Oil Paint & Drug Rep 103:20+ Mr 26 '23
- Opening a closed market with a new product. A. Belden. Ptr Ink 123:153-4+ Ap 12 '23
- Paint and varnish export opportunities. C. C. Concannon. Oil Paint & Drug Rep 104:21 Ag 6 '23
- Paint and varnish materials: market review and record of prices. Oil Paint & Drug Rep 103:43+ Mr 29 '23
- Simplification of paint and varnish—an augury of good for other industries. Ptr Ink 123:153-4 My 10 '23
- World review of the paint situation. Chem & Met Eng 29:336 Ag 20 '23

Advertising

- Advertising that consolidates distributive gains; why and how Effecto auto finishes are advertised in the farm press. il Ptr Ink 125:117-18 N 1 '23
- Couponless advertisement that brought in 18,000 dimes. G. H. Wicker. Ptr Ink 120:17-20 Jl 6 '22
- Du Pont advertises simplified paint line. R. Dickinson. Ptr Ink 122:41-2+ Mr 15 '23
- Paint industry looks to advertising to correct unsatisfactory labor situation. H. W. Rubins. Ptr Ink 124:93+ Ag 23 '23
- Paint manufacturers and dealers asked to save their own surfaces. Ptr Ink 123:8+ Ap 19 '23
- Paint trade advertising and sales conferences have fourfold vision. Oil Paint & Drug Rep 102:20+ Jl 3 '22
- Report of clean up and paint up committee. Oil Paint & Drug Rep 104:37-9 O 30 '23
- Report of Save the surface committee. Oil Paint & Drug Rep 100:35+ N 2 '21
- Save the surface campaign in England. T. Russell. Ptr Ink 125:115-16 O 4 '23
- Save the surface campaign plans for advertising support from labor unions. Ptr Ink 121:101-2+ D 21 '22
- Sherwin-Williams solves problem of talking technically to laymen. Ptr Ink 124:19-20 S 20 '23
- When educating the consumer imperils the service of the local contractor. V. D. Clausen. Ptr Ink 118:53-4+ Ja 19 '22

History

- Reminiscences of the paint and chemical trade. Oil Paint & Drug Rep 101:25+ Mr 28 '22

Statistics

- Census of manufacturers, 1921; paint and varnish, bone black, carbon black and lamp-black. 24p U S Bur Census '23

Japan

- Paint manufacturing in Japan has interesting record. Oil Paint & Drug Rep 101:91 Mr 28 '22

United States

- Paint and varnish production gained materially in first half of 1923. Oil Paint & Drug Rep 104:75 sec 1 S 24 '23
- U. S. production of paints and varnishes by decades. Oil Paint & Drug Rep 101:43+ Mr 28 '22
- Paint manufacturers' association of the United States
- Convention, Chicago, Nov. 17-18. Oil Paint & Drug Rep 100:23 sec 1 N 28 '21
- Story of Reporter trade associations. G. B. Heckel. Oil Paint & Drug Rep 101:19+ Mr 28 '22
- 23d annual meeting, Atlantic City, Nov. 14-15. Oil Paint & Drug Rep 102:73-5+ N 23 '22
- 24th annual meeting, Chicago, Oct. 15-16. Oil Paint & Drug Rep 104:60-1+ O 30 '23

Paint spraying

Air brush is supplanting the hair brush. D. O'Brien. Elec Ry J 62:149-50 J1 28 '23
Home-made portable compressor outfit for paint spraying. il Elec Ry J 61:124 Ja 20 '23

Low-pressure air brush saves paint. il Elec Ry J 62:304 Ag 25 '25

Mechanical painting. C. C. Fredericks. Oil Paint & Drug Rep 104:27+ O 30 '23

Protection of steel equipment. il Ry Mech Eng 97:689-92 O '23

Report of N.P.O. & V. A. committee on paint spraying systems. Oil Paint & Drug Rep 100:53 N 2 '21; 102:61-3 N 23 '22; 104:25+ O 30 '23

Report of sub-committee XXII on method of application of paint by spraying. il Am Soc T M Pro 22 pt 1:384-93 '22

Report on an investigation to determine the hazard to the health of operators using the spraying machine for painting; the risk of lead poisoning. N. C. Sharpe. J Ind Hygiene 3:378-85 Ap '22; Abstract. Int Labour R 6:104-7 J1 '22; Bibliography. J Ind Hygiene 3:385-6 Ap '22

Spray painting. R. W. Tripp. Eng & Contr 57:505 My 24 '22

Spray painting of electric railway cars. L. L. Wolf. Elec Ry J 61:732-3 Ap 28 '23

Time of painting a car cut in half. J. A. Lucas. il Elec Ry J 62:3-6 J1 7 '23

Painted bulletin advertising association

Outdoor advertising association changes name. Ptr Ink 125:56 O 11 '23

Painters, Industrial

Paint industry looks to advertising to correct unsatisfactory labor situation. H. W. Rubins. Ptr Ink 124:93+ Ag 23 '23

Painters' wages are higher than in 1922. Oil Paint & Drug Rep 103:19 My 21 '23

Problem of the master painter: lengthening the painting season. H. W. Rubins. Oil Paint & Drug Rep 104:47 O 30 '23

Wage scales, earnings, and relative welfare of workers in the painting trades in Philadelphia. Monthly Labor R 13:807-10 O '21

Advertising

Painter advertises steadily for eight years. Ptr Ink 118:85-6 F 16 '22

Diseases and hygiene

See also Lead poisoning

Painting

See Mural painting and decoration; Paint; Painting, Submarine

Painting, Industrial

Comparative test of interior painting by brush and spray method. Eng & Contr (Bldgs) 58:89 N 22 '22

Enamel painting on various surfaces. A. A. Kelly. Bldg Age 45:76+ J1 '23

Household painter. A. A. Kelly. 202p McKay '23

How to paint turpentine tanks and cars. Sheet Metal Worker 13:493 Ag 18 '22

Making paint stick to galvanized iron. il Sheet Metal Worker 13:352+ Je 23 '22

Painting and decorating working methods produced under the direction of the International association of master house painters and decorators of the United States and Canada. F. N. Vanderwalker. 282p Printed by B. S. Adams, Washington, D.C. '22

Painting galvanized surfaces so it will be permanent. Sci Am 128:331 My '23

Painting in winter-time; and its difficulties. A. A. Kelly. Bldg Age 44:49 N '22

Painting product and plant. See monthly numbers of Factory

Painting troubles and their remedy. A. Millar. 107p Trade papers pub. co., London '21

Preparing buildings for the painter. A. A. Kelly. Bldg Age 44:41 F '22

Principles and practices of up-keep painting. 200p E. I. Du Pont de Nemours & co., Philadelphia '23

Suggestions for painting cypress and yellow pine. H. A. Gardner. Am Arch 123:164-5 F 14 '23

Treatment of pine knots and sappy parts. A. A. Kelly. Bldg Age 43:46 D '21

See also Automobiles—Painting; Bridge painting; Car painting; Construction equipment—Painting; Gilding; House painting; Machine tools—Painting; Machinery—Painting; Paint; Painters, Industrial; Paint spraying; Swimming pools, Concrete—Painting; Varnish and varnishing; also American railway association—Equipment painting section

Estimates

Estimating painting jobs. G. A. Steinheimer. Eng & Contr (Bldgs) 60:868-9 O 24 '23

Specifications

Suggestions for painting specifications. Am Arch 123:258+ Mr 14 '23

Study and teaching

Training paint and varnish technologists. W. T. Pearce. Chem Age 31:466-7 O '23

Painting, Structural

Report of sub-committee XIV of A. S. T. M. on preparation of iron and steel surfaces for painting. Am Soc T M Pro 21:345-9 '21

To paint or galvanize steel structures? Elec W 81:961-5 Ap 28 '23; Summary. Elec Ry J 61:765 My 5 '23

See also Bridge painting; Paint, Protective; Ships—Painting

Painting, Submarine

Artist in diving suit paints sea's depths. il Pop Mech 40:902-3 D '23

Submarine artist; waterproof paints and canvas and a diver's suit applied to a new phase of art. il Sci Am 126:319 My '22

Palace of peace. See The Hague, Netherlands—Palace of peace

Palazzo Davanzati. See Florence—Palazzo Davanzati

Palazzo di Venezia. See Rome (city)—Architecture

Paleobotany

Carboniferous plants from Peru. E. W. Berry. Am J Sci 5th ser 3:189-94 Mr '22

Flora of the Payette formation. R. W. Chaney. Am J Sci 5th ser 4:214-22 S '22

Mid-Devonian Callixylon. C. J. Hylander. diags Am J Sci 5th ser 3:251-3 Ap '22

New genus of fossil fruit. E. W. Berry. il Am J Sci 5th ser 3:251-3 Ap '22

Pleuromeia and hausmannia in Eastern Siberia. A. Kryshstofovich. diags Am J Sci 5th ser 5:200-8 Mr '23

Tertiary plants from the Andes of Cajamarca, Peru. E. W. Berry. diags Am J Sci 5th ser 5:239-46 Mr '23

See also Flowers, Fossil

Paleoclimatology

Algae as limestone makers and climatic indicators. W. S. Glock. Am J Sci 5th ser 6:377-406; Bibliography. 406-8 N '23

Dilemma of the paleoclimatologists. R. W. Sayles. bibliog Am J Sci 5th ser 3:456-73 Je '22

Evolution of climates. M. Manson. 66p Lord Baltimore press, Baltimore '22

Paleontology

Ceratopyge fauna in western North America. P. E. Raymond. Am J Sci 5th ser 3:204-10 Mr '22

Pleistocene of North America. O. P. Hay. 499p Carnegie institution of Washington, Washington '23

Seaside notes. P. E. Raymond. Am J Sci 5th ser 3:108-14 F '22

Secrets of world's youth revealed by million-year-old game. il Pop Mech 40:739-42 N '23

Upper Cambrian fauna of Pacific type in the European Arctic region. O. Høitvedahl. il map Am J Sci 5th ser 3:343-8 My '22

See also Ammonites; Hyenodontidae; Paleobotany; Rodents, Fossil; Vertebrates, Fossil

Paleontology—Continued**California**

Oil pits of California preserve bones of prehistoric fauna. *il Nat Pet N* 15:103+ Ag 15 '23

Canada

Kinderhook fauna from the Liard river, N. W. T. Canada. G. S. Hume. *map Am J Sci* 5th ser 6:48-52 JI '23

Mexico

Vertebrate fossils from the Mina Erupcion, G. F. Eaton. *il map Am J Sci* 5th ser 6:229-38 S '23

Oregon

Oregon tertiary canidae, with descriptions of new forms. M. R. Thorpe. *diags Am J Sci* 5th ser 3:162-75; Bibliography. 175-6 Mr '22

Washington

Fossils of the Olympic peninsula. W. H. Dall. *Am J Sci* 5th ser 4:305-14 O '22

Palestine

Mediterranean-Dead sea tunnel to restore the Holy Land. L. R. Freeman. *il map Pop Mech* 37:849-54 Je '22

See also Chemical industries—Palestine; Irrigation—Palestine; Railroads—Palestine; Water power—Palestine; Water supply—Palestine

Antiquities

Digging in sacred soil; research with the spade in Palestine since the war. *il map Sci Am* 129:38-9 JI '23

Commerce

Palestine; its commercial resources with particular reference to American trade. A. E. Southard. *U S Sp Cons Rep* 83:1-64 '22

Palladium

Crystal structures of the system palladium-hydrogen. L. W. McKeehan. *Phys R* 21: 334-9; Bibliography. 339-42 Mr '23

Occlusion of hydrogen in palladium. M. Yamada. *Philos Mag* 6th ser 45:241-3, pl 2 Ja '23

Occurrence, uses and prices of palladium, iridium, and osmium. *Eng & Min J* 112:981 D 17 '21

Some properties of hydrogen desorbed from platinum and palladium. P. Anderson. *diags Chem Soc J* 121:1153-61 Je '22

Thermoelectric properties of sputtered films of gold, platinum, and palladium; and of solid palladium containing occluded hydrogen. R. M. Holmes. *diag Phys R* 22:137-47 Ag '23

Analysis

Detection and estimation of small amounts of platinum and palladium in the presence of large amounts of silver. C. A. Knittel. *Can Chem & Met* 6:179-80 Ag '22

Palladium alloys

Chemical use of palladium alloy; Fahrenwald patent. W. Gustin. *Chem & Met Eng* 28: 362-3 F 21 '23

Pallophotophone

Broadcasting from films; pallophotophone has many important applications. *il Wireless Age* 10:58-9+ D '22

Pallophotophone. C. A. Hoxie. *il diags Am Inst E E J* 42:520-4 My '23

Pallophotophone. J. Liston. *il Gen Elec R* 26:31-2 Ja '23

Le pallophotophone, appareil pour l'enregistrement photo-électrique des sons et leur transmission par radiotéléphonie. *diags Génie Civil* 82:621-5 Je 30 '23

Pictures that talk. *il Sci Am* 128:19+ Ja '23

Some details of the pallophotophone. *il diag Elec W* 81:691-2 Mr 24 '23

Sound photographed for broadcasting. *Wireless Age* 10:56+ N '22

Palm, Dwarf

Possibilities of dwarf palm in papermaking. M. C. Everett. *Paper* 32:8+ S 12 '23

Palm Beach fabric

Palm Beach submits new licensee agreement. *Ptr Ink* 124:26-7 JI 12 '23

Palm oil

West African palm oil—manufacture and uses. *Mech Eng* 45:359 Je '23

Palm rooms. See Ships—Palm rooms**Palmitine**

Über die umwandlung des berberins in das palmitin. E. Späth and N. Lang. *Deutsche Chem Gesell Ber* 54:3064-74 D '21; Abstract. *Chem Soc J* 122 pt 1:166 F '22

Palmer, Ray, 1878-

Portrait. *Elec W* 81:1392 Je 16 '23

Palmer apparatus. See Dust**Palmer Camellaird Fullagar engine. See Camellaird-Fullagar engine****Palmolive company**

Palmolive leaders sponsor newest member of family; Palmolive after shaving talc. *Ptr Ink* 124:10+ S 20 '23

Palos Verdes project. See Los Angeles, California—Suburbs**Pamphlets**

Pamphlets and clippings in a business library. V. Fairfax. 62p *Journal of electricity & western industry*, San Francisco '21

Suggestions for the care and use of pamphlets and clippings in libraries. P. A. Dickey. 2d ed., rev. 31p H. W. Wilson co.; Grafton & co., London '22

Panama

See Roads—Panama

Panama (city)**Streets**

Brick paving in the city of Panama. H. W. Durham. *Eng N* 90:272 F 8 '23

Panama canal

American trade via Panama. H. C. Hawkins. *Annalist* 18:512 N 28 '21

Capacity of Panama canal ample for at least 30 years. J. K. Baxter. *il Eng N* 89:648-51 O 19 '22

Coastwise traffic via Panama increased 73 per cent in 1921. *Ry R* 70:425-6 Mr 25 '22

First 9 years' operation of Panama canal. *Eng & Contr (W W)* 60:521 S 12 '23

Intercoastal cargo tonnage in 1922 made rapid gains. *Ry R* 72:471 Mr 10 '23

Maximum discharge from spillway since opening of Panama canal. *Eng & Contr (W W)* 58:120 D 13 '22

Panama canal. Engineering 114:746-7 D 15 '22

Panama canal earnings. *Ry R* 71:346 S 9 '22

Record of traffic through Panama Canal. See monthly numbers of Marine review

Traffic of the Panama canal. *Engineer* 134:320-1 S 29 '22

Transcontinental freight problems vs. the Panama canal. J. C. Stone. *il J Elec* 48: 189-90 Mr 1 '22

U. S. ships are leaders in Panama trade. *Marine R* 53:399 O '23

Slides

Problem of the Panama canal slides. J. Stupart. *Engineer* 132:682-3 D 23 '21; Discussion. 133:22, 51, 153 Ja 6-13, F 10 '22

Tolls

Panama canal tolls. C. H. Calhoun. *il Sci Am* 128:20 Ja '23

Vessel owners can save tolls by analysis of Panama rules. *il diags Marine R* 53:15-19 Ja '23

Panama Canal Zone

Our business dominions—Panama. J. J. Morrow. *il Am Ind* 23:5-8 N '22

See also Railroads—Panama Canal Zone

Water supply

Solving the water supply problem at Panama. *Sci Am* 129:55 JI '23

Pan-American conference, Santiago, Chile, 1923

Conclusion of 5th Pan-American conference. *Comm & Fin Chr* 116:2077-9, 2205 My 12-19 '23

Pan-American conference, Santiago, Chile, 1923

—Continued

Conventions and resolutions adopted at fifth Pan-American conference. *Comm & Fin Chr* 117:286 J1 21 '23

Pan American petroleum and transport company

Pan American's California properties include outstanding reserves. *P. Wagner. Nat Pet* N 15:97-8+ My 30 '23

Pan-American railroad (proposed)

Propose restudy of Pan-American railway project. *F. B. Morris. map Eng N* 90:837-9 My 10 '23; *Discussion. 90:973-4, 1013-14 My* 31-Je 7 '23

Pan American union

Keeping the Americas together. *J. B. Morrow. Nation's Business* 10:24-5 F '22

Panconcelli-Calzia, Giulio

Where human speech is put on the dissecting table; laboratory of experimental phonetics of Dr Panconcelli-Calzia of Hamburg. *A. Gradenwitz. il diags Sci Am* 126:100 F '22

Pancreatin

Pancreatin as an unhairing agent. *J. A. Wilson and A. F. Gallun, jr. il Ind & Eng Chem* 15:267-9 Mr '23

Panel work

How panel work is made and set up. *O. B. Maginnis. il plan Bldg Age* 45:64-5 S; 74-5 O '23

Panics. See Business cycles; Business depression**Panislamism**

Arousing of Islam. *Comm & Fin Chr* 114:1006-8 Mr 11 '22

Pantograph

Constructing a pantograph. *V. H. Todd. diags Power Pl Eng* 26:179 F 1 '22

Determination of rail wear for valuation purposes by the rail pantograph. *J. P. Newell. il Eng N* 89:310-12 Ag 24 '22

Mapping vegetation with a pantograph; percentage of increase or decrease in vegetation due to grazing calculated. *il Pop Mech* 38:745 N '22

Pantograph, Current collecting

Collecting 5,400 amp. at 58 m.p.h. *il Elec Ry J* 62:125-7 J1 28 '23

Handling heaviest future traffic electrically. *il Ry R* 73:94-6 J1 21 '23

New pantograph unlocking device saves time. *diag Elec Ry J* 62:302 Ag 25 '23

Record breaking current collection tests at Erie. *W. D. Bearce. il diag Gen Elec R* 26:619-23 S '23

Trolley construction for heavy electric traction. *il diag Ry Age* 75:113-14 J1 21 '23; *Same. Eng & Contr (Ry)* 60:333-5 Ag 15 '23

Pantograph marking machine

Dover pantograph marking machine. *il Am Mach* 56:313 F 23 '22

Pantone process

Pantone plate and printing process. *Inland Ptr* 71:566 J1 '23

Papaverine

Influence of papaverine on the optical activity of narcotine in acid solution. *H. E. Annett. Chem Soc J* 123:376-9 F '23

Paper

Applying engineering principles to the selection of paper. *R. E. Rindfus. Mech Eng* 44:726-7 N '22

Copying qualities of letter-copying paper. *H. Micoud. Paper Tr J* 73:47-8 D 29 '21

Curling of fine printing papers. *H. H. Hanson and H. H. Hackett. Paper Tr J* 75:18-19 N 23 '22; *Same. Paper* 31:7-9 D 13 '22

Destruction of paper by writing ink. *W. Herzberg. il Paper Tr J* 76:55-6 Mr 8 '23

Letters to a printer's devil. *R. T. Porte. Inland Ptr* 71:395-6 Je '23

Light on a vexing printing problem; new methods for measuring the effects of temperature and humidity on the dimensions of paper. *H. S. Davis. diags Paper* 31:7-8+ Ja 10 '23

Paper for intaglio printing. *W. Gruenewald. Paper* 31:7-8+ Ja 31 '23

Photomicrography of paper fibers. *R. E. Lofton. il diags U S Bur Stand Tech Pa* 217:629-50 '22

Printers' technical problems. *T. E. Donnelley. Paper* 29:13-15 N 30 '21

Selecting paper for shop and office forms. *C. L. Barnum. Management Eng* 4:61-3 Ja '23

Use of paper in gardening. *Sci Am* 129:167 S '23

What paper shall I print this on? *W. A. Kittredge. Ptr Ink M* 4:80+ Mr '22

See also Blotting paper; Dyes and dyeing—Paper; Filter paper; Marbling; Paper board and other headings beginning Paper; Photographic paper; Vulcanized fiber; Waste paper; Watermarks; Waterproofing of paper; Wood pulp; Wrapping paper

Analysis

Aging of rubber latex paper. *M. B. Shaw and F. T. Carson. India Rubber W* 68:561-2 Je '23; *Same. Paper Tr J* 76:47-9 Je 21 '23

Determination of mechanical pulp in printing papers. *H. Krull and B. Mandelkow. Paper Tr J* 75:49-51 N 2 '22

Determination of the fiber content of paper. *E. O. Reed and R. R. Machmer. Paper Tr J* 76:47-9 Ap 26 '23

Improvements in methods of making the Herzberg stain used in fiber analysis. *M. F. Merritt. bibliog Paper Tr J* 75:43-4 Ag 24 '22

Paper testing methods. *il Paper Tr J* 75:43-8 Ag 10; 46-7 Ag 17 '22

Tests for unbleached sulphite and sulphate fibers. *R. E. Lofton and M. F. Merritt. Tech Assn Pa ser* 3:1-7 D '20

See also Paper—Testing

Bibliography

Contributions of the committee on abstracts and bibliography. *C. J. West. Paper Tr J* 76:215+ Ap 12 '23; *Same. Tech Assn Pa ser* 6:57-8 Je '23

Current paper trade literature. *See weekly numbers of Paper trade journal*

Paper research literature; list of contributions by members of the Bureau of standards, Department of commerce, 1910—December 31, 1922. *Paper Tr J* 76:47-52 F 8 '23

Report of the committee on bibliography. *C. J. West. Tech Assn Pa ser* 5:17 Je '22

Classification

Classification and definition of paper. *C. J. West. Paper Tr J* 76:49-54 My 31 '23

Color

Color matching on paper. *J. N. Stephenson. Am Dyestuff Rep* 12:803+ N 5 '23

Measure of the color characteristics of white paper. *R. E. Lofton. Paper Tr J* 77:51 N 1 '23

Dyeing

See Dyes and dyeing—Paper

Manufacture

See Paper making

Moisture content

Simple moisture content indicator for paper. *C. B. Thwing. il Tech Assn Pa ser* 4:47-8 Je '21

Periodicals

American and foreign paper trade periodicals. *F. C. Clark and C. J. West. Paper Tr J* 76:45-8 Ja 25 '23

Price listing

Paper merchandising; objections made to Typothetae's agitation for adoption of long price list. *Paper* 29:16-17 D 14 '21; *Same. Inland Ptr* 68:521 Ja '22

Prices

Open bids for government paper supply. *Paper* 31:11-16 F 7 '23

Paper bids for government printing office. *Paper Tr J* 75:16-18+ Ag 3 '22; *Awards. 75:16-18+ Ag* 10 '22

Paper—Continued**Rolls**

See Paper rolls

Standards

- Grade standardization and identification of paper. J: Sullivan. Inland Ptr 70:379-81 D '22
- Paper standardization by test methods. H. Bell. Oil Paint & Drug Rep 104:ix+ sec 2 S 24 '23; Same. Paper 33:16-17+ O 25 '23; Same. Paper Tr J 77:50-2 S 20 '23
- Proposed standard substance for paper. S. L. Willson. Paper Tr J 75:49-52 Ag 17 '22
- Seven-phased standardization of paper. R. E. Rindfusz. Paper Tr J 75:32+ JI 27 '22; Same. Paper 30:11-13 Ag 2 '22; Same. Inland Ptr 69:557-8 JI '22
- Standardization and simplification. S. L. Willson. Paper Tr J 75:23-5 O 26 '22; Same. Paper 31:10-13 N 15 '22
- Standardization of fine papers. R. E. Rindfusz. Paper 32:7-8+ Ap 25 '23
- What paper standardization will do for advertisers. J: Sullivan. Ptr Ink 121:93-4+ O 26 '22

See also Paper sizes

Terminology

- Classification and definitions of paper. C. J. West. Paper Tr J 76:49-54 My 31 '23
- Dictionary of paper terms. Paper Tr J 74:46-9 Je 1; 90-3 Je 8; 47-50 Je 15; 53-6 Je 22; 46-9 Je 29; 75:49-52 Ag 31; 46-9 S 7; 53-4 S 21; 50-3 S 28 '22

Testing

- Bursting strength of paper: variation in results under the same conditions. E. O. Reed and F. P. Veitch. Paper Tr J 75:49-52 JI 20 '22
- Discussion on paper testing at the fall meeting of T.A.P.P.I. at Detroit. Paper Tr J 75:47-50 N 30; 45-6 D 7; 45-8 D 14; 47-9 D 21 '22
- Effect of atmospheric humidity in the physical testing of paper. P. L. Houston, F. T. Carson and R. S. Kirkwood. Paper Tr J 76:237+ Ap 12 '23; Same. Tech Assn Pa ser 6:64-71 Je '23
- Effect of length and width of test specimen on the breaking strength and elongation of paper. P. L. Houston. Paper Tr J 76:54-5 Mr 22 '23; Same. Tech Assn Pa ser 6:72-3 Je '23
- Elmendorf tester, A.B.C. of paper quality. J. H. Houghton. Paper Tr J 74:50-3 Mr 16 '22
- Group meeting on paper testing. Tech Assn Pa ser 4:96-101 Je '21
- Influence of moisture on paper tests. Il Paper 29:16-18 D 7 '21
- Ink flotation vs. Valley size tester. M. L. Caust. Paper Tr J 76:191+ Ap 12 '23; Same. Tech Assn Pa ser 6:39-40 Je '23
- Maintaining basis weights of paper. P. K. Baird. Tech Assn Pa ser 5:4-7 Je '22; Same. Paper 30:32-4+ Ap 19 '22; Same. Paper Tr J 74:185+ Ap 13 '22
- Methods of testing the quality of paper. N. A. Altmann. Paper 30:11-12+ JI 26 '22
- Mullen test comparison. F. A. Curtis. Tech Assn Pa ser 6:20 Je '23; Same. Paper Tr J 76:48 My 10 '23
- New process for determining the degree of fineness of beaten stuff. E. W. L. Skark. diags Paper Tr J 75:53-5 N 23 '22
- New Scott tearing strength tester. Il Paper 29:26-7 N 2 '21
- Paper standardization by test methods. H. Bell. Oil Paint & Drug Rep 104:ix+ sec 2 S 24 '23; Same. Paper 33:16-17+ O 25 '23; Same. Paper Tr J 77:50-2 S 20 '23
- Paper testing methods. Il diag chart Paper Tr J 75:48-55 JI 6; 43-8 JI 13; 45-8 JI 20; 43-8 JI 27; 47-50 Ag 3; 43-8 Ag 10; 46-8 Ag 17 '22
- Preliminary study of tearing instruments and tearing test methods for paper testing. P. L. Houston. Il diags U S Bur Stand Tech Pa 194:1-18 '21

- Quick test to determine the brittleness of paper. P. L. Houston. Paper Tr J 76:233+ Ap 12 '23; Same. Tech Assn Pa ser 6:117-18 Je '23
- Rapid means of determining stock density. F. M. Williams. Il Paper Tr J 76:50 My 3 '23
- Rapid technic for estimating pulp fibres. Paper 31:14+ F 14 '23
- Relationship between breaking strength and bursting strength of paper. P. L. Houston. Il Paper Tr J 76:47-8 Mr 29 '23; Same. Tech Assn Pa ser 6:100-1 Je '23
- Report of the paper testing committee on the tearing test of paper. S. D. Wells. Paper Tr J 76:49-53 Je 28 '23; Same. Tech Assn Pa ser 6:102-6 Je '23
- Sectional meeting of Technical association on paper testing. Tech Assn Pa ser 5:139-46; 6:168-72 Je '22, Je '23
- Study of commercial dial micrometers for measuring the thickness of paper. P. L. Houston and D. R. Miller. diags U S Bur Stand Tech Pa 226:125-52 '23; Abstract. J Fr Inst 195:700-2 My '23
- Supplementary study of commercial instruments for determining the tearing strength of paper. P. L. Houston. Il diags Paper Tr J 74:43-6 Mr 9 '22
- Tentative report on paper standardization. Paper Tr J 75:33+ S 14 '22
- Testing of paper. R. Fournier. diag Paper Tr J 75:50-1 D 7 '22
- Testing of sizing quality in paper with Valley tester. J. E. Alexander. Paper Tr J 76:187+ Ap 12 '23; Same. Paper 31:45-6+ Ap 18 '23; Same. Tech Assn Pa ser 6:37-9 Je '23
- See also Blotting paper—Testing; Paper—Analysis

Bibliography

- Observations on paper testing. Paper 32:3-6 O 11 '23
- Paper testing methods. Paper Tr J 75:47-8 Ag 17 '22

Weight

- Causes of variation in weight of paper. G. M. Johansson. diags Paper 31:11-12+ Mr 14 '23

Paper, Effect of light on

- Effect of sunlight on the vegetable paper sizes; abstracts. L. P. Zhrebhoff. Il Paper Tr J 76:50-2 Mr 15 '23; Paper 31:143-4+ Ap 18 '23

Paper, Government

- Open bids for government paper supply. Paper 31:11-16 F 7 '23
- Public printer advocates paper mill for government. Paper Tr J 76:28+ F 8 '23

- Paper, Photographic. See Photographic paper
- Paper, Waterproofing of. See Waterproofing of paper

Paper ash

- China clay in paper ash. Chem Age (Lond) 9:sup7 Ag 18 '23

Paper bags

- Business conditions in the bag industry. J. H. Stannard. Paper 29:21-2 N 9 '21
- Effect of hot cement on paper bags. W. Herzberg. Paper 32:11+ S 26 '23; Same. Concrete 23: suppl09 D '23

Paper board

- Container board. S. D. Wells. Paper 31:7-9 D 6 '22
- History of paper board. L. Holm. Paper 31 9-10 D 20 '22
- Paper board in America. C. W. Bell. Paper Tr J 74:65+ Ap 13 '22

See also Paper boxes; Paper containers; Pressboard

Manufacture

- Chemical control in the board mill. K. I. Herman. Paper Tr J 75:18-19 N 30 '22; Same abr. Chem Age 30:533-4 D '22
- Manufacture and coloring of box board. A. T. Brainerd. Am Dyestuff Rep 12:421-3 Je 4 '23
- Manufacture of fiber board. diag Paper 32:5-6 Ag 22 '23
- Steam and power waste in boxboard making. M. G. Farrell. chart diag plan Paper Tr J 77:43-6 JI 19 '23
- Waterglass as additive for paperboard. Paper 31:7-9+ D 27 '22

Paper board—Continued**Testing**

Moisture influence on tests of container board. S. D. Wells. Paper Tr J 75:47-9 D 7 '22

Simple and practical method for measuring water-resistance of fiber board and wrapping papers. E. O. Reed. Paper Tr J 74:43-4 Ja 19 '22

Paper board, Corrugated

Growth of the corrugated fibre container. H. H. Squire. Ind Management 66:43-5 Jl '23

Paper box industry

Sales suggestions for paper box manufacturers. R. F. Salade. 149p Shears pub. co., Lafayette, Ind. '22

See also Paper containers

Paper boxes

Fibre boxes in clean food packing. G. R. Browder. Paper 32:18-20 My 9 '23

Solid fiber and plywood boxes, for boots and shoes. Paper Tr J 76:48-9 Mr 15 '23

Manufacture

Cardboard box-making machinery. il diags Engineering 114:517-20, 542-3, 578-9, 609-10, 640-1, 670-1, 698-9, 760-2 O 27-D 8, 22 '22

Description of a department for making rough boxes. H. V. S. Tingley. il plan Ind Management (Lond) 8:278-81 N 16 '22

Les machines pour la fabrication des boîtes en carton. P. Boudreaux. il diags Génie Civil 82:317-22, 346-50 Ap 7-14 '23

Paper box making in the rubber industry. il India Rubber W 67:210-12 Ja '23

Slitting and roll-winding machine. il Paper 30:12 Ap 26 '22

Paper coating

Drying and conditioning of coated and other papers. J. O. Ross. Paper Tr J 76:171-4 Ap 12 '23; Same. Paper 31:104-9 Ap 18 '23; Same. Tech Assn Pa ser 6:30-3 Je '23

Raw stock or paper for coating. N. Clark. Paper Tr J 76:170-1 Ap 12 '23; Same. Paper 31:61-2 Ap 18 '23; Same. Tech Assn Pa ser 6:29-30 Je '23

Paper coloring. See Dyes and dyeing—Paper**Paper containers**

Manufacture of paper containers. P. E. Verstone. 223p Verstone & co., London '22

See also Paper bags; Paper boxes

Paper cutters**Safety devices**

Safety device for paper cutter. C. D. Corwin. il Am Mach 56:823-4 Je 1 '22

Paper drying

Admission of steam to dryers. Paper 30:124-5 Ap 19 '22

Drying and conditioning of coated and other papers. J. O. Ross. Paper Tr J 76:171-4 Ap 12 '23; Same. Paper 31:104-9 Ap 18 '23; Same. Tech Assn Pa ser 6:30-3 Je '23

Drying of paper. Paper Tr J 74:46 Je 22 '22

Drying of paper. M. B. Littlefield. Paper Tr J 74:239+ Ap 13 '22; Same. Tech Assn Pa ser 5:30-4 Je '22; Same abr. Paper 30:48-50+ Ap 19 '22

Drying problems in paper mills. Paper 29:13 F 22 '22

Drying pulp and paper. Paper Tr J 74:45-6 Mr 16 '22

Fulton system for drying of paper. W. B. Fulton. il Tech Assn Pa ser 4:34-6 Je '21

Milkey's dryer for paper. diags Paper 29:15-17 N 23 '21

Money from steam. R. L. Weldon. Paper Tr J 74:43-7 F 9 '22

Original dryer applied to wall-paper and coated paper. J. D. Stein. il Paper Tr J 75:64-5 S 14 '22

Paper drying at the T.A.P.P.I. fall convention in Detroit. Paper Tr J 75:45-6 D 28 '22

Report, discussion and cost figures on the efficiency of electric paper drying machine. J. E. Alexander. Paper Tr J 77:43-6 S 20 '23

Report on drying of paper. S. B. Jones and W. F. Goldsmith. diags Paper Tr J 77:49-55 Jl 5 '23; Same. Tech Assn Pa ser 6:107-13 Je '23

Sectional meeting of Technical association on drying of paper. Tech Assn Pa ser 5:146-51 Je '22

Steam economy in drying and driving: economical operation of steam prime movers; with discussion. R. W. Leeper. Tech Assn Pa ser 4:8-12 Je '21

Steam per ton for drying paper. B. T. McBain. Paper Tr J 76:26 F 15 '23

Steam utilization in a modern newsprint mill. S. W. Slater and J. E. A. Warner. Mech Eng 44:587-92 S '22; Same. Paper Tr J 75:55-7 S 28 '22; Same cond. Am Soc Heat & V E J 28:741-8 O '22

Superiority of loft-dried papers. E. A. Borden. Inland Ptr 69:848 S '22

Cost

Figures on the cost of paper drying. J. E. Alexander. Paper Tr J 77:47-8 Jl 26 '23; Discussion. 77:43-5 Ag 23 '23

Paper finishing

Surface treated papers. I. Ginsberg. Paper Tr J 75:45-8 Ag 24 '22

See also Paper coating

Paper folding machines. See Folding machines

Paper handling

Conveying at the works of the British tabulating machine co., ltd., Letchworth. G. F. Zimmer. il diags Ind Management (Lond) 9:339-40 My 31 '23

Paper industries exchange

Establishment of Paper industries exchange in Chicago. Comm & Fin Chr 117:1086-7 S 8 '23

Paper industries exchange. J. R. Mauff. Paper 32:13+ S 12 '23; Same. Paper Tr J 77:34 S 6 '23

Paper industries exchange in New York. A. J. Neuman. Comm & Fin Chr 117:1831 O 27 '23

What paper industries exchange stands for. J. R. Mauff. Paper 32:15 S 26 '23; Same. Paper Tr J 77:38 O 11 '23

Paper industry and trade

Better salesmanship. (Special rep. no. 4) 54p Salesmen's assn. of the paper industry, New York '22

Book of samples of papers manufactured to print properly all kinds of illustrations. 635p Champion coated paper co., New York '22

Coöperation that printers need from paper manufacturers, ink manufacturers, photo-engravers, and electrotypers. R. F. Salade. Ptg Art 38:137-8 O '21

Foreign competition in newsprint paper. R. S. Kellogg. Paper 29:12-15 D 14 '21

National paper trade association meets. Paper Tr J 75:38+ O 26 '22

Paper at its lowest level. R. P. Andrews. Paper 29:9-11 F 22 '22

Paper brands—who shall own them? P. Butler. Inland Ptr 71:211-13 My '23

Paper industry as seen by the printer. T. E. Donnelley. Inland Ptr 68:484-6 Ja '22

Production costs must be reduced. Paper 31:7-8 F 14 '23

Sales methods in the paper industry. H. R. Wellman. Paper 30:7-10 My 3 '22

See also Paper—Price listing; Paper—Prices; Paper industries exchange; Wrapping paper

Accounting

Budget cost system for paper mills. 48p Cost assn. of the paper industry, New York '21

See also Cost association of the paper industry

Exhibitions

Exhibits at paper industries exposition, New York, April 9-14. Paper 31:13-16 Ap 4 '23

Paper exposition is big success. A. S. Brown and H. J. Laughton. il Paper Tr J 76:253+ Ap 12 '23

Paper trade journal's guide to the first annual paper industries exhibition, New York city, April 9-14. Paper Tr J 76:36-42+ Ap 5 '23

Paper industry and trade—Continued**Statistics**

Paper and paper stocks imports and exports of the United States. See weekly numbers of Paper trade journal

Record breaking year in news print. R. S. Kellogg. Paper Tr J 76:73-5 Ap 12 '23
Statistical study of the pulp and paper industry. Chem & Met Eng 26:473-4 Mr 8 '22

Statistical summary of the paper industry for January, 1923. Paper 31:16-18 Mr 21 '23
World's paper production and making cost. A. S. M. Klein. Paper 31:14-15 F 28 '23
World's production of pulp and paper. Paper 30:11+ Mr 22 '22

Argentina

Papermaking in Argentina. Paper 29:11+ Mr 1 '22

Brazil

Brazilian market for paper and paper products. U S Bur For & Dom Com Trade Information Bul 127:1-14 '23

Brazilian trade in paper. Paper 29:30 D 14 '21

British Columbia

Important paper projects made for British Columbia. T. D. Pattulo. Paper Tr J 77:30 Jl 5 '23

Canada

Canada's proposal to embargo exports of pulp wood. Comm & Fin Chr 117:281-2 Jl 21 '23
Canada's pulp and paper industry the result of cheap water power. Power 56:34 Jl 4 '22

Canadian newsprint output in half-year. Comm & Fin Chr 117:605 Ag 11 '23

Canadian paper development. W. G. Cates. Paper 31:117-18 Ap 18 '23

Canadian paper trade association 5th annual convention in Toronto. Paper Tr J 75:28+ N 2 '22

Pulp and paper industry of Canada highly electrified. Elec W 80:714 S 30 '22

Record breaking year in news print in Canada. C. L. Sibley. Paper Tr J 76:87-8 Ap 12 '23

Relation of water power to the pulp and paper industry in Canada. J. B. Challies and I. J. Johnston. map Am Soc C E Pro 48: 1403-7 Ag '22

Water power in the Canadian pulp and paper industry. Engineer 134:15 Jl 7 '22

See also Canadian pulp and paper association

China

Native paper industry of western China. H. K. Richardson. il diags Chem & Met Eng 27:254-7 Ag 9 '22; Same abr. Paper 30:9-10+ Ag 16 '22

Finland

Finland's exports of paper and pulp. Paper 30:14 Mr 22 '22

Finland's paper and pulp industries. L. A. Davis. U S Bur For & Dom Com Trade Information Bul 33:1-12 '22

Finnish paper and cellulose industry expand. P. Nyström. Paper Tr J 76:101-2 Ap 12 '23
Pulp and paper manufacture in Finland. G. R. Snellman. Paper 30:11-12 Ap 26 '22

France

French paper industry handicapped. Paper Tr J 76:30+ My 3 '23

Germany

Cheap money disturbs German paper industry. S. Ferenczi. Paper Tr J 76:103-4 Ap 12 '23

Condition of the German paper industry. Chem & Met Eng 27:841 O 25 '22

German paper industry. Paper 32:8+ S 5 '23
Germany's position in world paper trade. Paper 30:14-15+ Mr 15 '22

Great Britain

British paper trade recovers late in 1922. W. Badminton. Paper Tr J 76:92-3 Ap 12 '23

Japan

Paper production reaches peak in Japan in 1922. Paper Tr J 76:96-7 Ap 12 '23
Past and present of paper making in Japan. Paper Tr J 74:159+ Ap 13 '22

Newfoundland

Newfoundland's paper industry in 1921. P. T. McGrath. Paper Tr J 74:139+ Ap 13 '22

Ontario

Paper industry in Ontario is expanding. G. W. Brock. il Paper Tr J 76:89-91 Ap 12 '23

Philadelphia

New homes for Philadelphia paper firms. Paper Tr J 76:105-10 Ap 12 '23

Russia

Russian paper industry emerging from chaos. Paper Tr J 76:98 Ap 12 '23

Scandinavia

Scandinavian competition. H. P. Baker. Paper Tr J 75:26-9 O 26 '22; Same. Paper 31:22+ N 8 '22

Sweden

Notes on the Swedish paper industry. Chem & Met Eng 27:979 N 15 '22
Strike depresses Swedish wood pulp industry. Paper Tr J 76:94-5 Ap 12 '23

United States

Business conditions in the paper industry analyzed by manufacturers and consumers. Paper 29:7-8+ N 9 '21

Conditions in the fine paper industry. N. A. Wilson. Paper 29:16-20 N 9 '21

File paper brief with Senate committee. Paper Tr J 73:16-20 D 22 '21

Half century of paper making in the U.S. A. L. H. Weeks. Paper Tr J 74:15+ Ap 13 '22

Manufacture of paper and wood pulp in U.S., 1921. Paper Tr J 76:115-16 Ap 12 '23

Newsprint paper review for December and the year 1922. Comm & Fin Chr 116:354-5 Ja 27 '23

Newsprint production; monthly statistics published in Paper

Paper and board mills of eastern United States and Canada; shipping locations and daily production capacity. Paper Tr J 74: 18-19 My 25 '22

Paper and paper stocks imports and exports of the United States. See weekly numbers of Paper trade journal

Paper and pulp production in U.S. 1919. Paper Tr J 74:79+ Ap 13 '22

Paper industry reports year of progress. Ptr Ink 119:10+ Ap 20 '22

Paper industry returns to normal. H. F. Lee. Paper Tr J 76:69-72 Ap 12 '23

Paper stocks in Wall Street. Paper 30:14+ Ag 16; 16 Ag 23 '22

Production of paper and pulp for 1922. Paper Tr J 76:16-18+ F 22 '23; Same. Paper 31:9-16 Mr 7 '23

Productions, etc., of paper and pulp for 1921. Paper Tr J 74:16-21 F 23 '22

Recovery from depression in fine papers. G. A. Galliver. Paper Tr J 76:76-8 Ap 12 '23

Volume of paper made in United States; statistical summary of the paper industry for January, 1922. Paper 29:15-17 Mr 1 '22 [published monthly]

Wrapping paper and business conditions. G. W. Sisson, jr. Paper 29:9-16 N 9 '21

See also National paper trade association

Paper making

Application of the Cottrell electrical precipitation process to the pulp and paper industry. P. E. Landolt and N. W. Sultz. Paper Tr J 77:48-9 S 20 '23; Same. Oil Paint & Drug Rep 104:xi+ sec 2 S 24 '23; Same. Paper 32: 7-8+ S 26 '23

Automatic cooking control for chemical pulp. C. H. Allen. Tech Assn Pa ser 3:19-21 D '20

Breaking of the paper web in the paper making machine. E. Arnould. Paper 31:7-8+ Ja 3 '23

Paper making—Continued

Causes of variation in weight of paper. G. M. Johansson. diags Paper 31:11-12+ Mr 14 '23

Chemical engineering in the production of book paper. H. J. Payne. il diag plan Chem & Met Eng 29:831-7 N 5 '23

Chlorine in paper making. I. Ginsberg. Chem Age 30:487-8 N '22; Same. Paper 31:10-11 D 13 '22

Continuous digestion of paper pulp. R. Four-nier. diag Paper 32:5-6+ My 23 '23

Cooking of rags. H. Grimm. Paper Tr J 73: 32+ O 20; 44-6 D 15 '21; 74:50-1 Ja 19; 50-2 F 23 '22

De Vains process in papermaking. J. F. Clerc. Paper 32:7-8+ Je 13 '23

Developments in pulp and paper manufacture. W. G. MacNaughton. Paper Tr J 77: 27-32 O 18 '23

Developments in the pulp and paper industry. W. G. MacNaughton. Paper Tr J 76:49-53 Mr 22 '23

Digestion of typha domingensis. E. Heuser and J. Haugerod. il Paper Tr J 75:32+ Jl 6 '22

Dry blisters in papers from hard stuff. Paper 31:7-8+ Mr 28 '23

Enigmas of papermaking. F. J. T. Heckford. Paper 29:19-21 N 16 '21

Froth trouble in paper mills. R. B. Best. Paper Tr J 76:75 Ap 5 '23; Same. Paper 32: 9+ Ap 25 '23

Handling of old paper stock. E. G. Milham. Paper 30:7-10 Je 14 '22; Same. Paper Tr J 74:36-8 Je 8 '22

How to improve paper and pulp production. Chem & Met Eng 28:1033-4 Je 11 '23

Japanese handmade paper; description of its manufacture from the paper mulberry. C. Groud. Paper 29:16-17 N 16 '21

Key industry of the South; utilizing wood waste from turpentine production and converting it into kraft paper. H. W. Holcombe. Paper 32:13-14 Je 27 '23

Kraft paper and its strength. C. G. Schwalbe. Paper 32:5-6 Ag 8 '23

Kraft pulp and kraft paper. A. S. M. Klein. chart Paper 29:9-12 N 30 '21

Lignin sulphonic acids. R. H. McKee and G. Barsky. Paper Tr J 74:46-8 My 18 '22

Making fat-impervious papers. Paper 32:7-8 Jl 18 '23

Making new paper from old paper stock. S. D. Wells. Paper 30:7-10 Je 7 '22; Same. Paper Tr J 74:47-50 Je 22 '22

Making pulp from Florida's saw grass. J. F. Hobart. Paper Tr J 76:113-15 Ap 12 '23

Manufacture of paper from bamboo. Paper 32:9-10 S 12 '23

Manufacture of pulp and paper. v.3. 691p McGraw-Hill '22

Modern practice in manufacture and applications of steamed ground wood. A. O. Bragg. il diags plan Chem & Met Eng 27:793-7, 842-6 O 18-25 '22

Nouveau procédé de fabrication de la cellulose et de blanchiment des pâtes de succédanés par le chlore. de Perdiguer. il Chimie & Ind 7:238-43 F '22

Paper. J. Huebner. Soc Chem Ind J (Chem & Ind) 42:227-8 Mr 9 '23

Paper from Florida saw grass. il Chem Age 31:426 S '23

Paper industry: problems and recent developments. B. Johnsen. Ind & Eng Chem 15:891-3 S '23; Same. Paper Tr J 77:47-9 S 13 '23

Paper making and paper making machinery. E. Sheldon. il Am Mach 56:317-19 Mr 2 '22

Paper making tests with rice straw. L. Vidal and P. Aribert. Paper Tr J 77:49-50 Jl 19 '23

Paper of the future. S. G. Roberts. il Sci Am 129:82-3 Ag '23

Paper pulp recovery. L. M. Booth. diags Paper Tr J 76:54-5 F 22 '23

Pitch troubles in newspaper paper mills. F. Barnes. Chem & Met Eng 28:503-6 Mr 14 '23

Progress in paper industry. Paper 32:11-12 S 19 '23

Properties of wood in paper making. B. Johnsen and H. N. Lee. bibliog Paper Tr J 76: 53-6 F 1 '23; Same. without bibliog. Chem & Met Eng 28:257-60 F 7 '23

Pulp screening—solids from solids separation in solution. R. B. Wolf. Chem & Met Eng 29:450-1 S 10 '23; Abstract. Paper 32:10+ S 19 '23

Pulping by fractional boiling. J. E. Aitken. Paper 29:17-19+ N 2 '21

Recent advances in pulp and paper. C. J. West. J Ind & Eng Chem 14:858-60 S '22

Recent developments in paper-making. T. D. Nuttall. Paper Tr J 76:45-8 Ja 11 '23

Rubber latex in paper; effect of adding rubber latex to the beater in the experimental manufacture of book and wrapping papers. M. B. Shaw. Paper Tr J 75:53-5 D 28 '22

Rubber latex paper. F. Kaye. India Rubber W 67:73-4 N '22

Rubber paper and its production. F. Kaye. India Rubber W 66:606-7 Je '22

Seed flax straw as papermaking material. E. H. Kellogg, M. B. Shaw and G. W. Bickling. bibliog Paper Tr J 77:43-9 Ag 2 '23

Sidelights on paper manufacture. F. J. T. Heckford. Paper 29:9-12 Ja 18 '22

Standardization of product and process needed in pulp and paper industry. Chem & Met Eng 27:461 Ag 30 '22

Steffen straw cook. T. E. Blasweiler. Paper 31:9 N 22 '22

Sulphur in the paper industry. R. F. Bacon. Paper Tr J 77:55 S 27 '23; Same. Oil Paint & Drug Rep 104:xv sec 2 S 24 '23

Surface treated papers. I. Ginsberg. Paper Tr J 75:45-8 Ag 24 '22

Testing and control process in paper making. M. A. Krimmel. Paper Tr J 76:57-9+ My 3 '23

Theoretic discussion of the reactions of paper making. J. E. Minor. Paper Tr J 76:55-9 Je 7 '23; Same. Tech Assn Pa ser 6:93-7 Je '23

Use of bamboo in paper manufacture. Paper Tr J 74:32 My 18 '22

Use of corn starch in paper making. H. Wrede. Paper 31:11-14 Ja 10 '23

Uses of the microscope in paper mills. J. Strachan. Paper 31:7-10 N 8 '22; 7-10 Ja 17 '23

Water used in papermaking. A. S. M. Klein. Paper 29:12-13 N 16 '21

See also Blotting paper; Digesters; Dyes and dyeing—Paper; Felts (paper making); Marbling; Paper board; Paper coating; Paper drying; Paper finishing; Paper making machinery; Paper making materials; Paper mills; Paper research; Paper rolls; Paper sizes; Paper sizing; Paper textiles; Parchment paper; Sulfite liquor; Watermarks; Wood pulp

Beating

Action of the beater in papermaking. S. Smith. Paper Tr J 75:47-8 D 28 '22; 76:49-52. Discussion. 52-3 Ja 4 '23

Apparatus for control of beating. F. E. Williams. Paper 30:10-11 Jl 12 '22

Beater design on the fibrage theory. S. Smith. diags Paper 32:5-8+ My 9; 5-10 My 16 '23

Beater in Great Britain from the engineering point of view. T. D. Nuttall. Paper Tr J 74:48-9 F 9 '22

Beater rolls and hydration problems. G. L. Bidwell. Paper 30:53-4+ Ap 19 '22; Same. Paper Tr J 74:191+ Ap 13 '22; Same. Tech Assn Pa ser 5:7-8 Je '22

Beating and beating engines. C. W. Shartle. Paper Tr J 75:20+ N 30 '22

Beating and its history. W. B. Campbell. Paper Tr J 75:49-50 D 28 '22

Beating of paper pulp. W. Alison. Paper Tr J 74:55-7 My 11 '22

Calculating the power consumption of beaters. F. M. Bouvier. Paper Tr J 74:45-7 Mr 30 '22

Degree of swelling and of beating; abstracts. C. G. Schwalbe. Paper 31:7-10+ Mr 14 '23; Paper Tr J 76:47-8 Je 14 '23

Is beating really understood? Paper 30:7-10 Jl 26 '22

Measuring beating degree of pulp. Paper 30:11 Ag 30 '22

Measuring fiber length in beaters. S. Smith. Paper 32:5-6+ Jl 25 '23

New beater an improvement in general design. diags Paper 32:7+ Ag 22 '23

Paper making—Beating—Continued

- New beating hollander. diags Paper 31:13 Mr 14 '23
 New theory of beating. S. Smith. Paper 31:17-18 Ja 3 '23
 Practical notes on hollander operation. Paper 31:7-10 Mr 21 '23
 Sigurd Smith beating engine patent. diags Paper Tr J 77:47-8 S 6 '23
 Three roll beater; patent. diags Paper Tr J 75:49 D 7 '22
 Two-roll beater; patent. diags Paper Tr J 75:30 D 21 '22

Bibliography

- Bibliography of papermaking for 1921. C. J. West. Paper Tr J 74:51-4 Ap 20; 53-6+ Ap 27; 60+ My 4; 60+ My 11; 51-3+ My 18 '22; Same. Tech Assn Pa ser 5:96-114 Je '22
 Bibliography of papermaking for 1922. C. J. West and A. Papineau-Couture. Paper Tr J 76:49-52 Ap 19; 53-6 Ap 26; 53-6 My 3; 52-6 My 10; 48-50 My 17; 55-8 My 31; 62-4 Je 7; 54-6 Je 21; 48 Je 28 '23; Same. Tech Assn Pa ser 6:119-48 Je '23
 Contributions of the committee on abstracts and bibliography. C. J. West. Paper Tr J 76:215+ Ap 12 '23; Same. Tech Assn Pa ser 6:57-8 Je '23
 Current paper trade literature. Published monthly in Paper trade journal
 Forest products laboratory program and publications. Paper Tr J 77:45-9 Ag 30 '23
 List of bibliographies. Tech Assn Pa ser 4:82-3 Je '21
 New Swedish and German books on pulp and paper. A. S. M. Klein. Paper Tr J 77:50-1 Ag 2 '23
 Paper research literature, revised. Paper Tr J 77:46-50 Ag 16 '23

Bleaching

- Advantages of bleaching pulp at high density. R. B. Wolf. Paper Tr J 74:24+ Je 1 '22
 Bleached groundwood. A. O. Bragg. Paper 30:7-10 Ap 26 '22
 Bleaching of ligno-cellulose. C. G. Schwalbe and H. Wenzyl. Paper 31:9-13+ F 14; 32:9-10+ Je 27; 5-6+ JI 4; 3-6+ S 26 '23
 Bleaching pulp at high consistency. R. A. Hayward. Paper Tr J 76:221 Ap 12 '23
 Determination of the bleach requirement of pulp. B. Johnsen and J. L. Parsons. Paper Tr J 76:49-51 Mr 29 '23
 Determination of the bromine figure or chlorine factor of pulp, and the utilization of these quantities in bleaching. A. Tingle. J Ind & Eng Chem 14:40-2 Ja '22; Same. Paper 29:7-10 Ja 4 '22
 Effect of variables on bleaching efficiency. G. K. Spence. Paper 28:148+ Ap 20 '21; Same. Tech Assn Pa ser 4:39-40 Je '21
 Investigation of the hypobromite method for determining bleach requirement of pulps. T. M. Andrews and M. W. Bray. Ind & Eng Chem 15:934-7 S '23; Same. Paper Tr J 77:47-50 S 27 '23
 Preparation of bleaching liquors. J. H. MacMahon. Paper 32:7-8+ O 3 '23
 Producing bleach liquor with liquid chlorine in the pulp or paper mill. S. W. Jacobs and H. P. Wells. il diags Paper Tr J 74:41-7 Ap 20 '22; Same. Tech Assn Pa ser 5:86-91; Discussion. 153 Je '22
 Reduction of bleach cost by chemical control. G. M. Trostel. Paper Tr J 76:52 Ap 26 '23; Same. Tech Assn Pa ser 6:80; Discussion. 176-7 Je '23
 Relative stability of paper colors to bleach. W. C. Holmes. Color Tr J 11:255-6 D '22
 Use of liquid chlorine in bleaching. Tech Assn Pa ser 4:103-5 Je '21
 Use of sulphur in cooking soda pulp; an account of its effect on bleach consumption. G. K. Spence. Tech Assn Pa ser 3:14-16 D '20

By-products

- Rinman process for liquors. E. Heuser. Paper 32:3-6 O 3 '23
 Utilization of lime sludge. C. Moe. il Paper 29:11-12 N 23 '21
See also Sulfate liquor

Costs

- Canadian & United States' costs compared. C. Southworth. Paper 31:12-16 D 13 '22
 Cost keeping methods that show broke losses in supercalendering, rewinding and cutting of book paper. chart Paper Tr J 75:47-8 O 5 '22
 Practical considerations in paper costs. J. R. Loomis. Paper 29:20-3 D 7 '21
 Relation of costs and industrial engineering in paper manufacture. S. E. Thompson. Paper Tr J 75:49-52 D 14 '22
 Standard basis for cost estimates. J. A. Reilly. Paper Tr J 75:20-2+ N 16 '22
 Steam costs. H. S. Childs. Paper Tr J 76:55-7 Mr 29; 52-4 My 17; 57-62 Je 14 '23
 World's paper production and making cost. A. S. M. Klein. Paper 31:14-15 F 28 '23

Examinations

- Examination questionnaire on paper making of the city and guilds of London institute. Paper Tr J 77:55 S 13 '23

Fillers

- China clay and its retention properties as a loader and filler for paper. Chem Age (Lond) 8:sup9-10 My 19 '23
 China clay as coater and filler. Paper 29:10-11 F 8 '22
 Georgia clays for paper fillers. W. M. Weigler. Paper Tr J 77:51-4 Ag 9 '23
 Use of fillers in paper making. Raymond and Bonnet. Paper 32:5-8+ S 19 '23; Same cond. Chem Age (Lond) 9:sup17-18 O 20 '23

History

- Development of the sulphite process. O. L. Berger. Paper Tr J 74:49+ Ap 13 '22
 Half century of paper making in the U.S.A. L. H. Weeks. Paper Tr J 74:15+ Ap 13 '22
 History of the manufacture of soda pulp. M. L. Griffin. Paper Tr J 74:55+ Ap 13 '22
 Laid and wove; origin of the terms described and their early use interestingly set forth. D. Hunter. il Paper 29:12-14+ D 14 '21
 Romances of industry—paper. W. J. Raybold. il Am Ind 23:29-32+ Ja '23

Hydration

- Chemical hydration of pulp. A. Mac Kay. Paper 29:7-10 D 21 '21
 Degree of swelling and of beating; abstracts. C. G. Schwalbe. Paper 31:7-10+ Mr 14 '23; Paper Tr J 76:47-8 Je 14 '23
See also Paper making—Beating

Patents

- Arkell patents on manufacture of crinkled paper held void for lack of invention. Chem & Met Eng 26:1037 My 31 '22
 Improved sulphite pulp process. Chem & Met Eng 27:1137 D 6 '22
 Keebra process for the production of chemical pulp. Paper Tr J 77:51 S 6 '23
See also Paper making—Beating; Paper making machinery—Patents

Soda process

- Causticizing in the presence of silicate. R. H. McKee and T. H. Chilton. Paper 30:9-10 Ag 2 '22
 Causticizing system in the soda mill. J. E. Mount. Paper Tr J 75:61-3 O 26 '22
 Conference of soda pulp group. Tech Assn Pa ser 4:112-14 Je '21
 Continuous causticization for pulp mills with provision for the uninterrupted recovery and re-use of the lime sludge. W. D. Mount. Paper Tr J 75:44 S 14 '22
 Continuous recovery of lime sludges from causticizing operations. il diags plans Paper Tr J 77:52-6 N 1 '23
 Recovery and its control. G. K. Spence. Tech Assn Pa ser 5:39-40 Je '22; Same. Paper 30:93-4 Ap 19 '22; Same. Paper Tr J 74:257+ Ap 13 '22
 Some causes for the deterioration of the color of soda pulp upon ageing. C. S. Hamm. Paper Tr J 76:47-8 Ap 19 '23; Same. Tech Assn Pa ser 6:40-1 Je '23

Paper making—Soda process—Continued

Some factors influencing the yield and strength of pulp cooked by the soda process. M. L. Griffin. Tech Assn Pa ser 5:16-17 Je '22; Same. Paper 30:57-8 Ap 19 '22; Same. Paper Tr J 74:211+ Ap 13 '22; Discussion. Tech Assn Pa ser 5:130-2 Je '22

Strength testing of soda pulp. R. Mair and G. N. Collins. Tech Assn Pa ser 4:6-7+ Je '21

Uses of lime in pulp manufacture. G. K. Spence. Paper 30:7-9 Jl 12 '22

Standards

See also Felts (paper making)—Standards

Study and teaching

Attitude toward study of paper mill men. T. L. Crossley. il Oil Paint & Drug Rep 104: vii+ sec 2 S 24 '23; Same. Paper Tr J 77: 53-4 S 27 '23

Discussion of vocational education at T.A.P. P.I. fall meeting. Paper Tr J 75:45-8 N 2 '22

Training technical paper men; course based on professional forestry offered by New York state college of forestry. C. E. Libby. il Paper 32:7-8+ Ag 8 '23; Same. Paper Tr J 77:49-52 Jl 26 '23

Vocational education in pulp and paper manufacturing. Paper Tr J 75:41-2 Ag 24 '22

Sulfate process

Alkali recovery in the sulphate process. C. K. Textor. Paper 29:17-19 Ja 18; 7-9 F 1 '22; Same. Paper Tr J 74:50-2 F 16 '22

Operating control in pulp making. R. Sieber. Paper 32:11-14 Ap 25 '23

Removal of the odors in sulphate pulp mills. C. G. Schwalbe. Paper Tr J 75:51-2 N 23 '22

Report of the sulphate pulp committee of T.A.P.P.I. C. Moe. Tech Assn Pa ser 3: 12-13 D '20

Rinman modification of sulphate process. B. N. Segerfelt. Tech Assn Pa ser 4:42-3 Je '21

Sulphur in the sulphate process. S. D. Wells. Paper 32:5-8 Je 27 '23

Sulfite process

Chemistry of the sulphite process. R. N. Miller and W. H. Swanson. Paper Tr J 76:49-51 Mr 1; 51-4 Mr 8; 77:51-2 O 11 '23; Same (pts. 1 & 2). Tech Assn Pa ser 6:73-80 Je '23

Chemistry of the sulphite process. R. N. Miller and W. H. Swanson. Paper 30:96-8+ Ap 19 '22; Same. Paper Tr J 74:295+ Ap 13 '22; Same. Tech Assn Pa ser 5:69-74 Je '22

Control in a Mitscherlich sulphite mill. V. P. Edwardes. Paper Tr J 76:47-8 My 31 '23; Same. Paper 32:10+ Je 6 '23

Cooking of sulphite pulp. M. L. Griffin. il Paper 32:7-8+ Jl 11 '23

Decker process for cooking sulphite pulp. O. L. Berger. Paper Tr J 77:47-8 O 11 '23

Decker process for sulphite pulp. C. S. V. Hawkins. Paper Tr J 77:51-2 S 27 '23

Digestion and yield of pulp. Paper 32:3-6+ O 18 '23

Group meeting on sulphite pulp manufacture. Tech Assn Pa ser 4:106-12 Je '21

Help of flowmeters in the sulphite cooking process. H. Lundberg. Paper Tr J 76:165-6 Ap 12 '23; Same. Tech Assn Pa ser 6:24-5 Je '23

Highly compressed sulphite cellulose. G. K. Bergman, E. Almqvist and K. E. Ekholm. Paper 31:9-12 Mr 28; 9-11 Ap 4 '23

Improved sulphite pulp process. Chem & Met Eng 27:1137 D 6 '22

Jack pine pulped by sulphite process. M. Neilson. Paper 29:7-10 F 15 '22; Same. Paper Tr J 74:45-7 F 16 '22

Lime requirements for sulphite process. Paper 30:114+ Ap 19 '22

Liquid sulphur dioxide process for sulphite pulp. R. H. McKee and D. E. Cable. diag Paper Tr J 77:101-4 O 18 '23

Mitscherlich pulp. A. S. M. Klein. diag Paper Tr J 76:41-5 My 17 '23

Mitscherlich sulphite pulp. J. E. Daley. Paper 31:7-8 N 29 '22

Proposed modification of the sulphite process. V. P. Edwardes. Tech Assn Pa ser 4:22-9 Je '21

Recommended specifications for limestone and lime in the manufacture of sulphite pulp. Paper Tr J 74:271+ Ap 13 '22; Same. U S Bur Stand Circ 144:1-7 '23; Same. Tech Assn Pa ser 5:46-8 Je '22

Recording and integrating steam flowmeters in a sulphite mill. W. H. Kraske. charts Paper Tr J 76:162-5 Ap 12 '23; Same. Tech Assn Pa ser 6:21-4 Je '23; Same, without charts. Paper 31:51-2+ Ap 13 '23; Discussion. Tech Assn Pa ser 6:172-3 Je '23

Reddening of sulphite pulp. H. E. Walberg. Paper Tr J 76:53 F 8 '23

Reddening of sulphite pulps and its prevention. E. Heuser and S. Samuelsen. Paper Tr J 75:51-3 N 2 '22

Seasonal influence on sulphite cooking. W. S. Haley. Paper 31:9-11 N 29 '22

Steam used in digesting and drying sulphite pulp. H. Alfthan. Paper 29:14 F 1 '22

Sulphite mill control. O. L. Berger. Paper Tr J 76:36+ Je 7 '23

Sulphur in sulphite pulp manufacture. W. G. MacNaughton. Paper 32:5+ Ag 1 '23

Variables in the cooking of sulphite pulp. B. T. Larrabee. Paper 29:15-16 N 2 '21

Yield from sulphite digesters; method of partially steaming. A. Klein. Paper 32:5-6 Ag 29 '23

Tables, calculations, etc.

Some simple arithmetic for the pulp maker. B. T. McBain. Paper Tr J 74:51 My 4 '22

Textbooks

What is in the vocational text books. Paper 29:22-4 N 30 '21

Paper making machinery

Algonquin corp. starts big paper machine. il Paper Tr J 77:45-6 O 18 '23

Anti-friction bearings in the pulp and paper industry. G. H. Spencer. Paper Tr J 76: 181+ Ap 12 '23; Same. Tech Assn Pa ser 6:114-17 Je '23

Apparatus controlled by the Valley iron works co., of Appleton, Wis. il charts Paper 29:10-12 F 1 '22

Automatic pulp grinder regulator. C. E. Braun. il chart Paper Tr J 76:50-2 Ap 26 '23

Beater design on the fibrage theory. S. Smith. diag Paper 32:5-10 My 16 '23

Beating and beating engines. C. W. Shartle. Paper Tr J 75:20+ N 30 '22

Comparative tests of rotating stuff pumps. M. Scherrer. Paper 31:7-10 Ja 24 '23

Cylinder paper making machine. diag Paper Tr J 77:50-4 S 13 '23

Development of coating machines. W. H. Waldron. Paper 30:16-17 Ag 2 '22; Same. Paper Tr J 74:47 Je 8 '22

Development of paper making machine in 50 years. C. E. Kinne. Paper Tr J 74:41+ Ap 13 '22

Effects of the arrangement of the suction boxes on the life of Fourdrinier wires. E. Messmer. Paper Tr J 73:80+ N 10 '21

Efficiency of paper machine driers. J. E. Alexander. Paper Tr J 77:56 Jl 5 '23

Fireproof hood for paper machines. F. M. Williams. Tech Assn Pa ser 3:25 D '20

High speed papermaking machines. diag Paper 32:9+ S 26 '23

Hy-Vac sluice for use in connection with cylinder paper and cylinder board machines. diag Paper Tr J 75:55-7 O 5 '22

Kamyr pulp press machine. O. L. Berger. Paper 31:14-15 D 20 '22; Same. Paper Tr J 75:51-2 D 28 '22

Kenora plant and its big paper machine. diag plan Paper Tr J 77:34-5 O 18 '23

Largest Fourdrinier machine in U.S. il Paper 32:24-5 O 11 '23

Lubrication and its relation to paper making. A. A. Capelle. Paper Tr J 76:193+ Ap 12 '23; Same. Paper 31:122-6 Ap 18 '23

Paper making machinery—Continued

- Lubrication of paper machine bearings. V. G. Hazard. Paper 29:14-15 N 16 '21
- Machine for waste paper recovery. diags Paper 29:13-15 N 23 '21
- Modern paper plater drive. A. F. Paige. il Paper Tr J 77:56 JI 26 '23
- Modern washing system for waste paper recovery. A. J. Haug. diags Paper Tr J 75: 49-50 Ag 24 '22
- New idea in chip breaking. A. D. Wood. il Tech Assn Pa ser 5:95-6; Discussion. 134-6 Je '22
- New type of paper machine suction box. diags Paper Tr J 73:42+ N 17 '21
- Paper machine hood as an investment. H. S. Taylor and H. T. Baker. Paper 30:12-14 Ap 5 '22; Same. Paper Tr J 74:48-50 Mr 30 '22
- Paper making and paper making machinery. E. Sheldon. il Am Mach 56:317-19 Mr 2 '22
- Paper making wires. V. Douver. diags Paper Tr J 76:49-53 Ja 11; 45-8 Ja 18; 49-53 Ja 25 '23
- Pocket grinders and magazine grinders. J. J. Case. Paper 30:84-6+ Ap 19 '22; Same. Paper Tr J 74:261+ Ap 13 '22; Same. Tech Assn Pa ser 5:41-3 Je '22
- Practical notes on hollandier operation. Paper 31:7-10 Mr 21 '23
- Progress in development of coating machinery. W. H. Waldron. Paper Tr J 74:47 Je 8 '22
- Die rationelle theorie des ganzeuegholländers. S. Smith. 192p O. Elsner, Berlin '22
- Recent developments in papermaking. T. D. Nuttall. Paper 30:7-11+ Ap 12 '22; Discussion. 30:7-10 My 24 '22
- Recovering drying machine heat. K. L. Thunholm. Paper 32:7+ Ag 29 '23
- Suction rolls. H. Bing. Paper 32:10-11 Je 13 '23
- Testing wear of beater knives. diag Paper 32: 12 My 23 '23
- Use of continuous centrifugal in the soda pulp mill. J. R. Kessler and G. N. Collins. il diag Paper Tr J 74:44-5 Je 1 '22; Same. Tech Assn Pa ser 5:67-8; Discussion. 132-4 Je '22

See also Evaporators; Folding machines; Fourdrinier machine; Paper making—Beating

Manufacture

- Special tools for making paper-mill machinery. E. T. Spidy. il Am Mach 59:375-8 O 18 '23

Patents

- Bamboo pulping apparatus. diags Paper 29: 11-12 Ja 11 '22
- Billingham's paper stock machine. diag Paper 29:12-13 D 28 '21

Paper making materials

- Aging of rubber latex paper. M. B. Shaw and F. T. Carson. India Rubber W 68:561-2 Je '23; Same. Paper Tr J 76:47-9 Je 21 '23
- Elephant grass for paper stuff. Paper 31:22 Ja 17 '23
- Fiber and paper manufacture from reeds; abstract. Mech Eng 44:669 O '22
- Jack pine for newsprint paper. Paper 29:16-17 F 22 '22
- Latex-casein top sizing process. F. Kaye. India Rubber W 68:418 Ap '23
- New sources of paper fibers. Paper 29:20-3 D 14; 9 D 28 '21
- Paper from flax straw. Sci Am 129:364 N '23
- Paper makers' chemicals in readjustment period. G. A. Gardner. Paper Tr J 76:83-4 Ap 12 '23
- Possibilities of dwarf palm in papermaking. M. C. Everett. Paper 32:8+ S 12 '23
- Properties of wood in paper making. B. Johnsen and H. N. Lee. Paper 31:11-14 Ja 31 '23
- Recommended specification for limestone and quicklime for use in the manufacture of sulphite pulp. U S Bur Stand Circ 144:1-7 '23; Same. Paper Tr J 74:271+ Ap 13 '22; Same. Tech Assn Pa ser 5:46-8 Je '22
- Report of committee on beater furnish. H. F. Miller. Paper Tr J 74:48-50 Je 8 '22; Same. Paper 30:7-10 JI 19 '22

- Rubber as paper ingredient. F. Kaye. Paper 29:10 F 15 '22
- Rubber paper from fiber pulp and rubber; comments upon the Kaye patents and others. G. Heinsolm. India Rubber W 66: 795-6 S '22
- Silicate of soda in the paper mill. J. G. Vail. Paper Tr J 77:46-7 S 20 '23; Same. Oil Paint & Drug Rep 104:xv-xvi sec 2 S 24 '23; Same. Chem & Met Eng 29:621-2 O 1 '23; Same. Paper 32:7-8 O 11 '23
- Study of paper making materials. A. B. Green. Paper 31:97-8+ Ap 18 '23; Same. Tech Assn Pa ser 6:60-3; Discussion. 173-4 Je '23
- Sugar cane bagasse and rice straw as paper stock. H. Kumagawa and K. Shimomura. Paper 32:7-10 My 2 '23
- Top sizing paper with rubber latex and casein. India Rubber W 67:283-4 F '23
- Use of rubber in paper manufacture proves advantageous. Chem & Met Eng 26:345 F 22 '22
- Use of rubber latex in making paper. I. Ginsberg. Paper 31:7-8 Ap 4 '23
- Use of rubber latex in paper making; abstracts. F. Kaye. Paper Tr J 74:47-8 Ap 27 '22; Paper 30:29-30+ Ap 19 '22; Engineering 114:302 S 8 '22; India Rubber W 67:73-4 N '22
- See also Bamboo; Cellulose; Cotton linters; Henequen; Oat hulls; Paper making—Fillers; Paper sizing; Pine; Rags; Rice straw; Saw grass; Typha domingensis; Waste paper; Wood pulp; Wood waste

Analysis

- Analytical data for the paper industry. N. F. Becker. Paper 30:38+ Ap 19 '22; Same. Paper Tr J 74:307+ Ap 13 '22

Testing

- Analytical and testing methods. E. C. Tucker. Tech Assn Pa ser 4:52-6 Je '21; Abstract. Paper 29:18 N 16 '21
- Report of committee on standard methods of testing materials used in the pulp and paper industry. N. F. Becker. Tech Assn Pa ser 5:75-80 Je '22

Paper measurement

- New paper micrometer for measuring the thickness of a sheet of paper under various measured pressures. Paper 30:16-17 Ap 12 '22

Paper mills

- Chillicothe paper company ideally located. il Paper Tr J 77:18 O 18 '23
- Engineering as related to the pulp and paper industry. H. S. Taylor. Paper Tr J 73:54+ D 29 '21; Same. Paper 29:9-11 D 14 '21
- Hammond bag and paper co. starts new mill. il Paper Tr J 77:49-50 O 18 '23
- Hummel-Ross corp. completing fine new mill. il plan Paper Tr J 77:43-4 O 18 '23
- Kenora plant and its big paper machine. diag plan Paper Tr J 77:34-5 O 18 '23
- Nepco installs new improvements. Paper 33: 9+ N 1 '23
- Pacific coast affords ideal location for paper mill. V. D. Simons. il J Elec 47:421-2 D 1 '21
- St Lawrence paper mills at Three Rivers. il Paper Tr J 77:51-2 O 18 '23
- St Maurice lumber co. paper mill of the International paper company. R. H. Rogers and A. H. White. Paper Tr J 76:43-51 F 15 '23
- St Maurice lumber co.'s mill at Three Rivers. il plan Paper Tr J 77:40-2 O 18 '23
- Steam economy in paper and pulp mills. E. P. Gleason. charts Paper Tr J 76:199+ Ap 12 '23; Same. Tech Assn Pa ser 6:49-53 Je '23
- Steam utilization in a modern newsprint mill. S. W. Slater and J. E. A. Warner. Mech Eng 44:587-92 S '22; Same. Paper Tr J 75:54-9 S 28 '22; Same cond. Am Soc Heat & V E J 28:741-8 O '22; Abstract. Power 56:476 S 19 '22
- Traveling through the paper mills of Europe. H. N. Kiely. Inland Ptr 68:516-18 Ja '22

Paper mills—Continued

Using steam in modern paper mill. S. W. Slater and J. E. A. Warner. Paper 31:16 F 14 '23
Wasteless mill of Nekoosa-Edwards paper co. il plan Paper Tr J 77:36-9 O 18 '23

See also Paper making

Accidents

Paper and pulp plants better 1921 accident record. Nat Safety N 7:22 Ap '23

Accounting

Co-ordination of expense items in preparing departmental budget. J. A. Reilly. Paper Tr J 75:32+ N 23 '22
Cost accountants and superintendents. E. T. A. Coughlin. Paper 29:22-3 N 16 '21
Cost records prevent waste. J. H. Slater. Paper 30:14+ Je 7 '22
Cost system for one or two machine-mills. P. Koenig. Paper Tr J 74:64+ Je 8 '22
Costs and the paper industry. T. J. Burke. Paper Tr J 75:32+ N 16 '22
Depreciation rates in pulp and paper industry. E. S. Catlin. Paper Tr J 76:59-60 Mr 22 '23
Federal tax problems that particularly affect the paper industry. C. O. Wellington. Paper Tr J 77:53-6 Jl 19 '23
Main elements of paper mill costing. L. W. Farrow. Paper 29:24-8; Discussion. 28-30+ N 23 '21

Making best use of cost reports. G. A. Gal-liver. Paper 30:11-13 Je 7 '22; Same. Paper Tr J 74:54+ Je 8 '22

Paper industry and its cost problems. C. A. Jasperson. Paper Tr J 76:55-6 Je 28 '23

Power costs in paper mill accounting. B. C. Gause. Paper Tr J 73:24+ D 29 '21; Same abr. Paper 29:7-8 Mr 1 '22

Power plant cost accounting adaptable to different classes of paper and pulp mills. Paper Tr J 75:51-3 N 30 '23

Practical considerations in paper costs. J. R. Loomis. Paper 29:20-3 D 7 '21

Pulp and paper cost accountant—his past, present and future place in the industry. S. L. Bush. Paper Tr J 75:18-19 N 16 '22
Relation of costs and industrial engineering in paper manufacture. S. E. Thompson. Paper Tr J 75:49-52 D 14 '22

Vital elements of a cost system. W. G. Mac-Naughton. Paper 30:29-31 Je 7 '22; Same. Paper Tr J 74:87-9 Je 8 '22

Waste in the pulp and paper industry. B. T. McBain. Paper 32:9+ Je 6 '23

Wrapping conversion costs. Paper Tr J 76:59-61 My 24 '23

Electric equipment

Application of the electric motor to paper making. G. Fox. diags Power Pl Eng 26:1209-12 D 15 '22

Applying the electric motor to the pulp industry. G. Fox. flowsheet il Power Pl Eng 26:1153-6 D 1 '22

Economics of paper mill electrification. S. A. Staeger. Tech Assn Pa ser 4:30-4 Je '21

Electric drive for sectional paper machines. O. C. Cordes. il diags Elec J 20:236-41 Jl '23

Electrical development for the pulp and paper mill. R. W. Leeper. Paper Tr J 74:28+ Ap 20 '22

Electrical section drive in paper mills. S. A. Staeger. Paper Tr J 74:28-31 Je 8 '22; Same. Paper 30:9-11 Je 28; 9-10+ Jl 5 '22

Electricity masters paper making. R. H. Rogers. il plan Gen Elec R 26:250-7 My '23

Individual drive in paper mill effective. A. F. Paige. il Elec W 82:185 Jl 28 '23

Motor drive and control for beaters. O. C. Cordes. il Paper 32:10-11 Ag 22 '23; Same cond. Elec W 82:611-12 S 22 '23

New all-electric paper mill; St Maurice lumber company paper mill at Three Rivers, Canada. A. H. White and R. H. Rogers. il diags plan Elec W 81:494-510 Mr 3 '23

New electrical recording system as used in pulp and paper mills. L. G. Bean. il Paper Tr J 77:45-6 N 8 '23

Possibilities of electrification in the pulp and paper industry. H. W. Rogers. il N E L A Bul 10:333-6 Je '23

Regulator for motor-driven pulp grinders. W. H. Artz. il diag Paper 29:10-13 Ja 25 '22; Same. Chem & Met Eng 26:367-9 F 22 '22

Bibliography

Electricity in pulp and paper mills. C. J. West. Paper Tr J 76:50-3 F 22 '23

Employees

Methods of establishing wage rates and determining promotions. H. P. Carruth. Paper Tr J 76:49-58 My 24 '23; Same. Tech Assn Pa ser 6:81-90 Je '23

Equipment

Application of recording instruments to pulp and paper mills. L. G. Bean. il Paper Tr J 75:57-9 O 12 '22

Continuous drum filters in pulp and paper mills. H. A. Morrison. il Paper Tr J 75:52-3 S 14 '22

Handling materials in pulp and paper mills. il diags Paper Tr J 77:45-51 O 25 '23

Heat transfer and vapor economizer. J. L. Williamson. Paper 32:15-16 Je 13 '23

Locomotive cranes in paper mills. G. H. Olson. il Paper 32:11-12+ My 16 '23

Profit and loss meters for steam plants. S. H. Childs. Paper Tr J 76:57-62 Je 14 '23

Rotary filters for the washing of paper pulp and for filtering and washing caustic lime mud. G. D. Dickey. il Paper Tr J 75:60-2 S 14 '22

Saving \$21,000 a year with a special electric truck for handling paper rolls. il Ind Eng 81:64 Ja '23

Scott evaporator as used in the pulp mill. H. Austin. Paper Tr J 75:65-7 S 14 '22

Sulphate mill odors; details of an apparatus for their removal by oxidation and solution. G. F. Enderlein. diags Paper 29:9-10 N 23 '21

Trimbey and Tibbitts proportioning and metering system for paper stock. E. J. Trimbey. il diags Paper Tr J 75:60+ S 28 '22

Under-feed stoker in paper mill work. F. A. De Boos. il diags Paper Tr J 74:22-6 Je 8 '22

Wood tanks for the paper-making industry. L. E. Long. diag Chem & Met Eng 28:677 Ap 16 '23

See also Evaporators; Steam meters

Heating and ventilation

Briner economizer using only waste heat for ventilation of machine room. W. H. Howell, jr. Tech Assn Pa ser 4:40-2 Je '21

Have you too much ventilation? J. O. Ross. il Paper Tr J 74:47-9 Ja 12 '22

Heat economy in machine room ventilation. J. O. Ross. Paper Tr J 75:54-6 N 30 '22; Same. Paper 31:9-13 Ja 3 '23

Heat transference in the ventilation of machine rooms. J. O. Ross. Paper Tr J 76:167-9 Ap 12 '23; Same. Paper 31:69-72 Ap 18 '23; Same. Tech Assn Pa ser 6:26-8 Je '23

Moving air in paper mill work. Paper 30:7-11 Mr 29; 8-11 Ap 5; 128+ Ap 19 '22; Same. Paper Tr J 74:41-9 Mr 23 '22

Utilizing waste heat in the paper mill. J. O. Ross. Paper 30:7-9 Je 28 '22

Lighting

Economics of lighting in pulp and paper mills. J. H. Kurlander. Paper Tr J 75:20+ N 23 '22

Modern lighting for paper and pulp mills. J. H. Kurlander. il plans Paper Tr J 74:195+ Ap 13 '22; Same. Tech Assn Pa ser 5:9-16; Discussion. 129 Je '22

Management

Chemical control in the board mill. K. I. Herman. Paper Tr J 75:18-19 N 30 '22; Same abr. Chem Age 30:533-4 D '22

Engineer and operator as associates. W. J. Zimmerman. Paper 29:7-9 F 22 '22

Paper mills—Management—Continued

- Executive control over steam costs. S. H. Childs. Paper Tr J 76:55-7 Mr 29 '23
- Finding steam losses from steam costs. S. H. Childs. Paper Tr J 76:52-4+ My 17 '23
- How the superintendents are benefited by cost reports based on accurate manufacturing data. J. A. Reilly. Paper Tr J 74:39-41 Je 8 '22; Same. Paper 30:7-10 Je 21 '22
- Management engineering in the paper industry. R. B. Wolf. Mech Eng 45:295-6 My '23; Same. Paper 32:15-17+ My 9 '23
- Men in the mill. S. L. Bush. Paper Tr J 76:30+ Ja 4 '23
- Mill management problems. R. B. Wolf. Paper Tr J 75:26+ N 23 '22; Same. Paper 31:10-13 D 6 '22
- Necessity of chemical control. K. I. Herman. Paper 30:18+ Ag 2 '22
- L'organisation méthodique du travail dans la papeterie en Amérique. C. de Fréminville. Chimie & Ind 10:163-6 Jl '23
- Pulp and paper mill engineer as an organizer. J. A. Hedgcock. Paper Tr J 74:51-2+ Ja 5 '22
- Report of committee on beater furnish. H. F. Miller. Paper Tr J 76:77-9 Ap 5 '23
- System of records to maintain uniformity of basis weights of paper. P. K. Baird. Tech Assn Pa ser 5:4-7 Je '22; Same. Paper 30:32-4+ Ap 19 '22; Same. Paper Tr J 74:185+ Ap 13 '22

See also Paper mills—Waste

Power

- Burning of pulverized fuel in paper mill power plants. L. L. Hebbard. il diags Tech Assn Pa ser 4:13-20; Discussion. 20-1 Je '21
- Calculating the power consumption of beaters. F. M. Bouvier. Paper Tr J 74:45-7 Mr 30 '22
- Economizers, feed water heaters, superheaters and air preheaters for paper mill power plants. W. F. Schaphorst. il Paper Tr J 74:24+ Mr 9 '22
- Electricity in the paper mill. R. W. Leeper. Paper 30:24-6+ Ap 19 '22
- Hydroelectric development. W. L. Barrows. Paper 30:7-9 Mr 15 '22
- Large Canadian paper mill and its steam plant. il Engineer 136:206-7 Ag 24 '23
- Mill waterpower sources in Canada. il Paper 30:11-18 Ap 19 '22
- New boiler plant for paper mill; modern equipment in plant of Bogota paper and board co. A. McGregor. il Power Pl Eng 26:911-12 S 15 '22
- Paper mill power plant. H. S. Taylor. Paper 30:118 Ap 19 '22; Same. Paper Tr J 74:255+ Ap 13 '22
- Plant of the Waterway paper products co. il diag plans Power Pl Eng 26:985-9 O 15 '22
- Power as a by-product. W. B. Lewis. Paper Tr J 76:47-8 Mr 1 '23
- Power used in papermaking. A. G. Darling and H. W. Rogers. Paper 30:20-2+ Ap 19 '22; Same. Paper Tr J 74:179+ Ap 13 '22; Same. Tech Assn Pa ser 5:1-3; Discussion. 128 Je '22
- Relation of water power to the pulp and paper industry in Canada. J. B. Challies and I. J. Johnston. map Am Soc C E Pro 48:1403-7 Ag '22
- Selecting a boiler feed regulator for the paper mill power plant. W. F. Schaphorst. Paper Tr J 76:34+ Je 21 '23
- Selecting scale removers for paper mill power plants. W. F. Schaphorst. Paper Tr J 76:34+ Ja 25 '23
- Selecting steam boilers and water softeners for paper mill power plants. W. F. Schaphorst. il Paper Tr J 73:40+ D 1 '21
- Selection of soot removers for paper mill power plants. W. F. Schaphorst. il Paper Tr J 73:42+ D 8 '21
- Simplification of paper mill drive control. il diags Elec W 80:1032-6 N 11 '22
- Small plant equipped for extensive tests to check weekly performance. J. W. Geiger and H. L. Solberg. il Power 58:53-5 Jl 10 '23
- Steam and power waste in boxboard making. M. G. Farrell. chart diag plan Paper Tr J 77:43-6 Jl 19 '23

- Steam economy in drying and driving; economical operation of steam prime movers; with discussion. R. W. Leeper. Tech Assn Pa ser 4:8-12 Je '21
- Stokers, draft regulators, furnaces and ash handlers for paper mill power plants. W. F. Schaphorst. il Paper Tr J 74:24+ Je 15 '22
- Water power development; installation of International paper co. at Sherman Island. N.Y. il Paper 31:7-8+ Mr 7 '23

Safety devices and measures

- How to handle paper at the calendar rolls. il Safety Eng 43:239 Je '22
- Safety in the paper industry. H. P. Baker. Paper 32:10-11+ O 3 '23
- Safety in the wood room. F. A. Drumb. Paper Tr J 75:22+ Ag 31 '22; Same. Paper 30:7-11 Ag 30 '22

Waste

- Discussion on waste in the industry at fall meeting of T.A.I.P.I. Paper Tr J 75:47-50 N 9; 47-59 N 16; 49-50 N 23 '22
- Elimination of waste in paper making. B. T. McBain. Paper 31:7-9 F 28 '23
- First progress report T.A.P.I. committee on waste in the industry; white water losses and bark utilization. Paper Tr J 75:45-9 O 5 '22
- Heat losses in pulp and paper mills. il diags Paper Tr J 77:41-5 O 25 '23
- Losses in making soda fibre. E. Sutermeister. Paper 32:12-13 Je 13 '23
- Origin of waste in paper mills. Paper 31:7-9 N 15 '22
- Recovery and use of waste paper stuff. E. McGrath. diags Paper 31:11-13 F 28 '23
- Reduction of broke losses. Paper Tr J 76:159-61 Ap 12 '23; Same. Tech Assn Pa ser 6:13-20 Je '23
- Report of the committee on waste. Tech Assn Pa ser 6:1-3 Je '23; Same. Paper Tr J 76:141-3 Ap 12 '23; Discussion. Tech Assn Pa ser 6:163-5 Je '23
- Steam and power waste in boxboard making. M. G. Farrell. chart diag plan Paper Tr J 77:43-6 Jl 19 '23
- Stock saving—with and without save-alls. E. J. Trimby. Paper 31:15-16 Ja 31 '23; Same. Paper Tr J 76:57-8 F 1 '23
- Treatment and disposal of strawboard wastes. H. B. Hommon. Am Soc C E Pro 48:1397-1402 Ag '22
- Use of white water in manufacture of groundwood pulp and effect on freeness. W. E. Brawn. Paper Tr J 76:50-2 Je 21 '23; Same. Tech Assn Pa ser 6:91-3 Je '23
- Waste in pulp and paper industry. B. T. McBain. Paper Tr J 75:51-2 N 9 '22
- Waste in pulp and paper industry. B. T. McBain. Paper Tr J 76:40+ Je 7 '23; Same cond. Paper 32:11-12 Je 13 '23
- Waste in the paper industry. Paper 31:15-16 Ap 11 '23
- Waste in the paper industry. G. D. Bearce. Paper 31:17-18+ Mr 7 '23; Same abr. Paper Tr J 76:52-3 Mr 1 '23
- Wastes from pulp and paper mills chemically considered. H. W. Clark. Am Soc C E Pro 48:1393-6 Ag '22
- White water losses and their reduction; supplementary report of sub-committee. flow sheets il diags Paper Tr J 76:144-55 Ap 12 '23; Same. Tech Assn Pa ser 6:4-15 Je '23

See also Bark

Paper models. See Models, Paper

Paper money

- Paper currencies and a currency of paper. R. Estcourt. Annalist 19:605-6+ Je 5 '22
- Paper money in Maryland 1727-1789. K. L. Behrens. 98p Johns Hopkins press, Baltimore '23
- Paper moneys of Europe. F. W. Hirst. 47p Houghton '22

Paper pads

- Padding composition. W. Stetter. Inland Ptr 70:409-10 D '22

Paper pipes. See Water pipes, Paper

Paper research

F. A. Curtis tells about paper laboratories. Paper Tr J 75:30+ Ag 24 '22
 Paper work of Bureau of standards. Paper 29: 12-15+ Ja 18 '22
 Practical value of research work. J: Traquair. Paper 31:15-16 F 28 '23
 Program of work, section of pulp and paper, forest products, laboratory.—Madison, Wis. Paper Tr J 75:53-5 Ag 17 '22

Paper rolls

Meeting the demand for paper in rolls. J. A. Cameron. Paper 31:9-10 Ja 10 '23
 Uses for roll paper. Paper 30:36 Je 7 '22

Paper sizes

Department of commerce moves to standardize paper sizes. Ptr Ink 120:69-70 J1 27 '22
 Proposed standard substance for paper. S. L. Willson. Paper 30:10-14 Ag 23 '22
 Report on simplification of page sizes. Paper Tr J 75:36+ N 9 '22; Same abr. Inland Ptr 70:525-7 Ja '23
 Simplification of paper sizes; abstract of report of the sectional committee on book and magazine paper. Am Mach 59:23-4 J1 5 '23
 Some facts regarding house organ sizes. G. A. Heintzemann. Ptg Art 40:52-3 S '22
 Standard sheets of paper for forms. C. L. Barnum. Management Eng 4:117-18 F '23
 Standardization of paper sizes. Paper 32:10-11 Ag 15 '23
 What paper standardization will do for advertisers. J: Sullivan. Ptr Ink 121:93-4+ O 26 '22

See also Printing—Standards

Paper sizing

Chemistry of rosin sizing. R. Sieber. Paper 29:7-8+ D 28 '21
 Colloidal chemistry in paper sizing. R. Lorentz. Paper 32:5-8 S 12 '23
 Colloidal chemistry of paper sizing. Paper 32:7 J1 4 '23
 Color effect of rosin size emulsion on finished product. C. H. Kent. Tech Assn Pa ser 5:80-1 Je '22
 Composition of the rosin size emulsion. N. D. Ivanoff. il Paper Tr J 76:45-6 Mr 15 '23
 Degree of dissociation and unsaponifiable matter in rosin size. A. Haug. Paper Tr J 76:45-8 Je 28; 51-4 J1 12 '23
 Determination of sizing quality. F: T. Carson. il diags Paper Tr J 74:43-9; 75:44-5 Ap 6, S 7 '22
 Discoloration of paper by rosin sizing. N. F. Becker. Paper 30:70+ Ap 19 '22; Same. Paper Tr J 74:313+ Ap 13 '22
 Effect of sunlight on the vegetable paper sizes; abstracts. L. P. Zhrebhoff. il Paper Tr J 76:50-2 Mr 15 '23; Paper 31:143-4+ Ap 18 '23
 Engine sizing of paper. A. Papineau-Couture. Paper 29:9-15 D 7 '21
 Great care needed in sizing paper stuff. P. Klemm. Paper 31:11-14 Ja 17; 11-13 Ja 24 '23
 Ink flotation vs. Valley size tester. M. L. Caust. Paper Tr J 76:191+ Ap 12 '23; Same. Tech Assn Pa ser 6:39-40 Je '23
 Papermakers' uses of starch. W. A. Nivling. Paper 31:7-9 D 20 '22
 Preparing size for paper making; patent. Chem & Met Eng 27:322 Ag 16 '22
 Resin sizing. A. E. Leicester. Paper Tr J 77:49-51 S 6 '23
 Rosin size control. P. W. Codwise. Paper 30:7-9 Ag 9 '22
 Sizing of paper with humic acid. C. J. West. Paper Tr J 75:55 J1 6 '22
 Sizing paper with rosin. R. Sieber. Paper Tr J 75:49-53 O 12; 43-6 O 19; 59-61 O 26; 50-3 N 16 '22
 Study of the casein used in coating paper. C. Marion. Tech Assn Pa ser 4:48-52 Je '21
 Substitutes for alum and rosin. W. E. B. Baker. Tech Assn Pa ser 3:16-17 D '20
 Substitutes for alum in papermaking. M. Cline. Tech Assn Pa ser 3:17-19 D '20
 Sulphate of alumina in the sizing of paper. F. M. Bouvier. Paper Tr J 75:51-2 O 19 '22

Technology of rosin sizing. E. J. Turner.

Paper 30:7-8+ J1 5 '22
 Ten difficulties experienced in engine sizing. E. C. Tucker. Paper Tr J 76:47-9 My 3 '23
 Testing of sizing quality in paper with Valley tester. J. E. Alexander. Paper Tr J 76:187+ Ap 12 '23; Same. Paper 31:45-6+ Ap 18 '23; Same. Tech Assn Pa ser 6:37-9 Je '23
 Top sizing paper with rubber latex and casein. India Rubber W 67:283-4 F '23
 Use of corn starch in paper making. H. Wrede. Paper 31:11-14 Ja 10 '23
 Use of resin size in papermaking. Paper 32:5-6+ My 2 '23
 Use of starch in paper manufacture. W. W. Nivling. il Paper Tr J 75:32+ J1 13 '22

Paper textiles

Technology of paper yarn textiles. W. Heinke and E. O. Rasser. il Color Tr J 11:176-9, 220-1; 12:33-5, 168-71, 260-2; 13:142-5 O-N '22, Ja, Ap, Je, O '23
 See also Paper yarn

Paper towels**Advertising**

Two thousand brands reduced to three; Scott paper company eliminates jobbers temporarily. J. G. Lamb. Ptr Ink 118:123-4+ F 2 '22

Paper trade association of the United States. See National paper trade association of the United States

Paper trade journal

Story of its growth from its foundation, fifty years ago. J. Berger. Paper Tr J 74:5-7+ Ap 13 '22

Paper waste. See Waste paper

Paper yarn

Dry twisted paper yarn. T. Woodhouse. il Textile World 62:3029 N 25 '22

Paprika

Changes in the composition of paprikas during the growing period. A. F. Sievers and J. D. McIntyre. Am Chem Soc J 43:2101-4 S '21

Par clearance cases. See Checks

Para red. See Parantraniline red

Pará rubber. See Rubber

Parachutes

French parachute competition. Aviation 15: 415 O 1 '23
 Greater safety for the parachute jumper. diags Aviation 13:811 D 13 '22
 Handling the parachute on the ground. il Sci Am 127:331 N '22
 Parachute in two parts reduces shocks. il Pop Mech 37:351 Mr '22
 Parachute record. Aerial Age 14:220 N 14 '21
 Parachutes and life packs. F. Smith. il Aviation 11:682 D 12 '21
 Parachutes on lighter-than-air craft. Aviation 12:567 My 15 '22
 Parachuting from 24,000 ft. il Aviation 13:350 S 18 '22
 Sergeant Chambers' record parachute jump. Aerial Age 14:351 D 19 '21

Para-cymene. See Cymene

Paraffin

Composition of paraffin wax. F. Francis and others. Chem Soc J 121:496-513, 1529-35, 2804-10 Mr, Ag, D '22; Abstract (pt. 1). Nat Pet N 14:53 O 18 '22
 Effect of paraffin wax on the properties of mineral oils. A. P. Bjerregaard. J Ind & Eng Chem 14:215-17 Mr '22
 Effect of paraffin wax on viscosity of petroleum oils. E. W. Dean and M. B. Cooke. J Ind & Eng Chem 14:410-11 My '22
 Investigation of the angle of contact between paraffin wax and water. R. Ablett. diags Philos Mag 6th ser 46:244-56 Ag '23
 Method of determining oil and water in paraffin wax. C. K. Francis and H. T. Bennett. Nat Pet N 13:31+ N 30 '21
 Porosity: use of petroleum products as absorption liquids. E: W. Washburn and E. N. Bunting. diag Am Cer Soc J 4:983-9 D '21

Paraffin—Continued

Report of sub-committee III of A.S.T.M. on paraffin wax. *Am Soc T M Pro* 22 pt 1: 422 '22

Tentative method of test for melting point of paraffin wax. *diag Am Soc T M Pro* 21: 638-41 '21; Same. *Nat Pet N* 13:51 N 16 '21

Paraformaldehyde

Determination of formaldehyde in paraformaldehyde. P. Borgstrom and W. G. Horsch. *Am Chem Soc J* 45:1493-7 Je '23

Use of paraformaldehyde (gaseous formaldehyde) and paraldehyde (gaseous acetaldehyde) in the synthesis of alcohols. C: E. Wood and F. Scarf. *diags Soc Chem Ind J* 42:13-15 Ja 12 '23

Paragraph

Who started this short-snappy-paragraph mania? M. Droke. *Ptr Ink* 122:141-2 Mr 29 '23

Paraldehyde

Role of mercury salts in the catalytic transformation of acetylene into acetaldehyde, and a new commercial process for the manufacture of paraldehyde. R: R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 43: 2071-81 S '21

Use of paraformaldehyde (gaseous formaldehyde) and paraldehyde (gaseous acetaldehyde) in the synthesis of alcohols. C: E. Wood and F. Scarf. *diags Soc Chem Ind J* 42:13-15 Ja 12 '23

Parallel operation. See Electric generators, Alternating current—Parallel operation; Electric generators, Direct current—Parallel operation; Electric plants (central stations)—Parallel operation with industrial plants

Paramagnetism

Paramagnetism and the structure of the atom. B. Cabrera. *Chem Soc J* 124 pt 2:123 Mr '23

Paranitraniline

New black union dyestuff from paranitroaniline. *Color Tr J* 11:252-3 D '22

Paranitraniline red

Para red colors on cotton goods. W: B. Nanson. *Am Dyestuff Rep* 12:583-4+ Ag 13 '23

Paranitraniline red in hosiery dyeing. S: Smith. *Am Dyestuff Rep* 12:573-6 Jl 30 '23

Para-phenetidine. See Phenetidine

Parcel post

Belt conveyor on parcel post duty in the United States. *il Eng & Ind Management* 7:232-4 F 23 '22

Chicago parcel-post office employs the largest band conveyor installation. D. R. Egbert. *diags Eng & Ind Management* 7:551-4 Je 29 '22

Message to the mailing department. H. A. Blackman. *Administration* 4:583-7 N '22

World wide parcel post system. *Comm & Fin Chr* 115:2126 N 11 '22

Parchment

Parchment and imitation parchment. H. Postl. *Paper* 32:11-12 Je 27 '23

Parchment paper

(Genuine) vegetable parchment paper. *Paper Tr J* 73:20-2 D 22 '21

New solvent for cellulose. H. E. Williams. *Paper* 29:9-14 N 2 '21

Parchment and imitation parchment. H. Postl. *Paper* 32:11-12 Je 27 '23

Parchment paper; patent. *Chem Age* 31:44-5 Ja '23

Preparation of parchment paper. C. J. West. *Paper Tr J* 73:48-9 D 15 '21

Paris, France

European town squares. G: Benoit-Levy. *il plans Arch Forum* 39:43-7 Ag '23

Le Paris de demain. G. Hersent. *Soc Ing Civils Bul* 75:114-34 Ja '22

See also Electricity supply—Paris; Housing—Paris

Conservatoire national des arts et métiers

Conservatoire national des arts et métiers. *il plan Engineering* 113:771-3, pl 42 Je 23 '22

Railroads

La démolition du tunnel des Batignolles près de la gare Saint-Lazare, à Paris. P. Calfas. *il diags plans Génie Civil* 82:121-8 F 10 '23

Open cut to replace Paris tunnels. *diag Eng N* 90:1037 Je 14 '23

Rapid transit

Le chemin de fer métropolitain de Paris. L. Biette. *il diags plans Génie Civil* 80:97-103, pl 4: 83:145-51, pl 2 F 4 '22, Ag 18 '23

Consolidated Paris surface car lines are improving their facilities. *Elec Ry J* 62:716 O 20 '23

L'exploitation des transports en commun de la région parisienne dans ses rapports avec le public. R. Le More. *Génie Civil* 82:63-5 Ja 20 '23

New York, London, Paris and Berlin transit compared. D. L. Turner. *map Elec Ry J* 61:79-84, 153-6 Ja 13. 27 '23

Paris expenses exceed receipts. *Elec Ry J* 62:754 O 27 '23

Paris popularizes transportation. *il diag plan Elec Ry J* 60:3-5 Jl 1 '22

Paris tramways during the war. A. Mariage. *Elec Ry J* 60:201-4 Ag 5 '22

La problème économique des transports en commun de surface dans la région parisienne. A. Mariage. *map Soc Ing Civils Bul* 76:308-58, pl 41 Ja '23

Société des transports en commun de la région parisienne. *il plan Engineering* 113: 740-5 Je 16 '22

Sanitary affairs

Le traitement des ordures ménagères. P. Razoux. *il diags Génie Civil* 80:7-11, 30-4, 49-54 Ja 7-21 '22

Streets

Les chaussées et trottoirs des rues de Paris. L. Biette. *il Génie Civil* 82:461-6 My 19 '23

Water supply

Paris water supply. *il diags plans Engineering* 114:573-6, 639-40, 650 N 10, 24 '22

Potable and public service water supply systems of Paris. *Eng & Contr* 58:26-7 N 29 '22

Paris, Texas**Water supply**

Features of new water supply at Paris, Texas. J: B. Hawley. *il diags Munic Eng* 65:133-5 S '23

Parish houses

First parish community house, Longmeadow, Mass. *Arch Forum* 38:205, pl 42-3 Ap '23

Park and Tilford

How a grocery wholesaler is preparing for national advertising. S. C. Lambert. *Ptr Ink* 121:65-6+ N 16 '22

Park buildings

Combination ranger station and community house. G. Cohn. *plan Arch Rec* 51:374-5 Ap '22

Park architecture. H. W. Peaslee. *il Arch Rec* 51:269-74, 360-70 Mr-Apr '22

See also Pavilions, Orchestra; also Chicago daily news sanitarium, Lincoln park, Chicago

Park City, Utah

Mining camps of North America; Park City: a lead-silver district, in Utah. C. R. McKay. *flow sheet il diags Eng & Min J* 116:7-14 Jl 7 '23

Silver King Coalition's new mill. R. S. Lewis. *flow sheet il Eng & Min J* 116:369-73 S 1 '23

Park stoves. See Concrete stoves

Parkerizing. See Metal protection

Parking regulations. See Automobile parking; Traffic regulations

Parks

Character in design of parks. F. E. Todd. *Can Eng* 42:46 Ja 3 '22

Determination of the area of assessment; method of fixing areas of assessment for benefit in park and street opening. B. Scheiman. *Eng & Contr (R & S)* 60:722-5 O 3 '23

Parks—Continued

- Memorial Park; collaborative problem of the American academy in Rome. J. K. Smith. il plans Arch Rec 51:275-80 Mr '22
- Park foresight in exposition planning; Fairmont parkway and the Schuylkill banks as a site for the world's fair, Philadelphia, 1926. G. Burnap. il plan Arch Rec 52:160-4 Ag '22
- Parks and parkways. L. White. il Am Soc C E Pro 49:702-12 Ap '23
- Recent park planning in German cities. H. Koch. il plans Arch Rec 51:447-54 My '22
- State parks in Indiana. Eng & Contr (R & S) 59:529 Mr 7 '23
- Thomas Hastings on small city parks. G. Burnap. il Arch Rec 51:281-3 Mr '22
- See also Amusement parks; Bronx river parkway

Parliamentary practice

- Textbook on parliamentary law. A. B. Hall and A. F. Sturgis. 263p Macmillan '23

Parsons, Charles Algernon, 1854-

- Parsons steam turbine. H. C. Bywater. por Sci Am 127:237-9 O '22

Part-payment plan. See Instalment plan**Parthenon**

- Restoration of the Parthenon. S. Casson. il Am Inst Arch J 11:46-54 F '23

Particles

- Determination of the distribution of size of particles in disperse systems. T. Svedberg and H. Rinde. il diags Am Chem Soc J 45: 943-54 Ap '23
- Determination of the particle size of pigments. W. W. Vogt. India Rubber W 66: 347-9 F '22
- Limitations of the obscuring power method of determining the particle size of pigments. E. B. Spear and H. A. Endres. Ind & Eng Chem 15:725-6 Jl '23; Same cond. India Rubber W 68:781 S '23
- Meaning and microscopic measurement of average particle size. G. St J. Perrott and S. P. Kinney. il diags Am Cer Soc J 6:417-39 F '23; Discussion. (Bul) 6:121-5, 323-4 My, O '23
- Photomicrographic method for the determination of particle size of paint and rubber pigments. H. Green. il J Fr Inst 192:637-66 N '21

Partition coefficients. See Solution (chemistry)**Partitions**

- Sound-proof partitions. F. R. Watson. bibliog il diags plan Ill U Eng Exp Sta Bul 127:1-78 '22; Abstract. Am Inst Arch J 10:171-4 My '22
- Transmission of sound by masonry partitions. P. E. Sabine. Am Arch 124:23-7 Jl 4 '23; Same. Eng & Contr (Bldgs) 60:368-73 Ag 22 '23

Partnership

- Can a partnership be held liable for endorsement of check by one partner in his personal business? Dom Eng 102:88-9 Ja 13 '23
- Joint ventures and partnerships. H. A. Finney. J Account 34:463-71 D '22
- Law of partnerships. A. W. Bays. 2d ed. 156p Callaghan & co., Chicago '21
- Stockholder in a corporation cannot bind his firm to pay for goods without some specific authority to do so; legal difference between a partnership, a company and a corporation. Dom Eng 98:321-2 F 18 '22
- See also Corporation law

Pasadena, California**Rapid transit**

- Negotiations between the city directors and railway officials lead to bus-railway arrangement. Elec Ry J 61:189 Ja 27 '23

Sewerage

- Activated sludge for Pasadena. Pub Works 54:52 F '23

Pascal, Blaise, 1623-1662

- Sketch. Engineering 115:731 Je 15 '23

Passimeters. See Turnstiles. Fare collecting**Passports**

- That dangerous passport game. E. N. Smith. Nation's Business 10:17-18 S '22

Pasteur, Louis, 1822-1895

- L'apothéose de Pasteur. N. Deschiens. il Chimie & Ind 9:1057-75 Je '23
- Centenary of a master scientist. Blast F & Steel Pl 11:246-7 Ap '23
- L'évolution des industries de la fermentation sous l'influence des théories de Pasteur. J. Efront. Chimie & Ind 9:1076-93 Je '23
- His contribution to science. I. K. Russell. Ind & Eng Chem 15:89-90 Ja '23
- L'œuvre chimique de Pasteur. G. Bertrand. il por Chimie & Ind 9:1-14 Ja '23
- Pasteur centenary celebrations. Soc Chem Ind J (Chem & Ind) 42:554-5, 581-2 Je 8-15 '23
- Sketch. H. S. van Klooster. por Chem Age 30: 479-81 N '22

Pasteurization. See Milk—Sterilization**Patent laws and legislation**

- Le brevet international. P. Kestner. Chimie & Ind 8:1332-6 D '22
- Brevets d'invention augmentation des taxes. L. Paillard. Chimie & Ind 7:182-4 Ja '22
- British patents; a legal point. Engineering 112:809 D 16 '21
- British patents act. Engineering 116:519 O 26 '23
- Convention between the United States and Germany; patents. 3p Govt. print. off., Washington '22
- Extensions of letters patent. Engineering 114: 114-15 Jl 28 '22
- Infringement of patented article. W. Gustin. Chem & Met Eng 28:817 My 7 '23
- Inventions and patents. G. E. Middleton. Am Cer Soc J (Bul) 6:75-80 Ap '23
- Lampert patent bill passed the House. Iron Age 109:206 Ja 19 '22
- La législation des brevets et l'industrie chimique. A. Taillefer. Chimie & Ind 6:845-7 D '21
- Natural right in secret process independent of statutory right in patent. W. Gustin. Chem & Met Eng 27:500 S 6 '22
- New patent act in Canada. C. L. Jenks. Ind & Eng Chem 15:1192-3 N '23
- Patent bill hearing discloses diverse views on working clause. Oil Paint & Drug Rep 101: 19+ My 8 '22
- Patent claims for products. E. F. Ehrhardt. Soc Chem Ind J (Chem & Ind) 42:314-16 Mr 29 '23
- Patent essentials for the executive, engineer, lawyer and inventor. J. F. Robb and others. 436p Funk & Wagnalls co., New York '22
- Patent law of interest to chemists; patent rights. F. E. Barrows. Ind & Eng Chem 15:80-1 Ja '23
- Patent office decision that helps advertisers. C. P. Carter. Ptr Ink 123:124+ My 3 '23
- Patent situation abroad. A. Müller. Chem Age 30:441-3 O '22
- Patent treaty revival aimed at greatest good for greatest number. Oil Paint & Drug Rep 101:19-20 My 15 '22
- Patents for inventions. J. E. Walker and R. B. Foster. 377p Pitman '22
- Peace treaty patents. Engineer 134:6 Jl 7 '22
- Price maintenance on patented articles; a brief review of the leading cases. Ptr Ink 117:10+ N 10 '21
- Reflections on patents. H. Cheetham. Soc Chem Ind J (Chem & Ind) 42:579-81 Je 15 '23
- Relation of employer and employee as regards ownership of patents. M. Block. Chem Age 30:201-2 My '22
- Rights after expiration of patent design. Chem & Met Eng 26:131-2 Ja 18 '22
- Sale of parts for unpatented apparatus used with process patent not infringement. W. Gustin. Chem & Met Eng 27:115 Jl 19 '22
- Similarity of results in patent and secret process may justify conclusion of infringement. W. Gustin. Chem & Met Eng 27:1179 D 13 '22
- Situation des produits pharmaceutiques dans la législation française. P. de la Blanchardière. Chimie & Ind 6:540-6 O '21

Patent laws and legislation—Continued

- Some patent history and its lesson to American chemistry. F. P. Garvan. Chem Age 30:127-9 Mr '22
 Stanley patent bill. D. B. Keyes. Chem & Met Eng 27:52 Jl 12 '22
 Working clause in our patent law. A. E. Parker. Chem Age 30:185-6 Ap '22
See also Electric lamps, Tungsten—Patents

Study and teaching

- Inventors, inventions and patent practice; need of education in commercial law. C. L. Jenks. Chem Age 31:213-15 My '23

Patent medicines**Advertising**

- Smoothering the professional frown against advertising medical products. Ptr Ink 121:101-2 D 7 '22

Patent office (Great Britain). *See* Great Britain—Patent office**Patent office (United States).** *See* United States—Patent office**Patents**

- Applying for a patent. D. B. Keyes. Chem & Met Eng 29:405-6 S 3 '23
 Design patents; what they are, and the rules governing recovery for infringement of them. T. H. Anderson. Sci Am 126:34 Ja '22
 During litigation advertising needs careful scrutiny. Ptr Ink 124:17-18 Ag 2 '23
 Engineer's patents. Eng & Min J 114:134-5, 270, 358-9, 491 Jl 22, Ag 12, 26, S 16 '22
 Five facts it pays to know about patents. H. A. Toulmin, jr. il System 41:542-5 My '22
 French patents granted in 1922. Am Mach 59:388d S 6 '23
 Index of patents issued from the United States Patent office. 1315p U. S. Patent office, Washington '21
 Industrial research and patents. C. L. Jenks. Chem & Met Eng 26:394-7 Mr 1 '22
 Information issued by Patent office. Sci Am 127:273 O '22
 Inventions, inventors, patents. W: H. Parry. Metal Ind 20:465-6 D '22
 Inventors, inventions and patent practice. C. L. Jenks. Published in monthly numbers of Chemical age
 Nation and its inventors. Elec R (Lond) 93: 111, 274-5 Jl 20, Ag 24 '23
 Patent and trade-mark actions of 1922. Engineering 115:148 F 2 '23
 Patent frauds and remedies. T: A. Hill. Chem Age 31:398 S '23; Excerpt. Management & Adm 6:592 N '23
 Patent situation as viewed by a federal judge. Sci Am 126:379 Je '22
 Patentable combination of old elements; Evans headlight lens. W. Gustin. Chem & Met Eng 29:843 N 5 '23
 Patents and patent actions of 1921. Engineering 113:81-2 Ja 20 '22
 Patents for inventions. Engineer 136:453-4 O 26 '23
 Patents throughout the world. W: W. White. 244p Trade mark law publishing co., 37 W. 43d st., New York '23
 University researchers should patent discoveries in their own names. W: J. Hale. Chem & Met Eng 25:913-14 N 16 '21; Discussion. 26:293 F 15 '22
 Where combination of old elements is patentable. W. Gustin. Chem & Met Eng 28:222 Ja 31 '23
 Women's contributions in the field of invention. U S Women's Bur Bul 28:1-51 '23
See also Chemical patents; Competition, Unfair; Dye patents; Great Britain—Patent office; Inventions; Patent laws and legislation; Trade marks; Trade secrets; United States—Patent office; also subdivision Patents under names of articles and processes patented, e.g. Electric lamps, Tungsten—Patents, Flotation process—Patents, Paper making—Patents, Pavements—Patents, Petroleum refining—Patents, Rubber—Patents

Internationalization

- Current chemical patents and patent problems. L. Van Doren. Chem Age 30:189-90 Ap '22

Valuation

- Patent valuations as affected by federal taxation. R. H. Allen. Administration 4:189-98 Ag '22

Patents, Expiration of

- When the patented product becomes public property. Ptr Ink 122:48 Mr 22 '23

Paterson, New Jersey

- Working on hopes not orders; Paterson building boom. W: A. Spafford. Textile World 64:1251 S 1 '23

Rapid transit

- City control builds up bus transportation; Paterson, N.J., enforces standards for construction and operation. map Bus Transportation 1:225-7 Ap '22

Pattern making

- Alternative patternmaking methods. J. V. Rehor. Foundry 50:336-7 Ap 15 '22
 Barrel patterns. R. R. McGowan. diags Foundry 50:670a Ag 15 '22
 Better way to mold gear wheel patterns. M. E. Duggan. diag Am Mach 57:777 N 16 '22
 Changes in patterns that facilitate molding. M. E. Duggan. diags Mach 28:773-5 Je '22
 Close relation between engineering and pattern departments. B. R. Hall. Mach 29:872 Jl '23
 Contraction and shrinkage during casting. R. J. Anderson. Chem & Met Eng 28:254 F 7 '23
 Core print gives rigidity to pattern. F. C. Edwards. diags Foundry 51:38 Ja 1 '23
 Double face aluminum plates. J. Hines. Foundry 51:505-6 Je 15 '23
 Drawing alterations should be distinct. M. E. Duggan. diag Foundry 50:291 Ap 1 '22
 Dry sand cores simplify making the mold. M. E. Duggan. diag Foundry 50:720 S 1 '22
 Familiarity with sweeps valuable asset. M. E. Duggan. Foundry 51:693 S 1 '23
 Firm demands pattern accuracy. H. E. Diller. il Foundry 50:742-7 S 15 '22
 Greater care in original design will reduce foundry cost. R. C. Hitchcock. Automotive Ind 48:570 Mr 8 '23
 Green sand cores in bushings. C: Vickers. diags Foundry 51:833-7 O 15 '23
 Heats patterns electrically. C. A. Cremer. il Foundry 51:141-3 F 15 '23
 Increasing the size of a standard pattern. M. E. Duggan. diag Mach 29:593 Ap '23
 Large pattern and core work on the Pacific coast. il Am Mach 59:553-5 O 11 '23
 Lesson for patternmakers. M. E. Duggan. diags Pop Mech 40:960 D '23
 Making a frame pattern. J: J. Murphy. diag Foundry 50:165 F 15 '22
 Making a pipe pattern on the band saw. M. E. Duggan. diags Foundry 50:120 F 1 '22
 Making journal brasses. M. E. Duggan. diag Mach 28:1000-1 Ag '22
 Making patterns for a winding drum by hand. M. E. Duggan. diags Mach 29:220 N '22
 Matchplate pattern for small castings. E. A. Dixie. il diags Am Mach 55:808-10 N 17 '21
 Match plates; a comparison of different types of match plates and gated patterns. J. T. Mackay. Metal Ind 20:387 O '22
 Metal patterns for the foundry. J. F. Hines. il Mach 29:695-7, 932-3 My, Ag '23
 Method of joining metal pattern halves. C. G. Spicer. diags Foundry 50:941 D 1 '22
 Methods for chain wheels. M. E. Duggan. diags Foundry 50:968 D 1 '22
 Molding barrel castings. M. E. Duggan. diags Mach 28:821-2 Je '22
 Nickel plated production pattern plates. W: H. Parry. Metal Ind 21:358 S '23
 Pattern design presents problems. J. Horner. diags Foundry 50:275-8, 326-8+ Ap 1-15 '22
 Pattern for cast-iron bracket. M. E. Duggan. diags Mach 29:895-6 Jl '23
 Pattern machine built in larger sizes. il Iron Tr R 71:1496 N 30 '22

Pattern making—Continued

- Patternmaker must anticipate molder. M. E. Duggan. diags Foundry 51:466 Je 1 '23
- Patternmakers waste time on repairs. M. E. Duggan. diags Foundry 49:861-2 N 1 '21
- Pattern making. J. Ritchey. 222p American technical society, Chicago '21
- Patternmaking is only means to an end. M. E. Duggan. diag Foundry 50:209 Mr 1 '22
- Pattern-making lay-out and equipment. J. Edgar. Eng & Ind Management 6:624-5 D 1 '21
- Pattern must suit foundry conditions. M. E. Duggan. Foundry 50:845-6 O 15 '22
- Pattern ring may be cut on band saw. M. E. Duggan. diags Foundry 51:117 F 1 '23
- Pattern shop organisation. J. Edgar. diags Eng & Ind Management 7:133-5, 194-7, 243-6, 423-6; 8:282-4; 9:80 F 2, 16, Mr 9, My 18, N 16 '22, F 8 '23
- Patterns are bedded in the floor. R. H. Palmer. il diag Foundry 50:911-14 N 15 '22
- Patterns for checked floor-plate castings. M. E. Duggan. diags Mach 28:902 Jl '22
- Plaster pattern used for lamp base. T. Nelson. diags Foundry 50:458-9 Je 1 '22
- Plate patterns warp when glued. J. W. Broadbent. diags Foundry 50:969 D 1 '22
- Practical pattern making. F. W. Barrows. 3d ed., rev. & enl. 355p Henley '22
- Proper design facilitates molding. F. C. Edwards. diags Foundry 50:322-3 Ap 15 '22
- Putting patternmakers waste their time. M. E. Duggan. diag Foundry 50:81 Ja 15 '22
- Repairs do not conform to blueprints. M. E. Duggan. diags Foundry 51:236-7 Mr 15 '23
- Rolling mill spindles cast on end. M. E. Duggan. diag plan Foundry 51:37 Ja 1 '23
- Should cut stock to finished size. M. E. Duggan. diags Foundry 50:889 N 1 '22
- Single-rib pattern that facilitates production. M. E. Duggan. diag Mach 29:392 Jl '23
- Standard gas cookers. il Gas J (Lond) sup 2:3-4 Ja 31 '23
- Steel drum made in a two-part flask. C. J. Morette. diag Foundry 50:559 Jl 1 '22
- Stopping-off piece for floor plate patterns. M. E. Duggan. diag Mach 28:990 Ag '22
- Study saves expense. M. E. Duggan. Foundry 51:201 Mr 1 '23
- Tries band saw for pattern work. M. E. Duggan. diags Foundry 51:845 O 15 '23
- Two ways of making a core. diags Am Mach 57:233-4, 461, 735; 58:308; 59:152, 854-5, 890-1 Ag 10, S 21, N 9 '22, F 22, Jl 26, D 6-13 '23
- Wood pattern making. E. C. Hanley. 191p Bruce pub. co., Milwaukee '22
- Wood pattern-making. H. J. McCaslin. 296p McGraw-Hill '23
- See also* Foundry practice; Mechanical drawing; Sheet metal work—Pattern making; Templates

Standards

- Desire to standardize patternmaking. B. R. Hall. Foundry 51:801 O 1 '23
- Pattern standardization. E. S. Carman. Metal Ind 21:400-1 O '23
- Standardization of patterns desirable. B. R. Hall. il Foundry 50:207-8 Mr 1 '22

Pattern numbering

- Mark patterns according to definite plan. M. E. Duggan. Foundry 50:248-9 Mr 15 '22
- Pattern numbers defeat their object. M. E. Duggan. Foundry 50:685 Ag 15 '22
- Placing pattern numbers on patterns and castings. F. Franz. diags Am Mach 53:708 My 10 '23

Pattern storage

- Organisation of a pattern stores. H. Varley. diags plan Eng & Ind Management 6:522-5 N 10 '21
- Patternshop organisation. J. Edgar. il Ind Management (Lond) 8:282-4 N 16 '22
- Urges simplicity in storing patterns. F. C. Edwards. Foundry 50:747 S 15 '22
- When the scrap heap is an asset. E. W. McCullough. Nation's Business 10:50+ N '22

Patterson, John Henry, 1844-1922

- Death of John H. Patterson of National cash register company. por Ptr Ink 119:25-7+ My 11 '22
- What 55 years in business taught me about managing. S. Crowther. System 42:533-7+, 688-91+; 43:48-51+, 169-72+, 318-22+, 454-8+, 601-5+, 758-62+; 44:36-40+, 162-6+, 287-92+, 445-9+, 537-91+, 745-50+ N '22-D '23

Pavements

- California street paving discussed. C. C. Kennedy. Pub Works 52:144 F 25 '22
- Les chaussées et trottoirs des rues de Paris. L. Biette. il Génie Civil 82:461-6 My 19 '23
- City pavements. F. S. Besson. 421p McGraw-Hill '23
- Concrete parking strips on asphalt streets. diags Eng N 91:185 Ag 2 '23
- Economic considerations in choice of a pavement. C. C. Williams. Eng & Contr (R & S) 59:9-11 Ja 3 '23
- Experimental pavement in Queens borough. E. E. Butterfield and F. H. Shepherd. il Pub Works 51:400-1 N 19 '21
- Factors determining the selection of pavements for streets. C. M. Pinckney. Can Eng 42:153 Ja 17 '22; Same. Eng & Contr 57:544 Je 7 '22
- Getting ready for the pavement. R. A. MacGregor. Eng & Contr 57:428-9 My 3 '22
- How should different pavements be compared? Eng & Contr (R & S) 59:3-4 Ja 3 '23
- Important considerations in reconstructing city pavements. H. H. Edwards. Munic Eng 62:3-4 Ja '22
- Pavement construction without sub-base treatment. J. C. Blake. Eng & Contr (R & S) 60:30-2 Jl 4 '23
- Points observed in examining a million square yards of city pavements in Chicago. P. W. Green. Munic Eng 65:65-6 Ag '23
- Present trend of highway development. P. Hubbard. Can Eng 42:635-6 Je 20 '22
- Relation of city planning and zoning to the selection of type of pavement. J. C. Grinnalds. Can Eng 42:408-9 Ap 18 '22
- Side lights on municipal paving practice—recent work shows many improvements. H. H. Edwards. il Munic Eng 64:3-6 Ja '23
- Symposium on city pavements. L. M. Hastings and others. Boston Soc C E J 10:187-220 My '23
- To what extent is paving affected by street railway tracks? J. Adler. Elec Ry J 60:790 N 11 '22; Same. Eng & Contr (Ry) 58:132-3 D 20 '22
- Types and costs of pavements suitable for Texas cities. J. Montgomery. Munic Eng 62:132-5 Ap '22
- L'urbanisme en Allemagne. G. Mesnard. diags Génie Civil 82:180-2 F 24 '23
- See also* Bridges—Floors; Curbs; Gutters; Roads; Sidewalks; Street openings; Streets

Bibliography

- Highway engineering: roads and pavements; a subject catalog of the books and pamphlets in the Engineering societies library, December, 1921. Am Soc C E Pro 48:[Soc aff] 57-91 Ja '22

Contracts

- Against maintenance guarantees for roads and pavements. E. W. Bush. Eng N 88:365-6 Mr 2 '22
- Effect of core drilling on pavement prices. Munic Eng 62:159-60; 63:3-5 My, Jl '22
- Paving probe at Vancouver. Can Eng 43:286-7 Ag 22 '22

Cost

- Asphalt-penetration resurfaces old macadam streets. il Eng N 91:349-50 Ag 30 '23
- Paving costs in the city of Chicago. W. Soc E J 28:[current news] 12-15 Ja '23
- Paving statistics for 1921; facts and figures obtained direct from the paving officials of more than seven hundred municipalities. Pub Works 52:121-31, 216, 233-4, 246-8, 392-3 F 18, Mr 25-Ap 8, My 27 '22
- Paving statistics for 1922. Pub Works 54:72-4, 264-8 F, Ag '23

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Street improvements at Kingsville, Ontario. N. J. Goebel. diags plans Can Eng 44:189-91 Ja 30 '23

Types and costs of pavements suitable for Texas cities. J. Montgomery. Munic Eng 62:132-5 Ap '22

Unit prices Michigan highway work, 1918-1921; tabulation. F. D. Messinger. Eng & Contr 57:545 Je 7 '22

See also Pavements—Maintenance and repair; Pavements, Asphalt—Cost; Pavements, Brick—Cost; Pavements, Concrete—Cost

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Methods for determining street pavement crowns. F. S. Besson. diags Eng N 90:627-9 Ap 5 '23

Pavement crowns for concrete street with curbs at unequal elevations. Eng & Contr 56:421 N 2 '21

Suggestions for design of street crowns. G. A. Crayton. Eng & Contr (R & S) 58:45-6 O 4 '22

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Concrete pavement cut and broken up with improvised machines. J. Montgomery. il Eng N 88:478-9 Mr 23 '22

Drill averages eight cores per day on New Jersey pavements. J. C. Bragg. il Eng N 88:863-4 My 25 '22

Improvements in Clark concrete breaker. il diag plan Elec Ry J 62:252-3 Ag 18 '23

Installing shallow-conduit construction in Washington. D. E. Dunn. il diag plan Elec Ry J 59:449-52 Mr 18 '22

Method of making service cuts in brick pavements. il Eng & Contr (R & S) 59:985-6 My 2 '23

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Paving slab and subgrade studies in Illinois. C. Older. il diags Eng N 88:80-3 Ja 12 '22

Recent changes in pavement design. Pub Works 52:262-4 Ap 15 '22

Structural design of pavements. A. T. Goldbeck. Can Eng 42:223-6 F 14 '22

Two curve problems solved. G. F. Syme. diags Eng N 89:713 O 26 '22

What is the correct design for a highway pavement? E. G. Hooper. Good Roads 65:105-6 O 3 '23

See also Pavements—Crown

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Different angle on the sub-drainage of pavements. M. L. Patzig. Munic Eng 65:95-7 S '23; Discussion. H. W. Skidmore. 65:144-6 O '23

See also Roads—Drainage

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Pavement explosions continue for five years; portions of brick surface violently break away from concrete base. il Eng N 89:654-5 O 19 '22

See also Pavements, Asphalt—Failures; Pavements, Bituminous—Failures

Fillers

Developments in methods of constructing brick pavements. A. H. Blanchard. Good Roads 62:527-9 My 3 '22; Same. Eng & Contr (R & S) 58:41-4 O 4 '22; Same. Can Eng 44:143-4 Ja 16 '23

Efficiency in the application of asphalt filler. J. F. Gallagher. il Munic Eng 64:37-40 Ja '23; Same abr. Eng N 90:625 Ap 5 '23

Granite block pavement. C. D. Pollock. Pub Works 51:362-3 N 5 '21; Same. Eng & Contr 57:542 Je 7 '22

Tentative specifications for coal-tar pitch for block filler. Am Soc T M Pro 21:702-3 '21

Wide asphalt joints not essential in brick pavements. H. H. Edwards. il Eng N 87:1026-7 D 22 '21

Finance

Methods of paying for paving; tabulation. Pub Works 52:131, 142-4, 167-8, 183-4, 410-12 F 18-Mr 11, Je 3 '22

Paying for construction and maintenance of car track paving. Munic Eng 65:3-6 Jl '23

Paying for repaving. Pub Works 54:206-9 Je '23

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Bituminous foundations for pavements. H. W. Skidmore. Good Roads 62:84-7 F 8 '22; Same. Can Eng 42:247-8 F 21 '22; Excerpts. Eng N 88:202-3 F 2 '22; Excerpts. Pub Works 52:85-6 F 4 '22; Excerpts. Eng & Contr 57:334-5 Ap 5 '22

Black base for heavy boulevard traffic. J. B. Hittell. Eng & Contr (R & S) 58:7 O 4 '22

Broken stone bases and brick pavements. C. C. Brown. Pub Works 54:117-21 Ap '23; Discussion. 54:231-2 Jl '23

Rigid standard practice vs. common sense. G. C. Warren. il Munic Eng 64:141-2 Ap '23

Rolled bases for brick pavements. S. A. Knisely. diag Pub Works 52:115-16 F 18 '22

Use of black base. F. B. McGrane. Munic Eng 63:58+ Ag '22

See also Roads—Foundations

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Paving inspection. T. S. Martin. Eng & Contr 57:544-5 Je 7 '22

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Paving inspection. T. S. Martin. Eng & Contr 57:544-5 Je 7 '22

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Carpet-coating old highways saves town money. J. H. Duffy. Eng & Contr 56:536 D 7 '21

Cost of pavement repairs in Newark, New Jersey. J. W. Howard. Munic Eng 64:88 F '23; Same. Good Roads 64:79 F 28 '23; Same. Eng & Contr (R & S) 59:808 Ap 4 '23; Same. Can Eng 44:415 Ap 17 '23

Maintenance and repair of city pavements. W. D. P. Warren. Munic Eng 65:66-9 Ag '23

Minneapolis street maintenance. il Pub Works 54:274-5 Ag '23

Pavement maintenance experience in Wichita, Kansas. P. L. Brockway. Eng N 89:397-9 S 7 '22

Repair and maintenance of Boston street surfaces. E. S. Dorr. il Boston Soc C E J 10:212-15; Discussion. 215-20 My '23

Street maintenance in Richmond. J. W. Eubank. il Pub Works 54:323-4+ O '23

12 years' experience with bituminous penetration work on Kansas City boulevards and park roads; maintenance costs. F. Gableman. il Eng N 88:54-7 Ja 12 '22

See also Pavements—Surface treatment; also subdivision Maintenance and repair under Pavements, Asphalt; Pavements, Bituminous; Pavements, Concrete; Pavements, Wood

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Cities of America lead the world in paved streets. Good Roads 65:112 O 3 '23

Paving statistics for 1921. Pub Works 52:121-31, 216, 233-4, 246-8, 392-3 F 18, Mr 25-Ap 8, My 27 '22

Paving statistics of cities. Pub Works 54:65-74 F '23

Pavements—Statistics—Continued

Paving for repaving. Pub Works 54:206-9 Je '23

Street and highway statistics. Pub Works 54:262-8 Ag '23

Surface treatment

Asphalt-penetration resurfaces old macadam streets. il Eng N 91:349-50 Ag 30 '23

Asphalt used to resurface worn brick pavement. D. A. Grant. il Eng N 89:24-6 Jl 6 '22

Bituminous surface-treated gravel for light traffic streets. D. E. Davis. il plan Eng & Contr (R & S) 53:12-14 O 4 '22

Resurfacing old pavements. Pub Works 53:55-7, 82-3, 118-19 Jl 22-Ag '22

Surfacing old macadam and gravel streets with asphalt. il Eng & Contr (R & S) 59:1268-9 Je 6 '23

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Investigations in structural design of pavements. il Eng & Contr (R & S) 59:305-11 F 7 '23

Ten-year test shows pavement wear and repair. R. A. MacGregor. Eng N 90:587-8 Mr 29 '23

See also Pavements, Asphalt—Testing; Pavements, Concrete—Testing

Pavements, Asphalt

Asphalt macadam in Kansas City. F. Gabelman. diag Pub Works 53:16 Jl 1 '22

Asphalt pavement construction. F. P. Smith. Can Eng 45:386 O 9 '23

Asphalt paving in 1921. Good Roads 62:33 Ja 11 '22

Asphalt streets win favor in nation's capitol. Good Roads 65:133-4 O 17 '23

Asphalt used to resurface worn brick pavement. D. A. Grant. il Eng N 89:24-6 Jl 6 '22

Causes of waves in asphalt pavements. P. Hubbard. Can Eng 45:393 O 9 '23; Same. Eng & Contr (R & S) 60:975 N 7 '23

Commercial and technical developments in the asphalt paving and bituminous road fields. Eng N 88:67-9 Ja 12 '22

Constructing Kentucky rock asphalt pavement on Dixie highway between Louisville and West Point, Kentucky. J. H. Cahill. il Munic Eng 62:12-15 Ja '22

Constructing standard types of asphalt pavements. W. L. Hempelmann. il Munic Eng 62:15-19 Ja '22

Construction of asphaltic macadam pavements. I. W. Patterson. Can Eng 45:452 O 30 '23

Daily report system for asphalt paving inspection. Eng & Contr 57:415-16 My 3 '22

Experiment in asphalt paving at Philadelphia. Pa. J. Adler. Eng N 89:521-2 S 28 '22

Grades for asphalt pavements and remedies for creeping. M. L. Patzig. Eng & Contr (R & S) 59:350-3 F 7 '23; Same. Munic Eng 64:103-5 Mr '23; Same. Can Eng 44:637-8 Je 26 '23

How a street railway company is handling \$1,000,000 paving contract. il Eng & Contr 58:11-12 Jl 5 '22

Laying sheet asphalt over rutted asphalt block pavement at Bridgeton, N.J. H. T. Macfarland. Munic Eng 62:62 F '22

New pavements of Danbury, Connecticut. C. D. Pollock. il Pub Works 51:371-4 N 12 '21

Open vs. closed specifications for asphalt resurfacing. C. R. Andrew. Munic Eng 65:54-5; Discussion. J. B. Hittell. 55-6 Ag '23

Philadelphia experiment in asphalt repaving. Eng & Contr (R & S) 59:996-8 My 2 '23

Plant inspection of asphaltic paving mixtures. W. J. Emmons. Eng & Contr (R & S) 59:999-1008 My 2 '23; Same cond. Eng N 89:1112-16 D 28 '22

Rutting and rolling of asphalt pavements. H. W. Skidmore. Munic Eng 62:4-7 Ja '22

Sands for sheet asphalt paving mixtures. P. Hubbard. Eng & Contr 57:108-10 F 1 '22; Same. Good Roads 62:219-23 Ap 19 '22

Selection of types of asphalt pavement with reference to local materials. R. M. Green. Eng & Contr (R & S) 60:740-1 O 3 '23; Same. Munic Eng 65:150-2 O '23

Sheet asphalt construction in Little Rock, Ark. W. E. Ford. il Eng & Contr (R & S) 60:52 Jl 4 '23

Standardized specifications for mineral aggregates for asphalt pavements. R. M. Green. Eng & Contr 57:115-17 F 1 '22; Same. Good Roads 62:124-7 Mr 1 '22; Same. Can Eng 42:496-8 My 16 '22

Street improvements at Kingsville, Ontario. N. J. Goebel. diag plans Can Eng 44:189-91 Ja 30 '23

Tests for asphalt cement for asphalt macadam, asphaltic concrete and sheet asphalt pavements. P. Hubbard. Can Eng 45:376 O 2 '23

Willite: the copper treated asphalt pavement. il Eng & Contr (R & S) 59:1027 My 2 '23

See also Pavements, Bituminous; Pavements, Bituminous concrete; Roads, Asphalt

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Asphalt paving costs of 1916 and 1922 compared. Eng N 89:756 N 2 '22

Costs of pavements in Ottawa. Can Eng 44:380 Ap 3 '23; Same. Eng & Contr (R & S) 59:992 My 2 '23

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Cause and correction of shoving of asphalt pavements. P. Hubbard. Eng & Contr 56:414 N 2 '21; Same. Good Roads 61:233-5 N 23 '21

Causes of distortion failures of asphalt pavements. H. W. Skidmore. Eng N 90:788 My 3 '23

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Black base for a Chicago boulevard. Pub Works 55:233-4 N '22

Chausse oil burning asphalt tool and surface heaters. il Munic Eng 64:sup26-7 My '23

Minor repairs to sheet asphalt. Pub Works 51:445-6 D 10 '21

Municipal pavement repairing in Newark. J. W. Costello. il plan Pub Works 54:41-5 F '23

Old asphalt paving material in maintenance. C. J. Van Etta. Good Roads 61:287-8 D 28 '21; Abstract. Pub Works 51:401-2 N 19 '21

Reconstruction and resurfacing of old pavements. J. Schmitt. Can Eng 42:253-4 F 21 '22; Same abr. Eng & Contr 58:105-6 Ag 2 '22

Repaving the Washington boulevard of Chicago. J. P. Hittell. Good Roads 63:146+ O 25 '22; Same. Munic Eng 63:190-2 N '22

Worn-out sheet asphalt pavement renewed by surface treatment. R. D. Budd. Eng N 89:140 Jl 27 '22

Pavements, Asphaltic concrete. See Pavements, Bituminous concrete

Pavements, Bitulithic

Court denies infringement of Warren paving patent. Eng N 88:992-3 Je 15 '22

Evolution of Warrenite bitulithic. R. G. Davidson. il Good Roads 63:125-9+ O 11 '22

Federal court upholds validity of Warren pavement patent. Munic Eng 64:30-2 Ja '23

Status of the Warren company's pavement patents. Eng N 87:969-72 D 15 '21

Pavements, Bituminous

Athabasca tar sands for city streets. C. C. Sutherland. il diag Can Eng 44:551-5 Je 5 '23; Discussion. L. Simpson. 45:333 S 18 '23

Bituminous pavements in 1922. Pub Works 54:107-8 Mr '23

Relation between bitumen and fine mineral asphaltic mixtures. H. W. Skidmore. Munic Eng 64:8-12 Ja '23

Roadway surfacing and maintenance treatments. Newton, Mass. E. H. Rogers. Boston Soc C E J 10:191-3 My '23; Same. Eng & Contr (R & S) 60:5-6 Jl 4 '23

12 years' experience with bituminous penetration work on Kansas City boulevards and park roads; maintenance costs. F. Gableman. il Eng N 88:54-7 Ja 12 '22

See also Pavements, Asphalt; Pavements, Bitulithic; Roads, Bituminous

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Plant inspection to insure good bituminous pavements. F. P. Smith. Can Eng 42:591-3 Je 6 '22; Same. Munic Eng 63:46-51 Ag '22; Same. Eng & Contr 58:234-6 S 6 '22

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Maintenance cost of 11-year old bituminous macadam at Portland, Me. Eng & Contr (R & S) 58:69 N 1 '22

Pavements, Bituminous concrete

Asphaltic concrete base makes possible rapid paving program. C. A. Elliott. il Elec Ry J 61:843-5 My 19 '23

Asphaltic concrete construction at Jonesboro, Ark. G. W. Cobb. il Eng & Contr 56:529 D 7 '21

Asphaltic concrete pavements. J. Adler. Can Eng 45:390 O 9 '23

Asphaltic concrete pavements. R. G. Davidson. il Good Roads 63:117-20 O 4 '22

Bituminous concrete pavement between Indianapolis and Greenwood, Ind. G. R. Harr and R. E. Simpson. plan Munic Eng 61:161-2 N '21

Control of asphaltic concrete mixes. E. R. Dutton. Munic Eng 62:121-2 Ap '22

Dense asphalt concrete pavement specifications. J. W. Howard. Munic Eng 62:19-22 Ja '22

Mixen bituminous concrete. G. A. Henderson. Munic Eng 61:181-4 N '21

Old macadam base for asphaltic concrete pavements. W. F. Reichardt. Can Eng 43:289 Ag 22 '22; Same. Munic Eng 63:51-3 Ag '22

Standardized specifications for mineral aggregates for asphalt pavements. R. M. Green. Eng & Contr 57:115-17 F 1 '22; Same. Good Roads 62:124-7 Mr 1 '22; Same. Can Eng 42:496-8 My 16 '22

Pavements, Brick

Brick header curbs for brick pavements. H. F. Dorr. il Eng & Contr 57:19 Ja 4 '22

Brick pavements in Florida. E. C. Garvin. Pub Works 52:244-5 Ap 8 '22

Brick paving in the city of Panama. H. W. Durham. Eng N 90:272 F 8 '23

Brick paving practice. W. W. Horner. Eng N 88:202 F 2 '22

Brick used in paving 34 per cent grade. A. W. Johns. il Eng N 89:267 Ag 17 '22

Broken stone bases and brick pavements. C. C. Brown. Pub Works 54:117-21 Ap '23; Discussion. 54:231-2 Jl '23

Data on brick pavement construction at Detroit, Minn. J. F. Druar. Munic Eng 64:6-8 Ja '23

Developments in methods of constructing brick pavements. A. H. Blanchard. Good Roads 62:257-9 My 3 '22; Same. Eng & Contr (R & S) 58:41-4 O 4 '22; Same. Can Eng 44:143-4 Ja 16 '23

Efficiency in the application of asphalt filler. J. F. Gallagher. il Munic Eng 64:37-40 Ja '23; Same abr. Eng N 90:625 Ap 5 '23

Favor lug brick with asphalt filler. J. C. Travilla. Eng N 89:327 Ag 24 '22

How 30-year old brick pavements are serving Lynchburg, Va. B. A. Bennett. il Eng & Contr 57:337-8 Ap 5 '22

Lancaster, Ohio, paves alleys with brick from pavement built 33 years ago. W. W. Graf. il Munic Eng 61:167-8 N '21

Laying vertical fibre brick. R. H. McKinley. il Pub Works 53:255-6 D '22

Methods of laying brick pavement around curves. il Eng & Contr 56:419 N 2 '21

Paving Euclid avenue. il Pub Works 52:117 F 18 '22

Resurfacing old pavements. Pub Works 53:55-7, 82-3 Jl 22-29 '22

Resurfacing rigid pavement with brick at Bettendorf, Iowa. Munic Eng 64:218 Je '23

Rolled bases for brick pavements. S. A. Knisley. diag Pub Works 52:115-16 F 18 '22

Salvaging old brick pavements. Good Roads 65:138 O 24 '23

3-inch brick, laid flat, and asphalt filler features of Meadville, Pa., paving. R. L. Phillips. il Eng & Contr 57:119 F 1 '22

Wide asphalt joints not essential in brick pavements. H. H. Edwards. il Eng N 87:1026-7 D 22 '21

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Cost of brick pavement at Washington, N.C. Eng & Contr 57:29 Ja 4 '22

Methods and cost of constructing new brick surface on old base. J. C. Hiteshen. Eng & Contr (R & S) 56:135 D 6 '22

Relaying 23-year old brick in new pavement at Lynchburg, Va. B. A. Bennett. il Munic Eng 64:24-6 Ja '23

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Pavement explosions continue for five years; portions of brick surface violently break away from concrete base. il Eng N 89:654-5 O 19 '22

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Many varieties of paving brick shown by survey. Eng N 87:857 N 24 '21

Paving brick committee acts on varieties. Eng N 90:637-8 Ap 5 '23

Paving bricks. (Simplified practice recommendation, no. 1) 10p U. S. Bur. of stand., Washington '23

Recognized types of sizes of paving brick cut to six. Eng & Contr (R & S) 59:973 My 2 '23

Reducing number of paving brick varieties. Pub Works 51:434-5 D 3 '21; Brick & Clay Rec 59:806-7 N 29 '21; Elec Ry J 58:994; 59:650 D 3 '21, Ap 15 '22; Eng N 87:869-70; 88:544 N 24 '21, Mr 30 '22; Eng & Contr 56:541 D 7 '21; Good Roads 62:37-8 Ja 11 '22; Munic Eng 62:sup25 Ap '22; Nation's Business 10:43+ Ja '22

Using the standardized paving brick. W. W. Horner. Munic Eng 62:56-9 F '22; Same. Good Roads 62:70-2 F 1 '22

Pavements, Concrete

Advantages of hydrated lime in paving concrete. T. B. Shertzer. Can Eng 42:111-12 Ja 3 '22; Discussion. 43:444, 526+ O 10, N 7 '22; Concrete 21:202-3 D '22

Asphalt used for curing concrete pavements. B. H. Piepmeier. il Eng & Contr 57:117 F 1 '22

Assembling and spacing reinforcement in pavement slabs. diags Eng N 89:307 Ag 24 '22

Bates road tests do not apply to city streets. I. E. Houk. Eng N 91:399 S 6 '23; Discussion. H. C. Adams. 91:650 O 18 '23

Colorado Springs and Interurban railway co. paving job. il Concrete 21:17 Jl '22

Concave concrete pavement. Good Roads 64:21 Ja 10 '23

Concrete alley paving practice in Milwaukee. diags Eng N 89:936 N 30 '22

Concrete pavement construction. P. E. Schnepfe. Pub Works 51:502-3 D 31 '21

Concrete pavement materials. H. S. Mattimore. Can Eng 45:413 O 16 '23

Concrete pavement reinforcement. Pub Works 54:59-60 F '23

Concrete pavements laid in 1922. Pub Works 54:104-6 Mr '23

Concrete streets from 1896 to 1921. D. B. Davis. Concrete 19:228 D '21

Concrete vs. granite setts. H. C. Badder. Concrete 23:96 S '23

Concreting plant for street elevation. il Concrete 23:82-3 Ag '23

Curing concrete for pavements. Can Eng 44:641 Je 26 '23; Same. Good Roads 65:4+ Jl 4 '23

Dallastown asphalt-concrete highway. diag Pub Works 52:439-40 Je 17 '22

Developments in concrete pavement design. W. D. P. Warren. Munic Eng 64:89-91 Mr '23

Economy of plain and reinforced paving bases compared. J. A. McCabe. Concrete 21:49-50 Ag '22

Pavements, Concrete—Continued

- Essential features in concrete pavement design. C. F. Nesbit. *Munic Eng* 64:177-8 My '23
- Heavy concrete pavement on wide Chicago boulevard. il diag plan *Eng N* 89:840 N 16 '22
- Homemade device for placing burlap on fresh concrete. il diag *Eng N* 88:865 My 25 '22
- Inspection of concrete paving jobs. J. H. Wasson. *Eng & Contr (R & S)* 59:803-6 Ap 4 '23
- Keeping concrete pavement wet. *Pub Works* 52:259 Ap 15 '22
- Method of finishing joints in concrete pavement. E. E. Bauer. il *Eng & Contr* 57:327 Ap 5 '22
- Mixing and delivering concrete for city pavements. F. S. Besson. il plan *Concrete* 22:137-40 Ap '23
- New concrete pavement at Merritt, Ont. N. L. Somers. il diag *Can Eng* 43:623-4 D 12 '22
- Partial pavements for new subdivisions. diag *Eng N* 91:227 Ag 9 '23
- Pavement undermined by large sewer with-stands traffic. il *Eng N* 91:103 Jl 19 '23
- Paving mixers and finishing machines. *Eng N* 88:320-3 F 23 '22
- Paving the streets of Zion, Ill., with concrete. il *Eng & Contr (R & S)* 58:16-19 O 4 '22
- Permanent concrete paving. W. M. Stine. *Concrete* 19:229 D '21
- Sheet fabric reinforcement for concrete pavements. W. C. Kuhn. *Good Roads* 63:102-3 S 20 '22; Same. *Can Eng* 44:108-9 Ja 2 '23
- Slab design on hills and for irregular crossings. G. Reinberg, jr. diags *Eng N* 90:790-2 My 3 '23
- Street pavements of concrete. D. S. MacBride. il *Concrete* 20:71-3 F '22
- Use of calcium chloride in Illinois highway work. B. H. Piepmeier. *Munic Eng* 62:94-5 Mr '22
- Vigo county's experience with vibrolithic. R. E. Gibbons. *Pub Works* 54:131 Ap '23
- See also Pavements, Bituminous concrete; Roads, Concrete

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- Data on truck operations and construction costs of concrete pavement in Sioux county, Iowa. T. J. Lough. il *Eng & Contr* 57:17-18 Ja 4 '22
- Effect of initial pavement design upon ultimate cost. W. E. Rosengarten. *Good Roads* 62:335-7 Je 21 '22; Same. *Can Eng* 43:405-7 O 3 '22
- Man-hour cost of heavy paving. Lockport, Ill. C. E. Deleuw. *Eng N* 89:26-7 Jl 6 '22
- Municipal paving in Massena. W. E. Timmerman. il *Pub Works* 54:61-3 F '23
- Paving by city forces. H. J. Hanmer. il *Pub Works* 52:113-14 F 18 '22

Expansion joints

- Diagonal roadway joints. J. Vernier. *Eng N* 89:901 N 23 '22
- Improvement in center joints for concrete road. C. V. R. Fullenwider. il *Munic Eng* 64:21-3 Ja '23
- New joint filler for concrete pavements. *Can Eng* 44:241 F 13 '23
- Poured construction joints for concrete pavements. J. G. Bragg. il *Eng N* 91:687 O 25 '23

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- Experiments with the construction joints in concrete pavement. diags *Eng N* 88:1069-70 Je 29 '22
- Jointed concrete pavement in New York state. diags plans *Eng N* 88:918-19 Je 1 '22

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- Recent developments in concrete pavement maintenance. L. C. Smith. *Eng & Contr (R & S)* 59:545-7 Mr 7 '23; Same. *Concrete* 22:198-200 My '23; Same abr. *Can Eng* 44:421-2 Ap 17 '23
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- Illinois changes pavement cross-section. F. T. Sheets and C. Older. *Pub Works* 53:235 N '22
- Tentative standard specifications for Portland cement concrete pavements. *Am Concrete Inst Pro* 19:387-400; Discussion. 401-2 '23
- Weight of reinforcement for concrete pavements. W. C. Kuhn. *Eng & Contr (R & S)* 58:11 O 4 '22

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- Test highway at Pittsburg, Calif. il *Eng & Contr* 56:537 D 7 '21

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- Concrete vs. granite setts. H. C. Badder. *Concrete* 23:96 S '23
- Granite block pavement. C. D. Pollock. *Pub Works* 51:362-3 N 5 '21; Same. *Eng & Contr* 57:542 Je 7 '22
- Making a noiseless granite block paving. il *Elec Ry J* 61:481 Mr 17 '23
- New pavements of Danbury, Connecticut. C. D. Pollock. il *Pub Works* 51:371-4 N 12 '21
- Paving trunk line streets. J. C. Blake. *Munic Eng* 62:sup29-30 Ap '22
- Recommended procedure in the construction of granite block pavements. C. D. Pollock. il *Munic Eng* 62:207-10 Je '22
- Reconstruction and resurfacing of old pavements. J. Schmitt. *Can Eng* 42:253-4 F 21 '22; Same abr. *Eng & Contr* 58:105-6 Ag 2 '22
- Redressed granite block in Philadelphia. *Pub Works* 54:253-4 Ag '23
- Tests for granite paving blocks. C. D. Pollock. *Pub Works* 53:200-1 O '22; Same. *Eng & Contr (R & S)* 58:33-5 O 4 '22; Same. *Munic Eng* 63:135-7 O '22

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- Constructing durable roadways in France. F. Miltoun. il diag *Iron Tr R* 70:895 Mr 30 '22; Same. *Foundry* 50:315 Ap 15 '22

Pavements, Rubber

- American rubber pavement would save Harvard bridge. il *India Rubber W* 68:416-17 Ap '23
- British experiments with rubber paving. *Eng N* 91:18 Jl 5 '23
- Experimenting with rubber roads in England. *Can Eng* 45:212 Ag 7 '23
- Rubber pavement may save cost of new bridge. il *Pop Mech* 40:40 Jl '23
- Rubber pavement the world over. il *India Rubber W* 67:205-6, 288-90 Ja-F '23
- Rubber pavements come to America. il *India Rubber W* 69:77-8 N '23
- Rubber paving block is developed in England. *Chem & Met Eng* 27:952 N 8 '22; *Pub Works* 53:231 N '22

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- Steep street grades in San Francisco. J. M. Owens. *Eng N* 89:808 N 9 '22

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- Minneapolis experimental wood block pavement after 15 years' service. J. D. MacLean. diag *Eng & Contr* 56:415-17 N 2 '21; Same. *Pub Works* 51:485-8 D 24 '21

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- Treating wood block with asphaltic road oil. A. D. Stivers. il *Pub Works* 52:114 F 13 '22
- Wood-block pavements restored by seal coat. J. A. McElroy. *Eng N* 90:531 Mr 22 '23

Pavilions

- Analytique—a pavilion in a garden. *Am Arch* 123:416-20 My 9 '23

Pavilions, Orchestra

- First preliminary competition for the sixteenth Paris prize, an orchestra pavilion. il *Am Arch* 123:215-18 F 28 '23

- Paving brick. See Pavements, Brick—Standards
- Paving brick industry. See Brick industry and trade

Paving mixers

Paving mixers and finishing machines. Eng N 88:320-3 F 23 '22

World's largest paver. E. H. Lichtenberg. il Pop Mech 39:219-20 F '23

Pavlovo boots

Lifting the lowly galosh to advertising prominence. Ptr Ink 121:19-20 D 14 '22

Pawnbroking**Advertising**

Pawn broker who has passed the three-ball limit in advertising. Ptr Ink 121:109-10 O 19 '22

Payment

Sales contest that rewards both quality and quantity business; more substantial initial payments. Ptr Ink 125:173-4+ O 18 '23

Payne, John Howard

Best known home in the world; house of John Howard Payne. il diags plans Bldg Age 45: 43-7 Ap '23

Payrolls

A. B. & A. introduces tabulating machine checks. il Ry Age 75:76-7 JI 14 '23

Combining time card and pay check. E. C. Hough. Factory 31:601 N '23

Cost accounting of foundry labor. F. C. Everitt and J. Heywood. Iron Age 111: 1701-4 Je 14 '23

Cost finding in knitting mills. S. R. Gordon. Textile World 62:2905+ N 18 '22

Cutting pay-roll making expense in half. O. Crooker. Factory 31:177 Ag '23

Daily balanced pay-roll systems of the American rolling mill company. L. J. Brown. Management & Adm 6:445-52 O '23

Industrial cost accounting for executives. P. M. Atkins. Am Mach 58:541-5 Ap 12 '23

Keeping time and pay records. C. A. Walker. Iron Tr R 73:38-41 JI 5 '23

Minimizing payroll risks. S. J. Foote. System 42:408-9+ O '22

More accurate costs in less time; tying up operation costs with payroll disbursements. H. A. Krill. Factory 30:545-7 My '23

Paying-off plan that's error proof. Factory 28:646-8 Je '22

Robbery-proof payroll plan. D. S. Beebe. Factory 30:695 Je '23

Speeding up the paying-off line. J. H. Delany. il Factory 30:422-3 Ap '23

Peabody museum. See Yale university—Peabody museum

Peace

American peace award created by Edward W. Bok—jury of award—conditions of award. Comm & Fin Chr 117:1851-2 O 27 '23; Am Inst E E J 42:1226-7 N '23

Appeal of Americans to churches to declare stand against war. Comm & Fin Chr 116: 252 Ja 20 '23

Edward Bok's \$100,000 peace offer—former Vice-President Marshall suggests that all nations provide for submission of question of war to referendum vote. Comm & Fin Chr 117:284-6 JI 21 '23

See also Disarmament

Peace palace. See The Hague, Netherlands—Palace of peace

Peanut hulls

Production of acetone, alcohol, and acids from oat and peanut hulls. E. B. Fred, W. H. Peterson and J. A. Anderson. Ind & Eng Chem 15:126 F '23

Peanut oil

Determination of the mixture of arachidic and lignoceric acids in peanut oil by means of magnesium soaps. A. W. Thomas and Chai-Lan Yu. Am Chem Soc J 45:113-28 Ja '23

Pearlite. See Steel—Metallography

Pearls

Fishing for pearls. C: H: Dorr. il Sci Am 128: 102-3 F '23

Pearls, Artificial

Artificial pearls; patent. Chem Age 31:46 Ja '23

Detection of cultivated Japanese pearls. C. S. Fox. Sci Am 128:227 Ap '23

How to make artificial pearls. R. R. Henderson. il Pop Mech 38:806-8 N '22

Jewels of romance in far Japan. N. Sakata. il Pop Mech 40:496-8 O '23

Phosphorescent jewels for pearl dance. H. A. Lane. il Pop Mech 39:35-6 Ja '23

Peat

Canada hopes peat will displace much anthracite. E. L. Chicanot. il plan Coal Age 23: 215-18 F 1 '23

Carbonisation of peat in vertical gas retorts. 13p Gt. Brit. Dept. of scientific and industrial research, London '21

La cokéfaction de la tourbe et du bois. B. Waeser. diag Chimie & Ind 7:277-8 F '22

Excavation by water jets in Finland. Eng & Contr 57:530 My 31 '22

Experiments with peat. C. H. S. Tupholme. Power Pl Eng 25:416-18 Ap 15 '22

Handbook on the winning and utilization of peat. A. Hausding. tr. fr. 3d. German ed. 506p Gr. Bt. Fuel research board, London '21; Review. Engineering 114:184-5 Ag 11 '22

Hydraulic excavation of peat. Can Eng 44: 342 Mr 20 '23

Manufacture of peat fuel and its utilization for various purposes. B. F. Haanel. il diag Am Inst Chem Eng Trans v 13 pt 1:431-59 '20

New method of getting peat. Ind Management (Lond) 9:314 My 17 '23

Occurrence and uses of peat in the United States. E. K. Soper and C. C. Osborn. maps U S Geol S Bul 728:1-207, pl 1-18 '22

Peaceful conquest; how Germany is reclaiming marshlands. A. Neuberger. il Sci Am 128:390 Je '23

Peat bogs furnish rival to coal as power fuel. il Pop Mech 40:843 D '23

Peat fuel in British power plants. P. F. Purcell. Power Pl Eng 26:221-2 F 15 '22

Powdered peat as fuel for heating furnaces. il Pop Mech 37:92-3 Ja '22

Production of air-dried peat; abstracts of report. Engineering 115:808-9 Je 29 '23; Gas J (Lond) 163:479 Ag 8 '23; Can Eng 45:333-4 S 18 '23; Engineer 136:527 N 16 '23

Profitable crops from peat bogs; tractor types for reclaiming waste land. J. L. Larson. il Soc Auto Eng J 12:610-11 Je '23

Question in national resources; the importance of a central station for peat and muck investigations. A. P. Dachnowski. Sci Am 126:118 F '22

Substitute automotive fuels obtained from lignite and peat. P. M. Heldt. Automotive Ind 49:536-7 S 13 '23

Tests on carbonizing Irish peat. Can Eng 42: 152 Ja 17 '22

Tractor and plow usage in the first breaking of peat land. J. L. Larson. il chart diags plan Soc Auto Eng J 13:285-92; Discussion. 292-5 O '23

See also Dopplerite

Peat as fertilizer

Peat as a carrier for bacteria; soil fertilization and plant growth. G. H. Earp-Thomas. Chem Age 29:491-2 D '21

Pebbles

Shapes of beach pebbles. C. K. Wentworth. diags U S Geol S Prof Pa 131—C:75-83, pl 26-7 '22

Shapes of pebbles. C. K. Wentworth. il diags map U S Geol S Bul 730—C:91-114 '22

Wedge work of pebbles. C. K. Wentworth. il Am J Sci 5th ser 2:313-18 D '21

Pecllet, Claude Eugene, 1793-1857

Eugene Pecllet as a heating and ventilating engineer. P. Nicholls. diags Am Soc Heat & V E J 28:709-18 O '22; Same. Sanitary & Heat Eng 98:224-5, 283-5 O 20, N 17 '22

Pectins

Relation of alcohol precipitate to jellifying power of citrus pectin extracts. R. Johnston and M. C. Denton. Ind & Eng Chem 15: 778-80 Ag '23

Study of the relation of pectin and acidity in jelly making. L. Singh. J Ind & Eng Chem 14:710-11 Ag '22

Peddlers and peddling

London coster as publisher. T: Russel. Ptr
Ink M 4:98+ Ap '22

Peek, Frank William, jr., 1884-
Sketch. por Elec W 81:844 Ap 14 '23

Pelargonin

Colouring matter of the scarlet pelargonium.
G. S. Currey. Chem Soc J 121:319-23 Mr '22

Pellotine

Anhalonium alkaloids; constitution of pel-
lotine, anhalonidine, and anhalamine. E.
Späth. Chem Soc J 122 pt 1:163-6 F '22

Pelts. See Hides and skins

Pen drawing

Making technique take the place of color.
Ptr Ink 120:41-2+ J1 13 '22

Mechanical drawings made interesting. Ptr
Ink 119:48+ Je 8 '22

Pencil drawing

Art of drawing in lead pencil. J. Salwey. 224p
Scribner '21

Pencil original makes a bid for consideration.
Ptr Ink 122:97-8+ Mr 15 '23

Pencils

Your pencil unmasked. F. C. Sutton. Soc
Chem Ind J (Chem & Ind) 42:710-11 J1 20
'23

See also Eversharp pencils

Manufacture

Rolling mill in a pencil factory; rolling and
drawing of precious metals. G. L. Lacher. il
Iron Age 111:26-30 Ja 4 '23

Pendulum

Energy partition in the double pendulum. H.
S. Rowell. Philos Mag 6th ser 44:382-3 Ag
'22

Pendulum apparatus for aerodynamic experi-
ments. O. T. Gnosspeilus. Engineering 114:
777 D 22 '22

Penelains

Blue Ridge in New England. R. H. Brown.
Am J Sci 5th ser 6:15-21 J1 '23

Penguins

Flightless birds inhabit Antarctic seas. il
Pop Mech 40:748 N '23

Pennell, Joseph

Joseph Pennell carries on. F. T. Singleton.
Ptg Art 38:463-6 Ja '22

Pennington, Edmund, 1848-

Chairman of the Soo. por Ry Age 72:1241-2 My
27 '22

Pennsylvania

See also Coal—Pennsylvania; Coal miners
—Pennsylvania; Coal mines and mining—
Pennsylvania; Electric plants (central sta-
tions)—Pennsylvania; Hydroelectric plants
—Pennsylvania; Iron mines and mining—
Pennsylvania; Motor bus lines—Pennsyl-
vania; Petroleum industry and trade—Penn-
sylvania; Roads—Pennsylvania; Steel works
—Pennsylvania

Appropriations and expenditures

Report of the Citizens' committee on the
finances of Pennsylvania. 3v State of Penn-
sylvania, Harrisburg '23

Architecture

See Architecture—Pennsylvania

Highway department

Pennsylvania state highway organization.
charts Pub Works 53:1-5 J1 1 '22

Pennsylvania state highway testing labora-
tory. Pub Works 52:25-6 Ja 14 '22

Putting business methods into state highway
management; Pennsylvania develops theory
of organization. Eng N 88:561-4 Ap 6 '22

Sanitary water board

Pennsylvania sanitary water board: powers,
duties and policies. W. L. Stevenson. Eng
N 91:684-5 O 25 '23

Pennsylvania railroad

Board condemns labor policy of Pennsylvania.
Ry Age 74:1513-14 Je 23 '23

Chicago court rules in favor of Pennsylvania
R.R. in question involving jurisdiction of
Railroad labor board. Comm & Fin Chr 114:
1969-70 My 6 '22

Decisions of the Railroad labor board; the
Pennsylvania railroad cases. Monthly Labor
R 17:418-25 Ag '23

Employee representation and discipline. E.
Lee. Ry Age 75:855-7 N 10 '23

Employee representation on the Pennsylvania.
Ry Age 73:691-8 O 14 '22

Employee representatives elected on Penn-
sylvania. Ry Age 74:1414-15 Je 16 '23

How Pennsylvania railroad keeps peace with
its employees. H. A. Enochs. Ry R 71:787-9
D 2 '22

Inter-state commerce commission authorizes
Pennsylvania railroad to lease Pittsburgh,
Cincinnati, Chicago & St Louis railroad but
imposes important conditions. Comm & Fin
Chr 115:391-3 J1 22 '22; Excerpts. Ry Age
73:159-60 J1 22 '22

Labor board appeals adverse court decision in
Pennsylvania case. Ry Age 72:1124-5 My 13
'22

Labor board without power to compel negoti-
ations with labor unions; decision in the
Pennsylvania case. Ry R 70:605-8 Ap 29 '22;
Same cond. Ry Age 72:1021-4 Ap 29 '22

Misunderstandings about employee representa-
tion. Ry Age 75:560-1 S 29 '23

Modern freight terminal of the Pennsylvania
railroad system in Chicago, Illinois.
W: L. R. Haines. il diags plans Am Soc C E
Pro 49:1585-1606, pl 5-6 S '23

Pennsylvania-American plan from the labor
standpoint. Ry R 71:681-2 N 11 '22

Pennsylvania continues operating improve-
ment. map Ry Age 74:909-11 Ap 7 '23

Pennsylvania decision; a challenge to rail-
road executives. B: Baker. Annalist 21:318-
19 F 26 '23

Pennsylvania labor board case argued in
Supreme court. Ry Age 74:228 Ja 20 '23

Pennsylvania R.R. completes its entrance
into Detroit, Mich. il maps Ry R 73:561-8 O
20 '23

Pennsylvania R.R. in annual report shows
taxes disproportionate. Ry R 70:546-7 Ap 15
'22

Pennsylvania railroad obtains injunction re-
straining U.S. labor board. Comm & Fin
Chr 113:2469-70 D 10 '21

Pennsylvania R. R. will extend lines to De-
troit. maps Eng N 88:1082-3 Je 29 '22

Pennsylvania railroad's issue with the Labor
board. S: Rea. Ry R 72:777-8 My 5 '23; Ex-
cerpt. Comm & Fin Chr 116:2086-7 My 12
'23

Pennsylvania stands ground against Labor
board. Ry Age 74:1093-4 My 5 '23

Pennsylvania system holds third annual field
meet. il Ry Age 73:607-9 S 30 '22

Pennsylvania to build into Detroit. Ry R 70:
793-5 Je 3 '22

Pennsylvania to complete entrance into De-
troit. map Ry Age 72:1717-18 Je 24 '22

Piece work on the Pennsylvania system; em-
ployee representation methods. Ry Age 75:
344-6 Ag 25 '23

Plan for closer industrial relations; how rep-
resentatives of brotherhoods and manage-
ment of the Pennsylvania deal with each
other. H. E. Core. Ry Age 75:681-2 O 13
'23

Practical method of securing co-operation;
the Mutual beneficial association at Altoona.
W: Elmer. Ry Age 74:433-4 F 17 '23

Railroad labor board wins appeal in Penn-
sylvania case. Ry R 71:151-4 J1 29 '22; Ex-
cerpts. Ry Age 73:193-4 J1 29 '22

Remarkable improvement shown by Pennsyl-
vania in 1921. il Ry Age 72:863-5 Ap 8 '22

Representation plan on the Pennsylvania rail-
road. E. Lee. Aera 12:613-19 N '23; Same
cond. Elec Ry J 62:593-4 O 13 '23

Samuel Rea explains stand to Labor board.
Ry Age 74:1314 Je 2 '23

76th annual report—year ended Dec. 31, 1922.
Comm & Fin Chr 116:1523-4 Ap 7 '23

Supreme court opinion in the Pennsylvania
railroad labor case. Ry R 72:342-3 F 24 '23;
Ry Age 74:479 F 24 '23

Pennsylvania railroad—Continued

Training and inspiring the supervisory forces.
I. U. Kershner. Ry Age 74:1259-61 My 26 '23

Women's aid

Pennsylvania women's aid. Ry Age 73:610 S 30 '22

Women's aid of the Pennsylvania system; social welfare work done. il Ry Age 72:919-20 Ap 15 '22

Pennsylvania society of safety engineers

Pennsylvania society of safety engineers formed at Harrisburg. Safety Eng 43:248-9 Je '22

Pennsylvania state college

More chemists and the service of Penn. state college in their production. J. M. Thomas. Chem Age 30:337-9 Ag '22

Pennsylvania. University

Franklin Field stadium, University of Pennsylvania. il diags plans Am Arch 124:366-73 O 24 '23

Pennsylvania water and power company

12th annual report of the board of directors for the year 1921. Comm & Fin Chr 114:422 Ja 28 '22

Report of the board of directors for the year 1922. Comm & Fin Chr 116:528 F 3 '23

Pensions

Act relating to municipal employees' annuity and benefit fund, Chicago. 130p Municipal employees' annuity and benefit fund, Chicago

See also Civil service pensions; Mothers' pensions; Old age pensions

Pensions, Industrial

Critical analysis of industrial pension systems. L. Conant. 262p Macmillan '22

Does a pension system hold men in railroad service; views of railroad and supply men. Ry R 72:372-4 Mr 3 '23

Good intentions, or a pension plan? F. Saunders. Ind Management 64:300-1 N '22

Income building for the worker. E. E. Rice. Management Eng 2:202-4 Ap '22

Pension costs and the labor turnover factor. J. H. Woodward. Management & Adm 6:483-6 O '23

Pension funds in chemical industry. Chem Age 31:463-4 O '23

Pension scheme for the staff of a small gas undertaking. F. G. Kingwell. Gas J (Lond) 162:799-800 Je 27 '23

Pensions for industrial and commercial employees. 24p American management association, New York '22

Pensions for workers. Elec R (Lond) 92:670-1 Ap 27 '23

Selling a concern to employees by a pension system. C. J. Whipple. Ptr Ink 119:99-100+ Je 8 '22

See also Insurance, Industrial

Penstocks

Hydro-electric plant with head of over one mile. F. A. Noetzi. il diags Eng N 91:395-6 S 6 '23

Large steel penstock collapses. J. L. Underhill. il Can Eng 45:148 Jl 17 '23

Present day penstock design. 80p National electric light association, 29 W. 39th st., New York '23

Test of friction losses made on large penstocks. R. A. Monroe. il diags Eng N 91:598-9 O 11 '23

Protection

Guniting steel penstocks to eliminate trouble due to ice formation. J. A. McCrory. il Can Eng 44:125 Ja 9 '23

Pentamminecobaltic compounds

Complex metallic amines; the introduction of di- and tri-basic organic acid radicals into the pentamminecobaltic complex. J. C. Duff. Chem Soc J 123:560-75 Mr '23

Pentane

Mechanism of thermal decomposition of the pentanes. G. Calingaert. Am Chem Soc J 45:130-5 Ja '23

Molecular scattering of light in *n*-pentane. R. Venkateswaran. Chem Soc J 121:2655-63 D '22

Pentaphenylethyl

Über analoge des pentaphenyl-äthyls. W. Schlenk and H. Mark. Deutsche Chem Gesell Ber 55:2299-2302 S '22

Über das freie pentaphenyl-äthyl (ein beitrage zur kenntnis der natur der kohlenstoffbindung). W. Schlenk and H. Mark. Deutsche Chem Gesell Ber 55:2285-99 S '22; Abstract. Chem Soc J 122 pt 1:1002-3 N '22

Pentaphenyl-pyrylium salts

Über pyrylium-verbindungen; pentaphenyl-pyryliumsalze—mit einem anhang: zur formulierung der farbsalze. W. Diltthey. Deutsche Chem Gesell Ber 55:1275-9 My '22

Pentathionic acid

Action of thiosulphates on cupric salts. H. Bassett and R. G. Durrant. Chem Soc J 123:1279-91 My '23

Pentosans

Estimation of pentoses and pentosans. N. C. Pervier and R. A. Gortner. Ind & Eng Chem 15:1167-9, 1255-60; Bibliography. 1260-2 N-D '23

Pentoses

Detection of pentose, formaldehyde and methyl alcohol. J. B. Sumner. Am Chem Soc J 45:2378-80 O '23

Estimation of pentoses and pentosans. N. C. Pervier and R. A. Gortner. Ind & Eng Chem 15:1167-9, 1255-60; Bibliography. 1260-2 N-D '23

Peonies

Hobby business of an underwear manufacturer; peonies. il Ptr Ink M 5:57-8+ O '22

Pepper substances

Natural and artificial pepper-substances and the relation between chemical constitution and peppery taste. E. Ott and K. Zimmermann. Chem Soc J 122 pt 1:137-8 F '22

Natürliche und künstliche pfefferstoffe; über das chavicin des pfefferharzes, den vorzugsweise wirksamen bestandteil des schwarzen pfeffers. E. Ott and others. Deutsche Chem Gesell Ber 55:2653-63 S '22; Abstract. Chem Soc J 122 pt 1:1026-7 N '22

See also Kava

Pepsin

Comparison between the chemical and physiological characteristics of pepsin and rennin. F. Fenger. Am Chem Soc J 45:249-55 Ja '23

Peptides

Alkalimetrische bestimmung von aminosäuren und peptiden. R. Willstätter and E. Waldschmidt-Leitz. Deutsche Chem Gesell Ber 54:2988-93 D '21

Percentage

How to figure percentage. G. W. Hafner. Dom Eng 101:384-5 D 2 '22

Percentages: a note on the necessity of correct wording. H. E. M. Kensit. Can Eng 44:587 Je 12 '23

Percentages—some pitfalls to avoid. Power 57:190 Ja 30 '23

Perchlorates

Perchlorates of the alkali and alkaline earth metals and ammonium; their solubility in water and other solvents. H. H. Willard and G. F. Smith. Am Chem Soc J 45:286-97 F '23

Preparation of perchlorates by heating chlorates. F. C. Mathers and J. W. H. Aldred. Am Electrochem Soc Trans v 42 (preprint 8):57-63 S '22

Perchloric acid

Electrolytic oxidation of HCl to perchloric acid. H. M. Goodwin and E. C. Walker. biblig Chem & Met Eng 25:1093-5 D 14 '21

Pere Marquette railroad

Pere Marquette has record corporate net. map Ry Age 74:1213-15 My 19 '23

Pere Marquette valuation. Ry Age 73:118 Jl 15 '22

Pere Marquette's surplus in 1921 after charges \$3,765,880. Ry Age 72:1181-2 My 20 '22

Report for 1921. Ry Age 72:1203 My 20 '22

Report for the fiscal year ended December 31, 1922. Ry Age 74:1248 My 19 '23

Perforated records

Control of machines by perforated records based on Jacquard mechanism; principles of pneumatic and electric control. E. Scheyer. *Il diags Am Mach* 55:743-7 N 10 '21
Établissement et ventilation des feuilles de paye et analyse des prix de revient par l'emploi de machines automatiques. Il Génie Civil 82:398-401 Ap 28 '23
 When perforated paper goes to work; how strips of paper can endow inanimate machines with brains of their own. E. Scheyer. *Il diags Sci Am* 127:394-5+ D '22

Perfumery

Building a perfume business on a single odor. J. True. *Ptr Ink* 119:33-4+ Ap 27 '22
 Chemistry of essential oils and artificial perfumes. E. J. Parry. 4th ed., rev. & enl. Van Nostrand '21
 Flower and the organic chemist: perfumes—natural and synthetic. M. T. Bogert. *J Ind & Eng Chem* 14:359-64 My '22
 Perfumes and cosmetics. G. W. Askinson. 5th ed. 392p Henley '22
 Perfumes, essential oils, & fruit essences used for soap and other toilet articles. G. Martin. (Manuals of chemical technology X) 138p Appleton '21

See also Odors

Standardization

Standardization of perfumers' raw materials. F. K. Woodworth. *Chem Age* 31:36 Ja '23

Peridotite

Diamond-bearing peridotite in Pike county, Arkansas. H. D. Miser and C. S. Ross. *bibliog U S Geol S Bul* 735—I:279-322, pl 8-15 '23; Abstract. *Econ Geol* 17:662-74 D '22
 Peridotite dikes in Scott county, Arkansas. H. D. Miser and C. S. Ross. *maps U S Geol S Bul* 735—H:271-8, pl 7 '22

Periodic law

Bohr atom and the periodic law. N. V. Sidgwick. *Soc Chem Ind J (Chem & Ind)* 42: 901-3 S 21 '23; Abstract. *Engineering* 116: 518 O 26 '23
 Curves of the periodic law. W. M. Thornton. *diags Philos Mag* 6th ser 46:442-8 S '23
 Isotopes: a new relation concerning the periodic system of the atomic species. W. D. Harkins. *Am Chem Soc J* 45:1426-33 Je '23
 Periodic law and hafnium. *Chem Age (Lond)* 9:310 S 22 '23

Periodicals

Circulating the trade magazines. D. A. Washburn. *Am Mach* 57:644 O 26 '22
 Typographical discourtesy. *Inland Ptr* 71: 521-2 J1 '23

See also Audit bureau of circulations; Business periodicals; Electric engineering—Periodicals; Employees' magazines; Engineering—Periodicals; House organs; Newspapers; Technical periodicals; Trade journals

Bibliography

Classified list of technical, industrial and scientific periodicals in the applied science reference room, 1923. *Quarterly Booklist*, Summer, 1923 p. 36-44 Pratt institute free library '23
 Economic and sociological periodicals in the New York public library. *New York Pub Lib Bul* 27:27-52 Ja '23
 Foreign periodicals on trade and economic conditions. E. M. Crampton. *U S Bur For & Dom Com misc ser* 114:1-33 '22
 List of periodicals abstracted by Chemical abstracts. Ohio state univ., Columbus '22 [Reprinted from Chemical abstracts, v. 16, no. 20, Oct. 20, 1922]
 List of periodicals currently received in the library. *St Louis Pub Lib Bul* p. 190-239 Ag '23
 List of serials currently received in the library of the U.S. Department of agriculture. (Dept. Circ. 137) 358p U.S. Dept. of agric., Washington '22
 Union list of magazines, chiefly of a scientific and technical character, in the libraries of certain government offices in Ottawa. 38 numb. l. Carnegie library, Ottawa '21

Union list of periodicals. F. G. Lewis. *Special Lib* 14:31-2 Mr '23

T. Franklin Currier, assistant librarian, Harvard university library, Cambridge, Mass. has a union list on cards of Scandinavian periodicals now accessible in American libraries and will answer questions in regard to the whereabouts of Scandinavian periodicals

See also Trade journals—Bibliography

Indexes

Contents and index vols. I to XXXVIII. Stevens *Ind* 38:331-408 O '21
 Journal of accountancy index. vols. XVII-XXXIV inclusive, January, 1914-December, 1922. 221p Journal of accountancy, inc., 135 Cedar st., New York '23
 Monthly labor review subject index, volumes I to XI, July, 1915, to December, 1920. 176p U.S. Bur. of labor statistics, Washington '23
 Physical review; general index, 1893-1920. 200p American physical soc., Lancaster, Pa., Ithaca, N.Y.

Perioidides

Preparation of potassium and sodium arylsulphoniodoamides. E. Roberts. *Chem Soc J* 123:849-53 Ap '23

Perishable freight. See Freight, Perishable

Perkin medal

Dr Whitaker gets Perkin medal from Society of chemical industry. *Oil Paint & Drug Rep* 103:19+ Ja 15 '23

Perkin medal is presented to William M. Burton. *Chem & Met Eng* 26:100-5 Ja 18 '22; *J Ind & Eng Chem* 14:159-63 F '22

Permalloy

New nickel-iron alloy. *Metal Ind* 21:187 My '23
 Permalloy, an alloy of remarkable magnetic properties. H. D. Arnold and G. W. Elmen. *J Fr Inst* 195:621-32 My '23; Abstract. *Elec R (Lond)* 92:1023-4 Je 29 '23

Permanent conference for the abolition of child labor

National organization formed to abolish child labor. *Comm & Fin Chr* 114:2544 Je 10 '22

Permanent court of international justice

Federal council of Churches of Christ in America urges support of President Harding's proposal that United States join world court. *Comm & Fin Chr* 116:2592-3 Je 9 '23
 Opening of Permanent court of international justice at the Hague. *Comm & Fin Chr* 114: 1022 Mr 11 '22

Plea for adherence to world court renewed. *Comm & Fin Chr* 116:2946-9 Je 30 '23

President Harding reiterates stand of United States against League of nations—renews plea for joining of world court. *Comm & Fin Chr* 116:3848-50 Ap 28 '23

President Harding's proposal for American participation in Court of international justice: message to Senate. *Comm & Fin Chr* 116:867-8, 889-92 Mr 3 '23

Secretary of state Hughes says world court is not controlled by league; other opinions on the President's proposal. *Comm & Fin Chr* 116:1958-63 My 5 '23

Senate withholds approval of President Harding's recommendation to have U.S. join world court. *Comm & Fin Chr* 116:1010-12 Mr 10 '23

Permanent international association of navigation congresses. See International congress of navigation

Permeability, Magnetic. See Magnetic permeability

Permutit

Permutit process of water softening. G. H. Rome. *Am Dyestuff Rep* 12:613-14 Ag 13 '23

Peroxidases

Quantitative method for determination of peroxidase in milk. F. E. Rice and T. Hanzawa. *J Ind & Eng Chem* 14:201-2 Mr '22

Peroxides

Glyoximes and peroxides. D. Bigiavi. *Chem Soc J* 122 pt 1:352-3 Ap '22

Peroxides—Continued

Use of peroxides in the cyanide process. W. J. Sharwood. *Eng & Min J* 115:876-7 My 19 '23

Perpetuities

Rule against perpetuities applied to trusts. F. Vierling. *J Account* 36:180-5 S '23

Perry, James William, 1868-

Sketch. *por Elec W* 81:374 F 17 '23

Pershing Square building. See New York (city) —Architecture

Persia

See also Petroleum industry and trade—Persia

Foreign relations

Standard oil company and Persian concessions. L. Pasvolosky. *Annalist* 20:175, 200 Ag 21-28 '22

Persian art. See Art, Persian

Personality

Some aspects of animal mechanism. C. S. Sherrington. *Sci Am* 128:171 Mr '23

Personnel research. See Industrial research

Personnel research federation

First meeting, 1921, Washington. *Monthly*

Labor R 14:48-50 Ja '22

Personnel federation active. *Iron Age* 109:1202 My 4 '22

Personnel work. See Employment management

Perspective

Perspective. A. S. Percival. 42p Longmans '21
Unusual perspectives make unusual advertising illustrations. *Ptr Ink* 121:77-8+ O 19 '22

Perspiration

Perspiration. A. A. Claffin. *Am Dyestuff Rep*

12:211-13; Discussion. 215-16 Mr 12 '23

Physiology of sweating. *Sci Am* 128:239 Ap '23

Perturbation

Problems of quantum theory in the light of the theory of perturbations. P. S. Epstein. *Phys R* 19:578-608 Je '22

Peru

See also Agriculture—Peru; Automobile industry and trade—Peru; Copper mines and mining—Peru; Cotton trade—Peru; Electric industries—Peru; Geology—Peru; Hydroelectric plants—Peru; Land tenure—Peru; Lumber trade—Peru; Mines and mineral resources—Peru; Motor bus lines—Peru; Petroleum—Peru; Tractor industry and trade—Peru; Wages—Peru

Antiquities

See Incas

Commerce

Commerce of Peru, latest reports from Peruvian official sources. 6p Pan American union, Washington '22

Description and travel

Facing death in wilds of Peru. J. T. E. Jones. *il Pop Mech* 40:528-31 O '23

Peterborough, New Hampshire**Architecture**

Group of buildings at Peterborough, N.H. *Arch Forum* 37:151, pl 44-7, 51-6 S '22

Peterborough, Ontario**Bridges**

Canada's greatest concrete bridge over the Otonabee river, Peterborough. F. Barber. *il diag Eng & Contr* 57:489-90 My 24 '22

Peterborough historical society

Peterborough historical society building, Peterborough, N.H. *Arch Forum* 37:pl 51-4 S '22

Peters, Ralph, 1853-1923

Sketch. *por Ry Age* 75:687 O 13 '23

Petersburg, Virginia**Rapid transit**

Trolley bus operation inaugurated at Petersburg. *il Bus Transportation* 2:379-81 Ag '23

Petersen earth coil

Neutral grounding reactor. W. W. Lewis. *il diags Am Inst E E J* 42:467-84 My '23; Discussion. 42:1082-7 O '23

Operating performance of a Petersen earth coil. J. M. Oliver and W. W. Eberhardt. *il diags Am Inst E E J* 42:904-14 S '23; Abstract. *Elec W* 81:1020-2 My 5 '23

Overvoltages, overloads and conditions of effective resonance in the practical use of the Petersen reactor; abstract. A. Incontri. *Elec W* 82:296 Ag 11 '23

Petersen coil reduces interruptions due to insulator flashovers. *diags Elec W* 81:1020-2 My 5 '23

Petersen earth coil. R. N. Conwell and R. D. Evans. *diags Am Inst E E J* 41:140-8 F '22; Excerpts. *Elec W* 79:377 F 25 '22; Discussion. *Am Inst E E J* 41:650-7 S '22

Petrography. See Rocks**Petrolatum**

Melting-point bridge for petrolatums, shale oils, and shale-oil distillates. L. C. Karrick and V. F. Parry. *plan Ind & Eng Chem* 15: 600-2 Je '23

Porosity: use of petroleum products as absorption liquids. E. W. Washburn and E. N. Bunting. *diag Am Cer Soc J* 4:983-9 D '21

Report of sub-committee of A.S.T.M. on petrolatum. *Am Soc T M Pro* 21:354-9 '21; 22 pt 1:419-21 '22

Petroleum

Colloid chemistry of petroleum. A. E. Dunstan. *Inst Pet Tech J* 8:73-9 Ja '22; Abstract. *Nat Pet N* 14:37 Ag 30 '22

Effect of paraffin wax on viscosity of petroleum oils. E. W. Dean and M. B. Cooke. *J Ind & Eng Chem* 14:410-11 My '22

Die erdöllagerstätten und übrigen kohlenwasserstoff-vorkommen der erdrinde. E. Blumer. 441p Verlag von F. Enke, Stuttgart '22

Handbook of petroleum, asphalt and natural gas. R. Cross. (Bul. 16) 622p Kansas City testing laboratory, Kansas City, Mo. '22

Handbook of the petroleum industry. D. T. Day and others. 2070p Wiley '22

Investigation into the physico-chemical significance of flash-point temperatures. W. R. Ormandy and E. C. Craven. *diag Inst Pet Tech J* 8:145-72 Ap '22; Abstract. *Engineering* 113:80-1 Ja 20 '22; Discussion. *Inst Pet Tech J* 8:173-80 Ap '22

Lubrication—petroleum and its production. W. F. Osborne. *Power* 55:19, 61, 102, 133 Ja 3-24 '22

Meeting, division of petroleum chemistry, A. C. S. Chem & Met Eng 27:590-1 S 20 '22; Oil Paint & Drug Rep 102:xxii-xxiii sec 2 S 11 '22

Naphthenic acids derived from Japanese petroleum. Y. Tanaka and S. Nagai. *Am Chem Soc J* 45:754-6 Mr '23

Note on petroleum. W. Ramsay. *Soc Chem Ind J* 42:287-8 Je 29 '23

Oil encyclopedia. M. Mitzakis. 551p Wiley '22
Oil-shale industry with respect to the petroleum situation. J. R. Reeves. *Eng & Min J* 115:721-2 Ap 21 '23

Petroleum. G. M. Butler and M. A. Allen. (Arizona Bur. of mines. Bul. 116) 45p Univ. of Arizona, Tucson '21

Petroleum. B. Redwood. 4th ed., rev. & rewritten. 3v Lippincott '22

Petroleum a raw material for our chemical industries. S. Born. *il Chem Age* 29:444-6 N '21

Petroleum and world politics. E. C. Eckel. *Annalist* 18:463-4 N 14 '21

Petroleum as a chemical raw material; abstract. B. T. Brooks. *Chem & Met Eng* 29: 576 S 24 '23; Discussion. 29:721, 806-7 O 15, 29 '23

Petroleum resources of the world. V. R. Garfias. 243p Wiley '23

Primary source of petroleum. H. W. Hixon. *Nat Pet N* 14:61 O 4 '22

Recherche et exploitation du pétrole. J. A. Harde. 275p Dunod, Paris '22

Surface tension of petroleum. C. K. Francis and H. T. Bennett. *diag J Ind & Eng Chem* 14:626-8 Jl '22

Petroleum—Continued

Symposium on petroleum and gas. Am Inst Min & Met Engineers Trans preprint 1241-P:1-134 Ap '23
 Viscosity of petroleum oils. A. R. Albouze. Mech Eng 44:61-2 Ja '22
 World oil problems. A. C. Veatch. Am Pet Inst Bul 3:37-9 D 30 '22; Same. Nat Pet N 14:73+ D 20 '22; Excerpts. Eng & Min J 114:1125 D 23 '22

See also Bituminous materials; Coal-tar products; Fuel, Colloidal; Gas oil; Gasoline; Inflammable liquids; Kerosene; Liquid fuel; Oil lands; Oil shales; Oil storage; Salt domes

Analysis

Refining analyses show Mid-continent crudes have high quality. H. H. Hill, E. W. Dean and N. A. C. Smith. Nat Pet N 14:33-4+ Mr 22 '22

Bibliography

Abstracts. See quarterly numbers of Journal of the Institution of petroleum technologists
 Bibliography of petroleum and allied substances in 1919 and 1920. E. H. Burroughs. U S Bur Mines Bul 216:1-374 '23
 Bibliography of petroleum and allied substances, 1921. E. H. Burroughs. U S Bur Mines Bul 220:1-230 '23
 Current bibliography. See quarterly numbers of Journal of the Institution of petroleum technologists
 Mining and metallurgical index. Published in monthly numbers of Mining and metallurgy
 Petroleum. W. H. Dalton and others. v. 3, p.1155-1317 Lippincott '22
 Recent articles on petroleum and allied substances. Rep of Investigations U S Bur Mines 2317:1-39; 2330:1-53; 2340:1-29; 2348:1-21 Ja-Apr '22
 Recent articles on petroleum and allied substances. H. Britton, comp. 34p U S Bur Mines '23 (Typew)

Conservation

Elimination of oil-field waste. A. B. Thompson. Inst Pet Tech J 8:1-32 Ja '22; Abstract. Engineering 112:670-1 N 11 '21; Discussion. Inst Pet Tech J 8:32-49 Ja '22
 Oilfield waste. A. B. Thompson. Inst Pet Tech J 9:311-22; Discussion. 322-9 Ag '23

See also Petroleum—Evaporation losses

Dehydration

See Petroleum—Water problem

Dictionaries

Petroleum glossary. 52p Pan American petroleum & transport co., 120 Broadway, New York '22

Emulsions

See Petroleum—Water problem

Estimates

See Petroleum supply

Evaporation losses

Decreasing evaporation is better business proposition than cracking. J. H. Wiggins. Nat Pet N 14:29+ D 6 '22
 Durable foam seal stops evaporation and reduces fire risk. P. Truesdell. diags Nat Pet N 14:43+ J1 12 '22
 Evaporation and fire loss problem—sealite. J. M. Jennings. Am Pet Inst Bul 3:122-8 D 30 '22; Same abr. Nat Pet N 14:40d D 13 '22
 Evaporation loss of petroleum in the Mid-continent field. J. H. Wiggins. il diags U S Bur Mines Bul 200:1-115 '22
 Evaporation losses compared to natural gasoline industry. J. H. Wiggins. il Nat Pet N 14:31 D 20 '22
 Evaporation losses in the petroleum industry. Engineering 114:806-7 D 29 '22
 Loss of gasoline by evaporation from crude is \$250,000,000 for 1922. J. H. Wiggins. Nat Pet N 14:30+ N 22 '22

Method of separating permanent gas greatly affects crude evaporation. J. H. Wiggins. Nat Pet N 14:29+ D 6 '22
 Petroleum wastes and savings. Sci Am 126:254 Ap '22
 Use of vapor tight tankage in oil fields to check evaporation losses. diags Nat Pet N 15:43-4+ F 14 '23

Geologists

Geologists' association is stabilizing influence. A. C. McLaughlin. Nat Pet N 15:85-6 O 3 '23
 Oil executive and geology. J. H. Jenkins. Am Pet Inst Bul 3:35-6 D 30 '22; Same abr. Eng & Min J 114:1035 D 9 '22

Geology

Austin chalk in the Currie-Wortham field and its vicinity. J. C. Blumer. Nat Pet N 14:83+ Je 21 '22
 Dry holes show how Utah formations run. W. B. Emery. Nat Pet N 14:67+ F 8 '22
 Effect of faulting on accumulation of oil warrants close study. E. L. Estabrook. Nat Pet N 14:79+ N 15 '22
 Experimental study of the invasion of oil into a water-wet sand. O. W. Skirvin. Econ Geol 17:461-9 S '22; Abstract. Eng & Min J 114:686 O 14 '22
 Favorable structures in Iniskin Bay area of Alaska. Eng & Min J 113:968-9 Je 3 '22
 Further notes on the hydraulic theory of oil migration and accumulation. J. L. Rich. Nat Pet N 15:75-6+ J1 11 '23
 Genesis of hydrocarbons and their localization in certain zones of the earth's crust. R. d'Andrimont. Inst Pet Tech J 9:287-91 Ag '23
 Geological factors affecting the search for oil and gas in Michigan, with results of drilling. W. I. Robinson. map Nat Pet N 14:71-2+ S 6 '22
 Geology and producing conditions of the Kevin-Sunburst oil field. F. R. Clark. Nat Pet N 15:55-6+ Ap 11 '23
 Geology of the Egyptian oil-field. W. F. Hume. Inst Pet Tech J 7:394-412; Discussion. 412-17 D '21
 Isthmus territory of Mexico has total of 14 current tests. P. Wagner. map Nat Pet N 14:99+ D 13 '22
 Mexico's future oil possibilities in relation to present production. P. Wagner. diag map Nat Pet N 14:65-6+ J1 26 '22
 Mode of appearance of the petroleum deposits in the Carpathian regions with general considerations on the genesis of the petroleum and the salt of the actual deposits. I. P.-Voiteist. Inst Pet Tech J 9:291-300; Discussion. 301-11 Ag '23
 Moving underground water as a primary cause of the migration and accumulation of oil and gas. J. L. Rich. Econ Geol 16:347-71 S '21; Discussion. C. A. Bonine. 17:389-92 Ag '22
 Natural distillation of petroleum. B. Williams. Nat Pet N 14:65-6+ J1 26 '22
 Northeastern Mississippi formations such as to indicate oil possibilities. P. Wagner. Nat Pet N 14:75+ N 1 '22
 Occurrence of oil in small quantities basis of interest in Georgia. T. M. Prettyman. diag map Nat Pet N 14:73-4+ Mr 29 '22
 Oil and gas in the Texas Panhandle. W. Pratt. maps Nat Pet N 15:57-8+ J1 25 '23
 Oil deposits and the tectonics of vertical pressure. M. Kraus. diags Inst Pet Tech J 9:276-87 Ag '23
 Oil in the quadrant formation in Montana. O. W. Freeman. Eng & Min J 113:825-7 My 13 '22
 Oil in Virginia well comes from Clinton, lying far out of order. map Nat Pet N 15:76+ J1 4 '23; Same cond. Eng & Min J 116:23 J1 7 '23
 Oil industry's stake in research work in geology. K. C. Heald. Nat Pet N 15:32g-h O 17 '23
 Oil prospecting in Tasmania. Eng & Min J 115:1160 Je 30 '23
 Oil prospects in western Australia. D. J. Mahony. Eng & Min J 114:288 Ag 12 '22

Petroleum—Geology—Continued

Origin, migration, and accumulation of petroleum. R. E. Somers. diags Eng & Min J 115:66-9 Ja 13 '23

Osage oil field, Weston county, Wyoming. A. J. Collier. U S Geol S Bul 736—D:71-110, pl 10-14 '22

Petroleum bearing concretions. E. Binney, jr. Econ Geol 18:600-3 S '23

Possibilities for production of oil in western Kansas. C. T. Lupton, W. Lee and L. R. Van Burgh. Nat Pet N 14:67+ J1 19 '22

Possible origin of oil; abstract. C. C. Rae. Min & Met 182:64-5 F '22

Possible origin of some of the structures of the Mid-continent oil field. V. E. Monnett. Econ Geol 17:194-200 My '22

Problem of the genesis of petroleum. P. E. Spielmann. Chem Age (Lond) 9:151 Ag 11 '23

Recent researches bearing upon the origin of petroleum. E. H. Cunningham-Craig. Inst Pet Tech J 9:344-50 O '23; Abstracts. Chem Age (Lond) 9:394 O 13 '23; Engineering 116:466-7 O 12 '23; Engineer 136:530 N 16 '23; Discussion. Inst Pet Tech J 9:350-67 O '23

Reflected buried hills and their importance in petroleum geology. S. Powers. diags map Econ Geol 17:233-59 Je '22; Discussion. G. M. Ruby. 18:93-6 Ja '23

Relation of quality of oil to structure at El Dorado, Arkansas. H. A. Lev. map Nat Pet N 15:83-4+ My 23 '23

Riddle of the Carpathians. E. H. C. Craig. Inst Pet Tech J 9:274-6 Ag '23

Shell interests are only producers in the Egyptian fields. R. O. Rhoades. il Nat Pet N 15:61-2+ N 7 '23

Significance of the interpretation of the chemical analyses of seepages. J. E. Hackford. Inst Pet Tech J 8:193-206 Ap '22; Abstracts. Nat Pet N 14:51+ Je 28 '22; Engineering 113:205 F 17 '22; Discussion. Inst Pet Tech J 8:206-13 Ap '22

Similar, parallel and neutral surface types of folding. E. L. Ickes. diags Econ Geol 18:575-91 S '23

Some mother plants of petroleum in the Devonian black shales. D. White and T. Stadenichenko. Econ Geol 18:238-52, pl 5-9 Ap '23

Some preliminary experiments on the migration of oil up low-angle dips. H. V. Dodd. il Econ Geol 17:274-91 Je '22

Source of oil in Cretaceous sands in mountain states well mapped. J. M. Douglas. Nat Pet N 15:96 Je 20 '23

Southwest Texas oil fields. W. T. Owen. il Eng & Min J 114:506-10 S 16 '22

Structural conditions govern Limon's economic significance. P. Wagner. map Nat Pet N 14:95+ J1 5 '22

Structural factors in the accumulation of oil in southwestern Oklahoma. J. V. Howell. chart diags maps Econ Geol 17:15-33 Ja '22

Study of capillary relationships of oil and water. C. W. Cook. diag Econ Geol 18:167-72 Mr '23

Trinidad as a field for the study of the origin of petroleum. P. Carmody. Inst Pet Tech J 7:298-313; Discussion. 313-25 O '21

Unknown worth of acreage and drilling requirements held back first Navajo Indian land sale at Santa Fe. P. Wagner. map Nat Pet N 15:55-6 O 24 '23

Valuable guide to possible oil sands given by North Dakota log. Nat Pet N 15:109-10 Je 20 '23

Woodside test to be drilled in Utah whatever Farnham's outcome. P. Wagner. il maps Nat Pet N 15:85-7+ Je 27 '23

See also Salt domes

Study and teaching

Oil and gas education. R. H. Johnson. Min & Met 186:25-6 Je '22

Laws and regulations

See Petroleum laws and regulations

Measurement

Flow tank allows gauge on individual well production. diags Nat Pet N 14:71+ Mr 1 '22

See also Oil measurement

Phosphorus content

Phosphorus in Californian petroleum. C. Palmer. Econ Geol 17:100-4 Mr '22

Prices

Crude petroleum survey shows need for fuel conservation. J. E. Pogue. map Automotive Ind 45:1151-7 D 29 '21

Duty of the Prairie oil and gas co. to the independent producer. W. H. Gray. Nat Pet N 14:81-2+ D 6 '22

Law of supply and demand cause of crude fluctuations. R. L. Welch. Nat Pet N 13:27+ D 14 '21

Mid-continent industry adjusting itself to gravity price schedule. A. F. Hinton. Nat Pet N 14:17-18 N 29 '22

Pacific coast oil competition with Mid-continent re-established. P. Wagner. Nat Pet N 15:17-18 O 17 '23

Petroleum and its products. *See* weekly numbers of Oil paint and drug reporter

Petroleum and its products; record of prices. Oil Paint & Drug Rep 103:62-4 Mr 29 '23

Petroleum situation. Comm & Fin Chr 117:1294-5 S 22 '23 [continued monthly]

Prairie oil & gas affairs occupy second week of the petroleum probe. Oil Paint & Drug Rep 102:20 D 25 '22

Present gravity schedule does not hold relationship between grades. A. F. Hinton. Nat Pet N 15:26 Ap 11 '23

Price curves of crude oil and of cement. E. C. Eckel. Annalist 19:247-8 F 20 '22

Refiners discuss gravity crude scale as compared with yields. J. C. Chatfield. Nat Pet N 15:30-1 O 17 '23

Statistical desk sheet for 1921 of the oil industry of the United States. Nat Pet N 14:supp F 8 '22

Storing crude in Oklahoma becomes growing burden to big buyers. A. F. Hinton. Nat Pet N 14:21-2 Je 28 '22

Trend of future oil prices as basis for appraisal of property. W. H. Wallace. Nat Pet N 14:67+ Ag 16 '22

Production methods

Better oil-production methods. A. F. Dabell. Engineering 112:827-8 D 16 '21

Comparative values of the flooding and air pressure methods. J. O. Lewis. Nat Pet N 14:83-4+ Ap 5 '22

Drive method of winning petroleum. Engineer 136:454-5 O 26 '23

Effect of back pressure on wells in the Brock field. J. M. Lovejoy. Nat Pet N 15:51-2+ O 31 '23

Experiments show results of holding back pressure on oil wells. T. E. Swigart. Nat Pet N 15:65-6+ Ja 17 '23

Influence of heat upon the recovery of oil by water displacement. A. Schaller and C. A. Björnsson. Nat Pet N 15:53-4+ N 7; 81-2+ N 14 '23

Several methods used for increasing oil recovery in Pennsylvania. R. B. Bossler. Nat Pet N 15:75-6+ Mr 28; 91+ Ap 4 '23

See also Petroleum—Well boring

Prospecting

Core drilling in California oil wells; abstracts. F. C. Merritt. Eng & Min J 114:245 Ag 5 '22; Min & Met 188:21-2 Ag '22

Coring done with rotary equipment in North Louisiana wildcat. il diag Nat Pet N 14:75+ Ap 19 '22

Diamond core drills inexpensive tests for structure. il Nat Pet N 14:43+ O 11 '22

Diamond drill may revolutionize high cost field test operations. P. Wagner. il Nat Pet N 14:39+ Mr 8 '22

Geologists recognize value of diamond drill for oil explorations. Nat Pet N 14:25 Mr 15 '22

Petroleum—Prospecting—Continued

How the geologically trained scout operates in oil industry. P. Wagner. Nat Pet N 15: 85 F 28 '23

Microscope aids California geologist to reduce cost of drilling operations. Il Nat Pet N 14:67 O 11 '22

Petroleum, where and how to find it. A. Blum. 367p Modern mining books pub. co., Chicago '22

Prospecting and testing for oil and gas. R. E. Collom. diag maps U S Bur Mines Bul 201:1-170, pl 1-6 '22; Abstract. Gas Age 51: 699-700 Je 2 '23

Prospecting for oil in Queensland. Il Eng & Min J 114:638 O 7 '22

Significance of the interpretation of the chemical analyses of seepages. J. E. Hackford. Inst Pet Tech J 8:193-206 Ap '22; Abstracts. Engineering 113:205 F 17 '22; Nat Pet N 14:51+ Je 28 '22; Discussion. Inst Pet Tech J 8:206-13 Ap '22

Le sondage pétrolier de Crouelle, près de Clermont-Ferrand (Puy-de-Dôme). P. Glangeaud. Génie Civil 82:309-10 Mr 31 '23

See also Petroleum supply

Pumping

Combine sand trap and cup pump at El Dorado. diag Nat Pet N 14:32 S 6 '22

Cost of electric pumping in oil fields. Elec W 81:527 Mr 3 '23

Electric power provides economical method for pumping wells. W. F. Barnes. Nat Pet N 14:55+ Ap 12 '22

Eliminating the waste in industry. L. F. Leurey. Il J Elec 49:211-12 S 15 '22

Equipment for drilling and producing oil wells in California. H. A. Godde and W. L. Williams. Nat Pet N 15:99-100+ Je 6 '23

Gulf's welded manifold has 65 gates; pumping station stands test of years. Il Nat Pet N 15:106 Mr 14 '23

High fluid level in Los Angeles basin wells to permit pumping. P. Wagner. Nat Pet N 15:85-6+ O 17 '23

Multiple pumps for deep well pumping cut down rod and tubing pulling jobs. Nat Pet N 14:86 O 18 '22

Old-time system of pumping with cable still used near Parkersburg. L. E. Smith. Il Nat Pet N 15:83+ Je 20 '23

Practical notes on oil pumping. G. W. E. Gibson. Il Inst Pet Tech J 9:77-87; Bibliography. 88-9 Ap '23; Abstract. Engineering 115:241 F 23 '23; Discussion. Inst Pet Tech J 9:90-100 Ap '23

Saturated vs. superheated steam for oil pumping. W. G. Stubbs. Power 56:121 Jl 25 '22

Costs

Wide variation shown in lifting costs in fields of United States. H. C. George. Nat Pet N 15:67-8+ O 24 '23

Sampling devices

Oil-field sampling. E. R. Lilley. diag Eng & Min J 115:581-6 Mr 31 '23

See also Petroleum—Prospecting

Specifications

Federal government revises petroleum specifications. Automotive Ind 46:1012-13 My 11 '22

Study and teaching

Oil and gas education. R. H. Johnson. Min & Met 186:25-6 Je '22

Petroleum education. E. DeBarr and F. W. Padgett. Chem & Met Eng 27:125-7 Jl 19 '22

Sulfur content

Distribution of sulphur in petroleum products. G. Egloff and J. C. Morrell. Chem & Met Eng 28:633-5 Ap 9 '23

Refining of gasoline and kerosene by hypochlorites. A. E. Dunstan and B. T. Brooks. J Ind & Eng Chem 14:1112-15 D '22

Tables, calculations, etc.

Appraisal of oil production. J. H. Highsmith. 132p Wm. Mitchell ptg., co., Greenfield, Ill '21

Taxation

Activity in Texas field gains impetus from fresh tax crisis in Mexico. P. Wagner. Nat Pet N 13:16A-B D 7 '21

Arkansas, Tennessee N.P.M.A. jobbers fight objectionable taxes. W. K. Halbert. Nat Pet N 14:29-30 Mr 1 '22

How to fight legislation inimical to oil industry. C. D. Chamberlin. Nat Pet N 15:23-4 Ap 11 '23

Mexican oil taxes. V. R. Garfias. Nat Pet N 14:48m+ Mr 1 '22

Oil valuation and taxation. J. I. Tucker. 332p Gulf pub. co., Houston, Texas '23

Synopsis of state bills now pending taxing the oil industry. Nat Pet N 15:87+ F 21; 99 F 28; 89 Mr 7; 116+ Mr 14; 51+ Mr 28 '23

Texas oil tax is held constitutional. Oil Paint & Drug Rep 103:51 Je 18 '23

See also Petroleum pipe lines—Taxation

Terminology

Special committee improves nomenclature of petroleum products. Chem & Met Eng 29: 398 S 3 '23

Testing

Smackover, Bossier and Mirando crudes valuable chiefly for fuel. P. Wagner. Nat Pet N 14:27 N 15 '22

Standardisation of the testing of petroleum and its products. A. E. Dunstan. Inst Pet Tech J 8:578-601; Discussion. 601-17 D '22

See also Oil testing

Transportation

Bottom outlet valve indispensable says American petroleum institute committee report. Nat Pet N 15:22-3 My 30 '23

Commerce commission suspends oil rates. Oil Paint & Drug Rep 102:46 S 25 '22

Commission allows 3.5-cent cut in rail rates in C.F.A. territory. A. E. Heiss. Nat Pet N 14:20 Ja 4 '22

Development of Mexican fuel oil industry. J. M. Pettingell. Il Textile World 61:3521+ Je 10 '22

Dow shows concrete cases where high rates cut rail revenue. A. E. Heiss. Nat Pet N 14: 19-20 Mr 15 '22

Eastern refiners charge freight rates deprive them of export trade. R. B. Stafford. Nat Pet N 15:25-6 Ap 25 '23

Export rates from gulf to Europe bar western products. P. W. Babcock. Nat Pet N 15: 37+ Ap 18 '23

Freight-rate reductions should readjust oil industry in Southwest. Eng & Min J 113: 1010-11 Je 10 '22

Indiana chamber of commerce to aid oil men in rate fight. W. K. Halbert. Nat Pet N 14:25-6 O 25 '22

Institute calls conference at St Louis to consider oil transportation July 26. Nat Pet N 14:20 Jl 19 '22

Interstate commerce commission holds up roads' attempt to compete with pipe line. Nat Pet N 14:26 S 27 '22

Kentucky refiners utilize waterways in crude and fuel shipping. L. E. Smith. Il Nat Pet N 15:61-2 My 2 '23

Railroads ask I.C.C. to make petroleum rate investigation. Nat Pet N 15:18+ O 24 '23

Railroads would force remodeling of oil storage plants; estimated shipping weights. J. C. Chatfield. Nat Pet N 14:25+ O 4 '22

Solid oil trains expedite movements jobbers pay for car-numbers. W. K. Halbert. Nat Pet N 14:27 Ag 23 '22

Traffic problems of the mid-continent territory vital to its future. P. M. Miskell. Nat Pet N 15:32c-d O 17 '23

Transportation problems were great in early days of oil industry. D. A. Dennison. Nat Pet N 14:27 Ag 23 '22

Western refiners seek general rate adjustment for country. J. C. Chatfield. Nat Pet N 15: 28+ N 7 '23

See also Petroleum pipe lines; Petroleum shipping terminals; Tank cars; Tank ships; Tank trucks

Petroleum—Continued

Tunnel drainage

Exploitation du pétrole par puits et galeries. P. de Chambrier, 106p Dunod, Paris '22; Abstract (Working of petroleum by means of shafts and galleries). Inst Pet Tech J 7:178-89; Discussion, 190-205 JI '21
 Short history of Pechelbronn underground drainage. Inst Pet Tech J 9:330-42 Ag '23
 Working of petroleum by means of shafts and galleries. B. F. N. Macrorie. Inst Pet Tech J 8:396-8 JI '22

Waste

See Petroleum—Conservation

Water problem

California's wonder well declines less than 12 per cent in 14 years. diags Nat Pet N 13:35+ N 23 '21
 Cementing of oil wells. F. B. Tough. Am Pet Inst Bul 3:42-5 D 30 '22; Same abr. Nat Pet N 15:75+ Ja 3 '23
 Cerro Azul still to be factor after Toteco production is gone. P. Wagner. Nat Pet N 14:73+ Ap 26 '22
 Data on peak of California production in light of water reports. P. Wagner. Nat Pet N 15:26+ Ag 1 '23
 Dehydrating petroleum emulsions; patent. Chem & Met Eng 26:799 Ap 26 '22
 Effect of oil-well water on cements. Eng N 91:635 O 18 '23
 Increased Panuco production, and draft on stocks hold up Mexican exports. maps Nat Pet N 14:60-1+ N 22 '22
 Methods of cementing and mixtures in Rocky Mountain fields. F. B. Tough. diags Nat Pet N 14:65-7 S 27 '22
 Penetration of water into the producing strata of the Baku and Grozny oil-bearing districts. Inst Pet Tech J 9:112a-15a Ap '23
 Resolution of petroleum emulsions. H. V. Dodd. Chem & Met Eng 28:249-53 F 7 '23
 Treatment of oil emulsions. Engineering 112:771 D 2 '21
 Water encroachment in fish pond at Mexia comes from bottom. P. Wagner. Nat Pet N 14:73+ N 22 '22

Well boring

Action of mud-laden fluids in wells; abstract. A. Knapp. Min & Met 192:31-2 D '22
 American petroleum institute meeting brings out unanimity for standardization. A. F. Hinton. Nat Pet N 14:28-9 D 13 '22
 Brief description of improved oil field tools used in California. W. W. Copp. Nat Pet N 15:73-4+ F 21 '23
 Brings damaged well back into production. Nat Pet N 14:45+ My 17 '22
 California field practice is growing toward interchangeable units. P. Wagner. il Nat Pet N 15:35+ O 24 '23
 Completing well, starting production; resumé of California practice. W. W. Copp. diags Nat Pet N 15:83-4+ Ag 8; 89-90+ Ag 15 '23
 Core drilling in California oil wells; abstracts. F. C. Merritt. Min & Met 188:21-2 Ag '22; Eng & Min J 114:245 Ag 5 '22
 Core drilling in oil fields of southern California. Eng & Min J 114:906 N 18 '22
 Core drilling requires care. Eng & Min J 114:950 N 25 '22
 Coring devices for rotary drilling in oil fields. diags Eng & Min J 113:681-2 Ap 22 '22
 Coring done with rotary equipment in North Louisiana wildcat. il diag Nat Pet N 14:75 Ap 19 '22
 Deepest well drilled in California proves dry. Eng & Min J 113:585 Ap 8 '22
 Development of Mexican fuel oil industry. J. M. Pettingell. il Textile World 61:3521+ Je 10 '22
 Diamond core drilling outfit is used on Oklahoma wildcat well. il Nat Pet N 14:65+ Ag 30 '22
 Diamond core drills inexpensive tests for structure. il Nat Pet N 14:43+ O 11 '22
 Diamond drill may revolutionize high cost field test operations. P. Wagner. il Nat Pet N 14:39+ Mr 8 '22

Diamond drilling for petroleum. E. R. Lilley. il Eng & Min J 114:152-6 JI 22 '22
 Education and training of a driller. A. W. Davson. Inst Pet Tech J 7:253-65; Discussion, 265-75 O '21
 Electric drilling equipment pays for itself on six wells. A. F. Hinton. Nat Pet N 14:31 Ap 26 '22
 Electric motors drill gas wells. W. S. Taylor. il Gas Age 49:363-4 Mr 25 '22; Same. Elec W 79:1226-7 Je 17 '22; Same. Nat Pet N 14:61-2 Je 14 '22
 Electricity saves expense in oil fields. Elec W 80:942-3 O 23 '22
 Le forage des puits de pétrole au moyen de machines rotatives; la perforatrice Lucey. il diags plan Génie Civil 80:60-2 Ja 21 '22
 Galician-Canadian system of pole tool drilling. A. Millar. il Inst Pet Tech J 8:617-55 D '22; Abstract. Engineering 114:621-2 N 17 '22; Discussion. Inst Pet Tech J 8:655-65 D '22
 Geologists recognize value of diamond drill for oil explorations. Nat Pet N 14:25 Mr 15 '22
 Hope drilling deep West Virginia well to test out Oriskany sand. L. E. Smith. il Nat Pet N 15:73 Je 6 '23
 Loosening frozen casing or drill pipe with oil. Eng & Min J 113:583 Ap 8 '22
 Mid-continent oil & gas association's activities regarding pipe for deep well drilling. J. E. Pew. Am Pet Inst Bul 3:69-74 D 30 '22; Same, without table. Nat Pet N 14:67-8+ D 27 '22
 Mid-continent use of diamond drill in prospect for future. F. A. Edson. Nat Pet N 14:65-6 Mr 22 '22
 Mile deep drilling forces operators to use special equipment. P. Wagner. Nat Pet N 15:51-2+ My 2 '23
 New rotary bit may be changed without pulling out drill pipe. diag Nat Pet N 15:47 Ja 24 '23
 New type of core bit for standard rotary tools. diag Nat Pet N 14:69 N 29 '22
 Nitro shooters usually are fatalists and many die violently. D. A. Dennison. Nat Pet N 14:79+ F 15 '22
 Oil-field sampling. E. R. Lilley. diags Eng & Min J 115:581-6 Mr 31 '23
 Oil-well drill bit drills hole and takes a core. il Pop Mech 38:280 Ag '22
 Oil-well drill fitted with shock absorber. il Pop Mech 39:538 Ap '23
 Operators in Chanute field cooperate in bettering methods. A. F. Hinton. diags Nat Pet N 15:51 N 7 '23
 Opinions still differ as to value of flooding Bradford sand. L. E. Smith. Nat Pet N 14:67-8+ F 15 '22
 Outline of first draft of tentative specifications for well drilling and casing. Am Arch 124:317-18 S 26 '23
 Practical talk on some modern methods of heat treatment as applied to the oil well industry. S. D. Tuthill. Am Pet Inst Bul 3:53-7 D 30 '22
 Premature explosions of nitroglycerin in oil well drilling operations. C. W. Porter. J Ind & Eng Chem 14:212 Mr '22
 Producer, manufacturer co-operating in standardization work. Nat Pet N 15:21 Ja 31 '23
 Prospecting and testing for oil and gas. R. E. Colom. diags maps U S Bur Mines Bul 201:1-170, pl 1-6 '22
 Pumping jack of special design saves standardizing rotary rig. R. M. Winsborough. Nat Pet N 15:24 Ja 17 '23
 Recent search for petroleum in Great Britain. H. P. W. Giffard. Nat Pet N 15:75-6+ S 12; 83-4+ S 19 '23
 Spiral stem simplifies oil and gas-well drilling. il Pop Mech 38:232 Ag '22
 Standardization of tool joints. S. A. Guiberson, jr. Am Pet Inst Bul 3:74-8 D 30 '22; Same abr. Eng & Min J 115:24-5 Ja 6 '23
 Standardization, simplification and improvement of oil drilling methods and equipment. il diag Am Pet Inst Bul 3:40-83 D 30 '22
 Standardizing the rig practical field method to guard against bottom water. H. W. Bell and J. B. Kerr. diag Nat Pet N 14:29+ S 13 '22

Petroleum—Well boring—Continued

Taking cores of formations with rotary drilling equipment. J. R. Suman. diags Nat Pet N 14:81+ N 8 '22; Same. Min & Met 190: 21-4 O '22

Unusual engineering problems in oil development of South Mountain. W. M. Jones. diags Nat Pet N 15:57+ J1 18 '23

Use of low pressure gas burner in oil field boilers. M. P. Youker, G. S. Brewer and C. E. Beecher. Nat Pet N 14:32a-h Ja 25 '22

Use of oil instead of water as drilling fluid. H. B. Thomson. Nat Pet N 14:65-6+ Ap 19 '22

See also Petroleum—Prospecting; Petroleum—Water problem

Cost

Equipment for drilling and producing oil wells in California. H. A. Godde and W. L. Williams. Nat Pet N 15:99-100+ Je 6 '23

Freight cost nine per cent of total cost of drilling a well. Nat Pet N 14:28 F 22 '22

Well casing

Call for standardizing threads on casing used on Mid-continent. il Nat Pet N 14:37 Mr 1 '22

Casing manufacturers express ideas on thread controversy. J. R. Stockton. Nat Pet N 14:27+ Mr 15 '22

Casing standardization is virtually effected at Tulsa meeting. A. F. Hinton. Nat Pet N 14:31-2 N 15 '22

Mid-continent oil & gas association's activities regarding pipe for deep well drilling. J. E. Pew. Am Pet Inst Bul 3:69-74 D 30 '22; Same, without table. Nat Pet N 14:67-8+ D 27 '22

New standard weights and sizes of casing for deep drilling are sought. Nat Pet N 14:29 Ap 5 '22

Specifications for standard casing well received by Tulsa producers. Nat Pet N 14: 67+ N 29 '22

Standardizing is producer's job some manufacturers now believe. J. R. Stockton. Nat Pet N 14:25+ Mr 22 '22

Texas-Louisiana operators favorable to standardization of pipe. P. Wagner. Nat Pet N 14:25 O 18 '22

Africa

Petroleum development in Africa in 1922. Eng & Min J 115:586 Mr 31 '23

Alaska

Alaska oil fields. H. C. George. il map Eng & Min J 114:1163-7 D 30 '22

Associated and Standard overcome Arctic handicaps on Alaska peninsula. P. Wagner. il map Nat Pet N 15:87+ Je 6 '23

Companies drilling on Alaska peninsula are making slow progress. il map Nat Pet N 15:47-8 N 7 '23

Development of petroleum at Cold Bay, Alaska. A. G. Thompson. Eng & Min J 114:950 N 25 '22

Favorable structures in Iniskin Bay area of Alaska. Eng & Min J 113:968-9 Je 3 '22

Recent investigations of petroleum in Alaska. S. R. Capps and others. maps U S Geol Survey Bul 739—C:77-147 '22

Argentina

Argentine oil fields. Engineer 134:228 S 1 '22

Comodoro Rivadavia oil fields. Sci Am 126:398 Je '22

See also Petroleum industry and trade—Argentina

Arkansas

Areas to north and west of El Dorado are prospected for oil. Nat Pet N 14:66-8+ Je 21 '22

El Dorado, Arkansas, oil and gas field. H. W. Bell and J. B. Kerr. 90p Arkansas Bur. of mines, manufactures and agriculture, Little Rock '22

El Dorado oil field in Arkansas warrants extensive exploration. Eng & Min J 113:923-4 My 27 '22

El Dorado revival, plus Smackover flood threatens crude market. P. Wagner. il Nat Pet N 14:23-4+ N 22 '22

Oil in Arkansas. T. Shiras. il Eng & Min J 114:393-4 D 2 '22

Relation of quality of oil to structure at El Dorado, Arkansas. H. A. Ley. map Nat Pet N 15:83-4+ My 23 '23

Stratigraphy of the El Dorado oil field, Arkansas, as determined by drill cuttings. J. Gillyuly and K. C. Heald. U S Geol S Bul 736—H:241-8, pl 24 '23

See also Petroleum industry and trade—Arkansas

Australasia

Oil prospecting in Australasia. Eng & Min J 113:585-6 Ap 8 '22

Australia

Existence of natural gas and possibly petroleum, proved in Queensland. R. Bedford. Nat Pet N 14:69-70 Mr 22 '22

Oil prospecting in Tasmania. Eng & Min J 115:1160 Je 30 '23

Prospecting for oil in Australia. Eng & Min J 113:731 Ap 29 '22

Prospecting for oil in Australia and Papua. Eng & Min J 114:724 O 21 '22

Borneo

Crude oils of Borneo. J. Kewley. Inst Pet Tech J 7:209-21 J1 '21; Abstract. Engineering 111: 332 Mr 13 '21; Discussion. Inst Pet Tech J 7:221-33 J1 '21

Petroleum in Borneo. A. H. Redfield. maps Econ Geol 17:313-47; Bibliography. 347-9 Ag '22

Brazil

Brazil is territory untested and little known geologically. J. C. Branner. Nat Pet N 14: 481-J Mr 1 '22; Abstract. Min & Met 186:37 Je '22

California

Big difficulties conquered here; San Joaquin valley. P. Wagner. il map Nat Pet N 15:35-8 O 17 '23

California oil excitement fitting chapter in state's history. J. J. Moroney. Nat Pet N 15: 81+ S 5 '23

California oil situation. S. A. Guiberson, jr. Comm & Fin Chr 117:1402-3 S 29 '23

Ciervo anticlinal Bow oil field of California. W. Stalder. il map Eng & Min J 113:409-13 Mr 11 '22

Phosphorus in Californian petroleum. C. Palmer. Econ Geol 17:100-4 Mr '22

Shallow-well oil field. A. Marple. il Pop Mech 37:248 F '22

Three fields of California responsible for enormous production there. W. Loel and V. Warren. map Nat Pet N 15:77+ F 28 '23

See also Petroleum industry and trade—California

Canada

Canada's hope for oil lies in western provinces, not in Far North. R. Arnold and W. A. English. Nat Pet N 14:48c Mr 1 '22; Excerpts. Min & Met 187:40-1 J1 '22

Drilling in western Canada is lacking in profitable results. map Nat Pet N 15:57-8 Mr 7 '23

Imperial oil, ltd.'s search for petroleum in Canada. Eng & Min J 115:194-5 Ja 27 '23

Is there oil in Alberta? answer seems as remote as ever. L. E. Smith. il Nat Pet N 15: 51-2+ Ag 8 '23

Mackenzie oil-field of northern Canada. T. O. Bosworth. il diag maps Inst Pet Tech J 7: 276-9 O '21; Excerpts. Sci Am M 4:265-6 S '21; Same. Min & Met 178:47-8 O '21; Discussion. Inst Pet Tech J 7:291-7 O '21

Central America

Central America too little known to afford estimate of possibilities. A. H. Redfield. Nat Pet N 14:48b+ Mr 1 '22; Excerpts. Min & Met 187:35-6 J1 '22

Petroleum—Central America—Continued

Petroleum developments in West Indies and Central America in 1922. A. H. Redfield. Nat Pet N 15:101+ Mr 14 '23

China

Areas in China considered as potential oil bearing territory. T. O. Chu. Nat Pet N 15: 77-8 O 24 '23

China's oil land quite extensive. Oil Paint & Drug Rep 100:11 sec 2 N 7 '21

Meager data on China and Siberia not promising from oil standpoint. E. Blackwelder. Nat Pet N 14:48p-q+ Mr 1 '22; Excerpts. Min & Met 187:41-2 J '22

Colombia

Coastal area of Colombia shows gains in attention of operators. L. E. Smith. il Nat Pet N 14:77-8 My 31 '22

Colombian oil fields. L. G. Huntley and S. Mason. maps Min & Met 189:55-6 S '22

Colombia's possible oil fields extend over enormous territory. C. W. Washburne and D. K. White. Nat Pet N 14:48k-l Mr 1 '22; Same cond. Min & Met 186:39-40 Je '22

Geology and oil resources of Colombia; the coastal plain. E. Beck. maps Econ Geol 16: 457-73 N '21

Three years likely to see Colombia factor in oil production. L. E. Smith. il map Nat Pet N 13:23-4+ N 23 '21

Colorado

Continuity of some oil-bearing sands of Colorado and Wyoming. W. T. Lee. il map U S Geol S Bul 751—A:1-22 '23

Survey to report on oil chances in northwest Colorado. Nat Pet N 15:83+ O 10 '23

See also Oil shales—Colorado

Costa Rica

Petroleum possibilities of Costa Rica. A. H. Redfield. maps Econ Geol 18:354-78; Bibliography. 378-81 Je '23

Ecuador

Oil resources of Ecuador; abstract. V. F. Marsters. Min & Met 187:37-8 JI '22

Egypt

Geology of the Egyptian oil-field. W. F. Hume. Inst Pet Tech J 7:394-412; Discussion. 412-17 D '21

Heavy grade Egyptian crude petroleum. W. A. Guthrie. il diag Inst Pet Tech J 9: 212-34 Ag '23; Abstracts. Chem Age (Lond) 8:512-13 My 12 '23; Engineering 115:607-8 My 18 '23; Discussion. Inst Pet Tech J 9: 234-47 Ag '23

Shell interests are only producers in the Egyptian fields. R. O. Rhoades. il Nat Pet N 15:61-2+ N 7 '23

Florida

Geology of Florida and a resumé of the drilling for oil. H. Gunter and M. K. Cooke. maps Nat Pet N 14:67-8+ My 24 '22

France

Résultats des sondages exécutés en Limagne pour la recherche du pétrole. diag Génie Civil 83:303-4 S 29 '23

Le sondage pétrolière de Crouelle, près de Clermont-Ferrand (Puy-de-Dôme). P. Glangeaud. Génie Civil 82:309-10 Mr 31 '23

See also Petroleum industry and trade—France

Galicia**Bibliography**

Polish and German bibliography of the Galician petroleum industry, 1875-1922. Inst Pet Tech J 8:666-87 D '22

Georgia

Occurrence of oil in small quantities basis of interest in Georgia. T. M. Prettyman. diag map Nat Pet N 14:73-4+ Mr 29 '22

Petroleum and natural gas possibilities in Georgia. T. M. Prettyman and H. S. Cave. 164p Georgia geological survey, Atlanta '23

Germany

Die zukünftige gestaltung der schmiermittelversorgung Deutschlands. A. Franke. Stahl & Eisen 43:1102-5. Ag 23 '23

See also Petroleum industry and trade—Germany

Great Britain

Recent exploration for petroleum in the United Kingdom. E. L. Ickes. Eng & Min J 116: 681 O 20 '23

Recent search for petroleum in Great Britain. H. P. W. Giffard. map Nat Pet N 15:75-6+ S 12; 83-4+ S 19 '23

See also Petroleum industry and trade—Great Britain

Guatemala

Guatemala is hopeful of development of important oil fields. F. S. Latour. Nat Pet N 15:32f O 10 '23

Honduras

Petroleum possibilities of Honduras. A. H. Redfield. map Econ Geol 18:474-91; Bibliography. 491-3 Ag '23

Idaho

Arbon and Rockland valleys, Idaho, offer petroleum possibilities. Eng & Min J 114: 774 O 28 '22

Petroleum possibilities of certain anticlines in southeastern Idaho. V. R. D. Kirkham. [Bur. mines & geol. Bul. no. 4] 36p Univ. of Idaho, Moscow '22

Illinois

New Wamac oil pool, in Illinois. H. A. Wheeler. Eng & Min J 113:213-14 F 4 '22

Oil and gas development and possibilities in parts of eastern Illinois. L. A. Mylius. 64p Illinois geol. survey, Urbana '23

Oil possibilities of the Posten school structure, Monroe co. L. A. Mylius. Nat Pet N 13:67 D 21 '21

See also Petroleum industry and trade—Illinois

Indiana

Southwestern Indiana is considered in line for more small pools. L. E. Smith. il Nat Pet N 14:77+ Ap 12 '22

Japan

Petroleum resources of Japan; abstract. J. M. Clements. Min & Met 187:42-3 JI '22

See also Petroleum industry and trade—Japan

Kansas

Kansas wildcat operators undismayed by well distributed dusters. A. F. Hinton. il Nat Pet N 14:28-9+ Je 21 '22

Possibilities for production of oil in western Kansas. C. T. Lupton, W. Lee and L. R. Van Burgh. Nat Pet N 14:67+ JI 19 '22

Kentucky

Cumberland county's worth as oil country will be known this year. L. E. Smith. Nat Pet N 15:74 Je 13 '23

Economic papers on Kentucky geology. W. R. Jillson. (ser. 6, v. 2) 304p Kentucky Geol. survey, Frankfort '21

Oil and gas resources of Kentucky. W. R. Jillson. 2d ed. 630p Kentucky geol. survey, Frankfort '20

Oil field stratigraphy of Kentucky. W. R. Jillson. (Survey, 1920, ser. 6. Geologic rep. v. 3) 738p Kentucky geological survey, Frankfort '22

Oil is civilization builder in Eastern Kentucky district. Nat Pet N 15:73 Ja 3 '23

Paint Creek Uplift is region of big activity in eastern Kentucky. map Nat Pet N 14:61-2 Ap 19 '22

Petroleum—Kentucky—Continued

Western Kentucky's most consistent area is in first development stage. Nat Pet N 13:33-4 D 7 '21

See also Oil shales—Kentucky

Bibliography

Bibliography of Kentucky petroleum, natural gas, asphalt and oil shale. W. R. Jillson. (ser. 5, bul. 4) p. 252-62 Kentucky Dept. of geol. and forestry, Frankfort '20

Latin America

See Petroleum laws and regulations—Latin America

Louisiana

Bellevue field production shallowest from Natchez horizon. P. Wagner. il map Nat Pet N 14:83+ D 13 '22

Bellevue pool holds possibilities for deeper sand production. diag Nat Pet N 14:67-9 Ap 12 '22

Haynesville oil field. W. W. Scott and B. K. Stroud. (Bul. 11) 26p Louisiana. Dept. of conservation, New Orleans '22

Louisiana teaches natural gas engineering. O. F. Schully. Am Gas J 117:95-7 Jl 29 '22

Northern Webster parish is watched closely for developments. il diag Nat Pet N 14:81-3 Je 28 '22

Trinity formation producing 45 gravity oil in Pine Island district. P. Wagner. map Nat Pet N 14:24-5 Je 7 '22

See also Petroleum industry and trade—Louisiana

Madagascar

Les gisements de bitume pétrolifère de Madagascar. Génie Civil 83:16-17 Jl 7 '23

Le pétrole de Madagascar. A. Merle. Génie Civil 82:334-5 Ap 7 '23

Mexico

Americans seek new fields in Mexico as old ones are depleted. W. C. Platt. Nat Pet N 14:19-20 F 22 '22

Defined structures taken up across Rio Grande from Laredo. P. Wagner. Nat Pet N 15:67+ Ja 3 '23

Development of Mexican fuel oil industry. J. M. Pettingell. il Textile World 61:1403+, 3521+ Mr 4, Je 10 '22

Further pre-eminence of coal as fuel seen with exhaustion of Mexican oil wells near. H. S. Law. Coal Age 21:56-7 Ja 12 '22

History of one of Mexico's earliest and largest wells. A. E. Chambers. il diags map plans Inst Pet Tech J 9:141-56 Je '23; Abstract. Engineering 115:471-2 Ap 13 '23; Discussion. Inst Pet Tech J 9:156-64 Je '23

Isthmus territory of Mexico has total of 14 current tests. P. Wagner. map Nat Pet N 14:99+ D 13 '22

Known areas of Mexico will not offset decline of southern fields. P. Wagner. Nat Pet N 14:83+ O 18 '22

Mexico: the future of its business. E. L. Doheny. Oil Paint & Drug Rep 100:13 sec 2 D 12 '21

Mexico's future oil possibilities in relation to present production. P. Wagner. diag map Nat Pet N 14:65-6+ Jl 26 '22

Present conditions in Mexican oil fields and an outlook into the future. V. R. Garfias. Min & Met 184:35-7 Ap '22

Small hidden pools may furnish future oil production of Mexico. E. L. Doheny. Nat Pet N 13:34 D 14 '21

Structural conditions govern Limon's economic significance. P. Wagner. map Nat Pet N 14:95+ Jl 5 '22

Tabasco-Chiapas testing in territory where anticlinals exist. P. Wagner. map Nat Pet N 15:75+ Ap 4 '23

Tehuantepec believed to be important field for future production. P. Wagner. map Nat Pet N 14:39+ Mr 1 '22

World petroleum problem. F. R. Kellogg. 45p Assn. of petroleum producers in Mexico, New York '21

See also Petroleum industry and trade—Mexico; Petroleum laws and regulations—Mexico

Michigan

Geological factors affecting the search for oil and gas in Michigan, with results of drilling. W. I. Robinson. map Nat Pet N 14:71-2+ S 6 '22

Mississippi

Northeastern Mississippi formations such as to indicate oil possibilities. P. Wagner. Nat Pet N 14:75+ N 1 '22

Missouri

Many Missouri counties have shown oil and gas, but output is small. Nat Pet N 15:55+ My 9 '23

Montana

Absaroka test in southeast Montana will show worth of large area. L. E. Smith. il Nat Pet N 15:43-4 Ag 15 '23

Geology and oil and gas prospects of central and eastern Montana. C. H. Clapp, A. Bevan and G. S. Lambert. (Univ. of Mont. bul. Bureau of mines & met. ser. 4) 95p State school of mines, Butte '21

Geology and producing conditions of the Kevin-Sunburst oil field. F. R. Clark. Nat Pet N 15:55-6+ Ap 11 '23

Interest renewed in Montana wildcats; some of recent results. J. C. Blumer. Nat Pet N 15:27-8+ Je 13 '23

Montana may yet make oil state; record to date unimpressive. L. E. Smith. Nat Pet N 15:78-9 Ag 22 '23

My faith in Wyoming and Montana. F. E. Kistler. Am Pet Inst Bul 3:23-6 D 30 '22; Same abr. Nat Pet N 14:33+ D 13 '22

Oil and gas prospects in and near the Crow Indian reservation, Montana. W. T. Thom, jr. U S Geol S Bul 736—B:35-53, pl 7 '22

Oil in the quadrant formation in Montana. O. W. Freeman. Eng & Min J 113:825-7 My 13 '22

Oil resources of northern Fergus county, Montana. Eng & Min J 113:539-40 Ap 1 '22

Possibilities of Sweetgrass Arch region to be known by fall. Nat Pet N 14:55 Jl 12 '22

Possibility of finding oil in laccolithic domes south of the Little Rocky mountains. A. J. Collier and S. H. Cathcart. diag map U S Geol S Bul 736—F:171-8 '22

See also Petroleum industry and trade—Montana

New Mexico

Good showing of oil reported in test well in New Mexico. C. I. O'Neill. Nat Pet N 14:81 Je 14 '22

Prospective oil field of New Mexico; its history and setting. J. J. Moroney. Nat Pet N 15:41-2+ Jl 15 '23

San Juan basin contains many highs that may be oil bearing. R. W. Ellis. Nat Pet N 14:43+ D 27 '22

Unknown worth of acreage and drilling requirements held back first Navajo Indian land sale at Santa Fe. P. Wagner. map Nat Pet N 15:55-6 O 24 '23

New South Wales

See Oil shales—New South Wales

New York

New York state geologist plans to aid producers in recovery problem. C. A. Hartnagel. Nat Pet N 14:53-4 F 1 '22

North Carolina

Commercial production not likely to be developed in North Carolina. J. H. Pratt. Nat Pet N 14:77 Mr 15 '22

North Dakota

Valuable guide to possible oil sands given by North Dakota log. Nat Pet N 15:109-10 Je 20 '23

Petroleum—Continued**Ohio**

Darke county most active area in Trenton time; several good wells. Nat Pet N 15:75 My 23 '23
 Knox county Berea pool characterized by sustained production. Nat Pet N 14:65+ My 10 '22

See also Petroleum industry and trade—Ohio

Oklahoma

Geologic structure and oil and gas prospects of a part of Jefferson county, Oklahoma. H. M. Robinson. diag map U S Geol S Bul 726—F:277-302, pl 51 '21
 Hewitt's big well puzzles geologists; eight new wells starting. A. F. Hinton. il map Nat Pet N 15:30-2 Je 20 '23
 New completions may bring extensions to Oklahoma fields. map Nat Pet N 14:52-4+ JI 12 '22

Oklahoma dry hole record. C. D. Gillette. 151p Trave co., Oklahoma City '22

Petroleum engineering in the Hewitt oil field. T. E. Swigart and F. X. Schwarzenbek. il diags maps 132p U S Bur Mines, Washington, in co-operation with the State of Oklahoma and the Ardmore chamber of commerce, Ardmore, Oklahoma '21

Prevailing winds surely do prevail in Sayre, where the boom is on. A. F. Hinton. maps Nat Pet N 15:22-3 My 9 '23

Progress report on a subsurface study of the Pershing oil and gas field, Osage county, Oklahoma. W. W. Rubey. maps U S Geol S Bul 751—B:23-70 '23

Slick oil field, in Oklahoma, described in report. Eng & Min J 114:860 N 11 '22

Structural factors in the accumulation of oil in southwestern Oklahoma. J. V. Howell. chart diags maps Econ Geol 17:15-33 Ja '22

Structure and oil and gas resources of the Osage reservation, Oklahoma. D. White and others. U S Geol S Bul 686:1-427, pl 1-60 '22

Structure of the Madill-Denison area, Oklahoma and Texas; with notes on oil and gas development. O. B. Hopkins, S. Powers and H. M. Robinson. U S Geol S Bul 736—A:1-33, pl 1-6 '22

Western states still trying to bring in Deer Creek. il Nat Pet N 15:43 S 26 '23

See also Petroleum industry and trade—Oklahoma-Kansas district; Petroleum laws and regulations—Oklahoma

Panama

Mexico too dead, he is drilling wildcat in Panama. P. Wagner. il Nat Pet N 15:49+ Ag 29 '23

Pennsylvania

New oil pool at Tidioute, Pa. Eng & Min J 114:637-8 O 7 '22

Oil and gas fields of Pennsylvania. G. H. Ashley and J. F. Robinson. Penn. Geol. survey, Harrisburg '22

Pennsylvania survey reports on oil and gas development in 1922. Nat Pet N 15:59 Mr 21 '23

See also Petroleum industry and trade—Pennsylvania

Peru

Oil in Peru and the new petroleum law. Eng & Min J 113:969 Je 3 '22

Peru far below production that might be developed. V. F. Marsters. Nat Pet N 14:48g-1 Mr 1 '22; Abstract. Min & Met 187:36-7 JI '22

Peru's oil development has been rapid; its future is bright. S. F. Bedoya. Nat Pet N 15:32g-h O 10 '23

Philippine Islands

Philippine Islands may be classed as possible oil bearing territory. W. E. Pratt. Nat Pet N 14:48j+ Mr 1 '22

Rocky mountain region

Deeper production possibilities in fields of the Rocky mountains. C. T. Lupton. Nat Pet N 14:77 N 8 '22

Past year saw Rocky mountain fields assuming major importance. A. J. Hazlett. Nat Pet N 15:59-60 Ja 3 '23

Reports show 231 wells still active in Rocky mountain fields. Nat Pet N 14:59+ Ja 4 '22

350 wildcat tests are being drilled in Rocky mountain region. A. J. Hazlett. Nat Pet N 14:75+ Ag 2 '22

Rumania

Mode of appearance of the petroleum deposits in the Carpathian regions with general considerations on the genesis of the petroleum and the salt of the actual deposits. I. P. Voitești. diags Inst Pet Tech J 9:291-300; Discussion. 301-11 Ag '23

See also Petroleum industry and trade—Rumania

Russia

Amount of undeveloped oil land in the Baku district. D. V. Golubiatnikoff. map Inst Pet Tech J 9:185-207 Je '23

Papers read at the first all-Russian petroleum congress (refinery section); abstracts. Inst Pet Tech J 9:102a-22a Ap '23

Some aspects of the occurrence of oil in Russia. T. G. Madgwick. Inst Pet Tech J 9:2-26; Discussion. 26-32 F '23

See also Petroleum—Sakhalin (island); Petroleum industry and trade—Russia

Sakhalin (island)

Engineer describes oil possibilities of Sakhaline Island. Nat Pet N 15:71-2 O 3 '23

Scotland

See Oil shales—Scotland

Siberia

Meager data on China and Siberia not promising from oil standpoint. E. Blackwelder. Nat Pet N 14:48p-q+ Mr 1 '22; Excerpts. Min & Met 187:41-2 JI '22

South Dakota

Possibilities of oil in eastern Pennington county. F. Ward. (South Dakota Geol. & natural history s. Circ. '81) 11p Univ. of South Dakota, Vermilion '21

Possibilities of oil in South Dakota. R. A. Wilson. (Bul. no. 3, ser. 22) 97p Univ. of S. D., Vermillion '22

Reports credit South Dakota with small chance of producing much oil. Nat Pet N 15:81+ F 14 '23

University of South Dakota, Vermilion, publishes a number of bulletins on the petroleum resources of the state

Southwestern states

Oil in the Southwest and its future. W. S. Farish. Am Pet Inst Bul 3:19-23 D 30 '22; Excerpts. Nat Pet N 14:33-5 D 13 '22

Sumatra

Djambi oil field of Sumatra. A. H. Redfield. bibliog maps Eng & Min J 112:939-43 D 10 '21

Tennessee

Geologist believes Tennessee may yet be important producing state. L. C. Glenn. Nat Pet N 15:93+ My 16 '23

Texas

Austin chalk in the Currie-Wortham field and its vicinity. J. C. Blumer. Nat Pet N 14:83+ Je 21 '22

Currie pool producing conditions, their relation to Mexia and Powell. P. Wagner. diag Nat Pet N 15:81+ F 7 '23

Currie-Wortham area shows up slowly; new coastal dome indicated. Nat Pet N 14:65-6 Mr 29 '22

Eastland townsite typical black lime. P. Wagner. map Nat Pet N 14:57+ JI 19 '22

Petroleum—Texas—Continued

Electra field gains 4,000 barrels daily from its south division. P. Wagner. map Nat Pet N 14:77-9+ Je 28 '22

Fault line northwest of Mexia main pool factor if water appears. P. Wagner. Nat Pet N 13:39 N 16 '21

Geology of the Ranger oil field, Texas. F. Reeves. U S Geol S Bul 736—E:111-70. pl 15-19 '22

High pressure gas and shallow oil are pointers for Texas Golconda. P. Wagner. map Nat Pet N 14:65-6+ D 20 '22

Lacasa area, Ranger district, north-central Texas. C. S. Ross. diag map U S Geol S Bul 726—G:303-14, pl 53-4 '21

Map of Mexia oil field, corrected to Feb. 1, 1922. Nat Pet N 14:supp F 15 '22

Mirando shallow wells turn attention to southern tip of Texas. P. Wagner. Nat Pet N 14:81+ Ap 12 '22

New oil stratum opened in Mexia-Currie field. Eng & Min J 114:818 N 4 '22

New producing areas in Texas. Eng & Min J 116:70 Jl 14 '23

Notes on the oil and gas fields of Webb and Zapata counties. E. H. Sellards. Texas U Bul 2230:1-40 '22

Oil and gas in the Texas Panhandle. W. Pratt. maps Nat Pet N 15:57-8+ Jl 25 '23

Panhandle tests persistently put down in exploratory work for oil. P. Wagner. map Nat Pet N 14:75-6+ My 3 '22

Producer at 3760 foot level believed to open new field south of Mexia. P. Wagner. Nat Pet N 14:19 Ag 23 '22

Producing horizon in the Rios well in Caldwell county. E. H. Sellards. Texas U Bul 2239:1-40 '22

Properties of Gulf Coastal, Texas, crudes, production and field data. P. Wagner. Nat Pet N 14:35-6+ D 27 '22

Rapid drilling up of Mexia main pool is certainty of field. P. Wagner. il Nat Pet N 13:17-19+ N 9 '21

Southwest Texas oil fields. W. T. Owen. il Eng & Min J 114:506-10 S 16 '22

Structure of the Madill-Denison area, Oklahoma and Texas; with notes on oil and gas development. O. B. Hopkins, S. Powers and H. M. Robinson. U S Geol S Bul 736—A:1-33, pl 1-6 '22

Survey bulletin describes conditions in newest east Texas pool. P. Wagner. map Nat Pet N 15:76-7+ F 14 '23

Territory along line of Mexia faulting scene of extensive test. P. Wagner. map Nat Pet N 13:20-2 D 28 '21

Well records in Panola county including structural contour map. E. H. Sellards. Texas U Bul 2232:1-33 '22

Wildcat tests northeast of Mexia drawing attention. Nat Pet N 13:21 N 16 '21

See also Petroleum industry and trade—Texas; Salt domes

Turkey

Berlin to Bagdad and the Chester plan. F. Simplic. il Nation's Business 11:20-2 Jl '23

Mosoul: a country of great resources and half-civilized peoples. R. S. Blatchley. il Nat Pet N 15:67-8 Ap 18 '23

Turkish assembly confirms oil concession to Admiral Chester. Oil Paint & Drug Rep 103: 19+ Ap 16 '23

United States

America's fuel resources. R. G. Skerrett. il Sci Am 126:85-7 F '22

Estimate nine billion barrels of oil in ground. Am Gas J 116:61-2 Ja 21 '22

Geological notes on oil structures. E. A. Hill. 85p Hall-Gutstadt co., San Francisco '22

Mountain states oil digest. L. C. Bailey, Casper, Wyo. '22

Oil reserves of the United States. D. White. Min & Met 186:37-8 Je '22

Oil supply of the United States as estimated by leading oil geologists. Comm & Fin Chr 114:482 F 4 '22; J Elec 48:145 F 15 '22

Petroleum in 1919-1921. G. B. Richardson. map U S Geol S Min Res of U S 1921, pt 2: 253-333 '23

Petroleum industry. Soc Auto Eng J 13:394 N '23

Petroleum provinces of the United States. E. R. Lilley. map Eng & Min J 116:243-5 Ag 11 '23

See also Petroleum industry and trade—United States

Utah

Dry holes show how Utah formations run. W. B. Emery. Nat Pet N 14:67+ F 8 '22

Woodside test to be drilled in Utah whatever Farnham's outcome. P. Wagner. il maps Nat Pet N 15:85-7+ Je 27 '23

See also Oil shales—Utah

Venezuela

Development in Venezuela should be figured as highly expensive. R. Arnold and B. Bryan. Nat Pet N 14:48f Mr 1 '22

Developments in western Venezuela and their significance. B. Bryan. map Nat Pet N 14: 35+ Ag 23 '22

Oil developments in Venezuela in 1922 and their significance. J. W. Lewis. il map Nat Pet N 15:70+ Mr 7 '23

Petroleum possibilities in Venezuela, exploration and actual development. J. F. Sheridan. map Oil Paint & Drug Rep 104:20+ O 15 '23

Petroleum resources of Venezuela; abstract. R. Arnold, B. Bryan and G. A. Macready. Min & Met 187:34-5 Jl '22

Scope of present Venezuelan operations indicates big developments. L. E. Smith. Nat Pet N 15:69 Mr 7 '23

Venezuela cooperates in search for oil with American companies. L. E. Smith. il Nat Pet N 15:83-4 Je 6 '23

Venezuela will not repeat performance of Mexico but has big future. L. G. Huntley. Nat Pet N 15:51-2+ S 19 '23

See also Petroleum industry and trade—Venezuela

Virginia

Oil in Virginia well comes from Clinton, lying far out of order. map Nat Pet N 15:76+ Jl 4 '23; Same cond. Eng & Min J 116:23 Jl 7 '23

West Indies

Oil development in the West Indies during 1922. Eng & Min J 115:414 Mr 3 '23

Petroleum developments in West Indies and Central America in 1922. A. H. Redfield. Nat Pet N 15:101+ Mr 14 '23

West Indies may be considered to hold little deposits of oil. A. H. Redfield. Nat Pet N 14:48e+ Mr 1 '22; Abstract. Min & Met 186: 39 Je '22

West Virginia

Another Cabin Creek field may reward four and a half years of work. L. E. Smith. il Nat Pet N 15:29-30 Je 6 '23

Subsurface conditions on portion of Arches Fork anticline; abstract. K. Cottingham. diags Min & Met 181:35-6 Ja '22

Wyoming

Continuity of some oil-bearing sands of Colorado and Wyoming. W. T. Lee. il map U S Geol S Bul 751—A:1-22 '23

My faith in Wyoming and Montana. F. E. Kistler. Am Pet Inst Bul 3:23-6 D 30 '22; Same abr. Nat Pet N 14:33+ D 13 '22

Natrona county structures afford good heavy oil possibilities. L. E. Smith. Nat Pet N 14: 45+ Ag 9 '22

Northern Carbon county assumes more importance in oil and gas. L. E. Smith. il Nat Pet N 14:35+ Jl 26 '22

Oil fields of Rawlins-Lost Soldier district of Wyoming. E. W. Krampert. Nat Pet N 15: 35-6+ Mr 14 '23

Oil reserve in Salt Creek estimated more than half billion barrels. L. E. Smith. map Nat Pet N 14:36-7+ Jl 19 '22

Osage oil field, Weston county, Wyoming. A. J. Collier. U S Geol S Bul 736—D:71-110, pl 10-14 '22

Petroleum—Wyoming—Continued

- Petroleum possibilities in deep sands near Osage field, Wyoming. Eng & Min J 116:376 S 1 '23
- Production problems in the Grass Creek oil field; abstract. E: L. Estabrook. Min & Met 182:65-6 F '22
- Roadless, waterless, rattlesnake pasture, that's Teapot Dome. L. E. Smith. il Nat Pet N 14:33+ J1 5 '22
- Salt Creek with it's 60,000,000 barrels produced, holds unknown possibilities. L. E. Smith. il Nat Pet N 14:34-5+ J1 12 '22
- Seven light oil fields of Wyoming account for one-fourth of current daily production there. L. E. Smith. il Nat Pet N 14:67+ S 13 '22
- Sixty days to see first completion by Mammoth oil co. L. E. Smith. map Nat Pet N 14:34-5+ Ag 16 '22
- Survey drafts new map of Wyoming oil fields. Nat Pet N 13:68 D 21 '21
- Three Teapot wells in Second sand show no gas pressure. L. E. Smith. il Nat Pet N 14:21-2 D 6 '22
- Very heavy asphaltic base oil finds market in Wyoming. L. E. Smith. il Nat Pet N 15:35 S 26 '23
- Wyoming is one state where a new oil field will soon be needed. L. E. Smith. Nat Pet N 15:43-4 S 19 '23
- See also Oil reserves (United States navy); Petroleum industry and trade—Wyoming

Petroleum asphalts. See Asphalt**Petroleum commission, International. See International petroleum commission****Petroleum distillation**

- Analytical distillation of petroleum and its products. E. W. Dean and others. il diags U S Bur Mines Bul 207:1-82 '22
- Crude petroleum distillation. E. M. Clark. Chem & Met Eng 26:1183 Je 21 '22
- Destructive distillation of mixtures of oil and coal. J. D. Davis, P. B. Place and G. S. Scott. diags Chem & Met Eng 25:1131-6 D 21 '21
- Fire, tube, steam and vacuum stills; specifications, efficiencies. H. S. Bell. diag Nat Pet N 15:41+ Ja 3 '23
- Fractional distillation of various petroleum under reduced pressure. J. C. Morrell and G. Egloff. diag Soc Chem Ind J 42:188-92 My 4 '23
- Gasoline as a refrigerant. L. D. Wyant. plan Refrig W 58:16-21 O '23; Same. Nat Pet N 15:99+ O 3 '23
- Heavy grade Egyptian crude petroleum. W. A. Guthrie. il diags Inst Pet Tech J 9:212-34; Discussion. 234-47 Ag '23
- Low-temperature distillation of amalgams of bituminous non-coking coal and asphaltic oils. J. D. Davis and C. E. Coleman. diags Am Gas J 116:83-6 Ja 28 '22; Same cond. Chem & Met Eng 26:173-4 Ja 25 '22; Same cond. Gas Age 49:107-9 Ja 28 '22
- Operating practice in refining cracked petroleum distillates. G. Egloff and J. C. Morrell. Chem & Met Eng 29:53-4 J1 9 '23
- Pressure distillation of petroleum. Chem & Met Eng 27:33-3 J1 5 '22
- Results of cracking Panuco topped crude by the Dubbs process. G. Egloff. flow sheet Nat Pet N 15:35+ Mr 21 '23
- Separation of the components of petroleum. F. F. Gordon. Soc Chem Ind J 42:405T-14T O 19 '23
- Study of the saturated and unsaturated oils from shale. C. W. Botkin. Chem & Met Eng 26:398-401 Mr 1 '22
- Tentative method of test for distillation of gasoline, naphtha, kerosene, and similar petroleum products. diags Am Soc T M Pro 21:631-7 '21

See also Petroleum refining

Petroleum engineering

- Elimination of oil-field waste. A. B. Thompson. Inst Pet Tech J 8:1-32 Ja '22; Abstract. Engineering 112:670-1 N 11 '21; Discussion. Inst Pet Tech J 8:32-49 Ja '22

- Gas and oil industrial cooperation. B: K. Stroud. Gas Age 51:535-6 Ap 28 '23
- Louisiana teaches natural gas engineering. O. F. Schully. Am Gas J 117:95-7 J1 29 '22
- Oil-field practice. D. Hager. 310p McGraw-Hill '21
- Oilfield waste. A. B. Thompson. Inst Pet Tech J 9:311-22; Discussion. 322-9 Ag '23
- Petroleum engineering in the Hewitt oil field, Oklahoma. T. E. Swigart and F. X. Schwarzenbek. il diags maps 132p U S Bur Mines, Washington, in co-operation with the State of Oklahoma and the Ardmore chamber of commerce, Ardmore, Oklahoma '21
- Petroleum engineers already studying oil mining for future. Nat Pet N 14:69+ O 25 '22
- See also Petroleum—Production methods; Petroleum—Pumping; Petroleum—Study and teaching; Petroleum—Well boring

Safety devices and measures

- Accident prevention in the oil field. R. S. Bonsib. il Nat Safety N 7:19-21 Je '23
- Field boilers insulated for safety prove efficiency measure. diag Nat Pet N 15:77+ Mr 21 '23
- Fire protection measures on California wells. il Nat Pet N 15:62 S 5 '23
- Humanitarian results plus cash return make safety work pay. Nat Pet N 15:83+ Ja 31 '23

Standards

- Organization of oil engineers suggested to establish standards. J. F. Lucey. Nat Pet N 15:67+ Ja 31 '23
- Standardization in the oil industry from the engineer's point of view. A. B. Steen. Eng & Min J 114:1080-1 D 16 '22
- Standardization of practice as well as of equipment needed. J. B. Wells. Nat Pet N 15:75+ Ja 17 '23

Petroleum geologists

- Oil executive and geology. J. H. Jenkins. Am Pet Inst Bul 3:35-6 D 30 '22; Abstract. Eng & Min J 114:1035 D 9 '22

Petroleum geologists, American association of. See American association of petroleum geologists**Petroleum industry and trade**

- American petroleum institute holds an optimistic meeting. Oil Paint & Drug Rep 100:9-13+ sec 2 D 12 '21
- Business of oil production. R. H. Johnson, L. G. Huntley and R. E. Somers. 264p Wiley '22
- Current year in the petroleum industry. W. C. Teagle. Oil Paint & Drug Rep 100:11-12 sec 2 D 12 '21
- Development of foreign oil fields a long and costly task. L. E. Smith. Nat Pet N 14:25-7 Mr 1 '22
- European conditions and outlook. E: Frizer. Oil Paint & Drug Rep 100:12 sec 2 D 12 '21
- Exporter sees Europe as weak factor in oil market of 1922. H. E. Rogers. Nat Pet N 14:41 Ap 19 '22
- Farmers accused of taking graft from every motorist using gasoline. Nat Pet N 15:78-80 Je 27 '23
- Financing the oil industry. J. J. McGraw. Am Pet Inst Bul 3:14-19 D 30 '22
- Foreign oil possibilities and domestic price fixing. R. Arnold. Min & Met 186:15-16 Je '22
- Handbook of the petroleum industry. D: T. Day and others. 2v. Wiley '22
- How the state department can aid foreign oil development. L. H. Woolsey. Min & Met 187:21-4 J1 '22
- Leading geologists report oil prospects of western hemisphere. L. E. Smith. Nat Pet N 15:32a-h F 28 '23
- Little money in petroleum business. R. L. Welch. Oil Paint & Drug Rep 102:20+ Ag 14 '22
- Offers program to industry for keeping sales ahead of production. H. L. Doherty. Nat Pet N 15:32a-d S 26 '23
- Oil business readjusting on saner basis. T. A. O'Donnell. Nat Pet N 13:25 D 7 '21

Petroleum industry and trade—Continued

Oil company—what shall its business policy be? C. N. Haskell. *Annalist* 21:800-1 Je 11 '23

Oil industry. A. C. Bedford. *Am Pet Inst Bul* 3:5-10 D 30 '22

Oil; its influence on politics. F. Delaisi. 94p *Labour pub. co.*; and G. Allen & Unwin, London '22

Oil production during the past year and a glimpse at the future. F. Haskell. *Oil Paint & Drug Rep* 100:13+ sec 2 D 12 '21

Organization is essential to economy. D. W. Moffitt. *Nat Pet N* 15:28-9 Mr 14 '23

Petroleum and allied industries. J. Kewley. 302p *Van Nostrand* '22

Petroleum industry. A. E. Dunstan, ed. 346p *Institution of petroleum technologists*, London '22

Petroleum marketing problems. D. W. Moffitt. *Nat Pet N* 15:121-2 My 9 '23; *Discussion*. 55-7 My 23 '23

Petroleum outlook. J. D. Northrop. *Eng & Min J* 113:93-4 Ja 21 '22

Petroleum's future. A. L. Beaty. *Am Pet Inst Bul* 3:29-32 D 30 '22

Present brokerage system worst menace to independent refiner. D. W. Moffitt. *Nat Pet N* 15:21-2 Ap 11 '23

Producing division is troubled by over-competition and optimism. W. N. Davis. *Nat Pet N* 14:49+ N 1 '22

Stabilization of industry here vital to filling demand in future. R. Arnold. *Nat Pet N* 14:48a-b Mr 1 '22

Stabilizing profits in the petroleum industry by predetermining market conditions. J. E. Pogue. *Chem & Met Eng* 27:473 Ag 30 '22

What benefits the oil industry most, cheap or high priced crude. H. L. Deming. *Nat Pet N* 14:73+ D 6 '22

Where the oil goes. *il Sci Am* 127:77 Ag '22
World oil situation. A. C. Bedford. *Chem & Met Eng* 28:729 Ap 23 '23

See also Electricity in petroleum industry; Gas oil; Oil industries; Oil inspection; Oil promoters; Petroleum—Prices; Petroleum research; Petroleum supply; Radio telephone in petroleum industry; also American association of petroleum geologists; American petroleum institute; Nicholas, L. V., oil company; Standard oil company

Accounting

Net income from operated oil lease within meaning of 1921 law. E. J. Dowling. *Nat Pet N* 15:85-6 Mr 14 '23

Values in crude-oil production. R. W. McKee. *J Account* 35:258-75 Ap '23

See also Petroleum refineries—Accounting

Advertising

Independent oil man has done well, and he is marching on. W. C. Platt. *Nat Pet N* 15:35 Je 20 '23

Independent oil men advertise to make goodwill cohesive. C. M. Harrison. *Ptr Ink* 121:17-19 D 7 '22

Congresses

First international petroleum congress, Tulsa. *Oil Paint & Drug Rep* 104:20+ O 22 '23

Directories

Petroleum register. 429p *Oil trade journal*, 350 Madison av., New York '23

Equipment and supplies

Automatic bailer for oil recovery. E. Huguenin. *diags Eng & Min J* 114:333-4 Ag 19 '22

Brief description of improved oil field tools used in California. W. W. Copp. *Nat Pet N* 15:73-4+ F 21 '23

Equipment for drilling and producing oil wells in California. H. A. Godde and W. L. Williams. *Nat Pet N* 15:99-100+ Je 6 '23

Oil-well magnet recovers lost equipment. *il Pop Mech* 39:898 Je '23

Physical and chemical properties of oil country tubular material. F. N. Speller. *il diag*

Am Pet Inst Bul 3:45-50 D 30 '22

Proposed specifications for steel and iron pipe for oil country tubular goods. 6p *Am. pet. inst.*, 15 W. 44th st., New York '23

Relation of supply man to the producer; his aims for the future. S. C. Reed. *Nat Pet N* 15:32j-k O 17 '23

Service in teaching field men how to use material proves effectual. R. M. Winsborough. *diag Nat Pet N* 15:59-60 Mr 14 '23

Standardization in the oil industry from the engineer's point of view. A. B. Steen. *Am Pet Inst Bul* 3:63-6 D 30 '22

Steel derricks becoming popular in Gulf coast fields; tanks go up. *il Nat Pet N* 14:31 My 24 '22

Supply companies' exhibits bring out newest in equipment. H. Markt. *Nat Pet N* 15:32e-h Ap 25 '23

Supply trade is abreast of production as the industry expands. L. C. Sands. *Nat Pet N* 13:35-6 D 14 '21

These equipment companies and supply men put Tulsa exposition over strong. *Nat Pet N* 15:32i-p O 17 '23

What has been done toward uniformity of oil drilling methods and equipment. O. V. Borden. *Am Pet Inst Bul* 3:66-9 D 30 '22

Exhibitions

Equipment to be seen at International petroleum exposition and congress, Tulsa, Oct. 8-14. *Nat Pet N* 15:32f-h S 26 '23

Supply companies' exhibits bring out newest in equipment. H. Markt. *Nat Pet N* 15:32e-h Ap 25 '23

Government investigation, 1922-23

Col. Stewart tells LaFollette committee about Standard of Indiana. P. Truesdell. *Nat Pet N* 15:23-7 Ja 31 '23; *Correction*. 15:22 F 7 '23

Doheny interests plan to branch out into refining and marketing. *Nat Pet N* 15:21-2 F 14 '23

LaFollette investigating committee in its examination of the oil business. *Nat Pet N* 15:21-2+ Ja 10; 24a-c Ja 17 '23

LaFollette report based on figures altogether erroneous. R. L. Welch. *Nat Pet N* 15:27-31 Ap 25 '23; *Abstract*. *Comm & Fin Chr* 116:1852-3 Ap 28 '23

More injustices in LaFollette report. *Nat Pet N* 15:27-8 Je 6 '23

Oil company financing. *Nat Pet N* 15:28-9 My 9 '23

Refiners from four main districts give returns on operations. P. Truesdell. *Nat Pet N* 15:23-4 F 21 '23

Resumption of the oil hearings before the Senate committee on manufactures. *Oil Paint & Drug Rep* 103:19-20 Ja 8; 20-1+ Ja 15; 21+ Ja 22; 21+ Ja 29; 20+ F 5; 21+ F 12; 21+ Mr 5; 21+ Mr 12 '23

Sinclair testifies on Mammoth oil co. before LaFollette committee. *Nat Pet N* 15:29-31 Ja 24 '23

Standard (N.J.) answers accusations in LaFollette report. *Nat Pet N* 15:49+ Je 6 '23

Western petroleum refiners condemn report of the LaFollette committee. *Oil Paint & Drug Rep* 103:43 Ap 23 '23

See also Oil reserves (U.S. navy)

History

History of petroleum in commerce. *Oil Paint & Drug Rep* 101:27 Mr 23 '22

Promoters

See Oil promoters

Public relations

Industry on trial before the people. R. W. Stewart. *Am Pet Inst Bul* 3:26-9 D 30 '22

Oil industry and the public. G. White. *Am Pet Inst Bul* 3:32-5 D 30 '22

Regulation

Courts have ruled against proposals of LaFollette report. A. E. Heiss. *Nat Pet N* 15:17-18 Mr 21 '23

Economic difficulties in government regulation of oil business. C. B. Ames. *Nat Pet N* 15:27-8 O 10 '23

Petroleum industry and trade—Regulation

—Continued

LaFollette prepares way for attempt at government regulation. A. E. Heiss. Nat Pet N 15:17-18 Mr 7 '23
 State attorneys plan big task and take another recess; issuance of a thousand word resolution. Nat Pet N 15:20 O 24 '23

Statistics

Crude petroleum survey shows need for fuel conservation. J. E. Pogue. map Automotive Ind 45:1151-7 D 29 '21
 Current statistical information developed by W.P.R.A. J. C. Chatfield. Nat Pet N 15:30 O 24 '23
 Exports of petroleum and its products from U.S.; year ended June, 1922. Nat Pet N 14:77 Ag 23 '22
 Oil fuel supplies—present and future. Engineer 134:334-5 S 29 '22
 Oil industry to break record this year. diag Pop Mech 40:77 JI '23
 Oil production during the past year and a glimpse at the future. F. Haskell. Nat Pet N 13:33+ D 14 '21
 Oil supply of the United States. Eng & Min J 113:214 F 4 '22
 Petroleum exports in March by items, ports and countries. Oil Paint & Drug Rep 101:40e My 15 '22
 Petroleum production of the world. Oil Paint & Drug Rep 102:44b N 27 '22
 Statistical desk sheet for 1921 of the oil industry of the United States. Nat Pet N 14:supp F 8 '22
 United States' 1921 production was 61.9 per cent of world's. Nat Pet N 14:57 Mr 15 '22
 World's output of petroleum in 1920. Oil Paint & Drug Rep 100:11 sec 2 N 14 '21
 World's petroleum output in 1921. Gas Age 49:660 My 27 '22
 World's petroleum production. H. G. Shatwell. Soc Chem Ind J (Chem & Ind) 42:1028-9 O 26 '23
 Year of new records in the petroleum industry. Chem & Met Eng 28:137 Ja 17 '23

Tables, calculations, etc.

Oil trade calculator for easy conversion of weights to gallons at different specific gravities. T. H. Butler. 201p Van Nostrand '21

Argentina

Argentine petroleum industry and trade. G. S. Brady. U S Bur For & Dom Com Trade Information Bul 81:1-23 '23

Greater part of Argentine crude hardly equals light Mexican oil. Nat Pet N 14:87 N 8 '22

See also Petroleum—Argentina

Arkansas

Smackover pool appears past its peak; wells reach pumping stage. P. Wagner. Nat Pet N 15:59-60 Ja 17 '23

Smackover production approximates 28% of initial flow figures. P. Wagner. Nat Pet N 15:69+ F 7 '23

Texas company buys in at Smackover; may build line from Shreveport. P. Wagner. Nat Pet N 14:25-6 D 6 '22

See also Petroleum—Arkansas

Baku

Oil industry of Baku. Eng & Min J 115:897 My 19 '23

Review of Baku petroleum industry from 1920-1922. Inst Pet Tech J 9:110a-16a Ap '23

Russian oil fields under soviet operation. V. B. Guthrie. il Nat Pet N 15:35-6+ Ag 1 '23

Belgium

Oil companies install hundreds of pumps in Belgium. H. L. Smith. Nat Pet N 15:91 O 31 '23

Brazil

Most of oil imported into Brazil distributed in containers. Nat Pet N 15:81 S 26 '23

See also Petroleum—Brazil

California

California in 1921 sets new mark in crude petroleum production. Nat Pet N 14:56 Ja 4 '22

California situation works own control and appears less disturbing. P. Wagner. Nat Pet N 15:17-19 My 9 '23

California's inherent charms set stage for promoter's subtle wiles. P. Wagner. Nat Pet N 15:35+ My 9 '23

California's output. Nat Pet N 15:17-20 Ap 18; 21-2 My 16; 75+ My 30; 75-6 Je 13; 73+ Je 27; 65-6 JI 11; 19 S 26 '23

Elk Hills outstanding reserve in still important San Joaquin valley. P. Wagner. il maps Nat Pet N 15:22-6 My 2 '23

Existing contracts assure California oil will be factor over 1924. P. Wagner. Nat Pet N 15:73-5 O 10 '23

Five tankers transferred from Mexican to intercoastal service. P. Wagner. Nat Pet N 15:25-6 My 9 '23

Los Angeles basin development costs millions beyond economic needs. P. Wagner. il Nat Pet N 15:17-20 Ap 25 '23

New regulation for curtailment in Los Angeles basin. il Nat Pet N 15:73-4 Ag 8 '23

Oil industry in California. H: M. Payne. il Eng & Min J 113:1099-1103 Je 24 '22

Oil of Los Angeles. T. A. Rickard. Eng & Min J 115:1099 Je 23 '23

Pan American's California properties include outstanding reserves. P. Wagner. Nat Pet N 15:97-8+ My 30 '23

Present flush fields and not those in making the real factors. P. Wagner. Nat Pet N 15:53+ O 3 '23

Report of the Federal trade commission on the Pacific coast petroleum industry; prices and competitive conditions. pt. 2. charts map 262p The Commission, Washington '22

Review of the California oil industry during past year. W. Stalder. il J Elec 48:102-4 F 1 '22

Sante Fe springs and Long Beach hit up merry clip again. Nat Pet N 15:73-4 Je 20 '23

See also Petroleum—California

Canada

See Petroleum—Canada

Dutch East Indies

Petroleum production and trade of the Dutch East Indies. A. T. Coumbe, Jr. map (supp) U S Bur For & Dom Com Trade Information Bul 111:1-24 '23; Abstract. Nat Pet N 15:97-8+ JI 18 '23

France

French endeavor to stimulate development of petroleum resources; output is small. Nat Pet N 14:70 O 11 '22

L'office national du pétrole. M. Ajam. Chimie & Ind 7:785-6 Ap '22

Petroleum trading in France described as complicated undertaking. Nat Pet N 14:67+ S 20 '22

Gallicia

Gallicia and its petroleum industry. A. Millar. il maps Inst Pet Tech J 8:312-40; Discussion. 340-8 JI '22

Germany

Germany's oil imports decline as exchange is unfavorable. Nat Pet N 15:59+ Ag 8 '23

Great Britain

British oil policy in foreign fields. J: Cadman. Min & Met 132:7-8 F '22

Great Britain is not trying to corner world's oil, says Cadman. P. Truesdell. Nat Pet N 13:17-18 D 7 '21

Petroleum trade and industry of the United Kingdom. J: K. Towles. U S Bur For & Dom Com Trade Information Bul 80:1-18 '23

United Kingdom trade during August and the eight months of 1923. C: L. Devault. Nat Pet N 15:93 O 31 '23

See also Petroleum—Great Britain

Petroleum industry and trade—Continued**Illinois**

Illinois independent oil jobbers quit leasing pumps and tanks. Nat Pet N 14:21-2 Ja 18 '22

Three widely separated areas in Illinois claim most of attention. L. E. Smith. Nat Pet N 14:25-6 Ap 5 '22

India

Pennsylvanian chooses to operate in U.S. after long residence in Burma. Nat Pet N 14:65-6 My 17 '22

Italy

Petroleum prospects in southern Italy. Oil Paint & Drug Rep 102:42E Jl 17 '22

Japan

Historical resumé of the petroleum industry in Japan. Oil Paint & Drug Rep 101:87+ Mr 28 '22

Japan preparing to test areas considered possible oil bearing. J. M. Clements. Nat Pet N 14:480-p Mr 1 '22

Kansas

See Petroleum industry and trade—Oklahoma-Kansas district

Korea

America supplies Korea with most oil. Nat Pet N 15:91 O 3 '23

Louisiana

Haynesville is proving dependable field for pumping production. Nat Pet N 14:73-4 Je 7 '22

Haynesville pool grows in importance as production edges westward. P. Wagner. Nat Pet N 14:71-2c Mr 29 '22

Haynesville, stable new development, to reach 100,000 barrels daily. Nat Pet N 14:48-9 Ja 18 '22

New Orleans vicinity develops rapidly as oil import and export point. Nat Pet N 14:35-7+ Ap 5 '22

See also Petroleum—Louisiana

Mexico

Cacalillao section in Mexico may greatly increase heavy oil production. P. Wagner. map Nat Pet N 14:67+ D 6 '22

Cerro Azul still to be factor after Toteco production is gone. P. Wagner. Nat Pet N 14:73+ Ap 26 '22

Co-operative test with electrical equipment in Mexico. P. Wagner. Nat Pet N 15:71 Ag 8 '23

Domestic crude markets firmer after salt water shows in Mexico. P. Wagner. Nat Pet N 14:20+ Jl 12 '22

Increased Panuco production, and draft on stocks hold up Mexican exports. maps Nat Pet N 14:60-1+ N 22 '22

Intelligent prospecting in Mexico vital to stability of industry. V. R. Garfias. Nat Pet N 14:48m+ Mr 1 '22

Mexican oil expectations. Min & Met 190:19-20 O '22

Mexican petroleum. 300p Pan American petroleum & transport co., New York '22

Mexican petroleum earned \$44.06 a share in 9 months, report shows. Nat Pet N 14:47+ N 8 '22

Mexican petroleum production is highest on record. Eng & Min J 114:25 Jl 1 '22

Mexico's known light oil reserves below 100 million barrels. P. Wagner. Nat Pet N 14:73-4+ O 4 '22

Oil in sight from Mexico's known fields 225 million barrels. P. Wagner. il map Nat Pet N 14:56-9 Mr 1 '22

Oil industry awakens sleeping Mexican market. W. C. Platt. Ptr Ink 118:138+ Mr 23 '22

Oil industry, providing work, giving peon first real chance. W. C. Platt. Nat Pet N 14:65+ Mr 8 '22

Toteco-Cerro Azul high spot in Mexico averages 380,000 barrels daily. map Nat Pet N 14:57-8 F 1 '22

See also Petroleum—Mexico; also Mexican seaboard oil company

Montana

Low price and limited market hamper Sunburst field development. L. E. Smith. il map Nat Pet N 15:34-6+ Ag 22 '23

Second prolific sand at Cat Creek promises to make this one of the small wonder fields of West. L. E. Smith. il Nat Pet N 14:67+ S 6 '22

Ohio

Ohio marketers organize to cure bad practices, aid co-operation. R. B. Stafford. Nat Pet N 14:25+ My 10 '22

Strange little Ohio organization stands alone in industry. Nat Pet N 14:33 Ja 11 '22

Oklahoma-Kansas district

Acree adjacent prolific Burbank for sale Dec. 12. Nat Pet N 13:26 N 9 '21

Agree on Burbank drilling restriction; consider Tonkawa shutdown. A. F. Hinton. Nat Pet N 15:17-18 My 30 '23

Agree to restrict drilling in Burbank as Oklahoma production gains. Nat Pet N 15:69-71 My 30 '23

Beckham county test flows by heads from sandy lime formation. Nat Pet N 15:69-71 Ap 11 '23

Bristow well making 16,000 barrels; Lyons pool declining. Nat Pet N 14:51-3 My 17 '22

Burbank and Tonkawa producers ratify detailed shutdown program. A. F. Hinton. Nat Pet N 15:21-2 Je 6 '23

Burbank shut down extended to protect unsold Osage tracts. Nat Pet N 15:23+ Je 20 '23

Burbank wells to be long lived; make 30 per cent of initial production. P. Wagner. Nat Pet N 14:59+ My 10 '22

Burbank, with lid off again, center of Oklahoma operations. Nat Pet N 14:63-5 N 8 '22

Developing steadily, conservatively, Burbank is real field of year. Nat Pet N 14:22-3 F 22 '22

Drilling shut-down, Oklahoma analyzed by companies and by fields. A. F. Hinton. Nat Pet N 14:17-18+ O 4 '22

14,000-barrel Hewitt well. Nat Pet N 15:67-9 Je 6 '23

Oklahoma drilling operations increase as crude prices rise. A. F. Hinton. Nat Pet N 15:21-2 Mr 14 '23

Oklahoma producers are looking forward to improvement in 1923. Nat Pet N 15:55-7 Ja 3 '23

Oklahoma production. Nat Pet N 14:61-2 My 3; 61-2 My 31; 67-9 Je 14; 55-6 Je 21; 69-71+ Je 28; 51-2+ Ag 16 '22

Oklahoma proration is made more stringent: output continues to decline. A. F. Hinton. Nat Pet N 15:69-70 Ag 29 '23

Oklahoma shutdown on in reality; being taken philosophically. A. F. Hinton. Nat Pet N 15:67-9 Ag 8 '23

Opening of new pools features week as production continues gain. Nat Pet N 14:47-8+ My 10 '22

Performance of edge well, Robberson pool, starts new activity. P. Wagner. map Nat Pet N 14:82-3+ O 4 '22

Proration hits flush fields hardest; producers are for it. A. F. Hinton. Nat Pet N 15:29-30 Jl 4; 26 Jl 11 '23

Runs show little decline as third price cut is made. Nat Pet N 14:53-5 Ag 9 '22

Tonkawa pool, more than two miles long, not defined north and east. P. Wagner. map Nat Pet N 14:34-6 S 20 '22

Too much oil for a long time, many mid-continent producers say. A. F. Hinton. Nat Pet N 15:53-4 O 24 '23

Tulsa exposition center of interest; drilling and production off. A. F. Hinton. Nat Pet N 15:71-2+ O 10 '23

Wildcats in south end open new pools; Oklahoma production declining. Nat Pet N 14:59-60+ N 1 '22

Petroleum industry and trade—Oklahoma-Kansas district—Continued

Wildcatting given boost by increase of gravity differential. Nat Pet N 14:53-5+ S 20 '22

See also Petroleum—Oklahoma

Pennsylvania

Early history of the oil industry in Bradford, Pa. D. A. Dennison. Nat Pet N 14:79+ F 15; 55+ F 22; 67+ Mr 1; 64 Mr 15 '22

Joe Seep, friend to Independent and Standard, active at 84. D. A. Dennison. Nat Pet N 14:89 Ap 12 '22

Many spectacular fires marked early days at Titusville, Pa. D. A. Dennison. Nat Pet N 14:61+ Ap 5 '22

Present day Bradford, through the eyes of one who remembers. D. A. Dennison. Nat Pet N 13:27+ N 30 '21

Seek to stabilize price of Pennsylvania crude by wide publicity. Nat Pet N 15:27+ Ag 29 '23

Transportation problems were great in early days of oil industry. D. A. Dennison. Nat Pet N 14:73-4 My 10 '22

See also Petroleum—Pennsylvania

Persia

British-America company being formed to exploit north Persia. P. Truesdell. Nat Pet N 14:17-18 F 8 '22

Persia anxious to start auction for oil rights in north provinces. Nat Pet N 15:94 Je 27 '23

Petroleum concessions in Persia. I. M. von Toll. Eng & Min J 114:377-9 Ag 26 '22

Standard oil company and Persian concessions. L. Pasvolksky. Annalist 20:175, 200 Ag 21-23 '22

Poland

Polish petroleum industry in 1922. U S Bur For & Dom Com Trade Information Bul 135:1-9 '23

Rumania

Rumanian petroleum industry during the first quarter of 1922. A. S. De Bonnier. Eng & Min J 114:332-3 Ag 19 '22

Rumanian petroleum industry in 1921. D. F. Bigelow. U S Bur For & Dom Com Trade Information Bul 45:1-11 '22

Rumania's petroleum industry during 1921. Eng & Min J 113:368-9 Mr 4 '22

See also Petroleum—Rumania

Russia

Oil industry in Russia under bolshevik régime. Chem & Met Eng 26:512 Mr 15 '22

Oil production in Russia. Eng & Min J 115:115 Je 23 '23

Petroleum production of Russia. Annalist 22:427 O 1 '23

Russian output gains 20 per cent; Baku leads 65 per cent of total. Nat Pet N 15:83 Mr 21 '23

See also Petroleum—Russia; Petroleum industry and trade—Baku

South America

Most South American republics offer small oil market. H. S. Fox. Nat Pet N 15:109+ O 17 '23

Spain

Spanish trade in petroleum products. U S Bur For & Dom Com Trade Information Bul 72:1-28 '22

Texas

Activity in Texas field gains impetus from fresh tax crisis in Mexico. P. Wagner. Nat Pet N 13:16A-B D 7 '21

Facilities get under headway to care for Powell's flush production. P. Wagner. Nat Pet N 15:73-4 Jl 4 '23

Faulted Currie pool smaller than Mexia; Kaufman county tests watched. P. Wagner. Nat Pet N 14:76-8+ Ap 5 '22

Half of Mexia's 11 million barrels yield stored at tank farms. Nat Pet N 14:25-6 F 1 '22

History of Texas producing fields—relation to estimated reserve. Nat Pet N 14:67+ Mr 15 '22

Independent interests make up majority of 55 companies at Mexia. Nat Pet N 13:42+ N 16 '21

Kosse and Luling producers indicate future wildcatting campaign. Nat Pet N 14:57-8 S 27 '22

Luling field, in Caldwell county, Texas, begins to show importance. P. Wagner. map Nat Pet N 15:34-6 Je 27 '23

Major interests, protecting against future, help Mexia situation. P. Wagner. Nat Pet N 13:57-8 N 30 '21

Mexia total production from 47 wells reaches 7 million barrels. Nat Pet N 14:47-8 Ja 4 '22

Mexia wells take production northward in fish pond section of field. Nat Pet N 14:63-4 My 3 '22

109 Powell wells now producing third of their initial production. P. Wagner. Nat Pet N 15:75+ Ag 29 '23

Pioneer production exceeds 8000 barrels daily; development looks up. map Nat Pet N 14:58-9 My 24 '22

Powell tops Santa Fe springs in flush outpour of production. P. Wagner. Nat Pet N 15:25-9 O 31 '23

Results on northwest side of Hull dome make pool newly important. P. Wagner. map Nat Pet N 14:66-7+ Ag 23 '22

Sand pools hold what field interest attaches to ranger territory. P. Wagner. map Nat Pet N 14:69-70 Ag 9 '22

They're at it again in Texas; getting investors' coin on stock sales. Nat Pet N 13:59+ N 23 '21

See also Petroleum—Texas

United States

Causes of recent large increase in accumulation of oil. Eng & Min J 114:419 S 2 '22

Chimera of dollar gasoline. W. K. Lewis. Chem Age 31:197-9 My '23; Same. Nat Pet N 15:35-6+ My 16 '23; Abstract. Bus Transportation 2:313 Je '23

Commerce commission shown rates drive oil from railroads. A. E. Heiss. Nat Pet N 14:17-20 Mr 1 '22

Crude petroleum survey shows need for fuel conservation. J. E. Pogue. map Automotive Ind 45:1151-7 D 29 '21

Daily average crude-oil production estimated. Eng & Min J 115:239 F 3 '23

Deeper drilling and better geology made gasoline plentiful in 1922. J. E. Pogue. Automotive Ind 48:461-5 F 22 '23

Economics of petroleum. J. E. Pogue. 375p Wiley '21

Exports of petroleum crude and refined products declined in 1921. Nat Pet N 14:25 Ja 25 '22

Extravagance an evil of oil industry. A. L. Beaty. Nat Pet N 14:40-40a D 13 '22

F. B. Tough explains method of selling government's royalty production. Nat Pet N 13:56 N 30 '21

Factional bickering in oil industry will bring government control. J. Carson. Nat Pet N 15:59-61 My 23 '23

Future demands on the oil industry of the United States. J. E. Pogue. Min & Met 183:55-8 Mr '22

Government and the oil industry. A. C. Bedford. Nat Pet N 14:37-8 D 13 '22

Greatest petroleum producing year in U. S. was 1921. Eng & Min J 113:253-4 F 11 '22

Gross crude oil production. See weekly numbers of Commercial and financial chronicle

Independents must improve methods. E. E. Shock. Nat Pet N 14:32e-g Mr 15 '22

Kentucky and Tennessee marketers combat tight purses. W. K. Halbert. Nat Pet N 13:17-18 D 28 '21

Not low consumption, but big output causes Western refiners' plight. J. C. Chatfield. Nat Pet N 15:17-18 Je 20 '23

Oil industry; its importance and some of its problems. J. E. Pew. Nat Pet N 15:17-18 Mr 28 '23

Petroleum industry and trade—United States
—Continued

Oil industry with expenses pared, on efficiency basis. Nat Pet N 14:37+ Mr 29 '22

Outlook for the American crude oil market is for upward trend. L. G. Huntley. map Nat Pet N 15:39+ Ja 24 '23

Output of refineries by districts for 1920 and 1921, as compiled by the United States Bureau of mines. Nat Pet N 13:22 N 30; 21 D 21 '21; 14:35 F 1; 22-3 Mr 1; 24 Mr 29; 38 Ap 26 '22

Over-production of petroleum. Comm & Fin Chr 117:492-3 Ag 4 '23

Pacific coast oil industry reported on by trade commission. Oil Paint & Drug Rep 100:9 sec 2 D 12 '21

Petroleum and its products; market review. Oil Paint & Drug Rep 103:59+ Mr 29 '23

Petroleum in industry. E: Prizer. Nat Pet N 15:45-6 My 9 '23; Same abr. Automotive Ind 48:1062 My 17 '23

Petroleum industry—a manufacturing business. A. C. Veatch. Annalist 21:189+ Ja 29 '23

Petroleum mining in 1922. J: D. Northrop. Eng & Min J 115:97 Ja 20 '23

Petroleum refining gains 335.8 per cent in 7 years. Chem & Met Eng 28:533 Mr 21 '23

Plenty of oil and always will be; cooperation necessary. H. F. Sinclair. Nat Pet N 13:37-8 D 14 '21

Production of petroleum by states, 1920 and 1921. Nat Pet N 14:81+ Mr 1 '22

Report of La Follette committee charging domination of oil industry by standard companies. Comm & Fin Chr 116:1136-8 Mr 17 '23; Reply. W. C. Teagle and others. 116:1012-13 Mr 10 '23

Report of the Federal trade commission on foreign ownership in the petroleum industry. 152p The Commission, Washington '23

Reserve building the task of the oil industry. H. F. Sinclair. Annalist 19:53 Ja 9 '22

Story of oil. il map Sci Am 129:256-7 O '23; Same cond. Blast F & Steel Pl 11:555-6 O '23

Too much oil closes refineries. H. E. Sinclair. Am Ind 23:17 O '22

Trend of the petroleum industry in 1921. J. E. Pogue. Automotive Ind 46:418-22 F 16 '22

United States geological survey shows heavy production of petroleum in August and for the eight months to August 31. Comm & Fin Chr 117:1430-1 S 29 '23

Wages and hours of labor in the petroleum industry, 1920. U S Bur Labor Statistics Bul 297:1-153 '22; Excerpt. Monthly Labor R 15:317-18 Ag '22; Excerpts. Comm & Fin Chr 115:146 Jl 8 '22

War chest to handle oil when market is slack. W. C. Teagle. Nat Pet N 13:19+ D 7 '21

See also Oil industries—United States; Petroleum—United States; also Cities service company; Independent oil men's association; National petroleum marketers' association; Standard oil company

Government investigation

See Petroleum industry and trade—Government investigation, 1922-1923

Venezuela

Venezuelan petroleum industry in 1920. A. H. Redfield. maps Eng & Min J 112:780-4 N 12 '21

See also Petroleum—Venezuela

Wyoming

Fight for Wyoming crude likely when new pipe line is ready. L. E. Smith. Nat Pet N 14:21-2+ Ag 2 '22

Salt Creek may be drawn on to near capacity soon. L. E. Smith. Nat Pet N 15:67+ S 5 '23

Teapot Dome falls far below estimates made before drilling began. L. E. Smith. Nat Pet N 15:21-2 Ag 29 '23

Three Wyoming companies carry most of large crude stocks. L. E. Smith. il Nat Pet N 15:73+ S 19 '23

Wyoming producers hold different views on government-Sinclair deal. Nat Pet N 14:67-8 My 3 '22

See also Oil reserves (U.S. navy)

Petroleum laws and regulations

How to fight legislation inimical to oil industry. C. D. Chamberlin. Nat Pet N 15:23-4 Ap 11 '23

Report of the Federal trade commission on foreign ownership in the petroleum industry. 152p The Commission, Washington '23

See also Petroleum—Taxation

Latin America

Latin American countries busy making laws for oil industry. Nat Pet N 14:83+ Mr 29 '22

Oil laws of Latin America; abstract. E: Schuster and F. Feuille, jr. Min & Met 187:38-40 Jl '22

Louisiana

Louisiana law of oil and gas. G: G. Dimick. 387p F. F. Hansell & bro., New Orleans '22

Mexico

Another view of article 27. C. A. Grabill. Eng & Min J 115:501-2 Mr 17 '23

Charges in Mexican chamber of deputies of censorship of affairs by U. S. denial by Secretary of state Hughes—text of proposed oil law. Comm & Fin Chr 115:2428-30 D 2 '22

Laws of Mexico affecting oil development. R. H. Flamm. Eng & Min J 112:823-4 N 19 '21

Mexican government regulates drilling wells and steel storage. Nat Pet N 14:54 Mr 8 '22

Subsoil of Mexico and article 27. R. B. Brinsmade. Eng & Min J 115:279-80 F 10 '23

Oklahoma

Drilling rules apply to future wells only. Nat Pet N 14:69 Ja 4 '22

Oklahoma commission plans imposing rigid rules on oil jobbers. J. C. Chatfield. Nat Pet N 14:19 Ap 5 '22

Peru

Peru's oil development has been rapid; its future is bright. S. F. Bedoya. Nat Pet N 15:32g-h O 10 '23

Texas

Digest and brief book of Texas oil and gas decisions. L. D. Hawkins. 141 numb. I. Gammel's book store, Austin, Tex. '22

Digest of oil and gas decisions. G. B. Smedley. 293p Martin stationery co., Dallas, Tex. '23

Oil and gas laws of Texas. G. B. Smedley. 1921 ed. 223p Martin stationery co., Dallas, Texas '21

United States

Bills affecting oil. Nat Pet N 15:47 Jl 11; 109 Ag 15 '23

Federal trade commission would make law to hit Standard stockholders. A. E. Heiss. Nat Pet N 14:22 Jl 19 '22

Synopsis of state bills now pending taxing the oil industry. Nat Pet N 15:87+ F 21; 99 F 28; 89 Mr 7; 116+ Mr 14; 51+ Mr 28; 107 Ap 11; 127 My 2; 57 My 16; 46 My 30; 99 Je 13 '23

Venezuela

Venezuela will not repeat performance of Mexico but has big future. L. G. Huntley. Nat Pet N 15:51 S 19 '23

Venezuelan oil law considered a model. Oil Paint & Drug Rep 102:43 Jl 24 '22

Petroleum pipe lines

Brundred gives ideas for making pipe lines real common carriers. Nat Pet N 15:27 F 28 '23

Build tunnel for Sinclair pipe line under deep waterway canal. W. K. Halbert. il Nat Pet N 15:121+ O 17 '23; Same abr. Eng & Contr (Ry) 60:830-2 O 17 '23

California operators use welded liners. Nat Pet N 14:45+ F 1 '22

Petroleum pipe lines—Continued

- Completion of Humphreys-pure oil line achieved in five months. *il Nat Pet N 14: 91-2 J1 5 '22*
- Leakage avoided and economy in cost claimed for welded pipe line. *il Nat Pet N 14:35-6+ Ja 13 '22*
- New Jersey company active in setting up own transportation facilities. L. E. Smith. *Nat Pet N 15:17-18 N 7 '23*
- 90-mile pipe line laid in 65 working days. *Nat Pet N 13:40 D 28 '21*
- No trunk line oil from Wyoming until next summer. L. E. Smith. *il Nat Pet N 15:35-6+ Ag 29 '23*
- Pipe line order plus small cracking unit important for independents. P. Truesdell. *Nat Pet N 14:35 Je 14 '22*
- Producers took no interest in including pipe lines in common carrier act. A. E. Heiss. *Nat Pet N 15:22-4 Je 13 '23*
- Sinclair pipe line program under way; pipe to be protected with asbestos. *Nat Pet N 14:20 O 25 '22*
- Story of oil. *il map Sci Am 129:256-7 O '23*; Same cond. *Blast F & Steel Pl 11:555-6 O '23*
- Welding applied to oil-carrying lines and at pumping stations. N. E. Wagner. *il Nat Pet N 14:35+ N 29 '22*
- See also Oil fires*

Standards

- Memorandum of work done by pipe standardization committee. J. E. Pew. *Am Pet Inst Bul 4:1-3 Ja 3 '22*

Taxation

- Independents will make protest to taxing use of private lines. *Nat Pet N 13:85+ D 14 '21*
- Seek decision on pipe line tax. *Nat Pet N 14:39+ My 10 '22*
- See also Petroleum—Taxation*

Petroleum refineries

- Census of the petroleum refineries in the United States. *Automotive Ind 46:919 Ap 27 '22*
- Fire prevention measures feature plant of Oklahoma P. & R. company. V. B. Guthrie. *il Nat Pet N 14:35-6+ Mr 15 '22*
- Floods, high winds, damage refineries, producing fields and pipe lines. *il Nat Pet N 15:25-6 Je 20 '23*
- Glimpse into the works of the Standard oil company. *il Ind Eng 81:280-2 Je '23*
- Imperial finishes line of refineries across Dominion of Canada. *il Nat Pet N 15:83+ Ag 15 '23*
- Llandarcy refinery of the Anglo-Persian oil company. *il Soc Chem Ind J (Chem & Ind) 42:482-6 My 18 '23*
- National oil refineries. Llandarcy. B. S. Wrench. *Gas J (Lond) 164:193 O 17 '23*
- New type segmental still and oil field boiler insulation proves successful in practice. *il Nat Pet N 13:29-30 N 9 '21*
- P. & R. scoofs at blizzards to rush work on Wyoming refinery. *il Nat Pet N 14:35-6 N 22 '22*
- Portable refinery for use in new oil fields. C. Vinson. *il Pop Mech 38:418-19 S '22*
- Texas company's Wyoming refinery will bring strong competition. L. E. Smith. *Nat Pet N 14:17-18 J1 12 '22*

Accounting

- Oil refinery costs and accounts. R. W. McKee. *diag J Account 36:247-67 O '23*

Employees

- How to analyze the working force. E. J. Bengé. *Management Eng 2:79-84 F '22*
- Wages and hours of labor in the petroleum industry, 1920. U S Bur Labor Statistics *Bul 297:1-153 '22*

Equipment

- Refractory requirements for oil refining. A. G. Wikoff. *Am Cer Soc J 6:1176-80 N '23*

Power

- New plant at the Bayway refinery. *il diag Power Pl Eng 27:109-17 Ja 15 '23*

- Power for the Atlantic refining co. *il diag Power Pl Eng 26:739-46 Ag 1 '22*
- Power house efficiency, insulation, wax plant operation. *Nat Pet N 14:43+ O 4 '22*
- Power plant, electrical requirements for refinery operations. H. S. Bell. *diag Nat Pet N 15:81+ Ja 24 '23*

Petroleum refining

- American petroleum refining. H. S. Bell. 456p *Van Nostrand '23*
- Art of building and practicality in operating an oil refinery. J. L. Gray. *Nat Pet N 14: 32A-B Mr 15 '22*
- Better temperature control in skimming crude increases gasoline yield. M. M. Watkins. *il Nat Pet N 15:41+ Je 13 '23*
- California crude purchases curtailed further; cracking set back. P. Wagner. *Nat Pet N 15:87-8 My 2 '23*
- Christman process is now installed on seven mid-continent plants. J. C. Chatfield. *il diag Nat Pet N 14:23-4 N 15 '22*
- Claims big saving through treating light oils with hypochlorite. *Nat Pet N 14:18 N 1 '22*
- Coast cracking process to be continuous with new improvement. J. C. Chatfield. *il diag Nat Pet N 15:53-4+ Ap 4 '23*
- Corrosion of petroleum refining equipment. R. R. Matthews and P. A. Crosby. *il Chem & Met Eng 26:1119-20 Je 14 '22*; Same. *Nat Pet N 14:39+ Ag 30 '22*
- Cracking of petroleum oil in the gas-liquid phase. G. Egloff. *diags Ind & Eng Chem 15:580-3 Je '23*
- Cracking processes for petroleum. *Chem & Met Eng 27:1015 N 22 '22*
- Cracking processes in the petroleum industry. F. A. Howard. *Soc Auto Eng J 12: 510-11 My '23*
- Dephlegmating towers on vapor lines: various types and results. T. B. Leech. *Nat Pet N 14:39-40 My 17 '22*
- Double run-down line would save loss to small refiner. *il Nat Pet N 14:43+ Je 7 '22*
- Dubbs cracking process. G. Egloff. *il diag Chem Age 31:309-11 J1 '23*
- Eastern refiners install cracking stills; may use more western oil. P. Truesdell. *Nat Pet N 15:51+ Mr 14 '23*
- Equipment used in petroleum refining; statistics. *Chem & Met Eng 27:264 Ag 9 '22*
- Fleming process is found successful by Sterling O. & R. co. V. B. Guthrie. *il diag Nat Pet N 14:23-4+ Je 28 '22*
- Gasoline content of paraffin crude; determination and application. T. B. Leech. *Nat Pet N 14:33+ Ag 30 '22*
- General use of cracking process is vital to independent industry. P. Truesdell. *Nat Pet N 14:21+ D 13 '22*
- Hoover aluminum chloride refining process. *diags Nat Pet N 14:20-1 Ap 26 '22*
- Increase in cracking factor in holding up fuel oil prices. P. Truesdell. *Nat Pet N 15:91-2+ Ag 1 '23*
- Making sulphur free gasoline and lubricants; possibilities of the silica gel process. *Automotive Ind 47:566 S 21 '22*
- Manufacture of lubricating oils from Mexican crudes. H. L. Kauffman. *Nat Pet N 15: 105+ My 9 '23*
- Methods for recovering gasoline from undensified still vapors. D. E. Dow. *il diags Nat Pet N 14:28-31 My 31; 87+ Je 7; 53-4+ Je 14 '22*; Abstract. *Chem & Met Eng 26:1133-4 Je 14 '22*
- New cracking process expected to get more gasoline from heavy crude. *diag Nat Pet N 15:37+ Je 20 '23*
- Obtaining crude on reasonable terms refiner's greatest problem. R. B. Jones. *Nat Pet N 15:33-4 Ap 18 '23*
- Operation of Burton process described in detail in Standard's answer. *diags Nat Pet N 14:51-2 O 4 '22*
- Papers read at the first all-Russian petroleum congress (refinery section); abstracts. *Inst Pet Tech J 9:102a-9a Ap '23*
- Perkin medal is presented to William M. Burton. *Chem & Met Eng 26:100-5 Ja 13 '22*; *J Ind & Eng Chem 14:159-63 F '22*
- Petroleum, refining. U S Bur Census 11p '22

Petroleum refining—Continued

Petroleum refining. A. Campbell. 2d ed., rev. 297p Lippincott '22

Process for cracking heaviest oils useful when conditions change. Nat Pet N 15:113-14 Je 6 '23

Production increased and refining cost lowered by towers. J. C. Chatfield. *il* diags Nat Pet N 14:65-6 O 25 '22

Refinery problems affecting motor-fuel supplies. F. A. Howard and N. E. Loomis. *Ind & Eng Chem* 15:482-3 My '23

Refining analyses show Mid-continent crudes have high quality. H. H. Hill, E. W. Dean and N. A. C. Smith. Nat Pet N 14:33-4 Mr 22 '22

Refining of gasoline and kerosene by hypochlorites. A. E. Dunstan and B. T. Brooks. *J Ind & Eng Chem* 14:1112-15 D '22

Refining of petroleum. C. K. Francis. *Am Soc T M Pro* 21:1086-93 '21; Same. *Chem Age* 29:271-3 Jl '21

Separation and purification of liquids by centrifugation, with special reference to petroleum. A. F. Messton. *Oil Paint & Drug Rep* 104:21 O 22 '23

Small cracking unit found successful in actual operation; Cross cracking process. P. Truesdell. *il* Nat Pet N 14:19-21 My 3 '22

Some refinery processes and yields by various methods. F. B. Koontz. Nat Pet N 15:23-9 O 10 '23

Sound advice for the petroleum refiner. T. G. Delbridge. *Chem & Met Eng* 27:461-2 Ag 30 '22

Sulfo-acid bodies in lubricating oils. G. L. Oliensis. *Ind & Eng Chem* 15:690-3 Jl '23

Sulphuric-acid treatment of petroleum products. C. J. Von Bibra. *Chem & Met Eng* 27:66-72 Jl 12 '22

Thermal problems of petroleum refining. L. A. Mekler. *diags Chem & Met Eng* 26:774-8 Ap 26 '22; Same cond. Nat Pet N 14:75+ Jl 12 '22

Tower refining process eliminates sulfuric and soda treatment. V. B. Guthrie. *il* diag Nat Pet N 14:34-5 F 15 '22

Use and development of centrifuge for petroleum refinery emulsions. E. E. Ayres, jr. Nat Pet N 15:32c-e O 10 '23

Use of calorized tubes in refining: advantages and economies. A. V. Farr. *il* Nat Pet N 14:83+ My 31 '22

See also Asphalt; Gasoline—Manufacture; Petroleum refineries

Bibliography

Bibliography of petroleum and allied substances in 1919 and 1920. E. H. Burroughs. *U S Bur Mines Bul* 216:226-69 '23

Bibliography of petroleum and allied products, 1921. E. H. Burroughs. *U S Bur Mines Bul* 220:135-60 '23

Petroleum refining. A. Campbell. 2d ed., rev. p223-82 Lippincott '22

By-products

Higher alcohols from petroleum olefins. W. W. Clough and C. O. Johns. *Ind & Eng Chem* 15:1030-2 O '23

Recovery of sludge acid in petroleum refining. *Chem Age* 30:470 O '22

Some new petroleum products. J. H. James. *il* *Chem & Met Eng* 26:209-12 F 1 '22

Sulphuric acid recovery in oil refineries. L. B. Skinner. *Chem & Met Eng* 27:734-6 O 11 '22

Cost

Oil refinery costs and accounts. R. W. McKee. *diag J Account* 36:247-67 O '23

Refiners from four main districts give returns on operations. P. Truesdell. Nat Pet N 15:23-4 F 21 '23

Patents

Aluminum-chloride method of cracking petroleum distillates. *Chem & Met Eng* 27:1041-2 N 22 '22

Answer cites numerous prior patents alleged to cover same invention as Ellis cracking process. Nat Pet N 14:19-20 S 13 '22

Court refuses to appoint three experts to serve in Dubbs' suit. Nat Pet N 15:45+ O 24 '23

Cracking patent cloud is fading—or was it smoke screen? P. Truesdell. Nat Pet N 15:35-6+ My 30 '23

Cracking suit of Dubbs vs. Standard finally comes to hearing in Chicago. P. Truesdell. Nat Pet N 14:21 O 4 '22

Decision shows harm done by granting of patents improperly. Nat Pet N 14:75+ N 15 '22

Development of valuable art of cracking into gasoline held back by patent tangle. W. C. Platt. Nat Pet N 14:17-18 S 6 '22

Dubbs uses dehydrating patent in effort to levy tribute on cracking. P. Truesdell. Nat Pet N 14:26-7 N 29 '22

Eastern refiners snarl action to end the cracking patent tangle. W. C. Platt. Nat Pet N 14:19-20 S 27 '22

Expert states no patents fundamentally cover the art of cracking. F. A. Howard. Nat Pet N 14:24b-d N 22 '22; Same. *Chem Age* 30:523-5 D '22

Expert testifies oil industry is retarded by cracking patent tangle. P. Truesdell. Nat Pet N 15:17-18 Ja 24 '23

Fight for control of cracking patents is coming to a head. Nat Pet N 14:23-4 Ag 16 '22

Granting of supplementary patents adds to confusion in cracking field. P. Truesdell. Nat Pet N 14:23 N 15 '22

McAfee process for the cracking of petroleum. *Chem Age* 30:406-7 S '22

New facts in Burton case raise question, why was patent granted? P. Truesdell. Nat Pet N 14:21-2 O 25 '22

Oil treatment; patent. *Chem & Met Eng* 28:318 F 14 '23

Practices in patent office cause mixups for courts to settle. P. Truesdell. Nat Pet N 14:21-2 N 8 '22

Standard attorney says nothing was basically new in Burton patent. P. Truesdell. Nat Pet N 14:21-2 O 11 '22

Standard cites patents in Dubbs suit that may invalidate Burton's. P. Truesdell. Nat Pet N 14:23-4 S 20 '22

Standard of New Jersey hints it may challenge Cross patents. L. E. Smith. Nat Pet N 14:17-18 My 24 '22

Standard of New Jersey paper misstates National petroleum news position. Nat Pet N 14:24a+ N 22 '22

String on Burton license offer gave Standard virtual monopoly. P. Truesdell. Nat Pet N 14:21-2 O 18 '22

Texas co. and Indiana Standard admit Cross to patent club. P. Truesdell. Nat Pet N 15:19-20 Ap 4 '23

U.S. court of appeals declares Saybolt absorption patents void. Nat Pet N 14:20 O 11 '22

What is status of Burton patent in view of Adams Grant? P. Truesdell. Nat Pet N 14:22-4 N 1 '22

Petroleum research

History and status of chemistry in petroleum research. C. O. Johns. *Ind & Eng Chem* 15:446-9 My '23

Oil industry's stake in research work in geology. K. C. Heald. Nat Pet N 15:32g-h O 17 '23

Pioneer's field in petroleum research. V. H. Manning. *J Ind & Eng Chem* 14:379-84 My '22; Excerpts. Nat Pet N 14:33-5 Ap 12 '22; *Chem Age* 30:161-3 Ap '22

Producing fields offer many problems for research to solve. W. Ambrose. Nat Pet N 13:59 D 28 '21

Recent researches bearing upon the origin of petroleum. E. H. Cunningham-Craig. *Inst Pet Tech J* 9:344-50 O '23; Abstracts. *Chem Age* (Lond) 9:394 O 13 '23; *Engineering* 116:466-7 O 12 '23; *Engineer* 136:530 N 16 '23; Discussion. *Inst Pet Tech J* 9:350-67 O '23

Research for the petroleum industry. R. F. Bacon. *Ind & Eng Chem* 15:888-90 S '23

Petroleum reserves. See Petroleum supply

Petroleum shipping terminals

Cumberland's Ohio river terminal gives producers better outlet. L. E. Smith. *il* Nat Pet N 15:93-4 Je 13 '23

Petroleum shipping terminals—Continued

- New Orleans vicinity develops rapidly as oil import and export point. *il Nat Pet N 14: 35-7+ Ap 5 '22*
- Petroleum spirit dock on the Manchester ship canal. *il diags plans Engineer 134:324-6, 323 S 29 '22; Same cond. Eng & Contr 58:19-21 N 29 '22*
- Union petroleum's new shipping plant gives it strong position. *il Nat Pet N 14:29-30+ Ja 25 '22*

Petroleum supply

- Authorities show need for more efficient use of petroleum. H. Chase. *Automotive Ind 46: 625-6 Mr 16 '22*
- Domestic and foreign oil reserves. H. Chase. *Automotive Ind 46:447-50 F 23 '22*
- Estimating of petroleum reserves. E. De Golyer. *Econ Geol 17:40-5 Ja '22*
- Estimation of petroleum reserves; discussion. A. C. Veatch. *Econ Geol 17:132-9 Mr '22*
- Future fuel supply of California. C. H. Delany. *Mech Eng 44:655-6 O '22*
- Oil reserves of the United States. D. White. *Min & Met 186:37-8 Je '22*
- Oil supply of the world. D. White. *Mech Eng 44:567-9 S '22; Same cond. Eng & Min J 113:455-6 Mr 18 '22; Abstract. Heat & Ven 19:50-1 O '22*
- Problem of oil supplies. S. H. North. *Annalist 21:255+ F 12 '23*
- Third of world's estimated petroleum reserves tributary to Pacific. D. White. *Nat Pet N 15:85-6+ My 30 '23*
- We shall find the oil we need. E. Prizer. *il Nation's Business 11:23-5 Jl '23*
- World sources of mineral fuels. E. G. Sievers. *Gas Age 51:793-6 Je 23 '23*

Petrology. See Rocks**Peugeot-Tartrais engine**

- Le moteur à huiles lourdes Peugeot-Tartrais. G. Delanghe. *il diags Génie Civil 82:547-52 Je 9 '23*

Pewter

- Pewter collector. H. J. L. J. Massé. 314p Dodd '21

pH. See Hydrogen ion concentration**Phagocytosis**

- Phagocytosis of lead compounds and their influence on the activity of the leukocyte. J. Fine. *bibliog J Ind Hygiene 5:138-44 Ag '23*

Pharmaceutical chemistry. See Chemistry, Medical and pharmaceutical**Pharmacology**

- Influence of modern chemistry and pharmacology. A. D. Hirschfelder. *Ind & Eng Chem 15:455-9; Bibliography. 459-60, 524 My '23*
- Pharmacology of some phenylenediamines. P. J. Hanzlik. *bibliog J Ind Hygiene 4:386-409, 418-62 Ja-I' '23*

Pharmacy

- See Chemistry, Medical and pharmaceutical; Drugs*

Phase advancers

- Electro-chemical phase advancer; satisfactory operation at Sheffield. *Elec R (Lond) 92:119 Ja 19 '23*
- Improvement of power factor. G. Kapp. *diags Inst E E J 61:100-5 '23; Same. Engineering 114:693-4 D 1 '22; Discussion. Inst E E J 61:109-35 Ja '23*
- Phase advancer. F. S. Wheeler. *il diag Elec J 19:282-4 Jl '22; Same. Power Pl Eng 26: 909-10 S 15 '22*

Phellandral

- Critical examination of the aromatic aldehydes occurring in certain eucalyptus oils. A. R. Penfold. *Chem Soc J 121:266-9 F '22*

Phellandrenes

- Researches on phellandrenes. H. G. Smith. E. Hurst and J. Read. *Chem Soc J 123:1657-70 Jl '23*

- Phelps Dodge corporation, Tyrone, New Mexico Geological department of Phelps Dodge corporation at Tyrone. D. Eyoub. *map Eng & Min J 113:1047-8 Je 17 '22*

Phenanthranaphthazine. See Tribenzophenazine**Phenanthraquinone. See Phenanthrenequinone****Phenanthrene**

- Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit benzil, stilben und phenanthren. R. Scholl and G. Schwarzer. *Deutsche Chem Gesell Ber 55:324-30 F '22*
- Equations for vapor pressures and latent heats of vaporization naphthalene, anthracene, phenanthrene, and anthraquinone. O. A. Nelson and C. E. Senseman. *Ind & Eng Chem 15:621-2 Je '23*
- Quantitative determination of phenanthrene. A. C. Williams. *Am Chem Soc J 43:1911-19 Ag '21*
- Solubility of phenanthrene in various organic solvents. H. Henstock. *Chem Soc J 121: 2124-8 O '22*
- Über die gewinnung von phenanthrenchinon- und phenanthren-abkömmlingen aus 2-nitro-phenanthrenchinon. J. Schmidt and O. Spoun. *Deutsche Chem Gesell Ber 55:1194-1211 My '22; Abstract. Chem Soc J 122 pt 1: 665-6 Jl '22*
- Über indigole farbstoffe der phenanthren- und inden-reihe. P. Friedländer, W. Herzog and G. v. Voss. *Deutsche Chem Gesell Ber 55: 1591-6 Je '22; Abstract. Chem Soc J 122 pt 1:764 Ag '22*
- Vapor pressure determinations on naphthalene, anthracene, phenanthrene, and anthraquinone between their melting and boiling points. O. A. Nelson and C. E. Senseman. *diags J Ind & Eng Chem 14:58-62 Ja '22; Discussion. B. F. Dodge. 14:569-70 Je '22*

Phenanthrenequinone

- Amino- und anilino-phenanthrenechinone. K. Brass and E. Ferber. *Deutsche Chem Gesell Ber 55:541-56 F '22*

- Dyes derived from phenanthraquinone; naphthylavindulines. S. Dutt. *Chem Soc J 121: 1951-5 S '22*

- Dyes derived from phenanthraquinone; phenanthranaphthazines. A. C. Sircar and S. Dutt. *Chem Soc J 121:1944-51 S '22*

- Dyes derived from phenanthraquinone; phenanthriminazoles. A. C. Sircar and G. C. Sircar. *Chem Soc J 123:1559-65 Je '23*

Phenanthrenequinoneimide anhydride

- Über die konstitution des phenanthrenchinonimid-anhydrids. A. Schönberg and B. Rosenthal. *Deutsche Chem Gesell Ber 54: 1789-1802 S '21; Abstract. Chem Soc J 120 pt 1:808-10 N '21*

Phenanthriminazoles

- Dyes derived from phenanthraquinone; phenanthriminazoles. A. C. Sircar and G. C. Sircar. *Chem Soc J 123:1559-65 Je '23*

Phenanthroxyls

- Einwertiger sauerstoff; über phenanthroxyle. S. Golaschmidt and W. Schmidt. *Deutsche Chem Gesell Ber 55:3197-3215 O '22; Abstract. Chem Soc J 122 pt 1:1149-50 D '22*

Phenetidine

- Colors and dyes from para-phenetidine. J. G. Schmidt. *Color Tr J 9:243-4 D '21*

- Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; phenetidin. J. v. Braun and E. Hahn. *Deutsche Chem Gesell Ber 55:3770-9 D '22; Abstract. Chem Soc J 124 pt 1:102-3 F '23*

Phenmorpholine

- Die relative festigkeit cyclischer basen: der phenmorpholin- und der homo-tetrahydrochinolin-ring. J. v. Braun and J. Seemann. *Deutsche Chem Gesell Ber 55:3818-25 D '22; Abstract. Chem Soc J 124 pt 1:146-7 F '23*

Phenol. See Carbolic acid**Phenol condensation products**

- Analytical methods in phenol-formaldehyde condensate manufacture. W. R. Ormandy and E. C. Craven. *Soc Chem Ind J 42:18-20 Ja 12 '23*

- Artificial resins, varnishes and lacquers. R. Furness. *Soc Chem Ind J (Chem & Ind) 42: 1000-4 O 19 '23*

Phenol condensation products—Continued

Effects produced by aging in synthetic resin molded products of the phenol-formaldehyde group. E. J. Casselman. *Am Electrochem Soc Trans* v 44 (preprint 14):153-9 S '23; Same. *Chem Age* 31:443-5 O '23

New applications of phenol resins in the chemical and allied industries. L. V. Redman. *Ind & Eng Chem* 15:677 JI '23

Phenol condensation products. *Chem Age* 31:139-40 Mr '23

Phenolic electrical insulating material. *Chem Age* 30:495-6 N '22

Properties of electrical insulating materials of the laminated phenol-methylene type. J. H. Dellinger and J. L. Preston. *il diags U S Bur Stand Tech Pa* 216:501-627 '22; Summary. *Elec W* 82:545 S 15 '23

See also Bakelite

Phenol hydrate

Freezing-point diagram of the system phenol-water. F. H. Rhodes and A. L. Markley. *J Phys Chem* 25:527-34 O '21

Phenolcamphorine

Phenolcamphorine. S. Krishna. *Chem Soc J* 121:253-5 F '22

Phenolphthalein

Sodium salts of phenolphthalein. H. Bassett and P. Halton. *Chem Soc J* 123:1291-1304 My '23

Über chlor- und brom-derivate des phenolphthaleins. A. Thiel and F. Müller. *Deutsche Chem Gesell Ber* 55:1312-21 My '22

Phenolphthalein oxime

Structure of phenolphthalein oxime. W. R. Orndorff and S. T. Yang. *Am Chem Soc J* 45:1926-33 Ag '23

Phenols

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit phenoläthern und mit diphenyl-methan. R. Scholl and C. Seer. *Deutsche Chem Gesell Ber* 55:330-41 F '22

Condensation of certain nitriles and various poly-hydroxyphenols to form phenolic acids. W. D. Langley and R. Adams. *Am Chem Soc J* 44:2320-30 O '22

Condensation of phenols with the hydrochlorides of cyanamides and carbodi-imides, and its relation to the Hoesch reaction. W. F. Short and J. C. Smith. *Chem Soc J* 121:1803-8 S '22

Determination of phenols in coal-tar oils and crude carboic acid. J. B. Hill. *Ind & Eng Chem* 15:799-800 Ag '23

Determination of various monohydric phenols by the phenol reagent of Folin and Denis. C. Henningsen. *Ind & Eng Chem* 15:406-7 Ap '23

Examination of low-temperature coal tars. J. J. Morgan and R. P. Soule. *bibliog Ind & Eng Chem* 15:587-9 Je '23

Interaction of diazonium salts and phenols. F. D. Chattaway and H. R. Hill. *Chem Soc J* 121:2756-60 D '22

Introduction of the chloroethyl group into phenols, alcohols, and amino-compounds. G. R. Clemon and W. H. Perkin, jr. *Chem Soc J* 121:642-9 Ap '22

Nitration of halogenated phenols. L. C. Ralford. *Am Chem Soc J* 44:158-65 Ja '22

Phenol contamination of public water supplies. *Eng N* 90:928 My 24 '23

Researches on vertical retort tars; the phenolic constituents. G. S. Currey. *Soc Chem Ind J* 42:379-86 S 21 '23

Some mercury derivatives of phenol ethers. F. C. Whitmore and E. B. Middleton. *Am Chem Soc J* 45:1753-5 JI '23

Speed of sulphonation of phenols; the effect of temperatures and the methyl group. A. F. Campbell. *Chem Soc J* 121:847-57 My '22

Studies in mutual solubility; the mutual solubility of glycerol and alcohols, aldehydes, phenols, and their derivatives. B. C. McEwen. *Chem Soc J* 123:2234-8 S '23

Studies in the carbonization of coal: characteristics of low temperature coal tar. J. J. Morgan and R. P. Soule. *Chem & Met Eng* 26:923-8 My 17 '22

über die einwirkung von salpetersäure auf phenol-äther. K. H. Meyer and H. Gottlieb-Billroth. *Deutsche Chem Gesell Ber* 55:823-6 Ap '22

Zur kenntnis der nitroso-phenol-farbstoffe. H. Decker and B. Solonina. *Deutsche Chem Gesell Ber* 54:2427-35 O '21

See also Aminophenols; Chlorophenols; Cresol; Dinitrophenols; Nitrophenols

Phenolsulfonephthalein

Phenolsulfonephthalein and some of its derivatives. W. R. Orndorff and F. W. Sherwood. *Am Chem Soc J* 45:486-500 F '23

Phenoxypropionic acid

Beta-phenoxypropionic acid and some of its derivatives; chromanone. S. G. Powell. *Am Chem Soc J* 45:2708-11 N '23

Phenyl biurets

Third phenyl-biuret. E. S. Gatewood. *Am Chem Soc J* 45:146-50 Ja '23

Phenyl halides

Preparation of the mercury compounds of the phenyl halides. M. E. Hanke. *Am Chem Soc J* 45:1321-30 My '23

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the action of sodium on phenyl halides in liquid ammonia. G. F. White. *diag Am Chem Soc J* 45:779-84 Mr '23

Phenylacetylene

Preparation of phenylacetylene. *Am Chem Soc J* 44:425-6 F '22

Phenylacridine

Umsetzung von o-halogenierten ketonen mit schwach basischen aminen und aufbau von ms-phenyl-acridin-abkömmlingen. F. Mayer and others. *Deutsche Chem Gesell Ber* 55:2049-58 JI '22; Abstract. *Chem Soc J* 122 pt 1:865-7 S '22

Phenylanthranilic acids

Synthesis of phenylanthranilic acids. N. Tuttle. *Am Chem Soc J* 45:1906-16 Ag '23

Phenylazophenol

Absorption spectra of phenylazophenol and its derivatives. A. W. Smith and C. E. Boord. *diags Am Chem Soc J* 44:1449-55 JI '22

Phenylbenzlimino-hydroxyphenyl

Imino-aryl ethers; N-phenylbenzlimino-m-hydroxyphenyl ether and the synthesis of 2:4-dihydroxybenzophenone. A. W. Chapman. *Chem Soc J* 121:1676-82 Ag '22

Phenylbenzoselenazole

Researches on selenium organic compounds; synthesis of 2-methyl-4-seleno-quinazolone, 2-phenyl-benzoselenazole, and some derivatives of the latter. M. T. Bogert and Y. Chen. *Am Chem Soc J* 44:2352-7 O '22

Phenylbenzothiazole

Researches on thiazoles: derivatives of 2-phenylbenzothiazole; synthesis of an analog of cinchophen (atophan). M. T. Bogert and E. M. Abrahamson. *Am Chem Soc J* 44:826-37 Ap '22

Phenyldiketo pyrrolidine

Arsenated derivatives of phenyldiketo-pyrrolidine. J. R. Johnson and R. Adams. *Am Chem Soc J* 45:1307-15 My '23

Phenyleneammelyl chloride

Action of cyanogen haloids on phenylhydrazine: o-phenyleneammelyl chloride; abstract. G. Pellizzari. *Chem Soc J* 122 pt 1:585-6 Je '22

Phenylenediacetic ester

Conditions of formation of rings attached to the o-, m-, and p-positions of the benzene nucleus; the action of sodium on o-phenylenediacetic ester. W. H. Perkin, jr. and A. F. Tidley. *Chem Soc J* 121:1562-71 Ag '22

Phenylenediamine

Pharmacology of some phenylenediamines. P. J. Hanzlik. *bibliog J Ind Hygiene* 4:386-409, 448-62 Ja-F '23

Phenylenediamine—Continued

- Reaction of carbon disulfide on para-phenylenediamine. C. E. Bolser and E. B. Hartshorn. *diag Am Chem Soc J* 45:2349-55 O '23
- Zur kenntnis der pseudoozamide. M. P. Schmidt and A. Hagenböcker. *Deutsche Chem Gesell Ber* 54:2201-7 O '21; *Abstract. Chem Soc J* 120 pt 1:898-900 D '21

Phenylethyl-hydantoin. See Nirvanol**Phenylglycine-o-carboxylic acid**

- Preparation of phenylglycine-o-carboxylic acid. H. L. Haller. *J Ind & Eng Chem* 14: 1040-4 N '22

Phenylglyoxaline

- Nitro- and amino-derivatives of 4-phenylglyoxaline. R. L. Grant and F. L. Pyman. *Chem Soc J* 119:1893-1903 D '21

Phenylhydrazones

- Action of halogens on phenylhydrazones; the action of bromine. J. E. Humphries, E. Bloom and R. Evans. *Chem Soc J* 123:1766-72 JI '23

- Capacity for migration of acyl residues in acyl derivatives of the phenylhydrazones of hydroxy-ketones; abstract. E. von Auwers, E. Hilliger and E. Wulf. *Chem Soc J* 122 pt 1:1192-4 D '22

- Capacity to form phenylhydrazones. B. Oddo and L. Fiatti. *Chem Soc J* 124 pt 1:255-6 Mr '23

- Isopropyl, menthyl and bornyl semicarbazides, reduction of phenylhydrazones. D. Neighbors and others. *Am Chem Soc J* 44:1557-64 JI '22

Phenylhydroxylamine

- Umwandlung des β -phenyl-hydroxylamins in chinolinbasen. E. Bamberger and H. Weitnauer. *Deutsche Chem Gesell Ber* 55: 3376-82 N '22

Phenyl-hydroxy-ureas

- Reactions of alpha-phenyl-beta-hydroxy-urea, and of alpha-alpha-diphenyl-beta-hydroxy-urea interpreted from the standpoint of their hydroxamic acid structures. C. D. Hurd. *Am Chem Soc J* 45:1472-89 Je '23

Phenylimidophosgene

- Preparation of phenylimido-phosgene, and the chlorination of formanilide. R. S. Bly, G. A. Perkins and W. L. Lewis. *Am Chem Soc J* 44:2896-9 D '22

Phenylindazole

- Über 3-phenyl-indazol und 2-oxy-3-phenyl-indazol. K. v. Auwers and K. Hüttenes. *Deutsche Chem Gesell Ber* 55:1112-38 My '22; *Abstract. Chem Soc J* 122 pt 1:682-4 JI '22

Phenyl isocyanate

- Isomerism of phenyl isocyanate and diazobenzene-imide. W. H. Carothers. *Am Chem Soc J* 45:1734-8 JI '23

Phenylisocytosine

- Vitamines from the standpoint of structural chemistry; 4-phenylisocytosine. R. R. Williams. *J Ind & Eng Chem* 13:1107-8 D '21

Phenyl-4-pyridone

- Über die aufspaltung des γ -pyrons durch anilin und über N-phenyl- γ -pyridon. W. Borsche and I. Bonacker. *Deutsche Chem Gesell Ber* 54:2678-86 N '21; *Abstract. Chem Soc J* 122 pt 1:50-1 Ja '22

- Zur kenntnis des l-phenyl-pyridons 4. A. P. Smirnoff. *Deutsche Chem Gesell Ber* 55:612-13 Mr '22

Phenylthiohydantoic acid

- Separation and determination of cobalt; the separation of cobalt by means of phenylthiohydantoic acid. H. H. Willard and D. Hall. *Am Chem Soc J* 44:2219-26 O '22

- Separation of copper by means of phenylthiohydantoic acid. H. H. Willard and D. Hall. *Am Chem Soc J* 44:2253-4 O '22

Phenyl-thio-xanthyl

- Phenyl-thio-xanthyl. M. Gomberg and W. Minnis. *Am Chem Soc J* 43:1940-4 Ag '21

Phenyltrimethylammonium perhaloids

- Phenyltrimethylammonium perhaloids. H. McCombie and T. H. Reade. *Chem Soc J* 123:141-53 Ja '23

Phi delta theta

- Phi delta theta fraternity house, Cornell university, Ithaca, N.Y. A. C. Phelps. *il diags plans Arch Rec* 52:183-97 S '22

Philadelphia, Pennsylvania

- Philadelphia authorizes huge municipal loan. *Eng N* 91:655 O 18 '23
- Soldiers' memorial stadium opened in Philadelphia. *il Pop Mech* 39:573 Ap '23

Architecture

- Early American brick making. C. A. Ziegler. *il Am Arch* 121:333-9 Ap 26 '22
- See also Independence Hall, Philadelphia; Philadelphia divinity school

Bridges

- Anchorage construction plant, Delaware river bridge. *il diags plans Eng N* 91:460-3 S 20 '23
- Delaware river bridge. *il Good Roads* 62:295-8 My 31 '22
- Delaware river bridge between Philadelphia and Camden. R. Modjeski. *il diags plans W Soc E J* 23:229-48 Je '23; *Excerpt (Webb plate compression tests). Eng & Contr (Bldgs)* 60:159 JI 25 '23
- Delaware river bridge between Philadelphia and Camden. R. Modjeski. *il diags J Fr Inst* 193:1-14 Ja '22
- Delaware river bridge piers. *il diags Pub Works* 53:211-17 N '22
- New Delaware river bridge. R. F. Salade. *il diags Pop Mech* 37:555-8 Ap '22
- South street, Philadelphia, bridge piers. *il Pub Works* 53:84-6 JI 29 '22

Churches

- So-called restorations of Christ Church. *il Am Arch* 122:55-6 JI 19 '22

Harbor

- Money asked for Philadelphia port improvement. *Eng N* 91:488 S 20 '23
- Our great ports—Philadelphia. G. F. Sproule. *il Am Ind* 23:13-16 O '22; *Discussion. 23:27 Ja '23*

Hospitals

- First city radium clinic for rich and poor in Philadelphia. D. C. Miner. *il Pop Mech* 37: 592 Ap '22

Railroads

- New terminal for the P. & R. Ry. in Philadelphia. *Ry R* 71:375 S 16 '22

Rapid transit

- Feeder lines suggested. *Elec Ry J* 60:758 N 4 '22
- Feustel Philadelphia valuation presents valuable analytical and cost data. *Elec Ry J* 59:929-33 Je 10 '22
- Frankford "L" opened. *il Elec Ry J* 60:792 N 11 '22
- High-speed development in Philadelphia estimated at \$200,000,000. *Elec Ry J* 61:1017 Je 16 '23
- More than \$200,000,000 valuation; will continue to charge a 7-cent cash fare. *Elec Ry J* 61:1101; 62:16-18 Je 30-JI 7 '23
- Noiseless elevated; Philadelphia's plans. W. A. McGarry. *il Sci Am* 126:46-7 Ja '22
- \$101,410,000 transit proposal. *Elec Ry J* 60:922 D 9 '22
- Philadelphia rapid transit's \$290,000,000 valuation claim characterized by city's expert as wild and fantastic. *Elec Ry J* 59:876 My 27 '22
- Philadelphia report under attack. *Elec Ry J* 61:858-9 My 19 '23
- Philadelphians build silent elevated line. W. A. McGarry. *il Pop Mech* 39:877-8 Je '23
- Philadelphia's rapid transit greatly augmented. *il diags map Elec Ry J* 60:841-8 N 25 '22
- President T. E. Mitten of the Philadelphia rapid transit company rejects lease plan. *Elec Ry J* 59:653 Ap 15 '22
- Rapid-transit agreement in Philadelphia. maps *Eng N* 91:196 Ag 2 '23
- Suggestion that taxpayers share cost of improvements. *Elec Ry J* 59:881-2 My 27 '22
- Transit funds to be merged. *Elec Ry J* 62: 187 Ag 4 '23

Philadelphia, Pennsylvania—Rapid transit—Cont.
 Why Thomas E. Mitten succeeds in Philadelphia. E: A. Muschamp. *Ptr Ink* 118:41-2+ Mr 30 '22
 Will consider subway for Philadelphia. plans Elec Ry J 61:382 Mr 3 '23
See also Philadelphia rapid transit company

Sesqui-centennial exposition, 1926

Next half-century of industry. J: P. Jackson. Management & Adm 6:219-20 Ag '23
 Philadelphia Sesqui-centennial exposition preliminary report. Pub Works 52:381-2 My 27 '22
 Sesqui-centennial exposition in Philadelphia. C. A. Ziegler. il map plans Am Arch 121:382-5 My 10 '22

Water supply

Philadelphia water supply, present and proposed. G: W. Fuller. maps Am Water Works Assn J 10:347-64 My '23

Philadelphia and Reading railway

N. Y. C. proposal to acquire P. & R. and C. of N.J. map Ry Age 75:173-4 Jl 28 '23
 P. & R. 's 1922 operating net ahead of 1921. Ry Age 74:287-8 Ja 27 '23
 25th annual report for fiscal year ended December 31, 1922. Comm & Fin Chr 116:2401-3 My 26 '23

Philadelphia company

Extracts from report to the stockholders for the year ended December 31, 1922. Comm & Fin Chr 116:1437-8 Mr 31 '23

Philadelphia divinity school

Philadelphia divinity school. C. FitzGibbon. il plans Arch Rec 54:107-20 Ag '23

Philadelphia electric company

Public policy and industrial relations. J. B. McCall. N E L A Bul 9:543-8 S '22

Philadelphia public ledger

Monument to printing. M. Price. il Ptg Art 38:331-5 D '21
 Philadelphia Ledger building. M. Price. il Arch Rec 51:140-51 F '22

Philadelphia rapid transit company

Dividends resumed in Philadelphia. Elec Ry J 59:1014-15 Je 24 '22
 Employees' funds total nearly \$2,000,000. Elec Ry J 61:560-1 Mr 31 '23
 Mr Mitten resigns as president. Elec Ry J 61:353 F 24 '23
 Mitten men elected on board of directors. Elec Ry J 59:494, 500 Mr 18 '22
 \$1,829,277 net for Philadelphia transit. Elec Ry J 61:347-8 F 24 '23; Discussion. E: Dana. 61:480 Mr 17 '23
 P.R.T. net \$1,807,292 in 1921. Elec Ry J 59:382 Mr 4 '22
 \$316,423,557 P.R.T. value. Elec Ry J 61:821 My 12 '23

Philadelphia textile school

Graduation exercises and 21st annual meeting of the Alumni association. Textile World 61:3507-8 Je 10 '22

Graduating exercises and 22d annual meeting of the alumni association. Textile World 63:3925-6 Je 16 '23

Philippine Islands

See also Coal mines and mining—Philippine Islands; Petroleum—Philippine Islands

Commerce

Coconut oil or copra as Philippine export. V. Villamin. Oil Paint & Drug Rep 104:21 O 15 '23

Philippines and the coastwise law. V. Villamin. Am Ind 23:11-12 N '22

Economic conditions

Outlook in the Philippines. Annalist 22:134+ Jl 30 '23

Industries and resources

Industry in the Philippines. V. Villamin. il Sci Am 129:28-9+ Jl '23

Our business dominions—Philippines. V. Villamin. il Am Ind 23:15-19 Ja '23

See also Automobile industry and trade—Philippine Islands

Politics and government

Recall of Governor-General Wood demanded by Philippine Legislature. Comm & Fin Chr 117:393-5 Jl 28 '23

Phoenix, Arizona

Sewerage

Studies of discharge of sanitary sewers at Phoenix. S. M. Cotten. Eng N 89:837-40 N 16 '22

Phonetics

Where human speech is put on the dissecting table; laboratory of experimental phonetics of Dr Panconcelli-Calzia of Hamburg. A. Gradenwitz. il diags Sci Am 126:100 F '22

Phonotron

Electrical sound converter. A. H. Lynch. il diags Wireless Age 9:31, 34 D '21

Phonofilm. See Moving pictures, Talking

Phonograph

Phonograph construction. E. M. Winterbourne. 76p Bruce pub. co., Milwaukee, Wis. '23

Phonograph reproducer in which violin spruce is substituted for the usual mica. il Sci Am 127:338 N '22

Phonograph tone amplifier has auxiliary sound box. il Pop Mech 37:553 Ap '22

Phonograph with keyboard picks out records. il Pop Mech 39:906 Je '23

Record-lifting disk latest phonograph convenience. il Pop Mech 37:38 Ja '22

Talking machine industry. O. Mitchell. 120p Pitman

Talking thread. il Sci Am 128:25 Ja '23

See also Pallophotophone; Phonograph motors

Phonograph horns

Function of the horn on a loud speaker. C. R. Hanna. diags Elec J 20:396-7 N '23

Phonograph industry

New hall of fame of music rises out of bar fixture ashes. D. M. Hubbard. *Ptr Ink* 119:33-4+ My 25 '22

Victor dealer finds a big class of new buyers; Chinese laundrymen. R. Davis. *Ptr Ink* 125:53-4 O 25 '23

Will the great artists continue; all important phonograph companies, except Victor and Brunswick, are co-operating with the broadcasting studios. il Wireless Age 10:22-9 Je '23

Woman retailer tells how she makes sales. *Ptr Ink* 120:125-6 S 28 '22

Yes, the radiofan buys records! W. Seeley. il Wireless Age 10:23-6 Ag '23

Advertising

Eight trails to bigger sales blazed by one Victor campaign. E. R. Brooker. *Ptr Ink* 125:150+ N 1 '23

Phonograph motors

Electric phonograph motor of simple construction. il Pop Mech 37:40 Ja '22

Small phonograph motor fits any instrument. il Pop Mech 37:765 My '22

Phonograph needles

Bamboo forests are turned into phonograph needles. il Pop Mech 40:659 N '23

New phonograph needle shaped like a pen. Sci Am 125A:123 D '21

Thorns of cactus become phonograph needles. il Pop Mech 40:685 N '23

Phonograph records

Canned music; processing the phonograph record. il Sci Am 128:182 Mr '23

How phonograph records are made. A. H. Kolbe. il Pop Mech 37:581-2 Ap '22

Make nonbreakable metal phonograph records. Pop Mech 38:168 Ag '22

Making phonograph records of actual grand opera. Pop Mech 37:42 Ja '22

Molded shellac compositions. il diags plan India Rubber W 67:16-18 O '22

Phonograph records—Continued

New patent on phonograph records. *Chem & Met Eng* 29:115 J1 16 '23

See also Advertising mediums—Phonograph records

Advertising

Getting the customers to sell the dealers; Walter Camp's "daily dozen". *J. True. Ptr Ink M* 5:25-6+ Je '22

Phonometer

Effect of conical horns on the intensity of sound emitted by an organ pipe. *J. H. Cloud. Phys R* 22:73-7 J1 '23

Phosgene

Reactions of phosgene with benzene and *m*-xylene in the presence of aluminum chloride. *R. E. Wilson and E. W. Fuller. J Ind & Eng Chem* 14:406-9 My '22

Sorption of carbonyl chloride by beechwood charcoal. *H. M. Bunbury. diag Chem Soc J* 121:1525-8 Ag '22

Phosgene, Physiological effects of

Two fatalities due to inhaling phosgene (COCl_2). *S. Delépine. J Ind Hygiene* 4:433-40 F '23

Phosphates

Acid production in the fertilizer industry increased during first half of this year. *Oil Paint & Drug Rep* 104:83 O 8 '23

Apparatus for superphosphate manufacture; patent. *Chem & Met Eng* 26:563 Mr 22 '22

Basic slags and rock phosphates. *G. S. Robertson. (Cambridge agricultural monographs)* 120p Macmillan '22

Basis of the present fertilizer industry—acid phosphate. *W. H. Waggaman and H. W. Easterwood. il diag Chem & Met Eng* 29:528-32 S 17 '23

Design and operation in a modern fertilizer plant; the Davison chemical company's plant. *C. Wadsworth. 3d. il Chem & Met Eng* 29:179-83, 265-70 J1 30, Ag 13 '23

Economy in the use of our phosphate deposits. *W. H. Waggaman. Chem Age* 31:257-9 Je '23

Industrial uses of phosphoric acid and phosphates. *J. T. Meckstroth. Chem & Met Eng* 26:223-4 F 1 '22

Insoluble phosphoric acid in acid phosphates and fertilizers. *W. R. Austin. Ind & Eng Chem* 15:1037-8 O '23

Machinery for bagging superphosphate. *K. Warming. il Chem & Met Eng* 28:893-4 My 21 '23; Same. *Ind Management (Lond)* 9:275-7 My 3 '23; Same (*Appareil d'expédition de superphosphate*). *Chimie & Ind* 9:43-5 Ja '23

Manufacture of phosphoric acid and phosphates. *J. T. Meckstroth. Chem & Met Eng* 26:77-9 Ja 11 '22

Marketing of phosphate rock. *R. W. Stone. Eng & Min J* 115:1062-7 Je 16 '23

Mechanical handling of super-phosphate. *G. F. Zimmer. il diag Eng & Ind Management* 7:301-3 Mr 23 '22; Same. *Chem & Met Eng* 27:31-2 J1 5 '22

Mineral industry of the British Empire and foreign countries, (1913-1919). 72p Gt. Brit. Imperial mineral resources bureau, London '21

Mining and washing phosphate in Florida. *W. J. Dobbins. flow sheets il Eng & Min J* 116:577-81 O 6 '23

Mining and washing phosphate rock in Tennessee. *R. W. Smith. flow sheet il map Eng & Min J* 115:221-6 F 3 '23

Mining phosphate rock in Florida. *H. M. Payne. il Eng & Min J* 115:710-11 Ap 21 '23

Moroccan phosphate deposits. *Eng & Min J* 113:565-6 Ap 8 '22

Phosphate beds in Morocco. *Chem Age (Lond)* 8:368 Ap 7 '23

Phosphate in Permian red beds of Oklahoma and Texas. *A. C. Shead. Chem Age* 31:319-20 J1 '23

Phosphorus, the backbone of life; America's great deposits of phosphates. *G. H. Dacy. il Sci Am* 125A:108 D '21

Raw materials for phosphate fertilizer. *W. H. Waggaman and H. W. Easterwood. il Chem & Met Eng* 29:393-8 S 3 '23

Recent developments in the manufacture of superphosphate. *A. Ogilvie. il diag Chem Age (Lond)* 8:690-1 Je 30 '23

Superphosphates from low-grade phosphate rock. *Chem Age* 31:475 O '23

Tunisian phosphate production. *Eng & Min J* 116:99 J1 21 '23

Testing

Valuation of insoluble phosphates by means of a modified citric acid test. *G. S. Robertson and F. Dickinson. Soc Chem Ind J* 42:59-62; Discussion. 63-6 F 23 '23

Phosphazines

Aliphatic diazo-compounds: organic-phosphorus compounds; preparation and reactions of phosphazines. *H. Staudinger and G. Lüscher. Chem Soc J* 122 pt 1:237-8 Mr '22

Organic compounds of phosphorus; action of carbonylene derivatives on phosphazines. *H. Staudinger and W. Brauholtz. Chem Soc J* 122 pt 1:70-1 Ja '22

Reactions of the phosphazines. *W. T. K. Brauholtz. Chem Soc J* 121:300-5 F '22

Phosphine

Viscosity and molecular dimensions of gaseous ammonia, phosphine, and arsine. *A. O. Rankine and C. J. Smith. diag Philos Mag* 6th ser 42:601-14 N '21

Phosphinimines

New organic compounds of phosphorus; phosphinimines; abstract. *H. Staudinger and E. Hauser. Chem Soc J* 122 pt 1:68-70 Ja '22

Phosphonic acid

Addition reactions of the phosphorus halides; the formation of an unsaturated phosphonic acid. *J. B. Conant and B. B. Coyne. Am Chem Soc J* 44:2530-6 N '22

Phosphonium compounds

Attempt to resolve quaternary phosphonium compounds. *L. G. Radcliffe and W. H. Brindley. Soc Chem Ind J (Chem & Ind)* 42:64-6 Ja 26 '23

Phosphonium iodide

Crystal structure of phosphonium iodide. *R. G. Dickinson. Am Chem Soc J* 44:1489-97 J1 '22

Phosphor copper

Phosphor copper; its uses and the methods of obtaining the best results. *J. L. Jones. Metal Ind* 20:6-7 Ja '22

Phosphorescence

Animal light. *E. N. Harvey. Illum Eng Soc* 16:319-30 no 7 '21

Bortrioxyl-hydrate als bestandteil hochphosphoreszenz-fähiger, organische verbindungen enthaltender systeme. *E. Tiede and P. Wulff. Deutsche Chem Gesell Ber* 55:588-97 F '22

Coloring and thermophosphorescence produced in transparent minerals and gems by radium radiation. *S. C. Lind and D. C. Bardwell. il J Fr Inst* 196:375-90 S '23

Department of calcites toward radium radiations. *W. P. Headden. Am J Sci* 5th ser 6:247-61 S '23

Ein einfaches verfahren zur darstellung von gut phosphoreszierendem zinksulfid. *J. Schmidt. Deutsche Chem Gesell Ber* 55:3988-9 D '22

Phosphorescence and luminescence in calcites. *W. P. Headden. Am J Sci* 5th ser 5:314-28 Ap '23

Reindarstellung von magnesiumsulfid und seine phosphoreszenz; magnesiumsulfid-phosphore. *E. Tiede and F. Richter. Deutsche Chem Gesell Ber* 55:69-74 Ja '22; Abstract. *Chem Soc J* 122 pt 2:215 Mr '22

See also Fireflies

Phosphoric acid

Composition of commercial phosphoric acid. *W. H. Ross, C. B. Durgin and R. M. Jones. J Ind & Eng Chem* 14:533-5 Je '22

Dosage rapide de l'acide phosphorique. *H. Copaux. Chimie & Ind* 10:43-4 J1 '23

Electric production of phosphoric acid. *T. Swann. Engineer* 133:688 Je 23 '22

Phosphoric acid—Continued

- Electrometric study of the neutralization of phosphoric acid by calcium hydroxide. G. L. Wendt and A. H. Clarke. *Am Chem Soc J* 45:881-7 Ap '23
- Industrial uses of phosphoric acid and phosphates. J. T. Meckstroth. *Chem & Met Eng* 26:223-4 F '22
- Insoluble phosphoric acid in acid phosphates and fertilizers. W. R. Austin. *Ind & Eng Chem* 15:1037-8 O '23
- Manufacture of phosphoric acid and phosphates. J. T. Meckstroth. *Chem & Met Eng* 26:77-9 Ja 11 '22
- Manufacture of phosphoric acid in the electric furnace by the condensation and electric precipitation method. T. Swann. *J Ind & Eng Chem* 14:630-1 J1 '22
- Phosphoric acid in cane juices. H. Walker. *Ind & Eng Chem* 15:164-5 F '23
- Progress in phosphoric acid production for fertilizer and food purposes. W. H. Waggaman. *Chem Age* 30:302-5 J1 '22
- Purification of commercial phosphoric acid. *Chem Age* 31:225-6 My '23
- Rapid process for the determination of phosphoric acid. H. Copeau. *Am J Sci* 5th ser 2:348 D '21
- Revised specific gravity table for orthophosphoric acid at 25°/25°C. N. F. Knowlton and H. C. Mounce. *J Ind & Eng Chem* 13:1157-8 D '21

Phosphorites

See Collophane

Phosphorous acid

- Phosphorous acid esters: the influence of the character of the groups R', R'', R''' on the stability of the molecular complexes R'R''R'''C.O.P.Cl₂ and R'R''R'''C.O.P.(OH)₂. D. R. Boyd and G. Chignell. *Chem Soc J* 123:813-17 Ap '23
- Reaction between phosphorous acid and iodine. A. D. Mitchell. *Chem Soc J* 123:2241-54 S '23

Phosphorus

- Black colloidal suspensions in phosphorus. C. H. Hall, jr. *Am Chem Soc J* 45:67-9 Ja '23
- Disappearance of gas in the electric discharge. *Am Electrochem Soc Trans* v 44 (preprint 18):183-94 S '23
- Disappearance of gas in the electric discharge. *Philos Mag* 6th ser 43:914-37 My '22
- Influence of phosphorus on brass. A. Portevin. *Mech Eng* 45:48 Ja '23
- Influence of phosphorus upon the microstructure and hardness of low-carbon, open-hearth steels. E. C. Groesbeck. *il diag* U S Bur Stand Tech Pa 203:1-33 '21
- Luminous pulsations in the glow of phosphorus. H. P. Warran. *diags Philos Mag* 6th ser 45:1132-9 Je '23
- Manufacture of phosphorus. *Chem Age* 31:105-6 Mr '23
- Phosphorus formations in iron. J. W. Bolton. *il Foundry* 50:786-91 O 1 '22
- Rate of combination of copper and phosphorus at various temperatures. C. A. Edwards and A. J. Murphy. *Engineering* 113:697-700 Je 2 '22
- Über die reduktion von lignin und von kohlehydraten mit jodwasserstoffsäure und phosphor. R. Willstätter and L. Kalb. *Deutsche Chem Gesell Ber* 55:2637-52 S '22; *Abstract. Chem Soc J* 122 pt 1:989-90 N '22
- Use of phosphorus in gas analysis. A. Holmes. *Ind & Eng Chem* 15:357 Ap '23

Analysis

- Determination of phosphorus. G. E. F. Lundell and J. I. Hoffman. *Ind & Eng Chem* 15:44-7, 171-3 Ja-F '23
- Volumetric estimation of small amounts of phosphorus, using a standard solution of methylene blue. W. M. Thornton, jr. and H. L. Elderidge, jr. *diag Am Chem Soc J* 45:668-73 Mr '23

Phosphorus chlorides

- Action of the chlorides of phosphorus on chlorodimethyldihydroresorcinol. L. E. Hinkel and W. D. Williams. *Chem Soc J* 121:2498-2502 N '22

Addition reactions of phosphorus halides; the action of the trichloride on saturated aldehydes and ketones. J. B. Conant, A. D. MacDonald and A. M. Kinney. *Am Chem Soc J* 43:1928-35 Ag '21

Conversion of calcium phosphates into chloro-derivatives of phosphorus by means of sulphur chloride. P. P. Budnikoff and E. A. Shilov. *Soc Chem Ind J* 42:378 S 14 '23

Entalkylierung gemischter sekundärer basen durch chlorphosphor. J. v. Braun and J. Weismantel. *Deutsche Chem Gesell Ber* 55:3165-70 O '22

Formula of phosphorus pentachloride. G. W. F. Holroyd. *Soc Chem Ind J* (Chem & Ind) 42:348 Ap 6 '23

Phosphorus halides

Addition reactions of the phosphorus halides; the addition of alkoxy and aroxy chlorophosphines to carbonyl compounds. J. B. Conant, V. H. Wallingford and S. S. Gandheker. *Am Chem Soc J* 45:762-8 Mr '23

Addition reactions of the phosphorus halides; the formation of an unsaturated phosphonic acid. J. B. Conant and E. B. Coyne. *Am Chem Soc J* 44:2530-6 N '22

Addition reactions of phosphorus halides; the 1,2 and 1,4 addition of diphenyl-chlorophosphine. J. B. Conant, J. B. S. Braverman and R. E. Hussey. *Am Chem Soc J* 45:165-71 Ja '23

See also Phosphorus trichloride

Phosphorus oxides

Purification of phosphoric oxide. G. I. Finch and R. H. K. Peto. *diag Chem Soc J* 121:692-3 Ap '22

Use as a drying agent of phosphoric oxide treated with ozone. J. J. Manley. *Chem Soc J* 121:331-7 Mr '22

Photochemistry

Action of light of short wave-lengths on some organic acids and their salts. F. M. Jaeger. *Chem Soc J* 119:2070-6 D '21

Action of light on arsenic trisulfide hydrosol. R. V. Murphy and J. H. Mathews. *Am Chem Soc J* 45:16-22 Ja '23

Decomposition of ozone by light of the visible spectrum. R. O. Griffith and W. J. Shutt. *diag Chem Soc J* 119:1948-59 D '21

Eisen als licht-chemischer katalysator; über die zersetzung von ferrocyankalium im tageslicht. O. Baudisch and L. W. Bass. *Deutsche Chem Gesell Ber* 55:2698-2706 S '22

Fluorescence and photochemistry. R. W. Wood. *Philos Mag* 6th ser 43:757-65 Ap '22

Influence of light on inorganic matter and life processes. O. Baudisch. *Ind & Eng Chem* 15:451-4 My '23

Inhibition of the photochemical decomposition of hydrogen peroxide solutions. W. T. Anderson, jr. and H. S. Taylor. *Am Chem Soc J* 45:650-62, 1210-17 Mr, My '23

Lichtreaktionen der *trans*- und *cis*-zimtsäuren. H. Stobbe and F. K. Steinberger. *Deutsch. Chem. Gesell. Ber* 55:2225-45 S '22; *Abstract. Chem Soc J* 122 pt 1:1018-20 N '22

Liesegang rings; the effect of light and hydrogen-ion concentration on the formation of colloidal gold in silicic acid gel; rhythmic bands of purple of Cassius. E. C. H. Davies. *Am Chem Soc J* 45:2261-8 O '23

Partial and consecutive reactions in the photosensitive system; quinine sulfate, chromic and sulfuric acids. G. S. Forbes, J. C. Woodhouse and R. S. Dean. *Am Chem Soc J* 45:1891-5 Ag '23

Photocatalysis; the photosynthesis of naturally occurring nitrogen compounds from carbon dioxide and ammonia. E. C. C. Baly, I. M. Heilbron and H. J. Stern. *il Chem Soc J* 123:185-97 Ja '23

Photochemical activity of the triphenylmethane sulfonic acids. E. O. Holmes, jr. *Am Chem Soc J* 44:1002-8 My '22

Photochemical decomposition of chlorine monoxide. E. J. Bowen. *Chem Soc J* 123:2328-30 S '23

Photochemistry—Continued

- Photochemical studies; the photochemical decomposition of solid oxalic acid. W. A. Noyes, jr. and A. B. Kouperman. *Am Chem Soc J* 45:1398-1400 Je '23
- Photochemical study of acetyl-chloro-aminobenzene. J. H. Mathews and R. V. Williamson. *Am Chem Soc J* 45:2574-84 N '23
- Photochemistry of unstable substances. E. J. Bowen. *Chem Soc J* 123:1199-1206 My '23
- Temperature coefficient of photochemical reaction rate. R. C. Tolman. *Am Chem Soc J* 45:2285-96 O '23
- Temperature coefficients of reactions in tropical sunlight. N. Dhar. *Chem Soc J* 123:1856-61 Ag '23
- Trends in photochemical research. J. H. Mathews. *Ind & Eng Chem* 15:885-7 S '23
- Über die einwirkung des liches auf die zimentsäuren und über die konstitution der truxilsäuren. A. W. K. de Jong. *Deutsche Chem Gesell Ber* 55:463-74 F '22; *Abstract. Chem Soc J* 122 pt 1:339-40 Ap '22
- Über die photochemische zersetzung des bromsilbers. R. Schwarz and H. Stock. *diags Deutsche Chem Gesell Ber* 54:2111-22 S '21; *Abstract. Chem Soc J* 120 pt 2:614-15 N '21
- See also Light; Photographic chemistry; Photosynthesis; Phototropy; Spectrum; Ultra-violet rays

Photoelasticity

- Account of some experiments on the action of cutting tools. E. G. Coker and K. C. Chakko. *diags Engineering* 113:564-9 My 5 '22; Same cond. *Engineer* 133:503-5 My 5 '22; Discussion. *Engineering* 113:561-2 My 5 '22; *Engineer* 133:491 My 5 '22
- Comparison of experimental methods for obtaining the stress at a point in a plate by optical and mechanical methods. E. G. Coker. *il Engineering* 116:512-14 O 19 '23
- Engineering problems solved by photoelastic methods. E. G. Coker. *il diags J Fr Inst* 196:433-76 O '23
- Graphical determination of stress from photoelastic observations. L. N. G. Filon. *Engineering* 116:511-12 O 19 '23
- Recent photo-elastic researches on engineering problems. E. G. Coker. *diags Engineering* 113:756-7 Je 16 '22
- Stress concentrations due to notches and like discontinuities. E. G. Coker and P. Heymans. *Engineering* 113:26-8 Ja 6 '22; Discussion. 112:408-9 S 16 '21
- Stress distribution in electric railway motor pinions as determined by the photo-elastic method. P. Heymans and A. L. Kimball, jr. *il diags Gen Elec R* 26:143-53 Mr '23; Same *abr. Mech Eng* 45:93-5 F '23

Bibliography

- Papers on photo-elasticity. E. G. Coker and others. *J Fr Inst* 196:477-8 O '23
- Photoelectric cells**
- Behaviour of cuprous oxide photo-voltaic cells. A. D. Garrison. *J Phys Chem* 27:601-22 O '23
- Control of industrial processes by light-sensitive means. L. Logan. *diags Ind & Eng Chem* 15:40-3 Ja '23
- Effect of the age and the concentration of a solution of rhodamine-B upon the photoelectric current developed. R. Y. Jenkins. *diags Phys R* 18:402-12 N '21
- Measurement of translucency of ceramic bodies. C. W. Parmelee and R. E. Lowrance. *diag Am Cer Soc J* 6:630-3 My '23
- Temperature effect in barium and strontium photo-electric cells. T. W. Case. *Phys R* 18:413-14 N '21
- See also Pallophotophone; Selenium cells
- Photoelectric effect**
- Comparison of the thermionic and photoelectric work function for platinum. O. Koppius. *diags Phys R* 18:443-55 D '21
- Variation of the photoelectric current with thickness of metal. O. Stuhlman, jr. *Phys R* 20:65-74 Jl '22

Photoelectricity

- Effect of current on the photo-electric sensitivity of metals. A. G. Shenstone. *Philos Mag* 6th ser 45:918-26 My '23
- Some photoelectric experiments on platinum relating to the influence of gases. L. A. Welo. *diags Philos Mag* 6th ser 45:593-609 Mr '23
- Spectrophotoelectrical sensitivity of argentite (Ag₂S). W. W. Coblenz. *diags U S Bur Stand Sci Pa* 446:265-80 '22
- Spectrophotoelectrical sensitivity of bournonite and pyrrargyrite. *Sci Am* 128:178 Mr '23
- Spectrophoto electrical sensitivity of bournonite and pyrrargyrite. W. W. Coblenz and J. F. Eckford. *U S Bur Stand Sci Pa* 451:353-72 '22
- Spectrophotoelectrical sensitivity of proustite. W. W. Coblenz. *U S Bur Stand Sci Pa* 412:179-86 '21
- Spectrophoto-electrical sensitivity of some halide salts of thallium, lead and silver. W. W. Coblenz and J. F. Eckford. *U S Bur Stand Sci Pa* 456:489-98 '22
- Variation of the photo-electric activity of a potassium ferro-cyanide solution with the concentration of the solution. J. H. J. Poole. *diags Philos Mag* 6th ser 45:895-906 My '23
- Various photo-electrical investigations. W. W. Coblenz. *U S Bur Stand Sci Pa* 462:585-607 '22
- Photoengravers' association, American.** See American photoengravers' association
- Photoengraving**
- Cooperation that printers need from paper manufacturers, ink manufacturers, photoengravers, and electrotypers. R. F. Saladé. *Ptg Art* 38:139-41 O '21
- Handbook for process photographers. E. R. Eaton. 51p Effingham republican, Effingham, Ill. '21
- Health hazards in photo-engraving. *Monthly Labor R* 17:704-6 S '23
- Photo-engravers' hand-book on etching & finishing. P. C. Raymer. 2d ed. 84p Effingham republican, Effingham, Ill. '21
- Photoengraving—the mainspring of progress in the graphic arts. L. Flader. *Inland Ptr* 72:113-14 O '23
- Picture plates for the press. H. W. Smith. *il (Bul. v.2, no.28, Journalism ser. no.23)* 64p Univ. of Mo., Columbia '21
- Process engraving: formulas, equipment, and methods of working. E. S. Pilsworth. 168p Macmillan '22
- Things that can happen to engravings. *Ptr Ink* 124:113-14+ Ag 23 '23
- Photographers**
- Advertising**
- Getting consumers to help perfect your product. A. E. Haase. *il Ptr Ink M* 5:48-51 N '22
- Selling human sentiment proves more successful than selling the product. *Ptr Ink* 120:106+ Jl 13 '22
- Photographic chemistry**
- Chemistry of the acid fixing bath. S. E. Sheppard, F. A. Elliott and S. S. Sweet. *J Fr Inst* 196:45-67 Jl '23
- Gelatin in the photographic process. S. E. Sheppard. *il J Ind & Eng Chem* 14:1025-32 N '22
- Gelatin in photography. S. E. Sheppard. Van Nostrand; Eastman kodak co., Rochester, N.Y. '23
- Manufacture of photosensitive materials as an art and a science. F. F. Renwick. *Soc Chem Ind J* 42:43-6 F 2 '23
- Physical chemistry of the photographic process. *Soc Chem Ind J (Chem & Ind)* 42:562-3 Je 8 '23
- Recent contributions of chemistry to photography. S. E. Sheppard. *bibliog J Ind & Eng Chem* 14:820-3 S '22
- Resistivity of various materials towards photographic solutions. J. I. Crabtree and G. E. Matthews. *bibliog Ind & Eng Chem* 15:666-71 Jl '23

Photographic chemistry—Continued

Size-frequency distribution of particles of silver halide in photographic emulsions and its relation to sensitometric characteristics. E. P. Wightman, S. E. Sheppard and A. P. H. Trivelli. *diags J Phys Chem* 25:181-95, 561-94; 27:1-51, 141-66, 466-80 Mr, O '21, Ja-F, My '23

Studies in photographic sensitivity. E. P. Wightman, A. P. H. Trivelli and S. E. Sheppard. *J Fr Inst* 194:485-520; 195:337-47; 196:653-73, 779-802 O '22, Mr, N-D '23

Theory of the characteristic curve of a photographic emulsion. F. C. Toy. *Philos Mag* 6th ser 44:352-71; 45:715-26 Ag '22, Ap '23

See also Metol; Photochemistry; Photography—Developing and developers; Silver iodide

Photographic lenses. See Lenses, Photographic

Photographic paper

Gloss characteristics of photographic papers. L. A. Jones and M. F. Fillius. *J Fr Inst* 193:835-6 Je '22

Making of photographic paper. A. B. Hitchins. *Paper* 32:5-6+ Ap 25 '23

Photographic records

Mains photography. A. F. Beach. *Elec R (Lond)* 89:738-9 D 2 '21

Measuring water flow with a camera. *il Sci Am* 128:192 Mr '23

Photographic recording of engine data. A. Trowbridge. *il diags Soc Auto Eng J* 10:351-6; Discussion. 356+ My '22

Photographic records as aid to road construction and maintenance. A. S. MacDougall. *il Eng & Contr (R & S)* 56:148-50 D 6 '22

Photographic surveying

Developments in photographic surveying. M. P. Bridgland. *il diags Can Eng* 42:359-63 Ap 4 '22

See also Surveying, Aerial

Photographs

Huge photo of wild life ninety-six feet long. *il Pop Mech* 40:233 Ag '23

Photography

Abridged scientific publications from the research laboratory of the Eastman kodak co., 319p Eastman kodak co., Rochester, N.Y. '22

Adjudging horse races by photography. *il Pop Mech* 39:754-5 My '23

Big camera in air shoots toward floor. *il Pop Mech* 40:500 O '23

Earliest apparatus and procedures of photography; contributions to the centenary of modern photographic methods. H. Leffmann. *il J Fr Inst* 195:327-36 Mr '23

Failure of the reciprocity law in photography. R. A. Mallet. *Philos Mag* 6th ser 44:904-12 N '22

Fundamentals of photography. C: E: K. Mees. 2d ed. 120p Eastman kodak co., Rochester, N.Y. '21

Industrial and technical photography. J: H. Graff. *Sci Am* 126:65 Ja '22

Manual of photographic technique. L. J. Hibbert. 118p Pitman '21

Memorial volume containing an account of the photographic researches of Ferdinand Hurter and V. C. Driffield. 374p Royal photographic society of Great Britain, London '20

Miniature photography. *il diag Pop Mech* 40:472 S '23

Mutual action of adjacent photographic images. F. E. Ross. *Sci Am* 127:261 O '22

New method for the measurement of photographic filter factors. R. Davis. *il diag plan U S Bur Stand Sci Pa* 409:79-89 '21

Photography for the amateur. G: W. French. 417p Falk pub. co., New York '22

Photography through a field glass. *il Pop Mech* 39:653 Ap '23

Pictorial landscape photography. 236p American photographic pub. co., Boston 17, Mass. '21

Pictures at the rate of 92,000 per second. A. N. Mirzaoff. *il Pop Mech* 38:541-2 O '22

Practical amateur photography. W. S. Davis. 245p Little, Brown & co., Boston '23

Preliminary investigations on Silberstein's quantum theory of photographic exposure.

A. P. H. Trivelli and L. Righter. *Philos Mag* 6th ser 44:252-6 Jl '22

Quantum theory of photographic exposure. L. Silberstein, and A. P. H. Trivelli. *Philos Mag* 6th ser 44:257-73, 956-68; 45:1062-70 Jl, N '22, My '23

Recent advances in photographic theory. C. E. K. Mees. *il diags J Fr Inst* 195:1-21 Ja '23

Short-wave radiation from tungsten filaments. M. Luckiesh, L. L. Holladay and A. H. Taylor. *il J Fr Inst* 196:353-73, 495-519 S-O '23

Taking away from a picture to get a larger picture. *il Sci Am* 127:407 D '22

Tricks of over-exposure. L. Pyle. *il Sci Am* 128:41 Ja '23

See also Blueprints; Cameras; Color photography; Macrophotography; Moving picture photography; Moving pictures; Photographic chemistry; Photographic paper; Photographic surveying; Photomicrography; Photosculpture; Photostat; Phototelegraphy; Radiography; Surveying, Aerial; Telephotography

Apparatus and supplies

Automatic exposure-meter. A. Gradenwitz. *il Sci Am* 129:183 S '23

Exposure meter simplifies photography. *il Pop Mech* 39:22 Ja '23

Resistivity of various materials towards photographic solutions. J. I. Crabtree and G. E. Matthews. *bibliog Ind & Eng Chem* 15:666-71 Jl '23

See also Photostat

Developing and developers

Dark room that fits in coat pocket. *il Sci Am* 126:204 Mr '22

Influence of stirring on the rate and course of development. S. E. Sheppard and F. A. Elliott. *il diags J Fr Inst* 195:211-28 F '23

N-methyl-para-amino-ortho-chlorophenol sulfate, a new photographic developer. W. G. Christiansen. *Am Chem Soc J* 45:2192-4 S '23

Novel photo-print washer. *il Pop Mech* 38:810 N '22

Restraint of development by borax and certain similar salts. E. R. Bullock. *J Fr Inst* 192:811-12 D '21

Theory of development. A. H. Nietz. 190p Van Nostrand '22

Enlarging

Enlarged photographic negatives. *Pop Mech* 38:818 N '22

Improved vertical enlarger. F. E. Hinkley. *il diags Pop Mech* 38:479-81 S '22

Something new in movie scenery. *il Sci Am* 127:23 Jl '22

Films

Sensitometry of photographic emulsions and a survey of the characteristics of plates and films of American manufacture. R. Davis and F. M. Walters, Jr. *il diags U S Bur Stand Sci Pa* 439:1-120 '22

Plates

Cheminement capillaire, diffusion et déplacement; applications au séchage des plaques photographiques et des précipités. L. Lumière. *diags Génie Civil* 80:454-5 My 20 '22

On the conductivity of the latent image. A. G. Rabinovich. *J Phys Chem* 26:577-90 Je '22

Photographic plates made of gelatin on paper. *il Pop Mech* 38:240 Ag '22

Sensibilisation et désensibilisation des plaques au gélatino-bromure d'argent. A. Seyewetz. *Chimie & Ind* 8:308-11 Ag '22

Sensitometry of photographic emulsions and a survey of the characteristics of plates and films of American manufacture. R. Davis and F. M. Walters, Jr. *il diags U S Bur Stand Sci Pa* 439:1-120 '22

Photography—Plates—Continued

Studies in color sensitive photographic plates and methods of sensitizing by bathing. F. M. Walters, Jr., and R. Davis. *il diag U S Bur Stand Sci Pa* 422:353-75 '21
 Studies in photographic sensitivity. S. E. Sheppard and E. P. Wightman. *J Fr Inst* 195:337-47 Mr '23

Printing processes

Bromoil printing and bromoil transfer. E. Mayer. 191p American photographic pub. co., Boston '23
 New sensitometer for the determination of exposure in positive printing. *J Fr Inst* 195: 861-2 Je '23
 Practical printing processes. F. R. Fraprie. Rev. & enl. ed. 56p American photographic pub. co., Boston '23
 Science and practice of photographic printing. L. I. Snodgrass. 304p L. I. Snodgrass, Effingham, Ill. '23

See also Blueprints

Scientific applications

Core loss by retardation method. D. W. Proebstel. *il diag Elec W* 82:289-90 Ag 11 '23
 High-speed photography of vibrations, (sound, mechanical, electrical, etc.). A. Trowbridge. *il diags J Fr Inst* 194:713-29 D '22
 Supercamera gauges speed of explosions. *il Pop Mech* 39:899 Je '23
 Two photographic methods of studying high-voltage discharges. K. B. McEachron. *il diags Am Inst E E J* 42:1045-50 O '23; Discussion. 42:1357-62 O '23

See also Photography of atoms; Photography of sound

Studios and dark rooms

Making window of dark room light-proof. *diags Pop Mech* 40:460 S '23

Photography, Aerial

Aerial haze and its effect on photography from the air. 84p Van Nostrand; Eastman kodak co., Rochester '23
 Aerial mosaic map shows marvelous detail. G. F. Paul. *Pop Mech* 39:107 Ja '23
 Aerial photography. W. L. Hamilton. *il Aerial Age* 15:6-7, 36-8 Mr 13-20 '22
 Aerial photography as an aid in map making, [hand drawn] with special reference to water power surveys. G. H. Matthes. *il diag Am Soc C E Pro* 48:1824-45 D '22; Discussion. 49:117-22 Ja '23
 Air photos as plane-table sheets aid mapping. H. C. Fiske. maps Eng N 89:552-4 O 5 '22; Discussion. 89:1087 D 21 '22
 Airplane photograph an aid to city planning. *Munic Eng* 64:231-3 Je '23
 Application of aerial photographs to map making. D. H. Nelles. *il diags Can Eng* 44: 309-15 Mr 13 '23
 Curtiss Oriole for aerial photography. *il Aviation* 14:154-5 F 5 '23
 Efficient high-speed aerial camera. *il Pop Mech* 38:36 Jl '22
 Face of the earth as seen from the air. W. T. Lee. 110p Am. geographical soc., New York '22
 Mapping from the skies. G. H. Dacy. *il Sci Am* 128:328-9 My '23
 Mapping Tennessee from the air. *Aviation* 14:218 F 19 '23
 Mountainside mine workings shown by aerial photo. *il Pop Mech* 39:427 Mr '23
 Nistri aerial camera. *il Aviation* 14:403 Ap 9 '23
 La photographie aérienne pendant la guerre. A. H. Carlier. 204p Delagrave, Paris '21
 Practical uses of aerial photography. *il Aviation* 12:424-6 Ap 10 '22
 Section lines on photographs aid land reclamation. *il Eng N* 89:889 N 23 '22
 Simple aerial photography for practising engineers. F. H. Tibbetts. *il Eng N* 89:978-80 D 7 '22
 Taking aeronautical photographs from the ground. J. E. Hogg. *il Sci Am* 127:169+ S '22
 Two new airplane cameras developed by experts. *il Pop Mech* 38:23 Jl '22

Uses of aerial photographs in map making. G. S. Smith. *il Eng N* 88:194-6 F 2 '22; Discussion. 88:746-7 My 4 '22
 Winged surveyors; what aerial photography is doing for industry and science. S. M. Fairchild. *il map Sci Am* 126:157-60+ Mr '22

See also Surveying, Aerial

Photography, Artistic

Principles of pictorial photography. J. W. Gillies. 253p Falk pub. co., New York '23

Photography, Astronomical. See Astronomical photography**Photography, Commercial**

Camera and the illustrator. D. Gridley. *il Ptr Ink M* 4:25 D '21
 Techniques of advertising illustration. *Ptg Art* 38:321-9 D '21
 What can be done with photographs; new idea in retouching. W. L. Larned. *Ptr Ink* 118:49-50+ Ja 12 '22

See also Advertisements, Pictorial

Photography, Flashlight

Photographic intensity of flashlight materials. E. Huse. *J Fr Inst* 196:391-5 S '23

Photography, Spirit

Our psychic investigation in Europe. J. M. Bird. *il Sci Am* 128:379-80+ Je '23
 Spirit-photograph fraud; evidence of trickery, and a demonstration of the tricks employed. J. Black. *il Sci Am* 127:224-5+ O '22
 Spirit pictures and a speaking skull. J. L. Peabody. *il Pop Mech* 39:817-20 Je '23

Photography in engineering. See Photographic records**Photography of animals.** See Animals—Photographs and photography**Photography of atoms**

Flight of atoms photographed. W. D. Harkins. *il Pop Mech* 39:337-8 Mr '23
 Method for photographing the disintegration of an atom, and a new type of rays. W. D. Harkins and R. W. Ryan. *il diags Am Chem Soc J* 45:2095-2107 S '23
 Photographing the ionization tracks of the rest atoms of radioactive elements. D. M. Bose and S. K. Ghosh. *diag Philos Mag* 6th ser 45:1050-4, pl 14 My '23

Photography of documents

Action of charred paper on the photographic plate and a method of deciphering charred records. R. Davis. *il U S Bur Stand Sci Pa* 454:445-9 '22; Abstract. *Brass W* 19:236 Jl '23

Direct prints without a camera. *Sci Am* 127: 41 Jl '22

New method of deciphering burned records. *il Pop Mech* 39:50 Ja '23

Reducing drafting changes. F. J. Champion. *Ind Management* 65:232 Ap '23

Reproductions of manuscripts, plates and drawings without a camera. *J Fr Inst* 192: 700-2 N '21

See also Photostat

Photography of projectiles

Mechanics of ordnance figures; electrical oscillograph for determining ejection velocities of projectiles fired from a ship. *il Sci Am* 125A:105 D '21

Photography of bullets in flight. P. P. Quayle. *il J Fr Inst* 193:627-40 My '22

Shell bursts photographed with long-range camera. *il Pop Mech* 37:591 Ap '22

Photography of sound

Photographic records made of sound vibrations by audiometer. *il Pop Mech* 38:407 S '22

Photographic study of sound pulses between curved walls and sound amplification by horns. A. L. Foley. *il diag Phys R* 20:505-12 D '22

Sound wave photography in the study of architectural acoustics. A. L. Foley. *il diag Am Arch* 122:415-18 N 8 '22

See also Pallophotophone; Photography of vibrations

Photography of vibrations

High-speed photography of vibrations, (sound, mechanical, electrical, etc.). A. Trowbridge. *il diags J Fr Inst* 194:713-29 D '22

Photogravure

Gravure in newspapers. 22p New York tribune, New York '22

Photomechanical processes

Where are we at in processwork? S. H. Horgan. Inland Ptr 69:674-5 Ag '22

See also Photoengraving; Rotogravure

Photometers

Direct reading and computing attachment for sphere photometers. B. S. Willis. il diag Illum Eng Soc 18:62-6 Ja '23

Distribution photometer of new design. C. C. Colby, jr. and C. M. Doolittle. il diags plan Illum Eng Soc 18:273-84; Discussion. 284-9 Mr '23

Selling illumination by photometry. A. L. Powell and J. A. Summers. il diags Gas Age 48:829-38 D 17 '21

Tuck illumination photometer. il diags Illum Engr 15:300-1 N '22

See also Foot-candle meter

Photometry

Aid to the calculation of mean spherical and mean hemispherical candle powers. A. R. Myhill. Gas J (Lond) 161:332-3 F 7 '23

Brightness units and their measurements. D. H. Tuck. diags Elec W 80:719-20 S 30 '22

Comments on heterochromatic photometry and the theory and operation of the flicker photometer. A. H. Taylor. Illum Eng Soc 16:574-86; Discussion. 599-605 no 9 '21

Core loss by retardation method. diag Elec W 82:289-90 Ag 11 '23

Definitions of photometric quantities adopted by the International commission. Illum Engr 14:171-2 S '21

Elementary principles of lighting and photometry. J. W. T. Walsh. 220p Dutton '23

Flicker photometry. C. E. Ferree and G. Rand. il plan Illum Eng Soc 18:151-99; Discussion. 200-7 F '23

Fundamental photometric quantities defined. Automotive Ind 45:303 O 27 '21

Gigantic globe is built to measure light. il Pop Mech 40:267 Ag '23

Improvements in photometric equipment for integrating spheres. A. H. Taylor. diags J Fr Inst 194:543-6 O '22

Interlaboratory photometric comparisons of gas-filled tungsten lamps. W. E. Forsythe and F. E. Cady. Illum Eng Soc 16:591-8; Discussion. 599-605 no 9 '21

Measurement of light. N. Campbell and B. P. Dudding. Philos Mag 6th ser 44:577-90 S '22; Abstract. Illum Eng Soc 15:255-6 S '22

Measurement of light. J. W. T. Walsh. Philos Mag 6th ser 44:1165-8 D '22

New apparatus for lumen-measurements. J. T. M. Morris. Illum Engr 15:283 O '22

Paints for integrating spheres. A. H. Taylor. Illum Eng Soc 16:587-90; Discussion. 599-605 no 9 '21

Photometric definitions and units. Illum Engr 15:225-7 Ag '22

Precision rotating sector: aperture variable and measurable while in motion. A. H. Pfund. il diag J Fr Inst 193:641-5 My '22

Presidential address delivered at the annual meeting of the Illuminating engineering society. J. H. Parsons. Illum Engr 15:194-7 J1 '22

Regular icosahedron as a substitute for the Ulbricht sphere. K. S. Weaver and B. E. Shackelford. il diags Illum Eng Soc 18:290-300; Discussion. 300-4 Mr '23

Report of committee on progress for 1921. Illum Eng Soc 16:226-9 no 7 '21

Reports and papers on photometric units and definitions. Illum Engr 14:172-5 S '21

Sky brightness and daylight illumination measurements. il Illum Eng Soc 16:255-75; Discussion. 275-83 no 7 '21

Some of the problems of flicker photometry. Elec W 80:1087 N 18 '22

Theory, construction, and use of the photometric integrating sphere. E. B. Rosa and A. H. Taylor. il diags U S Bur Stand Sci Pa 447:281-322; Bibliography. 322-5 '22

Use of the Ulbricht sphere in measuring reflection and transmission factors. E. Karner. diags U S Bur Stand Sci Pa 415:203-25 '21

Visibility of radiant energy. K. S. Gibson and E. P. T. Tyndall. diags U S Bur Stand Sci Pa 475:131-91 '23

Year's progress in illumination, 1922-1923; photometry. Illum Eng Soc 18:645-51 S '23

See also Color; Colorimeters and colorimetry; Light; Reflectometer; Spectrophotometry

Terminology

Definitions of photometric quantities. Illum Eng Soc 16:247-9 no 7 '21

Further revision of I.E.S. nomenclature and standards. Illum Eng Soc 18:48-54; Discussion. 54-61 Ja '23

Photometric definitions; official translation of the French text. Illum Engr 16:52 F '23; Same. Illum Eng Soc 18:557 J1 '23

Photomicrography

Apparatus for taking microphotographs. il Ry Mech Eng 96:286-7 My '22

Application of photography to textile research. E. D. Walen. il Textile World 61:652+ F 4 '22

Lucas photomicrographic camera. il Am Dyestuff Rep 12:771-2 O 22 '23

Microstructure of paint films. H. L. Maxwell. il Chem & Met Eng 28:850-2 My 14 '23

Photographing blood stains. C. M. Lewis. il Sci Am 126:123 F '22

Photomicrographic method for the determination of particle size of paint and rubber pigments. H. Green. il J Fr Inst 192:637-66 N '21

Photomicrography. 7th ed. 36p Eastman kodak co., Rochester, N.Y. '22

Photomicrography of paper fibers. R. E. Lofton. il diags U S Bur Stand Tech Pa 217:629-50 '22

With eye-piece and camera; recent British developments in petrological and metallurgical microscopy and photography. A. A. Hopkins. il Sci Am 126:23-4 Ja '22

See also Macrophotography; Microscope and microscopy

Photomicrography in advertising

New talking points via the microscope. E. H. Rowe. Ptr Ink M 6:59+ Mr '23

Photophone. See Light telephone**Photophoresis**

New experiments on photophoresis. J. Mat-tauch. J Fr Inst 196:44 J1 '23

Photosculture

Camera aid to sculptor in making busts. il Pop Mech 40:230 Ag '23

Camera turned sculptor. il Sci Am 125A:135 D '21

Huge photo on mountainside aids sculptor. R. C. Folger. il Pop Mech 39:492-4 Ap '23

When the camera turns sculptor. P. J. Ris-don. il Sci Am 128:314+ My '23

Photostat

Photostat in bibliographical and research work. G. W. Cole and others. (Papers of Bibliog. Soc. of America v. 15, pt. 1) p. 1-46 Univ. of Chicago Press, Chicago '21

Photosynthesis

Industrial potentialities of photosynthesis. S. E. Sheppard. Chem Age 31:57-61 F '23

Photocatalysis; the photosynthesis of naturally occurring nitrogen compounds from carbon dioxide and ammonia. E. C. C. Baly, I. M. Heilbron and H. J. Stern. il Chem Soc J 123:185-97 Ja '23

Photocatalysis; the photosynthesis of nitrogen compounds from nitrates and carbon dioxide. E. C. C. Baly, I. M. Heilbron and D. P. Hudson. Chem Soc J 121:1078-88 Je '22

Photosynthesis and the possible use of solar energy. H. A. Spoehr. J Ind & Eng Chem 14:1142-5 D '22

Photosynthesis of amines. O. W. Snow and J. F. S. Stone. Chem Soc J 123:1509-15 Je '23

Photo-synthesis of plant products. Chem Age (Lond) 8:172-3 F 17 '23

Photosynthesis—Continued

Reduction of carbon dioxide by ultraviolet light. H. A. Spoehr. *Am Chem Soc J* 45: 1184-7 My '23

See also Plants, Effect of light on; Photochemistry

Phototelegraphy

Broadcasting photographs and motion pictures. *il Pop Mech* 38:824 D '22

Developments in telephotography. D. W. Isakson. *il diags Am Inst E E J* 41:811-18 N '22; Discussion. 41:1026 D '22

Electrical transmission of photographs. M. J. Martin. 136p Pitman '21

L'état actuel de la radiotélégraphie des dessins, textes et photographies. E. Belin. *Génie Civil* 81:523-4 D '22

Finger-prints via radio. *il Sci Am* 127:386 D '22

Motion pictures by radio. C. H. Claudy. *il Sci Am* 127:320 N '22

New pictures by wire in plain Morse code. *Sci Am* 125A:140 D '21

Photographs transmitted by radio. *il Pop Mech* 39:678 My '23

Le téléstéréographe Belin, pour la transmission à distance des photographies. P. Calfas. *il diags Génie Civil* 82:365-70 Ap 21 '23

Transmission of handwriting by wireless accomplished fact; Pershing and Briand first to send messages by new method. *N E L A Bul* 8:666-7 N '21

Transmitting photographs by radio. O. Wilson. *il diags Wireless Age* 10:67-8 Jl '23

Why not long-distance stenography? *il Sci Am* 126:57 Ja '22

Writing is sent over wire by photo process. *il Pop Mech* 40:351 S '23

See also Telehor; Telephotography

Phototherapy

Influence of light on inorganic matter and life processes. O. Baudisch. *Ind & Eng Chem* 15:454 My '23

Phototropy

Phototropy of inorganic salts; cuprous chloride and bromide. G. Singh. *Chem Soc J* 121:782-5 My '22

Studies in phototropy; the reversed phototropy of cinnamaldehydesemicarbazone and its methoxy-derivatives. I. M. Heilbron, H. E. Hudson and D. M. Huish. *Chem Soc J* 123:2273-9 S '23

Phthalaldehydic acids

Chlorination and bromination of the toluic acids and the preparation of the phthalaldehydic acids. W. Davies and W. H. Perkin, jr. *Chem Soc J* 121:2202-15 O '22

Phthalates

Modified test for phthalates. R. E. Andrew. *Ind & Eng Chem* 15:838 Ag '23

Phthalic acid

Replaceability of the halogen in halogen-substituted phthalic acids; abstract. A. Eckert and F. Seidel. *Chem Soc J* 120 pt 1:862-4 D '21

Phthalic acid tetrachlorides

Über die konstitution und das tautomeriegleichgewicht der beiden phthalsäure-tetrachloride. E. Ott. *Deutsche Chem Gesell Ber* 55:2108-25 Jl '22; Abstract. *Chem Soc J* 122 pt 1:834-5 S '22

Phthalic anhydride

Friedel and Crafts' reaction; some substituted phthalic anhydrides with toluene and aluminum chloride. W. A. Lawrance. *Am Chem Soc J* 43:2577-81 D '21

Friedel and Crafts reaction with phthalic anhydride. T. C. McMullen. *Am Chem Soc J* 44:2055-60 S '22

Phthalic anhydride; the preparation of phthalic anhydride by the catalysis of the vapor phase reaction between naphthalene and atmospheric air. C. Conover and H. D. Gibbs. *diag J Ind & Eng Chem* 14:120-5 F '22

Process of making anthraquinone and phthalic anhydride. *Color Tr J* 13:79 S '23

Some facts of interest to the users of phthalic anhydride. K. P. Monroe. *J Ind & Eng Chem* 14:1084-5 N '22

Trihydroxy-methyl-anthraquinone. G. D. Graves, R. Adams and J. H. Gardner. *Am Chem Soc J* 45:2439-62 O '23

Phthalides

Friedel and Crafts' reaction; diphenyl and ditolyl tetrahalogen phthalides. W. A. Lawrance and H. G. Oddy. *Am Chem Soc J* 44: 329-30 F '22

Opening of the lactone ring of phthalide derivatives by hydrazine. J. Teppema. *Chem Soc J* 124 pt 1:256-9 Mr '23

Phthalimides

Application of Hofmann's reaction to substituted phthalimides. T. S. Moore, M. T. Marrack and A. K. Proud. *Chem Soc J* 119:1786-91 N '21

Phthalonic acid

Derivatives of phthalonic acid, 4:5-dimethoxyphthalonic acid, and 4:5-dimethoxy-*o*-tolylglyoxylic acid. C. Kuroda and W. H. Perkin, jr. *Chem Soc J* 123:2094-2111 S '23

Phthalyl chlorides

Zur kenntnis der beiden isomeren phthalylchloride. J. v. Braun and W. Kaiser. *Deutsche Chem Gesell Ber* 55:1305-10 My '22

Phyfe, Duncan

Some furniture by Duncan Phyfe; exhibition at Metropolitan museum of art. *il Arch Forum* 37:243-4 N '22; *Am Arch* 122:427-9 N '22

Physical chemistry. *See* Chemistry, Physical and theoretical

Physical examinations

Guard against physically unsound employees. J. Leeming. *Ry Age* 73:393-4 Ag 26 '22

Investigative opportunities in the physical examination of large groups of individuals. E. I. Lee. *bibliog J Ind Hygiene* 3:304-8 F '22

Keeping the human machinery off scrap pile. E. S. Cowdrick. *Ind Management* 63:324-5 Je '22

Medical examination of employees. D. A. Coles. *J Ind Hygiene* 4:273-4 O '22

Report on the brief neuropsychiatric examination of 1,141 students. S. Cobb. *bibliog J Ind Hygiene* 3:309-15 F '22

Some factors which make for efficiency and for the social uplifting of industry. T. Oliver. *J Ind Hygiene* 4:sup200-1 Ap '23

Static equilibrium as a useful test of motor control. W. R. Miles. *diags J Ind Hygiene* 3:316-31; *Bibliography*. 331 F '22

Value of physical examinations in pulp and paper mills. S. L. Bush. *Paper Tr J* 77:24-N 8 '23

See also Eye—Examination; Medical service, Industrial

Physical geography

Adventures of a grain of dust. H. Hawks-worth. 251p Scribner '22

Physiographic provinces and sections in western Oklahoma and adjacent parts of Texas. N. M. Fenneman. *maps U S Geol S Bul* 730—D:115-34, pl 16-18 '22

See also Climate

Physical instruments

Physical constants and ultimate rational units. G. N. Lewis. *Philos Mag* 6th ser 45:266-75 F '23

See also Balances; Chemical apparatus; Electric apparatus and appliances; Electric instruments; Engineering instruments; Measuring instruments; Meteorological instruments; Optical instruments; Scientific apparatus and instruments; Scleroscope; Volumetric apparatus

Exhibitions

Exhibition of the Royal society of London. *Elec R (Lond)* 90:725-6, 763-4 My 26-Je 2 '22; *Electrician* 88:629 My 26 '22; *Engineer* 133:559 My 19 '22; *Engineering* 113:629-30, 658-60 My 19-26 '22

Physical and optical societies' exhibition. *Engineering* 115:19-20, 36-8 Ja 5-12 '23; *Elec R (Lond)* 92:49-50, 115-16, 150-1, 190-1, 234-5 Ja 12-F 9 '23

Physical instruments—Exhibitions—Continued

Physical and optical societies' exhibition. *il* diags Elec R (Lond) 90:46-9, 101-2, 135-6, 171-3, 208-10, 245 Ja 13-F 17 '22; Electrician 88:43-5, 71-3, 98-9, 158-60 Ja 13-27, F 10 '22; Engineer 133:40-1, 76-7 Ja 13-20 '22; Engineering 113:19-20, 53-5 Ja 6-13 '22
 Royal society's soirée. Elec R (Lond) 92:806-7 My 25 '23; Engineering 115:624-5, 661, 779 My 18-25, Je 22 '23

Physical laboratories

Laboratory aids foundry operation. *il* Foundry 50:247 Mr 15 '22

See also Electric laboratories; also National physical laboratory, Teddington, England

Physical measurements

Atomic constants and dimensional invariants. A. C. Lunn. Phys R 20:1-14 Jl '22
 Dimensional analysis. P. W. Bridgman. 112p Yale univ. press, New Haven '22
 Heterodyne beat method and some applications to physical measurements. M. H. Belz. diags Philos Mag 6th ser 44:479-501 S '22
 Manual of physical measurements. A. Zeleny and H. A. Erikson. 5th ed. 286p McGraw-Hill '23

See also Electric measurement; Magnetic measurements; Measuring instruments; Pressure gages; Temperature—Measurement

Physical research

Progress of a research fellowship experiment. W. E. Tisdale. Ind & Eng Chem 15:641-2 Je '23

Physical review

General index, 1893-1920. 200p American physical soc., Lancaster, Pa., Ithaca, N.Y.

Physicians' offices**Lighting**

Use of light in the surgical, dental and ophthalmological professions. L. P. Tingley. diags plan Illum Eng Soc 17:9-24; Discussion. 35-43 Ja '22

Physics

Advanced practical physics for students. B. L. Worshop and H. T. Flint. 640p Dutton '23
 Chemistry and physics in accounting. F. W. Thornton. J Account 35:241-6 Ap '23

Concise physics for engineering students. J. E. Hoyt. 385p Blakiston '22

Elements of applied physics. A. W. Smith. 481p McGraw-Hill '23

Essentials of modern physics. C. E. Dull. 525p Holt '22

From immigrant to inventor. M. Puplin. 396p Scribner '23

General physics and its application to industry and everyday life. E. S. Ferry. 812p Wiley '23

Introductory physics. L. D. Higgins. 440p Ginn '23

Notes on physics. B: W. Snow. 3d ed. 841p B: W. Snow, Madison, Wis. '21

Outlines of physics. C: C. Bidwell. 194p Comstock pub. co., Ithaca, N.Y. '22

Physicist and the electrical engineering industry. C. C. Paterson. Engineer 134:440 O 27 '22; Same. Elec R (Lond) 91:642-3 N 3 '22; Same. Electrician 89:473-4 O 27 '22; Abstract. Engineering 114:496-7 O 20 '22

Physics a hundred years ago. A. S. Eve. J Fr Inst 192:773-83 D '21

Physics and engineering science; abstracts. A. Barr. Engineering 113:559-61 My 5 '22; Elec R (Lond) 90:719 My 19 '22; Electrician 88:535 My 5 '22

Physics for secondary schools. F: E. Sears. 658p F. M. Ambrose & co., New York, Boston '22

Physics in engineering practice, with special reference to thermodynamics; abstracts. J. A. Barr. Engineering 113:559-61 My 5 '22; Electrician 89:38-9 Jl 14 '22; Engineering 114:48-9 Jl 14 '22

Physics in everyday life. W: D. Henderson. 566p Lyons & Carnahan, Chicago, New York '21

Physics; the science of the forces of nature. D. W. Hering. 384p P. F. Collier & son co., New York '22

Practical physics. J. A. Crowther. 260p Oxford '22

Practical physics. N. H: Black and H. N. Davis. Rev. ed. 555p Macmillan '22

Questions and problems in physics. F. L. Darrow. 231p Harcourt, Brace & co., New York '22

Science for the sheet metal worker. T: Newton. Sheet Metal Worker 14:251-2+ Ap 27 '23

Textbook of intermediate physics. H. Moore. 824p Dutton '23

See also Atmosphere; Atoms; Biological physics; Capillarity; Center of mass; Chemical elements; Chemistry, Physical and theoretical; Compressibility; Corbino effect; Diffusion; Dynamics; Einstein theory; Elasticity; Electricity; Electromagnetic theory; Electrons; Equilibrium; Ether (of space); Evaporation; Expansion (heat); Fluids; Fluorescence; Force and energy; Free energy; Friction; Functions; Gases; Geophysics; Gravitation; Gravity; Heat; Heat conductivity; Heat convection; Heat radiation; Heat transmission; Hydraulics; Ionization; Ions; Latent heat; Light; Liquids; Magnetism; Mathematical physics; Matter; Mechanical movements; Mechanics; Meteorology; Molecular dynamics; Molecules; Optics; Photoelasticity; Photoelectricity; Physical instruments; Physical measurements; Plasticity; Porosity; Precession; Pressure; Projective covariance; Quantum theory; Radiation; Radioactivity; Reflection (optics); Refractive index; Relativity (physics); Sound; Steam; Strains and stresses; Temperature; Thermodynamics; Thermometers and thermometry; Vibration; Viscosity; Weights and measures

Bibliography

List of manuscript bibliographies in astronomy, mathematics and physics. C. J. West and C. Hull. (Reprint and Circ. Ser. 39) p7-14 25c National research council, 1701 Massachusetts av, Washington, D. C.

Physical review; general index, 1893-1920. 200p American physical soc., Lancaster, Pa., Ithaca, N.Y.

Dictionaries

Dictionary of applied physics. R: Glazebrook. 5v Macmillan '22-'23

Dictionnaire anglais-français-allemand de mots et locutions intéressant la physique et la chimie. R. Cornubert. 297p Dunod, Paris '22

Laboratory manuals

Laboratory exercises in physics. C: E. Dull. 203p Holt '23

Laboratory experiments in practical physics. N. H: Black. 241p Macmillan '23

Laboratory manual of physics for secondary schools. F: E. Sears. 138p F. M. Ambrose and co., New York and Boston '23

Physical laboratory experiments for engineering students. S: Sheldon and E. Hausmann. 2d ed. Van Nostrand '21

Physics laboratory manual. D. L. Rich. 201p G. Wahr, Ann Arbor, Mich. '23

See also Physical measurements

Study and teaching

Scales for measuring results of physics teaching. H. L. Camp. (Univ. of Iowa studies in education. v. 2, no. 2) 51p The University, Iowa City '21

What is the matter with physics teaching? W: S. Franklin. Eng Educ 12:134-42; Discussion. 42-54 N '21

See also Diagrammatic slides

Tables, calculations, etc.

Handbook of chemistry and physics. C. D. Hodgman and N. A. Lange, comps. 9th ed. 803p Chemical rubber pub. co., Cleveland '22

Universal and other constants. E. Karrer. J Fr Inst 196:79-87 Jl '23

Will compile scientific tables. Iron Tr R 72: 1820-1 Je 21 '23

Physics, Biological. See Biological physics

Physics, Mathematical. See **Mathematical physics**

Physiological apparatus

See **Cardiopneumo psychograph**; **Respiratory apparatus**

Physiological chemistry

Essentials of chemical physiology for the use of students. W: D. Halliburton. 11th ed. 343p Longmans '22

Fundamentals of bio-chemistry in relation to human physiology. T: R: Parsons. 281p W. Heffer & sons, Cambridge, Eng. '23

Mechanisms of oxidation in the living body. F. G. Hopkins. *Soc Chem Ind J (Chem & Ind)* 42:676-8 J1 6 '23

Oxidations and reductions in the animal body. H. D. Dakin. 2d ed. 176p [bibliog. p. 145-72] Longmans '22

Practical physiological chemistry. P. B. Hawk. 8th ed., rev. 693p Blakiston '23

Précis de biochimie. E. Lambling. 3d ed. 747p Masson et cie, Paris '21

See also **Barbituric acids**; **Biological chemistry**; **Carbohydrates**; **Cells**; **Chemistry, Medical and pharmaceutical**; **Diastase**; **Enzymes**; **Osmosis**; **Oxidation, Physiological**; **Poisons, Industrial**; **Proteins**

Laboratory manuals

Laboratory manual of biological chemistry. O: K. Folin. 3d ed. 300p Appleton '22

Physiological optics. See Optics, Physiological Physiology

See **Biology**; **Electrophysiology**; **Magnetism, Human**; **Optics, Physiological**; **Temperature—Physiological effect**

Physoctigmine

Physoctigmine; **alkylation products of eseroline.** G: Barger and E. Stedman. *Chem Soc J* 123:758-69 Ap '23

Phytosterols

Phytosterols of ragweed pollen. F: W. Heyl. *Am Chem Soc J* 44:2283-6 O '22

Study of the phytosterols of corn oil, cottonseed oil and linseed oil. R. J. Anderson and M. G. Moore. *Am Chem Soc J* 45:1944-53 Ag '23

Piano factories

Handling material in the Steinway factories. P. Bilhuber. *il Management Eng* 2:263-8 My '22

Accounting

Determining piano costs. H. B. Hawkins. *J Account* 35:115-23 F '23

Power

Power for making the Steinway piano. *il charts diags plans Power Pl Eng* 26:1139-44 D 1 '22

Piano industry and trade

Lack of stable prices keeps industry on the defensive. C. C. Conway. *Ptr Ink* 119:124+ Je 8 '22

Piano players, Mechanical

Player-piano roll with printed music score. *il Pop Mech* 39:282 F '23

Manufacture

How we got both quality and volume production. A. G. Gulbransen. *System* 43:57-9+ Ja '23

Pianos

Double keyboard in piano simplifies the fingering. *il Pop Mech* 37:205 F '22

Taking the tricks out of piano-playing; a double keyboard. *il Sci Am* 127:23 J1 '22

Manufacture

Making music with chisel, saw, and hammer. *il Pop Mech* 40:606 O '23

Some engineering aspects of the design of musical instruments. W: B. White. *diags plan Mech Eng* 45:230-3; **Discussion.** 233 Ap '23

This plan lowers varnishing costs. H. Raurworth. *Factory* 31:552+ O '23

Pianos, Built in

And now the built-in piano. C. G. Riemer. *il Bldg Age* 45:72 S '23

Picketing

Decision of U.S. Supreme court limiting picketing under the Clayton act. *Comm & Fin Chr* 113:2573-4 D 17 '21

In upholding right to bar pickets Supreme court deals severe blow to organized labor. *Coal Age* 20:971-2 D 15 '21

Injunction against picketing. *New York. Monthly Labor R* 16:1094-5 My '23

Injunctions against picketing. *Monthly Labor R* 13:1321-2 D '21

Picketing and the Clayton act. *Monthly Labor R* 14:190-3 Ja '22

Picketing to unionize motion picture theater. *Minnesota. Monthly Labor R* 14:564-5 Mr '22

Pickles

Bacteriology of sauer kraut and pickles. E. Le Fevre. *Chem Age* 30:34 Ja '22

Pickling (metals)

Control of motion and aeration in corrosion tests. J. F. Thompson and R. J. McKay. *il diag Ind & Eng Chem* 15:1114-18 N '23

Improvement in pickling. G: W. Emlen, jr. *Iron Age* 109:813 Mr 23 '22

Science revolutionizes pickling. R. S. Cochrane. *Blast F & Steel Pl* 11:276-7 My '23

See also **Pickling tanks**

Pickling tanks

Why pickling tank rods corrode. R. J. McKay. *il diag Iron Tr R* 70:959-64 Ap 6 '22

Picoline

Crystallographic descriptions of some pyridine and picoline derivatives. M. W. Porter. *diags Chem Soc J* 119:1769-73 N '21

Picric acid

Burning of two hundred thousand pounds of picric acid at Sparta, Wisconsin. C: E. Munroe. *il J Ind & Eng Chem* 14:552-4 Je '22

Freezing point-solubility diagram of the system tetryl-picric acid. C. A. Taylor and W: H. Rinkenbach. *Ind & Eng Chem* 15:1070-1 O '23

Freezing point-solubility diagram of the system TNT—picric acid. C. A. Taylor and W: H. Rinkenbach. *Ind & Eng Chem* 15:795 Ag '23

Hygroscopicity of picric acid. L. G. Marsh. *J Ind & Eng Chem* 14:321-2 Ap '22

Production of picric acid from the sulphonic acids of phenol. R. King. *Chem Soc J* 119:2105-19 D '21

Therapeutic use and toxicity of picric acid: with a report of two toxic cases. G: T. Pack. *bibliog J Ind Hygiene* 4:501-6 Ap '23

Analysis

Determination of inorganic impurities in organic compounds soluble with difficulty in water, such as sulphuric acid in picric acid. T. S. Patterson and K. L. Moudgill. *Soc Chem Ind J* 42:211-12 My 11 '23

Picrorocelline

Constitution of picrorocellin, a diketopiperazine derivative from Roccella fuciformis. M. O. Forster and W: B. Saville. *Chem Soc J* 121:816-27 My '22

Pictorial advertisements. See Advertisements, Pictorial

Pictures

See also **Advertisements, Pictorial**; **Drawings**; **Engravings**; **Etchings**

Advertising

Art galleries use price advertising. *Ptr Ink* 117:130+ D 22 '21

Piece work

Difficulties of payment by results. *Engineering* 115:47-8 Ja 12 '23

Dignifying the flannel shirt; the act of rating. C. B. Bartlett. *Ind Management* 64:335 D '22

Fallacy of management—that a piece-rate is not a moral contract. B. M. Maynard and J. Heywood. *il Factory* 31:182-5 Ag '23

Fossilism in wage payment. *Ind Management* 64:201+ O '22

How the Delco plant cut unit production costs. H. Tipper. *Automotive Ind* 47:415-17 Ag 31 '22

Piece work—Continued

- Making piece-work peace work. C. E. Knoepel. Factory 29:409-10+ O '22
- Modern production methods. W. R. Basset. Am Mach 55:950-5, 1037-9 D 15, 29 '21
- Piece-work and the duties of a rate-fixer. F. Builo. Eng & Ind Management 7:155-8; 8:88-94, 152-5 F 9, Ag 24, S 21 '22
- Piece work on the N. Y. C. Ry Age 75:445 S 8 '23
- Piece work on the Pennsylvania system; employee representation methods. Ry Age 75:344-6 Ag 25 '23
- Piece-work system in car maintenance. il Elec Ry J 61:443-6 Mr 17 '23
- Piece work wage payment in the soap industry. N. Shapiro. Ind Management 66:228-9 O '23
- Problem of piece work. 506p American federation of labor, Railway employees' dept., Chicago '21
- Should piece-price systems be abandoned? J. H. Delany. Factory 28:175+ F '22
- Universal piece-work apportionment table. W. J. McClennan. Ry Mech Eng 96:655 N '22
- Vereinheitlichung der deutschen lohnstarife. P. Schmerser. Stahl & Eisen 43:145-53 F 1 '23
- Wage and output; timework v. piecework. Ind Management (Lond) 8:190 O 5 '22
- Wage-incentive systems. E. Bouton. Soc Auto Eng J 13:380-3 N '23; Same, without tables. Iron Tr R 73:1668-9 D 20 '23; Same abr. Automotive Ind 49:884-7 N 1 '23; Abstract. Iron Age 112:1220-1 N 1 '23
- Works production. G. H. Nelson. Inst E E J 61:343-6 Mr '23; Same. Ind Management (Lond) 9:106-8 F 22 '23
- See also Bonus system; Rate setting; Time study; Wages

Piece work, Collective

- Der gruppenakkord; ein beitrag zur frage der entlohnungsverfahren. E. Broecker. Stahl & Eisen 42:1553-9, 1584-91 O 12-19 '22

Pierce-Arrow motor car company

- Development of service engineering records. C. F. Lautz. Management Eng 2:95-6 F '22

Piers

- Begin work on new pier at Portland, Me. Marine R 52:389 S '22
- Bulk handling plant at port of Portland, Oregon. G. B. Hegardt. il diags plan Eng N 87:760-3 N 10 '21; Same. Eng & Ind Management 7:54-6 Ja 12 '22
- Central pier, Atlantic City, N.J. Arch & Bldg 54:104, pl 190-1 N '22
- Design of a port to take full advantage of mechanical equipment. C. R. Thompson. il Eng & Ind Management 7:513-17, 554 Je 15-29 '22
- Material-handling problems in pier design. C. R. Thompson. il diags Mech Eng 45:525-30; Discussion. 530+ S '23
- New York city's largest pier project near completion. il Eng N 87:900-3 D 1 '21
- New York city's Staten Island docks. il Sci Am 126:328-9 My '22
- Projet de construction d'une jetée et d'un môle, au port de Cherbourg (Manche). diags plan Génie Civil 83:112-13 Ag 4 '23
- Rehabilitation of old piers to reduce the cost of handling freight. F. L. Stuart. Can Eng 42:529-31 My 23 '22
- State of Maine to build modern pier in Portland harbor. Eng N 88:691 Ap 27 '22
- Staten Island piers, Stapleton, N.Y. il Arch & Bldg 53:87, pl 174-80 N '21
- Steamship terminal; student work, Society of Beaux-Arts architects. il Am Arch 123:275-9 Mr 28 '23
- Strengthening New Holland railway pier. diags Engineer 134:450 O 27 '22

See also Coal piers; Freight handling; Ore docks; Wharves

Heating

- Unusual heating job; changes in the heating system of Garden pier at Atlantic City. il plans Dom Eng 102:272-3 F 10 '23

Piers, Brick

- Characteristics of concrete brick masonry; comparison with clay brick. H. A. Davis. il diags plan Concrete 21:10-13 Jl '22

Piers, Bridge. See Bridges—Foundations and piers

Piers, Concrete

- Ballantyne pier, Vancouver, B.C. il Can Eng 43:535 N 14 '22
- Casting and sinking cylinders for Ballantyne pier at Vancouver. W. Smail. il diags plan Eng N 90:908-14 My 24 '23
- Concrete boat landings and docks. A. C. Cole. diags plans Pop Mech 37:467-8 Mr '22
- Construction of Ballantyne pier, Vancouver, B. C. A. L. Harvey. il diags Can Eng 44:509-12 My 22 '23
- Erie builds new type pier at Weehawken, N.J. il diags Ry Age 74:852-5 Mr 31 '23
- Large pier at Vancouver nearing completion. H. C. Copeland. il diag Pop Mech 39:904-5 Je '23
- Modern freight pier of the Erie R. R. at Weehawken, N.J. il diags plans Ry R 72:479-85 Mr 17 '23; Same, without il. Eng & Contr (Ry) 59:883-6 Ap 18 '23
- Open pier deck to resist storms. H. H. Braun. il diags Eng N 87:1055 D 29 '21
- Pile braces and staging for forms combined on Manila pier. H. H. Braun. diags Eng N 88:84 Ja 12 '22
- Pile holes blasted for ocean pier. H. H. Braun. diags Eng N 87:1035 D 22 '21
- Precast units form substructure of Ballantyne pier. il diag Concrete 23:61-6 Ag '23
- Reinforced concrete pier at Shellhaven. il Engineering 115:319-20, 334, pl 22 Mr 16 '23
- Repairing concrete piers with gunite. il diags Can Eng 44:472-3 My 8 '23
- Special formwork required in setting wharf piers. S. Kent. diags plan Eng N 89:344 Ag 31 '22
- Two concrete piers; a lesson in competitive practice. H. H. Braun. il Eng N 87:827-8 N 17 '21

Piers (foundations)

- Action of frost in heaving concrete piers. L. D. McCready. diag Eng N 91:360 Ag 30 '23
- Design of concrete piers in clay. diag Am Arch 120:451-2 D '21
- Foundation piers enlarged in building operations. il Concrete 23:143 O '23
- See also Bridges—Foundations and piers

Testing

- Characteristics of concrete brick masonry; comparison with clay brick. H. A. Davis. il diags plan Concrete 21:10-13 Jl '22
- Tests show differences between clay and concrete brick. il Eng N 90:959-61 My 31 '23

Piette ovens. See Coke ovens

Piezoelectricity

- Commercial piezo-electricity. E. W. C. Russell and A. F. R. Cotton. diags plan Elec R (Lond) 92:284-7 F 23 '23
- Piezo-electric activity of Rochelle salt under various conditions. J. Valasek. Phys R 19:478-91 My '22
- Piezo-electric method for the instantaneous measurement of high pressures. J. C. Karcher. U S Bur Stand Sci Pa 445:257-64 '22
- Properties of Rochelle salt related to the piezo-electric effect. J. Valasek. diags Phys R 20:639-64 D '22

Pig iron

- Accounting for pig iron production. N. B. Bergman. J Account 33:90-9 F '22
- August pig iron falls sharply. Iron Tr R 71:630 S 7 '22
- August pig iron output. Iron Age 110:606-7 S 7 '22
- Calculating a foundry iron value. Y. A. Dyer. Iron Age 108:1547-8 D 15 '21
- Chart showing daily average production of coke and anthracite pig iron, 1907-1921. Iron Tr R 70:24a Ja 5 '22
- Comparison of sand cast and machine cast pig iron. S. B. Phelps. Blast F & Steel Pl 11:196-7 Mr '23
- Composition of pig iron and of cast iron. Y. A. Dyer. Iron Age 108:1267-70 N 17 '21
- Daily production of pig iron thousand tons; chart. Iron Tr R 70:8a Ja 5 '22

Pig iron—Continued

Effect of sources of pig iron upon the enameling of cast iron. M. E. Manson. *il Am Cer Soc J* 5:806-10 N '22; Discussion. (Bul) 5:360-5 D '22

Estimating future pig iron production. C. D. Rawstorne. *Iron Tr R* 72:950-1 Mr 29 '23

Favors use of machine-cast pig iron. R. Moldenke. *Foundry* 50:375 My 1 '22

Foreign pig iron generally satisfactory. W. A. Barrows. *Iron Age* 110:1631-2 D 21 '22

Four decades monthly output of pig iron. S. G. Koon. *Iron Age* 111:47-9 Ja 4 '23

Great pig iron inflow of 1922-1923. *Iron Age* 112:350 Ag 9 '23

Increase in the pig iron production. *Iron Age* 109:662-3 Mr 9 '22

Iron output lowest since 1908. *Iron Tr R* 70:56 Ja 5 '22

Merchant pig iron operations analyzed. W. H. Greul. *Iron Age* 112:255-8 Ag 2 '23

1921 pig iron declines sharply. *Iron Tr R* 70:765 Mr 16 '22

Pig iron and steel output of the world. E. F. Cone. *Iron Age* 111:44-6 Ja 4 '23

Pig iron cargo handled on ship with magnets. *il Iron Tr R* 73:1026-7 O 11 '23

Pig iron contract near adoption. *Iron Tr R* 70:1489 My 25 '22

Pig iron makes dismal showing in 1921. *Iron Tr R* 70:694-5 Ja 5 '22

Pig iron output first half of 1923. *Iron Tr R* 73:622-3 Ag 30 '23; Excerpt (Table). *Iron Age* 112:543 Ag 30 '23

Pig iron production in 1921. *Iron Age* 109:428 F 9 '22

Pig iron trade regains stamina. *Iron Tr R* 72:81-2 Ja 4 '23

Producing synthetic pig irons. C.-A. Keller. *Iron Tr R* 70:1044-5 Ap 13 '22

Production of pig iron in half-yearly periods. *Comm & Fin Chr* 117:837-8 Ag 25 '23

Production of pig iron in the United States in 1921. *Iron Age* 109:762 Mr 16 '22

Production of pig iron in the United States in 1922. *Iron Age* 111:819 Mr 22 '23

Questions pig iron casting methods. R. E. Newcomb. *Foundry* 50:316-17 Ap 15 '22

Southern iron output makes record. *Am Mach* 57:1016b D 28 '22

Steel companies dominate pig iron market. *Iron Age* 109:55-6+ Ja 5 '22

Synthetic and electric iron. *Iron Age* 109:1195 My 4 '22

United States pig iron production for first half of 1922. *Iron Age* 110:428 Ag 17 '22; Same. *Iron Tr R* 71:458 Ag 17 '22; Same. *Comm & Fin Chr* 115:825 Ag 19 '22

What is today's shortage in pig iron? *Iron Age* 110:135-6 Jl 20 '22

World's production of iron and steel. *Iron Tr R* 72:26-7 Ja 4 '23

Would revise grading of export iron. *Iron Tr R* 73:885 S 27 '23

See also Cast iron; Iron; Iron founding

Advertising

Pig iron sold by advertising. R. Dickinson. *Ptr Ink* 117:113-15 N 24 '21

Cooling

Cooling of pig iron. L. H. Miller. *diags Blast F & Steel Pl* 11:424-5 Ag '23

Costs

Foreign and domestic pig iron costs. P. M. Tyler. *Iron Age* 111:467-70, 533-6, 605-6 F 15-Mr 1 '23

Prices

Fluctuations in prices of pig iron and finished steel since 1904; chart. *Iron Age* 111:67-8 Ja 4 '23

Liquidation of iron and steel prices. *Iron Age* 109:589-90 Mr 2 '22

Ore prices reduced 50 cents. *Iron Tr R* 70:1743-5 Je 15 '22

Pig iron and heavy melting steel prices. H. A. Knight. *Iron Age* 109:36-7 Ja 5 '22

Pig iron market in 122 years, 1799-1921; chart. *Iron Tr R* 70:156 Ja 12 '22

Prices of representative grades of pig iron, 1913-1922. *Iron Tr R* 72:82-3 Ja 4 '23

Specifications

Discussion on proposed tentative specifications for foundry pig iron. *Am Soc T M Pro* 22 pt 1:139-50 '22

Purchasing foundry irons by specification. *Iron Age* 108:1420-1 D 1 '21

Recommended specifications for pig iron. *Foundry* 51:776, 874 O 1, N 1 '23

Tentative specifications for foundry pig iron. *Foundry* 50:596-7 Jl 15 '22

Transportation

How Britons ship pig iron to U.S. J. Horton. *il diags plan Iron Tr R* 72:871-3 Mr 22 '23

Proposed changes in pig iron rates. *Iron Age* 112:1243-4 N 8 '23

Pigeons

Greater safety for air travellers; radio or carrier pigeons. *il Aviation* 13:11-12 Jl 3 '22

U.S. training pigeons to fly at night. *il Pop Mech* 40:754-5 N '23

Piggly-Wiggly stores

Official statement in connection with the listing of its class A common stock. *Comm & Fin Chr* 114:2732-4 Je 17 '22

Piggly Wiggly class A common stock. *Comm & Fin Chr* 116:1365-6 Mr 31 '23

Piggly-Wiggly develops a chain store copy angle. *Ptr Ink* 117:149-50 D 15 '21

Status of the self-serve store. *Ptr Ink* 121:158 O 26 '22

Pigments

Application of the Pfund colorimeter to the determination of tinting strength of white pigments. J. H. Calbeck and C. P. Olander. *Am Soc T M Pro* 22 pt 2:515-21; Discussion. 522 '22

Carotinoids and related pigments. L. S. Palmer. 316p Chemical catalog co. '22

Determination of the particle size of pigments. W. W. Vogt. *India Rubber W* 66:347-9 F '22

Effect of pigments on temperature of tire treads. *India Rubber W* 68:429-31 Ap '23

Effect of various pigments upon the rate of oxidation of linseed oil. F. H. Rhodes and A. E. Van Wirt. *diag Ind & Eng Chem* 15:1135-40 N '23

Fineness and bulk of pigments. H: A. Gardner, H. Parks and N. Pihlblad. p.186-257 Paint manufacturers' assn. of the U.S., 636 The Bourse, Philadelphia '22

Hiding power of white pigments. R. L. Hallett. *Am Soc T M Pro* 22 pt 2:523-9; Discussion. 530-1 '22

Lead and zinc pigments and salts in 1922. C. E. Siebenthal and A. Stoll. *U S Geol S Min Res of U S* 1922,pt 1:77-85 '23

Limitations of the obscuring power method of determining the particle size of pigments. E. B. Spear and H. A. Endres. *Ind & Eng Chem* 15:725-6 Jl '23; Same cond. *India Rubber W* 68:781 S '23

Manufacture and use of black pigments. H. L. Blachford. *Can Chem & Met* 6:156-8, 180-2 Jl-Ag '22

Manufacture of lake colors. H. H. Holden. *Paper Tr J* 76:175+ Ap 12 '23; Same. *Paper* 31:126+ Ap 18 '23; Same. *Tech Assn Pa ser* 6:34-5 Je '23

Microscopic examination of rubber compounds containing antimony pigments. A. F. Hardman. *il India Rubber W* 68:711 Ag '23

Microscopy of paint and rubber pigments. H: Green. *il Chem & Met Eng* 28:53-7 Ja 10 '23

Microstructure of paint films. H. L. Maxwell. *il Chem & Met Eng* 28:850-2 My 14 '23

Oil absorption by paint pigments. O. A. Hogen and H. D. Hentzen. *diag Chem & Met Eng* 29:840-1 N 5 '23

Photomicrographic method for the determination of particle size of paint and rubber pigments. H: Green. *il J Fr Inst* 192:637-66 N '21

Pigments in the rubber industry; abstract. *Soc Dyers & Col J* 39:191-2 Je '23

Reflection factors of powdered pigments for various illuminants. M. Luckiesh. *illum Eng Soc* 17:315-17 Jl '22

Pigments—Continued

- Relation between the brightness and hiding-power of white paint-pigments. A. H. Pfund. diags J Fr Inst 196:69-78 JI '23
- Thermal properties of various pigments and of rubber. I. Williams. diags Ind & Eng Chem 15:154-7 F '23; Abstract. India Rubber W 68:568 Je '23
- Use of pigments in rubber. D. F. Twiss. Chem Age (Lond) 8:398-9 Ap 14 '23
- See also Anthocyanine; Antimony sulfide; Dyes and dyeing; Lithopone; Paint; Red lead; Titanium oxides; Titanium white; White lead

Pilchard oil

- Pilchard oil. H. M. Langton. Soc Chem Ind J 42:47-8 F 9 '23

Pilcher, Lewis F.

- State architect and his works. A. D. F. Hamlin. il diag plans Arch Rec 53:27-43; 54:265-76 Ja. S '23

Pile drivers

- Clyde screw-pile driving machine. il diags Engineering 114:133-9 Ag 4 '22; Eng & Contr 58:295 S 27 '22
- Special pile driver used in trestle reconstruction. diags Eng & Contr (Ry) 59:1361-2 Je 20 '23

Piles and pile driving

- Another pile bearing formula. J. C. Trautwine, jr. Eng N 90:316-17 F 15 '23
- Autographic pile set gauge. il Eng & Contr 59:249-50 Ja 31 '23
- Bark left on underground part of creosoted piles. Eng N 89:159 JI 27 '22
- Bignell reinforced concrete jet pile. il diag plan Ry R 70:527-30 Ap 15 '22
- Bond strength of wood piles in concrete. R. R. Lundahl. il Am Soc C E Pro 48:1653-64 O '22; Same. Eng & Contr (Bldgs) 58:83-9 N 22 '22
- Burlington uses creosoted cypress piling. G. A. Haggander. il Ry Age 72:730 Mr 18 '22
- Careful handling required in placing creosoted piles. Eng N 88:358-9 Mr 2 '22
- Concrete armored piles in wharf at Port Orford, Ore. il diags Eng N 87:1061-2 D 29 '21
- Creosoted pile specifications. Can Eng 45:269-70 Ag 28 '23
- Determining pile locations under L-shaped column section. J. Feld. diags Eng N 90:356 F 22 '23
- Efficiency of the hammer blow, and its effects with reference to piling. A. Hiley. diags Engineering 113:673-4, 711-14, 745-6 Je 2-16 '22
- Formulae for safe load on piles. E. Latham. Eng & Contr 57:529 My 31 '22
- Gauging of penetration in pile-driving. E. Latham. il diags Engineering 112:684-6 N 18 '21
- Gunite applied to fir piles for Tacoma pier. il diag Eng N 89:739-41 N 2 '22
- Hammer rigged to follow pile down under water. il diags Eng N 91:225-6 Ag 9 '23
- Marine borers attack piling along Atlantic coast. il map Ry Age 73:1083-5 D 9 '22
- Methods of jetting piles. R. C. Young. Eng & Contr 57:595 Je 21 '22
- Methods of putting down piles with the water jet. R. C. Young. Eng & Contr 56:451 N 16 '21
- Novel method in pile driving. il Eng & Contr 58:152 Ag 16 '22
- Pile cutoff saw is mounted on carriage extending from piledriver scow. il Eng N 89:803 N 9 '22
- Pile driving formula. J. C. Trautwine, jr. Eng & Contr (Ry) 59:129-30 Ja 17 '23
- Pile foundations and clay. H. C. H. Shenton. Can Eng 43:442-3 O 10 '22; Same. Eng & Contr 58:45-7 N 29 '22
- Pile jetting tests show unusual results. il Ry Age 72:1281-2 Je 3 '22
- Piledriver slides back and forth on two greased poles. il Eng N 89:895, 988-9 N 23, D 7 '22
- Piles are cement-covered with gun. C. Gaines. il Pop Mech 39:209-10 F '23

- Piles are set in concrete to avoid inconvenient driving. G. W. McAlpin. diag Eng N 89:1123 D 28 '22
- Precautions for handling creosoted pile in wharf construction. Eng & Contr 57:164-5 F 15 '22
- Protection of piles by gunite. diags Can Eng 42:559 My 30 '22
- Record job of pile driving. il Sci Am 128:396-7 Je '23
- Report of A. R. E. A. committee on wood preservation. Ry R 72:529-30 Mr 17 '23; Ry Age 74:716-18 Mr 16 '23
- Report on San Francisco Bay marine piling. Ry Age 72:272 Ja 28 '22; Same. Eng & Contr 57:165 F 15 '22
- La résistance des pieux de fondation. G. Pigeaud. Génie Civil 83:77-80 JI 23 '23
- San Francisco bay marine piling survey second annual progress report. 82p Am. wood-preservation's assn., San Francisco bay marine piling comm., San Francisco '22
- Selection of the kind of piles and the specifications for driving them. Am Arch 121:24-6 Ja 4 '22
- Use of inertia gauges in pile driving. E. Latham. diag Eng & Contr 56:499 N 30 '21
- Vehicular tunnel shaft's deep foundation. F. W. Skinner. il diags Eng & Contr (Ry) 59:135-40 Ja 17 '23

See also Breakwaters; Cofferdams; Concrete piling; Foundations; Piers; Pile drivers; Sheet piling; Wharves

Records

- Forms for recording pile driving data. diag Eng & Contr (Bldgs) 58:145-51 D 27 '22
- Pile driving and pile driving records. Ry Age 73:747-3 O 21 '22
- Pilferage. See Theft
- Pillement, Jean, 1727-1808
- Jean Pillement and his work. W. M. Ivins, jr. il Arch & Bldg 54:101-2 N '22
- Pilocarpine
- Pilocarpine series. M. Polonovski and M. Polonovski. Chem Soc J 124 pt 1:129-31 F '23
- Pilot boats
- Steam pilot boat Maryland completes her trials. il Marine Eng 27:302 My '22
- Pilots and pilotage
- Direction-finding wireless. J. J. Bennett. il diags Engineering 112:333-5 S 2 '21; Excerpts. Soc Auto Eng J 9:374 D '21
- Great ship steers itself with a gyro-pilot. Pop Mech 40:288 Ag '23
- Loud speaker guides vessels to port. il Pop Mech 40:245 Ag '23
- Navy again to experiment with radio control. Wireless Age 10:54 F '23
- New process of piloting ships by sound. Sci Am 126:101 F '22
- Le pilotage par cable électrique, système Loth, des navires et des aéronefs. P. Letheule. il diags Génie Civil 79:505-10 D 10 '21
- Pilotless warboat; abstract. L. Chauveau. Elec W 78:1085 N 26 '21
- Radio ship control. R. S. Griffin. diags Mech Eng 44:43-44 Ja '22
- Unmanned ships controlled and steered automatically. il Pop Mech 36:844 D '21
- Wireless direction-finding in steel ships. C. E. Horton. diags Inst E E J 61:1049-56; Discussion. 1056-60 S '23
- Pimelic acid
- See Aminohydroxypimelic acid
- Pinabiotic acid
- Über die coniferen-harzsauren: nitroso-chlorid, nitrosit und nitrosat der pinabietinsäure und abietinsäure; die konstitution der abietinsäure und des abietins. O. Aschan and others. Deutsche Chem Gesell Ber 55:2944-59 O '22; Abstract. Chem Soc J 122 pt 1:1152-3 D '22
- Pinacol
- Equilibrium in systems composed of water and alcohols: methyl alcohol, pinacone, glycerol, and erythritol. N. A. Pushin and A. A. Glagoleva. Chem Soc J 121:2813-22 D '22

Pinacol—Continued

Mechanism of the pinacol-pinacolin and Wagner-Meerwein transformations. C. K. Ingold. *Chem Soc J* 123:1706-13 J1 '23

Pinacolin

Mechanism of the pinacol-pinacolin and Wagner-Meerwein transformations. C. K. Ingold. *Chem Soc J* 123:1706-13 J1 '23
Über die wanderungsleichtigkeit und affinitätsbeanspruchung der äthylgruppe bei der pinakolin-umlagerung. B. Nybergh. *Deutsche Chem Gesell Ber* 55:1960-6 J1 '22

Pinacone. See Pinacol**Pinacyanols**

Brominated isocyanines. K. L. Moudgill. *Chem Soc J* 121:1509-11 Ag '22
Über die konstitution der pinacyanole, ein beitrag zur chemie der chinocyanine. W. König. *Deutsche Chem Gesell Ber* 55:3293-3313 O '22; Abstract. *Chem Soc J* 122 pt 1: 1188-90 D '22

Pinaverdol

Brominated isocyanines. K. L. Moudgill. *Chem Soc J* 121:1509-11 Ag '22

Pine

Available supply of yellow pine waste. J. F. Carter. *Paper* 30:16-17 Mr 15 '22
Chemistry of pulps; a comparison of the chemical changes of jack pine and aspen woods cooked by the soda process. M. W. Bray and T. M. Andrews. *Paper Tr J* 76: 49-51 My 10 '23
Contribution à l'étude de la composition et des applications industrielles des essences de térébenthine. M. Vèzes and G. Dupont. *Chimie & Ind* 8:318-19 Ag '22
Distribution of methoxyl in the products of cooking jack pine by the soda process. S. S. Aiyar. *Ind & Eng Chem* 15:714-16 J1 '23
From tree to the finished stick. H. H. George. *il Elec Ry J* 58:1059-63 D 17 '21
Jack pine for newsprint paper. *Paper* 29:16-17 F '22 '22
Jack pine pulped by sulphite process. M. Neilson. *Paper* 29:7-10 F 15 '22; Same. *Paper Tr J* 74:45-7 F 16 '22
Paper and by-products from southern pine refuse. J. H. Wallace. *il diag Mech Eng* 44: 163-4 Mr '22; Same cond. *Paper* 30:9-11 Mr 15 '22
Parana pine lumber industry of Brazil. J. C. Kircher. *U S Bur For & Dom Com Trade Information Bul* 92:1-18 '23
See also Spruce

Testing

New stresses for fir and southern pine deduced from tests. *Eng N* 90:1089 Je 21 '23; Discussion. G. E. Strehan. 91:74 J1 12 '23

Pine blister rust

Forest disease fought by air, land, and water. F. Dickie. *il Pop Mech* 39:903 Je '23
White pine blister rust. *Am Arch* 122:518 D 6 '22

Pine needles

Über eine wachstumsart aus fichtennadeln und einige abietinsäure-ester. H. P. Kaufmann and M. Friedebach. *Deutsche Chem Gesell Ber* 55:1508-17 Je '22

Pine oil

Composition et applications industrielles des essences de térébenthine; les constituants de l'essence de pin maritime. G. Dupont. *diags Chimie & Ind* 8:549-54 S '22
Composition of pine oil. *Chem & Met Eng* 26: 629 Ap 5 '22
Manufacture of naval stores from the dead wood of the southern pines. C. M. Sherwood. *il Chem & Met Eng* 25:994-8 N 30 '21
Occurrence of levo-menthone in pine oil. A. H. Gill. *Ind & Eng Chem* 15:887 S '23
Pine-oil and pine-distillate product emulsions. L. P. Shippen and E. L. Griffin. *U S Agric Bul* 989:1-16 '21
Studies in wood decay. H. Schmitz. *J Ind & Eng Chem* 14:617-18 J1 '22
Turpentine substitute from pine oil. *Chem Age* 31:474-5 O '23

Pineapple**Advertising**

Co-operative advertising makes the unsalable salable; Hawaiian pineapple canners sell grated, or crushed, pineapple. R. Cochran. *Ptr Ink* 125:25-7 O 11 '23
Pineapple importers advertise to overcome mental hazard. *Ptr Ink* 119:10+ My 25 '22

Pinene

Effect of fuller's earth on pinene and other terpenes. C. S. Venable. *Am Chem Soc J* 45:728-34 Mr '23

Pinene hydrochloride

Tert.-pinene hydrochloride; the pinacolin transformation; abstract. O. Aschan. *Chem Soc J* 120 pt 1:795-6 N '21

Pinkham associates

My factory is located in 600 homes. H. T. Pinkham. *il Ptr Ink M* 6:34-5+ Ja '23

Pins

Selling the uses instead of the product. W. P. Mills. *il System* 42:135-7 Ag '22

Pipe. See Pipes

Pipe and supplies association, National. See National pipe and supplies association

Pipe bending

Bending brass pipe for rail work and copper coil plates. P. W. Blair. *il Metal Ind* 21:321 Ag '23
Bending large pipe. C. O. Herb. *il diag plan Mach* 29:1-7 S '22
Bending overflow pipe for automobile radiator. J. A. Honegger. *diags Mach* 29:482-3 F '23
Cold bending of rods and tubes. J. F. Springer. *diags Gas Age* 48:885-7 D 31 '21
Pipe-bending chart. W. F. Schaphorst. *Power Pl Eng* 26:861 S 1 '22; Same. *Heat & Vent* 19:67 N '22

Pipe bends

Elasticity of pipe bends. S. Crocker and S. S. Sanford. *Mech Eng* 45:159-64 Mr '23; Abstracts. *Power* 56:916-17 D 12 '22; *Elec W* 80:1450-2 D 30 '22; Discussion. *Mech Eng* 45:164 Mr '23; *Power* 56:917 D 12 '22
Laying out a right-angle turn in pipe or conduit. W. J. Williams. *diags Sanitary & Heat Eng* 96:347 D 2 '21
Making a pipe pattern on the band saw. M. E. Duggan. *diags Foundry* 50:120 F 1 '22
Some awkward pipe bends. *il Engineer* 136:460 O 26 '23
Some unusual pipe bends and welds. W. F. Schaphorst. *diags Power Pl Eng* 27:839 Ag 15 '23
Stresses in pipe bends. H. D. Fisher. *diags Power Pl Eng* 26:340-1 Mr 15 '22; Discussion. 26:437, 535-6 Ap 15, My 15 '22

Pipe coating

Present day tars for pipe coating. W. R. Conard. *Am Water Works Assn J* 10:304-8 Mr '23
Tars, new and old. S. R. Church. *diags plan N E Water Works Assn J* 36:571-86 D '22; Excerpt. *Eng N* 90:293-4 F 15 '23; Same. *Chem & Met Eng* 28:447 Mr 7 '23

Pipe coverings

Accurate plumbing and heating estimates—how made. H. A. Call. *Sanitary & Heat Eng* 98:250-3 N 3 '22
Conservation of heat in mills. E. R. Weidlein and R. H. Heilman. *il Textile World* 62: 735+ Ag 5 '22
Warm-air furnace insulation. P. Nicholls. *Am Soc Heat & V E J* 27:690-2 S '21
Why larger pipes take thicker coverings. *diags Power* 56:318-19 Ag 29 '22
See also Magnesia, Insulating; Steam pipe coverings

Pipe cutting

Accurate plumbing and heating estimates—how made. H. A. Call. *Sanitary & Heat Eng* 96:287-9 N 4 '21
Geist roller pipe cutter. *il Am Mach* 59:533-4 O 4 '23; *Ry Mech Eng* 97:782 N '23

Pipe elbows

Elbow making equipment and methods. *il Sheet Metal Worker* 12:710-12 N 11 '21

Pipe elbows—Continued

- Instruction course for the apprentice. I. C. Vinasdal. diags Sheet Metal Worker 13: 384-5 Jl 7 '22
- Laying out a pattern for a five-piece elbow. F. Webster. diags Mach 29:731 My '23
- Machinery for manufacture of one-piece elbows, 4 to 8 in. in diameter and of no. 26 gage material. il Iron Age 108:1475 D 8 '21
- Making one-piece corrugated elbows. il Mach 28:280-1 D '21
- New Lyon-Conklin machine making two elbows a minute. il Sheet Metal Worker 12:854+ Ja 6 '22
- Pattern for heavy sheet metal work by computation. W. Neubecker. diags Sheet Metal Worker 14:360-1+, 450-1+, 608-9 Je 8, Jl 6, Ag 31 '23
- Problem in using ordinary elbows. diags Sheet Metal Worker 13:431-2 Jl 21 '22
- Solution to an elbow problem. diags Sheet Metal Worker 13:680-1 N 10 '22

Repair

- Reinforced-concrete patch on pipe elbow with-stands heavy wear. il Eng N 91:148 Jl 26 '23

Pipe fitting

- Right angle triangulation as applied to pipe fitting. D. Keohane. Sanitary & Heat Eng 97:241-3+, 316-17+; 98:10-13, 75-7+, 134-6, 190-2, 286-7, 347-9 My 5, Je 2, Jl 14, Ag 11, S 8, O 6, N 17, D 15 '22
- Various types of floor sleeves. diags Dom Eng 103:532 Je 16 '23

See also Gas fitting; Hot water heating; Pipe hangers; Pipe joints; Plumbing; Steam pipes

Tables, calculations, etc.

- Quick method of taking off quantities in duct work. J. J. Kojan. diags Sheet Metal Worker 12:834-5+ Ja 6 '22
- Useful expansion chart for plumbers. N. G. Near. chart Sanitary & Heat Eng 98:226 O 20 '22

Pipe fittings

See also Furnaces, Warm air—Pipes and fittings; Pipe joints

Manufacture

- Fittings made on production basis. il Foundry 50:359-65 My 1 '22
- Old gun shells used to make pipe fittings. il Gas Age 48:798 D 10 '21
- Production methods at fittings plant; works of Geo. B. Limbert & co., East Chicago, Ind. G. L. Lacher. il plan Iron Age 109:1729-33 Je 22 '22
- Speeding up of production of pipe fittings by electromagnets, conveyors, trucks and elevators. il Ind Eng 80:571-4 D '22

Standards

- Pressures adopted for standardizing high-pressure pipe fittings. Power 58:750 N 6 '23
- Proposed standard for malleable-iron screwed fittings. diags Mech Eng 44:550-1 Ag '22
- Standard pipe and fittings for outdoor switching frames. L. J. Moore. il diags plans Elec W 78:1020-3 N 19 '21
- Standardization of ammonia fittings necessary. E. Bunzel. Power 55:581 Ap 11 '22

Pipe handling

- Handling 36-in. cast-iron water pipe. il Eng N 90:550 Mr 22 '23

Pipe hangers

- Improvised pipe hangers and supports for heavy steam mains. W. H. Wakeman. diags Dom Eng 101:10-12 O 7 '22
- Tightening pipe-line hangers. il Pop Mech 40: 298 Ag '23

Pipe industry and trade

- Cast-iron pipe makers decry seasonal buying. Eng N 89:675-6, 721, 765+, 816, 861+, 908, 953+, 995 O 19-D 7 '22

See also Pipes—Prices

Advertising

- Making the advertisement a stage and using prospective customers for actors. R. Cole. Ptr Ink 120:49-50+ S 7 '22

Pipe joints

- Autogenous pipe welding. H. B. Iglehart. il Power 55:173-4 Ja 31 '22
- Breaking ammonia joints for repairs. J. J. Cosgrove. Power Pl Eng 26:67-9 Ja 1 '22
- Casing manufacturers express ideas on thread controversy. J. R. Stockton. Nat Pet N 14: 27+ Mr 15 '22
- Cast iron pipe in gas distribution. H. Y. Carson. diags Gas Age 50:865-8 D 23 '22
- Cement for water pipe joints. W. Wheeler. N E Water Works Assn J 37:62-74 Mr '23; Excerpt. Eng & Contr (W W) 59:1047-9 My 9 '23
- Cement joints for water mains; abstracts. D. D. Clarke. Eng N 89:355 Ag 31 '22; Pub Works 53:194-5 O '22
- Clever plumbing promotion by a progressive plumber; how to wipe a joint. D. A. Deacon. Dom Eng 99:454-5+ Je 10 '22
- Comparison of lead, leadite and cement joints. E. E. Wall. Eng & Contr (W W) 60:529 S 12 '23; Same. Pub Works 54:350 N '23
- Development in flexible joint cast iron pipe. W. G. Hammerstrom. diags Iron Age 111: 1382-3 My 10 '23
- Development of reinforced concrete pipe. W. G. Chace. diags Can Eng 43:153-5 Jl 18 '22
- Filling sewer tile points. J. O. Benefiel. diags Power Pl Eng 26:962-3 O 1 '22
- Glass pipe joint. il diags Chem & Met Eng 29:240 Ag 6 '23
- Joint articulé pour conduites de vapeur, système Andrews et Cameron. diags Génie Civil 80:366 Ap 22 '22
- Lead substitutes for pipe joints. Am Water Works Assn J 9:868-73 N '22
- Leadite joints and machines for pipe laying at New Bedford. S. H. Taylor. Eng N 89:480-1 S 21 '22; Same cond. Pub Works 53:236-7 N '22; Abstract. Eng & Contr (W W) 58: 119-20 D 13 '22
- Leaky joints in air and water pipe lines. diags Coal Age 24:441 S 20 '23
- Making sewer joints with the pipe partly under water. L. B. Reynolds. il diags Eng N 90:342-3 F 22 '23
- Methods and cost of laying gas main with new joint. J. D. von Maur. diags Eng N 89:572-3 O 5 '22
- New type of reinforced concrete pipe joint. diags Engineer 133:421 Ap 14 '22
- Notes on flanged pipe joints. R. A. Cultra. diags Power Pl Eng 26:315-17 Ag 15 '22
- Oxy-acetylene welding of ammonia pipe lines, coils and pressure vessels. C. Wilkie. diags Refrig Eng 9:325-31; Discussion. 331-2+ My '23
- Pipe joint compounds; discussion. N E Water Works Assn J 36:111-14, 309-10 Mr, Je '22
- Possibilities of the art of welding in pipe construction. F. K. Davis. il Heat & Ven 19: 33-6 Ap '22
- Problems of expansion. R. L. Tullis. diags Power 57:567-8 Ap 10 '23
- Ray elastic disc expansion joint. il Power 55:141 Ja 24 '22; Power Pl Eng 26:492-3 My 1 '22; Marine Eng 27:326-7 My '22
- St Louis tests three water-main joint materials. L. Chivvis. il diags Eng N 91:190-1 Ag 2 '23
- Some data on pipe jointing compounds. G. H. Finneran. N E Water Works Assn J 37: 84-7 Mr '23
- Tight flexible joints for submarine pipe lines. A. Flinn. Eng & Contr (W W) 58:111-12 N 8 '22
- Victaulic pipe joint. T. Saville. Am Water Works Assn J 9:921-7, pl 1-3 N '22
- Water-tight joints for sewer pipes. Pub Works 53:165-6, 181-2 S-O '22
- Welded pipe. Min & Sci P 123:732-3 N 26 '21

Cost

- Cost of sewer joints in wet trenches. M. H. Walser. Pub Works 53:261-2 D '22
- Relative cost of pipe joints. Power 56:186 Ag 1 '22; Same. Textile World 63:103+ Ja 6 '23; Same. Blast F & Steel Pl 11:197 Mr '23

Pipe joints—Cost—Continued

Some costs of lead substitutes in pipe joints. V. F. West. N E Water Works Assn J 37: 75-9 Mr '23; Excerpt. Eng & Contr (W W) 59:1051-2 My 9 '23; Discussion. N E Water Works Assn J 37:80-3 Mr '23

Standards

Informal conference on standardizing pipe joints at higher pressures and temperatures. Power 57:874 My 29 '23

Standardizing high-pressure valves and fittings. H. A. Pearson. diags Power 58:465-6 S 18 '23

Standards for the Sargol flanged joint. O. E. Oleson. Power Pl Eng 27:819-21 Ag 15 '23

Standards for tongue and groove joints. O. E. Oleson. diags Power Pl Eng 27:877-9 S 1 '23

Pipe laying

Concrete pipe line augments Kansas City water-supply. F. E. Miller. il Eng N 87: 1029-30 D 22 '21

Good soil permits rapid pipe laying in deep trench. il Eng N 90:546 Mr 22 '23

Joint used to join mills for pipe laying. il diags Concrete 21:29 Jl '22

Laying concrete culvert pipe. P. Kircher. il Ry R 71:407-10 S 23 '22; Same cond. Concrete 22:108-10 Mr '23

Laying concrete pipe in soft ground. Pub Works 52:52 Ja 21 '22

Laying 48-in. water main in Detroit. il Eng N 90:881 My 17 '23

Laying large cast-iron gas main in Chicago. il Eng N 91:310-11 Ag 23 '23

Laying mains by machinery. il Gas Age 52: 490 O 20 '23

Laying 90 miles of 10-14 inch main. R. S. Lord. il Gas Age 49:165-7 F 11 '22; Same cond. Nat Pet N 14:54 Ja 25 '22

Laying 186 ft. of 48-in. cast iron pipe per day for Chicago gas co. il Munic Eng 63: 101-3 S '22; Same. Eng & Contr 58:245-6 S 13 '22; Same. Am Gas J 117:186+ Ag 26 '22; Same. Gas Age 50:259-60+ Ag 26 '22

Laying pipe in unstable soil. M. Maffitt. il Eng N 91:521 S 27 '23

Laying sewer pipe in concrete. Can Eng 43: 587-8 N 28 '22

Laying 36 and 48-in. water mains in stony ground at New Bedford, Mass. il Munic Eng 63:104-5 S '22

Leadite joints and machines for pipe laying at New Bedford. S. H. Taylor. Eng N 89: 480-1 S 21 '22; Same cond. Pub Works 53: 236-7 N '22; Abstract. Eng & Contr (W W) 58:119-20 D 13 '22

Mechanical aids for distribution work in Detroit, Michigan. W. M. Mitchell. il Am Water Works Assn J 9:172-85 Mr '22

Mechanical equipment for Detroit water main extension; day-labor organization, shop and job accounting, etc. il Eng N 88:766-9 My 11 '22

Methods and cost of laying gas main with new joint. J. D. von Maur. diags Eng N 89:572-3 O 5 '22

Pipe laying by compressed air. il diag Pub Works 53:193-4 O '22

Replacement of old 12-in. cast iron pipe with 24-in. cast iron pipe. T. P. Wolfe. il Eng & Contr 56:545 D 14 '21

Ropeway installation for conveying and laying hydraulic power mains. diags plan Ind Management (Lond) 10:223-5 O 18 '23

Saving the trench laborer's hire. R. A. Lundell. Gas Age 50:667-8 N 11 '22

Simple plant for laying large diameter pipe. il diags Eng N 89:280-1 Ag 17 '22

Use of compressed air in the ground work of public utilities. il diags Eng & Contr 58:137-9 Ag 9 '22

Water mains under railroad tracks. Eng & Contr (W W) 58:166-7 D 13 '22; Same. Am Water Works Assn J 9:897-8 N '22

See also Pipe lines

Cost

Cost of water main laying in Detroit. Pub Works 54:96 Mr '23

Costs of installing corrugated pipe. diags Eng N 89:1036-7 D 14 '22

Diagram showing the cost of laying cast-iron pipe. Eng N 88:779 My 11 '22

Mechanical equipment of Baltimore water department. V. B. Siems. il Pub Works 51: 39-42, 73-7 Jl 16-23 '21; Same. Am Water Works Assn J 9:1-25 Ja '22; Same, without tables. Munic Eng 60:sup19-20+ Je '21

Some modern applications of compressed air. F. A. McLean. il Can Eng 43:539-41 N 14 '22

Pipe laying, Subaqueous

Laying and repairing a six-inch wrought iron submarine pipe line at Portland, Maine. J. W. Graham. il plan Am Water Works Assn J 8:616-26 N '21; Same. Eng & Contr 56:557-8 D 14 '21

Laying 30-in. submerged pipe for Norfolk water-works. D. A. Decker and J. O. Miller. il Eng N 89:393-5 S 7 '22

Method and cost of submarine pipe line. H. U. Fuller. Eng & Contr (W W) 60:765-8 O 10 '23

Submerged intake for 24-in. pipe placed without diver. G. W. Pracy. il diags Eng N 88:786-8 My 11 '22

Thirty-inch force main lowered into subaqueous trench. Eng N 90:547 Mr 22 '23

Tight flexible joints for submarine pipe lines. A. Flinn. Eng & Contr (W W) 58:111-12 N 8 '22

Water-supply intake line floated into position. il Pop Mech 39:882 Je '23

Pipe lines

Design and construction of welded steel and wood-stave pipe line for Butte water co. E. Carroll. Eng N 88:278-82 F 16 '22

Design of overhead supports for outdoor piping systems. W. S. Morrison. diags Eng N 88:482-3 Mr 23 '22

Flow of fluids through commercial pipe lines. R. E. Wilson. W. H. McAdams and M. Seltzer. il diags J Ind & Eng Chem 14:105-19 F '22; Same cond. Eng N 89:690-3 O 26 '22

Hydraulics of pipe lines, by W. F. Durand. Review. Engineering 113:511-12 Ap 28 '22

Information about air chambers on pipe lines. W. H. Wakeman. diags Dom Eng 97:252-3 N 5 '21

Installing pipe lines in shaft at Rosiclare mine. E. C. Reeder. diags Eng & Min J 115:116-17 Je 23 '23

Locating leaks in underground pipe lines with the geophone. H. A. Ward. Eng & Contr (W W) 60:89 Jl 11 '23; Same. Mech Eng 45: 443 Jl '23; Same. Heat & Ven 20:53 Ag '23

Piping streets before paving. Pub Works 52: 43 Ja 21 '22

Stress coefficients for large horizontal pipes. J. M. Paris. Eng N 87:768-71 N 10 '21

See also Aqueducts; Electrolytic corrosion; Gas distribution; Gas pipes; Petroleum pipe lines; Pipe laying; Piping (power plants); Steam pipes; Subways (conduits); Water hammer; Water pipes; Water supply engineering

Protection

New leadizing process for piping and steel plates. C. C. Lance. il diag Power 57:482-3 Mr 27 '23

Protection of pipe from corrosion. H. R. Reddington. il Gas Age 50:891-3 D 30 '22

Pipe lining. See Cement lined pipe

Pipe organ. See Organs

Pipe racks

Simple rack results in big saving of pipe. diag Dom Eng 100:320 Ag 19 '22

Pipe smoking. See Tobacco pipes

Pipe threading machines

Attitude of the power pipe machine manufacturer toward die service. il diags Sanitary & Heat Eng 99:356-8+ Je 1 '23

Curtis & Curtis pipe-threading machine. il Am Mach 55:1017 D 22 '21

Cutting and threading by power at a profit. H. A. Call. il Sanitary & Heat Eng 97:275-8 My 19 '22

Improved threading attachment. H: M. Clary. il Am Mach 59:628 O 25 '23

Landis machine for threading large pipe. il Iron Age 109:588 Mr 2 '22

Pipe threading machines—Continued

Landis pipe machines with internally tripped die heads. *il* diags *Rv Mech Eng* 97:380 *Je* '23; *Iron Age* 111:1635 *Je* 7 '23; *Mach* 29: 822-3 *Je* '23

Matching the speed to the job; how modern pipe threading machines are geared to maintain desired die speeds. *il* *Sanitary & Heat Eng* 98:68-9 *Ag* 11 '22

Manufacture

Pipe threading tools and their manufacture. *F. R. Daniels. il Mach* 28:732-6, 783-5 *My-Je* '22

Pipe threads

British standard pipe thread and gage dimensions. *C: G. Spice. diags Mach* 29:271-2 *D* '22

Drawing for the plumber. *R. M. Starbuck. diags Dom Eng* 103:368-70+ *My* 26 '23

Lengthening threads on pipe while in use. *G. G. McVicker. diags Power* 58:223-4 *Ag* 7 '23

Milling pipe threads. *J: D. Spalding. il diags Mach* 29:634-7 *Ap* '23

See also Pipe threading machines

Piper methysticum. *See* Kava

Piperazinedione

Über die benzylierung und benzylierung des 2,5-diketo-piperazins. *T. Sasaki and T. Hashimoto. Deutsche Chem Gesell Ber* 54: 2688-93 *N* '21

Zur kenntnis der diketo-piperazine. *J. V. Dubsky and others. Deutsche Chem Gesell Ber* 54:2659-78 *N* '21; *Abstract. Chem Soc J* 122 pt 1:56-8 *Ja* '22

Piperazines

Über die benzylierung und benzylierung des 2,5-diketo-piperazins. *T. Sasaki and T. Hashimoto. Deutsche Chem Gesell Ber* 54: 2688-93 *N* '21

Zur kenntnis der diketo-piperazine. *J. V. Dubsky and others. Deutsche Chem Gesell Ber* 54:2659-78 *N* '21; *Abstract. Chem Soc J* 122 pt 1:56-8 *Ja* '22

Piperidine

Some compounds of piperidine with halides. *C. S. Leonard. Am Chem Soc J* 43:2618-26 *D* '21

Über die einwirkung von formaldehyd auf pyrrolidin und piperidin. *N. J. Putochin. Deutsche Chem Gesell Ber* 55:2749-53 *S* '22

Piperitone

Extraction of piperitone from essential oils. *J: Read and H: G. Smith. Soc Chem Ind J* 42:339-40 *Ag* 10 '23

Piperitone; benzylidene-*dl*-piperitone. *J: Read and H: G. Smith. diags Chem Soc J* 121: 574-82 *Ap* '22

Piperitone; oximes of *dl*-piperitone. *J: Read, H: G. Smith and M. Bentivoglio. diags Chem Soc J* 121:582-93 *Ap* '22

Piperitone; the characterisation and racemisation of *l*-piperitone. *J: Read and H: G. Smith. Chem Soc J* 123:2267-72 *S* '23

Piperitone; the interaction of *dl*-piperitone and semicarbazide, and the isolation of pure *dl*-piperitone. *J: Read and H: G. Smith. Chem Soc J* 121:1863-72 *S* '22

Pipes

Chart for computing number of lengths of pipe for a given length or depth. *W. F. Schaphorst. Sanitary & Heat Eng* 100:291 *N* 2 '23; *Same. Gas Age* 52:12 *JI* 7 '23

Collapsing strength of iron pipes and tubes. *W. F. Schaphorst. Power Pl Eng* 26:483-4 *My* 1 '22

Large pipe production in 1922. *Iron Age* 112: 81 *JI* 12 '23

Making a pipe-flow formula easier to use. *W. F. Schaphorst. Am Gas J* 116:444 *My* 13 '22

New book of instruction and tables for use with the everready pipe and elbow chart. *M. W. Pehl. 2d ed., rev. & enl. 62p U.P.C. book co.* '21

Physical and chemical properties of oil country tubular material. *F. N. Speller. il diag Am Pet Inst Bul* 3:45-50 *D* 30 '22

Pipe flow chart. *W. F. Schaphorst. Gas Age* 49:371 *Mr* 25 '22; *Same. Textile World* 61: 2329+ *Ap* 22 '22; *Same. Coal Age* 21:999-1090 *Je* 15 '22

Principles of practical plumbing. *A. E. Smith. il Dom Eng* 101:4-7 *O* 7 '22

Stanton spun iron pipe. *il diags plan Engineer* 136:104-6 *JI* 27 '23

Using standard pipes as columns or struts. *W. F. Schaphorst. Heat & Ven* 18:45 *N* '21; *Same. Power Pl Eng* 26:135-6 *Ja* 15 '22

Vitrified pipe in plumbing systems. *W: E. Morgan. diags Brick & Clay Rec* 63:104-6 *JI* 24 '23

Wall thickness of internal pressure pipes. *F. W: Bosch. Power Pl Eng* 27:224-5 *F* 15 '23

Wrought pipe data; chart. *Sanitary & Heat Eng* 96:395 *D* 30 '21

See also Air pipes; Gas pipes; Oil pipes; Pipe bends; Pipe elbows; Pipe fitting; Pipe joints; Pipe laying; Pipe lines; Piping (power plants); Plumbing; Sewer pipes; Steam pipes; Stove pipes; Tubes; Water pipes

Advertising

See Pipe industry and trade—Advertising

Cleaning

Cleaning service pipes. *Eng & Contr* 58:122 *Ag* 9 '22

Cleaning vertical pipe line with Calyx drill. *Eng & Contr* 57:148 *F* 15 '22

Electric conduit and pipe cleaning device. *E. G: Cheuvreux, jr. diag Electrician* 88:383 *Mr* 31 '22

Corrosion

See Corrosion and anti-corrosives; Electrolytic corrosion; Water pipes—Corrosion

Manufacture

Acid resisting metal unique; castings made of high-silicon iron melted and remelted in an air furnace with the addition of 50 per cent ferrosilicon. *H. E. Diller. il Foundry* 51:47-52 *Ja* 15 '23

Cast iron pipe by de Lavaud process. *Brass W* 17:211-12 *JI* '22

Cast iron pipe centrifugally. *E. C. Kreutzberg. il Foundry* 51:727-31 *S* 15 '23; *Same. Iron Tr R* 73:871-5 *S* 27 '23

Casting pipe without a core. *Gas Age* 50:327 *S* 9 '22

Departure in pipe foundry practice. *P: Gillespie. il Am Water Works Assn J* 9:703-11 *S* '22; *Same cond. Eng N* 88:1080-1 *Je* 29 '22

Equipment employed for making soil pipe. *Foundry* 51:217 *Mr* 15 '23

Heat treatment of centrifugally cast iron pipe. *il Iron Age* 111:1256-7 *My* 3 '23

How sanitary ware is made. *P. Dwyer. il Foundry* 50:998-1002 *D* 15 '22

Machining a 30-inch pipe. *W: G. Hammerstrom. il Am Mach* 56:821-2 *Je* 1 '22

Making flexible jointed pipe. *W. G. Hammerstrom. il diags Foundry* 50:616-21 *Ag* 1 '22; *Abstract. Eng N* 88:780-2 *My* 11 '22

Ueber die herstellung von eisen- und stahlröhren. *E. Röber. diags Stahl & Eisen* 42: 253-8 *F* 16 '22; *Same cond. (Manufacture of iron and steel tubing and pipe). Mech Eng* 44:317-19 *My* '22

Unique pipe making method. *H: Sale. diags Foundry* 50:726-7 *S* 1 '22

See also Pipe threads; Pipes, Concrete—Manufacture; Pipes, Steel—Manufacture

Prices

Cast pipe business gains as prices sag. *Iron Tr R* 70:83 *Ja* 5 '22

Fluctuations of steel and iron pipe prices from 1898-1922. *Iron Age* 109:269-70 *Ja* 26 '22; *Same. Gas Age* 49:199 *F* 18 '22

Marked spread of iron and steel pipe prices. *G: F. Tegan. Iron Age* 111:93-4 *Ja* 4 '23

Wrought iron and steel pipe prices. *Iron Age* 109:63 *Ja* 5 '22

Wrought iron and steel pipe prices. *Iron Age* 111:73 *Ja* 4 '23

Pipes—Continued**Repair**

Energy requirements in butt-welding steel and iron pipe. G. T. Jacobs. Elec R 80:89 F '22

Specifications

Proposed specifications for steel and iron pipe for oil country tubular goods. 6p Am. pet. inst., 15 W. 44th st., New York '23

Report before American water works association of committee on specifications for cast-iron pipe. Eng N 88:1079-80 Je 29 '22

Pipes, Brass

Brass plumbing pipe. Il Arch & Bldg 55:19-20 F '23

Pipes, Cement

Making septic tanks of cement pipe. diags plan Dom Eng 102:220-1 F 3 '23

Pipes, Concrete

Concrete pipe irrigation system, Delhi settlement. J. R. Jahn. Il Eng N 91:464-6 S 20 '23

Concrete pipe line augments Kansas City water-supply. F. E. Miller. Il Eng N 87:1029-30 D 22 '21

Concrete pipe; plain and reinforced. J. S. Lambie. Il diags Eng Soc W Pa 38:471-91; Discussion. 492-502 Ja '23

Concrete pipe with improved joints as used in St John, New Brunswick. diags Eng & Contr 57:567 Je 14 '22

Development of reinforced concrete pipe. W. G. Chace. diags Can Eng 48:153-5 Jl 18 '22

Keeping up concrete pipe quality. Concrete 22:93-4+ Mr '23

Laying concrete culvert pipe. P. Kircher. Il Ry R 71:407-10 S 23 '22; Same cond. Concrete 22:108-10 Mr '23

Reinforced concrete pipe as applied to water-supply lines. W. G. Chace. diags N E Water Works Assn J 36:102-7; Discussion. 108-10 Mr '22

Report of committee J-2, on concrete pipe. Am Concrete Inst Pro 18:318-21 '22

See also Air pipes, Concrete; Culverts, Concrete; Sewers, Concrete

Manufacture

Concrete pipe cast by new centrifugal process. Pop Mech 39:738 My '23

Illinois-Wisconsin concrete pipe & tile co. plant at Beloit, Wisconsin. Il diags Concrete 20:87-8 F '22

Making concrete pipe for Maine Central railroad. Il diags Concrete 21:157-8 N '22

Making lock-joint centrifugal pipe. Il Concrete 21:162-3 N '22

Making pipe to irrigate Yuma land. M. W. Loving. Il Concrete 21:18-19 Jl '22

Le moulage de tuyaux en béton armé, par centrifugation, système Hume. Il diags Génie Civil 82:403-4 Ap 28 '23

Reinforced-concrete pipe made by centrifugal process. Il diags Eng N 89:829-30 N 16 '22

Transportation

Loading of straight end concrete pipe on flat cars. Ry Age 74:1650-1 Je 23 '23; Same. Ry Mech Eng 97:526-7 Jl '23

Pipes, Corrugated

Corrugated steel pipes and tubes for fluids at high pressures. diags Elec R (Lond) 91:646 N 3 '22

Costs of installing corrugated pipe. diags Eng N 89:1036-7 D 14 '22

Tubes ondules en acier pour fluides à haute pression. R. Joessel. Il diags Génie Civil 81:130-3 Ag 5 '22; Abstract. Power Pl Eng 26:659-60 O 1 '22

Pipes, Fiber

New kind of pipe made of fiber. Sci Am 126:109 F '22

Pipes, Glass

Glass pipe joint. Il diags Chem & Met Eng 29:240 Ag 6 '23

Pipes, Steam. See Steam pipes**Pipes, Steel**

Les qualités des tôles d'acier pour conduites forcées et pour chaudières. Génie Civil 82:12-14 Ja 6 '23

Steel pipe for large water mains. T. A. Leisen. Can Eng 42:672-3 Jl 4 '22

Tubes ondules en acier pour fluides à haute pression. R. Joessel. Il diags Génie Civil 81:130-3 Ag 5 '22; Abstract. Power Pl Eng 26:659-60 O 1 '22

Water-power studies; pressure pipe lines. W. T. Taylor. Elec R (Lond) 92:164-6, 204-6 F 2-9 '23

Welded pipe conditions are promising. Iron Tr 72:89 Ja 4 '23

Welded-steel overflow pipe two thousand feet long. Il Pop Mech 38:238 Ag '22

See also Water pipes, Steel

Manufacture

Fabricating large steel pipe. E. H. Custer. Il Am Mach 58:687-8 My 10 '23

Hammer-weld pipe stronger, more efficient and less costly to put in place. Coal Age 20:804-5 N 17 '21

Hammer-welded steel pipe. diags Blast & Steel Pl 10:34 Ja '22; Power Pl Eng 25:1163 D 1 '21

National tube co.'s new plant for hammer-welded pipe. E. E. Thum. Il diags Chem & Met Eng 25:921-4 N 16 '21

Recent improvements in the manufacture of welded pipe. F. N. Speller. Blast F & Steel Pl 9:580-2 O '21; Abstract. Mech Eng 43:820 D '21

Steel pipe by the centrifugal process. L. Cammen. Iron Age 109:405-6 F 9 '22

Testing

Stresses in pipes reinforced by steel rings. G. Cook. Engineering 116:477-8 O 12 '23; Abstract. Power 58:669 O 23 '23

Pipes, Stove. See Stove pipes

Pipes, Tobacco. See Tobacco pipes

Pipes, Ventilating. See Air pipes

Pipes, Wood

Condition of wood-stave pipe on reclamation projects. Eng N 88:493-4 Mr 23 '22

Construction of wood-stave pipe. R. M. Orr. Il Power 58:457-8 S 18 '23

Installation of wood pipe for conveying pulp. Il Paper Tr J 76:54 F 8 '23

Portable plant used in replacement of pipe line sills and cradles. Il Eng N 90:269 F 8 '23

Practical hints on wood pipe construction. Eng N 90:1064 Je 14 '23

Some observations concerning wood pipe. J. W. Ledoux. Am Water Works Assn J 9:549-69 Jl '22; Same cond. Can Eng 43:275-8 Ag 22 '22; Excerpts. Eng N 88:912-13 Je 1 '22; Excerpts. Coal Age 22:93 Jl 20 '22; Excerpt. Eng & Contr 57:565-6; 58:31 Je 14, Jl 12 '22; Abstract. Pub Works 53:91-2 Jl 29 '22

Wire by which wood pipe is bound is laid in a groove and coated with asphalt. diags Coal Age 21:491 Mr 23 '22

Wood pipe in plant construction. E. H. Smith. Il Chem & Met Eng 28:677 Ap 16 '23

Wood-stave water pipe. Pub Works 52:5 Ja 7 '22

Pipets

Pipet for lactose determination in milk. E. G. Mahin. diags Ind & Eng Chem 15:943 S '23

Report on standardization of sizes and shapes of apparatus; pipets. W. D. Collins. J Ind & Eng Chem 14:739 Ag '22

Use of the Mohr pipet. W. D. Iler. J Ind & Eng Chem 14:943 O '22

Piping (power plants)

Barbadoes Island plant illustrates modern central station design. diags Power Pl Eng 27:369 O 1 '23

Code for identification of piping systems. Mech Eng 45:76-7 Ja '23

Color scheme for pipe lines. M. H. Folgers. Power 55:593 Ap 11 '22

Economic size of pipe for power purposes. G. E. Lyon. Eng & Contr 57:436-7 My 10 '22

Exhaust steam turned to profit. Power Pl Eng 27:915 S 15 '23

Piping (power plants)—Continued

- High pressure steam in small power plants. C. L. Hubbard. diags Sanitary & Heat Eng 96:251-3-4, 339-41, 403-6; 97:33-5 O 21, D 2, 30 '21, Ja 27 '22
- Identification of mill piping. Textile World 61:1417-+ Mr 4 '22
- Pipe line work at the Gennevilliers power station. il diag Engineer 134:336 S 29 '22
- Piping. diags Power Pl Eng 26:33-7 Ja 1 '22
- Power-plant piping. H. Blomgren. diags Power 54:846-7 N 29 '21
- Remodeling power plant for fuel oil use. diags plans Elec Ry J 61:505-8 Mr 24 '23
- Selection of piping equipment. Power Pl Eng 27:998-1000 O 1 '23
- Standards in power plant piping practice. diags Power Pl Eng 27:717-19 JI 15 '23
- Suggests arrangement of feed-water piping for three boilers. W. H. Wakeman. diags Power 55:313-14 F 21 '22; Discussion. 55:666 Ap 25 '22

Specifications

- Proposed A.S.M.E. rules for piping and fittings. Power 56:702-4 O 31 '22
- Standard specifications for power piping. Power 55:925-7 Je 13 '22
- Writing piping specifications. H. E. Col-lins. diags Power 58:287-9 Ag 21 '23; Dis-cussion. 58:429-30 S 11 '23

Tables, calculations, etc.

- Chart for determining expansion loop data. D. Gerber. Power Pl Eng 27:1096-7 N 1 '23

Piping (refrigerating plants)

- Breaking ammonia joints for repairs. J. J. Cosgrove. Power Pl Eng 26:67-9 Ja 1 '22
- Dairy refrigeration troubles. G. T. Taylor. diags Refrig W 57:11-14 Ja '22
- Oxy-acetylene welding of ammonia pipe lines, coils and pressure vessels. C. Wilkie. diags Refrig Eng 9:325-31; Discussion. 331-2+ My '23
- Proper length of evaporating coil. C. H. Herter. Power 58:153-5 JI 24 '23
- Standardization of ammonia fittings neces-sary. E. Bunzel. Power 55:581 Ap 11 '22

Cleaning

- Cleaning ammonia coils. Refrig W 57:30 N '22
- Cleaning brine tank coils. F. E. Matthews. Power Pl Eng 26:390-1 Ap 1 '22

Piranesi, Giovanni Battista, 1720-1778

- Great ornamentalists. F. T. Singleton. Ptg Art 38:161 O '21

Pisé

- Emergency houses of clay and straw. il Sci Am 126:335 My '22

Pistols

- Twenty-gauge shot pistol. E: C. Crossman. il Pop Mech 37:405-6 Mr '22

Piston displacement. See Motor truck engines

—Piston displacement

Piston pins

- Salvaging automobile engine piston pins. F. M. Weston, jr. diags Am Mach 59:226 Ag 9 '23

Manufacture

- Produces piston pins in quantity. il Iron Tr R 73:182-3 JI 19 '23
- Rickenbacker adopts lapping process on pis-ton pin bearing surfaces. J. E. Schipper. il Automotive Ind 49:22-4 JI 5 '23
- Tubing vs. solid stock as material for piston pins. C. B. Fraser. Automotive Ind 47: 718-19 O 12 '22

Piston rings

- Coats piston-ring prestometer. il Am Mach 56:234 F 9 '22
- Gaging and assorting piston-rings. H. Levene. diags Mach 28:622 Ap '22
- How can an engineering product be intro-duced? Ptr Ink 118:41-2+ Mr 16 '22
- Piston-ring click. Soc Auto Eng J 12:170-1 F '23
- Piston ring has unusual flexibility. il Pop Mech 40:776 N '23
- Piston-ring material. Soc Auto Eng J 11:505-7 D '22

Piston ring sizes. L. E. Haybarker. Power

- Pl Eng 27:444-5 Ap 15 '23
- Piston-rings. J. Magee. Soc Auto Eng J 11: 273-4 S '22; Excerpt. Mech Eng 44:736-7 N '22; Discussion. Soc Auto Eng J 11:228-30 S '22

Piston-rings and ring grooves. C. R. Manes. diags Soc Auto Eng J 11:262-4; Discussion. 228-31 S '22

When quality line prestige can carry cheap-er goods. G. A. Nichols. Ptr Ink 124:41-2+ Ag 2 '23

Advertising

- How McQuay-Norris company makes con-tainers help selling operations. Ptr Ink 124:96-7 Ag 30 '23

Manufacture

Finishing piston-ring grooves. Soc Auto Eng J 13:407-8 N '23

Heald no. 25 automatic ring-grinding ma-chine. il Am Mach 56:151-2 Ja 26 '22; Au-tomotive Ind 46:184-5 Ja 26 '22; Iron Age 109:216 Ja 19 '22; Mach 28:495-6 F '22

How piston rings are made. Ind Management (Lond) 9:239-40 Ap 19 '23

Machining V-plex piston-rings. E: K. Ham-mond. il diag Mach 29:865-8 JI '23

Making over-size piston-rings. il Mach 28:963 Ag '22

Manufacturing piston and valve rings. il Ry Mech Eng 96:411-12 JI '22

Massenerzeugung höchstwertiger kolbenringe. C. Irresberger. il diags Stahl & Eisen 42: 841-5 Je 1 '22

Melts iron for piston rings. B. H. Arnold. il diags Foundry 50:748-51 S 15 '22

Testing

- Piston ring testing apparatus. il diags Engi-neering 113:239 F 24 '22; Automotive Ind 46:856 Ap 20 '22; Sci Am 127:192 S '22

Pistons

Adjustable piston controls compression-space volume. Pop Mech 38:882 D '22

Aluminum-alloy piston. J. E. Diamond. Soc Auto Eng J 11:258-61; Discussion. 228-31 S '22

Aluminum pistons. F. Jehle and F. Jardine. il diags Soc Auto Eng J 11:225-8; Discussion. 228-31 S '22

Another method of machining pistons. il Am Mach 56:928 Je 22 '22

Automobile piston clearance. D. P. Muirhead. Am Mach 58:344; 59:667 Mr 1, N 1 '23

British motor castings methods. E. Shaw and J. Edgar. diags Foundry 50:236-9 Mr 15 '22

Chucking over-size pistons. il Mach 29:484-5 F '23

Composite aluminum and cast iron piston. diags Automotive Ind 47:972 N 16 '22

Enlarging automobile pistons. A. R. Notting-ham. Am Mach 58:947 Je 28 '23

Hold-mar vacuum piston to prevent burning crankcase oil. il Automotive Ind 45:1031 N 24 '21

Hudson adopts aluminum piston. il Auto-motive Ind 46:1001-2 My 11 '22

Iron pistons made light by skillful design. il Pop Mech 37:680 My '22

Light alloys play prominent part in recent piston design development. diags Auto-motive Ind 48:1381-90 Je 28 '23

Light-metal pistons for automobile engines. il Engineering 113:716-18 Je 9 '22

Limitation of piston-aligning gages. diag Am Mach 57:659, 931 O 26, D 14 '22

Machining gas engine pistons. A. W. Free-man. il Am Mach 57:577-8 O 12 '22

Machining piston-pin holes in a repair shop. Mach 29:42 S '22

Machining pistons in the repair shop. il Mach 28:468-70 F '22

Machining the Marmon two-part piston. F. H. Colvin. il Am Mach 57:10-11 JI 6 '22

Making pistons for the Mack motor. F. H. Colvin. il diags Am Mach 56:467-71 Mr 30 '22

Making pistons for the Wright engine. F. H. Colvin. il diags Am Mach 59:235-8 Ag 16 '23

Pistons—Continued

- Methods used in specialized production of cast iron pistons. J. E. Schipper. *il Automotive Ind* 46:914-16 Ap '27 '22
- Modern facilities for quantity production of pistons. J. E. Schipper. *il diags Automotive Ind* 46:73-6 Ja 12 '22
- Nelson piston designed to avoid distortion. *diags Automotive Ind* 48:675 Mr '22 '23
- New lightweight pistons with curved expansion. *il Pop Mech* 38:904 D '22
- Offset cylinders and pistons. J. B. Swan. *Automobile Eng* 12:72-6 Mr '22
- Overheating of oil-engine pistons. H. F. Shepherd. *diags Power* 58:649-50 O '23 '23; Discussion. J. McIntosh. 58:960 D 11 '23
- Piston explosion. C. B. Bailey. *il Locomotive* 34:177-8 Ap '23
- Piston inspection gages. F. C. Hudson. *diags Am Mach* 58:596-7 Ap 19 '23
- Piston rods for steam drop-hammers. A. A. Blue. *diags Iron Age* 112:415-17 Ag 16 '23
- Reo aluminum alloy pistons. F. H. Colvin. *il Am Mach* 56:772-3 My 25 '22
- Requirements for successful piston castings. *Automotive Ind* 45:826 O 27 '21
- Research for best alloy for pistons. *Automotive Ind* 46:1279-80 Je 8 '22
- Seasoning cast-iron pistons. *Soc Auto Eng J* 12:171-2 F '23; Same abr. *Mach* 29:716 My '23
- Self-adjusting piston. *il Sci Am* 128:115 F '23
- Some automobile engines are fitted with longer pistons. J. E. Schipper. *Automotive Ind* 47:310-11 Ag 17 '22
- Tooling equipment for automobile hubs and pistons. R. E. Flanders. *il diags Mach* 28:640-4 Ap '22
- Tooling equipments for pistons. E. K. Hammond. *il diags Mach* 28:696-700 My '22
- Triple valve piston press. J. D. Flinger. *diags Ry Mech Eng* 97:241 Ap '23
- Unbalanced steam pressure on pistons. T. E. Stuart. *diags Ry Mech Eng* 96:200 Ap '22; Discussion. 96:328 Je '22
- Vacuum chamber in piston a new idea. *Sci Am* 127:191 S '22

See also Piston rings

Testing

- Aluminium pistons. *diags Automobile Eng* 12:277-82 S '22
- German trials of aluminum pistons. *Automotive Ind* 45:904 N 10 '21
- Pit river project**
- First Pit river power project is completed. *il Eng N* 89:570-1 O 5 '22
- Harnessing California's waters: the completion of the first stage of the Pit river power project. C. W. Geiger. *il Sci Am* 128:254 N '23
- Insuring California's industrial and agricultural growth; how the Pacific gas and electric company is meeting power demands by developing 600,000 horsepower on the Pit river. N. S. Gallison. *il chart map J Elec* 49:123-30 Ag 15 '22
- Pit river power and 220,000-volt transmission problem. F. G. Baum and S. Barfoed. *il diags maps plans Elec W* 81:205-12, 262-7 Ja 27-F 3 '23
- Pit river 70,000-kVA hydro-electric development. F. A. Talbot. *il Elec R (Lond)* 92:19-23+ Ja 5 '23

Pitch

- Apparatus for comparing the hardness of pitches and bitumens. *il diags Engineer* 133:338-9 Mr 24 '22
- Tentative specifications for coal-tar pitch for block filler. *Am Soc T M Pro* 21:702-3 '21
- Pitch as fuel**
- Coal tar as a source of fuel for internal combustion engines. W. J. Huff. *Chem Age* 31:149-50 Ap '23; Same. *Ind & Eng Chem* 15:487-8 My '23; Same. *Gas Age* 52:95-7 JI 28 '23
- Viscosity of coke-oven tars and soft pitches. W. J. Huff. *Ind & Eng Chem* 15:1026-30 O '23
- Pitching machine**
- Mechanical pitcher. *il Sci Am* 128:164 Mr '23

Pitometer

- Improved pitometer. F. W. Greve. *diags Eng & Contr (W W)* 59:1050-1 My 9 '23
- Pitometer survey discloses underground leaks. *il Eng N* 91:432-3 S 13 '23

Pitot tube

- Measurement of water supply by the Pitot tube in Syracuse, New York. H. R. Starbird. *diag Am Water Works Assn J* 9:403-7 My '22
- Pitot tube to obviate traversing. W. C. Hanning. *diags Eng N* 89:450 S 14 '22

Pittsburgh, Pennsylvania

- Pittsburgh as a center of chemical education. E. H. McClelland. *J Ind & Eng Chem* 14:776-9 S '22
- Pittsburgh as a chemical research center. W. A. Hamor. *il diag J Ind & Eng Chem* 14:764-71 S '22
- Pittsburgh as a tonnage producing center. F. J. Crolus. *il Blast F & Steel Pl* 11:514-16 O '23
- Pittsburgh traffic count. W. Haydock. *diags maps Eng Soc W Pa* 37:477-96 Ja '22; Same abr. *Eng & Contr (R & S)* 58:36-8 O 4 '22; Discussion. *Eng Soc W Pa* 37:497-513 Ja '22
- Waterfront improvements in the Central business district of Pittsburgh. E. K. Morse. *Eng Soc W Pa* 38:267-76; Discussion. 277-308 O '22

Bridges

- Continuous traffic lift bridges. *diag Can Eng* 45:107 JI 3 '23
- Continuous-traffic lift bridges proposed for Allegheny river at Pittsburgh. A. A. Henderson. *diags Eng Soc W Pa* 38:227-40; Discussion. 241-65 JI '22
- Moving a 740-foot steel bridge. *il diags Elec Ry J* 60:1007-9 D 30 '22
- Reconstruction of the Baltimore and Ohio railroad bridge crossing the Allegheny river, at Pittsburgh, Pennsylvania. P. G. Lang, jr. *il map Am Soc C E Pro* 48:809-33, pl 10 Ap '22

Industries and resources

- Pittsburgh as an industrial center. J. H. James and W. F. Rittman. *J Ind & Eng Chem* 14:772-5 S '22

Rapid transit

- Pittsburgh receivers ask men to modify demands. *Elec Ry J* 61:656 Ap 14 '23
- Pittsburgh traction plans explained. *Elec Ry J* 59:534 Mr 25 '22
- Reorganization plan approved by commission. *Elec Ry J* 59:331-2 F 25 '22
- Reorganization slow. *Elec Ry J* 60:723, 761 O 28-N 4 '22

Streets

- Brownsville avenue reconstruction. A. N. Dick. *il diags Pub Works* 53:144-7 S '22
- Improving East Ohio street, Pittsburgh. *il diags Pub Works* 52:455-7 Je 24 '22
- Major street plan for Pittsburgh. C. L. Wooldridge. *maps Eng Soc W Pa* 37:514-31; Discussion. 532-43 Ja '22
- Restoration of Bigelow boulevard. *il Pub Works* 53:26-7 JI 8 '22

Pittsburgh & Lake Erie railroad

- 44th annual report. 1922. *Comm & Fin Chr* 117:434-5 JI 28 '23

Pittsburgh & West Virginia railway

- Authority to purchase West side belt denied. *Ry Age* 74:479-80 F 24 '23

Pittsburgh architectural club

- Series of sketches by members of the Pittsburgh architectural club. *il Am Arch* 123:321-4 Ap 11 '23

- 13th annual exhibition. *il diags Arch Rec* 53:279-83 Mr '23

Pittsburgh, Cincinnati, Chicago & St Louis railroad

- Inter-state commerce commission authorizes Pennsylvania railroad to lease Pittsburgh, Cincinnati, Chicago & St Louis railroad but imposes important conditions. *Comm & Fin Chr* 115:391-3 JI 22 '22; Excerpts. *Ry Age* 73:159-60 JI 22 '22

Pittsburgh university. Mellon institute of industrial research

Bibliography, the foundation of scientific research. W. A. Hamor. *il Special Lib* 14: 17-22 Mr '23

Ceramic investigations at the Mellon institute of industrial research. E. R. Weidlein. *Am Cer Soc J* 6:167-73 Ja '23

Origin, service and administration of an institution dedicated to the cooperation of science and industry. *Chem Age* 29:447-9 N '21

Some research of general interest in progress at the Mellon institute. A. G. Wikoff. *il Chem & Met Eng* 28:625-32 Ap 9 '23

Placer mining. See Hydraulic mining**Plague**

Plague-proof city in India. J. H. Stephens. *il Pop Mech* 39:7-9 Ja '23

Plane table

Surveying—plane table manual. D. B. Wainwright. 97p (Special pub. no. 85) U.S. coast and geodetic survey, Washington, D.C. '22

Planers. See Planing machines**Planets****Radiation**

Further tests of stellar radiometers and some measurements of planetary radiation. W. W. Coblentz. *U S Bur Stand Sci Pa* 460:535-58 '23

Planimeters

Engine problems solved by use of planimeter. *diags Power Pl Eng* 27:485-6 My 1 '23

Why you can measure the area of an indicator diagram by a planimeter. *diags Power* 58:524-5 O 2 '23

Planing

High-speed rotary planing. S. Ransome. *il diag Engineer* 136:388-90, 413-15, 441-5 O 12-26 '23

No hand scraping on planed work. L. S. Love. *il Iron Age* 110:1555-7 D 14 '22

Planing flat gibs. T. Berna. *il diags Am Mach* 56:219-20 F 9 '22; *Discussion*. 56:408, 706, 773 Mr 16, My 11, 25 '22

Planing irregular surfaces. J. V. Romig. *diags Am Mach* 57:624 O 19 '22

Planing large spur gears. F. D. Jones. *il Mach* 28:529-32 Mr '22

Planing operations on parts of National Acme automatics. *il Mach* 28:379 Ja '22

Planing vulcanized rubber. E. Crouse. *diag Am Mach* 57:656-7 O 26 '22

Radius planing with a dividing head. R. T. Wilson. *diags Am Mach* 57:933 D 14 '22

Setting up large work for planing. *il Mach* 28:473 F '22

Three planing jobs in a railroad shop. H. Crawford. *il Am Mach* 57:383-4 S 7 '22

Two unusual planer jobs. N. L. Pollard. *il diag Am Mach* 56:788 My 25 '22

Planing machines

Cincinnati open-side planer adapted for railroad shop work. *il Ry Mech Eng* 97:58-9 Ja '23

Gray maximum service planer. *il Am Mach* 55:894-6 D 1 '21; *Mach* 28:285-9 D '21; *Ry Mech Eng* 95:777-9 D '21; *Iron Age* 108:1417-19 D 1 '21

Gray 60- and 72-inch maximum service planer. *il Am Mach* 58:964 Je 28 '23; *Iron Age* 111:1848 Je 28 '23

Gray twin-rail long reach planer. *il Am Mach* 59:492 S 27 '23; *Iron Age* 112:904 O 4 '23

High-speed rotary planing. S. Ransome. *il diag Engineer* 136:388-90, 413-15, 441-5 O 12-26 '23

High speed second belt drive planer. *il Ry Mech Eng* 96:232 Ap '22

How to mold a planer table. R. H. Palmer. *il Foundry* 51:767-9 O 1 '23

Liberty combination planer and slotter for locomotive frames. *il Am Mach* 57:155-6 J1 27 '22; *Iron Age* 110:73-4 J1 13 '22; *Mach* 28: 1007-8 Ag '22; *Ry Mech Eng* 96:483-4 Ag '22

Methods of machine tool design. A. L. Deleuw. *diags Am Mach* 56:923-7, 964-6; 57: 12-15 Je 22-J1 6 '22

Multiple set-ups for planing. *il Mach* 28:267 D '21

New system of helical involute gearing for use on metal planers. F. E. Cardullo. *diags Mech Eng* 44:816-17+ D '22

Newton crank planer. *il Am Mach* 56:943 Je 22 '22; *Iron Age* 109:1598 Je 8 '22; *Mach* 28: 918 J1 '22

Niles-Bement-Pond plate planer. *il Am Mach* 57:502 S 28 '22; *Iron Tr R* 71:930 O 5 '22; *Mach* 29:157 O '22; *Ry Mech Eng* 96:600 O '22

Planer and shaper attachments. E. K. Hammond. *il diags Mach* 29:531-5 Mr '23

Radius planing device for stern posts of ships. A. G. Collins. *diag Am Mach* 56:937 Je 22 '22

Radius-planing tool. *il Ry Mech Eng* 96:597 O '22

Some ideas for the planer department. D. A. Hampson. *diags Am Mach* 59:657-8 N 1 '23

Special planer for heavy work. H. Crawford. *il Am Mach* 57:272 Ag 17 '22

35-foot planing machine made by C. Redman and sons, Ltd. *il Engineer* 132:548 N 18 '21

Use of double-acting machines. *Am Mach* 57:560; 59:51-2 O 12 '22, J1 12 '23

Foundations

Leveling a planer. C. O. Lewis. *diags Mach* 29:545-6 Mr '23

Safety devices

Guarding the bull gear of a planer. D. A. Hampson. *il Am Mach* 57:387-8 S 7 '22

Plankton

Microscopic organisms in reservoirs in relation to the esthetic qualities of potable waters. C. A. Kofoid. *Am Water Works Assn J* 10:183-91 Mr '23

Planning

Carrying out changes in design. C. B. Kearney. *Ind Management (Lond)* 9:295-6, 329-30 My 17-31 '23

How production planning cuts costs. H. S. Owen. *Ind Management* 65:182-7 Mr '23

How the planning department functions. K. Hall. *Am Mach* 58:911 Je 21 '23

Interpreting operation to the directors; planning department charts supplant accounting statements. G. C. Brown. *Management & Adm* 6:593-8 N '23

Notes on process planning. *diags Engineering* 114:778-80 D 22 '22

Organization personnel planning. B. A. Franklin. *Ind Management* 64:181-3 S '22

Organizing the planning department. F. W. Curtis. *Management Eng* 3:22-4 J1 '22

Outstanding features of Dennison management. H. Feldman. *il Ind Management* 64: 225-30 O '22

Planning and controlling work in the assembling department of a French shop. E. Julien. *il plan Am Mach* 56:932-3 Je 22 '22

Planning at less cost. P. F. O'Shea. *Factory* 29:405-7 O '22

Planning department. J. Knowles. *Ind Management (Lond)* 9:199-201, 228-30 Ap 5-19 '23

Planning in large contract plants. G. H. Shepard. *Mach* 28:268-70, 547-51, 724-7 D '21, Mr, My '22

Planning—its place in cost control. R. W. Darnell. *Management & Adm* 6:605-10 N '23

Planning, scheduling, and dispatching of maintenance and repairs. P. M. Atkins. *Ind Management* 66:78-83 Ag '23

Planning that takes care of the rush jobs. W. N. Baldwin. *il System* 43:325-7+ Mr '23

Planning with equipment standards. C. D. Buoy. *il Ind Management* 63:363-5 Je '22

Practical methods for planning work. W. B. Ferguson. *il Management Eng* 4:293-300, 369-76 My-Je '23; [cont. as] *Management & Adm* 6:33-8, 185-90, 585-92; 7:31-8 J1-Ag, N '23, Ja '24

Practical training for foremen; planning. P. L. Burkhard. *Iron Tr R* 70:1869-71 Je 29 '22

Production planning at the Dennison plant. *il Factory* 28:159-62+ F '22

Production planning in the shoe industry. C. A. Rooker. *Ind Management* 66:144-8 S '23

Profit of planning. *Engineering* 116:198-9 Ag 17 '23

Province of the controller; preparing formal plans and holding to them. J. B. Guernsey. *Management & Adm* 6:323-6 S '23

Planning—Continued

Standardizing the work of the planning department. C. M. Bigelow. *chart Management Eng* 2:111-16 F '22

Watching production from the office. A. W. Hinkel. *il Factory* 28:416-18 Ap '22

Workable planning system for the moderate sized plant. A. F. Erickson. *il Factory* 31: 611-12 N '23

See also Factory management; Progress records

Plant breeding

De l'aide que peut apporter la chimie dans la sélection et l'amélioration des plantes. J. de Vilmorin. *il Chimie & Ind* 7:864-9 My '22

Plant chemistry. See Botanical chemistry**Plant growth**

Growth of plants. *Soc Chem Ind J (Chem & Ind)* 42:256-8, 362 Mr 16, Ap 13 '23

Plant introduction

World crops for America; how modern science combs the world for new things to eat. R. P. Crawford. *il Sci Am* 126:226-7 Ap '22

Plants

Indicative plants. W. Crocker. *Min & Sci P* 124:84 Ja 21 '22

Plants as inventors; sound engineering principles practiced by members of the vegetable kingdom. A. Gradenwitz. *diags Sci Am* 126:402-3 Je '22

See also Botanical chemistry; Botany; Botany, Medical; Poisonous plants; Quarantine, Agricultural; Rubber plants; Seeds; Water requirements of plants; Weeds

Nutrition

Significance of calcium for higher green plants. R. H. True. *Sci Am* 127:19 Jl '22

Supplying CO₂ to greenhouses. W. D. Wilcox. *Gas Age* 48:703-4 N 26 '21

Transpiration

Heart and the heartbeat of the plant; the work of distributing moisture and sustenance, and the way in which it is done. E. Bade. *il diag Sci Am* 128:88 F '23

Plants, Effect of cold on

How Jack Frost stimulates plant growth. D. H. Georgian. *il Sci Am* 126:122 F '22

Plants, Effect of light on

Biochemical effects of polarised light. E. S. Semmens. *Soc Chem Ind J (Chem & Ind)* 42:954 O 5 '23

Plants, Insectivorous. See Insectivorous plants**Plants, Tropical**

Possibilities of the plant growth of the moist tropics to furnish materials for liquid fuel. H. N. Whitford. *J Ind & Eng Chem* 14:151-2 F '22

Plaster and plastering

Lime in construction. T. B. Shertzer. *Am Inst Arch J* 11:XVII+ Jl '23

Panel tests of lime plaster. W. E. Emley and E. B. Berger. *Am Cer Soc J* 6:1007-10 S '23

Period finish for wood and plaster. *il Arch Forum* 39:161-8 O '23

Plaster from limestone dust—a new process. *Sci Am* 129:276 O '23

Sound absorbing plaster. A. L. Foley. *Am Arch* 123:336-8 Ap 11 '23

Standard and special practice plastering. C. R. Allison. *Am Arch* 124:385-6 O 24 '23

See also Cement; Concrete; Graffito decoration; Mortar; Stucco

Plaster of Paris

Plaster of Paris. A. Brittain and C. Elliott. *Soc Chem Ind J* 42:154-62 Ap 13 '23

Shop notes—plaster shop. T. A. Klinefelter and F. C. Parsons. *diags Am Cer Soc J* 6:783-6 Jl '23; Discussion. (Bul) 6:299-300 S '23

See also Gypsum

Plastic fuel. See Fuel, Plastic**Plastic material**

Camphor substitutes in plastics manufacture. *Chem Age* 30:111 Mr '22

Cold molded hard plastics. *il diag India Rubber W* 67:350-2 Mr '23

Plastics and molded electrical insulation. E. Hemming. 313p Chemical catalog co. '23

See also Bakelite

Plastic wood. See Wood, Substitutes for**Plasticity**

Fluidity and plasticity. E. C. Bingham. 435p McGraw-Hill '22

Measurement of the plasticity of clay slips. R. E. Wilson and F. P. Hall. *Am Cer Soc J* 5:916-27 D '22; Same. *J Ind & Eng Chem* 14:1120-5 D '22

Mechanism of plasticity from colloid standpoint. G. A. Bole. *Am Cer Soc J* 5:469-75; Discussion. 475-7 Ag '22

Methods of measuring the plasticity of clays. F. P. Hall. *U S Bur Stand Tech Pa* 234:345-66 '23

On plastic flow through capillary tubes. E. Buckingham. *Am Soc T M Pro* 21:1154-6; Discussion. 1157-61 '21

Plasticity of clays. F. P. Hall. *Am Cer Soc J* 5:346-54 Je '22

Relation of the structure of clay grains to the plasticity of clays. H. G. Schurecht. *Am Cer Soc J (Bul)* 5:153-5 Ag '22

Study of the plasticity of paint. E. C. Bingham, H. D. Bruce and M. O. Wolbach, jr. *J Fr Inst* 195:303-17 Mr '23

Theory of plasticity and possible commercial application. R. C. Purdy. *Am Cer Soc J (Bul)* 5:147-53 Ag '22

See also Plastometer

Plastometer

Comparison of the various corn products starches as shown by the Bingham-Greene plastometer. C. E. G. Forst and M. Moskowitz. *J Ind & Eng Chem* 14:49-52 Ja '22

Plastometer as an instrument for process control. E. C. Bingham, H. D. Bruce and M. O. Wolbach, jr. *J Ind & Eng Chem* 14:1014-15 N '22

Plastometer tests on alkaline thin-boiling cornstarches. C. E. G. Forst and M. Moskowitz. *Ind & Eng Chem* 15:166-70 F '23

Plate

Silver; pewter; Sheffield plate. F. W. Burgess. 304p Dutton '21

Plate glass

Glass and electricity. F. A. Connor. *il Gen Elec R* 26:746-54 N '23

Historical sketch of the manufacture of plate glass in America. C. E. Fulton. *Am Cer Soc J (Bul)* 6:70-4 Ap '23

Advertising

Plate glass manufacturers advertise jointly to extend market. R. Cole. *Ptr Ink* 120: 129-30+ Ag 10 '22

Plate glass insurance. See Insurance, Plate glass**Plate mills.** See Rolling mills**Plate printing**

Picture plates for the press. H. W. Smith. *il (Bul. v. 2, no. 28, Journalism ser. no. 23)* 64p Univ. of Mo., Columbia O '21

Plates, Escutcheon

Making door hardware. *il Iron Age* 112:154-5 Jl 19 '23

Plates, Iron and steel

Behaviour of stiffened thin plating under water pressure. T. B. Abell. *il diags Engineering* 115:445-7 Ap 6 '23; Discussion. 115: 422 Ap 6 '23; *Engineer* 135:396-7 Ja 13 '23

Investigating defects in arc welds. S. W. Miller. *il Iron Tr R* 71:654-5 S 7 '22

Manufacture and properties of steel plates containing zirconium and other elements. G. K. Burgess and R. W. Woodward. *il diags U S Bur Stand Tech Pa* 207:123-71 '22

Plate patterns warp when glued. J. W. Broadbent. *diags Foundry* 50:969 D 1 '22

Plate production restricted. *Iron Tr R* 72:92 Ja 4 '23

Plates marked by price decline. *Iron Tr R* 70:79 Ja 5 '22

Plates, Iron and steel—Continued

Stress on rectangular plates. K. Sezawa. Engineering 116:186-91 Ag 10 '23
See also Armor plate; Boiler plates

Plating

Almost fool-proof cleaning process. E. H. Woodmansee. plans Metal Ind 21:232-3 Je '23
Laying out a plating shop. C: H. Proctor. Metal Ind 20:14 Ja '22
Metal per ounces of plating chemicals; tabulation. A. Odero. Brass W 18:238 Ag '22
Spotting out problem. C: H. Proctor. Metal Ind 21:274 Ji '23
See also Bronzing; Copper plating; Electroplating; Galvanizing; Gilding; Gold plating; Lead plating; Metal coating; Metal coloring; Nickel plating; Silver plating; Silvering; Tin plate

Plating machines

Webb mechanical plating machine. il Brass W 78:152 My '22

Platinum

Adsorption of carbon monoxide and hydrogen by platinumized asbestos. F. H. Pollard. diag J Phys Chem 27:356-75 Ap '23
Catalysis of hydrogen peroxide by finely divided platinum; the influence of inhibitors. E: B. Maxted. Chem Soc J 121:1760-5 S '22
Chemistry of platinum at high temperatures and pressures. G. R. Shaw. Econ Geol 16: 524-48 D '21
Comparison of the thermionic and photo-electric work function for platinum. O: Koppius. diags Phys R 18:443-55 D '21
Effect of oxygen and hydrogen on the emission of electrons from hot platinum. L. L. Lockrow. diags Phys R 19:97-113 F '22
Imports of platinum into the United States in troy ounces since 1911. Min & Sci P 124: 54 Ja 14 '21
Marketing of platinum. J. M. Hill. Eng & Min J 114:718-19 O 21 '22
Occurrence of platinum in South Africa. E. M. Weston. Eng & Min J 112:815 N 19 '21
Platinum in 1921. J. M. Hill. Eng & Min J 113: 86-7 Ja 21 '22
Platinum in 1922. J. M. Hill. Eng & Min J 115:102 Ja 20 '23
Platinum in quartz veins. H: W. Turner. Eng & Min J 113:488-9 Mr 25 '22
Platinum in the quartz veins of southwest Oregon. A. E. Kellogg. Eng & Min J 113:1000 Je 10 '22
Platinum—its uses, substitutes and how to test. Brass W 17:217-18 Ji '22
Platinum; where the most valuable metal comes from and uses to which it is put. G. E. Mitchell. il Sci Am 128:368-9 Je '23
Preparation of platinum and of platinum-rhodium alloy for thermocouples. R. P. Neville. Am Electrochem Soc Trans v 43 (preprint 13):125-36 My '23; Same cond. Brass W 19: 288-90 S '23
Projets de normalisation du platine, du zinc, des barres et des fils de cuivre ou d'aluminium, élaborés par la commission permanente de standardisation. Génie Civil 81: 221-2 S 2 '22
Recovery of platinum from used contact mass at the Old Hickory powder plant. A. L. Kibler. J Ind & Eng Chem 14:636-41 Ji '22
Scattering of low speed electrons by platinum and magnesium. C. Davisson and C. H. Kunsman. Phys R 22:242-58 S '23
Separating platinum from sand. Eng & Min J 113:251 F 11 '22
Small Canadian platinum production. Eng & Min J 113:625 Ap 15 '22
Some photoelectric experiments on platinum relating to the influence of gases. L. A. Welo. diags Philos Mag 6th ser 45:593-609 Mr '23
Some properties of hydrogen desorbed from platinum and palladium. P. Anderson. diags Chem Soc J 121:1153-61 Je '22
State-controlled platinum trust has been organized by the Soviet government. Min & Sci P 124:128 Ja 28 '22

Thermoelectric properties of sputtered films of gold, platinum, and palladium; and of solid palladium containing occluded hydrogen. R. M. Holmes. diag Phys R 22:137-47 Ag '23

Les travaux de la commission interministérielle du platine. Génie Civil 80:554-5 Je 17 '22

Über die wirkungsweise des platins bei der sauerstoff-wasserstoff-katalyse und über die verwendung von titanschwefelsäure zur kontrolle des reaktionsverlaufes. K. A. Hofmann. Deutsche Chem Gesell Ber 55:1265-74 My '22

U.S. platinum production unchanged in 1922. Eng & Min J 115:886 My 19 '23

Varying valency of platinum with respect to mercaptanic radicles. P. C. Rây. Chem Soc J 123:133-41 Ja '23

See also Platinum metals

Analysis

Detection and estimation of small amounts of platinum and palladium in the presence of large amounts of silver. C. A. Knittel. Can Chem & Met 6:179-80 Ag '22

Platinum compounds

Complex platinum compounds; molecular rearrangements observed with complex platinum compounds; abstract. L. A. Tschugaev and N. K. Pschenicyn. Chem Soc J 122 pt 2:856-7 D '22

Hydrolysis of platinum salts; potassium platinbromide. E. H. Archibald and W: A. Gale. Chem Soc J 121:2849-57 D '22

Platinum metals

Investigations on platinum metals at the Bureau of standards. E: Wichers and L: Jordan. Am Electrochem Soc Trans v 43 (preprint 18):221-31 My '23

Platinum metals and the jewelry industry. T: A. Wright. Eng & Min J 115:877-8 My 19 '23

Production of platinum and allied metals in 1922 practically unchanged. Eng & Min J 115:1132 Je 23 '23

Some notes on the metals of the platinum group. F: E. Carter. Am Electrochem Soc Trans v 43 (preprint 22):271-82 My '23

Zur kenntnis der sauerstoff-wasserstoff-katalyse durch platinmetalle und über die potenziale der kontakte bei gegenwart wässriger elektrolyte. K. A. Hofmann. diags Deutsche Chem Gesell Ber 55:573-83 F '22

See also Palladium

Platinum oxide

Platinum oxide as a catalyst in the reduction of organic compounds; preparation and properties of the oxide of platinum obtained by the fusion of chloroplatinic acid with sodium nitrate. R. Adams and R. L. Shriner. Am Chem Soc J 45:2171-9 S '23

Platinum oxide as a catalyst in the reduction of organic compounds; reduction of aldehydes. W. H. Carothers and R. Adams. Am Chem Soc J 45:1071-86 Ap '23

Use of the oxides of platinum for the catalytic reduction of organic compounds. V. Voorhees and R. Adams. Am Chem Soc J 44: 1397-1405 Je '22

Plauson colloid mill. See Colloid mill

Player pianos. See Piano players, Mechanical

Playgrounds

Laura Nelson Jobst memorial playground, Peoria, Ill.; view. Am Arch 122:452j N 22 '22

Progress in municipal playground and recreation activities. M. T. Wood. Munic Eng 64: 228-9 Je '23

Playhouses

Playhouse and study. T: Hunt. il diag plan Arch Rec 51:521-8 Je '22

Playing cards. See Cards—Advertising

Pleasantville, New Jersey

Sewerage

Sewage screen and pump station at Pleasantville, N.J. W. D. Vosbury. il plans Eng N 88:242-3 F 9 '22

Plesiosaurus

Antediluvian monster; is the Argentine plesiosaurus a fake or a scientific marvel? L. Matters. *Sci Am* 127:21 J1 '22

Pleurodirans. See Tortoises, Fossil**Pleuromeia**

Pleuromeia and haushmania in eastern Siberia. A. Kryshstofovich. *diags Am J Sci* 5th ser 5:200-8 Mr '23

Pliers**Advertising**

Krauter pliers advertise their way into the household. *il Ptr Ink* 125:111-12 N 1 '23

Pliocyon marshi. See *Aræocyon***Pliotron**

L'évolution des tubes à décharge électrique de grande puissance. *diag Génie Civil* 82: 36-7 Ja 13 '23

Plowing

Subsoil tillage increases in California. *il Pop Mech* 39:843 Je '23

Plows, Electric

Electric plowing in Europe. *il Elec W* 81: 692-3 Mr 24 '23
Electrically driven plows. A. Delamarre. *Elec W* 79:243 F 4 '22

Plows, Motor

Agrimotor; present failings and future prospects. H. S. Hall and H. G. Burford. *il diags Automobile Eng* 11:387-9 N '21
German motor plow design provides for variety of work. P. M. Heldt. *diag plan Automotive Ind* 47:63-5 J1 13 '22

Germans develop new motor plow designs. *diags Automotive Ind* 47:524-7 S 14 '22
Monster plow turns ten-foot furrows. *il Pop Mech* 39:589 Ap '23

New principle in plowing and road surfacing and ice surfacing. E. M. Stevenson. *il Sci Am* 128:33 Ja '23

Portable machine may be a plow or a planer. H. S. White. *il Pop Mech* 37:530-1 Ap '22

Rotary plow. *il Sci Am* 129:245 O '23

Self-propelling plow with rotating shares. *il Pop Mech* 38:271 Ag '22

Tractor and plow reactions to various hitches. O. B. Zimmerman and T. G. Sewall. *diags Soc Auto Eng J* 11:107-15; Discussion. 115: 16 J1 '22

Tractor and plow usage in the first breaking of peat land. J. L. Larson. *il chart diags plan Soc Auto Eng J* 13:285-92; Discussion. 292: 5 O '23

Trusty plow soon may be only a relic; the new rotary plow. F. Ridgway. *il Pop Mech* 40:250-1 Ag '23

Plugs. See Electric fittings; Spark plugs**Plumb plan**

Industrial democracy, a plan for its achievement. G. E. Plumb and W. G. Roylance. 359p Huebsch '23

United mine workers would raise wages and cut prices by nationalization of anthracite mines. *Coal Age* 23:985-6 Je 14 '23; Same. *Comm & Fin Chr* 116:2732-3 Je 16 '23

See also Railroads and state—United States—Plumb plan

Plumbago. See Graphite**Plumbers**

Apprentice problem as they affect the heating industry. F. W. Howard. *Sanitary & Heat Eng* 97:41-2+ Ja 27 '22

Apprenticeship plan. *Dom Eng* 104:6-9 J1 7 '23

Apprenticeship question. *Sanitary & Heat Eng* 97:130-1 Mr 10 '22

Educating the plumber's apprentice. *il Sanitary & Heat Eng* 98:245-6 N 3 '22

Master plumber. W. C. Tillet. *Sanitary & Heat Eng* 98:14-15 J1 14 '22

National apprenticeship plan. *Sanitary & Heat Eng* 98:40-3+ J1 28 '22

National apprenticeship program. *Heat & Ven* 20:62 Mr '23

Novel experiences in the plumbing field. G. Van Loan. *Sanitary & Heat Eng* 99:245 Ap 20 '23

Our future success. C. L. Kennedy. *Sanitary & Heat Eng* 97:385+ Je 30 '22

Plan for solving the apprenticeship problem. R. E. Maloney. *Dom Eng* 100:148-50+ J1 22 '22

Plumbing apprentice. F. E. Fladd. *Sanitary & Heat Eng* 99:218+ Ap 6 '23

Plumbing apprentice. J. A. Quinn. *Sanitary & Heat Eng* 99:464+ Je 29 '23

San Francisco apprentice system. *Dom Eng* 104:68 J1 14 '23

Schedule of plumbing and heating production. *Sanitary & Heat Eng* 97:53-4 Ja 27 '22

Solving the apprenticeship problem. J. S. Cassidy. *Sanitary & Heat Eng* 99:256-7+ Ap 20 '23; Abstract. *Dom Eng* 103:219-20 My 5 '23

Solving the apprenticeship problem. J. A. Quinn. *Sanitary & Heat Eng* 99:323-4 My 18 '23; Same cond. *Dom Eng* 103:492-3 Je 9 '23

They builded better than the jokester knew; the sophistry of the flippant editorial which appeared in the *Detroit News*. *Sanitary & Heat Eng* 97:213-14 Ap 21 '22

Using government money in training apprentices. E. L. Field. *il Dom Eng* 101:84-7 O 21 '22

See also Plumbing; Plumbing trade

Plumbers' associations

Education the essential function of an association. *il Dom Eng* 97:478-82 D 10 '21

How to operate an association. *Dom Eng* 102:181-2 Ja 27 '23

In the youngest city in the world; model master plumbers' association in Gary, Ind. *Dom Eng* 101:514-16 D 23 '22

T.E.B. conference of the secretaries of Master plumbers' associations. *Sanitary & Heat Eng* 99:54-60 Ja 26 '23; *Dom Eng* 102:132-7 Ja 20 '23

Value of organizations to the master plumber. C. L. Arting. *Dom Eng* 98:399 Mr 4 '22

Plumbers' tools

Analysis of construction costs and methods.

H. A. Call. *il Plumber* 95:199-201, 269-71, 334-5+; 96:14-15 Ap 8, My 6, Je 3, J1 1 '21; (cont. in) *Sanitary & Heat Eng* 96:75-6, 139-41+, 202-3, 260-1, 312+, 375-6+; 97: 3-5, 63-5, 126-9 J1 29, Ag 26, S 23, O 21, N 18, D 16 '21, Ja 13, F 10, Mr 10 '22

Plumbing

Clever plumbing promotion by a progressive plumber. D. A. Deacon. *il Dom Eng* 99: 454-5+ Je 10 '22

Community service plant. L. M. Emmet. *diags plan Dom Eng* 101:413-15, 472-4 D 9-16 '22

Cutting costs in the plumbing for two-family houses. F. Steele. *diags plans Sanitary & Heat Eng* 97:9-10 Ja 13 '22

Dont's for plumbers. F. R. King. *Dom Eng* 104:498-9 S 8 '23

Fundamentals of economical plumbing. W. P. Gerhard. *Am Arch* 120:482-6 D 21 '21; Same. *Sanitary & Heat Eng* 97:95-8+ F 24 '22

Heating and sanitary fittings in modern English bakery. J. Y. Dunlop. *il diags plans Sanitary & Heat Eng* 98:216-18 O 20 '22

How plumbing is simplified in Atlanta, Georgia. W. C. Groeniger. *diags Dom Eng* 97:389-91 N 26 '21

Johnson's new handy manual on plumbing, domestic and sanitary engineering, drainage and sewerage. J. W. Johnson. 11th ed. 236p J. W. Johnson, Park Ridge, Ill. '21

Modern plumbing illustrated. R. M. Starbuck. 4th ed., rev. & enl. 407p Henley '22

Plumbers' handbook. S. E. Dibble. 629p McGraw-Hill '22

Plumbing and sanitation in hospitals. M. J. Sturm. *diags plan Arch Forum* 37:293-6 D '22

Plumbing and water system in hotels. E. A. Bernstrom. *il Am Arch* 124:209-12 Ag 29 '23

Plumbing as it is done in England. J. Y. Dunlop. *diags plan Dom Eng* 97:490-1 D 10 '21

Plumbing construction detail in modern office building. J. K. Raymond. *diags plan Dom Eng* 99:319-21+ My 20 '22

Plumbing for industrial buildings. J. A. Cotter. *il Arch Forum* 39:128-30 S '23

Plumbing—Continued

Plumbing in a large residence; home of the late Francis S. Peabody at Hinsdale, Illinois. E. Cunningham. il plans Dom Eng 100:447-51 S 9 '22

Plumbing in a medium-sized residence. E. Cunningham. il plans Dom Eng 99:186-8 Ap 29 '22

Plumbing in the largest fire-proof hospital in the world; the Edward Hines, Jr., Memorial hospital at Broadview, Cook county, Illinois. il diags plans Dom Eng 98:60-5, 118-20, 160-3 Ja 14-28 '22

Plumbing regulation. G. C. Whipple. Sanitary & Heat Eng 99:149-50 Mr 9 '23

Practical up-to-date plumbing. G. B. Clow. 340p Drake '22

Principles and practice of plumbing. J. J. Cosgrove. 391p Technical bk. pub. co., Scranton, Pa. '22

Principles of practical plumbing. A. E. Smith. il Dom Eng 101:4-7, 92-5+ O 7, 21 '22

Roughing-in for two-family building. J. K. Raymond. diags Dom Eng 101:180-1 N 4 '22

Something new in plumbing. C. Hunter. il Dom Eng 100:15-16 Jl 1 '22

Special plumbing and lighting requirements for the modern garage. C. L. Hubbard. il diags Bldg Age 44:38-9 Je '22

Water service and fire protection for an eleven-story office building. E. Cunningham. diags Dom Eng 98:206-10 F 4 '22

Water supplies for city residences. A. E. Smith. diags Dom Eng 101:467-9, 578-80 D 16, 30 '22

Water supply and pressure control in high buildings. L. M. Emmet. diags Dom Eng 97:346-7+ N 19 '21

See also Drainage, House; Drinking fountains; Gas fitting; Heating; Hot water supply; Lavatories; Pipe fitting; Pipe fittings; Plumbers; Plumbing fixtures; Plumbing shops; Plumbing trade; Sanitary engineering; School sanitation; Sewer pipes; Sewerage; Solder and soldering; Steam pipes; Swimming pools; Tanks; Water distribution; Water pipes

Bibliography

Building and contracting leaders choose basic books of industry. Heat & Ven 19:54-5 O '22; Excerpt (Heating, ventilating and plumbing). Am Soc Heat & V E J 28:787-8 N '22

Costs

Analysis of construction costs and methods. H. A. Call. il Plumber 95:199-201, 269-71, 334-5+; 96:14-15 Ap 8, My 6, Je 3, Jl 1 '21; (cont. in) Sanitary & Heat Eng 96:75-6, 139-41+, 202-3, 260-1, 312+, 375-6+; 97:3-5, 63-5, 126-9, 186-8 Jl 29, Ag 26, S 23, O 21, N 18, D 16 '21, Ja 13, F 10, Mr 10, Ap 7 '22

What's amazing about plumbing and heating prices? il Sanitary & Heat Eng 98:185-7+ O 6 '22

Directories

Classified directory of plumbing and heating contractors of the United States. National trade extension bureau, Evansville, Ind. '22

Drawing

Drawing for the plumber. R. M. Starbuck. diags plans Dom Eng 102:314-17, 411-14, 508-11, 603-6; 103:108-11, 266-9, 368-70+, 482-4+, 579-82; 104:44a-d, 114-17, 226-8+, 328-30+, 426-9 F 17, Mr 3, 17, 31, Ap 21, My 12, 26, Je 9, 23, Jl 7, 21, Ag 4, 18, S 1 '23

Mechanical drawing for plumbers. R. M. Starbuck. 3d ed., rev. and enl. 123p Henley '23

Schoolmaster and his class. R. M. Starbuck. diags Dom Eng 103:8-11, 158-62, 209-12+, 318-22, 443-6, 529-31, 630-3; 104:64-8, 168-71, 278-81, 380-3, 480-3, 582-6, 630-4; 105:14-17+, 116-19, 218-21, 320-4 Ap 7, 28-May 5, 19, Je 2, 16, 30, Jl 14, 28, Ag 11, 25, S 8, 22- O 6, 20, N 3, 17 '23

Estimates

Accurate plumbing and heating estimates, how made. H. A. Call. 192p Applied book co., New York '23

Accurate plumbing and heating estimates—how made. H. A. Call. Sanitary & Heat Eng 96:344-6, 393-4; 97:38-40, 99-100, 152-3+, 250-3, 308-13 D 2, 30 '21, Ja 27, F 24, Mr 24, My 5, Je 2 '22

Estimating for the plumber. R. M. Starbuck. diags Dom Eng 105:55-8, 158-61 O 13, 27 '23

Estimating plumbing plans. J. K. Raymond. Dom Eng 101:280-2 N 18 '22

Find the cost—find the profit. G. A. Kearney. Dom Eng 102:518-19 Mr 17 '23

Schedule of plumbing and heating production. Sanitary & Heat Eng 97:53-4 Ja 27 '22

Safety devices and measures

Accidental deaths by gas in New Orleans will be less. Sanitary & Heat Eng 97:158-9+ Mr 24 '22

Standards

Report of committee on standardization. Sanitary & Heat Eng 97:336-7+ Je 30 '22

Standardization of plumbing goods. W. A. Durgin. il Sanitary & Heat Eng 100:3-6 Jl 13 '23

Standardization suggestions. W. W. Hughes. diags Dom Eng 100:63-4 Jl 8 '22

Standardizing supply fittings. W. W. Hughes. Dom Eng 101:270 N 18 '22

Study and teaching

Making plumbers and steam fitters in New Orleans; the Isaac Delgado Central trade school. il Dom Eng 97:570-1 D 24 '21

Making plumbers in Philadelphia. E. L. Seabrook. Dom Eng 97:387-8 N 26 '21

Solving a national problem; from an interview with George M. Getschow. H. E. Taylor. Dom Eng 101:362-4 D 2 '22

World's first short course in plumbing at Champaign, Illinois. il Dom Eng 102:263-6 F 10 '23

Tables, calculations, etc.

Determining water pipe sizes for plumbing fixtures, risers and mains. Sanitary & Heat Eng 100:276-9+ N 2 '23

Water pipe sizes for plumbing fixtures, branches and mains. W. S. Timmis. Am Soc Heat & V E J 28:397-403 My '22; Same. Sanitary & Heat Eng 98:6-8 Jl 14 '22

Terminology

Soil, waste, and vent piping for private dwellings. F. R. King. diags plan Dom Eng 101:418-21 D 9 '22

See also Cock (term); Faucet (term)

Traps

Correct fittings and pipe in modern plumbing. F. R. King. diags plan Dom Eng 102:176-8 Ja 27 '23

Plumbing fixture traps. A. E. Hansen. 83p Harper '21

Pressures in vent and soil pipes. H. E. Babbitt. Dom Eng 100:371+ Ag 26 '22

Venting of wastes. A. E. Smith. Dom Eng 104:639-40 S 29 '23; Same. Sanitary & Heat Eng 100:348-9 N 30 '23

Ventilation

Drawing for the plumber. R. M. Starbuck. diags Dom Eng 103:579-82 Je 23 '23

Modern methods of toilet room ventilation. R. M. Starbuck. diags plans Dom Eng 104:528-30 S 15 '23

Plumbing inspector suggests simplification of venting closets in proposed basis for standard plumbing code. diags Dom Eng 97:540-1 D 17 '21

Right and wrong way of ventilating in city residences. F. R. King. diags Dom Eng 101:517-20+ D 23 '22

See also Plumbing—Traps

Plumbing contracts

Comment on form of plumbers' contract with provisions for title to fixtures to remain in contractor. Dom Eng 100:13-14+ Jl 1 '22

Does the New York state law call for separate contracts for plumbing and heating work in villages outside of cities of first, second and third class? Dom Eng 101:379+ D 2 '22

Plumbing contracts—Continued

Form of contract suggested for use where plumber wishes to retain title to goods until they are paid for. Dom Eng 103:494-6 Je 9 '23

How a contract is construed which is made in one state to be performed in another. Dom Eng 100:329+ Ag 19 '22

Point often overlooked in seeking new business. F. Steele. Sanitary & Heat Eng 100:208-9 O 5 '23

See also Building contracts

Plumbing fixtures

Bidet fixture. H. A. Call. diag Sanitary & Heat Eng 100:288+ N 2 '23

Brass committee reports; tentative recommendations made. Dom Eng 103:446 Je 2 '23

Drawing plumbing fixtures. R. M. Starbuck. diags Dom Eng 104:114-17 J1 21 '23

Grading for quality; plumbers' cast brass goods. F. W. Parks. Dom Eng 105:125-7 O 20 '23

Ratio of plumbing fixtures required for public buildings. A. E. Smith. Sanitary & Heat Eng 100:138-40+ S 7 '23

Relation of quality of water to operation of piping and fixtures. D. A. Heffernan. Can Eng 43:383-4 S 26 '22; Same. Eng & Contr (V W) 58:104-6 N 8 '22

Selecting plumbing fixtures for the home. A. E. Smith. diags Dom Eng 102:120-3+ Ja 20 '23

Service pipes and plumbing appliances: some experiences, experiments and recommendations. D. A. Heffernan. N E Water Works Assn J 37:47-53; Discussion. 53-61 Mr '23

Turning junk into profit. S. Sayward. Dom Eng 104:325-7 Ag 18 '23

Advertising

When the manufacturer sells his product and the dealer's service to the consumer. R. Cole. Ptr Ink 119:3-4+ Je 22 '22

Plumbing inspection

Importance of reinspection. A. E. Smith. Sanitary & Heat Eng 98:132-3, 156-7+ S 8-22 '22

Plumbing laws and regulations

Court's view of plumbers and the plumbing business. Dom Eng 103:269 My 12 '23

Enforcement of health and plumbing regulations. J. Fowler. Dom Eng 97:406-7 N 26 '21; Same. Sanitary & Heat Eng 96:290+ N 4 '21

Georgia Superior court judge issues injunction against the installation of sanitary plumbing. diags Dom Eng 103:327-9 My 19 '23

Model city plumbing code. F. R. King. Dom Eng 101:224-6, 319-21+, 418-21, 517-20+; 102:76-8, 176-8, 466-8; 103:60-1, 537-9; 104:176-8, 339+, 498-9; 105:371-2, 484-5+ N 11, 25, D 9, 23 '22, Ja 13, 27, Mr 10, Ap 14, Je 16, J1 28, Ag 18, S 8, N 24, D 8 '23

Modern sanitary practice; illustrated outline of rules and regulations as adopted by Wisconsin state board of health. il diags plan Sanitary & Heat Eng 98:312-14; 99:8-12, 113-15+, 251-3, 318-20; 100:46-9, 172-4 D 1 '22, Ja 12, F 23, Ap 20, My 18, J1 27, S 21 '23

Pictorial interpretation of plumbing and drainage code of New York city. diag Sanitary & Heat Eng 97:51 Ja 27 '22; Same. Dom Eng 99:55 Ap 8 '22; Same. Am Arch 121:328 Ap 12 '22

Plumbing questions with answers on the New York city plumbing rules and regulations. J. E. Taggart. Sanitary & Heat Eng 97:29-31, 91-3, 154-6, 217-19, 279-80, 383-4; 98:36-7, 100-1, 163-4+, 219-20+ Ja 27, F 24, Mr 24, Ap 21, My 19, Je 30, J1 28, Ag 25, S 22, O 20 '22

Secretary Hoover's sub-committee on plumbing makes report. Sanitary & Heat Eng 98:232-3, 254-7, 276-9 O 20-N 17 '22

What to do where local city government refuses to enforce ordinances regarding licensing of master plumbers. Dom Eng 100:456-7 S 9 '22

See also Plumbing contracts

Plumbing shops

Complete shop on wheels. il Dom Eng 100:

489-90 S 16 '22

Keeping busy near home. J. Quill. plans Dom

Eng 103:315-17 My 19 '23

Micawber was wrong. C. H. Bishop. il plan

Sanitary & Heat Eng 97:179-81 Ap 7 '22

More on the traveling plumbing shop. il

Dom Eng 101:36-7 O 7 '22

Past is only a start for the future. il Dom

Eng 101:570-2 D 30 '22

Reliability! story of M. D. Holmes & sons

co. S; Sayward. il Dom Eng 104:111-13 J1

21 '23

Shop I would like to build. il Dom Eng 101:

464-6 D 16 '22

Shop on wheels. il Dom Eng 104:182 J1 28

'23

Something distinctive in the plumbing busi-

ness. il Dom Eng 97:434-5+ D 3 '21

See also Plumbers' tools

Equipment and supplies

Keeping stock records up-to-date. J. K. Ray-

mond. il Dom Eng 101:47-8 O 14 '22

Power equipment in moderate-sized shop. il

Dom Eng 99:228-30 My 6 '22

Simple rack results in big saving of pipe.

diag Dom Eng 100:320 Ag 19 '22

Management

Analysis of construction costs and methods.

H. A. Call. Sanitary & Heat Eng 97:3-5, 63-

5, 136-8 Ja 13, F 10, Ap 7 '22

Few things to be careful about. L. G. Her-

bert. il Dom Eng 97:291 N 12 '21

Ideas that have contributed to the success

of a prosperous plumbing and heating

business. Dom Eng 98:304-6 F 18 '22

Keeping the shop clean. il Dom Eng 97:251 N

5 '21

Where are my profits? Sanitary & Heat Eng

97:244+ My 5 '22

Plumbing supplies industry**Accounting**

Cost of doing business—1922. Dom Eng 103:

391 My 26 '23

Plumbing trade

Accomplishments of 1922—the possibilities of

1923. Sanitary & Heat Eng 98:376-98 D 29

'22

Adopt schemes to abet sales. G. Raymond.

Sanitary & Heat Eng 98:307-8+ D 1 '22

All acknowledged methods for building busi-

ness have been well tested out and proven

in experience. F. Steele. Sanitary & Heat

Eng 98:342-4 D 15 '22

Educate the public to a proper regard of your

profession. R. G. Bookhout. Sanitary &

Heat Eng 99:409-10+ Je 15 '23

Eight years of successful leadership and ser-

vice have won for Walter Klie, of Clevel-

and, a successful business. Dom Eng 98:

524-5+ Mr 25 '22

First milestone in co-operation; Massachu-

setts plumbers and gas company try co-

operation. il Dom Eng 101:8-9 O 7 '22

Gasoline filling stations prospects for plumb-

ing. il Dom Eng 99:94-5 Ap 15 '22

Getting around the labor charge. Dom Eng

102:266 F 10 '23

Getting away from competition through

merchandising, remodeling and repair

work. Dom Eng 104:377-9 Ag 25 '23

Good fields in other lands. F. Wall. Dom

Eng 104:294-5 Ag 11 '23

Harnessing the telephone. Dom Eng 104:

288-9 Ag 11 '23

How plumbing goods are sold and installed

in foreign countries. F. Wall. il Dom Eng

104:79-80 J1 14 '23

How sales were more than tripled in one sani-

tary and heating shop. F. Steele. Sanitary

& Heat Eng 97:314-15+ F 2 '22

Increasing plumbing business through model

homes. il Dom Eng 100:59-60 J1 8 '22

Individual in the plumbing and heating in-

dustry has many millions in capital behind

him. F. Steele. Sanitary & Heat Eng 98:

309-10 D 1 '22

The Jones' we meet. Y. Adams. Sanitary &

Heat Eng 96:335-7 D 2 '21

Plumbing trade—Continued

Laying your lines for new business. R. A. Hardy. Sanitary & Heat Eng 97:31-2 Ja 27 '22

Little standardization in foreign countries. F. H. Love. Dom Eng 104:496-7 S 8 '23

Lynn co. solves plumbers' problems. Gas Age 49:259-60 Mr 4 '22

Master plumbers are finding themselves. J. E. Dugan. Sanitary & Heat Eng 97:245+ My 5 '22

Merchandising the plumbing business. K. W. Zoeller. 107p Domestic engineering co., Chicago '21

More toilets in more restaurants. S. Sayward. il Dom Eng 104:477-9 S 8 '23

New field opening up for plumbers. R. Falconer. Dom Eng 97:407-8 N 26 '21

No plumbing dealer nor heating contractor need wait for business—business can be created. F. Steele. Sanitary & Heat Eng 99:4-5 Ja 12 '23

Now for the Christmas trade. Dom Eng 101:316-18 N 25 '22

Picking prospects from the daily paper. J. H. Bryan. Dom Eng 98:262-3 F 11 '22

Picking prospects from the local paper. H. D. Kemperton. Dom Eng 97:244+ N 5 '21

Plumbing and heating business in 1922—what leading manufacturers think it will be. Dom Eng 98:50-6 Ja 14 '22

Plumbing business that wouldn't dissolve; A. C. Eynon of Canton, O. il Dom Eng 98:436-8 Mr 11 '22

Principles that build business. E. L. Barker. il Dom Eng 97:288-90 N 12 '21

Prosperous plumbing business built on modern methods. W. E. Mair. il Dom Eng 97:528-30 D 17 '21

Quality—not price—is the basis of a desirable reputation. C. H. Bishop. Sanitary & Heat Eng 98:99+ Ag 25 '22

Selling plumbing goods by showing them. Dom Eng 97:240-2 N 5 '21

Service and salesmanship the foundation of this master plumber's success; Wm. Malcolm, of Yonkers, N.Y. F. Wall. il Dom Eng 100:444-6 S 9 '22

A shoe string and an ideal; being the account of the C. C. Hartwell co. T. E. Dabney. il Dom Eng 101:44-6 O 14 '22

Show them the line—motto of successful master plumber. F. Steele. Sanitary & Heat Eng 98:161-2 S 22 '22

Some evils that need to be corrected—and how. H. H. Mattison. Sanitary & Heat Eng 96:285-6+ N 4 '21

Speaking of the free faucet service. W. W. Hughes. Dom Eng 101:426-7 D 9 '22

System and high standards the foundation of prosperous plumbing company's success. Dom Eng 100:314-16 Ag 19 '22

They raised his rent, and he quit. C. H. Bishop. il Sanitary & Heat Eng 98:31-2 Jl 28 '22

Transmission and psychology of the work shop. J. C. Bixby. Sanitary & Heat Eng 97:157+ Mr 24 '22

Twenty-three years of successful merchandizing; S. B. Stewart of New Orleans. T. E. Dabney. il Dom Eng 100:270-2 Ag 12 '22

Value of organization to the master plumber. Sanitary & Heat Eng 97:94 F 24 '22

Volume—at a profit; Alaska plumbing and heating company at Portland, Oregon. il Dom Eng 104:165-7 Jl 28 '23

Water must be pure and fresh for human use. M. J. Finn. diags Sanitary & Heat Eng 99:41-2 Ja 26 '23

What every merchant plumber should know about financing. H. F. Podhaski. Dom Eng 99:570-2+ Je 24 '22

When the manufacturer sells his product and the dealer's service to the consumer. R. Cole. il Ptr Ink 119:3-4+ Je 22 '22

Where to begin selling. Y. Adams. Sanitary & Heat Eng 97:36-7 Ja 27 '22

Woman reaches women; proves sales magnet and business builder. Dom Eng 101:268-70 N 18 '22

See also Plumbing fixtures; Plumbing laws and regulations; Plumbing shops;

Water supply. Rural; also Cornell, W. G., company, New York city; National trade extension bureau

Accounting

Cost accounting for sanitary and heating contractors. A. L. Brown. Sanitary & Heat Eng 98:65-7+ Ag 11 '22

Cost accounting system which has proven satisfactory. H. Lloyd. Sanitary & Heat Eng 97:226-8+ Ap 21 '22; Same. Dom Eng 99:101-3+ Ap 15 '22

Master plumber and a good bookkeeping system. G. R. Doyle. Dom Eng 97:258-9 N 5 '21

Master plumber and a good bookkeeping system. G. R. Doyle. Sanitary & Heat Eng 96:310-11 N 18 '21

Advertising

Advertisement on the cost of doing business, planned for the use of associations or groups of plumbing and heating dealers. Dom Eng 97:403 N 26 '21

Advertising—individually and collectively. R. G. Thomas. Sanitary & Heat Eng 99:291-2 My 4 '23

Big annual bath a day drive. il Dom Eng 99:406-9+ Je 3 '22

Breaking down the barriers of delusion; Lowell association launches educational campaign of advertising. Sanitary & Heat Eng 97:121-2 Mr 10 '22

Building good will and Christmas sales. il Sanitary & Heat Eng 98:273-5+ N 17 '22

Changing the public's mind; a series of three letters. Dom Eng 104:219 Ag 4 '23

Co-operation is the life of trade. il chart Dom Eng 100:2-5 Jl 1 '22

Developing public interest in plumbing and heating. B. Lehar. Dom Eng 100:360+ Ag 26 '22

Display and advertising ideas from Canadian plumbers. E. A. Dench. Dom Eng 97:586-7 D 24 '21

Envelope stuffers for dealers. Dom Eng 100:526-30 S 23 '22

First year of a bath a day. il Dom Eng 97:384-6 N 26 '21

Function of the sanitarian. Sanitary & Heat Eng 100:255-6 O 19 '23

Getting business with blotters. Sanitary & Heat Eng 99:110-11 F 23 '23

Getting out of the hole in the wall. A. H. French. il Dom Eng 97:344-5 N 19 '21

Getting the plumber to explain himself. Ptr Ink 119:150+ Je 1 '22

Good of envelope stuffers. Dom Eng 101:218-20 N 11 '22

He goes out and gets it. P. E. Charleston. Dom Eng 105:3-5 O 6 '23

Holiday gift season means a big business boom. F. Steele. Sanitary & Heat Eng 100:280-1 N 2 '23

In a town where everybody knows everybody. Dom Eng 101:410-12 D 9 '22

Interesting the public in a clean-up campaign. W. B. Stoddard. Sanitary & Heat Eng 97:119-20 Mr 10 '22

It is so easy—why don't we do it. Y. Adams. il Sanitary & Heat Eng 96:307-9 N 18 '21

Letter heads that sell. R. Falconer. Dom Eng 97:242-3 N 5 '21

Letters you don't write. Dom Eng 100:17 Jl 1 '22

Making the sales of plumbing grow. Dom Eng 98:156-9 Ja 28 '22

Man who changed his mind. il Dom Eng 100:226-8 Ag 5 '22

Our girl reporter goes West; some impressions of California. Dom Eng 104:93-4 Jl 14 '23

Pioneering in the plumbing and heating business. il Dom Eng 98:110-11 Ja 21 '22

Pointed editorials for use in local newspaper advertising. Dom Eng 97:295, 348-9, 439, 489, 543, 582-3, 635; 98:17, 83, 127, 169, 219, 269-70, 317, 355, 447, 493, 537; 99:5, 69, 113, 155, 197, 237, 279, 335, 369, 413, 473, 577; 100:65, 99, 143, 195, 231, 277, 325, 365, 407, 455, 493, 535, 571; 101:13, 55, 91, 129, 179, 223 N 12-19, D 3 '21-F 25, Mr 11-Je 10, 24, Jl 8-N 11 '22

Plumbing trade—Advertising—Continued

- Positive as' opposed to the negative attitude in engineering a business in larger volume. F. Steele. Sanitary & Heat Eng 98:399-402 D 29 '22
- Profit making sales scheme; investment of \$10 in direct-by-mail campaign on air valves brings in profits of \$158.90. Sanitary & Heat Eng 98:345+ D 15 '22
- Proved methods which have sold plumbing and heating goods at a profit. F. Steele. Sanitary & Heat Eng 97:381-2 Je 30 '22
- Some ways to put a bath in every home. I. Spear. Dom Eng 99:2-4 Ap 1 '22
- Tagging the public for Easter. W. B. Stoddard. il Sanitary & Heat Eng 97:147-8 Mr 24 '22
- Taking the lead. il Sanitary & Heat Eng 97:271+ My 19 '22
- Water closets and good health. il Dom Eng 100:566-8 S 30 '22
- See also Plumbing fixtures—Advertising

Drafting and planning

- Great savings in time and material through use of a drafting department. F. Steele. Sanitary & Heat Eng 96:342-3 D 2 '21

Exhibitions

- Exhibits increase the sale of plumbing and heating equipment. il Dom Eng 100:136-8 JI 22 '22
- Exhibits on the Garden pier at Atlantic City, June 26-28. il Dom Eng 104:26-7+ JI 7 '23
- Great plumbing exhibit at Atlantic City, N. J. Dom Eng 103:240-1+ My 5 '23; Sanitary & Heat Eng 99:445-9 Je 29 '23
- News and views of the National association of master plumbers exposition in Detroit. Dom Eng 99:523-5, 528-34 Je 17 '22; Sanitary & Heat Eng 97:365-9 Je 16 '22
- Own your home exposition in Chicago. il Dom Eng 103:66-7 Ap 14 '23
- Public exhibits provide means for stimulating sales. F. Steele. il Sanitary & Heat Eng 98:213-15 O 20 '22

Farm market

- Build plumbing and heating business among farmers now. il Dom Eng 100:44-7 JI 8 '22
- Cashing in on the county fair. il Dom Eng 104:220-3 Ag 4 '23
- Develop the farm market through exhibits. il Dom Eng 101:124-6 O 28 '22
- Farm business. F. Steele. Sanitary & Heat Eng 100:37-9+, 73-5+, 116-18, 167-9+, 239-41 JI 27-Ag 24, S 21, O 19 '23
- For running water on the farm. il Dom Eng 100:186-9 JI 29 '22
- Reaching whole neighborhoods. il Dom Eng 104:235-6 Ag 4 '23
- Selling water systems. Dom Eng 104:229-30 Ag 4 '23

Partial payment plan

- For and against part payment plans. Dom Eng 99:275-7 My 13 '22
- How a New York master plumber secures business on the deferred payment plan. B. Lebor. il Dom Eng 100:92-3 JI 15 '22
- How New York city views the installment payment plan. F. Wall. Dom Eng 98:23+ Ja 7 '22
- Installing plumbing and heating on the part-payment plan. Dom Eng 97:614-20 D 31 '21
- Part payment plans in plumbing and heating. Dom Eng 97:296-8 N 12 '21
- Partial payment plan. Dom Eng 100:98 JI 15 '22
- Should deferred payment plans be used generally in the plumbing and heating industry? Dom Eng 99:182-5 Ap 29 '22

Taxation

- Is a tax on a master plumbers' business as a merchant legal where goods are not sold over the counter? Dom Eng 101:235-6 N 11 '22

Plumbers

- Mold hollow brass cylinders. C. Vickers. diags Foundry 51:491-4 Je 15 '23

Plywood

- New plywood. Consuta. Automotive Ind 47:717 O 12 '22
- Reinforced plywood. Engineer 135:294 Mr 16 '23
- Standard costing principles and practices for the plywood industry. Rev. ed. 75p Plywood manufacturers assn., Grand Rapids, Mich. '22
- Supplementary report on experimental reinforced plywood truss ribs. Aerial Age 14:395-6 Ja 2 '22

Testing

- Navy tests of plywood. Aviation 13:230 Ag 21 '22

Pneumatic control. See Electropneumatic control**Pneumatic conveying**

- British practice in handling coal by suction. C. H. S. Tupholme. diags Am Gas J 117:645-9 D 9 '22
- Development of mechanical handling devices in Germany during and since the war. G. F. Zimmer. diags Eng & Ind Management 6:760-1 D 29 '21
- Floating pneumatic grain-handling plant. il diags Engineering 115:608-10, 622, pl 36-8 My 18 '23
- Future of ship-discharging appliances for bulk materials. C. P. Kininmonth. il diags Electrician 87:815-18 D 30 '21
- Harbour equipment at Glasgow. D. Fife. diags Ind Management (Lond) 10:134-8 S 6 '23
- L'installation pour le déchargement et la manutention des grains, à Bordeaux-Bas-sens. il diags Génie Civil 79:529-32, pl 6 D 17 '21
- La manipulation pneumatique des liquides inflammables, par les procédés Maucière. il diags plan Génie Civil 81:512-16 D 2 '22
- Methods of feeding pneumatic installations. H. Klug. diags Eng & Ind Management 7:304-6, 340 Mr 23-Ap 6 '22
- Modern dock appliances. diags Engineering 116:32-4 JI 6 '23
- Pneumatic coal-handling plant; Bankside installation. il diags Elec R (Lond) 90:580-1 Ap 23 '22
- Pneumatic conveying system for emptying fibre bins. J. L. Alden. diags Heat & Ven 19:39-40 My '22; Same. Eng & Ind Management 8:59-60 Ag 10 '22
- Pneumatic conveyor as applied to handling of boiler ash. R. June. Gas Age 52:103-5 JI 28 '23
- Pneumatic grain elevators. R. E. Knight. diags plan Engineering 112:864-6 D 23 '21; Same. Engineer 132:685-7 D 23 '21; Same, without table 1. Eng & Ind Management 7:175-9 F 9 '22; Discussion. Engineering 112:859-61 D 23 '21; Engineer 132:667 D 23 '21
- Pneumatic handling of coal. diags plan Ind Management (Lond) 9:371-3, 403-5 Je 14-28 '23
- Principles of pneumatic conveying. H. M. Nichols. il Management Eng 3:1-4 JI '22; Same cond. Ind Management (Lond) 8:259-62 N 2 '22
- Rapid transit in the telegraph office. il Sci Am 126:119 F '22
- Route your materials via air line. F. L. Jorgensen. il diags plans Chem & Met Eng 28:932-8 Mv 28 '23
- Sawdust and shavings collecting plant. Engineering 114:596 N 10 '22
- Tug with grain ship discharging plant. il diags plan Engineer 133:106-9 Ja 27 '22
- What it pays to know about material handling. W. T. Spivey. il Factory 31:303-6 S '23

Pneumatic hammers

- Cleaning steel castings. H. R. Simonds. il Foundry 51:528-32 JI 1 '23
- L'étude expérimentale du marteau pneumatique. C. Dantin. il diags Génie Civil 82:437-41 My 12 '23
- Light air hammer with half-inch hose to be used in place of hand pick. il Coal Age 20:921-2 D 8 '21
- La perforation mécanique à air comprimé, dans les mines de fer de Lorraine. E. Duvi-vier. Génie Civil 82:261 Mr 17 '23

Pneumatic hammers—Continued

- Pneumatic gravity drop hammer. *il* Iron Age 111:678 Mr 8 '23
 Single-blow pneumatic forging hammers. *W.* H. Snow. *diags* Engineering 114:98-101 JI 28 '22; *Abstract*, Mech Eng 44:660 O '22
 Use of pneumatic hammers and coal drills in installing service. *il* Eng & Contr 57:360 Ap 12 '22

Pneumatic hub. See Automobiles—Wheels**Pneumatic machinery**

- Modern packaging machinery; the pneumatic system of packing and weighing. *il* Ind Management (Lond) 8:346-8 D 14 '22

Pneumatic motors. See Air engines**Pneumatic shovels**

- French automatic, air operated shovel for various uses. Clapier. *diags* Eng & Contr 57:479 My 17 '22

Pneumatic tires. See Tires, Pneumatic**Pneumatic tools**

- Air cylinder for jigs and fixtures. *C.* B. Johnson. *diags* Am Mach 57:386 S 7 '22
 Care and treatment of pneumatic tools. *E. J.* Edwards. *Foundry* 50:767 S 15 '22
 Excavating tunnel clay with pneumatic tools. *il* Pub Works 52:447-8 Je 17 '22; *Eng & Contr* 58:50 JI 12 '22
 Globe pneumatic drilling machine. *il* *diags* Engineer 135:430 Ap 20 '23
 Hanna 150-ton portable pneumatic riveting machine. *il* Am Mach 58:678 My 3 '23; *Iron Age* 111:1255-6 My 3 '23; *Iron Tr R* 72:1315 My 3 '23; *Mach* 29:739 My '23
 Installing shallow-conduit construction in Washington. *D. E.* Dunn. *il* *diag* plan Elec Ry J 59:449-52 Mr 18 '22
 Large riveter for fabricating plates for volute and penstock of 70,000 H.P. turbine. *il* Eng & Contr (W W) 59:1073-4 My 9 '23
 Pneumatic bonding drills and track wrenches on Lehigh Valley R. R. *il* Ry R 72:1121-2 Je 23 '23
 Pneumatic scaling tools for boiler cleaning. *il* Eng & Ind Management 7:168-9 F 9 '22
 Pneumatic tie tampers. *W. H.* Armstrong. *il* Ry R 72:888-91 My 26 '23
 Pneumatic tools replace pick and shovel. *il* Coal Age 22:86 JI 20 '22
 Some modern applications of compressed air. *F. A.* McLean. *il* Can Eng 43:522-4, 539-41 N 7-14 '22
 Southwark pneumatic riveter. *il* Am Mach 56:153 Ja 26 '22; *Ry R* 70:126-7 Ja 28 '22; *Ry Mech Eng* 96:176 Mr '22
 Use of compressed air in the ground work of public utilities. *il* *diags* Eng & Contr 58:137-9 Ag 9 '22
See also Air hose—Specifications; Cement gun; Pneumatic hammers; Pneumatic shovels

Manufacture

- Machining and assembling operations on pneumatic tools. *H.* Campbell. *il* Am Mach 57:49-51, 101-4, 134-6, 175-7 JI 13-Ag 3 '22

Pneumatic transmission. See Pneumatic conveying**Pneumatics**

See Aerodynamics; Compressed air; Gases

Pocket knives. See Knives**Poisonous plants**

- Poisonous plants of the garden. *E.* Bade. *il* Sci Am 129:246 O '23

Poisons

See Gases, Asphyxiating and poisonous; Lead poisoning; Toads; Toxicity; *also* names of poisons, e.g. Arsenic, Carbolic acid

Poisons, Industrial

- Industrial poisons and diseases in British factories. *Monthly Labor R* 15:876-8; 17:923-5 O '22, O '23
 Lists of industrial poisons. *Int Labour R* 5:649-52 Ap '22
 Observations upon the effects of exposure to arsenic trichloride upon health. *S.* Delépine. *il* *diag* J Ind Hygiene 4:346-64, 410-23 D '22-*Ja* '23; *Abstract*. *Monthly Labor R* 16:813-15 Ap '23

Occupation hazards and diagnostic signs. *L.* I. Dublin and *P.* Leiboff. *U S Bur Labor Statistics Bul* 306:19-28 '22

Poisoning by benzol carbon tetrachloride cement, with special reference to the early symptoms of benzol poisoning. *E. B.* Starr. *J Ind Hygiene* 4:203-11; *Bibliography*. 211 S '22

Poisoning by oxides of nitrogen. *Min & Sci P* 124:89 Ja 21 '22

Promoting health in industry. *C.-E. A.* Winslow. *Iron Tr R* 72:440-1 F 8 '23; *Same* *concl*. *Power Pl Eng* 27:233-4 F 15 '23

Some clinical aspects of industrial poisoning. *N. C.* Sharpe. *J Ind Hygiene* 5:sup48-9 JI '23

See also Aniline poisoning; Arsine; Benzene poisoning; Carbon monoxide; Hydrogen sulfide; Lead poisoning; Manganese poisoning; Mercury poisoning; Phenylene-diamine; Tetrachlorethane; Trinitrotoluene; Zinc oxide

Poisson's theorem

Poisson's and Green's theorems in Riemann's *n*-manifold both when it is space-like and when time-space-like. *A.* McAulay. *diag* Philos Mag 6th ser 46:146-55 JI '23

Poland

Poles get Upper Silesian mills. *B.* Schapira. *Iron Tr R* 70:599-600 Mr 2 '22

See also Canals—Poland; Cost of living—Poland; Danzig; Finance—Poland; Labor laws and legislation—Poland; Railroads—Poland;

Economic conditions

America's opportunity in Poland. *E. C.* Morse. *il* Am Mach 58:209-12 F 8 '23

Poland in 1922. *R.* Gonnard. *Annalist* 21:857-8 Je 25 '23

Poland, Russia and the soviet. *F.* De St Phalle. *Am Ind* 22:39-40 F '22

Poland's industrial progress assured through Silesia. *J.* Moritzen. *Annalist* 18:487+ N 21 '21

See also Cost of living—Poland; Wages—Poland

Industries and resources

Industrial conditions in Poland. *A. R.* Kuzelowski. *Ind Management* 66:248-51 O '23

See also Chemical industries—Poland; Coal mines and mining—Poland; Machinery industry—Poland; Petroleum industry and trade—Poland; Steel industry and trade—Poland

Polariscope

See Optical rotation

Polarity

Causes of reversed polarity in direct current generators. *C.* Lynn. *diags* Power 57:51-3 Ja 9 '23

Correcting reversed polarity on d.c. generators. *Elec W* 81:1281 Je 2 '23

Inductive test for polarity of commutating poles. *M. J.* Rich. *diag* Elec R 80:96 F '22

Polarity of instrument transformers. *R.* Brown. *diags* Power 57:338 F 27 '23

Testing polarity of field coils. *diags* Coal Age 24:215-16 Ag 9 '23

Testing transformer polarities. *il* Elec W 81:1278 Je 2 '23

Polarity (chemistry)

Reciprocal induced polarity effects in cresols and their derivatives; properties of the isomeric methoxybenzyl bromides. *A.* Lapworth and *J. B.* Shoesmith. *Chem Soc J* 121:1391-1400 JI '22

Polarization (electricity)

Polarization capacity and resistance at radio frequencies. *C. B.* Jolliffe. *diags* Phys R 22:293-302 S '23

Polarization phenomena in X-ray bulbs. *S.* Ratner. *diag* Philos Mag 6th ser 43:193-204 Ja '22

Polarization (light)

Biochemical effects of polarised light. *E. S.* Semmens. *Soc Chem Ind J* (Chem & Ind) 42:954 O 5 '23

Polarization (light)—Continued

Polarization of the light scattered by gases and vapours. C. V. Raman and K. S. Rao. *Philos Mag* 6th ser 46:426-34 S '23

Polarization of X-rays as a function of wavelength. P. Kirkpatrick. *Phys R* 22:226-32 S '23

Polarized resonance radiation of mercury vapour. R. W. Wood. *diags Philos Mag* 6th ser 44:1107-11, pl 9 D '22

State of polarization of light diffracted at large angles from straight edges of different material. J. M. Kuehne. *Phys R* 19:379-80 Ap '22

See also Optical rotation; Stereochemistry

Poles

Destruction of cedar poles by termites in California. *il J Elec* 48:110 F 1 '22

Erecting fifty telephone poles per day. F. B. Howe. *il Pop Mech* 36:865-6 D '21

It pays to treat wood poles and ties. H. H. George. *il Elec Ry J* 61:1002-3 Je 16 '23; Same cond. *Eng & Contr (Ry)* 60:335 Ag 15 '23

Nine methods for reclamation of poles. *il Eng & Contr (Ry)* 58:51-3 O 18 '22

Preservation of red-cedar poles advocated. *Elec W* 80:776-7 O 7 '22

Rules for unloading poles. E. A. Lindsley. *diag Elec W* 82:870 O 27 '23

Strength of wood poles not affected by perforating. *Elec W* 81:984 Ap 28 '23

Studies in the life of equipment. E. Kurtz. *Eng N* 87:973 D 15 '21

See also Electric lines—Poles and towers

Poles, Concrete

Concrete poles made by centrifugal process. F. A. Brackmann. *il Power Pl Eng* 27:531-2 My 15 '23; Same cond. *Eng N* 91:136-7 J1 26 '23

Concrete poles used on 132,000-volt line. *il Elec W* 81:106-7 Ja 13 '23

Concrete reinforced poles not favored. L. B. Snyder. *Elec W* 82:28 J1 7 '23

Concrete transmission poles cast in place. *Concrete* 22:33 Ja '23

Machine casts concrete poles in place. *il Pop Mech* 40:52 J1 '23

Poles of elastic concrete bend without breaking. *Pop Mech* 40:685 N '23

Reinforced concrete poles for power transmission in Sweden. *il diags Concrete* 21:65 Ag '22

Testing

Significant study of concrete poles by the Cleveland railway co. A. J. R. Curtis. *il Concrete* 23:100-1 S '23

Poles, Steel

Foreign market for steel poles. W. A. Bates. *Elec W* 80:1471-2 D 30 '22

Police

Police buy advertising space to halt bogus check operators. *Ptr Ink* 121:50+ D 28 '22

Science becomes policemen's first aid; Berkeley police department. J. A. Ford. *il Pop Mech* 38:869-72 D '22

See also Radio broadcasting—Police uses; Radio telephone—Police uses

Weapons

War gases for dispersing mobs. T. M. Knappen. *il Gas Age* 48:701-3 N 26 '21

Police, State

State police as an asset. M. R. Palmer. *il Am Ind* 23:19-23 Ag '22

Polishing. See Grinding and polishing**Polishing machines. See Grinding and polishing****Political advertising. See Advertising, Political****Polk, R. L., and company**

Directory libraries and special service. W. Gavett. *Special Lib* 13:131-3 O '22

Polonium

Range of alpha-particles from polonium in various gases. C. W. van der Merwe. *Philos Mag* 6th ser 45:379-81, pl 4 F '23

Polonium hydride

Über poloniumwasserstoff. F. Paneth and A. Johannsen. *Deutsche Chem Gesell Ber* 55: 2622-37 S '22; Abstract. *Chem Soc J* 122 pt 2:777-8 N '22

Polychromy. See Color in architecture**Polycyclic structures. See Cyclic compounds****Polyhalogen compounds. See Halogen compounds****Polymerization**

Hydrolysis and polymerization of cyanamide. H. C. Hetherington and J. M. Braham. *Am Chem Soc J* 45:824-9 Mr '23

Lichtreaktionen der *trans*- und *cis*-zimtsäuren. H. Stobbe and F. K. Steinberger. *Deutsche Chem Gesell Ber* 55:2225-45 S '22; Abstract. *Chem Soc J* 122 pt 1:1018-20 N '22

Polymerization of allyl cinnamylacetate. F. F. Blicke. *Am Chem Soc J* 45:1562-6 Je '23

Studies on cellulose chemistry; properties of gamma-delta-dihydroxy-carbonyl derivatives and their bearing on the polymerization of polysaccharides. H. Hibbert and J. A. Timm. *Am Chem Soc J* 45:2433-9 O '23

Polymorphism

Heteromorphism of calcium carbonate; marble, synthetic and metamorphic. M. Copisarow. *Chem Soc J* 123:785-96 Ap '23

See also Crystallography

Polynesians

South Sea savages wonderful craftsmen; made cloth and mats of finest texture. F. Burnett. *il Textile Col* 45:651-2 O '23

Polypeptides

Occurrence of polypeptides and free amino acids in the ungerminated wheat kernel. S. L. Jodidi and K. S. Markley. *Am Chem Soc J* 45:2137-44 S '23

Polysaccharides

Constitution of polysaccharides; inulin. J. C. Irvine. E. S. Steele and M. I. Shannon. *Chem Soc J* 121:1060-78 Je '22

Constitution of polysaccharides; the molecular structure of cotton cellulose. J. C. Irvine and E. L. Hirst. *Chem Soc J* 123:518-32 Mr '23

Constitution of polysaccharides; the relationship of l-glucosan to d-glucose and to cellulose. J. C. Irvine and J. W. H. Oldham. *Chem Soc J* 119:1744-59 N '21

Constitution of polysaccharides; the yield of glucose from cotton cellulose. J. C. Irvine and E. L. Hirst. *Chem Soc J* 121:1585-91 Ag '22

Polysaccharide. P. Karrer. *Deutsche Chem Gesell Ber* 55:2854-63 S '22; Abstract. *Chem Soc J* 122 pt 1:1119-20 D '22

Polysaccharides; the constitution of diamylose and of the anhydrosugar (cellosan) which is the building unit of cellulose. P. Karrer and A. P. Smirnoff. *Paper Tr J* 75:54-7 O 12 '22

Studies on cellulose chemistry; properties of gamma-delta-dihydroxy-carbonyl derivatives and their bearing on the polymerization of polysaccharides. H. Hibbert and J. A. Timm. *Am Chem Soc J* 45:2433-9 O '23

Studies on cellulose chemistry; the action of dry hydrogen bromide on carbohydrates and polysaccharides. H. Hibbert and H. S. Hill. *Am Chem Soc J* 45:176-82 Ja '23

Polyzoa, Fossil

North American later tertiary and quaternary bryozoa. F. Canu and R. S. Bassler. 302p Smithsonian inst., Washington '23

Pomander walk. See New York (city)—Architecture**Pomeroy, Horace**

Mining engineers of note. *Eng & Min J* 113: 451 Mr 18 '22

Pomilio process. See Chlorine**Pompadour, Madame de**

House of Madame de Pompadour, Versailles. H. D. Eberlein and L. French, jr. *il plans Arch Rec* 54:321-8 O '23

Pompeian art. See Art, Pompeian

Pompeii, Italy

Pompeii uncovered; restoring the ancient Italian city to its normal form by careful excavation and extensive reconstruction. A. A. Hopkins. *il Sci Am* 128:230-1+ Ap '23
Recent disclosures as to Pompeii. *Am Arch* 120:374 N 9 '21

Pontoon bridges

Notable pontoon bridge at Dardanelle, Ark. J. Hendrickson. *il Sci Am* 127:101 Ag '22

Pontoons

Design of pontoons. K. S. Dodd. *diags Engineer* 136:331-3 S 28 '23
Undocking a giant pontoon at Kiel. H. Hermanns. *il Marine R* 53:43-4 F '23
Vertical submerged pontoon system to salvage ships. *diags Marine Eng* 27:325-6 My '22

Pool, L. M.

Sketch. A. F. Harlow. *por System* 41:285-6 Mr '22

Pooling of freight cars. See Freight cars—Pooling**Pools**

Beiträge zur untersuchung und kenntnis von natürlich vorkommenden gasen. F. Henrich and G. Prell. *Deutsche Chem Gesell Ber* 55:3026-30 O '22

Poor

See Cost of living; Housing; Labor and laboring classes; Mothers' pensions; Old age pensions; Saving; Unemployment

Popocatepetl, Mount

Coasting down Popocatepetl on a straw mat. H. A. Lane. *il Pop Mech* 39:183-6 F '23

Popular mechanics (periodical)

Popular mechanics' new home. H. H. Windsor. *il Pop Mech* 39:822-5 Je '23

Population

Mankind at the crossroads. E. M. East. 360p Scribner '23

Population. H. Wright. 180p Harcourt '23

See also United States—Population

Population map

Visualizing a market as it really is. map System 43:168 F '23

Porcelain

Economic handling of materials in porcelain manufacture. A. P. Ball. *Am Cer Soc J* 5:235-47 My '22

Experiments on the manufacture of pure-white hard porcelain. M. Akatsuka. *Am Cer Soc J* 6 (Cer A 2):163 J1 '23

Further studies of porcelain glazes maturing at high temperatures. R. Twells, jr. *diags Am Cer Soc J* 6:1113-27 N '23

General history of porcelain. W. Burton. 2v Funk & Wagnalls co., N.Y. '21

German porcelain industry. Brick & Clay Rec 61:327 S 5 '22

Handling porcelain at the plant of the Square D company by conveyors. *il Ind Eng* 80:401-5 Ag '22

Low fire porcelain. C. F. Binns and T. Burdick. *Am Cer Soc J* 5:25-7 Ja '22

Manuel de l'amateur de porcelaines. C. de Grolier. 296p A. Picard, Paris '22

Manufacture of English chemical porcelain. G. N. White. *il Chem Age* (Lond) 9:334-6 S 29 '23

Use of special oxides in porcelain bodies. R. F. Geller and B. J. Woods. *Am Cer Soc J* 4:842-54 O '21

See also Glazes; Kilns; Pottery

Testing

Device for testing the resistance of china to chipping. E. Schramm. *il Am Cer Soc J* 5:136-9 Mr '22

Method of determining the tensile strength of porcelain. F. H. Riddle and J. L. Laird. *diags Am Soc T M Pro* 21:1050-6 '21

Smashing dishes to solve their secrets. G. H. Dacy. *il Sci Am* 129:240 O '23

Tensile strength of porcelain. F. H. Riddle and J. S. Laird. *il diags Am Cer Soc J* 5:335-93 J1 '22

Tests for laboratory porcelain; abstract. *Am Cer Soc J* 5 (Cer A 1):44 F '22

Porcelain, Insulating

Beryl as a constituent in high tension insulator porcelain. R. Twells, jr. *Am Cer Soc J* 5:228-34 My '22

Electrical porcelain manufacture. C. H. Jones. *il Chem & Met Eng* 26:438-42 Mr 8 '22

Electrical porcelain research. M. H. Hunt. *il Elec J* 19:94-6 Mr '22

Fuel oil as applied to periodic up-draft kilns in the manufacture of high tension electrical porcelain. L. H. Brown. *Am Cer Soc J* 6:462-5 F '23

High voltage porcelain insulators in United States chronology. J. S. Lapp. *Am Cer Soc J* 6:315-16 Ja '23

Historical sketch of the electrical porcelain industry in America. C. C. Treischel. *Am Cer Soc J* 6:312-14 Ja '23

Manufacture of spark plug porcelain. A. G. Wikoff. *il Chem & Met Eng* 28:150-7 Ja 24 '23; Excerpt. *Gas Age* 51:369-71 Mr 24 '23

Modern handling methods in the manufacture of electrical porcelain. G. L. Montgomery. *il Chem & Met Eng* 27:59-62 J1 12 '22;

Same. *Ind Management* (Lond) 8:355-9 D 14 '22

Non-porous porcelain and how to obtain it. S. L. Case. *Elec W* 81:751 Mr 31 '23

Porcelain making and the electrical industry. *il Electrician* 89:690-1 D 15 '22

Porcelaines électrotechniques. O. Boudouard. *Chimie & Ind* 6:583-91 N '21

Production of porcelain for electrical insulation. F. H. Riddle. *il Am Inst E E J* 42:343-6, 540-3, 631-5, 743-7, 858-63, 988-94, 1097-1102 Ap-O '23

Talc as a flux for high tension insulator porcelains. R. Twells, jr. *Am Cer Soc J* 5:675-84 O '22

Tentative methods of testing electrical porcelain. *diags Am Soc T M Pro* 21:727-36 '21; Same. *Am Cer Soc J* 5 pt 2:67-77 Ap '22

Transmission and automotive porcelain. F. H. Riddle. *il charts diags W Soc E J* 23:33-42 F '23

Testing

Electrical tests for porosity of electrical porcelain. J. E. Shrader. *diag Elec J* 19:118-19 Mr '22

Physical and mechanical testing of porcelain insulators; abstract. O. Boudouard. *Am Cer Soc J* 5 (Cer A 1):43 F '22

Porches

Light furnishings for amusing places. A. F. Wright. *il Arch Forum* 39:75-80 Ag '23

Porete. See Concrete, Porous**Porosity**

Porosity. E. W. Washburn and others. *Am Cer Soc J* 4:916-22, 961-89; 5:48-56, 112-29, 527-37 N '21-F, Ag '22

Simple control porosimeter. G. A. Bole and F. G. Jackson. *il diag Brick & Clay Rec* 61:314-15 S 5 '22

Port Dover, Ontario**Bridges**

Bascule highway bridge, Port Dover, Ontario. E. H. Darling. *il diags plan Can Eng* 43:295-7 Ag 29 '22

Port of New York authority

Port of New York authority's noteworthy plan for the development of local terminal facilities ratified by legislatures of New York and New Jersey. *Comm & Fin Chr* 114:909-11 Mr 4 '22

Proposed belt line for the port of New York. map Ry R 69:827-30 D 17 '21

Porte, Roy T.

Little journey to the home of R. T. Porte. H. C. Hotaling. *por Inland Ptr* 68:375-6 D '21

Portland, Oregon**Harbor**

Port of Portland, Portland, Oregon, U.S.A. 56p Portland, Ore. Comm. of public docks '22

Railroads

Passenger terminal improvements at Portland, Ore. plans *Eng N* 91:94-6 J1 19 '23

Portland, Oregon—Railroads—Continued

Portland terminal company increases facilities. diags maps Ry Age 74:901-4 Ap 7 '23

Sewerage

Converting Columbia slough into sewage outlet. W. P. Hardesty. Il Eng N 90:397-9 Mr 1 '23

Trunk sewer under construction at Portland. W. P. Hardesty. Eng N 90:865 My 17 '23

Water supply

Portland water-works improvements completed and projected. W. P. Hardesty. Il Eng N 90:110-11 Ja 18 '23

Portland cement association

How the cement industry educates public on uses of its product. T. J. Harris. Chem & Met Eng 27:165-7 Jl 26 '22

Makers of cement. L. T. Sunderland. Concrete 19:sup103 D '21

Solving the problems of the Portland cement industry; what the Association is doing. F. W. Kelley. Eng N 88:996-8 Je 15 '22

Spring meeting. St Louis, May 21-23. Concrete 22:sup109-10 Je '23

20th anniversary meeting, Chicago, Nov. 21-22. Eng N 89:949-+ N 30 '22

20 years of service. Eng N 89:914-15 N 30 '22

Portland (Oregon) railway light and power company

Annual report for the year ended December 31, 1922. Comm & Fin Chr 116:2406-7 My 26 '23

Porto Rico

See Irrigation—Porto Rico; Motor bus lines—Porto Rico

Ports

Factors at a port which determine the kind and amount of freight handling machinery. B. F. Cresson, jr. Can Eng 43:410-11 O 3 '22

Ideal seaport. J. G. Broodbank. Engineer 136:374 O 5 '23

Importance of port facilities in the development of a merchant marine and commerce; abstract. H. H. Rousseau. Marine Eng 26:906; Discussion. 906-7 D '21

Inland sawmill town becomes seaport; Beaumont, Texas. Il Marine R 53:352-3 S '23

Lake ports must plan for ocean trade. R. S. MacElwee and A. H. Ritter. Il Marine R 53:256-60 Jl '23

Marseilles wins place as port. F. Miltoun. map Marine R 52:50-1 F '22

Port directory of the principal foreign ports. 3d ed. 747p Office of naval intelligence, Washington, D.C. '23

Port of Hull. Ind Management (Lond) 10:209-11 O 18 '23

Seaports in nation and world planning. C. Kehr. Can Eng 43:461-2 O 17 '22

See also Docks; Freight handling; Harbors; Mechanical handling; Piers; Shipping; Terminals; Wharves; also names of ports, e.g. Danzig; Vancouver; also subdivisions Harbor under names of cities, e.g. Algiers—Harbor; Baltimore—Harbor; Boston, Massachusetts—Harbor; Houston, Texas—Harbor; Mobile, Alabama—Harbor; New York (city)—Harbor; Newark, New Jersey—Harbor; Philadelphia—Harbor; Seattle, Washington—Harbor; also American association of port authorities

Portugal

See also Automobile industry and trade—Portugal; Commercial law—Portugal; Taxation—Portugal

Economic conditions

Economic situation in Portugal. Am Ind 23:38 N '22

See also Cost of living—Portugal

Portuguese East Africa. See Mozambique**Positive rays. See Canal rays****Post caps, Concrete**

Reinforced concrete caps for wooden posts. diags Am Arch 121:236-7 Mr 15 '22

Post office buildings

United States post office and court house at Denver, Colorado. E. Swartwout. Il diag plan Arch Rec 54:361-75 O '23

U. S. post office, New York (1913). Am Arch 121:422-3, 426b-c, 434 My 24 '22

Van Buren station, Chicago post office; mechanical conveyor system. Il diags plan Am Arch 124:171-5 Ag 15 '23

See also Mail terminal buildings

Lighting

Standard system of lighting for post offices. Illum Eng Soc 18:305-7 Mr '23

To improve lighting of post offices. Elec W 81:470, 682-4, 978-9 F 24, Mr 24, Ap 28 '23; Excerpt. Am Inst E E J 42:831 Ag '23

Post offices**Advertising**

Postmaster uses direct-by-mail campaign. Ptr Ink 120:81-2+ S 28 '22

Postage stamps

Disposing of postage stamps sent as payments. Ptr Ink 125:53-4 O 4 '23

Forests turned into stamps to supply nation's needs. Pop Mech 40:389 D '23

Stamp frauds and their detection. Il Sci Am 126:12-13 Ja '22

Postal conventions

Negotiations looking to conclusion of postal conference between United States and Canada. Comm & Fin Chr 115:2013 N 4 '22

Postal laws and regulations

Canadian origin ruling does not affect publishers. Ptr Ink 121:169-+ N 2 '22

Tax that dams up the business channel. A. C. Pearson. Ptr Ink 121:97-8+ O 19 '22

Uncle Sam prescribes typographical display for mail forms. W. Fawcett. Inland Ptr 68:789-90 Mr '22

See also Rural free delivery

Postal rates

Canadian-United States second-class mail rates discussed. Ptr Ink 122:49-50 Ja 4 '23

Postal savings banks

Senator Sheppard's bill to increase the utility of postal savings banks—views of Postmaster-general Hays and Secretary Mellon. Comm & Fin Chr 113:2241-3 N 26 '21

Postal service

Post office in line for standardization. E. M. Morgan. Management & Adm 6:481-2 O '23

Romance of the recalled mail. G. Orb. Pop Mech 37:883-4 Je '22

See also Automobiles in postal service; Mail handling; Motor trucks in postal service; Parcel post; Post offices; Postage stamps; Postal laws and regulations; Postal rates; Railway mail service; Rural free delivery

History

First transatlantic mail service. A. W. Johns. Engineering 115:545-7 My 4 '23

France

Projet officiel de réorganisation des postes, télégraphes et téléphones, et les Semaines des P.T.T. A. Ferry. Génie Civil 82:495-7; 83:280-2 My 26, S 22 '23

La Semaine des postes, télégraphes et téléphones, (Paris, 30 avril-5 mai 1923). P. Rague. Génie Civil 82:471-5 My 19 '23

Great Britain

Australian mail service. Engineering 116:148 Ag 3 '23

British post office gives premium for early mailing. Ptr Ink 121:161-2 O 19 '22

United States

Drag of the dead letter. H. Work. Nation's Business 10:19-20 Jl '22

Mail robberies. Sci Am 127:141 Ag '22

Post office. H. S. Dennison. Il Nation's Business 11:19-21 Ag '23

Post office gets new plan for expediting news publications. F. W. Hume. Ptr Ink 124:129-30 Jl 12 '23

Postal service—United States—Continued

Postal receipts for fifty industrial cities and for fifty selected cities for the fiscal year. Comm & Fin Chr 117:262-4 J1 21 '23

Postal receipts for first six months at fifty selected post offices. Comm & Fin Chr 115:261 J1 15 '22

Revenues of Post office department for fiscal year. Comm & Fin Chr 117:1734 O 20 '23

We want to give better service. H. A. Blackman. il System 40:704-6 D '21

See also Railway mail service

Postal service, Aerial

Achievements and projects of the air mail.

Aviation 13:502 O 16 '22

Advantages of aerial mail. C. G. Peterson.

Aerial Age 15:250-1 My 22 '22; Same. Aviation 12:656-7 Je 5 '22

Aerial mail appropriation. Aerial Age 14:609 Mr 6 '22

Aerial mail night flying. Aerial Age 15:458-9 S '22

Aerial mail service. E. H. Shaughnessy.

Aerial Age 14:538-40 F 13 '22; Same. Aviation 12:96-9 Ja 23 '22

Air mail an economic necessity. E: F. Taylor.

Aerial Age 16:53-4 F '23

Air mail performance. Aerial Age 15:412 Ag '22

Air mail performance improved. Aviation 11:570 N 14 '21

Air mail performance 96.73 per cent. Aviation 15:130 J1 30 '23

Air mail service; consolidated statement of performance from May 15, 1918, to Dec. 31, 1921. Aerial Age 15:34 Mr 20 '22

Air mail service schedule. Aerial Age 15:297-8 Je 5 '22

Air mails. Engineering 116:7 J1 6 '23

Airplane mail service across the continent. diag Pop Mech 40:58-9 J1 '23

Analysis of the proposed contract air mail route between Chicago and New York. C. G. Peterson. Aviation 13:596-8 O 30 '22

Blazing a trail with the night air mail across nation in twenty-six hours. il Pop Mech 40:655-9 N '23

Civil air mail services in Australia. diags Aviation 12:168 F 6 '22

Collier trophy to air mail service. Aviation 14:165 F 5 '23

Commercial operation of airplanes; analysis of the record of air mail service for the year ending Sept. 30, 1921. L. B. Lent. Mech Eng 44:33-7 Ja '22; Excerpts. Eng & Contr 57:70-2 Ja 18 '22

Conditions of bids for air mail route. Aviation 13:743-4 D 4 '22

Epoch making night mail flights. map Aviation 15:266-9 S 3 '23

Existence of air mail service threatened. Aviation 12:133 Ja 30 '22

Monthly report of United States air mail service. See weekly numbers of Aerial age

N.A.C.A. recommendations for the air mail service. Aviation 14:155 F 5 '23

Preparing for the night air mail. Aviation 13:192 Ag 14 '22

Present status of the air-mail service. E. H. Shaughnessy. Soc Auto Eng J 11:435-7 N '22

Review of the air mail night flying trials. P. Henderson. Aviation 15:521-3 O 22 '23

Safety record of air mail. Aviation 13:128 J1 31 '22

Speeding the mails. H. Work. il Aerial Age 16:110-11 Mr '23

Success of the air mail service. O: Praeger. Aviation 12:256 F 27 '22

U. S. air mail has flown 5,000,000 miles. Aviation 14:502-3 My 7 '23

United States post office department air mail service; consolidated report of operation, fiscal year 1922. Aerial Age 15:604 D '22

Why the mail plane? C. H. Claudy. il Sci Am 126:250-1 Ap '22

Winter schedule of air mail service. Aviation 14:73+ Ja 15 '23

See also Airplanes, Mail

Cost

Profitable air mail service. Aviation 13:257 Ag 28 '22

Poster advertising association

Poster association seeks public's cooperation. Ptr Ink 125:152 O 18 '23

Posters

Beech-nut advertises the democracy of chewing gum. Ptr Ink 124:10+ J1 5 '23

Fleischmann's concentrated drive to increase use of bread. Ptr Ink 122:17-18 Ja 18 '23

Patch posters. J. Bracker. il Ptr Ink M 4:42 Mr '22

Poster advertising to create new interest in horses. Ptr Ink 122:53-4 F 15 '23

Poster design. C: M. Price. New ed., enl. 370p G. W. Bricka, New York '22

Poster technique for advertising. Ptr Ink 121:77-8+ N 2 '22

Winning dealer co-operation with moving posters. Ptr Ink 124:169-70 S 20 '23

See also Billboards

Posts

Proper treatment of posts for guard rails. E: F. Paddock. Good Roads 63:130-1+ O 11 '22

See also Poles

Posts, Concrete

Rural mail-box post of concrete. A. J. R. Curtis. il diags Pop Mech 39:125-6 Ja '23

Specifications

A.R.E.A. report on signs, fences and crossings. il diags Ry Age 74:635-7 Mr 14 '23

Post's bran flakes**Advertising**

Postum cereal company advertises a new slogan and a new product. Ptr Ink 122:103-4 Ja 18 '23

Postscripts

More power to the P.S. J. True. Ptr Ink 119:73-4+ Je 22 '22

Posture

How correct seating affects manufacturing profits. I. Salomon. il charts diags Ind Management 63:326-36 Je '22

Potash

Notes on the fertilising effects of potash. G. A. Cowie. Chem Age (Lond) 8:85-6 Ja 27 '23

Nouvelle hypothèse sur la formation des gisements de potasse, basée sur le dépôt de sel du lac Assal (côte des Somalis, Afrique). Génie Civil 81:348 O 14 '22

Potash. S. J. Johnstone. New ed., rev. & enl. 122p J. Murray, London '22

Potash, an essential for plant growth. G: H. Dacy. il Sci Am 126:106-7 F '22

Rapid determination of potash in acid-insoluble silicates. M. M. Green. Ind & Eng Chem 15:163 F '23

Manufacture

Elimination of borates from American potash. W: H. Ross and W: Hazen. il Chem & Met Eng 27:167-70 J1 26 '22

Evaporation of potash brines at Deep Springs Valley, California. L. A. Palmer. il diag Chem & Met Eng 26:1034-7 My 31 '22

Greensand as a source of fertilizer potash. R. N. Shreve. Chem & Met Eng 25:1056 D 7 '21

Low-grade molasses yields fuel and potash. Pop Mech 40:777 N '23

Phospho-potash process. Can Chem & Met 6:4 Ja '22

Plant and process of the Eastern potash corporation. R. N. Shreve. il Concrete 20:sup43-7 Mr '22

Potash from kelp. J. W. Turrentine and others. J Ind & Eng Chem 11:864-74; 12:682-4, 786-92; 13:605-9; 14:19-24, 441-3; 15:159-63 S '19, J1-Ag '20, J1 '21, Ja, My '22, F '23

Potash from seaweed in California. A. W. Allen. il Chem & Met Eng 29:49-52 J1 9 '23

Potash recovery in cement manufacture. Chem Age 31:237 My '23

La production de la potasse et de l'alumine à partir des leucites italiennes au moyen du chlore. U. Pomilio. bibliog il diag Chimie & Ind 7:425-37 Mr '22

Potash—Manufacture—Continued

- Recovery of potash as a by-product in the blast furnace industry. W: H. Ross and A. R. Merz. *J Ind & Eng Chem* 14:302-3 Ap '22
- Research: its position in the making of an industry. J: E. Teeple. *J Ind & Eng Chem* 14:904-5 O '22
- Work of the experimental kelp-potash plant of the Bureau of soils. J. W. Turrentine. *il Chem Age* 30:224-5 My '22

Alsace

- Alsatian potash. J: E. Teeple. *Ind & Eng Chem* 15:419-20 Ap '23
- Alsatian potash production a record in 1922. *Eng & Min J* 115:499 Mr 17 '23
- Competition in potash. *Eng & Min J* 114:16 Jl 1 '22
- Formation du bassin potassique d'Alsace. *Génie Civil* 31:94-5 Jl 22 '22
- French potash industry. M. Mennecke. *Chem Age (Lond)* 8:672 Je 23 '23
- Les gisements de potasse d'Alsace et l'état actuel de leur exploitation. C. Matignon. *il diags map Chimie & Ind* 6:440-64 O '21
- United States foremost foreign market for Alsatian potash. *Chem & Met Eng* 29:557 S 17 '23

Illinois

- Potash shales of Illinois. M. M. Austin and S. W. Parr. *J Ind & Eng Chem* 13:1144-6 D '21

New Jersey

- Potash in the greensands of New Jersey. G: R. Mansfield. *U S Geol S Bul* 727:1-146, pl 1-10 '22

Texas

- Discovery of potash in west Texas. J. A. Udden. *Chem & Met Eng* 25:1179-80 D 28 '21
- Potash field in western Texas. G: R. Mansfield. *Ind & Eng Chem* 15:494-7 My '23
- Potash in Texas promises little. *Oil Paint & Drug Rep* 100:40b sec 1 O 17 '21
- Potash reserves in West Texas. D: White. *map Min & Met* 184:19-25 Ap '22
- Potash salts of western Texas. G: Steiger. *Chem & Met Eng* 26:175-6 Ja 25 '22
- Report on Texas alkali lakes. C. C. Meigs, H. P. Bassett and G. B. Slaughter. *maps Texas U Bul* 2234:5-59 S 8 '22; *Abstract. Chem Age* 31:395-8 S '23

United States

- American potash. F: W. Brown. *Chem Age* 31:230 My '23
- Domestic potash, Muscle Shoals and Henry Ford. C: H. MacDowell. *Chem Age* 30:271-2 Je '22
- Potash in the United States during 1920. M. R. Nourse. *Chem & Met Eng* 25:1101-2 D 14 '21
- Rise and fall of the domestic potash industry. *il Chem Age* 30:134-8 Mr '22

See also Potash industry and trade—United States

Potash alum. See Aluminum potassium sulfate

Potash feldspar. See Feldspar

Potash industry and trade

France

- French potash industry in 1922. *il Chem Age (Lond)* 8:87-8 Ja 27 '23

Germany

- Developments and tendencies in the German potash industry. W: T. Daugherty. *Chem & Met Eng* 28:205-6 Ja 31 '23
- German potash industry. *Chem Age (Lond)* 8:594 Je 2 '23
- German potash trade makes marked gains. *Oil Paint & Drug Rep* 103:55 Je 18 '23
- Nouveau mouvement de concentration dans l'industrie allemande des potasses. Saint-Gall. *Chimie & Ind* 7:588-9 Mr '22

Japan

- Japan's potash industry during the war. *Oil Paint & Drug Rep* 101:87 Mr 28 '22

United States

- American potash industry. H. D. Ruhm. *J Ind & Eng Chem* 14:241-2 Mr '22
- Can we afford to make potash in America? R. N. Shreve. *J Ind & Eng Chem* 14:542-4 Je '22
- German potash control scored. J: E. Teeple. *Oil Paint & Drug Rep* 100:23+ sec 1 D 12 '21
- Potash bounty defeated in Senate. *Chem & Met Eng* 27:323 Ag 16 '22
- Potash contract defense offered. *Oil Paint & Drug Rep* 100:23+ sec 1 D 26 '21
- Potash duty strongly attacked and defended at Senate hearing. *Oil Paint & Drug Rep* 101:23 Ja 2 '22
- Potash in America—two years' progress. J: E. Teeple. *J Ind & Eng Chem* 14:787-8 S '22
- Potash producers ask tariff protection to give American industry a fighting chance. *il Chem & Met Eng* 26:612-13 Mr 29 '22
- Rise and fall of the domestic potash industry. *il Chem Age* 30:134-8 Mr '22

Potassium

- Absorption of potassium vapour. A. L. Narayan and D. Gunnayya. *Philos Mag* 6th ser 45, 831-4, pl 12 My '23
- Conductance of concentrated solutions of sodium and potassium in liquid ammonia. C: A. Kraus and W. W. Lucasse. *diag Am Chem Soc J* 43:2529-39 D '21
- Ionization of potassium vapor by light. R. C. Williamson. *diag Phys R* 21:107-21, pl 1 F '23
- Positive-ray analysis of potassium, calcium and zinc. A. J. Dempster. *diags Phys R* 20:631-8 D '22
- Resistance-temperature coefficient of concentrated solutions of potassium in liquid ammonia and the specific conductance of solutions of potassium in liquid ammonia at intermediate concentrations. C: A. Kraus and W. W. Lucasse. *Am Chem Soc J* 45:2551-5 N '23
- Transference numbers of sodium and potassium in mixed chloride solution. R. F. Schneider and S. A. Braley. *Am Chem Soc J* 45:1121-34 My '23
- Über die bildung von kohlenwasserstoffen bei der einwirkung von kalium auf essigester. H. Scheibler, H: Ziegner and E. Pfeffer. *Deutsche Chem Gesell Ber* 55:3921-31 D '22

Analysis

- Analyse des sels de potassium d'Alsace par la méthode de Przibylla. P. Hubert. *il Chimie & Ind* 9:665-70 Ap '23
- Separation and determination of potassium and sodium; a perchlorate precipitation process using normal butyl alcohol. G. F: Smith. *Am Chem Soc J* 45:2072-80 S '23

Potassium acetate

- Oxidation of potassium acetate to potassium oxalate. W: L. Evans and P. R. Hines. *Am Chem Soc J* 44:1543-6 Jl '22

Potassium aluminum silicates

- Deformation studies of silicates and aluminum silicates of the alkalies. B. A. Rice. *Am Cer Soc J* 6:525-47 Mr '23

Potassium amide

- Phase relations in the system, sodium amide-potassium amide, as determined from melting-point curves. C: A. Kraus and E. J. Cuy. *Am Chem Soc J* 45:712-15 Mr '23

Potassium arylsulfoniodoamide

- Preparation of potassium and sodium arylsulphoniodoamides. E. Roberts. *Chem Soc J* 123:849-53 Ap '23

Potassium azido-dithiocarbonate

- Potassium azido-dithiocarbonate. A. W. Browne and A. B. Hoel. *Am Chem Soc J* 44:2315-20 O '22

Potassium bichromate. See Potassium dichromate

Potassium bromate

- Use of bromate in volumetric analysis: the determination of bromate in the presence of ferric iron. G. F: Smith. *Am Chem Soc J* 45:1666-75 Jl '23

Potassium bromate—Continued

Use of bromate in volumetric analysis; the stability of bromic acid in boiling solutions. G. F. Smith. *Am Chem Soc J* 45:1115-21 My '23

Potassium bromide

Free energy of dilution and the activities of the ions of potassium bromide in aqueous solutions. J. N. Pearce and H. B. Hart. *Am Chem Soc J* 43:2483-92 D '21

Study of the moving boundary method for determining transference numbers. D. A. MacInnes and E. R. Smith. *diags Am Chem Soc J* 45:2246-55 O '23

Potassium cadmium cyanide

Crystal structures of complex cyanides of potassium with zinc, cadmium and mercury. R. G. Dickinson. *Am Chem Soc J* 44:774-84 Ap '22

Potassium chlorate

Decomposition of potassium chlorate—spontaneous decomposition temperatures of mixtures of potassium chlorate and manganese dioxide. F. E. Brown, J. A. Burrows and H. M. McLaughlin. *Am Chem Soc J* 45:1343-8 Je '23

Promoter action in the decomposition of potassium chlorate. H. A. Neville. *Am Chem Soc J* 45:2330-3 O '23

See also Potassium perchlorate

Potassium chloride

Activity coefficients and colligative properties of electrolytes. H. S. Harned. *Am Chem Soc J* 44:256-63 F '22

Calibration of cells for conductance measurements. C. A. Kraus and H. C. Parker. *Am Chem Soc J* 44:2422-8 N '22

La clarification des saumures et le traitement des boues, dans la fabrication du chlorure de potassium. Bucherer. *diags Génie Civil* 82:260-1 Mr 17 '23

Effect of sucrose on the activities of the chloride and hydrogen ions. J. W. Corran and W. C. M. Lewis. *Am Chem Soc J* 44:1673-84 Ag '22

Electromotive-force measurements with a saturated potassium chloride bridge or with concentration cells with a liquid junction. G. Scatchard. *Am Chem Soc J* 45:1716-23 Jl '23

Les gisements de potasse d'Alsace et l'état actuel de leur exploitation. C. Matignon. *il diags Chimie & Ind* 6:454-63 O '21

Potash from kelp; the manufacture of potash salts. J. W. Turrentine, H. G. Tanner and P. S. Shoaif. *il diags Ind & Eng Chem* 15:159-63 F '23

Production of potassium chloride; patent. *diag Chem & Met Eng* 26:608 Mr 29 '22

Properties of ammonium nitrate; the reciprocal salt-pair, ammonium nitrate and potassium chloride. E. P. Perman and H. L. Saunders. *Chem Soc J* 123:841-9 Ap '23

La question de la cristallisation dans les fabriques de chlorure de potassium. C. Rinckenbach. *diags Chimie & Ind* 8:278-88 Ag '22

Study of the moving boundary method for determining transference numbers. D. A. MacInnes and E. R. Smith. *diags Am Chem Soc J* 45:2246-55 O '23

Potassium chlorochromates

Electrolysis of acetone solutions of potassium chloro- and tri-chromates. E. F. Morris. *Chem Age (Lond)* 8:33-4 Ja 13 '23

Potassium chloropalladite

Crystal structures of potassium chloroplatinite and of potassium and ammonium chloropalladites. R. G. Dickinson. *diags Am Chem Soc J* 44:2404-11 N '22

Potassium chloroplatinite

Crystal structures of potassium chloroplatinite and of potassium and ammonium chloropalladites. R. G. Dickinson. *diags Am Chem Soc J* 44:2404-11 N '22

Potassium chlorostannate

Crystal structures of potassium and ammonium chlorostannates. R. G. Dickinson. *Am Chem Soc J* 44:276-88 F '22

Potassium chromioxalate

Autocemisation of potassium chromioxalate. E. K. Rideal and W. Thomas. *Chem Soc J* 121:196-202 Ja '22

Potassium compounds

Densities of dilute solutions of potassium salts and the volume changes occurring on solution. H. Hartley and W. H. Barrett. *Chem Soc J* 123:398-401 F '23

Potassium salt of hexahydrodioxydiboron. R. C. Ray. *Chem Soc J* 121:1088-94 Je '22

Potassium cyanide

Benzil rearrangement. A. Lachman. *Am Chem Soc J* 45:1522-9 Je '23

Crystal structure of potassium cyanide. R. M. Bozorth. *Am Chem Soc J* 44:317-23 F '22

See also Cyanide process

Potassium dichromate

Electrometric titration of dichromate with ferrous sulfate. M. Eppley and W. C. Vosburgh. *Am Chem Soc J* 44:2148-56 O '22

Manufacture of bichromates, then and now. *Oil Paint & Drug Rep* 101:31 Mr 28 '22

Mordants. W. D. Bancroft. *J Phys Chem* 26:736-72 N '22

Potassium dichromate as a standard in iodimetry and the determination of chromates by the iodide method. W. C. Vosburgh. *Am Chem Soc J* 44:2120-30 O '22

Volumetric determination of tellurium by the dichromate method. V. Lenher and H. F. Wakefield. *Am Chem Soc J* 45:1423-5 Je '23

Potassium ethyl sulfate

Dimorphism of potassium ethyl sulphate. D. L. Hammick and J. M. Mullaly. *Chem Soc J* 119:1802-6 N '21

Potassium ferrocyanide

Eisen als licht-chemischer katalysator; über die zersetzung von ferrocyanalkalium im tageslicht. O. Baudisch and L. W. Bass. *Deutsche Chem Gesell Ber* 55:2698-2706 S '22

Variation of the photo-electric activity of a potassium ferro-cyanide solution with the concentration of the solution. J. H. J. Poole. *diags Philos Mag* 6th ser 45:895-906 My '23

Potassium hydrogen fluoride

Crystal structure of potassium hydrogen fluoride. R. M. Bozorth. *Am Chem Soc J* 45:2128-32 S '23

Potassium hydrogen phthalate

Use of phthalate solutions for hydrogen electrode standards. E. T. Oakes and H. M. Salisbury. *Am Chem Soc J* 44:948-51 My '22

Potassium hydroxide

Abweichendes verhalten des lithiumhydroxyds gegenüber natrium- und kaliumhydroxyd bei der hydratisierung der polymeren arylstibin-säuren. H. Schmidt. *Deutsche Chem Gesell Ber* 55:697-701 Mr '22

Activities of the ions of potassium hydroxide in aqueous solution. M. Knobel. *diags Am Chem Soc J* 45:70-6 Ja '23

Behaviour of the stannic acids towards solutions of alkaline hydroxides. G. E. Collins and J. K. Wood. *Chem Soc J* 121:2760-5 D '22

Influence of potassium hydroxide on the formation of vinyl alcohol from acetaldehyde. W. L. Evans and C. D. Looker. *Am Chem Soc J* 43:1925-8 Ag '21

Transference numbers of potassium hydroxide in aqueous solution. M. Knobel, D. K. Worcester and F. B. Briggs. *diag Am Chem Soc J* 45:77-9 Ja '23

Potassium iodide

Action of potassium iodide and iodate on some hydroxy-acids. S. Krishna and F. G. Pope. *Chem Soc J* 121:798-800 My '22

Existence of an anomalous reflection of X-rays in Laue photographs of crystals. R. W. G. Wyckoff. *il Am J Sci* 5th ser 6:277-87 O '23

Potassium laurate

Ultra-filtration of soap solutions; sodium oleate and potassium laurate. J. W. McBain and W. J. Jenkins. *diags Chem Soc J* 121:2325-44 O '22

Potassium manganate

Studies on manganates and permanganates. H. I. Schlesinger, V. T. Jackson and E. E. Cordrey. *Ind & Eng Chem* 15:53-7 Ja '23

See also Potassium permanganate

Potassium mercury cyanide

Crystal structures of complex cyanides of potassium with zinc, cadmium and mercury. R. G. Dickinson. *Am Chem Soc J* 44:774-84 Ap '22

Potassium nitrate

Freezing-point curve for mixtures of potassium nitrate and sodium nitrate. H: V. A. Briscoe and W. M. Madgin. *diag Chem Soc J* 123:1608-18 Je '23

Potassium oleate

Protective action of potassium oleate on gold sols in water-alcohol mixtures. E. K. Rideal and L. L. Bircumshaw. *Chem Soc J* 123:1565-70 Je '23

Transition from the colloidal to the crystalloidal state; solutions of potassium oleate. L. L. Bircumshaw. *Chem Soc J* 123:91-7 Ja '23

Potassium oxalate

Oxidation of potassium acetate to potassium oxalate. W. L. Evans and P. R. Hines. *Am Chem Soc J* 44:1543-6 JI '22

Potassium oxide. See Potash**Potassium perchlorate**

Decomposition of potassium perchlorate and its catalysis by ferric oxide. C. E. Otto and H. S. Fry. *diag Am Chem Soc J* 45:1134-43 My '23

Formation of potassium perchlorate from potassium chlorate. V: Lenher, H. W. Stone and H. H. Skinner. *Am Chem Soc J* 44:143-4 Ja '22

Solubility of potassium perchlorate in salt solutions and the corresponding activity relations. R. M. Bozorth. *Am Chem Soc J* 45:2653-7 N '23

Potassium permanganate

Effect of the presence of filter paper on permanganate-oxalate titrations. S. G. Simpson. *J Ind & Eng Chem* 13:1152-4 D '21

Electrometric titration of sulfurous acid with permanganate. W. S. Hendrixson and L. M. Verbeck. *J Ind & Eng Chem* 14:1152-3 D '22

Electrometric titration of uranium with potassium permanganate and potassium dichromate. D. T. Ewing and E. F. Eldridge. *diag Am Chem Soc J* 44:1484-9 JI '22

New bleaching process with potassium permanganate. *Am Dyestuff Rep* 12:643-4 Ag 27 '23

Oxidation of acetone with potassium permanganate. W: L. Evans and L. B. Sefton. *Am Chem Soc J* 44:2276-83 O '22

Oxidation of isopropyl alcohol with potassium permanganate. W: L. Evans and L. B. Sefton. *Am Chem Soc J* 44:2271-6 O '22

Oxidation of propylene glycol with potassium permanganate. W: L. Evans. *Am Chem Soc J* 45:171-6 Ja '23

Solubility of potassium permanganate in solutions of potassium sulfate and of sodium sulfate. H. M. Trimble. *Am Chem Soc J* 44:451-60 Mr '22

Studies of the activity of organic nitrogenous compounds. C. S. Robinson, O. B. Winter and S. Bandemer. *Ind & Eng Chem* 15:1179-82 N '23

Study of side-chain oxidations with potassium permanganate. L. A. Bigelow. *Am Chem Soc J* 44:2010-19 S '22

Titration of solutions of permanganate and sodium arsenite. W: T. Hall and C. E. Carlson. *Am Chem Soc J* 45:1615-20 JI '23

Potassium persulfate

Persulfate reduction. S. E. Sheppard. *J Fr Inst* 193:407-8 Mr '22

Reaction between persulfates and silver. G. I. Higson. *Chem Soc J* 119:2048-55 D '21

Potassium phthalimide

Preparation of sodium and potassium phthalimide. D. L. Hammick and G. H. Locket. *Chem Soc J* 121:2362-3 N '22

Potassium platinobromide

Hydrolysis of platinum salts; potassium platinobromide. E. H: Archibald and W: A. Gale. *Chem Soc J* 121:2849-57 D '22

Potassium platinocyanides

Hydrates of potassium and lithium platinocyanides and the system potassium platinocyanide—lithium platinocyanide—water. H: Terry and V: G: Jolly. *Chem Soc J* 123:2217-22 S '23

Potassium sodium tartrate

Piezo-electric activity of Rochelle salt under various conditions. J. Valasek. *Phys R* 19:478-91 My '22

Properties of Rochelle salt related to the piezo-electric effect. J. Valasek. *diags Phys R* 20:639-64 D '22

Reversible inductivity of Rochelle salt crystals and its relation to frequency and temperature. J: G. Frayne. *diags Phys R* 21:348-59 Mr '23

Safeguarding of industries act. *Chem Age (Lond)* 9:118-19 Ag 4 '23

Potassium sulfate

Properties of ammonium nitrate; the reciprocal salt pair ammonium nitrate and potassium sulphate. E. P. Perman and W: J: Howells. *Chem Soc J* 123:2128-34 S '23

Quaternary system potassium sulphate—magnesium sulphate—ammonium sulphate—water. A. Weston. *diags Chem Soc J* 121:1223-37 JI '22

System potassium sulphate—aluminium sulphate—water at 25°. H. T: S. Britton. *Chem Soc J* 121:982-6 Je '22

See also Potassium ethyl sulfate; Potassium persulfate

Potassium trinitride

Reaction between potassium trinitride and iodine in the presence of carbon disulfide. A. W. Browne and A. B. Hoel. *Am Chem Soc J* 44:2106-16 O '22

Potassium zinc cyanide

Crystal structures of complex cyanides of potassium with zinc, cadmium and mercury. R. G. Dickinson. *Am Chem Soc J* 44:774-84 Ap '22

Potato flour

New field of the lowly potato; manufacture of white potato flour. W. A. Noel. *diags Am Ind* 23:1-2+ N '22; Same cond., with table. *Chem Age* 30:381-4 S '22

Potatoes

Industrial utilization of the potato. *Chem Age* 31:15-16 Ja '23

Keeping growing potatoes cool. *Sci Am* 125A:127 D '21

See also Potato flour; Sweet potatoes

Potatoes, Dried

Control of the darkening of dehydrated potato. H. C. Gore and L. F. Rutledge. *il Chem Age* 29:457-8 N '21

Vacuum dehydration and freshening of potatoes. H: W. Banks. *Am Soc Heat & V E J* 28:133-9 Mr '22

Potential, Electric. See Electric currents; Electromotive force

Potentiometers

Siemens thermocouple potentiometer. *diags Engineering* 115:458 Ap 13 '23

Vacuum-tube alternating-current potentiometer. E. C. Wentz. *bibliog il diags Am Inst E E J* 40:900-4 D '21

Potteries

Largest pottery in the world; the Homer Laughlin china co. of Newell, W. Va. *Brick & Clay Rec* 61:880-1 D 12 '22

Modern sanitary ware plant. *il Brick & Clay Rec* 60:776-80 My 16 '22

Organization of a decorative ceramic research department. F: H. Rhead. *Am Cer Soc J* 5:758-87 N '22

Wonderful china display room. *il Brick & Clay Rec* 60:929-31 Je 13 '22

Equipment

Improved magnet box. H. Spurrier. *Am Cer Soc J* 5:586-7 S '22

Potteries—Equipment—Continued

Some new appliances in potting; abstract. A. S. W. Odelberg. *Am Cer Soc J* 5(Cer A 1): 12-14 Ja '22

Potters

Lead poisoning in the pottery trades, by B. J. Newman and others. Review by A. Hamilton. *J Ind Hygiene* 3:390-4 Ap '22
Two investigations in potters' shops. H. M. Vernon and T. Bedford. 74p *Gt. Brit. Ind. fatigue research bd., London* '22; Abstract. *J Ind Hygiene* 4:136-7 D '22

Pottery

A B C of English salt-glaze stoneware from Dwight to Doulton. J. F. Blacker. 243p S. Paul & co., London '22
Adventure in discontent. C. F. Binns. *Brick & Clay Rec* 62:1051-4 Je 12 '23
Ancient pottery methods still in use. D. C. Retsloff. *il Pop Mech* 39:32 Ja '23
Chemistry of the terpene medium for ceramic liquid gold. P. P. Budnikoff and E. A. Shilov. *Am Cer Soc J* 6:1000-6 S '23
Control of biscuit losses. I. E. Sproat. *Am Cer Soc J* 5:588-93 S '22
Copper reds for the amateur. P. E. Cox. *Am Cer Soc J* 6:685-8 My '23
Discoloration of whiteware fired in carborundum saggars. H. Spurrier. *Am Cer Soc J* 4:923-6 N '21
Early ceramic wares of China. A. L. Hetherington. 159p Scribner '22
Earthenware bodies and glazes. H. H. Sortwell. *Am Cer Soc J* 4:990-8 D '21
Effect of heat-treatment and composition of semi-porcelain bodies on crazing. I. E. Sproat. *Am Cer Soc J* 6:510-24 Mr '23
Effect of variation in firing on the physical properties of vitreous china bodies. H. H. Sortwell. *Am Cer Soc J* 6:915-36 Ag '23
Heat distribution in updraft kilns. A. V. Bleininger. *Am Cer Soc J* 6:1134-9 N '23
Historical and modern decorative processes. F. H. Rhead. *il Am Cer Soc J* 6:356-97 F '23

How Indian pottery is made. *il Brick & Clay Rec* 60:124-5 Ja 24 '22

Kiln manipulation in relation to school and studio pottery. F. H. Rhead. *Am Cer Soc J* (Bul) 5:131-3 Ag '22

Measurement of translucency of ceramic bodies. C. W. Parmelee and R. E. Lowrance. *diag Am Cer Soc J* 6:630-3 My '23

New Jersey clay workers association; symposium on the casting of ceramic bodies and a discussion on the oil firing of kilns. *Chem & Met Eng* 27:1276-7 D 27 '22

Old Pennsylvania Dutch pottery. *Brick & Clay Rec* 62:1142+ Je 26 '23

Potter's craft. C. F. Binns. 2d ed., rev. & enl. 206p Van Nostrand '22

Pottery manufacture in the east Liverpool, Ohio, district. C. H. Jones. *il Chem & Met Eng* 26:346-50 F 22 '22

Silicate of soda in the ceramic industries. J. G. Vail. *Chem & Met Eng* 28:636-7 Ap 9 '23; Same. *Am Cer Soc J* 6:610-13 Ap '23

Suggested new methods in the preparation of dust-pressed bodies. H. Spurrier. *Am Cer Soc J* 5:151-6 Mr '22

Technical development in the whiteware industries. F. K. Pence. *Am Cer Soc J* 6:308-11 Ja '23

Use of sedimentary kaolins of Georgia in whitewares. G. A. Bole and R. T. Stull. *Am Cer Soc J* 6:854-64 Jl '23

See also Ceramics; Chelsea pottery; Clay; Clay industries; Clay products; Enamel and enameling; Glazes; Kaolin; Kilns; Luster ware; Porcelain; Potteries; Potters; Saggars; Sanitary ware; Staffordshire pottery; Stoneware; Terra cotta; Vases, Greek; Wedgwood ware; also American ceramic society; North Dakota. University—Ceramic department

Bibliography

Ceramic abstracts. See monthly numbers of American ceramic society journal

Design

Art of manufacture and the manufacture of art. C. F. Binns. *Am Cer Soc J* (Bul) 6: 55-9 Ap '23

Artistic needs of modern faience. C. Dressler. *il Am Cer Soc J* 6:398-404 F '23; Discussion. (Bul) 6:286-94 S '23

Designs on prehistoric pottery from the Mimbres Valley, New Mexico. J. W. Fewkes. 47p Smithsonian institution, Washington '23

Relation of the art division to the other divisions. F. H. Rhead. *diags Am Cer Soc J* (Bul) 6:59-70 Ap '23

Formulae, tables, etc.

Painting in underglaze colors on the biscuit. F. H. Rhead. *Am Cer Soc J* 5:376-83 Je '22; Discussion. 5:383, (Bul) 5:113-15 Je-Jl '22

Periodicals

Ceramic abstracts; list of principal journals abstracted. *Am Cer Soc J* 4:999-1001 D '21

Testing

Comparative tests of American and foreign tableware. H. H. Sortwell. *diag Am Cer Soc J* 5:276-88 Je '22

Impact tests on tableware. H. H. Sortwell. *Am Cer Soc J* 6:349-55 F '23

Pottery industry

English potters reduce prices 10% to combat Fordney bill. *Brick & Clay Rec* 61:881-2 D 12 '22

Extension work. P. E. Cox. *Am Cer Soc J* (Bul) 5:45-8 Je '22

Survey and analysis of the pottery industry. 88p U.S. Federal board for vocational education, Washington '21

See also Sanitary potters' association

Advertising

See Wedgwood ware—Advertising

Japan

Pottery industry of Japan. F. R. Rutter. U S Bur For & Dom Com Trade Information Bul 28:1-13 '22

Pottery trust. See Sanitary potters' association

Poughkeepsie, New York

Bridges

Cantilever plan recommended for highway bridge over Hudson river at Poughkeepsie. *il Eng N* 89:1090 D 21 '22

Poulsen arc. See Radio arc

Poultry

Uncle Sam is keeping tab on 4,000 chickens. *il Pop Mech* 40:78-9 Jl '23

Feeding

Nutrient requirements of growing chicks. J. C. Drummond and others. *Sci Am* 127:37 Jl '22

Poultry food**Advertising**

Yeast as a food for animals given impetus on the farm. R. Dickinson. *il Ptr Ink* 122:10+ Mr 22 '23

Poultry industry**Advertising**

Association advertising creates a market for future output; International baby chick association. *Ptr Ink* 122:145-6 Mr 1 '23

Powder houses

Powder house has unique design. *il diags plans Concrete* 21:105 O '22

Powdered coal. See Coal, Pulverized

Powell, G. Harold, 1872-1922

G. Harold Powell, of California fruit growers exchange, dies. *Ptr Ink* 118:19-20 F 23 '22

Power (mechanics)

Age of power. J. Riley. 243p Sidgwick & Jackson, London '21

Les disponibilités d'énergie mécanique dans le monde. *Génie Civil* 81:139-41 Ag 5 '22

Inaugural address at the Junior institution of engineers. C. H. Wordingham. *Engineer* 132:656-7 D 16 '21

Power (mechanics)—Continued

- Internal-terrestrial heat as an important source of energy; abstract. *Mech Eng* 44: 197 Mr '22
- Ohio industries are nearly half engine driven, as compared with motor drive. *Power* 56: 840-2 N 28 '22
- One hundred years from now. C: P. Steinmetz. map *Nation's Business* 10:11-13 S '22
- Our reserves of energy; the heat and power of the future. L. G. Hall. *Sci Am* 129:182+ S '23
- Photosynthesis and the possible use of solar energy. H. A. Spoehr. *J Ind & Eng Chem* 14:1142-5 D '22
- Power and transmission. See monthly numbers of *Factory*
- Power calculations for bending rolls. A. L. Roberts. *diags Mach* 29:512-15 Mr '23
- Power production in relation to ultimate values. A. H. Seabrook. *Gas J (Lond)* 161: 603-4 Mr 7 '23
- Progress in the art of power development. A. G. Christie. *Mech Eng* 45:133 F '23
- Steam engine is the favorite prime mover in Massachusetts industries. *Power* 55:1018-19 Je 27 '22
- Thrift in using power. *il Factory* 22:56-1, 638-9; 29:42+; 30:44+ Ja, Je-Jl '22, Ja '23
- What is our future source of power? C. P. Steinmetz. *System* 44:674-5 N '23
- What power means to civilization. F. R. Low. *Power* 55:396-7 S 4 '23
- See also Coal mines and mining—Power; Compressed air; Dynamometer; Electric power; Force and energy; Horsepower; Hydroelectric power; Machinery; Mining engineering—Power; Muscular power; Paper mills—Power; Pneumatic tools; Power cost; Power factor; Power plants; Power transmission; Rolling mills—Power; Solar power; Steam; Steam, Natural; Steel works—Power; Tide power; Water power; Wind power
- Power cost**
- Advantages to be gained by electrification of ice plants. W. H. Feldmann. *N E L A Bul* 9: 475-9 Ag '22; Same. *Refrig W* 57:13-16 F '22
- Analyzing power costs in small plants. L. V. H. Armstrong. *Elec W* 81:1512-16 Je 30 '23
- By measurement of current used and extended records large savings can be made in power cost. *Coal Age* 22:494-6 S 28 '22
- Comparative costs with different types of prime movers used in ice manufacture. *Elec W* 82:86 Jl 14 '23
- Cost of power. *Power Pl Eng* 26:812-14 Ag 15 '22
- Cost of power per \$100 of pay-roll. P. F. Walker. *Management Eng* 3:339-42 D '22
- Costs of electric energy in California compared with Ontario. R. Sibley. *diags J Elec* 48:269-71 Ap 1 '22
- Economic importance of the power plant in the steel industry. E. F. Entwistle. *Blast F & Steel Pl* 10:585-7 N '22; Same. *Iron Tr R* 71:1201-2+ N 2 '22; Abstract. *Iron Age* 110:1214-15 N 9 '22; Discussion. F. L. Collins. *Iron Tr R* 71:1561-3 D 7 '22
- Economics of the power plant. L. Loeb. *Textile World* 61:2729+; Discussion. C. A. Baer. 2735+ My 6 '22
- Electric pumping at Concord. P. R. Sanders. *il Pub Works* 53:238-40 N '22; Same cond. *Eng & Contr (W W)* 59:374-5 F 14 '23
- Heating and power cost analysis for office buildings. Heat & Ven 20:40-1 Ja '23
- How to follow up power costs. N. A. Craigue. *il Ind Management* 62:275-9, 354-6; 63:55-9 N '21-Ja '22
- How to reduce the cost of electric current. E: H. Tingley. *il Management Eng* 4:107-10 F '23; Discussion. F. W. Funk. 4:273 Ap '23
- Hydroelectric power situation at St John. *Can Eng* 42:364-9 Ap 4 '22
- Local electricity supply v. bulk supply. *Engineer* 134:448-9, 473-4 O 27 N 3 '22
- Low cost power. L. H. Hale. *Power Pl Eng* 26:754 Ag 1 '22

- Lower-cost factory power. G. C. Brown. *il charts Management & Adm* 6:67-72 Jl '23
- Power plant problems of steel mills. L. B. Breedlove. *Iron Age* 112:1027-30 O 18 '23; Discussion. K. Huessener. 112:1194 N 1 '23
- Problem of electric power supply for the coal mine. A. L. Jones. *Coal Age* 23:859-61 My 24 '23
- Purchased power for coal mines. J. P. Clayton. *W Soc E J* 27:301-7 O '22; Same abr. *Coal Age* 21:1079-82 Je 29 '22; Discussion. *W Soc E J* 27:307-11 O '22
- Relation of the various mine power costs discussed at Illinois institute. *Coal Age* 22: 951-2 D 14 '22
- Remotoring plant raises power factor. O. H. Henschel. *diags Power Pl Eng* 27:883-7, 992-3 S 1, O 1 '23
- Should power be purchased from a central station or generated at the mine where it is to be used? E. Steck. *il Coal Age* 21:649-51 Ap 20 '22
- Solving the problem of distributing power costs. H. N. Cedarland. *Power* 58:579 O 9 '23
- Steam vs. electric or gasoline drive for centrifugal pumps. *Power* 55:735-6 N 6 '23
- Steel rolled for less on electric mills than with steam drive. G. E. Stoltz. *il Elec W* 80:6-10 Jl 1 '22
- What does industrial power really cost? J. A. Burnett. *Factory* 30:708 Je '23
- What does your power cost? R. Repine. *il Brick & Clay Rec* 62:1048-50 Je 12 '23
- See also Electric service, Rural—Cost

Accounting

- Analysis of ways power costs can be checked and distributed. A. J. Whitcomb. *il Ind Eng* 81:181-6 Ap '23
- Cost of power transmission. R. Stelling. *Eng & Ind Management* 7:314-15 Ap 6 '22
- Distributing power charges. W. A. Miller. *Power Pl Eng* 26:210-15, 255-9 F 15-Mr 1 '22
- Overhead distribution methods; distributing power charges among departments. F. Brugger. *Power Pl Eng* 26:413-14 Ap 15 '22
- Power costs in paper mill accounting. B. C. Gause. *Paper Tr J* 73:24+ D 29 '21; Same abr. *Paper* 29:7-8 Mr 1 '22

Power factor

- L'amélioration du facteur de puissance des installations électriques, par moteurs synchrones. *Génie Civil* 79:399-400 N 5 '21
- Analysis of economic loss due to power factor—basic meterable factors. J. E. Doran, J. B. Hodum and R. C. Fryer. *il N E L A Bul* 9:311-20 My '22; Same cond. *Elec W* 79:877-8, 1216-19 My 6, Je 17 '22; Discussion. 80:328, 456, 774 Ag 12, S 2, O 7 '22
- Calculating generator capacity for use as condenser to correct power factor. R. W. Lloyd. *Ind Eng* 81:163 Mr '23
- Calculating size of synchronous motor for power-factor correction. C: A. Armstrong. *diags Power* 56:200-2 Ag 8 '22
- Cash value of power-factor correction. F: C. De Weese. *Elec W* 80:980-2 N 4 '22; Discussion. 80:1448 D 30 '22
- Commercial measurement of power-factor and volt-amperes. R. C. Fryer. *il diags Elec J* 19:277-81 Jl '22
- Determining power factor with two watt-hour meters. L. P. Staubitz. *diag Power Pl Eng* 26:617-18 Je 15 '22
- Dielectric stresses in static condensers for power-factor correction. R. E. Marbury and A. L. Atherton. *il Elec J* 20:334-7 S '23
- Disadvantage of low power factor and how to correct it. G: E. MacLean. *diags Ind Management* 64:73-4 Ag '22
- Duplex graphic meter for power-factor studies. R. H. Wright. *il diags Elec J* 20:95-6 Mr '23
- Duquesne light company offers premium for raising power factor. *Elec W* 82:241 Ag 4 '23
- Easily applied graphic method of determining power factor. W. L. Stevens. *chart Ind Eng* 81:318 Je '23
- Effects of low power factor; report of Power factor committee, Pacific coast electrical association, May 31, 1922. *J Elec* 49:364-5 N 15 '22

Power factor—Continued

- Extent of ionization in dielectrics still undeterminable. W: A. Del Mar. Elec W 82:73 JI 14 '23; Discussion. 82:336 Ag 18 '23
- Graphical solution for power-factor problems. C: R. Riker. Elec J 19:338-40 Ag '22
- Improvement of power factor. G. Kapp. Inst E E J 61:89-108 Ja '23; Same. Engineering 114:659-62, 691-4, 725-6 N 24-D 8 '22; Excerpts. Engineer 134:561 N 24 '22; Abstract. Elec R (Lond) 91:807-8 N 24 '22; Abstract. Electrician 89:629-30 D 1 '22; Discussion. Inst E E J 61:109-35, 896-92 Ja, Ag '23; Elec R (Lond) 91:808-9; 92:13, 195-7 N 24 '22, Ja 5, F 2 '23
- Improvement of power factor. Power 55:969-70 Je 20 '22
- Improving the power factor. T. R. Hay. Ind Management 63:228 Ap '22
- Increasing transmission-line loading by power-factor correction. F. L. Hunt. Elec W 82:440 S 1 '23
- Line regulation and power factor correction. C. W. Bates. Elec W 81:966 Ap 28 '23
- Load power-factor and its measurement. Il Elec R (Lond) 90:655-7 My 12 '22
- Measurement of power factor. V: H. Todd. Power 56:835 N 28 '22
- Motor to help power-factor trouble. A. H. Timmerman. Elec W 82:826 O 20 '23
- New angle of power factor correction. A. R. Stevenson, Jr. N E L A Bul 10:154-7 Mr '23; Same abr. Power 57:114 Ja 16 '23; Same cond. Elec W 81:868-9 Ap 14 '23
- New method of improving power factor. T. F. Wall. Engineer 134:574 D 1 '22
- New power-factor slide rule. P. L. Alger and H. W. Samson. Gen Elec R 25:455-7 JI '22
- New solution of power-factor problem. Il Elec W 82:911-13 N 3 '23
- Notes on power factor. L. W. Wyss. Power 57:674 My 1 '23; Discussion. 58:388 S 4 '23
- Phase advancer. F. S. Wheeler. Il diag Elec J 19:282-4 JI '22; Same. Power Pl Eng 26:909-10 S 15 '22
- Power factor. E. W. Dorey. diags Elec R (Lond) 89:275-6, 493-4, 723; 90:11 Ag 26, O 14, N 25 '21, Ja 6 '22
- Power factor. F. E. J. Ockenden. Il diags Elec R (Lond) 93:164-5 Ag 3 '23; Discussion. 93:374, 386-7, 425 S 7-21 '23
- Power factor and slip of an induction generator. T. W. Dann. diags Engineering 116:282 Ag 31 '23
- Power factor as it affects the consumer. L. J. Murphy. Elec W 81:97-100 Ja 13 '23
- Power factor correction. A. E. Clayton. 103p Pitman '21
- Power-factor correction by rearrangement of motor drives. T. H. Arnold. diags Power 55:886-9 Je 6 '22
- Power-factor correction by the use of synchronous condensers. C. W. Bates. Elec W 82:117-19 JI 21 '23
- Power-factor correction with converters. C. W. Bates. Elec W 82:357-9 O 27 '23
- Power-factor correction with loaded synchronous motors. C. W. Bates. Elec W 82:323-5 Ag 18 '23
- Power-factor correction with static condensers. C. W. Bates. Elec W 81:739-41 Mr 31 '23
- Power factor: its technical and commercial aspects. H. E. Yerbury. Inst E E J 61:675-81; Discussion. 681-91 Je '23; Abstract. Elec R (Lond) 92:635-6 Ap 20 '23
- Power factor problem of the central station. C. W. Drake. Elec J 19:284-9 JI '22
- Power factor problems in industrial plants. C. W. Drake and H. E. Dralle. Il Power Pl Eng 27:1087-90 N 1 '23
- Power factor table lessens billing computations. G. B. Leland. Elec W 81:169-70 Ja 20 '23
- Practical analysis of the methods for correcting power factor. E. H. Hubert. Il diags Ind Eng 80:561-7+ D '22
- Raising power factor to increase system capacity. R. L. Hall. Elec W 82:614-15 S 22 '23
- RemotORIZING plant raises power factor. O. H. Henschel. diags Power Pl Eng 27:883-7, 992-3 S 1, O 1 '23
- Saving money by improving the power factor. E. S. Small. Ind Management 63:107-10 F '22
- Savings to customer of good power factor. Elec W 81:1224-5 My 26 '23
- Some notes on the theory of phase meters. G. W. Stubbings. diags Electrician 88:586-8 My 19 '22
- Static condenser table for correcting power factors of motors. J. L. Merrill. Elec W 79:637 Ap 1 '22
- Static condensers for power-factor correction. E. E. Marbury. Il Elec J 20:49-51 F '23; Same. Power Pl Eng 27:280-1 Mr 1 '23
- Transformer connections for power-factor meter. V: H. Todd. diags Power 55:388 Mr 7 '22
- See also Reactive factor
- Power loops.** See Electric transmission
- Power of attorney**
- Power of attorney for use in Argentina. W. H. Robertson. U S Bur For & Dom Com Trade Information Bul 78:1-49 '22
- Power plants**
- British power plant practice. C. H. S. Tupholme. Power Pl Eng 25:1095-6; 26:118-19, 220-2, 315-19, 416-18 N 15 '21, Ja 15, F 15, Mr 15, Ap 15 '22
- Central heat and power plant for group of office buildings; the Maryland casualty company. G. C. Stierhoff. Il diag plan Power 57:316-18 F 27 '23
- Control of power production. C: L. Hubbard. Il Factory 31:298-301+, 451-2+, 602-5+ S-N '23
- Developments in power production. O. Junggren. Power 58:196 JI 31 '23
- Ford principles and practice at River Rouge. J: H. Van Deventer. Il diags Ind Management 65:149-60, 205-13 Mr-Apr '23
- Foreign development in the power plant field. J. H. Blakey. diags Power Pl Eng 25:1154-6; 26:166-8 D 1 '21, F 1 '22
- In and around the power plant. Elec Ry J 61:15-17 Ja 6 '23
- MacSimBar paper co. builds unusual power plant. H. P. Hall. Il Paper Tr J 76:111-12 Ap 12 '23
- Mastering power production. W. N. Polakov. 455p Engineering magazine co., New York '21
- New plant at the Bayway refinery. Il diags Power Pl Eng 27:109-17 Ja 15 '23
- Power and transmission. Il Factory 30:705-6+; 31:538+ Je, O '23
- Power for Federal reserve bank, Cleveland. Il diags plan Power Pl Eng 27:1063-9 N 1 '23
- Power for making the Steinway piano. Il charts diags plans Power Pl Eng 26:1139-44 D 1 '22
- Power house efficiency, insulation, wax plant operation. Nat Pet N 14:43+ O 4 '22
- Power in industrial plants—a new presentation of some old facts. J: S. Griggs, Jr. Power 55:222-3; Discussion. 238-9 F 7 '22
- Power plant engineering data, tables and charts. Technical pub. co., Chicago '23
- Power plant engineering questions and answers. 352p Power plant eng., Chicago '22
- Power plant in a modern sugar refinery. R. B. Stevens. Il diag Power 56:440-5, 500 S 19-26 '22
- Power plant of the Harvard medical school. Boston, Mass. C: L. Hubbard. Il diags Power 56:482-6 S 26 '22
- Power plant of today. C. F. Hirshfeld. Power 58:168-70 JI 31 '23
- Power plant progress during 1922. A. W. Cole. Munic Eng 64:78-82 F '23
- Progress in power development. A. G. Christie. Power 57:231 F 6 '23
- Recent developments in power production. D. L. Selby-Bigge. Iron & Steel Inst J 105:275-314, pl 34-48 no 1 '22; Same cond. Power Pl Eng 27:944-8 S 15 '23; Abstract. Electrician 88:715-17 Je 16 '22; Discussion. Iron & Steel Inst J 105:315-37 no 1 '22
- Refinements of practice in modern power plants. I. L. Kentish-Rankin. Power Pl Eng 25:1089-91, 1190-2 N 15, D 15 '21

Power plants—Continued

Some engineering features of the Ford plant at River Rouge. L. B. Breedlove. *il W Soc E J* 28:472-84 O '23

Study of power-station efficiencies. C. W. Marshall. *diags Elec R (Lond)* 93:439-40 S 21 '23

Unique power plant in a small shop. E. Sheldon. *il Am Mach* 56:712-13 My 11 '22

What to look for in a power plant. D. Adams. *Textile World* 61:1415+ Mr 4 '22

Year of progress in the power-plant field. *il diags Power* 57:2-19 Ja 2 '23

Year's progress in the power plant field. *il Power* 55:2-14 Ja 3 '22

See also Boiler plants; Electric plants; Gas power plants; Hydroelectric plants; Hydroelectric plants—Auxiliary plants; Lubrication and lubricants; Steam plants

Accounting

Analysis of ways power costs can be checked and distributed. A. J. Whitcomb. *il Ind Eng* 81:181-6 Ap '23

How to follow up power costs. N. A. Craigue. *il Ind Management* 62:275-9, 354-6; 63:55-9 N '21-Ja '22

Managerial control through costs. J. P. Jordan. *Management Eng* 4:235-40 Ap '23

Power plant accounts. W. E. Miller. *Power* 54:408-10, 448-51, 489-91, 528-30, 558-60, 596-9, 636-8, 680-4, 719-23, 769-72, 806-9, 848-52, 891-4, 934-6, 979-80, 1013-15 S 13-D 27 '21

Power plant performance and cost record. C. C. Hermann. *Ind Management* 63:313-17 My '22

Power plant records and accounting. E. Winholt. *Power Pl Eng* 25:1193-6 D 15 '21

Should steam for heating and process be charged to power-plant costs? *Power* 57:108, 305, 341, 414-15, 648 Ja 16, F 20-27, Mr 13, Ap 24 '23

Steam power plant bookkeeping. R. June. *Gas Eng* 49:329-30 Mr 18 '22

Uniform costs for power plants. A. Baruch. *Power Pl Eng* 27:623-5, 671-3, 720-2, 774-5 Je 15-Ag 1 '23

See also Power cost—Accounting

Costs

Figuring Diesel plant costs. P. M. Thayer. *il Power Pl Eng* 27:372-5 Ap 1 '23

Oil as fuel in industrial power plants. D. Henderson. *charts Power Pl Eng* 27:974-6 O 1 '23

Oil engines for village power plants. G. T. Prince. *Power* 56:860 N 28 '22

When replacements effect savings. *Power Pl Eng* 27:489-90 My 1 '23

See also Power cost

Design

Developments in power station design. Engineer 132:70-1, 90-1, 142-4, 162-3, 190-1, 214-16, 234-6, 258-60, 282-4, 324-5, 336-8, 364-5, 390-2, 445-7, 502-4, 530-2, 558-9, 601, 613-14, 668-9, 702-4; 133:41, 148-50, 201-4, 290-2, 302, 347-50, 406-9, 457-9, 463, 529-32, 545-7, 574-8, 608-10, 631-4, 683-5, 718-20 J1 15-22, Ag 5-O 14, 28, N 11-D 9, 23-30 '21, Ja 13, F 10, 24, Mr 17, 31, Ap 14, 28, My 12-Je 9, 23-30 '22

Pertinent queries on power-plant design. F. W. Laas. *Power* 57:145 Ja 23 '23

Suggestions for improvement in power plant design. J. U. Morris. *diag Power Pl Eng* 27:235-6 F 15 '23

Why the consulting engineer should design the power plant. *Power* 56:467, 545, 621, 662 S 19, O 3, 17-24 '22

Employees

Apprentice system in the power plant. *Power* 55:68 Ja 10 '22

Instructing power-plant operators. J. A. MacMurchy. *Power* 55:260-2 F 14 '22

Equipment

Conserving waste heat in the making of corn syrup. T. Wilson. *il diag plans Power* 57:122-7 Ja 23 '23

European practices tend toward greater economy. A. Dyckerhoff. *il diags Elec W* 79:421-4 Mr 4 '22

First National exposition of power and mechanical engineering. *il Power* 56:928-36 D 12 '22

Manager's approach to power problems. C. L. Hubbard. *diags Factory* 30:24-6+ Ja '23

Maxim silencer in the power plant. *diags Power* 55:91 Ja 17 '22

Modernizing old plants. *il diags plans Power Pl Eng* 26:889-93 S 15 '22

Power plant auxiliaries. L. R. Lee. *il Power Pl Eng* 26:553-7 Je 1 '22

Power plant of the Hoover suction sweeper company. *il plan Power* 56:750-4 N 14 '22

Signal systems for power stations. C. D. Gray and M. M. Samuels. *il diags Elec W* 82:225-8 Ag 4 '23

Summary of report of prime movers committee. C. F. Hirshfeld. *Elec J* 20:191-3 Je '23

World trade in power plant material and equipment. *Power Pl Eng* 26:622 Je 15 '22

Heating and ventilation

Study of the principles underlying the control and movement of air in power plants based partly on the prime movers' report of the N.E.L.A. *Power Pl Eng* 27:1091-2 N 1 '23

Lighting

Power-station lighting. R. A. Hopkins. *il Elec W* 82:913-15 N 3 '23

Location

Graphics applied to economic location of buildings. C. P. Dunn. *diags Eng N* 88:699-700 Ap 27 '22; Discussion. 88:969; 89:327 Je 8, Ag 24 '22

Management

Causes and prevention of power and fuel wastes. H. D. Martin. *il Color Tr J* 10:98-103 Mr '22

Co-operation; a straightforward talk to the operating engineer and the manager. J. M. Sullivan. *Power* 54:835-8 N 29 '21

Cost of power per \$100 of pay-roll. P. F. Walker. *Management Eng* 3:339-42 D '22

Easily avoided losses in power and transmission. W. L. Batt. *System* 44:358+ S '23

First steps in emergencies. *Power Pl Eng* 26:531 My 15 '22

Getting more power at less cost. J. W. Nicolls. *il Factory* 30:542-3 My '23

Getting the most effective service from your power room. C. C. Brown. *il J Elec* 49:14-15 J1 1 '22

Handling power problems in a large manufacturing organization. *Power* 54:946 D 13 '21

Instructing power-plant operators. J. A. MacMurchy. *Power* 55:260-2 F 14 '22

Lower-cost factory power. G. C. Brown. *il charts Management & Adm* 6:67-72 J1 '23

Manager and the plant engineer; how their co-operation reduces power costs. O. A. Anderson. *Ind Management* 63:179-80 Mr '22

Modern management methods in the power plant. B. Robinson. *Ind Management* 65:166-9 Mr '23

Power plant equipment and management. *Ind Management (Lond)* 10:15-17 J1 12 '23

Power plant troubles. H. A. Jahnke. *diags Power Pl Eng* 24:620-2, 709-10; 26:323-30 Je 15, J1 15 '20, Mr 15 '22

Power problems of vital interest to executives. J. T. Beard. *il diags Ind Management* 65:268-73, 369-74; 66:46-52, 109-14, 170-6, 211-16, 302-7, 355-60 My-D '23

Reducing refrigerating power costs. M. S. Howe. *diags Power* 57:721-2 My 8 '23

Steel works power plant management. R. June. *Blast F & Steel Pl* 10:148-51, 197-201, 483-6 F-Mr, S '22

Supervising the power plant. A. D. Blake. *Am Mach* 56:19-20 Ja 5 '22

See also Boiler plants—Management

Piping

See Piping (power plants)

Records

Accurate records required for plant progress. J. M. Drabille. *Power Pl Eng* 27:470-2 My 1 '23

Power plants—Records—Continued

- A. I. and S.E.E.—mill, mine and manufacturer's power chart. Blast F & Steel Pl 11:312 Je '23
 Dangerous half truths in power records. D. Henderson. Power Pl Eng 26:750-1 Ag 1 '22
 Filing information. J. W. Pearl. Power 56:181 Ag 1 '22
 Graphic charts tell interesting stories. F. S. Rutledge. Power Pl Eng 27:518-20 My 15 '22
 Keeping a record of plant troubles. A. D. Palmer. Power 56:847 N 28 '22
 Operating records for small power plants. G. L. Brock. Power 56:140 Jl 25 '22
 Power plant operating record. A. D. Palmer. Power Pl Eng 26:625-6 Je 15 '22
 Power plant records. Power Pl Eng 26:869 S 1 '22
 Rapid analysis of power plant records. W. J. Bitterlick. Power Pl Eng 26:222-3 F 15 '22
 Simple maintenance record. H. R. Carr. Power Pl Eng 26:847-9 S 1 '22
 Steel works power plant management. R. June. Blast F & Steel Pl 10:483-6 S '22

See also Electric motors—Records

Safety devices and measures

- Ladders and stairways for the power plant; precautions in construction and use to avoid accidents. diags Power Pl Eng 26:130-3 Ja 15 '22
 Safety code for mechanical power-transmission apparatus. Mech Eng 45:384-5 Je '23
 Safety first in power plants. W. H. Wakeman. Power 56:855 N 28 '22
 Safety in relation to power operation in silk spinning and weaving mills. A. Kidd, jr. Safety Eng 44:112-14+ S '22
 Safety provisions in the production of light and power. E. W. Gorry. Power 55:871-2 My 30 '22

Testing

- Power plant testing. W. M. Selvey. Elec R (Lond) 91:969 D 29 '22

See also Boilers—Testing; Hydroelectric plants—Testing; Power test codes; Steam plants—Testing

Power plants, Block

- New development in power—the block plant. C. Langs. System 44:575+ N '23

Power test codes

- Code for displacement compressors and blowers. Mech Eng 44:45-8+ Ja '22
 Code on definitions and values prepared by the A.S.M.E. committee on power test codes. Mech Eng 43:805-10+ D '21
 Test code for hydraulic power plants and their equipment. diags plan Mech Eng 44:248-58 Ap '22
 Test code for internal-combustion engines. Mech Eng 45:193-200 Mr '23
 Test code for locomotives. Mech Eng 45:602-10+ O '23
 Test code for reciprocating displacement pumps. Mech Eng 44:844-7 D '22
 Test code for stationary steam-generating units. Mech Eng 45:548-58+ S '23
 Test code of feedwater heaters. Mech Eng 44:759-60+ N '22
 Test code on instruments and apparatus. Mech Eng 45:116-20 F '23

Power transmission

- Alternatives in workshop power transmission. H. Varley. Eng & Ind Management 7:278-9 Mr 23 '22
 Belt, gear, and chain drives for grinding mills. G. J. Young. Il Eng & Min J 112:969-72 D 17 '21
 Can power be transmitted by radio? Power Pl Eng 27:482-4 My 1 '23
 Driving of machine tools. H. Bentley. Eng & Ind Management 6:688-9 D 15 '21
 Efficiency in power transmission. P. N. Case. Il Textile World 63:1575+ Mr 3 '23
 Finding the drive that fits the plant. R. C. Moore. System 44:502+ O '23
 Fundamentals of transmission of power by belting. L. W. Arny. diags Iron Age 111:1025-6 Ap 12 '23
 Hydraulic-power transmission gears; abstract. H. M. Sabine. Mech Eng 44:320-1 My '22

- Mechanical transmission of power. F. E. Cardullo and F. D. Jones. Mach 29:85-9, 201-3 O-N '22

- Paper mill transmission machinery. G. N. Vanderhoef. Paper 31:7-12 S 6; 12-14 S 13; 33 N 8 '22
 Power transmission and production. M. A. Nicholls. diags Eng & Ind Management 7:316-18 Ap 6 '22
 Power transmission by belting. W. G. Dunkley. diags Eng & Ind Management 7:280-1 Mr 23 '22
 Power transmission by radio. O. S. Sawin. Il Pop Mech 39:521-2 Ap '23
 Power transmission by ropes. Il Eng & Ind Management 7:287-9 Mr 23 '22
 Power transmitted by belts. W. F. Schap-horst. Textile World 62:744+ Ag 5 '22
 Radio power transmission's improbability. C. P. Steinmetz. Wireless Age 10:63 O '22
 Recent types of hydraulic transmission gear. Il diags Eng & Ind Management 7:323-7 Ap 6 '22
 Schieferstein power transmission by oscillations. Mech Eng 45:254 Ap '23
 Transmission automatique progressive système Rémondy. P. Calfas. diags Génie Civil 79:395-7 N 5 '21
 Transmitting power in fluid waves. Il diags Sci Am 126:320+ My '22
 Transmitting power with rubber belting. A. M. Oliver. Power Pl Eng 26:377-8 Ap 1 '22
 Wave transmission of power. Power Pl Eng 26:1216 D 15 '22
 Wave transmission of power. diag Engineer 134:444-5, 466-8 O 27-N 3 '22; Abstract. Mech Eng 45:55 Ja '23
 Wave transmission of power. diag Soc Auto Eng J 12:484-5 My '23

See also Automobiles—Transmission; Belting; Belting, Steel; Chain gear; Compressed air; Electric distribution; Electric driving; Electric lines; Electric transmission; Gearing; Hydraulic transmission; Hydroelectric plants; Machinery; Oil gear system; Pulleys; Rope driving; Shafting

Pozzolana. See Trass

Prairie du Sac, Wisconsin

Bridges

- Constructing Prairie du Sac highway bridge. Il diags Pub Works 52:311-13 My 6 '22

Prairie oil and gas company

- Prairie becomes refiner and marketer if P. & R. deal goes through. Nat Pet N 15:17-19 O 31 '23

Praseodymium

- Studies on the quantitative determination of praseodymium. P. H. M.-P. Brinton and H. A. Pagel. Am Chem Soc J 45:1460-5 Je '23

Pratt, Francis Cole, 1861-

- Sketch. por Elec W 82:60 Jl 14 '23

Precession

- Pseudo-regular precession. G. Greenhill. diags Philos Mag 6th ser 44:179-93 Jl '22

See also Top

Precious metals

- Dusting and volatilization losses during melting of cyanide precipitate and air refining of bullion. G. H. Clevenger. F. S. Mulock and G. W. Harris. diags Min & Met 181:11-15 Ja '22

See also Gold; Platinum; Silver

Precious stones

- Coloring precious stones by radium. F. H. Mason. Eng & Min J 112:965 D 17 '21
 Geologic and geographic occurrence of precious stones. S. H. Ball. diags map Econ Geol 17:575-601 N '22
 Handbook and descriptive catalogue of the collections of gems and precious stones in the United States National museum. G. P. Merrill. (Bul. 118) 225p Smithsonian institution, Washington '22
 Jade, amber and precious stones are produced in Burma. Eng & Min J 116:628 O 13 '23
 Magic and science of jewels and stones. I. Kozminsky. 434p Putnam '22

Precious stones—Continued

Sources of origin of Ceylon gem-stones. E. J. Wayland. *Econ Geol* 18:514-16 Ag '23

See also Diamonds; Opals; Rubies

Precipitation (chemistry)

Absorption during the precipitation of colloids by mixtures of electrolytes. H. B. Weiser. *J Phys Chem* 25:665-83 N '21

Cheminement capillaire, diffusion et déplacement; applications au séchage des plaques photographiques et des précipités. L. Lumière. *diags Génie Civil* 80:454-5 My 20 '22

Influence of the concentration of colloids on their precipitation by electrolytes. H. P. Weiser and H. O. Nicholas. *J Phys Chem* 25:742-57 D '21

Mechanism of the mutual precipitation of certain hydrosols. A. W. Thomas and L. Johnson. *Am Chem Soc J* 45:2532-41 N '23

Reaction between bromine and ammonium salts and its effect on the precipitation of manganese dioxide. S. G. Simpson. *Am Chem Soc J* 45:1883-91 Ag '23

Rhythmic deposition of precipitated vapors. E. Karrer. *il diag Am Chem Soc J* 44:951-4 My '22

Über amorphe niederschläge und krystallisierte sole. F. Haber. *il Deutsche Chem Gesell Ber* 55:1717-33 Je '22; Abstract. *Chem Soc J* 122 pt 2:553-4 Ag '22

Über die verhinderung der schwefelwasserstoff-fällung durch neutrale chloride. L. Dede and P. Bonin. *Deutsche Chem Gesell Ber* 55:2327-31 S '22

Precooling of fruit. See Fruit—Transportation**Preferred numbers**

Development and importance of preferred-number series. H. Törnebohm. *diags Mech Eng* 45:587-8+ O '23

New tool for standardizers. F. J. Schlink. *Am Mach* 59:45-8 JI 12 '23

Size standardization by preferred numbers. C. F. Hirschfeld and C. H. Berry. *Mech Eng* 44:791-800 D '22

Preheating of air. See Air heaters; Furnaces, Recuperative and regenerative**Prejudice, Removal of. See Advertising, Educational****Premier mill**

Premier mill in chemical industry. F. J. E. China. *diag Chem Age (Lond)* 8:329-30 Mr 31 '23

Premiums

Premium system in office departments. F. E. Barth. *Ind Management* 65:49-56 Ja '23

Incentives and rate-setting applied to the smaller plant and varied product. E. W. Stone. *Management Eng* 2:205-8 Ap '22

Relation of time study cost accounting; the premium plan of wage payment. R. W. Darnell. *Ind Management* 64:341-5 D '22

Premiums (merchandizing)

Sell advertising, soap sales then automatic, says Peet. G. A. Nichols. *Ptr Ink* 120:3-4+ JI 13 '22

Winning the child's good-will by plussing the sale. *Ptr Ink* 118:121 F 9 '22

Preparedness, Military. See United States—Defenses**Preservation of stone buildings. See Building stone—Preservation****Presidents****United States**

Increasing work of the presidential office. *Comm & Fin Chr* 117:709-11 Ag 18 '23

Press

See Foreign language press; Journalism; Newspapers; Periodicals

Press agents

Bootleggers of the advertising business. S. O. Rice. *Ptr Ink* 121:145-6+ O 5 '22

Contradiction in terms. *Ptr Ink* 119:96 Je 1 '22

Eye-opener for some publishers. P. H. Rhodes. *Ptr Ink* 123:49-50 Je 28 '23

Fashion, advertising and the press agent. L. Allen. *Ptr Ink* 121:25-7+ O 26 '22

How jimmied editorial space is sold. *Ptr Ink* 125:73-4 O 4 '23

Is this a defense? *Ptr Ink* 119:136 Je 15 '22
Mystery in style creation; must the news of the press agent precede advertising? *Ptr Ink* 121:20+ O 26 '22

Press cloth. See Hair press cloth

Press law

Can a newspaper refuse an advertisement? *Ptr Ink* 125:112 O 25 '23

Newspaper law. W. W. Loomis. 112p Citizen pub. co., La Grange, Ill. '21

Pressboard

Directions for the study of pressboard for electrical insulating purposes. *diags Inst E E J* 61:486-95 Ap '23

Industrial research on pressboard. A. P. M. Fleming and A. Monkhouse. *il Electrician* 87:672-4 N 25 '21; Abstract. *Elec W* 79:143 Ja 21 '22

Pressed steel. See Steel, Pressed**Presses**

Blank holder a feature of new toggle drawing press. *il Iron Age* 111:742 Mr 15 '23

Bliss double-crank toggle press. *il Am Mach* 56:492 Mr 30 '22; *Iron Age* 109:730 Mr 16 '22; *Automotive Ind* 46:753 Ap 6 '22; *Mach* 28:671 Ap '22

Cincinnati shaper co. all-steel power press brake. *il Am Mach* 57:427-8 S 14 '22; *Iron Age* 110:656 S 14 '22

Colburn no. 6 heavy-duty drill press. *il Am Mach* 55:899-900 D 1 '21

Design of inclinable power presses. P. A. Friedell. *il diags Mach* 29:376-9, 876-80; 30:279-81 Ja. JI, D '23

Electric press for scrap metal. *il Sci Am* 127:93 Ag '22

Electric stop for drawing presses. G. W. Wilder. *diags Mach* 29:345-6 Ja '23

Ferracute motor-driven honing press. *il Mach* 28:508-9 F '22; *Am Mach* 56:189 F 2 '22

Forging presses for blacksmith shop work. *il diag Ry Mech Eng* 96:159-60 Mr '22

Fox screw-driven arbor press. *il Iron Age* 112:1123 O 25 '23; *Iron Tr R* 73:1183 O 25 '23; *Mach* 30:233 N '23

Hanna pneumatic toggle and lever press. *il Am Mach* 57:355-6 Ag 31 '22; *Iron Age* 110:540 Ag 31 '22; *Iron Tr R* 71:656 S 7 '22

Home-made drill press. M. Shutt. *il Am Mach* 56:935 Je 22 '22

Horizontal press for general work. *il Iron Age* 110:153 JI 20 '22

Hose-clamping press. *il diags Ry Mech Eng* 97:52 Ja '23

Hughes automatic power press. *il Engineer* 133:644 Je 9 '22

Hydraulic and hand forcing presses in a locomotive shop. J. V. Hunter. *il Am Mach* 56:108-9 Ja 19 '22

Influence of the automobile on the design of presses and dies. N. W. Dorman. Sibley J 36:91-3 My '22

Knuckle-joint embossing presses. N. T. Thurston. *il Mach* 29:451-2 F '23

Making hot-pressed or forged brass. L. S. Love. *il Iron Age* 109:1581-3 Je 8 '22; Same. *Brass W* 18:306-7 O '22

Niagara special forging press. *il Mach* 29:653-4 Ap '23; *Iron Age* 111:893 Mr 29 '23

Nouvelle presse Bliss, de 300 tonnes, pour travaux de découpage, estampage, etc. *il diags Génie Civil* 82:531 Je 2 '23

Press with flexible control feature bought out by the General mfg. co. *il Iron Age* 109:1604 Je 8 '22

Presse, système Bliss, découpant automatiquement les tôles d'armature de machines électriques. *il diag plans Génie Civil* 81:570-1 D 16 '22

Relation of power presses and dies to the automobile industry. H. J. Hinde. *diag Engineering* 112:523 O 7 '21; Same. *Automotive Ind* 45:978-9 N 17 '21; Same. *Eng & Ind Management* 6:724-5 D 22 '21

Toledo new double crank toggle drawing press. *il Iron Age* 110:1690 D 28 '22

Presses—Continued

Utility of single-action straight-sided presses. N. T. Thurston. *il Mach* 28:454-5 F '22

See also Forging machinery; Hydraulic presses; Printing presses; Punching machinery

Repair

Repairing a broken press frame. J. Ellis. *diags Mach* 30:138 O '23

Safety devices and measures

Device for safe operation of presses. *il Iron Age* 110:420 Ag 17 '22

Kartmark press safety guard of positive type. *il Iron Age* 110:1064 O 26 '22

New safety guard for power presses. *il Iron Age* 110:472 Ag 24 '22

Power press code and head and eye safety code. *Am Inst E E J* 42:73 Ja '23

Protection des presses a découper, estamper et emboutir. A. Bénac. *il diags Génie Civil* 83:131-2 Ag 11 '23

Safety device for punch presses. *diags Pop Mech* 37:137 Ja '22

Safety first on machinery up-keep. W. E. Irish. *il diags Ind Management* 66:121-5 Ag '23

Safety methods for presses. *il Iron Tr R* 73:1032-3 O 11 '23

To safeguard power press tools. *Iron Age* 110:928 O 12 '22

See also Punching machinery—Safety devices

Terminology

Nomenclature of power-press parts. *diags Mach* 29:813 Je '23

Presses, Filter. *See* Filter presses

Presspahn. *See* Pressboard

Pressure

Cathode-ray oscillograph and its application to the exact measurement of explosion pressures, potential changes in vacuum tubes and high tension magnetos. D. A. Keys. *il diags J Fr Inst* 196:577-91 N '23

Change of the physical properties of materials with pressure. E. D. Williamson. *il diags J Fr Inst* 193:491-513 Ap '22

Forces acting upon the poles of the electric arc. A. M. Tyndall. *Philos Mag* 6th ser 42:972-81 D '21

High pressure due to adsorption, and the density and volume relations of charcoal. W. D. Harkins and D. T. Ewing. *Am Chem Soc J* 43:1787-1802 Ag '21

Manometric observations at the poles of the electric arc. H. E. G. Beer and A. M. Tyndall. *Philos Mag* 6th ser 42:956-71 D '21

Measurement of pressures caused by impact. C. E. Margerum. *diags Am Soc T M Pro* 22 pt 2:104-16 '22

Piezo-electric method for the instantaneous measurement of high pressures. J. C. Karcher. *U S Bur Stand Sci Pa* 445:257-64 '22

Pressures developed in gaseous explosions. W. T. David. *Engineering* 114:791-2 D 29 '22; *Abstract. Soc Auto Eng J* 12:319 Mr '23

Some data on the design of steel coal bins. R. Fleming. *diags Eng N* 89:346-50 Ag 31 '22; *Discussion.* 89:669-70, 808, 1132; 90:270 O 19, N 9, D 28 '22, F S '23

Transmission of pressure through solids and soils and the related engineering phenomena. G. Paaswell. *diags Am Soc C E Pro* 48:1075-89 My '22

See also Atmospheric pressure; Earth pressure; Osmotic pressure; Vapor pressure; Wind pressure

Pressure, Atmospheric. *See* Atmospheric pressure

Pressure, Internal

Solubility relations in mixtures containing polar components. F. S. Mortimer. *Am Chem Soc J* 45:633-41 Mr '23

Pressure bottles. *See* Bottles, Pressure

Pressure gages

Absolute pressure gage—its construction and use. V. P. Griffin. *diags Power* 55:1011 Je 27 '22

Air pressure and oil pressure gages. H. N. Eaton. *il diags U S Nat Advisory Com for Aeronautics* 1921:721-6 '23

Alarms for the power plant. A. Gass. *diags Power Pl Eng* 26:482 My 1 '22

Buzzer indicates when the pressure is low. E. J. Edwards. *diag Foundry* 50:380 My 1 '22

Compensating pressure gages for error due to elevation. W. T. Meinzer. *diags Power* 54:1027 D 27 '21; *Discussion.* 55:477, 743 Mr 21, My 9 '22

For learning engine pressures. *il Sci Am* 129:115 Ag '23

Gage pressures. E. F. Mueller. *A S R E J* 8:225-8; *Discussion.* 228-30 N '21

Glass pressure gage. S. Karrer. E. H. Johnston and O. R. Wulf. *diags J Ind & Eng Chem* 14:1015-16 N '22

Halliday's pressure gauge. *diags Nat Pet N* 15:63-4 O 24 '23

Hydraulic pressure indicator. J. N. Sioussa. *diag Mach* 29:708 My '23

Indicator to measure mean effective pressures. *il diags Power* 58:232-3 Ag 7 '23

Measurement of mercury vapor pressure by means of the Knudsen pressure gauge. C. F. Hill. *diags Phys R* 20:259-66 S '22

Measuring refrigeration. J. E. Starr. *Refrig W* 58:15-17 Ja '23; *Same abr. Refrig Eng* 9:229-30 Ja '23; *Same cond. Power* 56:1010-11 D 26 '22

Neuere wärme- und betriebstechnische messgeräte. G. Wünsche. *diags plans Stahl & Eisen* 43:753-7 Je 7 '23

Osmotic pressures of concentrated solutions of sucrose as determined by the water interferometer. P. Lotz and J. C. W. Frazer. *diag Am Chem Soc J* 43:2501-7 D '21

Points on pressure gages. W. H. Wakeman. *Power* 57:646-7 Ap 24 '23

Safety involved in use of pressure gages. *diags Power Pl Eng* 27:83-5 Ja 1 '23

Some instrument practices of the United electric light & power co. W. E. Caldwell. *il Power* 58:280-3 Ag 21 '23

Use of the water interferometer as a pressure gage. L. van Doren, H. K. Parker and P. Lotz. *diags Am Chem Soc J* 43:2497-2501 D '21

See also Manometers; Telemeter

Pressure regulators

Boiler pressure regulation. H. G. Burrill. *Power* 55:221 F 7 '22

FE-EL furnace pressure governor. *diag Power* 58:22 Jl 3 '23

Improved automatic regulator for pressures below atmospheric. W. A. Jacobs and P. A. Collins. *il Chem & Met Eng* 27:1129 D 6 '22

Mercon regulator. *diags Power* 58:602 O 16 '23

Moderateur de pression d'eau a clapets équilibrés, système Mignard et Piel. *diag Génie Civil* 82:308-9 Mr 31 '23

Neuere wärme- und betriebstechnische messgeräte. G. Wünsche. *diags plans Stahl & Eisen* 43:753-7 Je 7 '23

Notes on pressure regulators. C. C. Brown. *Power* 58:732-3 N 6 '23

Steam served at any pressure. *il Power Pl Eng* 27:75-7 Ja 1 '23

Pressure vessels

Autogenous welding of unfired pressure vessels. H. Sloan. *Power* 56:957 D 12 '22

Investigation of welded pressure vessels. *Mech Eng* 45:540-2 S '23

Preliminary report on rules for the construction of unfired pressure vessels. *diags Mech Eng* 44:743-51 N '22; *Same. Refrig Eng* 9:196-205; *Discussion.* 205 D '22

Some principles of the construction of unfired pressure vessels. S. W. Miller. *il Mech Eng* 44:360-8 Je '22; *Discussion.* 44:522-3 Ag '22

Strength of mechanically welded pressure containers. R. J. Roark. *il diags Mech Eng* 44:225-30 Ap '22; *Excerpt. Chem & Met Eng* 26:796-7 Ap 26 '22; *Abstract. Power* 55:870-1 My 30 '22; *Summary. Ry Mech Eng* 96:449 Ag '22; *Discussion. Mech Eng* 44:521-2 Ag '22

See also Air compressors; Boilers

Presswork. *See* Printing, Practical—Presswork

Price chart

Making the price chart work. R. Bostick.
Ptr Ink M 5:19 N '22

Price cutting

Checking the predatory price-cutter. H. D. Nims. Ptr Ink 119:101-2+ Je 15 '22
Does price-cutting indicate popularity? A. H. Fairbanks. Ptr Ink 120:17-20 J1 13 '22
Is price cutting a crime? J. Walsh. Nation's Business 10:18-19 Ap '22
Jobber and the advertiser—how can they co-operate? H. W. Stokes. Ptr Ink 119:17-19 Je 8 '22
Retailer fights the manufacturers' battles in his own advertising space. Ptr Ink 123:42+ Ap 5 '22
Where to stop in price cutting. C. B. Williams. Iron Tr R 70:330-2 F 2 '22
Your price is five hundred dollars too high. R. F. Saladé. Ptg Art 38:531-4 F '22

Price discriminations. See Discount, Trade; Restraint of trade

Price fixing

American tobacco co. and two former constituent concerns charged with separate efforts to keep up prices. Comm & Fin Chr 114:370-2 Ja 28 '22
Answer of the cement manufacturers to the charge of price fixing. Eng & Contr 56:530-5 D 7 '21
Bearing of linseed-oil decision on open-price plan. F. Neilson. Elec W 81:1496 Je 23 '23
Federal trade commission cannot interfere with the rights of private business in the matter of fixing prices. Comm & Fin Chr 116:2723-6 Je 16 '23
Government's view of open price associations. G. H. Montague. Ptr Ink 118:57-8+ Ja 12 '22
Hardwood decision is limited. Nation's Business 10:13 F '22
Hardwood lumber case. E. H. Naylor. Administration 3:487-93 Ap '22
Hardwood lumber case decided in favor of the government. Oil Paint & Drug Rep 100:23 sec 1 D 26 '21
How trade associations may keep within the law. G. H. Montague. Ptr Ink 118:61-2+ Ja 19 '22
Jury in cement trial disagrees after 34 hours. Eng N 58:925-6 Je 1 '22
Keeping trade association activities within the law. G. H. Montague. Ptr Ink 118:57-8+ Ja 5 '22
Linseed oil combination dissolved. Elec Ry J 61:1029 Je 16 '23
Linseed oil decision further clarifies the Sherman act. Am Mach 58:950-1 Je 28 '23
No penalty on efficiency—business is told. Brick & Clay Rec 59:728-31 N 15 '21
One price associations. E. A. Bradford. Annalist 19:341+ Mr 20 '22
Open price association and the Sherman anti-trust act; analysis of the case of the American hardwood manufacturers' association. A. H. Stockder. Am Mach 56:296-8 F 23 '22
Open-price association decision. Eng N 87:1046-7 D 29 '21
Open price associations. M. N. Nelson. 240p Univ. of Illinois, Urbana '23
Open price bodies condemned by government. Textile World 61:2317 Ap 22 '22
Petroleum industry not affected by ruling of court in linseed case. M. C. Hill. Nat Pet N 15:107+ Je 27 '23
Price fixing and competitive bidding on railroad securities opposed. Ry Age 73:846-9 N 4 '22
Report of Federal trade commission on Western pine manufacturers' association. Comm & Fin Chr 114:704-5 F 18 '22
Report of special committee of N. W. D. A. on price maintenance problems. Oil Paint & Drug Rep 104:47-8 O 17 '23
Supreme court assails open price associations. Ptr Ink 117:17-18 D 29 '21
Trade association activities approved; U.S. District court dismisses suit to dissolve Linseed oil association. Paper 29:26-8+ D 7 '21

Trial of Eastern cement manufacturers. E. C. Eckel. Il Concrete 20:187-90+, 259-63 My-Je '22

U. S. Supreme court holds open competition plan of American hardwood manufacturers' association illegal. Comm & Fin Chr 113:2782-5 D 31 '21

Window glass makers indicted for fixing prices and output. Oil Paint & Drug Rep 100:23+ sec 1 D 5 '21

See also Restraint of trade

Bibliography

Complex problem of price maintenance. Ptr Ink 119:147-8+ Je 15 '22

Price fixing, Resale

Federal trade commission takes exception to certain trade practices. J. F. Richter, jr. Ptr Ink 124:53-4+ Ag 23 '23

Lack of stable prices keeps industry on the defensive. C. C. Conway. Ptr Ink 119:124+ Je 8 '22

Latest work on price maintenance. C. T. Murchison. Annalist 19:225 F 13 '22

Price maintenance on patented articles; a brief review of the leading cases. Ptr Ink 117:10+ N 10 '21

Resale price-fixing scheme declared unfair by Supreme court. W. Gustin. Chem & Met Eng 26:685-7 Ap 12 '22

Right to refuse to sell to price-cutters. G. H. Montague. Ptr Ink 118:81-2+ Ja 26 '22

Trade commission asked to define right to refuse to sell. Ptr Ink 122:49-50+ Mr 8 '23

What has become of price maintenance? W. H. Ingersoll. Ptr Ink 125:41-2+ O 25 '23

Why not fix resale prices? N. B. Gaskill. Nation's Business 11:37-9 Je 5 '23

Bibliography

Complex problem of price maintenance. Ptr Ink 119:147-8+ Je 15 '22

Price guarantees

Price declining guarantees up again. C. P. Carter. Ptr Ink 121:117-18 O 26 '22

Bibliography

Price guarantees. Ptr Ink 124:145 S 27 '23

Price listing of paper. See Paper—Price listing

Price lists

High cost of list-price changes. Elec W 82:563-4 S 15 '23

What is the best way to quote prices to the trade? Ptr Ink 118:57-8 F 9 '22

Price maintenance. See Price fixing

Price marking

Price tag and the sales slip. Dom Eng 101:325, 417, 471 N 25, D 9-16 '22

Priceite

Priceite, the borate mineral in Curry county, Oregon. H. S. Gale. Min & Sci P 123:895-8 D 24 '21

Prices

Advantages of the recent rise in prices. F. De St. Phalle. Ry R 73:25-6 J1 7 '23

Are costs the best basis for estimating and fixing selling prices? S. L. Gill. Paper Tr J 77:59-62+ N 1 '23

Charting as an aid in stabilizing profits; commodity prices. P. A. Burns. charts Ind Management 64:33-42 J1 '22

Commodity prices approaching normal level. Can Eng 42:252 F 21 '22

Comparison of retail price changes in the United States and foreign countries. Monthly Labor R 14:669-72 Ap '22

Comparison of wholesale and retail price levels. J. C. Black. Eng & Contr 57:411 My 3 '22

Comptroller of currency Crissinger warns against effect of advancing prices. Comm & Fin Chr 114:2789-90 Je 24 '22

Cost of living and retail prices. See monthly numbers of International labour review

Determination of the new normal level for commodity prices; J. Winn. Annalist 21:542-3 Ap 16 '23

Economic fallacy that the consumer always pays the cost. S. Ballou. Annalist 20:149 Ag 14 '22

Prices—Continued

Economy morale as a factor in readjustment. J. H. Van Deventer. *Ind Management* 63: 193-5+ Ap '22

Fluctuations in retail prices and in the cost of living. *Int Labour R* 4:299-315, 514-27; 5:91-106 N '21-Ja '22

Fluctuations in values essential to commerce. R. Estcourt. *Annalist* 20:320-1+ O 2 '22

Freight rates and commodity prices. *Ry Age* 73:1219-20 D 30 '22

Insurance against speculation. A. E. Dodd. *Nation's Business* 10:34 Mr '22

Is it profitable to sell at a loss? W. Clark. *Factory* 28:279-81 Mr '22

Is there a sound way to make customers want to buy? W. R. Basset. *System* 42:23-6 JI '22

Meeting lower prices. K. Moses. *Ind Management* 62:352-3 D '21

Method of forecasting future prices. J. Wilkes. *Eng & Contr* 57:240 Mr 15 '22

National association of credit men finds narrowing of spread between commodity prices and farm products. J. H. Tregoe. *Comm & Fin Chr* 117:1398-9 S 29 '23

New significant price movement. J. Oakwood. *Annalist* 19:293-4 Mr 6 '22

On what should selling prices be based? G. W. Greenwood. *Administration* 3:303-4 Mr '22

Price changes. J. E. Pogue. *charts Management Eng* 3:267-72 N '22

Prices and cost of living. See monthly numbers of Monthly labor review

Prices and wages. P. Wallis and A. Wallis. 456p P. S. King & son, London '21

Prices must be governed by costs. H. Tipper. *Automotive Ind* 45:1051-3 D 1 '21

Prices of iron and steel and other products. *Iron Age* 111:37-8 Ja 4 '23

Prices, profiteers and production. W. T. Foster. *Annalist* 19:678-9; 20:8 Je 26-JI 3 '22

Rational versus empirical methods of forecasting commodity price levels. *Eng & Contr* 58:75-6 JI 26 '22

Reducing prices to increase profits; the Yellow cab co. of Chicago. J. Hertz. *Ptr Ink* M 4:21-2+ F '22

Rock-bottom prices. R. Estcourt. *Annalist* 19: 221-2+ F 13 '22

Some aspects of deflation. R. Estcourt. *Annalist* 19:655-6 Je 19 '22

Trend of prices, wages and fares; variations during last ten years in wholesale prices and general construction costs and in electric railway material costs, wages and fares. *chart Elec Ry J* 59:995-6 Je 24 '22

Trends in industry. See monthly numbers of Management engineering

We found business good when we ignored the price level. E. R. Murphey. *il System* 42: 417-19 O '22

What is ahead of American industry? F. Franz. *Management Eng* 2:179-81 Mr '22

What shall the selling price be? W. R. Basset. *Ptr Ink* 119:3-4+ Ap 20 '22

Where vanity is the principal sales appeal; how some concerns make us pay for our foibles. F. C. Kelly. *Ptr Ink* M 4:39-40+ My '22

Wholesale prices in various countries. See monthly numbers of International labour review

Why prices are cut below cost. E. F. DuBrul. *Am Mach* 55:751-3 N 10 '21

Work for lower prices; depend on volume for profits; advice of many manufacturers. G. A. Nichols. *Ptr Ink* 124:3-4+ JI 26 '23

See also Cost of living; Farm produce—Marketing; Index numbers (economics); Money; Price cutting; Price fixing; Wages; also subdivision Prices under names of commodities, e.g. Building materials—Prices, Chemicals—Prices, Coal—Prices, Dry goods—Prices

Bibliography

Source-book of research data. p. 43-70 Prentice-Hall '23

When price is the main stumbling block. *Ptr Ink* 121:115-16 O 19 '22

Canada

Revised index numbers of wholesale prices in Canada. *Monthly Labor R* 17:832-4 O '23

China

Prices and cost of living in Japan and China since the world war. Ta Chen. *Monthly Labor R* 13:1163-9 D '21

Wholesale prices in Shanghai, China. *Monthly Labor R* 14:479 Mr '22

Czechoslovakia

Comparison of pre-war and post-war wages and profits in Czechoslovakia. *Monthly Labor R* 14:1176 Je '22

Germany

Cost of living and retail prices in Germany. *Monthly Labor R* 14:306-8 F '22

Germany's differential sale prices. *Elec R (Lond)* 92:9 Ja 5 '23

Prices of building materials and building costs in Germany. *Monthly Labor R* 16: 1234-5 Je '23

Wholesale prices in Germany, 1920-21. *Monthly Labor R* 13:794-8 O '21

Wholesale prices in Germany, 1920-1922. *Monthly Labor R* 14:1153-5 Je '22

Great Britain

Prices and wages in the United Kingdom, 1914-20. A. L. Bowley. 228p Oxford '21

Retail prices of clothing in Great Britain, 1914 and 1922. *Monthly Labor R* 15:62-3 JI '22

Hungary

Retail prices in Budapest, Hungary. *Monthly Labor R* 14:687-8 Ap '22

Iceland

Retail prices in Reykjavik, in April, 1922. *Monthly Labor R* 15:769-70 O '22

Italy

Consumers' prices in Italy, 1914-1921. *Monthly Labor R* 14:93-5 Ja '22

Japan

Price of necessities in Osaka, Japan, in September, 1921. *Monthly Labor R* 14:308-9 F '22

Prices and cost of living in Japan and China since the World war. Ta Chen. *Monthly Labor R* 13:1163-9 D '21

Prices of principal commodities in Japan, 1912 to 1920. *Monthly Labor R* 15:546-8 S '22

Norway

Index numbers of wholesale prices in Norway. *Monthly Labor R* 14:1156-7 Je '22

Switzerland

Changes in wholesale prices in Switzerland, 1921. *Monthly Labor R* 14:688-9 Ap '22

United States

Attorney-general Daugherty orders nationwide investigation of retail prices. *Comm & Fin Chr* 113:2780-1 D 31 '21

Prices still much higher than railway rates. *Ry Age* 71:1089-92 D 3 '21

Purchasing power of the dollar, 1913 to 1923, as computed by the U. S. Bureau of labor statistics. *Monthly Labor R* 17:571-8 S '23

Railroad labor pay—and mine. W. Butterworth. *il Nation's Business* 10:9-10 Ja '22

Railroads profit from lower material costs. W. S. Lacher and C. B. Peck. *il Ry Age* 72:43-6+ Ja 7 '22

Retail prices in the United States. See monthly numbers of Monthly labor review

Retail prices, 1913 to December, 1920. U S Bur Labor Statistics Bul 300:1-217 '22

Retail prices; 1913 to December, 1921. U S Bur Labor Statistics Bul 315:1-226 '23

Retail prices, 1913 to December, 1922. U S Bur Labor Statistics Bul 334:1-224 '23

Retail prices of food in the United States. *Monthly Labor R* 15:974-94 N '22

Tariff rates should not affect retail prices. *il Textile World* 62:1667-8 S 23 '22

Wholesale prices, 1890 to 1919. U S Bur Labor Statistics Bul 269:1-205 '20

Prices—United States—Continued

- Wholesale prices, 1890-1920. U S Bur Labor Statistics Bul 296:1-247 '22
 Wholesale prices, 1890 to 1921. U S Labor Statistics Bul 320:1-276 '22
 Wholesale prices, 1890 to 1922. U S Bur Labor Statistics Bul 335:1-234 '23
 Wholesale prices of commodities, July to September, 1922. Monthly Labor R 15:1016-24 N '22
 Wholesale prices of leading articles in United States markets, January, 1919, to March, 1922. E: Whitney. U S Bur For & Dom Com misc ser 113:1-23 '22

Priest Rapids

- Agricultural and industrial features of Priest Rapids; the largest possible hydro-electric development in the United States west of Niagara Falls. H: J. Pierce. il map Gen Elec R 26:291-4 My '23
 Facts about Priest Rapids. H: J. Pierce. Am Inst E E J 42:1102-4 O '23

Printers

- Are printers born, not made? A. E. Mowrey. Inland Ptr 70:49-50 O '22
 Author and printer. F. H. Teall. Inland Ptr 70:856 Mr '23
 Book and job printing—New York city. Monthly Labor R 17:131-4 JI '23
 Book and job printing—Washington, D.C. Monthly Labor R 17:134-9 JI '23
 Briggs takes a real look about him. J: E. Allen. Inland Ptr 69:353-4 Je '22
 Chicago arbitration decision. Inland Ptr 69:553-4 JI '22
 Cooperation between editors and printers. S. W. Wiant. Inland Ptr 68:623-4 F '22
 Early English printers' festivals and customs. W. H. Mayes. Inland Ptr 71:868-9 S '23
 Example of arbitration in the San Francisco newspaper publishing industry. D: Weiss. Monthly Labor R 17:309-17 Ag '23
 Fade-out of the traveling printer. A. G. Brenton. Inland Ptr 71:95-6 Ap '23
 Getting back to fundamentals. Inland Ptr 72:77-8 O '23
 History of arbitration in American newspaper publishing industry. D: Weiss. Monthly Labor R 17:15-33 JI '23
 How the apprentice of yesterday was trained. Inland Ptr 71:386 Je '23
 Incompatibility. A. J. Fuller. Inland Ptr 70:67-8 O '22
 Industrial relations—looking back and going forward. C: Francis. Inland Ptr 72:78-9 O '23
 Letters to a printer's devil. R. T. Porte. Inland Ptr 68:772-4; 69:91-2, 222-3, 549-50, 873-4, 71:89-90, 243-4, 395-6, 555-6, 685-6, 867-8; 72:305-6 Mr-My, JI, S '22, Ap-S, N '23
 New "continuing" agreement between the Employing printers of Cleveland, Ohio, and the Cleveland typographical union no. 53. Monthly Labor R 15:619-25 S '22
 New wage scale for the Chicago press feeders. Monthly Labor R 14:979-80 My '22
 New York pressmen denied strike sanction in event of failure of arbitration. Comm & Fin Chr 116:2730-2 Je 16 '23
 Nobility among the craftsmen. M. Heir. Inland Ptr 69:545-6 JI '22
 Premium wage situation in the closed-shop branch of the printing industry. G. A. Bowers. Monthly Labor R 15:1038-43 N '22
 Pressmen haggles on arbitration. Am Ind 22:21-3+ N '21
 Printing (book and job)—Milwaukee; agreement. Monthly Labor R 16:113-14 Ja '23
 Printing industry. Monthly Labor R 15:109-15 JI '22
 Printing—New York city. Monthly Labor R 14:738-9 Ap '22
 Printing trades awards. Monthly Labor R 14:153-5 Ja '22
 Proceedings between the closed-shop division of the typothetae of Washington, D. C., and Columbia typographical union no. 101. Inland Ptr 71:361-2 Je '23
 Psychological research for the printing industry. R. C. Croes. Inland Ptr 68:771-2 Mr '22
 Recent wage reductions in the printing trades. Monthly Labor R 14:493 Mr '22

Unit of progress. D. Baker. Ptg Art 38:165-6 O '21

Wage scales of employees in the printing trades, November 15, 1921. Monthly Labor R 14:107-19 Ja '22

Wages in the printing trade, in Germany October 1, 1921. Monthly Labor R 14:121-3 Ja '22
 Why good country printers are scarce. A. Abbott. Inland Ptr 71:52-4 Ap '23

The William Bowyers and other printers contemporary with them. H: L: Bullen. Inland Ptr 68:811-15 Mr '22

See also Electrotypers; Indians as printers; also names of printers, e.g. Benton, Linn Boyd; Caxton, William; De Vinne, Theodore Low; Jaggard, William; Munder, Norman T. A.; Porte, Roy T.; also International association of printing house craftsmen; United typothetae of America

Diseases and hygiene

- Dust in printer's workrooms. C. B. Roos. bibliog J Ind Hygiene 3:257-63 Ja '22
 Dust phthisis in the printing industry. F: L. Hoffman. Monthly Labor R 15:659-71 S '22
 Phagocytosis of lead compounds and their influence on the activity of the leukocyte. J. Fine. bibliog J Ind Hygiene 5:138-44 Ag '23
 Poisonous fumes and dusts of the printing industry should be controlled. Safety Eng 44:134-5 S '22
 Progress in the hygiene of the printing trade up to 1902. F: L. Hoffman. Monthly Labor R 15:1105-14 N '22
 Sickness and death rates among German printers. Int Labour R 4:354-5 N '21

Printers' rolls. See Rolls, Printers'

Printers' strike, New York, 1923

- Effect on advertisers of New York newspaper strike. Ptr Ink 124:25-8 S 27 '23
 Strike of New York pressmen on daily papers. Comm & Fin Chr 117:1284-5, 1299-1302, 1390, 1423-6, 1521-3 S 22-O 6 '23

Printing

- Again what is fine printing? P. Garnett. Ptg Art 40:571-4 F '23
 Fleuron—a book of exceptional merit. Review, by J. L. Frazier. Inland Ptr 71:537-40 JI '23
 How the Todd protectograph company buys printing. J. W. Speare. Ptr Ink M 6:68+ Ap '23
 Ideal printed page. H: D. Hubbard. Inland Ptr 68:476-7 Ja '22
 Kinship of printing art and nature. R. Brooks. Inland Ptr 71:402 Je '23
 Paper for intaglio printing. W: Gruenewald. Paper 31:7-8+ Ja 31 '23
 Power of the printer to create. D. E. Stetson. Inland Ptr 71:359-60 Je '23
 Scrapbooks that save time and money for advertising managers. R. R. Updegraff. Ptr Ink M 4:50+ Mr '22
 What is fine printing? J. H. McFarland. Ptg Art 40:257-8 N '22
 What is the purpose of printing? J. H. McFarland. Ptg Art 42:135-6 O '23

See also Advertisements—Typography;

Book industries and trade; Bookplates; Borders (printing); Calendars; Calico printing; Christmas printing; Color printing; Dummies (printing); Electrotyping; Engravings—Printing; Factories—Printing; Foreign-language press; Gutenberg Bible; Hotels—Printing; Ink; Letterheads; Linotype; Lithography; Music printing; Pantone process; Paper; Photography; Posters; Printers; Printing offices; Printing presses; Printing trade; Proofreading; Rotogravure; Textile printing; Title pages; Type and type founding; Typesetting; Typesetting machines; Visiting cards

Bibliography

Printing and allied industries. 19p Free public library, Newark, N.J. '22

Design

Decoration in regard to typography. A. E: Sahlin. Inland Ptr 68:479-80 Ja '22

Printing—Design—Continued

Design. F. T. Singleton. See monthly numbers of Printing art.
 Designer-trader vs. the designer-salesman. Ptg Art 39:359-60 Je '22
 Designing better printing. F. W. Goudy. Inland Ptr 70:540 Ja '23
 Exhibit of decorative design and illustration; the work of Carl Scheffler. Inland Ptr 68:792a-h Mr '22

Exhibitions

Second educational graphic arts exposition. Inland Ptr 70:102-10 O '22
 What the graphic arts exposition offers craftsmen. Inland Ptr 69:721-2 Ag '22

History

Art of printing and its influence upon the Renaissance. R. W. Jackson. Inland Ptr 70:681-5 F '23
 Beginnings of printing. A. H. Allen. 53p Lederer, Street & Zeus co., Berkeley, Calif. '23
 Forty years of printing. J. T. Bramhall. Inland Ptr 72:70-3 O '23
 Geoffroy Tory, a great typographer and his apprentice, Claude Garamond, the first typesetter. H. L. Bullen. Inland Ptr 68:635-9 F '22
 History of printing in colonial Maryland, 1686-1776. L. C. Wroth. 275p Typothetae of Baltimore, Baltimore '22
 How Theodore Low De Vinne became America's most famous printer. H. L. Bullen. Inland Ptr 69:515-20 Jl '22
 Nicolas Jensen, printer, and the types of the earlier printers. H. L. Bullen. Inland Ptr 68:347-9 D '21
 Progress of typography in America. J. L. Frazier. Inland Ptr 69:701-5 Ag '22
 Reviewing forty years of typography. N. J. Werner. Inland Ptr 72:89-91 O '23
 Stephen Daye and his successors. 49p University press, Cambridge, Mass. '21
 Will Ransom, maker of books. J. L. Frazier. Inland Ptr 69:529-31 Jl '22
 William Morris, regenerator of the typographic art. H. L. Bullen. bibliog Inland Ptr 69:369-74 Je '22

See also Cambridge university press; also names of printers, e.g. Caxton, William; De Vinne, Theodore Low; Ratdolt, Erhard

Periodicals

See Fleuron journal of typography; Inland printer

Private presses

Essay on the English private presses. A. W. Pollard. Inland Ptr 70:219-24 N '22
 Private printing plant. Ptg Art 40:503-4 Ja '23

Societies

See International association of printing house craftsmen; International congress of master printers, Goteborg, Sweden

Specimens

Examples of typography recently designed and printed by the Currier press. Ptg Art 41:468a-h Jl '23
 Historic design in printing. H. L. Johnson. 133p Graphic arts co., Boston '23
 Master typographers of today; Lennis K. Brannon, J. L. Frazier. Inland Ptr 68:497-500 Ja '22
 Reviews of house-organs. A. J. Fehrenbach. Inland Ptr 72:285-6 N '23
 Specimens. J. L. Frazier. See monthly numbers of the Inland printer
 Specimens of the work of Coquemere. Inland Ptr 71:224a-h My '23
 Typography; an exhibit of the work of Arthur C. Gruver, Pittsburgh, Pa. Inland Ptr 70:72a-h O '22

See also Labels

Standards

New move for simplified printing practice. W. Fawcett. Inland Ptr 69:67-8 Ap '22
 See also Paper sizes

Study and teaching

See Printing, Practical—Study and teaching

China

Journalism of China. Review by D. B. Patterson. Inland Ptr 71:93-4 Ap '23

Hawaii

Printing in Hawaii. D. Weiss. Inland Ptr 72:145-6 O '23

Netherlands

New typographic style in Holland. M. Wil-mink. Inland Ptg Art 41:553-8 Ag '23

Printing, Offset

Offset printing. S. H. Horgan. Inland Ptr 69:368; 70:400 Je, D '22

Printing, Practical

Does editing of copy pay? M. Fairfield. Inland Ptr 70:368 D '22
 Library printing. F. K. Walter. Rev. ed. 31p [bibliog. p. 27-31] Am. lib. assn., Chicago '23
 Light on a vexing printing problem; new methods for measuring the effects of temperature and humidity on the dimensions of paper. H. S. Davis. diags Paper 31:7-8+ Ja 10 '23
 Modern newspaper owes big debt to gas. In Gas Age 52:67-70 Jl 21 '23
 Printer's part in conserving vision. R. F. Salade. Ptg Art 41:41-6 Mr '23
 Textbook of printing occupations. C. W. Hague. 241p Bruce pub. co., Milwaukee, Wis. '22
 Type faces and legibility of printing. Engineering 114:149-50 Ag 4 '22
 What paper shall I print this on? W. A. Kittredge. Ptg Ink M 4:80+ Mr '22
 Where should makeready begin? D. E. Stetson. Inland Ptr 71:513-14 Jl '23

See also Advertisements—Typography; Advertising cut-outs; Color printing; Engraving; Ink; Linotype; Printing offices; Printing presses; Printing trade; Proofreading; Type and type founding; Typesetting; Wood engravings

Accounting

Accounting for a printing and bookbinding business. A. L. Beaujon. J Account 34:91-9 Ag '22
 Craftsman and the cost system. D. Baker. Inland Ptr 69:670-2 Ag '22
 Desirable improvements in cost-finding methods. C. A. Jettinger. Inland Ptr 70:209-11 N '22
 United typothetae of America ordered by Federal trade commission to cease certain methods of education relative to cost accounting. Comm & Fin Chr 117:1086 S 8 '23

Composition

See Typesetting

Costs

Cost and method. B. Daniels. See monthly numbers of the Inland printer

Estimates

Cost and method. B. Daniels. See monthly numbers of the Inland printer
 First principle. D. Baker. Ptg Art 40:73-5 S '22

See also Printing, Practical—Tables, calculations, etc.

Imposition, etc.

Infalible form-lining method. H. H. Strait. Inland Ptr 70:835-7 Mr '23

Presswork

Book for the press-room apprentice. H. A. Breucker. 50p Printing trade school, Cincinnati '22
 Ink problems of the pressroom. C. M. Earley. Inland Ptr 69:879-80 S '22
 Is letterpress printing to disappear? make-ready the determining factor. H. W. Hacker. Inland Ptr 68:661-2 F '22
 Perforating on press. Inland Ptr 72:269 N '23

Printing, Practical—Presswork—Continued

- Practical hints on presswork. E. St John. Inland Ptr 71:69-70, 217-18, 371-2, 535-6, 684-5, 839-40; 72:88, 271-2 Ap-N '23
 Pressroom. See monthly numbers of the Inland printer
 Progress and future of presswork. T. E. Dunwody. Inland Ptr 72:85-7 O '23
 See also Printing presses

Rates

- Cut rates and their disastrous results. Inland Ptr 70:94 O '22

Spacing

- Measures and margins. J. L. Frazier. Inland Ptr 71:377-9 Je '23

Study and teaching

- Apprentice training in Europe. M. Heir. Inland Ptr 69:365-6 Je '22
 Apprenticeship in the printing industry. M. W. Haynes. Inland Ptr 72:92-4 O '23
 Courses for the training of apprentices in the Government printing office. Rev. ed. 23p Govt. print. off., Washington '23
 Ecole Estienne, the Paris municipal printing school. F. Miltoun. il Inland Ptr 70:709-10 F '23
 Education of the apprentice in 1834. H: L: Bullen. Inland Ptr 68:513-14 Ja '22
 Elementary printing. F. P. Rich. 2d ed., rev. and enl. 54p Frank P. Rich, 96 Vernon st., Boston '23
 Few successful trade schools. D. Baker. Ptg Art 38:166-8 O '21
 How good and bad printers are made. E. G. Hammond. Inland Ptr 70:854 Mr '23
 Instruction in printing in public schools. Rev. ed. 45p United typothetae of America, Chicago '22
 Job analysis and the curriculum. E: K: Strong, Jr. and R: S. Uhrbrock. 146p Williams & Wilkins co., Baltimore '23
 Practical apprenticeship for printers. 149p United typothetae of America, Dept. of education, Chicago '21
 Practical printing. 65 l. Minneapolis school of printing, Minneapolis '21
 School printing shop. F: A. Coates. Inland Ptr 69:359-60 Je '22
 Teaching apprentices in the printing trades. 81p United typothetae of America, Dept. of education, Chicago '22
 Typography. J. D. Gabler. 45p Columbia univ., New York '20
 Why not the printing engineer? W. T. Williams. il Inland Ptr 72:299-300 N '23

Style manuals

- Building up a style sheet. E: N. Teall. Inland Ptr 72:274-5 N '23

Tables, calculations, etc.

- Computing composition. J. S. Dickson. Inland Ptr 70:76 O '22
 How much space will it take? W: H. Jackson. Inland Ptr 70:55-6 O '22
 Investigation into the variations in the measurements of type faces. A. R. Hopper. Ptg Art 38:421-3, 521-4; 39:39-41 Ja-Mr '22
 Self-computing copy-area and type-area charts. H: L. Bullen. Inland Ptr 70:866-7 Mr '23
 Unit method of fitting copy. P. E. Hyman. Inland Ptr 70:212-13 N '22

Printing, Public

- Improving British government printing. J. L. Frazier. Inland Ptr 70:77-81 O '22

See also United States—Government printing office

- Printing house craftsmen, International association of. See International association of printing house craftsmen

Printing machinery

- See Autoplate machine; Linotype; Monotype; Printing presses; Textile printing machines; Typesetting machines

Printing offices

- Design of the modern printing building. A. S. Alschuler. il Inland Ptr 71:677-8, 857-9; 72:131-3, 276-9 Ag-N '23
 The modern publishing and printing building. G: Nordham. il plans Arch Forum 37:5-12 JI '22

- Printing plants of the Chilton co., Philadelphia and Donnelley & sons, Chicago; views and plans. Arch Forum 39:pls 38-40 S '23

- Three recent printing and publishing buildings. il plans Arch Forum 37:13-16, pl 1-4 JI '22
 Twin printers of Mount Morris, Ill. F. M. Donovan. Inland Ptr 70:823-4 Mr '23

See also Printers—Diseases and hygiene

Equipment and supplies

- Transporting appliances for a printing works. il diags Engineering 114:234-6 Ag '25 '22

Libraries

- Shop library. D. Baker. Ptg Art 39:74-7 Mr '22

Lighting

- Lighting of printing works. L. Gaster. Elec R (Lond) 92:717 My 4 '23

Management

- Controlling production by facts. P: J. Massey. il System 43:60-1 Ja '23
 Direct advertising; planning of the unit and the campaign, from the mechanical and physical aspects. Inland Ptr 69:213-16 My '22
 How the foreman may promote uniformity. J. L. Simpson. Inland Ptr 70:365-6 D '22
 Operating a private printing plant. P. B: Reister. Inland Ptr 69:49-51 Ap '22
 Print shop where order reigns supreme. B. White. Inland Ptr 68:520 Ja '22
 Printer needs more than mere luck. F. H. Williams. Ptg Art 38:535-8 F '22
 Real economy in the printing plant. R. F. Salade. Ptg Art 39:131-6 Ap '22
 Two of a (different) kind. W. H. Mayes. Inland Ptr 70:513-15 Ja '23

Printing on wood

- Improved press is adapted for printing on wood. il Pop Mech 39:534 Ap '23
 Practical methods of printing on wood. R. F. Salade. Inland Ptr 69:836-8 S '22
 Successful methods of printing on wood. il Inland Ptr 71:214 My '23

Printing presses

- Application of electricity in processes leading up to surface and subsurface printing. C. J. Scott. il Am Inst E E J 40:912-13 D '21
 Electric drive in the printing of newspapers. C. F. Scott. il Gen Elec R 26:758-65 N '23
 Famous inventor; George Phineas Gordon. H: L. Bullen. Inland Ptr 70:91-2 O '22
 Friedrich König, inventor of the first cylinder printing press. H: L. Bullen. diags Inland Ptr 69:217-20 My '22
 New printing outfit uses type strung on wires. il Pop Mech 37:424 Mr '22
 Printing-press attachment for distributing the ink. il Pop Mech 37:718 My '22
 Richard March Hoe and the evolution of fast printing presses. H: L. Bullen. il diags Inland Ptr 69:851-4 S '22
 Some printing press shop methods. F: H. Colvin. il Am Mach 57:681-2 N 2 '22
 Wharfedale cylinder press and the guillotine. Inland Ptr 68:626 F '22

See also Printing, Practical—Presswork

Manufacture

- Manufacturing the Miehle printing press. H. Campbell. il Am Mach 58:751-4, 827-9 My 24-Je 7 '23

Printing supplies industry

- Rounding up the printers' supplyman's angle. A. J. Fehrenbach. Inland Ptr 72:118-20 O '23

Printing telegraph. See Telegraph, Printing

Printing trade

- Advertisement composition as a business builder. C. W. Garrison. Ptg Art 38:437-8 Ja '22
 American printing and engraving industry threatened by foreign invasion. M. Woll. Inland Ptr 69:675-8 Ag '22
 Buying printing. R. T. Porte. Inland Ptr 68:356-7 D '21

Printing trade—Continued

Charting the work of the sales department. W: A. Kittredge. Inland Ptr 69:505-6 J1 '22
 Classified specimens as an aid to selling. J. R. Hammond. Ptg Art 42:131-4 O '23
 Commercial stationery that printers can sell. R. F. Salade. Inland Ptr 70:367-8 D '22
 Competition in printing—good and bad. C. L. Notman. Inland Ptr 70:669-70 F '23
 Cooperation that printers need from paper manufacturers, ink manufacturers, photo-engravers, and electrotypers. R. F. Salade. Ptg Art 38:137-41 O '21
 Creating printing. H. Smith. Inland Ptr 69:201-3 My '22
 Creating printing in the small city. R. R. Benedict. Ptg Art 41:56-8 Mr '23
 Dynamo of the printing shop; observations concerning the basic idea. I. J. Ketterer. Ptg Art 40:134-7 O '22
 Education and craftsmanship. H. L. Gage. Inland Ptr 68:357-8 D '21
 Every man to his trade; the printer and the advertiser. H. A. Groesbeck. Ptg Art 42:58-61 S '23
 Get out your imagination, Mr Printer. H. B. Campbell. Ptg Art 40:441-5 Ja '23
 How fewer varieties changed losses into profits. C. W. Giller. il Factory 29:666-8 D '22
 How one printer concentrates. M. T. Ross. Ptg Art 39:435-9 J1 '22
 How shall the printer sell his product? C. Sloan. Ptg Art 40:465-7 Ja '23
 Insurance a printer should carry. C. T. Hubbard. Inland Ptr 68:617-18 F '22
 Leaf from the ad-man's book; hints that will prove of value to the printing solicitor. W: Larchwood. Inland Ptr 69:833-5 S '22
 Letters to a printer's devil. R. T. Porte. Inland Ptr 68:772-4; 69:91-2, 222-3 Mr-My '22
 Merchandising plan for printers. N. C. Tompkins. Inland Ptr 71:828-30 S '23
 Merchandising printing. J. D. Claitor. Inland Ptr 71:519-20 J1 '23
 Modern sales management in a modern printing organization. R. E. Ramsay. Ptg Art 41:27-30 Mr '23
 New Far West in South America. G: Sherman. Inland Ptr 70:817-18 Mr '23
 Out-of-town buyer of printing and the printer. I. J. Ketterer. Ptg Art 41:251-4 My '23
 Plucking winesaps from a cactus. J. R. Hammond. Ptg Art 38:133-6 O '21
 Printing, a manufacturing industry, not a trade. W. H. Mayes. Inland Ptr 71:203-4 My '23
 Printing buyer as the craftsman sees him. A. J. Fehrenbach. Inland Ptr 70:515 Ja '23
 Printing up-to-date. L. R. Coleman. Ptg Art 40:54-5 S '22
 Putting the tunes of house-organs before prospects. C. T. Hubbard. Inland Ptr 71:49-51 Ap '23
 Salesmen who call on me; by a buyer of advertising. Ptr Ink 119:107-4 My 25 '22
 Sell ideas as well as good printing. C. T. Hubbard. Inland Ptr 69:51-3 Ap '22
 Selling goods for the customer. A. L. Lewis. Ptg Art 41:267-70 My '23
 Selling service; the story of an advertising man and the reason for his preference in buying printing. T. Seideman. Ptg Art 42:123:6 O '23
 Service before sales. D. E. Stetson. Inland Ptr 70:665-6 F '22
 Some day some printer will keep information files giving sales results of his printing. E: Mella. Ptg Art 41:339-40 Je '23
 Something extra that builds up sales volume; the Barta press. H. A. Wheeler. il System 44:308-+ S '23
 Start a specialty. F. H. Williams. Inland Ptr 68:622-3 F '22
 Stimulating business for better-grade printing. J. Johnson. Inland Ptr 71:55-6 Ap '23
 Surveying the market. N. T. Praigg. Inland Ptr 68:342-3 D '21
 Systematized sales;—the vital need of the present-day printer. L. K. Davis. Ptg Art 39:317-23, 427-34, 509-13; 40:37-41, 150-5, 259-64 Je-N '22
 Taylor makes a sale. J. R. Gerber. Inland Ptr 68:334-5 D '21

Trading at home. H. E. Miles. Inland Ptr 69:510-12 J1 '22
 Waste in industry. chart Inland Ptr 68:525-6 Ja '22
 What is happening to advertising. E. A. Borden. Ptg Art 40:556-7 F '23
 What printers can learn from advertising-agency salesmanship methods. G: P. B. Gilman. Ptg Art 41:152-5 Ap '23
 Why Barty was kept busy; possibilities in various men's clubs. F. V. Faulhaber. Ptg Art 41:141-3 Ap '23
 Your price is five hundred dollars too high. R. F. Salade. Ptg Art 38:531-4 F '22

See also Printers; Printing offices; also International association of printing house craftsmen; United typothetae of America

Accounting

See Printing, Practical—Accounting

Advertising

Advertisements of bygone days. W: H. Jackson. Inland Ptr 68:335-6 D '21
 Captivating copy for the purveyors of printing. R. E. Ramsay. Ptg Art 38:443-6 Ja '22
 Classifications of direct advertising. R. E. Ramsay. Inland Ptr 68:481-4 Ja '22
 Critical survey of printers' house-organs. A. J. Fehrenbach. Inland Ptr 71:76-8, 223-30, 380-2, 541-2, 695-8, 844-6 Ap-S '23
 Direct advertising. R. E. Ramsay. Inland Ptr 68:195-7, 629-32; 69:69-72 N '21, F, Ap '22
 Envelope enclosures or stuffers. Inland Ptr 69:376-a Je '22
 House-organ discords—printers' publications. H. Botsford. Inland Ptr 71:669-70 Ap '23
 Planning a printer's publicity campaign. R. E. Ramsay. Inland Ptr 70:237-40 N '22
 Planning direct advertising campaigns to sell intangible services. R. E. Ramsay. Inland Ptr 71:847-50 S '23
 Printers' advertisements of distinction. R. G. Gardner. Inland Ptr 71:820-1 S '23
 Printers' advertising that brings results. R. F. Salade. Ptg Art 41:459-61 J1 '23
 Printer's own advertising. I. L. Heuslein. Ptg Art 38:525-9 F '22
 Using photos to boost the print shop's business. F. H. Williams. Inland Ptr 69:207-8 My '22
 What should go into the printer's house organ? M. Droke. Ptg Art 39:341-3 Je '22
 Why Mr Printer makes a poor advertiser. M. Gross. Inland Ptr 70:821-2 Mr '23

History

Forty years ago. E. M. Lovendale. Inland Ptr 72:69-70 O '23

Priorities

St Cecilia's priory, Englewood, N. J. Arch Forum 38:69, pl 29-31 F '23

Priorities, Industrial

I. C. C. issues new service orders. Ry Age 73:576-7 S '23 '22; Coal Age 22:507 S '23 '22; Ry R 71:420 S '23 '22
 Priority rule develops slowly. Iron Tr R 71:287-8 Ag '23 '22
 Text of priority orders, issued July 25. Coal Age 22:176 Ag '23 '22; Same abr. Ry Age 73:576-7 S '23 '22

Prisons

Plans and illustrations of prisons and reformatories. H. H. Hart. 62p Russell Sage foundation, New York '22
 Plans for a model jail. R. W. Zimmerman. 16p Russell Sage foundation, New York '22
 Prison dormitory system at the District of Columbia reformatory, Lorton, Virginia. H. H. Hart. diagrs plans Am Arch 124:289-92, 336-40 S 26-O 10 '23
 Prison markets branded goods with advertising's aid. J. M. Mosely. Ptr Ink 124:103-4 J1 12 '23

See also Radio telephone in prisons

Cost

Construction costs of jail for St Louis county, Minn. W. C. Brockway. Eng & Contr (Bldgs) 60:362 Ag 22 '23

Prisons—Continued**Heating and ventilation**

Ventilating problems in prison work; Washington state reformatory, Monroe, Washington. diags plans Heat & Ven 20:37-40 Mr '23

Private brands

Four tested plans for putting a business on a trade-mark basis. J. A. Murphy. Ptr Ink M 6:17-18+ Ap '23

Sixty-five-year-old private brand concern puts out new leader. R. Bostick. Ptr Ink 118:33-4 Ja 19 '22

Some adventures in dropping private brands. bibliog Ptr Ink 119:149-50+ My 11 '22

Two thousand brands reduced to three; Scott paper company eliminates jobbers temporarily. J. G. Lamb. Ptr Ink 118:123-4+ F 2 '22

Bibliography

Getting the dealer to drop private brands. Ptr Ink 119:153 My 11 '22

Private presses. See **Printing—Private presses**

Privies

Sanitating a small city; Leeds, Alabama. W. A. Hardenbergh. il diags plan Pub Works 53:148-50 S '22

Prize contests. See **Advertising—Prize contests**

Probabilities

Application of probabilities to the movement of gas-molecules. F. Y. Edgeworth. Philos Mag 6th ser 43:241-58 F '22

Correlation of entropy and probability. G. A. Linhart. Am Chem Soc J 44:1881-6 S '22

Mathematical theory of probabilities and its application to frequency curves and statistical methods. A. Fisher. 2d ed., enl. Macmillan '22

Measurement of chance. N. Campbell. Philos Mag 6th ser 44:67-79 J1 '22

Probable number of stops made by an elevator. B. Jones. Gen Elec R 26:583-7 Ag '23

Theoretical frequency curves and their application to engineering problems. H. A. Foster. Am Soc C E Pro 49:825-55 My '23; Discussion. 49:1292-5, 1751-61, 1860-73 Ag. O-N '23

See also **Errors, Theory of**

Process charts

Management methods and principles of Frank B. Gilbreth, inc. K. H. Condit. il charts Am Mach 58:443-7 Mr 22 '23

Process charts and their place in management. F. B. Gilbreth and L. M. Gilbreth. il Mech Eng 44:38-41+ Ja '22; Same. Eng & Ind Management 7:45-50 Ja 12 '22

Produce trade

Organised produce markets. J. G. Smith. 238p Longmans '22

Profit in doing usual things in unusual ways; Green brothers fruit and produce company. F. J. Green. il System 43:327-9+ Mr '23

See also **Dairy products**; **Farm produce**; **Food industry and trade**; **Fruit trade**; **Grain trade**

Producer gas. See **Gas, Producer**

Production

Annual production-consumption equation. W. T. Foster. Annalist 20:439-40 O 30 '22

Cheaper production. W. R. Basset. Factory 30:403-5 Ap '23

Fourth factor in production. P. Kreuzpointner. Management & Adm 6:211-12 Ag '23

How the American federation of labor feels about advertising. C. M. Wright. Ptr Ink 120:33-4+ Ag 31 '22

Production expanding and trade contracting. Management Eng 4:362-3, 366-8 Je '23

Production of basic commodities continues to advance. Management Eng 4:150-2 Mr '23

Production on a new high level. S. G. Koon. Iron Age 112:19-20 J1 5 '23

Relation between stock prices and production. L. B. Mann. Annalist 21:788 Je 11 '23

See also **Economics**; **Factory management**; **Limitation of output**; **Machine shop management**; **Planning**; **Quantities (in production)**; **Routing systems**; **Waste**

Production, Cost of. See **Factory costs**; also **subdivision Costs** under various subjects, e.g. **Coal mines and mining—Costs**

Production, Standards of

Better lighting increases production. W. Harrison, O. F. Haas and F. W. Dopke. il Iron Tr R 70:616-12 Mr 2 '22

Cost and production standards. W. B. Castenholz. J Account 33:81-6 F '22

Efficiency of American labor. E. Stewart. Monthly Labor R 15:1-12 J1 '22

Limitation of output. H. M. Vernon. Eng & Ind Management 6:423-32 O 20 '21

Production per man analyzed. Iron Tr R 71:120-1 J1 13 '22

Schedule of plumbing and heating production. Sanitary & Heat Eng 97:53-4 Ja 27 '22

Survey of delivery operations. H. B. Wess. Administration 5:549-59 My '23

See also **Time study**

Production and sales, Coordination of

How the Walworth company looks ahead. J. H. Barber. Administration 5:659-68 Je '23; [cont. as] Management & Adm 6:29-32, 191-6 J1-Ag '23

How to get managerial co-ordination of sales and production. E. W. Kincaid. Ptr Ink 125:165-6 N 1 '23

How Walworth tunes its production to sales. H. Burwen. Ptr Ink M 6:31-2+ Je '23

Synchronizing sales and production. G. B. White. Management & Adm 6:172 Ag '23

See also **Sales quotas**

Production control. See **Factory management**;

Progress records

Production engineers. See **Industrial engineers****Production measurement**

Measurement of human work. W. N. Polakov. Management Eng 2:91-3 F '22

Production factors for fluctuating conditions. H. C. Haskell. Management Eng 3:94-6 Ag '22

See also **Bedaux system**; **Production, Standards of**

Production records. See **Progress records****Professional advertising**

Another profession's ethics yields; dentists of Ontario. Ptr Ink 124:157-8 S 6 '23

Education or advertising. J Account 34:451-4 D '22

Ethical dentists will advertise. Ptr Ink 117:28 N 24 '21

Making doctors and dentists beneficiaries of an advertising campaign; newspapers used by New York X-ray and pathological laboratories. Ptr Ink 121:18-20 D 28 '22

Restriction of advertising. J Account 34:280-2 O '22

See also **Accountants—Advertising**; **Architects—Advertising**; **Chiropractic—Advertising**

Professional associations

Le syndicalisme intellectuel, son rôle politique et social. J. Sageret. 128p Plon-Nourrit et cie, Paris '22

Professional education

Liberal and professional education. B. H. Bode. Eng Educ 12:461-9 Je '22

Professional prerequisites. E. B. Hawes. J Account 35:253-7 Ap '23

See also **Engineering education**

Professional ethics

Canons of professional ethics. G. D. McIlvaine. Dom Eng 102:301+ F 10 '23; Same. Sanitary & Heat Eng 99:413-14 Je 15 '23

Code of ethics for chemists. Chem Age 31:135-6, 255-6, 347-8 Mr, Je, Ag '23

Professional ethics. H. F. French. J Account 36:81-96 Ag '23

See also **Engineering ethics**; **Newspaper ethics**; **Professional advertising**

Professional representation. See **Representation****Professions**

Automotive work as a profession. C. A. Prosser. Soc Auto Eng J 12:17-18 Ja '23

Professions—Continued

Business and the professions. R. M. Binder. 433p Prentice-Hall, New York '22

See also Engineering

Profiling

Becker cherrying attachment. *il Mach* 29:73-4 S '22

Geared milling head for profile work. A. B. Bassoff. *diags Mach* 28:729-30 My '22

Profile cutting with a gas torch. *il Mach* 29:631 Ap '23

Profiling fixture. *il diag Mach* 28:561 Mr '22

Robbins profiling and milling machine. *il Am Mach* 57:236 Ag 10 '22

Some examples of fixtures used on profiling machines. J. M. Henry. *il Am Mach* 55:1040-3 D 29 '21

Profilometer

Taking the roughness out of our roads; the profilometer. *il Sci Am* 127:233 O '22

Profit

How does production affect profits? W. K. Lewis. *Chem & Met Eng* 28:988-91 Je 4 '23

How our profits come from narrow margins. F. C. Rand. *il System* 42:129-33+ Ag '22

Minority interests in inter-company profits. W. T. Sunley. *J Account* 35:350-5 My '23

Prices, profits and production. A. F. Stock and M. B. Gordon. *Paper Tr J* 76:57-8+ Mr 1 '23

Profit in unprofitable business. A. Lazarus. *Ptr Ink M* 6:29-30+ Je '23

Profit should be figured on selling price. *Ptr Ink* 117:36 D 15 '21

Ropp's price marking calculator and profit indicator. C. Ropp. 32p C. Ropp & sons, Chicago '23

Yield on plant investment. T. B. G. Henderson. *Administration* 3:312-16 Mr '22

See also Capitalism; Interest; Marketing—Cost; Turnover

Profit-and-loss statements

Analysis of the profit-and-loss statement. H. A. Finney. *J Account* 33:451-66 Je '22

Balance sheets and profit and loss statements. 36p Bur. of commercial and ind. affairs, Boston Chamber of commerce '22

See also Financial statements

Profit sharing

Benevolent despotism or industrial democracy? B. Seeböhm Rowntree's investigations. *Power* 54:897-8, 908 D 6 '21

Difficulties of profit sharing. *Textile World* 61:1173 F 18 '22

Financial incentives for employees and executives. D. Bloomfield. v 2. p 58-128 H. W. Wilson co. '23

50-50 incentive to economy. J. Bennett. *il Factory* 30:143-5+ F '23

Industrial copartnership. C. C. Carpenter. 3d ed. 102p Copartnership publishers, London '21

James H. Ottley's appreciation of employee partners. *Ptr Ink* 118:105-6 Mr 9 '22

New profit sharing plan adopted by the United alloy steel corporation, Canton, Ohio. *Iron Age* 112:259 Ag 2 '23

La participation aux bénéfices. A. Toulouse. *Chimie & Ind* 10:574-85 S '23

La participation aux bénéfices. A. Trombert. 2d ed. 114p Chaix, Paris '21

Practical profit sharing. 67p Manchester guardian, Manchester '22

Profit sharing in British industries in 1921. *Monthly Labor R* 16:115-16 Ja '23

Profit-sharing plan that helps build quality in the product; the Stearns & Foster company. R. Dickinson. *Ptr Ink M* 7:37+ S '23

Results of Farr alpaca co. profit sharing. *il Textile World* 63:1815-16 Mr 17 '23

Seeing it the customer's way has kept our business climbing; Gates rubber company. C. C. Gates. *il System* 43:354+ Mr '23

Sharing profits with employees. J. A. Bowie. 222p Pitman '22; Review by H. C. Armistage. *Ind Management* (Lond) 8:186-7 O 5 '22

Successful employee partnership plan. A. S. Myers. *Ind Management* 64:289-95 N '22

Will profit-sharing bring management-sharing? J. Mayer. *Management & Adm* 6:353-7 S '23

See also Bonus system; Copartnership; Employees as stockholders

Bibliography

Profit sharing and labor copartnership: a list of recent references. L. A. Thompson. *Monthly Labor R* 16:859-71 Ap '23 [Supp to List of references (in English) on profit-sharing, in U S Bur Labor Statistics Bul 208:173-88 '16]

Programs

See Advertising mediums—Programs

Progress

Price of progress. R. T. Ely. *Administration* 3:657-63 Je '22

See also Social problems; Social work

Progress records

Creative spirit in industry. R. B. Wolf. *Administration* 2:851-2 D '21

Help production by charting it. G. F. Hamilton. *charts Ind Management* 64:118-20 Ag '22

Obstacle charts. L. J. Voorhees. *Am Mach* 59:412-13 S 13 '23

Organisation of production. J. W. Curtis. *charts Eng & Ind Management* 7:187-91 F 16 '22

Production-control boards visualize progress. *il Pop Mech* 38:522 Ap '23

Production control in non-ferrous rolling-mills. W. R. Grunow. *chart diags Management Eng* 4:125-30 F '23

Progress and lost-material records aid in map making and inventory keeping. *Coal Age* 21:530-1 Mr 30 '22

Progress chart and the bonus method. B. A. Franklin. *Management & Adm* 6:327-32 S '23

Recording the progress of quick-moving parts; the layout of a record card. *Eng & Ind Management* 6:657-9 D 8 '21

Watching production from the office. A. W. Hinkel. *il Factory* 28:416-18 Ap '22

See also Process charts

Prohibition

Analysis of Wood-Ernst bill. *Oil Paint & Drug Rep* 103:20 F 19 '23

Aspects of prohibition law enforcement. R. A. Haynes. *Chem Age* 30:165-6 Ap '22

Attorney-general's ruling on sale and transportation of liquor on foreign and American ships. *Comm & Fin Chr* 115:2223-6 N 18 '22

Brief filed with U.S. Supreme court in behalf of steamship companies attacking Judge Hand's decision. *Comm & Fin Chr* 115:2863-4 D 30 '22

Bureau of prohibition bills are criticized. *Oil Paint & Drug Rep* 102:32+ Ag 21 '22

Fighting prohibition's failure with advertising. *Ptr Ink* 123:41-2 My 31 '23

Forces that are ready to go to work for business. C. C. Parlin. *Ptr Ink* 119:93 Je 29 '22

Governor Smith makes plea for state sovereignty in signing bill repealing Mullan-Gage law. *Comm & Fin Chr* 116:2594-6 Je 9 '23

Judge Knox holds provisions of Volstead law limiting physicians' prescription of liquor void. *Comm & Fin Chr* 116:2084-53 My 12 '23

Letter on new regulations; protest against the provisions of Promim 282. *Oil Paint & Drug Rep* 102:20+ Ag 21 '22

Liquor advertising before the law. J. F. Richter, jr. *Ptr Ink* 122:25-7+ Mr 29 '23

President's conference with governors of fourteen states on prohibition enforcement. *Comm & Fin Chr* 115:2746 D 23 '22

Prohibition and the mining industry; symposium. *Eng & Min J* 114:891-5, 977 N 18, D 2 '22

Prohibition bureaucracy project dies under pressure of reasonable protest. *Oil Paint & Drug Rep* 103:20-1+ F 26 '23

Pro-mim. 282 seems due for rescinding. *Oil Paint & Drug Rep* 102:21 sec 1 S 11 '22

Report of N.W.D.A. committee on legislation. *Oil Paint & Drug Rep* 104:43-7 O 17 '23

Prohibition—Continued

Ships flying American flag are American territory; upholding government in prohibition law decision. L. Hand. Comm & Fin Chr 115:2002-3 N 4 '22

Small and greatly mistaken minority who believe Volstead act will be repealed. W. G. Harding. Comm & Fin Chr 117:158-60 JI 14 '23

Supreme court's decision on Volstead law declaring American vessels on high seas can sell liquor. Comm & Fin Chr 116:1964-7 My 5 '23

U. S. shipping board issues regulations to prevent transfer of vessels to foreign registry to evade prohibition law. Comm & Fin Chr 115:2223 N 18 '22

Projectiles

Boat-tail bullets increase rifle accuracy. II Pop Mech 40:35 JI '23

See also Photography of projectiles; Shells (projectiles)

Projection

Relation between the projective and the metrical scales, and its bearing on the theory of parallels. L. Silberstein. diags Philos Mag 6th ser 43:420-9 Mr '22

Projection apparatus

Projection apparatus used for the study of art. II Pop Mech 38:393 S '22

Projection of light. See Light projection**Projective covariance**

Maxwell's law of distribution of velocities and the principle of projective covariance. I. Maizlish. Phys R 20:39-45 JI '22

Promoters

Parasites. Min & Sci P 124:389-90 Mr 25 '22

See also Oil promoters

Promotion of employees. See Employees—Promotion**Prony brake.** See Dynamometer**Proofreaders**

Are proofreaders appreciated? E: N. Teall. Inland Ptr 71:563-4 JI '23

Proofreading

Authors' & printers' dictionary. F: H. Collins. 5th ed., rev. 408p Oxford '21

Final pages. A. Pemberton. Inland Ptr 69: 55-6 Ap '22

Proofreading: must we do without it? Inland Ptr 71:219-20 My '23

Proofroom. F. H. Teall. See Monthly numbers of the Inland printer

Thorough proofreading. A. Pemberton. Inland Ptr 71:51-2 Ap '23

See also Printing, Practical

Propaganda

Education vs. propaganda in the cultivation of good-will in industry. H: C. Link. Administration 3:57-65 Ja '22

Heyday of propaganda. E. M. Hopkins. Nation's Business 11:37-8+ Ja '23

See also Publicity

Propane

Use of propane for refrigeration. H. D. Edwards. Refrig Eng 9:227-9 Ja '23

Propargyl alcohol

Dipropargyl methylene ether. H. H. Guest. Am Chem Soc J 45:1804-7 JI '23

Propellers

Dyson's method applied to merchant ship propellers. E. A. Stevens, Jr. Marine Eng 28:225-30 Ap '23

Effect of the propeller on economical ship operation. E. A. Stevens, Jr. II Marine Eng 28:354-5 Je '23

Electrically-driven jet propeller for canal barges. II diags plan Engineering 116:157-9 Ag 3 '23; Elec R (Lond) 93:345-7 S 7 '23; Engineer 136:252 S 7 '23

Further experiments on contrary-turning co-axial screw propellers. G. Rota. II Engineering 114:90-1 JI '21 '22; Same. Marine Eng 27:586-8 S '22; Discussion. Engineering 114:70-1 JI '21 '22

L'hélice propulsive. P. Lorain. 196p Dunod, Paris '23

How propeller position affects propulsive efficiency. D. W. Taylor. Marine Eng 27:785-7; Discussion. 775-6 D '22

Instrument indicates pitch of propeller. II Pop Mech 38:732 N '22

Propellers. A. J. C. Robertson. Marine Eng 28:171-3, 221-2+ Mr-Apr '23

Savings possible with properly designed propellers. D. W. Taylor. II Marine Eng 28: 263-6 My '23

See also Airplane propellers; Airship propellers; Ship propulsion

Manufacture

Cast heavy bronze propeller of the United States steamer Leviathan. II Foundry 51:879 N 1 '23

Drilling and stud-setting machines for propellers. II Pop Mech 37:234 F '22

Exactitude in propeller manufacture. II Sci Am 126:260-1+ Ap '22

Propeller molding is varied. R. H. Palmer. II diags Foundry 51:482-5+ Je 15 '23

Some large propeller work. F. C. Hudson. II Am Mach 59:612 O 25 '23

Testing

Model screw propeller experiments with mercantile ship forms. G. S. Baker and W. C. S. Wigley. Engineering 115:507-10 Ap 20 '23; Abstract. Engineer 135:365 Ap 6 '23; Discussion. Engineering 115:390-1 Mr 30 '23; Engineer 135:365-6 Ap 6 '23

Vibration

Notes on torsional oscillations with special reference to marine reduction gearing. A. T. Thorne and J. Calderwood. II diags Engineering 114:815-18 D 29 '22

Propellers, Aerial

Boat travels against wind that drives it. II Pop Mech 39:248 F '23

L'emploi d'un moteur éolien pour actionner un navire contre le vent. Constantin, Joessel and Daloz. II Génie Civil 81:421-2 N 4 '22

Abstract (Driving a boat against the wind by an air motor). Mech Eng 45:49 Ja '23

See also Airplane propellers; Airship propellers

Property

Rights and duties of property. Comm & Fin Chr 115:1255-6 S 16 '22

Propionic acid

Propionic acid and ketones from whey. E. O. Whittier and J. M. Sherman. Ind & Eng Chem 15:729-31 JI '23

Separation of propionic acid from pyrolygneous acid. G. W. Douglas. Soc Chem Ind J 42: 146 Ap 6 '23

Proportion (architecture). See Architecture—Composition, proportion, etc.**Proportional representation**

Significance of Cleveland's adoption of proportional representation. L: J. Johnson. Eng N 87:993 D 15 '21

Proprietary association

41st annual meeting. New York, May 22-23. Oil Paint & Drug Rep 103:20 My 28 '23

Proprietary goods. See Drug trade**Props**

Steel props furnish recoverable, quickly set and self-adjusting supports for mine roof. J: Roberts. diags Coal Age 22:203-7 Ag 10 '22

Propyl ketones

Studies in the n-butyl series; aryl n-propyl ketones. G. T. Morgan and W. J: Hickinbottom. Chem Soc J 119:1879-93 N '21

Propylene

Action of selenium monochloride upon propylene, butylene and amylene. C. E. Boord and F. F. Cope. Am Chem Soc J 44:395-401 F '22

Importance of the olefine gases and their derivatives; sources and uses of ethylene and propylene. G: O. Curme, jr. Chem & Met Eng 25:907-9 N 16 '21

Propylene glycol

Oxidation of propylene glycol with potassium permanganate. W: L. Evans. Am Chem Soc J 45:171-6 Ja '23

Prospecting

- Assisting development of prospects. L: J. Brunel. Eng & Min J 113:949 Je 3 '22
- Canterbury tunnel; a project to stimulate mining in Leadville. F. E. Wormser. il Eng & Min J 116:284 Ag 18 '23
- Comparison of estimates upon a gold-dredging orebody. Eng & Min J 115:934-6 My 26 '23
- Discrepancy between drilling and dredging results. R. G. Smith. Eng & Min J 112:812-15 N 19 '21
- Drill sampling of dredge ground. R. T. Hancock. Eng & Min J 114:330-1 Ag 19 '22
- Drilling results and dredging returns. E. H. Dawson. Eng & Min J 113:315-16 F 25 '22
- Drilling results and dredging returns. C. W. Gardner. Eng & Min J 112:646-9, 688-92 O 22-29 '21; Discussion. A. C. Ludlum. 112: 845 N 26 '21
- Electrical ore-locating device developed in Arizona. G. M. Butler. Elec W 79:185 Ja 28 '22
- Experiment in ore-hunting geology. A: Locke. Min & Met 184:27-9 Ap '22
- Experiments in electrical prospecting. S. F. Kelly. Eng & Min J 114:623-9, 673-6 O 7-14 '22
- Finding a mine. F. M. Wichman. Eng & Min J 114:313-14 Ag 19 '22
- How to select prospecting equipment. G: J. Young. diags Eng & Min J 116:491-8 S 22 '23
- Locating minerals by electrical methods. Am Inst E E J 42:1144 N '23
- Magnetic prospecting. W. S. Weeks. il diags Min & Sci P 124:85-9 Ja 21 '22; Discussion. A. Gibson. 124:392-4 Mr 25 '22
- Ore finding by electrical methods. H: Louis. diag Electrician 89:608-10 N 24 '22
- Plight of the prospector. T. A. Rickard. Eng & Min J 115:656 Ap 14 '23
- Points the mining speculator should study. D. A. Richardson. Eng & Min J 116:725-6 O 27 '23
- Profession of ore hunting. P. D. Wilson. Econ Geol 16:552-8 D '21
- Prospecting and research. A. S. Dwight. Min & Met 184:7-10 Ap '22
- Prospecting with the Eötvös balance. E. Wagner. diags Eng & Min J 116:583-9 O 6 '23
- The prospector. T. A. Blair. Eng & Min J 115: 481-2 Mr 17 '23
- The prospector. F. P. Davis and J. T. Jones. Min & Sci P 124:115 Ja 28 '22
- Prosectors and prospecting. J. H. Farrell. Eng & Min J 114:1107 D 23 '22
- Seismographic system for exploration of underground formations. P. Wagner. Nat Pet N 15:87 Ap 11 '23
- Waste involved in preliminary investigation of mineral deposits. H. F. Bain. Min & Met 183:23-4 Mr '22
- Why the prospector has disappeared. F. Hall. Min & Sci P 123:808-9 D 10 '21
- Work of the geological department at a porphyry copper mine. X. B. Starnes. bibliog Min & Sci P 124:396-404 Mr 25 '22

See also Assaying; Magnetic surveying; Mine examination; Mine surveying; Mine valuation; Mines and mineral resources; Ore sampling; Petroleum—Prospecting; Rockers, Mechanical

Prospectors

- Prospector's plea. J. T. Keenan. Eng & Min J 116:772-3 N 3 '23

Protactinium

- Period of protactinium. J: H. Mennie. diags Philos Mag 6th ser 46:675-85 O '23

Protectol

- Method of protecting wool and silk from injury in alkaline solutions. Color Tr J 11:266-7 D '22
- Protectol, a new compound for degreasing wool. Color Tr J 10:84 F '22

Proteins

- Cataphoresis of proteins. T. Svedberg and E. R. Jette. il diag Am Chem Soc J 45:954-7 Ap '23
- Characteristic proteins in high- and low-protein corn. M. F. Showalter and R. H. Carr. Am Chem Soc J 44:2019-23 S '22

Interpretation of the influence of acid on the osmotic pressure of protein solutions. J. Loeb. Am Chem Soc J 44:1930-41 S '22

Origin of the humin formed by the acid hydrolysis of proteins; hydrolysis in the presence of ketones. R. A. Gortner and E. R. Norris. Am Chem Soc J 45:550-3 F '23

Precipitation of proteins from cereal extracts by sodium tungstate. L. A. Rumsey. Ind & Eng Chem 15:270-2 Mr '23

Progress toward the artificial synthesis of carbohydrates and proteins. R. W. Thatcher. J Ind & Eng Chem 14:1146-7 D '22

Proteins and the theory of colloidal behaviour. J. Loeb. 292p McGraw-Hill '22; Review by J. Alexander. Chem & Met Eng 27:368-70 Ag 23 '22; Discussion. 27:628, 821 S 27, O 25 '22

Sol-gel equilibrium in protein systems. R. H. Bogue. Am Chem Soc J 44:1313-22 Je '22

Sulfur in proteins; the effect of acid hydrolysis upon cystine. W. F. Hoffman and R. A. Gortner. Am Chem Soc J 44:341-60 F '22

Zur kenntnis der natürlichen eiweiss-stoffe; verhalten von chlordinoxyd gegenüber organischen verbindungen. E. Schmidt and K. Braunsdorf. Deutsche Chem Gesell Ber 55: 1529-34 Je '22

See also Amino acids; Casein; Collagen; Gelatin; Glutenin; Tryptophan

Protons

- Within the atom. O. Lodge. Sci Am 129:308-9+ N '23

Protoplasm

- Conductivity and permeability in living matter. W. J. V. Osterhout. Sci Am 127:41 Jl '22

Physical basis of life. E. B. Wilson. Sci Am 129:41 Jl '23

Protozoa

- Capturing the pleuromonas jaculans, the smallest animal in the world. L. A: Hausman. il Pop Mech 37:69-70 Ja '22

Earliest inhabitant; some of the simplest of the animal forms that go back into geological time. W: Butterfield. Sci Am 126:248 Ap '22

See also Synura

Protractors

- Protractor for plotting dips on inclined sections. H. E. McKinstry. diags Econ Geol 18:393-7 Je '23

Proustite

- Spectrophotoelectrical sensitivity of proustite. W. W. Coblentz. U S Bur Stand Sci Pa 412:179-86 '21

Providence, Rhode Island**Hospitals**

- Providence maternity hospital. il plans Arch Rec 51:170-4 F '22

Rapid transit

- Jitneys eliminated. Elec Ry J 60:63 Jl 8 '22

Water supply

- Constructing Scituate reservoir. il diags plan Pub Works 53:137-43 S '22

New water supply of the city of Providence. F. E. Winsor. il pls N E Water Works Assn J 36:323-62 S '22

Proving grounds

- Aberdeen proving ground. F. B. Pletcher. il Iron Tr R 73:1091-6 O 18 '23

Remodeled Naval proving grounds power plant. P. J. Searles. diags plan Power 55: 133-4 Ja 24 '22

Visit of American iron and steel institute to Aberdeen proving ground. Iron Age 112: 1165 N 1 '23

Prunes

- Recirculation system helps prune drying. il diag Pop Mech 39:572 Ap '23

Advertising

- Advertising history of California prunes. H. E. Agnew. Ptr Ink 119:3-4+ My 4 '22

Prunes—Advertising—Continued

Concentrated sales drive saves market for
Sunsweet prunes. R. Cole. *Ptr Ink* 117:137-
8+ N 24 '21

Prussian blue

Prussian blue and Turnbull's blue. E. Müller
and H. Lauterback. *Chem Soc J* 124 pt 1:
191-2 Mr '23

Prussian blue in cotton printing. R. San-
sone. *Textile World* 60:3723+ D 31 '21
Topping. *Textile Col* 45:2191-15 My '23

Pseudo-bases. See Bases (chemistry)**Pseudoazimides**

Zur kenntnis der pseudoazimide. M. P.
Schmidt and A. Hagenböcker. *Deutsche
Chem Gesell Ber* 54:2191-2207 O '21; Ab-
stract. *Chem Soc J* 120 pt 1:897-900 D '21

Pseudomorphs

Some interesting chalcodony pseudomorphs
from Big Badlands, South Dakota. A. P.
Houss. *il Am J Sci* 5th ser 5:173-4 F '23

Psychical research

Current psychic investigation in Europe:
statements from well-known psychic work-
ers, Baron von Schrenck Notzing and Mme.
Bisson; edited by A. Gradenwitz. *Sci Am*
128:234+ Ap '23

Do tables tip?—critical comment on Craw-
ford's investigations and Carrington's sum-
mary thereof. J. Black. *Sci Am* 127:116 Ag
'22

Ectoplasm and ectoplasm fakery. J. Black.
Sci Am 127:162+ S '22

Investigating unknown forces; the unique
psychic laboratory of Fritz Grunewald, at
Charlottenburg. A. Gradenwitz. *il diag Sci*
Am 127:30+ J1 '22

Materialized hands; the Franek Kluski wax
molds, and the conclusions that may be
drawn from them. G. Geley. *il Sci Am* 129:
316-17+ N '23

Mechanism of the psychic; indications of an
unformulated force. H. Carrington. *Sci Am*
126:60+ Ja '22

Our first test seances; the report of the sub-
committee and some details of the sittings.
J. M. Bird. *Sci Am* 129:14+ J1 '23

Our psychic investigation. J. M. Bird. *Sci*
Am 128:6-7+, 84, 160+ Ja-Mr '23

Our psychic investigation in Europe. J. M.
Bird. *diags Sci Am* 128:307-8+, 379-80+;
129:19-20+, 86+, 238+ My-Ag, O '23

Our subconscious selves; have we an explan-
ation for a large class of psychic phe-
nomena? J. M. Bird. *Sci Am* 126:323-4 My
'22

Psychic adventures at home. J. M. Bird.
diag Sci Am 129:164+ S '23

Psychic detective. W. F. Prince. *il Sci Am*
127:6-7+ J1 '22

Spirit hands, ectoplasm, and rubber gloves.
il Pop Mech 40:14-15 J1 '23

Square deal for the psychics; criticisms from
various sources of the James Black articles
J. M. Bird. *Sci Am* 127:388-9+ D '22

When tables tip. H. Carrington. *Sci Am* 126:
406+ Je '22

See also Rays

Psychological corporation of New York

Syndicate of mental test experts. *Office Man-
agement* 8:40 O '22

Psychology

See also Ability tests; Personality; Psy-
chical research; Reflexes

Industrial applications

Applied psychology. H. L. Hollingworth and
A. T. Poffenberger. New ed., rev. & enl. 431p
Appleton '23

Human element in industry. W. Harrison.
Chem Age 30:358-60 Ag '22

Human factor in industry. *Ind Management*
(Lond) 10:185 O 4 '23

Human factor in industry; psychology, in-
stincts and tendencies of the worker. C. H.
Northcott. *Ind Management* 62:363-9 D '21
Management methods and principles of Frank
B. Gilbreth, inc. K. H. Condit. *Am Mach*
58:33-5 Ja '23

Practical psychology for business executives.
L. D. Edie. 387p H. W. Wilson co. '22

Psychology as a business. *il Sci Am* 127:112-
13+ Ag '22

Psychology of industry. J. Dreyer. 148p Dut-
ton '21

See also Advertising—Psychology; Ability
tests

Psychrometry

Aerology for amateurs and others. E. V. Hill
Heat & Ven 20:37-40 Ap '23

Analysis of cooling tower performance. J. W.
Gavett, jr. *chart Power Pl Eng* 27:217-21 F
15 '23

Public buildings

Federal public building situation. C. H. Whit-
aker. *Am Inst Arch J* 11:270-2 J1 '23

An office and reception building for the presi-
dent of the United States; Beaux-Arts insti-
tute competition. *il Am Arch* 124:156-63 Ag
15 '23

Protection of historic public buildings. *il diags*
plan Arch & Bldg 54:13-15+ F '22

See also Baths, Public; Capitol buildings;
Community centers; Court houses; Embassy
buildings; Fire houses; Library architecture;
Municipal buildings; Municipal centers;
Orphanages; Post office buildings; Prisons;
Public comfort stations; Public works;
Schoolhouses; *also* London—County hall

Heating and ventilation

Heating and ventilating the Bureau of en-
graving and printing. N. S. Thompson. *il*
diags plans Am Soc Heat & V E J 29:1-8
Ja '23

Public buildings as an opportunity for the
operating engineer. C. L. Hubbard. *diags*
Power 55:817-20 My '23

Where we are at in present-day ventilating
practice. N. S. Thompson. *diags plans Heat*
& Ven 19:27-32 Ap '22

Lighting

Lighting of public buildings. A. L. Powell
and E. Parker. *il Illum Eng Soc* 16:533-43;
Bibliography. 549-50 no 9 '21

Lighting of public buildings; scientific meth-
ods and architectural requirements. E. H.
Rayner, J. W. T. Walsh and H. Buckley. *il*
diags plan Illum Engr 15:105-27 Ap '22; Dis-
cussion. 15:135-52 My '22; Abstract. *Elec R*
(Lond) 90:536 Ap 14 '22

Recent departures from usual lighting prac-
tice in public spaces and offices. A. D.
Curtis and J. L. Stair. *il diags plans Illum*
Eng Soc 16:551-69; Discussion. 570-3 no 9
'21

Bibliography

Lighting data, Edison lamp works; Bulletin
L. D. 135. *Am Inst Arch J* 11:128-9 Mr '23

Public comfort stations

Backing up good health ideas; the movement
to create more public comfort stations. *il*
Sanitary & Heat Eng 100:237-8+ O 19 '23

Comfort station and toilet rooms in London
public sports park. J. Y. Dunlop. *diags*
plans Sanitary & Heat Eng 97:184-5+ Ap
7 '22

Dallas public comfort station. *diags plans*
Am Arch 121:231-3 Mr 15 '22

Helping to supply the need for public com-
fort stations. H. F. Baillet. *il plan Sanitary*
& Heat Eng 99:35-7 Ja 26 '23

1923 is here—competition keen—let's go. *il*
diags plan Sanitary & Heat Eng 99:1-3+
Ja 12 '23

Public comfort station movement. F. R. King.
il plans Dom Eng 102:267-70 F 10 '23

Public comfort stations for every city. B.
Lebhar. *Dom Eng* 98:310-11 F 18 '22

Public comfort stations in Florida. C. O.
Langston. *il diags Sanitary & Heat Eng* 96:
369-70 D 16 '21

Something new in plumbing. C. Hunter. *il*
Dom Eng 100:15-16 J1 1 '22

Standard design for comfort station. *diags*
plans Dom Eng 100:363-4 Ag 26 '22

Upbuilding your industry. *il Sanitary & Heat*
Eng 99:243-4+ Ap 20 '23

What the oil station owner wants. *il diags*
plan Sanitary & Heat Eng 99:209-11+ Ap
6 '23

Public comfort stations—Continued

What they are doing with the public comfort station mark. *Il Sanitary & Heat Eng* 99:75-7, 175-6+; 100:103-4 F 9, Mr 23, Ag 24 '23

Your side of the modern oil and gas filling station. *G; Turner, il plan Sanitary & Heat Eng* 99:107-9 F 23 '23

Public health

Co-operative relations between consulting and state sanitary engineers. *C. M. Baker, W Soc E J* 27:185-90 Je '22

Engineering and public health. *M. N. Baker, Eng N* 90:494-6 Mr 15 '23

A half century of public health. *M. P. Ravenel, ed. 461p American pub. health assn., New York '21*

Introduction to the practice of preventive medicine. *J. G. Fitzgerald and others. 826p C. V. Mosby co., St Louis '22*

Municipal ordinances, rules, and regulations pertaining to public health 1917-1919. *J. Waterman and W; Fowler. (Supp. no. 40 to Public health reports) 456p U. S. Public health service, Washington '21*

Public health and water consumption. *A. Wolman. Munic Eng* 64:207-10 My '23; Same, without tables. *Can Eng* 44:467-8 My 8 '23; Same abr. *Eng & Contr (W W)* 59:1041-3 My 9 '23

Public health assets. *G; E. Vincent. Comm & Fin Chr* 115:108-11 sec 2 O 21 '22

See also Advertisements—Health appeal; Building laws; Disinfection and disinfectants; Dust removal; Factory sanitation; Health boards; Housing; Hygiene, Industrial; Influenza; Malaria; Milk supply; Mortality; Physical examinations; Plague; Plumbing laws and regulations; Public comfort stations; Refuse disposal; Safety devices and measures; Sanitary districts; Sanitary engineering; Sanitation; Sewage disposal; Smoke prevention; Street cleaning; Swimming pools; Ventilation; Water pollution; Water supply; also Sanitary engineering, Bureaus of

Bibliography

Bibliography of references to health legislation. *J. A. Tobey. 8p National health council, 370 Seventh av, New York '21*

Selected bibliography of books on public health. *National health council, 370 Seventh av, New York '23*

Periodicals

List of periodicals in the library of the School of hygiene and public health, Johns Hopkins university. *8p Johns Hopkins univ. press, Baltimore '22*

Public health institute of Chicago**Advertising**

Welfare activity that established contact via advertising. *Ptr Ink* 118:73-4 Ja 26 '22

Public health laboratories

Laboratory control of water supplies and sewage treatment, in the large cities of the United States in 1920. *I. V. Hiscock. Am Water Works Assn J* 10:852-9 S '23

Public health surveys

Public health surveys. *M. P. Horwood. 403p Wiley '21*

Public institutions. *See Institutions, Public*

Public lands

See Oil reserves

Public ownership. *See Government ownership; Municipal ownership*

Public ownership league of America

Conference, Toronto, Sept. 10-13. *Can Eng* 45:335-6 S 18 '23; *Elec W* 82:558, 622 S 15-22 '23; *Eng N* 91:489 S 20 '23

Public schools

See Schoolhouses; also Columbus, Ohio—Public schools; Winchester, Virginia—Public schools

Public service commissions. *See Public utilities commissions*

Public service corporation of New Jersey

Large electric service expansion in New Jersey. *Elec W* 79:598 Mr 25 '22

13th annual report for year ending December 31, 1921. *Comm & Fin Chr* 114:1304-10 Mr 25 '22; Excerpt. *Elec Ry J* 59:536 Mr 25 '22

14th annual report for year ending December 31, 1922. *Comm & Fin Chr* 116:1425-33 Mr 31 '23; Abstract. *Elec Ry J* 61:658 Ap 14 '23

20,000 shares sold in ten weeks. *R. R. Young. Gas Age* 49:549-50+ My 6 '22

Public service railway of New Jersey

Five-cent fare to be tried in Jersey. *Elec Ry J* 62:539-40, 561-2 S 29-O 6 '23

New Jersey transportation tangle grows more acute. *Bus Transportation* 2:513-14 N '23

Public service railway restores service. *Elec Ry J* 62:461-4 S 22 '23

Public service shuts down—will the industry suffer? *Elec Ry J* 62:165-6, 202 Ag 4-11 '23

Railway files brief in rate case. *Elec Ry J* 61:63-4 Ja 6 '23

Strike in New Jersey. *Elec Ry J* 62:112, 154, 189-90, 230, 268-9, 307-9, 344-7, 386, 421 Jl 21-S 15 '23

Public speaking

You learn to speak by speaking. *L. St Clair. Aera* 11:976-7 Mr '23

Public utilities

Allies of industry. *E. K. Hall. N E L A Bul* 10:199-204 Ap '23

As a commissioner sees the issues. *J. W. McCardle. Elec Ry J* 59:367-8 Mr 4 '22

Effect of coal supply on public utilities; abstracts. *J; W. Lieb. Elec W* 81:563-7 Mr 10 '23; *Power Pl Eng* 27:414-16 Ap 15 '23; *N E L A Bul* 10:271-3 My '23

Government ownership, the limited term franchise and tax-exempt securities condemned. *D. C. Jackson. Elec Ry J* 60:853-4 N 25 '22

Industrial conditions as indicated by the utility load. *H. A. Dill. Am Gas J* 116:87-8 Ja 28 '22

Lecture at Princeton on utilities. *J; A. Britton. Gas Age* 49:547-8 My 6 '22

Mr Citizen and the public utilities. *F. W. Parsons. Gas Age* 49:349-53 Mr 25 '22

One in eight has direct interest in utility business; interesting figures from Indiana. *Am Gas J* 116:257-8 Mr 13 '22

Public obligation to utilities. *E; N. Hurley. N E L A Bul* 10:67-71 F '23

Public utilities and civilization. *L; E. Pierston. N E L A Bul* 10:396-9 Jl '23

Public utilities and progress. *P. S. Young. N E L A Bul* 10:274-6 My '23

Public utility industry stronger and more substantial than ever before. *E. S. Webster. Comm & Fin Chr* 116:2596-7 Je 9 '23

Some difficulties under which public utilities operate. *H; L. Doherty. Elec Ry J* 60:855 N 25 '22

Some post war utility problems. *C. D. Jackson. N E L A Bul* 9:387-91 Jl '22; Same cond. *Elec W* 79:1003-4 My 20 '22; Excerpts. *Elec Ry J* 59:905-6 Je 3 '22

Utilities recovering with general business. *S. E. Mulholland; F. J. Haas. Am Gas J* 116:34-5+ Ja 14 '22

See also Carriers; Corporation law; Corporations; Depreciation; Electric railroads; Electric utilities; Gas companies; Government ownership; Motor bus lines; Municipal ownership; Public utilities commissions; Railroads; Railroads and state; Street railroads; Telegraph; Telephone; Water companies; Waterworks

Accounting

Amortization and depreciation in public service corporations. *G; H. Johnson. J Account* 36:7-14 Jl '23

Cost accounting system for small utilities. *M. Hanson. Power Pl Eng* 26:516-19, 561-5, 605-10 My 15-Je 15 '22

Cost vs. value in depreciation accounting for public utilities. *H. C. Hasbrouck. J Account* 36:276-80 O '23

Public utilities—Accounting—Continued

- Engineer and accountant in public utility development. E. D. Dreyfus. Eng & Contr (Ry) 58:31-4 O 18 '22; Excerpts. Elec Ry J 60:559-60 O 7 '22
- Importance of the accounting department under commission regulation. D. Clinton. Am Gas Assn Accounting sec v 3:91-8 '21
- Maintenance, renewals, replacements and retirements. M. R. Scharff. Am Gas J 117:669-71 D 16 '22; Same. Gas Age 51:71-2+ Ja 20 '23
- Present and prospective development cost of railways and other public utilities. H. P. Gillette. Eng & Contr (Ry) 58:115-16 D 20 '22
- Present-day responsibilities of public utility accountants. W. H. Timm. Elec Ry J 60:563-6 O 7 '22
- Progress in classifying accounts. G. C. Mathews. Am Gas J 117:449+ O 26 '22
- Public utility accounting. R. E. Heilman. Aera 11:981-96 Mr '23
- Reserves for the retirement of property. C. D. Jackson. N E L A Bul 10:515-19 S '23; Same cond. Elec W 81:1361-3 Je 9 '23
- Standard accounting for municipally owned public utilities. J. Elec 48:13-14 Ja 1 '22
- Uniform accounting for municipal and private utilities. P. Eliel. J. Elec 48:448-9 Je 1 '22; Discussion. W. Dolge. 49:354-5 N 15 '22
- Uniform classification in sixteen states. Elec W 81:1344-5 Je 9 '23
- Uniform classification of accounts. M. F. Reeder. Am Gas J 118:243-5 Mr 24 '23
- Uniform classification of accounts. C. P. Staal. J. Elec 50:432-3 Je 1 '23
- Uniform classification of accounts in relation to state commission requirements. G. C. Mathews. Am Gas Assn Accounting sec v 4:170-84 '22
- Utility accountant's obligation to the public. D. N. Lewis. Elec Ry J 62:684-5 O 20 '23
- See also* Electric utilities—Accounting; Gas companies—Accounting; Public utilities—Regulation; Railroads—Accounting

Advertising

- Advertises to broaden good-will foundation; Utica gas & electric company. E. B. Weiss. Ptr Ink 122:133-4+ Mr 1 '23
- Advertising for public good will. F. L. Blanchard. Gas Age 51:249-50 F 24 '23
- Advertising that puts people's money to work; how customer ownership of public utilities is being achieved. W. H. Hodge. Ptr Ink 123:129-32 Je 7 '23; Same. Am Gas J 118:521-3 Je 16 '23
- Advertising the public service industry. B. J. Mullaney. Am Gas J 118:497-8+ Je 9 '23
- And there arose a new king which knew not Joseph; advice on public relations work. B. Barton. Elec Ry J 61:967-8 Je 9 '23; Same. Am Gas J 119:141-3 Ag 18 '23
- Good will advertising. J. W. Green. Am Gas J 119:153-4 Ag 25 '23
- Interesting the youth of a city in a public utility; the Rochester gas & electric corporation. W. B. Edwards. Ptr Ink 124:117-18 Ag 16 '23; Same. Am Gas J 119:239-40 S 22 '23
- Low cost per share for advertising utility securities. Gas Age 51:800 Je 23 '23
- Newspaper advertising and public utilities. A. W. Hawkes, jr. N E L A Bul 10:659-60 N '23
- Public service corporation classifies reasons for advertising. R. M. Searle. Ptr Ink 119:173+ Ap 27 '22
- Public utility takes its customers on an inspection tour via advertising. M. MacDonald. Il Ptr Ink 122:49-50+ F 1 '23
- Puts flesh and blood into soulless corporation. H. E. Agnew. Ptr Ink 119:121-2+ Ap 6 '22
- Selling the utility to the public. M. S. Sloan. Elec W 82:393-4 Ag 25 '23
- Seventeen reasons why public utilities should advertise. W. P. Strandborg. Ptr Ink 123:129+ My 17 '23; Same. Am Gas J 118:541-4 Je 23 '23; Excerpt. Elec W 81:1223-4 My 26 '23

- Some remarks on industrial gas and utility advertising. F. W. Parsons. Gas Age 51:707-8+ Je 2 '23
- Suburban company invades the city for new customers. Ptr Ink 123:145-6 Je 14 '23
- Tell the public and tell it first. S. E. Hudson. Elec W 82:613 S 22 '23
- Value and cost of advertising. W. J. Reagan. Am Gas J 117:29-31 JI 8 '22
- What advertising has done and can do for the public utilities. Gas Age 51:741-2+ Je 9 '23
- Work of Indiana information committee. J. C. Mellett. Elec Ry J 62:144 JI 28 '23
- Year of public utility good-will advertising in Colorado, New Mexico and Wyoming. G. E. Lewis. N E L A Bul 10:312-13 My '23
- See also* Electric utilities—Advertising; Railroads—Advertising; Street railroads—Advertising; Telephone companies—Advertising

Consolidation

- Consolidation of public utilities at Columbus. Ga. Elec W 79:1086 My 27 '22

Employees

- Americanizing utility employees. Gas Age 51:281-2 Mr 3 '23
- Family spirit in the public utility. H. A. Lemmon. Elec W 79:671-2 Ap 8 '22; Discussion. H. E. Critchfield. 80:610-11 S 16 '22
- Girl at the window. W. R. Voorhis. Elec W 82:231-2 Ag 4 '23
- Group life insurance applied to public utilities. T. S. Lowry, jr. Gas Age 52:523-6+ O 27 '23
- Illinois utilities and colleges co-operate; prepare plans for instruction specially adapted to the needs of utilities. Elec Ry J 61:966 Je 9 '23; N E L A Bul 10:359-62 Je '23
- Labor and the law in the public utility field. Monthly Labor R 15:1384-7 D '22
- Man development in public utility companies. H. A. Lemmon. Elec W 81:1091-2 My 12 '23
- Training young engineers in utility work. B. I. Budd. Elec Ry J 61:515-16 Mr 24 '23

Finance

- Community and its utilities. F. W. Smith. N E L A Bul 10:149-52 Mr '23
- Economic capitalization of a public utility company. C. F. Chenery. Annalist 21:793-4 Je 11 '23
- Economic problem of our gas business. F. L. Marshall. Il Gas Age 52:19-21 JI 7 '23
- Gross earnings. Published in weekly numbers of Commercial and financial chronicle
- Heilman explains financing. R. E. Heilman. Aera 10:775-8 Ap '22
- How should the public utilities be financed. H. M. Addinsell. Elec W 79:941-2 My 13 '22
- Mortgage and trust agreements. Elec W 82:331-2 Ag 18 '23
- New Orleans utilities show vast improvement. Am Gas J 117:167-9 Ag 19 '22
- Public utility capitalization. R. Heilman. Aera 11:663-74 Ja '23
- Public utility financing. M. J. Insull. Elec J 20:194-5 Je '23
- Public utility financing. M. J. Insull. N E L A Bul 9:83-5 F '22
- Public utility invested capital. C. A. Hobeln. Annalist 18:461-2 N 14 '21
- See also* Electric railroads—Finance; Electric utilities—Finance; Electric utilities—Securities; Gas companies—Finance; Public utilities—Securities; Railroads—Finance; Waterworks—Finance; also names of public utilities, e.g. Public service corporation of New Jersey

Franchises

- Fundamentals of a franchise. R. E. Heilman. Aera 10:707-11 Mr '22
- Indeterminate franchise. J. W. Dana. Am Gas J 115:179-81+ Ag 27 '21; Same. N E L A Bul 9:18-23 Ja '22

See also Street railroads—Franchises

Public utilities—Continued

Law

Court denies city's right to condemn power source of another city. Eng N 89:937 N 30 '22

Decisions affecting public utilities. J: R. Simpson. Gas Age 51:9-10 Ja 6 '23

Introduce drastic home rule measure in N.Y. state. Am Gas J 118:228-9 Mr 17 '23

Obligation to extend gas mains. J: Simpson. Gas Age 51:729-31 Je 9 '23

Public utilities act of the state of California. 77p California state ptg. office, Sacramento '21

Symposium on recent legislation enacted with view of requiring interest payments on meter deposits. N E L A Bul 10:588 O '23

Utilities bill introduced in New York state legislature embodying Gov. Smith's views. Am Gas J 118:199-201 Mr 10 '23

Would oust present N. Y. state commission. Am Gas J 118:154-6 F 24 '23

See also Public utilities—Regulation; also Braintree water supply company

Management

Co-operation of employees and public needed. A. W. Thompson. Am Gas J 115:523-4 D 10 '21

Incentive for efficiency in management of public utilities. E. E. Banks. Eng & Contr (W W) 58:156-9 D 13 '22

See also Electric utilities—Management; Gas companies—Management; Railroads—Management; Street railroads—Management; Waterworks—Management

Public relations

Better understanding between gas companies and public. H. T. Sands. Am Gas J 115:573-5+ D 31 '21

Bureau of P. U. information organized by Oregon utility men. Gas Age 52:325 S 15 '23

Co-operation, publicity and service. J. P. Barnes. Elec Ry J 61:570-1 Mr 31 '23

Creation of public good-will. J. P. McSweeney. Gas Age 51:19-22 Ja 6 '23

Employee and public relationship. J. E. Bullard. Gas Age 48:870 D 24 '21

Establishing public relations. B. J. Mullaney. Gas Age 50:577-8 O 28 '22

Field of women in public relations. C. B. Tate, jr. N E L A Bul 9:249-50 Ap '22

Friendship the basis of public relations. J. W. Gleed. Elec W 82:75-7 JI 14 '23

Gaining public good-will. R. E. Brady. Am Gas J 117:337-9 O 14 '22

Getting closer to the people. J. B. Groce. Elec W 80:1272 D 9 '22

How to improve relations between public and the utility. O. H. Bessell. Eng & Contr 57:575-6 Je 14 '22

Illustrated lecture an aid to the public utility company. L. A. McArthur. J Elec 51:13-15 JI 1 '23

Information bureaus effect better public relations. J. B. Groce. map Elec W 82:138-9 JI 21 '23

Keep public contacts from sparking. E. L. Milliken. Elec W 80:1388-90; 81:100-2, 277-9 D 23 '22, Ja 13, F 3 '23

Lingering prejudice that must be cured. H. S. Cooper. Elec W 80:16 JI 1 '22

Necessity of good public relations; report of public policy committee of N.E.L.A. Elec W 81:1351-3 Je 9 '23

New style association meeting a winner; Indiana public utility association meeting in co-operation with the school of commerce and finance of Indiana university. W. S. Greenough. Am Gas J 116:58-60 Ja 21 '22

News—its relation to the utility. B. Platt. Elec W 80:1456-7 D 30 '22

100 per cent snappy comeback. Gas Age 51:797-8 Je 23 '23

Propaganda vs. educational news. Gas Age 50:657-8 N 11 '22

Prosperity a co-operative game. H. M. Atkinson. Elec Ry J 58:990 D 3 '21

Public relations. J: F. Gilchrist. N E L A Bul 8:757-60 D '21

Public relations main topic of N.E.L.A. Elec Ry J 61:968-71 Je 9 '23

Public relations of public utilities. H. C. Abell. Am Gas J 118:441-2+ My 26 '23

Public relations of public utilities. J. F. Hull. Am Gas J 116:552-3+ Je 17 '22

Public relations—the most important asset a utility can have. S: Insull. Elec Ry J 59:371-2 Mr 4 '22

Public servant. D. McDonald. Elec W 81:111-12 Ja 13 '23

Publicity and public utility credit. J: B. Prescott. Elec Ry J 60:237-8 Ag 12 '22

Public's interest in utility development. J. A. Perry. N E L A Bul 8:382-6 JI '21; Excerpts. Eng & Contr 56:572-3 D 21 '21

Relations of employee and public. A. G. Curtis. Am Gas J 118:25-6 Ja 13 '23

Reporter and the public utility. W. Woodruff. N E L A Bul 9:591-2 O '22; Same abr. Elec Ry J 60:781 N 11 '22

Stressing the personal element in public relations. F. R. Coates. N E L A Bul 10:653-5 N '23

Subject of supreme interest; establishment of satisfactory public relations. H. A. Wheeler. Aera 11:408-16 N '22

Symposium on public relations at N.E.L.A. convention. Elec W 81:1347-51 Je 9 '23

Tenney management gives inside utility facts. Elec W 81:403 F 17 '23

Utilities and the public. A. W. Brady. Elec Ry J 59:160-2 Ja 28 '22

Utilities organized for boosting. E. W. Hodges. Gas Age 51:837-8 Je 30 '23; Same cond. Am Gas J 118:540-1 Je 23 '23

Value of good-will to a public utility. I. H. Rice. Am Gas J 117:363-4 O 21 '22

Value of utility news. M. S. Sloan. Elec W 80:1178-9 N 25 '22

What a new customer thinks the first day. H. A. Lemmon. Elec W 79:127-9 Ja 21 '22; Same. N E L A Bul 9:215-18 Ap '22

Winning the public. S: M. Kennedy. 2d ed. 148p McGraw-Hill '21

See also Electric railroads—Public relations; Electric utilities—Public relations; Railroads—Public relations; Street railroads—Public relations

Rates

Commissioners' report considers factors entering into present day fixing of utility rates. L. E. Gettle and R: T. Higgins. N E L A Bul 8:712-22 D '21

Desirability of simple utility rates. Eng & Contr (W W) 58:114 D 13 '22

Hope of reward. L. R. Nash. Elec W 81:571-3 Mr 10 '23

Indiana rates low, says P.S.C. Am Gas J 116:349 Ap 15 '22

Making electric railway rates. R. E. Heilman. Aera 11:79-87 Ag '22

Original investment as a basis of value in rate making. E: Flad. Eng N 89:736-8 N 2 '22

Public utility rate base. Eng & Contr 57:238-9 Mr 15 '22

Public utility taxation and its relation to rates. F. B. Odium. N E L A Bul 8:726-8 D '21

Rate-making for public utilities. L. Lyndon. 209p McGraw-Hill '23

Rate making problem. P: O. Knight. Am Gas J 119:217-19 S 15 '23

Relation of rates to service. C. L. S. Tingley. Elec Ry J 58:998-9 D 3 '21

Service as an element in rate-making. C. Wilde. Eng & Contr 57:453-4 My 10 '22; Same. Am Gas J 117:155-7 Ag 19 '22; Same. Munic Eng 63:67-9+ Ag '22

Ultimately lower utility rates. E. I. Lewis. Am Gas J 115:488-90 N 26 '21

United States Supreme court in public utility ruling holds cost of reproduction must be considered in rate making. Comm & Fin Chr 116:2349 My 26 '23

See also Electric rates; Gas rates; Water rates

Records

Property records of utility companies. J. A. Rockwood. N E L A Bul 8:750-2 D '21

Public utilities—Continued

Regulation

A. B. C. of regulation. R. E. Heilman. Aera 10:1007-12 Je '22
 Bankers' views on utilities. Aera 11:752-7 F '23
 California public utility regulation. Gas Age 48:844-6 D 24 '21
 Commission accounting regulation. De W. Clinton. il Gas Age 48:608-9 N 5 '21
 Commission regulation of utilities. J. H. Hanna. Elec J 20:352-3 O '23
 Common problem of public utilities and insurance companies. M. H. Aylesworth. N E L A Bul 10:582-7 O '23
 Governor Smith declares for city instead of state control of purely local utilities and for municipal ownership. Elec Ry J 61:57 Ja 6 '23
 Governor Smith for home rule. Elec W 81:57 Ja 6 '23
 Governor Smith's recommendations criticised. H. R. Hayes. Elec Ry J 61:136-7 Ja 20 '23
 Home rule agitation renewed. Elec Ry J 61:100-1 Ja 13 '23
 Home rule of utilities a menace. C. D. Jackson. Gas Age 51:135-7 F 3 '23; Same. Am Gas J 118:115-16, 120-1 F 10 '23
 Indiana calm after Shank's outburst; commission regulation probably will be retained. Am Gas J 116:231-2 Mr 11 '22
 Last of the big hearings on public utility regulatory legislation in New York state. Elec Ry J 61:535 Mr 24 '23
 Local vs. state control. H. C. Spurr. Gas Age 52:79-83 Jl 21 '23
 Management free from regulation. J. Simpson. Gas Age 51:117-19 Ja 27 '23
 New York C of C. scores home rule. Gas Age 51:185-6 F 10 '23
 Ownership and operation of utilities. Elec W 78:974-5 N 12 '21; Same. N E L A Bul 8:635-7 N '21; Same. Elec Ry J 58:871-2 N 12 '21
 Plan to attack European public ownership bugaboo. W. P. Strandborg. Gas Age 52:233-4 Ag 25 '23
 Public ownership and operation; report. Elec Ry J 60:819-20 N 18 '22
 Public utility capitalization. R. Heilman. Aera 11:663-74 Ja '23
 Public utility regulation. H. L. Doherty. Comm & Fin Chr 115:2234-5 N 18 '22
 Regulation and the management of public utilities. C. S. Morgan. 362p Houghton '23
 Regulation should cover municipal systems. E. O. Edgerton. Elec W 78:1167-8 D 10 '21; Same. Gas Age 49:130-1 F 4 '22
 Responsibilities and problems of the state commissioners. C. D. Jackson. N E L A Bul 9:707-15 D '22
 Should California reject the principle of utility regulation? E. O. Edgerton. J Elec 48:351-2 My 1 '22
 State-regulation justification. G. L. Myers. Gas Age 50:235-8 Ag 19 '22
 Storm of protest follows Indiana public service commission order. Am Gas J 116:131-4, 141-50 F 11 '22
 Underlying principles governing commission decisions. J. Simpson. Gas Age 52:191-4 Ag 18 '23
 Utilities and the public service commission. E. V. Kuykendall. N E L A Bul 10:458-63 Ag '23
 Utility owners favor continuation of state regulation. Munic Eng 63:110 S '22
 Why municipal ownership has proved a failure. P. P. Haynes. Am Gas J 117:657-60 D 9 '22

See also Electric utilities—Regulation; Gas companies—Regulation; Government regulation of industry; Public utilities commissions; Railroads and state; Waterworks—Laws and regulations

Securities

Advertising that puts people's money to work; how customer ownership of public utilities is being achieved. W. H. Hodge. Ptr Ink 123:129-32 Je 7 '23; Same. Am Gas J 118:521-3 Je 16 '23

Banker's appraisal of utility securities. J. A. Prescott. Elec W 80:945-6 O 28 '22
 Banker's side of customer ownership. R. Neill. Elec W 81:311-5 F 10 '23
 Basis of success in customer ownership. W. R. Voorhis. Elec W 81:745-6 Mr 31 '23
 Customer ownership. W. H. Hodge. Am Gas J 117:127 Ag 5 '22
 Customer ownership a safeguard against communism. J. A. Britton and others. Elec W 81:1356-61 Je 9 '23
 Customer ownership of public utilities. F. C. Amsbury. Eng & Contr (W W) 59:25-6 Ap 11 '23
 Customer ownership principles. N E L A Bul 10:83-4 F '23
 Desirability of employee salesmen in customer ownership campaigns. Elec W 78:1231 D 17 '21
 Economic problem of the gas business. F. L. Marshall. Am Gas J 118:366-8 Ap 28 '23
 Effect of legislation on securities; report of Investment bankers' association of America committee. N E L A Bul 10:72-5 F '23
 Eight years of customer ownership. E. J. Beckett. Elec W 80:1330-1 D 16 '22
 Evolution of customer ownership. W. H. Hodge. N E L A Bul 10:216-17 Ap '23
 Facts regarding electric light and power company securities discussed by joint committee of savings banks and N.E.L.A. N E L A Bul 9:97-101 F '22
 General quotations of bonds and stocks. Published in monthly Bank and quotation section of Commercial and financial chronicle
 Growth of public utilities. D. F. Houston. Comm & Fin Chr 117:1944-5 N 3 '23
 Heilman explains financing. R. E. Heilman. Aera 10:775-8, 881-5 Ap-May '22
 Home financing of public utilities. A. A. Brown. Gas Age 48:675-6 N 19 '21
 Increase of customer ownership. Gas Age 50:735-6 N 25 '22
 Moody classes public utility securities as most desirable investment. Elec W 81:986-7 Ap 28 '23
 Picturing what utility stocks really mean to them. C. Lindley. Gas Age 52:567-8 N 3 '23
 Public utility bonds as investments for mutual savings banks. G. Stevenson. Elec W 81:1531-2 Je 30 '23
 Public utility securities. R. E. Heilman. Am Gas J 118:330-2, 336-9 Ap 21 '23
 Public utility securities. J. A. Prescott. Elec Ry J 60:639-40 O 14 '22
 Public utility securities falling due in 1922 total \$432,934,890. Elec W 79:146 Ja 21 '22
 Public utility with 48,000 partners. A. N. Kemp. Elec W 80:1112-14 N 18 '22
 Raising capital among customers. J. R. Jennings. Gas Age 51:213-14 F 7 '23
 Report of Investment bankers association on public utility securities opposes vicious legislation. N E L A Bul 9:451-4 Ag '22
 Report of public service securities committee. Comm & Fin Chr 117:1945-6 N 3 '23; Elec Ry J 62:826-7 N 10 '23
 Report of the committee on public service securities of the Investment bankers association of America. N E L A Bul 9:643-9 N '22; Same. Comm & Fin Chr 115:1804-6 O 21 '22
 Responsibilities of customer ownership. E. K. Hall and L. Egan. N E L A Bul 10:540-5 S '23
 Sales to customers successful. Elec Ry J 61:102 Ja 13 '23
 Selling securities to customers. il Aera 11:26-37 Ag '22
 Stock selling by a permanent staff. P. H. Whiting. Elec W 80:419-22 Ag 26 '22
 Symposium of opinion upon the proposals of Governor Smith for municipal regulation of public utilities. 72p Inst. of Am. business. New York '23
 To protect junior securities. C. Pierce. Elec W 78:1171-2 D 10 '21; Same. Elec Ry J 58:872-3 N 12 '21
 20,000 shares sold in ten weeks; how 8% preferred stock of Public Service of New Jersey was disposed of. R. R. Young. Gas Age 49:549-50+ My 6 '22
 Underlying cause of customer ownership. T. C. Lennox. Elec W 82:130 Jl 21 '23

Public utilities—Securities—Continued

Underwritten by butcher, baker and candlestick maker. N E L A Bul 10:197-8 Ap '23
 Utility bonds safe for savings banks. H. H. Addinsell. Am Gas J 119:157-8 Ag 25 '23
 Utility securities as investments for life insurance companies. H. Fiske. Elec W 79: 1117-19 Je 3 '22
 Utility securities improve, says research expert. Elec W 82:718 O 6 '23
 What are the benefits of customer ownership of public utilities? E. E. Dennison. Am Gas J 119:56-8 Jl 21 '23

See also Electric utilities—Securities; Employees as stockholders; Gas companies—Securities; Railroads—Securities

Service

How public utilities advertise city. B. J. Mullaney. Gas Age 51:733-5 Je 9 '23; Same. Am Gas J 118:493-5 Je 9 '23
 Sales service program for public utilities. D. C. Ray. J Elec 51:243-5 O 1 '23
 Service and the company. J. F. Gilchrist. N E L A Bul 9:579-82 O '22
 Service on tap. P. S. Arkwright. N E L A Bul 8:733-5 D '21

See also Electric railroads—Service

Taxation

Better methods for taxing utilities. Elec Ry J 61:603-5 Ap 7 '23
 Federal income tax; decisions relating to government tax and public utilities cited. Gas Age 49:682 Je 3 '22
 Public utility taxation and its relation to rates. F. B. Odum. N E L A Bul 8:726-8 D '21
 Statement of principal changes in new federal income tax law as applied to public utilities. F. B. Odum. N E L A Bul 9:39-40 Ja '22

See also Railroads—Taxation; Street railroads—Taxation

Valuation

Depreciation of public utility properties and its relation to fair value and changes in the level of prices. H. E. Riggs. 211p McGraw-Hill '22
 Fixed value and variable return as a rate base. L. Hudson. Eng N 90:349-50 F 22 '23
 Important valuation decision. Ry Age 74:1353, 1509-10 Je 9, 23 '23
 Maryland commission on reproduction cost new. Elec W 81:1547 Je 30 '23
 Public utility valuation and its relation to the municipality. C. P. Lambert. Eng & Contr (Ry) 59:1394-6 Je 20 '23
 Recent problems in valuation. S. D. Southworth. Aera 11:636-42 Ja '23
 Recognition of an undepreciated rate base in some recent decisions. W. H. Blood, jr. Eng & Contr 57:232-5 Mr 8 '22
 Report of A.E.R.A. committee on valuation. Elec Ry J 62:780-7 N 3 '23
 Reproduction cost cannot be considered controlling element in valuation, says Wisconsin Supreme court. Elec W 82:193 Jl 28 '23
 Reproduction cost theory subject of two opinions. Eng N 90:1101 Je 21 '23
 Reproduction-new theory of value upheld by Supreme court. Eng N 90:1010-12 Je 7 '23; Discussion. C. C. Williams. 91:567-8 O 4 '23
 Retirement or depreciation reserves—an appeal. C. E. Kohlhepp. N E L A Bul 9:116-17 F '22
 Some present aspects of public utility appraisals. E. W. Bemis. Munic Eng 65:159-62 O '23
 Supreme court again discusses valuation methods. Ry Age 74:1525 Je 23 '23
 Surplus plant in rate valuation. J. Simpson. Gas Age 50:769-71 D 2 '22
 Theory and practice of public utility valuation. W. H. Maltbie. Aera 11:956-70, 1153-64, 1312-27, 1459-67, 1626-41; 12:49-59, 224-33 Mr-S '23
 United States Supreme court makes an important decision in the Southwestern Bell telephone case. Aera 11:1642-56 Jl '23

Unsound valuation theory. C: R. Harte. Aera 11:1288-92 My '23
 Valuation for rate making. T: Conway, jr. Aera 10:481-7, 597-602 Ja-F '22
 Valuation of public utilities. J: Simpson. Gas Age 51:827-30 Je 30 '23
 Valuation of public utilities for taxation. E. J. Brabant. Elec Ry J 59:600-2 Ap 8 '22
 Valuation on public utilities. R. Heilman. Aera 10:1098-1106 Jl '22
 Yardstick for grading public utilities. G. H. Pike. Elec W 81:750 Mr 31 '23

See also Depreciation; Electric railroads—Valuation; Railroads—Valuation; Street railroads—Valuation; Valuation; Waterworks—Valuation

California

Defeat of water and power bill viewed as great victory for people of California by large majority of press of state. N E L A Bul 10:16-17 Ja '23
 How Californian state ownership was beaten. Elec W 80:1286-7 D 9 '22
 Returns by counties on the water and power act. J Elec 49:414 D 1 '22

Missouri

Missouri Public service commission digest. F. G. Ferris, jr. 861p Public service commission, Jefferson City, Mo. '22

Spain

Interesting sidelights on the activities of public utilities in Spain. J Elec 48:226 Mr 15 '22

Public utilities advertising association

1st annual convention, Atlantic City, N.J., June 4-7. Elec Ry J 61:1014-15 Je 16 '23; Elec W 81:1373 Je 9 '23
 New field opened for utilities. W. P. Strandborg. Am Gas J 118:227-8 Mr 17 '23; Same. Gas Age 51:283 Ap 14 '23
 Proposed Public utilities advertising association. W. P. Strandborg. Elec Ry J 60:402 S 16 '22
 Public utility advertisers will form association. Ptr Ink 120:63 Ag 17 '22
 Publicity men organize. Aera 11:460-2 N '22; Ptr Ink 121:48 N 9 '22
 Report of W. P. Strandborg, president, at first annual convention, Atlantic City, N.J. Am Gas J 118:499-500+ Je 9 '23

Public utilities association of West Virginia

Annual convention, Charleston, Oct. 20-21. N E L A Bul 8:686-8 N '21; Elec Ry J 58:786-7 O 29 '21

Public utilities commissions

Changing public sentiment in Indiana. Am Gas J 116:572-4+ Je 24 '22
 Courts vs. commissions. Elec Ry J 59:243-4 F 11 '22
 Engineering qualifications not the only ones for utility commissioners. J Elec 49:390; 50:6 D 1 '22, Ja 1 '23
 How politicians menace public utility commissioners. Eng & Contr 57:238 Mr 15 '22
 Public service commissions are criticised and defended in editorial utterances of many newspapers. N E L A Bul 9:461-5 Ag '22
 State utility commissions are subject of agitation in election campaigns in several states this year. N E L A Bul 9:652-5 N '22
 Storm of protest follows Indiana public service commission order. Am Gas J 116:131-4, 141-50 F 11 '22
 Underlying principles governing commission decisions. J: Simpson. Gas Age 52:191-4 Ag 18 '23
 Utility commissions here to stay. Gas Age 51:153-4 F 3 '23

See also National association of railway and utilities commissioners

Engineers

Commission engineers hold conference. Elec Ry J 61:414-15 Mr 10 '23

Public works

Deficiency in construction during the past eight years. H. P. Gillette and J. C. Black. Eng & Contr 57:261-3 Mr 22 '22

Public works—Continued

- Facts and figures indicate that now is the time to install public improvements. *Munic Eng* 62:sup29-31 My '22
- General election favorable to bond issues involving construction work. *Eng N* 89:856+ N 16 '22
- Influence of the work of the American society for testing materials upon the execution of public works. G. S. Webster. *Am Soc T M Pro* 21:39-46 '21
- Problems, progress and prognostications from a half dozen cities. *Eng & Contr* 57:361-2 Ap 12 '22
- Stabilizing private industry through public works. O. T. Mallory. *Eng & Contr* 57:90-1 Ja 25 '22
- What cities are doing in the construction line. *Eng & Contr* 57:220-3 Mr 8 '22
- See also Assessment; Contracts, Government; Contracts, Letting of; Day labor; Irrigation; Municipal engineering; Public buildings; Rivers—Regulation; Roads; also subdivision Public works under names of places, e.g. China—Public works; New York (state)—Public works; United States—Public works

Finance

- Modern methods of carrying bond elections. R. E. McDonnell. *Munic Eng* 61:192+ N '21
- State indebtedness for public works. *Pub Works* 53:202-4 O '22

Publicity

- Engineers conduct successful educational bond campaign. R. E. McDonnell. *Munic Eng* 62:163-4 My '22
- Inducing a city to undertake improvements. R. E. McDonnell. *Eng & Contr* 57:231-2 Mr 8 '22
- It pays us to tell our business secrets. R. W. Stewart. *il System* 40:568-70+ N '21; Same. *Nat Pet N* 13:37+ N 30 '21
- Publicity from the standpoint of the technical journal. *Heat & Ven* 19:84+ N '22
- See also Advertising; Public utilities—Public relations; Railroads—Public relations; Street railroads—Public relations

Publishers

- Need of a publishers' code of ethics. H. M. Swetland. *Ptr Ink* 124:97-8 S 20 '23
- See also American publishers' conference

Publishers' co-operative association

- Publishers form co-operative association. *Ptr Ink* 123:169 Ap 19 '23

Publishing

- Need of co-operation in the publishing industry. H. M. Swetland. *Ptr Ink* 120:69-72 S 28 '22
- See also Editors

Publishing buildings

- Three recent printing and publishing buildings. *il plans Arch Forum* 37:13-16, pl 1-4 Jl '22

Pudding

- Mechanical puddling; ground broken for first unit of a large plant of Youngstown steel co. *il Iron Age* 110:9-10 Jl 6 '22

Puddling furnaces

- Make puddled iron mechanically. E. C. Kreutzberg. *il diags Iron Tr R* 71:365-7 Ag 10 '22
- Making wrought iron a new way. A. Sauveur. *il diags Sci Am* 129:186 S '23
- New process for mechanical puddling. *il diags Iron Age* 110:143-5 Jl 20 '22

Pueblo, Colorado

- Flood of June, 1921, in the Arkansas river, at Pueblo, Colorado. J. Munn and J. L. Savage. *il Am Soc C E Pro* 47:167-201, pl 2-4 S '21; Discussion. 47:535-60, 769-73 N-D '21
- Flood protection plan adopted by Pueblo district. C. A. Bock. *diags map plan Eng N* 91:48-51 Jl 12 '23

Pueblo architecture. See Architecture, Pueblo**Pulleys**

- Fan belts and pulleys; proposed revision of S. A. E. recommended practice. *diags Soc Auto Eng J* 9:389-90 D '21

- Formulas for cone pulley design. L. T. Fleming. *Mach* 29:335-6 F '22
- Loose pulley design. J. L. Alden. *diag Mach* 28:316 D '21
- Means adopted to remove keyed pulleys from shafts. G. H. Radebaugh. *il diags Coal Age* 21:880-3 My 25 '22
- Northwest firm solves problem of transmission; belt slippage and friction losses with laminated and compressed spruce products. *il J Elec* 48:318 Ap 15 '22
- Paper mill transmission machinery. G. N. Vanderhoef. *Paper* 31:12-14 S 13 '22
- Performance tests of steel belts with compressed spruce pulleys. G. L. Young and G. V. D. Marx. *il diag Mach Eng* 48:216-7 Ap '23
- Poulie à graissage automatique de la Compagnie d'applications mécaniques. *diags Génie Civil* 79:592 D 31 '21
- Proportioning cone pulley steps to give constant belt tension. W. W. Johnson. *diags Mach* 29:143 O '22
- Pulley crown. W. F. Schaphorst. *Brass W* 19:124 Ap '23
- Pulleys with automatic lubrication. J. H. Blakey. *diags Power Pl Eng* 26:759 Ag 1 '22
- Refacing old pulleys and flywheels. J. S. Hagans. *diags Pop Mech* 38:451-2 S '22
- Safety clutch for driving pulley. E. E. Lakso. *diags Mach* 29:221-2 N '22
- Selecting the proper size pulley for fans and pumps. *diags Dom Eng* 103:629 Je 30 '23
- Some practical pointers on sizes and types of pulleys. F. E. Gooding. *il diags Ind Eng* 80:519-26, 575-8+ N-D '22
- Spare pulleys; system for classifying. *Textile World* 61:431 Ja 28 '22
- Standardization of pulley sizes. *Iron Age* 110:35 Jl 6 '22
- Unusual methods of aligning pulleys. A. Gass. *diags Power Pl Eng* 26:1119 N 15 '22
- See also Belting; Shafting

Manufacture

- Making a pulley from a part pattern. M. E. Duggan. *diags Foundry* 50:805 O 1 '22

Repair

- How to repair and balance a broken belt pulley. G. H. Radebaugh. *il Coal Age* 23:969-72 Je 14 '23

Pullman cars. See Sleeping cars**Pullman company**

- Annual report. *Comm & Fin Chr* 117:1345 S 22 '23
- Glimpse into the works of the Pullman company. *il Ind Eng* 81:472-3 O '23
- Merger of the Pullman and Haskell-Barker companies. *il Ry R* 70:90-1 Ja 21 '22
- Net surplus for the fiscal year ending July 31, 1922, was \$1,171,294. *Ry Age* 73:724 O 14 '22
- Tentative report finds Pullman rates reasonable. *Ry Age* 73:618 S 30 '22
- Why should sleeping and parlor cars be advertised? J. G. Condon. *Ptr Ink* 120:119-20+ O 12 '22

Pullman fares. See Railroads—Fares**Pulmotor. See Respiratory apparatus****Pulpwood. See Wood pulp****Pulsichrometer**

- Use of pulsichrome from a manufacturer's standpoint. E. Clark; L. M. Munshaw. *Am Cer Soc J* 5:826-8; Discussion. 828-31 N '22

Pulverburner

- Powdered coal preparing machine developed by the K-B pulverizer co., inc., New York. *il Iron Age* 108:1266 N 17 '21; *Elec R* 79:931 D 17 '21; *Chem & Met Eng* 26:82-3 Ja 11 '22

Pulverized coal. See Coal, Pulverized**Pulverized coal firing. See Boilers—Pulverized coal firing****Pulverized lignite. See Lignite, Pulverized****Pulverizers**

- Grinding and pulverizing with air separation. S. E. Kanowitz. *il Concrete* 20:sup109-11 Je '22

Pulverizers—Continued

Pulverizing firebrick to line furnace walls.
diag Power 57:256 F 13 '23

Pumping

Caribou tunnel driven under heavy inflow of water; unwatering problems—200 million gal. per month pumped. W. D. Shannon. *il* diags Eng N 89:340-2 Ag 31 '22

Pumping capacity; handy chart for finding power required, head, pump efficiency, etc. W. F. Schaphorst. *Textile World* 61:79+ Ja 7 '22

See also Mine pumping; Petroleum—Pumping; Pumping stations; Pumps; Sewage pumping

Cost

Cost of pumping water at Columbus, Ohio. Eng & Contr (W W) 59:1070 My 9 '23

Diesel engine pumping plant in Egypt; costs. K. B. W. Smith. *Engineer* 136:432 O 19 '23

Diesel pumping plant shows low operating cost. A. J. Hall. *Power Pl Eng* 27:274-6 Mr 1 '23

Electric pumping at Concord, N.H. P. R. Sanders. *N E Water Works Assn J* 36: 517-19; Discussion. 519-21 D '22

Fuel oil engines vs. steam engines for small combined electric and water plants. G. T. Prince. *Am Water Works Assn J* 10:192-8 Mr '23; Excerpt. *Can Eng* 43:668-9 D 26 '22

Items in cost of pumping water for irrigation use. B. Dibble. *Eng N* 91:140-1 J1 26 '23

Operating costs for standby pumping units; comparative costs of pumping units driven by gasoline, Diesel and steam engines. E. M. Proctor. *il* chart *Can Eng* 44:525-7 My 22 '23

Pumping machinery

Beach water works pumping plant at Hamilton. R. De Bruno-Austin. *il* diags plan *Can Eng* 42:462-8 My 9 '22; Discussion. C. O. Thomas. 42:568-9 My 30 '22

Deep bore-hole, pump and machinery. diags *Engineer* 134:64 J1 21 '22

Diesel oil engine for water works service. C. E. Lucke and others. diags *N E Water Works Assn J* 37:145-83; Discussion. 183-9 Jc '23

Hackensack water company's high-head pumping engines. *il* diags *Power* 56:1006-8 D 26 '22

Instructions for the operation, care, and repair of pumps. 34p U.S. Bur. of engineering, Washington, D.C. '22

Low level pumping station for city of Montreal. C. J. Des Bailleurs. *il* diags *Can Eng* 44:245-8 F 20 '23

Maintenance factor in machine design. W. E. Irish. diags *Ind Management* 66:201-5 O '23

Motor driven centrifugals with gas engine standby. W. B. Bushnell. *Munic Eng* 62: 215-17 Je '22; Same. *Eng & Contr* 58:48-9 J1 12 '22

Operating costs for standby pumping units; comparative costs of pumping units driven by gasoline, Diesel and steam engines. E. M. Proctor. *il* chart *Can Eng* 44:525-7 My 22 '23

Pumping engine efficiency. R. Grimshaw. *Power Pl Eng* 26:1054 N 1 '22

Pumping in the chemical works. N. Swindin. 80p Benn bros., London '22

Some pointers on condensation pumps. R. H. Anderegg. diags *Dom Eng* 98:346-9 F 25 '22

Typical application and operation of gasoline auxiliary pumps. S. L. Fear. *Can Eng* 44: 420 Ap 17 '23; Same. *Eng & Contr* (W W) 59:1062 My 9 '23

Vertical triple-expansion pumping engine. L. A. Quale and E. H. Brown. *il* *Mech Eng* 44:155-61; Discussion. 161+ Mr '22; Abstract. *Power* 54:966-7 D 20 '21

See also Air lifts; Air pumps; Fire engines; Gasoline pumps; Hydraulic rams; Injectors; Pumping stations; Pumps; Vacuum pumps; Water lifts

Testing

Tests of drainage pumping plants in the southern states. W. B. Gregory. *U S Agric Bul* 1067:1-54 '22

Pumping machinery, Electric

Diesel-electric pumping plant. *il* *Engineer* 135:599-600 Je 8 '23

Efficient pumping plant. *Engineer* 135:552 My 25 '23

Electric control gear. diags *Engineer* 135:428 Ap 20 '23

Electric motor pump for oil wells. B. Kamen-sky. *diag Elec W* 82:669 S 29 '23

Electric motors for driving pumps. R. A. Jones. *Power* 56:363-5 S 5 '22

Electric pumping at Concord. P. R. Sanders. *il* *Pub Works* 53:238-40 N '22; Same cond. Eng & Contr (W W) 59:374-5 F 14 '23

Electrical house pumping systems. G. C. Blacklock and D. D. Ewing. *Purdue U Eng Ext Serv Bul* 4:1-30 '23

Electrically driven treble-ram pump. *il* *diag Engineer* 134:349 O 6 '22

Pumping system for a sulphite pulp mill. H. E. Stafford. *il* diags *Ind Eng* 81:489-90 O '23

Supervision by power company of electrical features of pumping installations. A. M. Frost. *J Elec* 49:196 S 15 '22

Pumping stations

Air-lift pumping by Diesel compressor. P. M. Thayer. *il* diags *Power Pl Eng* 27:994-6 O 1 '23

Beach water works pumping plant at Hamilton. R. De Bruno-Austin. *il* diags plan *Can Eng* 42:462-8 My 9 '22; Discussion. C. O. Thomas. 42:568-9 My 30 '22

Cheddar pumping station. *il* *Engineering* 116: 199-201 Ag 17 '23

Concrete for mines and mine buildings. B. G. Best. *il* *diag Concrete* 20:251-3 Je '22

Connecting new 60-M.G.D. pump sections to an existing wet well. *il* *Eng N* 91:440 S 13 '23

Determining the proper equipment for pumping stations. A. L. Mullergren. *Munic Eng* 64:214-18 Je '23; Same. *Eng & Contr* (W W) 59:1327-30 Je 13 '23; Same. *Am Water Works Assn J* 10:756-63 S '23; Same. *Can Eng* 45:365-7 O 2 '23; Abstract. *Eng N* 90: 962 My 31 '23

Diesel-driven pumping plant for Trinidad. *il* *Engineer* 133:242, 248 Mr 3 '22

Diesel engines to furnish power for water-works. W. D. Vosbury. *diag plan Eng N* 88:793-4 My 11 '22

Drainage pumping plants. L. C. Craig. *Munic Eng* 61:215-19 D '21; Same. *Eng & Contr* 57:46-8 Ja 11 '22; Same. *Can Eng* 42:525-7 My 23 '22

Filter and pumping plant at Dunnville, Ont. E. H. Darling. *il* diags plan *Can Eng* 44:489-93 My 15 '23

Low level pumping station for city of Montreal. C. J. Des Bailleurs. *il* diags *Can Eng* 44:245-8 F 20 '23

Mechanical equipment of water works systems. G. R. Collinson. *Can Eng* 44:169-73 Ja 23 '23

Modern water filtration plant built at Ashland, Kentucky. D. H. Maxwell. *il* *Munic Eng* 63:127-30 O '22

Plant for purifying tidal river water. *il* (supp) diags plans *Engineer* 136:168-71 Ag 17 '23

Pump performance and costs of large drainage pumping plant. D. C. McConaughy. *Eng & Contr* 57:352 Ap 12 '22

Pump station on incline follows water level. *diag Pop Mech* 38:936 D '22

Pumping plant of new high pressure fire system at Buffalo, New York. W. B. Powell. *map Munic Eng* 62:177-9 My '22

Pumping station 360 ft. underground. *il* *diag Power* 57:253-5 F 13 '23

Rearranging the Park Ridge, Ill. pumping station. W. T. McClenehan. *Munic Eng* 62:180-2 My '22

Revolving screens for low-lift pumping station. Detroit filters. T. A. Leisen. *il* *Eng N* 91:14 J1 5 '23

Unaflog engines pump water economically. *il* *diag plan Power* 57:584-7 Ap 17 '23

Underground pumping plant and reservoir. J. W. Hockaday. *il* *Eng & Contr* (W W) 59: 384 F 14 '23

Pumping stations—Continued

- Water works coal pile. D. H. Maxwell. Am Water Works Assn J 10:1072-81 N '23; Same. Munic Eng 65:17-22 JI '23; Same cond. Eng & Contr (W W) 60:84-8 JI 11 '23
- Water-works pumping station design. C. B. Burdick. Munic Eng 64:222-8 Je '23; Same. Eng & Contr (W W) 60:66-74 JI 11 '23; Same cond. Can Eng 45:271-3 Ag 28 '23; Abstract. Eng N 90:964 My 31 '23
- Water works pumping station, St Thomas. W. C. Miller. il diag Can Eng 45:101-3 JI 3 '23
- See also Mine pumping; Pumping machinery; Pumps; Sewage pumping; Water supply; Water supply engineering; Waterworks

Records

- Simplified pumping station records. H. R. Cady. Eng N 90:966-7 My 31 '23

Pumps

- Alarm for high and low pump water. P. Lowery. diag Power 55:312 F 21 '22
- Appliances for moving liquids in chemical plants. A. K. Fischer. il diags Chem Age 30:501-4, 547-50 N-D '22
- Application of a booster pump to a gravity system of water supply. G. F. Merrill. il N E Water Works Assn J 37:190-4; Discussion. 194-5 Je '23
- Aquateer endless-chain pump. il diags Engineering 113:827-8 Je 30 '22
- Automatic pumping plant for household use. il Pop Mech 38:540 O '22
- Effect of long suction line on pump performance. W. A. Schmidheiser. Power Pl Eng 26:309-10 Mr 15 '22
- Evinrude high pressure pump is adopted for fire fighting in Santo Domingo. Munic Eng 65:sup20 Ag '23
- Experience with thirty-five year old steam pump. F. O. Stevens. N E Water Works Assn J 37:12-15 Mr '23
- Experiences with a deepwell pump. diag Power 56:734, 1032 N 7, D 26 '22
- Extraction of oil from vegetable matter. J. Davidson. diags Mech Eng 44:313-14 My '22; Same abr. Chem & Met Eng 26:1044 My 31 '22
- High-speed pump with ring valves. il diags Engineering 115:217 F 16 '23
- Horizontal sewage pump. il diags Engineering 116:376 S 21 '23
- Hydraulic conveying of coal. il Ind Management (Lond) 8:257-8 N 2 '22
- Kitson-Utley rotary pumps. il diags Engineering 115:279-80 Mr 2 '23
- Maintaining pump efficiency. diags Power Pl Eng 26:22-6 Ja 1 '22
- Manager's approach to power problems. W. A. Schmidheiser. Factory 30:284-5, 427-8+ Mr-Apr '23
- New type of deep-well pump. il Power 57:983 Je 19 '23
- New type of low lift pump called rotary flow. E. F. Deléry. il diags Eng N 91:230-1 Ag 9 '23; Discussion. 91:486, 650 S 20, O 13 '23
- New type of rotary pump with blades. A. Poitrineau. diags Mech Eng 45:55 Ja '23
- New Worthington valve. il Chem & Met Eng 28:1079-80 Je 18 '23
- Piping for power and steam pumps. W. H. Wakeman. diags Dom Eng 103:214-15 My 5 '23
- Portable pumping set for China. il Engineer 134:45 JI 14 '22
- Propeller type impeller used in deep well pump. il Power Pl Eng 27:750 JI 15 '23
- Pump becomes air bound. Power Pl Eng 26:142-3 Ja 15 '22
- Pump for acids and other chemicals. il Chem & Met Eng 29:67 JI 9 '23
- Pump selection. B. R. Vanleer. Am Water Works Assn J 10:559-70 JI '23
- Pump suction. F. H. Smith. diags Blast F & Steel Pl 11:322-7+ Je '23
- Pump that converts any automobile into a fire engine. il Sci Am 127:161 S '22
- Pumping equipment. G. F. Swetnam. Power Pl Eng 26:1173 D 1 '22
- Pumping of liquids in chemical plants. C. S. Robinson. il Ind & Eng Chem 15:33-8 Ja '23

- Pumps. E. Cunningham. diags Dom Eng 100:48-51, 100-3, 130-12, 321-4+; 536-9; 101:130-1+ JI 8-22, Ag 19, S 23, O 28 '22
- Pumps and pumping machinery. diags Paper Tr J 74:43-6 Ja 5; 43-6 Ja 12; 45-7+ Ja 19; 42-6 Ja 26; 49-54 F 2; 50-1+ F 9; 48-9+ F 16; 47-9+ F 23; 51-2+ Mr 2 '22
- Pumps for industrial water supply systems. E. Cunningham. diags Dom Eng 102:368-71, 562-5+ F 24, M 24 '23
- Pumps for industrial purposes. W. F. Traudt. il Ind & Eng Chem 15:929-31 S '23
- Quimby screw pump. il diags Engineering 112:884 D 30 '21
- Reciprocating pump without valves. S. B. Richey. diags Power Pl Eng 27:334 Mr 15 '23
- Roturbo gas pump and mixer. diags Engineer 132:704 D 30 '21
- Selection of pumps for paper mills. W. F. Schaphorst. Paper Tr J 73:30+ D 29 '21
- Silent plunger pump. il diag Engineer 134:152 Ag 11 '22
- Small high-pressure pumps. diags Pop Mech 38:462 S '22
- Some points to observe when installing fire pumps according to the regulations of the National board of fire underwriters. G. A. Van Brunt. il Ind Eng 80:583-9 D '22
- Something about steam pumps. W. H. Wakeman. diags Power 54:713-15 N 8 '21
- Steam pump operation and upkeep. diags Textile World 63:1569+ Mr 3 '23
- Stone-Hodgson rotary pump. il diags Engineering 115:459 Ap 13 '23
- Successful marl pump. il Sci Am 127:243 O '22
- Variable delivery pump for hydraulic purposes. il Chem & Met Eng 29:370 Ag 27 '23
- Westco rotating pump. il Power 54:852 N 29 '21
- What causes the pump to groan? Power 57:770; 58:148 My 15, JI 24 '23
- See also Air lifts; Air pumps; Gasoline pumps; Heat pumps; Hydraulomat; Mine pumps; Pumping machinery; Pumping stations; Pumps, Centrifugal; Pumps, Gyroscopic; Vacuum pumps; Water lifts

Manufacture

- Piston pump manufacturing methods. il diags Mach 23:864-5 JI '22

Repair

- Renewing pump liners. H. A. Livingston. Power Pl Eng 25:1165 D 1 '21

Standards

- Trade standards in the pump industry. 2d ed. 21p Hydraulic society, 50 Church st., New York '22

Testing

- Comparative tests of rotating stuff pumps. M. Scherrer. Paper 31:7-10 Ja 24 '23
- Pumps and pumping machinery. Paper Tr J 74:47-9+ F 23 '22
- Test code for reciprocating displacement pumps. Mech Eng 44:844-7 D '22
- Pumps, Air lift.** See Air lifts
- Pumps, Centrifugal**
- Ball-bearing self-priming pump. il diags Chem & Met Eng 28:730 Ap 23 '23
- Care and adjustment of centrifugal pump stuffing box glands. R. K. Annis. Power 57:939 Je 12 '23
- Centrifugal pump. S. F. Barclay. il diag Engineering 112:642-4 N 4 '21
- Centrifugal pump in sugar refinery. C. C. Brown. diags Power Pl Eng 25:1087-8 N 15 '21; Abstract. Mech Eng 44:57-8 Ja '22
- Centrifugal-pump primer handles only air and not water, thus saving power. diags Coal Age 21:532-3 Mr 30 '22; Power 55:1020 Je 27 '22
- Centrifugal pumps. J. W. Cameron. 142p Van Nostrand '21
- Centrifugal pumps for Diesel engine drive. M. Spillman. diags N E Water Works Assn J 37:172-81 Je '23
- Centrifugal vs. reciprocating pumps. Eng & Min J 113:62-3, 171 Ja 14, 28 '22

Pumps, Centrifugal—Continued

- Characteristic curves of centrifugal pumps. R. K. Annis, *diags* Power 58:653-5 O 23 '23; Discussion. E. C. Thomas. 58:918 D 4 '23
- Chief characteristics of centrifugal pumps. R. W. Angus. *Can Eng* 44:225-7 F 13 '23
- De Laval multi-stage centrifugal pump. *il Eng & Contr (W W)* 58:165 D 13 '22; *Munic Eng* 63:sup22+ D '22; Blast F & Steel Pl 11:130 Ja '23; Marine Eng 28:110 F '23; Marine R 53:74-5 F '23; Power Pl Eng 27:200 F 1 '23
- Development of high efficiency in centrifugal pumps. A. F. Sherzer. *Eng N* 91:561-4 O 4 '23
- Diesel centrifugal pumping plant for the Metropolitan water board. H. E. Stilgoe. *il Engineering* 116:332-3, 336, pl 20 S 14 '23
- Dimensions and capacity of centrifugal pumps. *Coal Age* 21:1010 Je 15 '22
- Direct-connected centrifugal pump for construction work. *il Coal Age* 23:522 Mr 29 '23
- Electrically-driven high pressure centrifugal pump. *il diags Engineer* 133:584, 591 My 26 '22
- Flexala and Resiline pumps for corrosive liquids. *il diags Engineering* 113:74-5 Ja 20 '22
- Handling sewage with a centrifugal pump. *diags Engineer* 135:285-6 Mr 16 '23
- How air affects the operation of centrifugal pumps. R. K. Annis. Power 58:385-6 S 4 '23
- Improving centrifugal pump operation. R. K. Annis. Power 58:303 Ag 21 '23
- Lighting up of signal lamp indicates when pump accidentally stops. *diag Ind Eng* 81:57, 509 Ja, O '23
- Modern high-speed centrifugal pumps. S. F. Barclay. *Eng & Ind Management* 6:503 N 3 '21
- Motor-operated centrifugal pumps; abstracts. B. A. Cornwell. *Ind Eng* 81:480-1 O '23; Power 58:786-8 N 13 '23; Discussion. *Ind Eng* 81:484, 515 O '23
- New centrifugal pumps for Chicago. *diags Pub Works* 51:396-8 N 19 '21
- New condenser extraction pump. *il diag Engineer* 135:152 F 9 '23
- New type of centrifugal pump. *il Engineer* 134:124-5 Ag 4 '22
- Novel pump primer. *diags Power* 58:589 O 9 '23
- Operating pumps or fans in parallel. J. C. Hobbs. *diag Power* 55:58-60 Ja 10 '22; Abstract. *Mech Eng* 44:197-8 Mr '22
- Performance of the De Laval pumps at the pumping stations of the Indianapolis water company. *Munic Eng* 61:231-2 D '21
- Pumps. E. Cunningham. *Dom Eng* 100:321-4+, 536-9 Ag 19, S 23 '22
- Some notes on centrifugal pumps. C. C. Brown. *il Power Pl Eng* 27:867-9 S 1 '23
- Steam vs. electric or gasoline drive for centrifugal pumps. Power 58:735-6 N 6 '23
- Turbo-centrifugal pumps. C. R. Waller. *il Am Water Works Assn J* 10:44-58 Ja '23
- See also* Pumps, Feed water; Pumps, Gyroscopic

Manufacture

Machine operations in a California pump shop. *il Am Mach* 56:598-600 Ap 20 '22

Testing

Open vs. closed impellers in the Brockton sewage pumping plant. H. S. Crocker. *Eng N* 87:354-6 N 24 '21

Pumps, Feed water

- Boiler feed pumps most reliable when driven by steam. C. M. Evans. *Coal Age* 21:1005 Je 15 '22
- Cause of failure of feed water pumps. Power Pl Eng 26:442 Ap 15 '22
- Direct-acting boiler feed pump. *diags Engineering* 112:658-9 N 11 '21
- Does a partly closed feed valve increase the duty on the feed pump. Power 58:465, 623, 663, 861 S 18, O 16-23, N 27 '23
- Feed-pump governor for severe conditions of steel plant. C. J. Smith. *diags Power* 55:824 My 23 '22

How a change in valves greatly lessened feed-pump repairs at Nacmine, Alta. J. B. de Hart. *diags plans Coal Age* 23:218 F 1 '23

Installing new liners in a boiler-feed pump. B. W. Wheeler. Power 56:503 S 26 '22

Irregular action of feed-water pumps overcome by simple device. R. E. Gleason. *diag Elec W* 80:1051-2 N 11 '22

New hydro-turbine vacuum and boiler-feed pump. *il Heat & Ven* 19:69-70 Jl '22

Réchauffeurs d'eau d'alimentation et pompes alimentaires pour locomotives, système Weir. *il diags Génie Civil* 80:473-4 My 27 '22

Selection of boiler feeders. H. A. Shultz. *diags Blast F & Steel Pl* 11:114-17 Ja '23

Thermofeed differential feed-pump governor. *diags Power* 55:184-5 Ja 31 '22

Pumps, Gyroscopic

Gyroscopic pumps; abstract. M. Gendrin. *diags Mech Eng* 45:310-11 My '23

Pumps, Heat. See Heat pumps**Pumps, Vacuum. See Vacuum pumps****Punching**

Dies of unit construction for gang punching. *diags Mach* 28:487-8 F '22

Punching rotor and stator laminations. C. O. Herb. *il diags Mach* 29:436-8 F '23

Two practical cases of task-setting. C. N. Underwood. *Management & Adm* 6:341-6 S '23

Punching machinery

Car shop press work. L. C. Morrow. *il Am Mach* 59:571-4 O 18 '23

Chain link punching press. *il Engineering* 114:120 Jl 28 '22

Chambersburg punching and shearing machines. *il Mach* 20:151-2 O '22; *Am Mach* 57:740 N 9 '22; *Ry Mech Eng* 96:732 D '22

Design of punching and shearing machines. A. L. Jenkins. *il diags Mach* 29:841-8, 974-8; 30:34-8, 113-18 Jl-O '23

Forming die and angular shearing punch. F. Server. *diags Mach* 28:907-8 Jl '22

Hilles & Jones tie plate punch on reclamation work. *il Ry Mech Eng* 97:379 Je '23

Knock-out for punch-press die. R. H. Kasper. *diags Mach* 28:905-6 Jl '22

Making gears on the punch press. F. Lux. *diags Mach* 29:453-6 F '23

Oeking triple combination punching and shearing machine. *il Am Mach* 56:646 Ap 27 '22; *Iron Age* 109:1002 Ap 13 '22

Pels triple combination punch and shear. *il Ry Mech Eng* 96:537 S '22

Stock-clamping arrangement for punching die. R. H. Kasper. *diags Mach* 29:875 Jl '23

Tools for beading tapered cups. J. Williams. *il Am Mach* 59:335 Ag 30 '23

See also Dies

Safety devices

Making a punch press department safe. C. B. Auel. *il Am Mach* 56:501-3 Ap 6 '22

New punch press guard effective. *il Safety Eng* 45:68 Mr '23

Parisian machine makers solve problems for safeguarding workers in factories. *il Pop Mech* 40:750-1 N '23

Reducing accidents at the punch press. A. L. Kaems. *il Management Eng* 3:105-8 Ag '22

Simple guard and feed for punch presses. I. B. Rich. *il Am Mach* 57:23 Jl 6 '22

Punctuality (employees). *See* Tardiness (employees)

Pung Chow. *See* Mah jong (game)

Pupin, Michael

From immigrant to inventor. M. Pupin. 396p Scribner '23

Purchasing

Aiding purchasing through production studies. P. M. Marshall. *map Management Eng* 3:199-203 O '22

Business forecasting in the Edison industries. W. Dykeman. *Administration* 5:262-6 Mr '23

Business side of chemical manufacturing. C. Wadsworth. *Chem & Met Eng* 26:679-82 Ap 12 '22

Purchasing—Continued

Buying and planning. R. Stelling. Eng & Ind Management 7:499-501 Je 15 '22
 Buying for a medium size manufacturing establishment. H. J. Whitten. Administration 3:677-88 Je '22
 Buying goods; the commercial buyer and his work. A. E. Bull. 96p Pitman '22
 Buying methods. Factory 27:816+ D '21
 Buying plans that make profits. System 41:282-3 Mr '22
 Buying versus being sold. J. J. Ralph. Iron Age 108:1206 N 10 '21
 Determining the purchasing policy. A. E. Swanson. Administration 2:616-22 N '21
 Effective ideas for the man who buys. System 44:576 N '23
 Efficient purchasing. F. P. Mooney. Am Gas J 119:156 Ag 25 '23
 Equipment changes and maintenance of electrical and associated mechanical systems. L. J. Stewart. Ind Eng 30:317-24+ JI '22
 Factory storekeeping and material control. H. H. Farquhar. Am Mach 56:653-6, 733-6 My 4, 18 '22
 Four plans that cut buying costs. System 43:46-7 Ja '23
 Fundamental principles of purchasing. H. D. Murphy. 83p Purchasing agent co., New York '23
 Gage of purchasing efficiency. Chem & Met Eng 28:1064-5 Je 18 '23; Same. Ind Management (Lond) 10:72+ Ag 9 '23
 Getting clerks to watch expenses. Factory 30:153 F '23
 Getting ready to buy. J. J. Ralph. Iron Age 110:166 JI 20 '22
 Handling cash discounts. System 42:424+ O '22
 How complications are eliminated when ordering electrical supplies. Il Elec R 80:214-16 My '22
 How to reduce purchasing wastes. S. G. Fell. Management Eng 2:244-5 Ap '22
 How we cut our buying expense. System 43:197-8 F '23
 Ideas for the man who buys. System 41:147-8+; 42:548 F, N '22
 Increasing profits without increasing sales. E. B. Lathrop. Chem & Met Eng 28:637 Ap 9 '23
 Keeping speculation out of the inventory. H. F. Beattie. Il Factory 31:22-4+ JI '23
 Making output records control material purchases. K. Coggeshall. charts Ind Management 64:6-11+ JI '22
 Manufacturing versus speculation. R. E. Case. Management Eng 4:59-60 Ja '23
 Matching purchasing with production. D. B. Gauchet. Factory 31:315-16 S '23
 New idea in purchasing efficiency. Chem & Met Eng 29:48 JI 9 '23
 Now we buy at less expense. System 41:682+ Je '22
 Planning purchasing system. W. J. Hiscox. Elec R (Lond) 93:242-4 Ag 17 '23
 Plans 10 buyers use in meeting new conditions. System 41:538+ My '22
 Price changes. J. E. Pogue. charts Management Eng 3:267-72 N '22
 Psychological influences in buying. J. J. Ralph. Iron Age 109:1123-5 Ap 27 '22
 Purchasing and storeroom. A. H. Rhubart. Am Gas J 119:5-6 JI 7 '23
 Purchasing and the storeroom. H. B. Cleveland. Am Gas J 119:33-4 JI 14 '23
 Purchasing principles and practices. J. C. Dinsmore. 295p Prentice-Hall, New York '22
 Saving time for buyers. System 42:43-4+ JI '22
 Science of purchasing. H. Hysell. 261p Appleton '22
 Sound purchasing policy permits saving in production costs. H. Tipper. Automotive Ind 48:886-7 Ap 19 '23
 Stabilizing profits through proper purchasing policies. P. Mathewson. Ind Management 63:136-9 Mr '22
 Standardization of practices recommended in purchasing and storing. C. A. Kelley. J Elec 50:438-41 Je 1 '23
 Successful operation of an engineering department. W. E. Irish. Ind Management 64:265-70, 329-34 N-D '22

Taking initiative in buying. J. J. Ralph. Iron Age 109:522 F 23 '22
 These plans cut buying costs in four firms. Il System 44:161-2+ Ag '23
 This plan cut our cost of buying. System 43:317-18+ Mr '22
 This store's buyers see all comers. Ptr Ink 124:150+ Ag 23 '23
 Unification of purchase specifications in American industry. Monthly Labor R 17:256-8 JI '23
 Utilizing the seller. J. J. Ralph. Iron Age 110:322-3 Ag 3 '22
 When the dealer goes broke; scattered buying. E. M. Skinner. Ptr Ink M 4:19-20 Ap '22
 Who should follow up purchases? T. W. Howard. Factory 30:20-2+ Ja '23; Discussion. G. T. Wilson. 30:297 Mr '23
 Why I do my own job in half a day. Il System 41:560-1+ My '22
 Why not a standard invoice form? J. B. M. Clark. Ind Management 66:108 Ag '23
 See also Coal purchasing; Fuel purchasing; Merchandizing; Order blanks; Railroads—Purchasing; also Tel-U-Where company of America, Boston, Massachusetts

Advertising aids

Blue Valley butter uses mail-order plans to secure cream from farmers. Ptr Ink 124:25-6 Ag 16 '23

Purchasing, Cooperative

Bigger business from co-operation in buying and advertising. H. E. Martin. Ptr Ink 118:77-8+ Ja 12 '22
 Co-operative buying movement among farmers. J. A. Murphy. Ptr Ink 122:73-4+ Mr 15 '23
 Co-operative dealing; plan of Youngstown sheet and tube co. Iron Age 110:694 S 14 '22
 Mennen wins over F.T.C. in suit to maintain right to select customers. Oil Paint & Drug Rep 103:21+ Mr 19 '23

Bibliography

Co-operative buying. Ptr Ink 124:142 S 27 '23

Purchasing, Government

How to sell to the navy. E. D. Stanley. Nation's Business 11:60-1+ Mr '23

Purchasing, Municipal

Centralized municipal purchasing. Munic Eng 61:203-4 D '21

New York city centralizes control of purchases. H. M. Hitchcock. Ptr Ink 124:113-14+ Ag 9 '23

Purchasing agents

How a purchasing agent sells his company to salesmen. W. A. Kimball. Ptr Ink 118:25-7 Ja 19 '22

Purchasing agent and the plant engineer. W. E. Irish. Ind Management 65:347-52 Je '23
 This purchasing agent does more than just buy. Factory 29:234-6+ S '22

Purchasing agents, National association of. See National association of purchasing agents

Purchasing departments

Combining two departments. O. S. Peters. Factory 28:424+ Ap '22

Purchasing department in unique position. W. A. Root. Am Gas J 117:27-8 JI 8 '22

Purdue university**Engineering schools**

Tying the college to industry. A. A. Potter. Nation's Business 11:61+ F '23

Pure oil company, Columbus, Ohio

8th annual report for the year ended March 31 1922. Comm & Fin Chr 114:2493 Je 3 '22

Purines

Action of hydrogen peroxide upon certain phenyl-substituted uric acids. F. J. Moore and E. S. Gatewood. Am Chem Soc J 45:135-45 Ja '23

Mercaptans of the purine group. P. C. Ray, G. C. Chakravarti and P. K. Bose. Chem Soc J 123:1957-62 Ag '23

Third phenyl-biuret. E. S. Gatewood. Am Chem Soc J 45:146-50 Ja '23

- Purington, Chester Wells, 1871-**
Mining engineers of note. por Eng & Min J 112:737 N 5 '21
- Purple of Cassius**
Liesegang rings; the effect of light and hydrogen-ion concentration on the formation of colloidal gold in silicic acid gel; rhythmic bands of purple of Cassius. E. C. H. Davies. Am Chem Soc J 45:2261-8 O '23
- Purpura**
Über die farbstoffe aus purpura aperta und purpura lapillus. P. Friedländer. il Deutsche Chem Gesell Ber 55:1655-8 Je '22
- Push-carts.** See Street trades
- Putnam, William Rowell**
Builders of the West. por J Elec 48:478 Je 15 '22
Sketch. por Elec W 80:1426 D 30 '22
- Putty**
Putty takes on advertising form. Ptr Ink 125: 67 O 4 '23
- Pyorrhea**
When our teeth are out of gear. Sci Am 129:324 N '23
- Pyramids**
How the pyramids were built. S. McPherson. Eng & Contr 57:317-18 Mr 29 '22
- Pyranhydrones**
Über pyranhydrone; zur konstitution der methyl-diaryl-pyrylium-verbindungen. W. Schneider and A. Ross. Deutsche Chem Gesell Ber 55:2775-82 S '22
Zur kenntnis der methyl-4-diaryl-2.6-pyryliumsalze und der pyranhydrone. W. Schneider and F. Seebach. Deutsche Chem Gesell Ber 54:2285-98 O '21; Abstract. Chem Soc J 120 pt 1:877-9 D '21
- Pyrarygrite**
Spectrophoto electrical sensitivity of bournonite and pyrarygrite. W. W. Coblenz and J. F. Eckford. U S Bur Stand Sci Pa 451: 353-72 '22
- Pyrazole**
Erweiterung und ausbau der Kishner-Wolffschen reduktions-methode. E. Thielepape and O. Spreckelsen. Deutsche Chem Gesell Ber 55:2929-39 S '22; Abstract. Chem Soc J 122 pt 1:1191-2 D '22
Substitution in the pyrazole series; halogen derivatives of 3:5-dimethylpyrazole. G. T. Morgan and I. Ackerman. Chem Soc J 123: 1308-18 My '23
Über die isomerie-verhältnisse in der pyrazolreihe. K. v. Auwers and H. Broche. Deutsche Chem Gesell Ber 55:3880-3911 D '22; Abstract. Chem Soc J 124 pt 1:151-4 F '23
Über einige ketone der pyrazol-reihe. C. A. Rohjan. Deutsche Chem Gesell Ber 55:291-4 F '22
- Pyrazoleanthrone yellow**
Über die konstitution des pyrazol-anthronegelbs. F. Mayer and R. Heil. Deutsche Chem Gesell Ber 55:2155-64 Jl '22; Abstract. Chem Soc J 122 pt 1:877-8 S '22
- Pyrene**
Zur synthese des pyrens. K. Fleischer and E. Retze. Deutsche Chem Gesell Ber 55:3280-90 O '22; Abstract. Chem Soc J 122 pt 1:1138-9 D '22
- Pyrex**
Graded seal for joining pyrex to lead glass. W. C. Taylor and A. Bailey. J Ind & Eng Chem 13:1158 D '21
Industrial pyrex. A. E. Marshall. il Chem & Met Eng 28:690-2 Ap 16 '23
Pyrex: a triumph for chemical research in industry. W. H. Curtiss. J Ind & Eng Chem 14:336-7 Ap '22
Pyrex glass as a material for chemical plant construction. A. E. Marshall. il diags Chem & Met Eng 28:216-19 Ja 31 '23; Same. Ind & Eng Chem 15:141-4 F '23
Pyrex glass plant equipment. A. E. Marshall. Ind & Eng Chem 15:671-2 Jl '23
Le verre pyrex. P. E. Erckmann. il Chimie & Ind 8:785-91 O '22
- Pyridine**
Chino-dihydropyridine; (über arylirte pyridine). W. Diltthey. Deutsche Chem Gesell Ber 55:57-9 Ja '22
Crystallographic descriptions of some pyridine and picoline derivatives. M. W. Porter. diags Chem Soc J 119:1769-73 N '21
Dehydrating pyridine. Chem & Met Eng 27: 1041 N 22 '22
Determination of pyridine in ammonia liquors. F. Rinden. Am Gas J 119:200 S 8 '23
Erweiterung und ausbau der Kishner-Wolffschen reduktions-methode. E. Thielepape and O. Spreckelsen. Deutsche Chem Gesell Ber 55:2929-39 S '22; Abstract. Chem Soc J 122 pt 1:1191-2 D '22
Extraits pyridiques des charbons de la Haute-Silésie; résultats provisoires; abstract. F. Hofmann and P. Damm. diag Chimie & Ind 9:917-18 My '23
L'obtention de pyridine dans les cokeries; abstract. W. Gluud and G. Schneider. Chimie & Ind 9:920-2 My '23
Preparation of pyridine and of certain of its homologs in a state of purity. J. G. Heap. W. J. Jones and J. B. Speakman. Am Chem Soc J 43:1936-40 Ag '21
Recovery of pyridine. diag Chem & Met Eng 27:560 S 13 '22
Reduktion von pyridin mit zinkstaub und essigsäure-anhydrid. O. Dimroth and F. Frister. Deutsche Chem Gesell Ber 55:1223-32 My '22
Reduktion von pyridin mit zinkstaub und essigsäure-anhydrid. O. Dimroth and R. Heene. Deutsche Chem Gesell Ber 54:2934-42 N '21; Abstract. Chem Soc J 122 pt 1: 48-50 Ja '22
Some physical properties of aqueous solutions of certain pyridine bases. W. J. Jones and J. B. Speakman. Am Chem Soc J 43:1867-70 Ag '21
Über das symmetrische di-[chinolyl-2]-keton. G. Scheibe and G. Schmidt. Deutsche Chem Gesell Ber 55:3157-60 O '22
Über pyridin-derivate aus diacetonitril und benzoacetodinitril. E. Benary and G. Löwenthal. Deutsche Chem Gesell Ber 55:3429-34 N '22
- Pyridinium salts**
Formation of quaternary ammonium salts. E. de B. Barnett. J. W. Cook and E. P. Driscoll. Chem Soc J 123:503-18 Mr '23
Pyridinium salts derived from some chloroacetyl-amino-compounds. E. de B. Barnett and J. W. Cook. Chem Soc J 121:792-7 My '22
- Pyrimidines**
Condensation of amidines with ethoxy-methylene derivatives of β -ketonic esters and of β -diketones. P. C. Mitter and J. C. Bardhan. Chem Soc J 123:2179-84 S '23
Pyrimidines from alkylmalonic esters and aromatic amidines. A. W. Dox and L. Yoder. Am Chem Soc J 44:361-6 F '22
Researches on pyrimidines; alkylation of 2-mercapto-pyrimidines. W. J. Horn. Am Chem Soc J 43:2603-11 D '21
Researches on pyrimidines; new methods of identifying the pyrimidine, thymine. T. B. Johnson and O. Bandisch. Am Chem Soc J 43:2670-4 D '21
Spiro-pyrimidines; condensation of cyclopropane-1,1-dicarboxylic ester with ureas. A. W. Dox and L. Yoder. Am Chem Soc J 43:2097-2101 S '21
- Pyrites**
Brimstone versus pyrites. Engineer 134:196 Ag 25 '22
Electrolytic iron from sulphide ores. Chem & Met Eng 27:684-5 O 4 '22
Marketing of pyrites. G. J. Young. Eng & Min J 113:573-5 Ap 8 '22
Mineral sulphides as a source of electric energy. G. N. Libby. diags Eng & Min J 113: 678-9 Ap 22 '22; Same. Elec R (Lond) 91:208 Ag 11 '22
Optical properties of some metallic sulfides. E. P. T. Tyndall. diags Phys R 21:162-180 F '23
Proposed pyritic smelting in a reverberatory. E. C. King. diags plan Eng & Min J 114: 633-4 O 7 '22

Pyrites—Continued

Pyritic smelting at the Siemens-Kwarzchana copper works, in the Caucasus. C. Offerhaus. *il diags plans Eng & Min J* 114:589-96 S 30 '22

Spanish pyrites imports decline. *Eng & Min J* 113:246 F 11 '22

Sulfur and pyrites production. *il Chem Age* 30:231 My '22

Sulphur, pyrites and sulphuric acid. *Brass W* 18:372-3 D '22

Use of iron pyrites in a Friedel-Crafts' reaction. J. A. Smythe. *Chem Soc J* 121:1270-9 J1 '22

See also Marcasite; Pyrrhotite

Pyritic smelting. See Smelting, Pyritic

Pyroligneous acid

Separation of propionic acid from pyroligneous acid. G. W. Douglas. *Soc Chem Ind J* 42: 148 Ap 6 '23

Pyrometers and pyrometry

Die anwendung der optischen pyrometer im praktischen betriebe. K. Daevs. *il Stahl & Eisen* 42:121-5 Ja 26 '22

Bacharach new radiation pyrometer. *diag Foundry* 51:724 S 1 '23

Bacharach radiation pyrometer for high temperatures. *il Am Mach* 55:780-1 My 24 '23

Cold end compensation on a pyrometer system. C. B. Thwing. *diags Am Cer Soc J* 6:1062-8 O '23

Disappearing filament pyrometer. *il diags Engineering* 113:501 Ap 21 '22

L'emploi du pyromètre à dilatation pour l'analyse thermique des alliages. P. Chévenard. *Génie Civil* 82:379 Ap 21 '23

Hoskins portable pyrometer for molten metals. *il Am Mach* 57:313 Ag 24 '22

Neue anwendungen des dilatations-pyrometers für die thermische analyse. L. E. Daweke. *diags Stahl & Eisen* 43:825-6 Je 21 '23

New Brown cold junction compensated pyrometer. *Elec R* 79:931-2 D 17 '21

New radiation pyrometer. D. Flir. *il diags Iron Age* 111:1302-3 My 3 '23

Permanent pyrometer systems. R. G. Felger. *diag Power* 56:262-3 Ag 15 '22

Physical and optical societies' exhibition. *il diag Engineer* 133:40-1 Ja 13 '22

Pyrometer solves temperature problems. J. P. Goheen. *Foundry* 49:938-9 D 1 '21

Pyrometers in waste-heat boiler plants. J. H. Torrey. *il Power Pl Eng* 26:360-1 Ap 1 '22

Pyrometric practice. P. D. Foote, C. O. Fairchild and T. R. Harrison. *il diags U S Bur Stand Tech Pa* 170:1-326 '21

Pyrometry of boilers fired with liquid fuel. E. C. Reed. *il diags Eng & Ind Management* 6:743-6 D 29 '21

Saving the fuel waste: pyrometers in the power plant. C. B. Thwing. *il Power Pl Eng* 26:99 Ja 1 '22

Selection and care of pyrometers. J. W. Conzelman. *Power* 58:644-6 O 23 '23

Taylor pyrometer indicates temperature of molten metal. *il Foundry* 50:126 F 1 '22

Temperature indicating instruments. *il diags Power Pl Eng* 27:28-9 Ja 1 '23

Thermoelectric pyrometer has self-compensation. *il Pop Mech* 37:46 Ja '22

Ueber die subjektiven einstellfehler bei optischen pyrometern. G. Keinath. *il Stahl & Eisen* 43:9-12 Ja 4 '23

Using the eye as a pyrometer. *Power* 55:105 Ja 17 '22

Works pyrometry. *diags Elec R (Lond)* 92: 166-8 F 2 '23

See also Temperature—Measurement; Thermocouples; Thermometers and thermometry

Pyromucic acid

Notiz über die baktericide wirkung der brenzschleimsäure. H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55:289-90 Ja '22

Pyrone

Über die aufspaltung des γ -pyrons durch anilin und über N-phenyl- γ -pyridon. W. Borsche and I. Bonacker. *Deutsche Chem Gesell Ber* 54:2678-86 N '21; Abstract. *Chem Soc J* 122 pt 1:50-1 Ja '22

Pyroracemic acid

What happens during fermentation? F. F. Nord. *Chem & Met Eng* 28:351-3 F 21 '23

Pyrosulfurylchloride

Über die einwirkung von pyrosulfurylchlorid auf toluol. W. Steinkopf and K. Buchheim. *Deutsche Chem Gesell Ber* 54:2963-8 D '21

Pyroxenes

See Augite

Pyroxylin

Manufacture of cellulose nitrate for pyroxylin plastics. J. R. DuPont. *il diags Chem & Met Eng* 26:11-16, 65-70 Ja 4-11 '22

Pyroxylin coated fabrics. See Fabrikoid

Pyrrhotite

Concentration of Rossland. B. C. ores. D. Lay. flow sheets *il diags Eng & Min J* 114: 1118-24 D 23 '22

Some etching tests on pyrrhotite. H. C. Boydell. *Econ Geol* 17:491-7 S '22

Pyrrrole

Derivatives of pyrrole; abstract. W. Küster and others. *Chem Soc J* 122 pt 1:857-9 S '22

Zur kenntnis der pyrrole; nitrierung von substituierten pyrrolen. H. Fischer and W. Zerweck. *Deutsche Chem Gesell Ber* 55:1949-55 Je '22

Zur kenntnis der pyrrole; über ketone, ketonsäure-ester und ketonsäure-nitrile substituiierter pyrrole. H. Fischer, K. Schneller and W. Zerweck. *Deutsche Chem Gesell Ber* 55:2390-2403 S '22

Zur kenntnis der pyrrole; über pyrrolaldehyde. H. Fischer and W. Zerweck. *Deutsche Chem Gesell Ber* 55:1942-9 Je '22

Zur synthese des pyrrolidins; reduktion von pyrrol durch katalytische hydrierung. N. J. Putochin. *Deutsche Chem Gesell Ber* 55: 2742-8 S '22

Pyrrolealdehydes

Zur kenntnis der pyrrole; über pyrrolaldehyde. H. Fischer and W. Zerweck. *Deutsche Chem Gesell Ber* 55:1942-9 Je '22

Pyrrolidine

Über die einwirkung von formaldehyd auf pyrrolidin und piperidin. N. J. Putochin. *Deutsche Chem Gesell Ber* 55:2749-53 S '22

Zur synthese des pyrrolidins; reduktion von pyrrol durch katalytische hydrierung. N. J. Putochin. *Deutsche Chem Gesell Ber* 55: 2742-8 S '22

Pyruvic acid

Bromination of compounds containing the carbonyl group; pyruvic acid; acetophenone. C. F. Ward. *Chem Soc J* 123:2207-13 S '23

Pyruvic acid from lactic acid; significance of this problem in electrolytic oxidation. J. G. Smull and P. Subkow. *Chem & Met Eng* 28:357-8 F 21 '23

Pyrylium compounds

Synthesis of pyrylium salts of anthocyanidin type. D. D. Pratt and R. Robinson. *Chem Soc J* 121:1577-85; 123:745-58 Ap '22, Ap '23

Über pyrylium-verbindungen; pentaphenylpyryliumsalze—mit einem anhang: zur formulierung der farbsalze. W. Dilthey. *Deutsche Chem Gesell Ber* 55:1275-9 My '22

Zur kenntnis der methyl-4-diaryl-2,6-pyryliumsalze und der pyranhydron. W. Schneider and F. Seebach. *Deutsche Chem Gesell Ber* 54:2285-98 O '21; Abstract. *Chem Soc J* 120 pt 1:877-9 D '21

See also Diarylmethyl pyrylium compounds

Q

Quakers. See Friends, Society of

Qualitative analysis. See Chemistry, Analytic—Qualitative

Quality. See Advertisements—Quality appeal

Quality control. See Factory management—Quality control

Quantitative analysis. See Chemistry, Analytic—Quantitative

Quantities (in production)

- Economical manufacturing quantities. F. B. Avery. *Ind Management* 63:169-70+ Mr '22
- Establishing profitable standard lot quantities. J. A. Bennie. *Ind Management* 63:167-9 Mr '22
- How does production affect profits? W. K. Lewis. *Chem & Met Eng* 28:988-91 Je 4 '23
- How to determine quantities for lot manufacture. K. W. Stillman. *chart Ind Management* 65:84-6 F '23
- Prices, profits and production. A. F. Stock and M. B. Gordon. *Paper Tr J* 76:57-8+ Mr 1 '23
- Quantity production and its effect on cost. H. E. King. *Management Eng* 4:269-71 Ap '23

See also Idleness, Industrial

Quantity survey. See Quantity system of estimating

Quantity system of estimating

- Activities of the Federated American engineering societies. *Boston Soc C E J* 10:314-17 S '23
- Economic value of the quantity survey system. *Eng & Contr (Bldgs)* 60:146-7 Jl 25 '23
- Eliminating waste in estimating. *Min & Met* 181:15-16 Ja '22
- False statement of quantities unbalances bid. C. L. Bogert. *Eng N* 90:998-9 Je 7 '23; Discussion. E. T. Thurston. 91:29 Jl 5 '23
- How quantity surveys cut the cost of preparing estimates. J. W. Ginder. *Bldg Age* 44:62+ D '22
- How the quantity survey works in Milwaukee. S. H. Eigel. *Eng & Contr (Bldgs)* 60:170-2 Jl 25 '23
- Quantity survey. *Eng & Contr (Bldgs)* 59:219-22 Ja 24 '23
- Quantity survey service in the public works field. W. E. Skinner. *Munic Eng* 63:9-11 Jl '22
- Quantity survey system. C. Gilbert. *Am Arch* 121:217 Mr 15 '22; Discussion. W. G. Smith. *Am Arch* 121:283-4 Mr 29 '22
- Quantity survey—what it is and what it offers. W. G. Smith. *Am Arch* 121:95 F 1 '22
- Quantity surveys for houses. See monthly numbers of Building age
- This quantity survey idea. *Dom Eng* 102:459-60 Mr 10 '23

See also Building—Estimates

Quantum theory

- Certain assumptions in the quantum-orbit theory of spectra. W. M. Hicks. *Philos Mag* 6th ser 44:346-51 Ag '22
- Corpuscular quantum theory of the scattering of X-rays by light elements. G. E. M. Jauncey. *Phys R* 22:233-41 S '23
- Normal helium atom and its relation to the quantum theory. J. H. Van Vleck. *Philos Mag* 6th ser 44:842-69 N '22
- Origin and development of the quantum theory. M. K. E. L. Planck. 23p Oxford '22
- Philosophy and the new physics. L. A. P. Rougier. 159p Blakiston '21
- Possible physical interpretation of Lewis and Adams' relationship between h, c and e. G. A. Newgass. *Philos Mag* 6th ser 43:698-700 Ap '22
- Preliminary investigations on Silberstein's quantum theory of photographic exposure. A. P. H. Trivelli and L. Righter. *Philos Mag* 6th ser 44:252-6 Jl '22
- Problems of quantum theory in the light of the theory of perturbations. P. S. Epstein. *Phys R* 19:578-608 Je '22
- Process of light radiation from an atom of a gas leading to a possible interpretation of Planck's quantum by means of electrodynamics. A. C. Crehore. *diags Philos Mag* 6th ser 45:34-64 Ja '23
- Quantum reactions and association. P. F. Swindle. 325p R. G. Badger, Boston '22
- Quantum theory. F. Reiche. 183p Dutton '23
- Quantum theory and isotopes. J. W. Nicholson. *Philos Mag* 6th ser 45:801-17 My '23

- Quantum theory of photographic exposure. L. Silberstein and A. P. H. Trivelli. *Philos Mag* 6th ser 44:257-73, 956-68; 45:1062-70 Jl, N '22, My '23
- Quantum theory of the complex Zeeman effect. A. M. Mosharrafa. *Philos Mag* 6th ser 46:177-92 Jl '23
- Quantum theory of the scattering of X-rays by light elements. A. H. Compton. *diags Phys R* 21:483-502 My '23
- Relations between supplied energy, spectral intensities and alterations in different media. L. Hamburger. *Am Electrochem Soc Trans v* 44 (preprint 25):307-18 S '23
- Second approximation to the quantum theory of the simple Zeeman effect and the appearance of new compounds. A. M. Mosharrafa. *Philos Mag* 6th ser 46:514-24 S '23
- Selection principle of the quantum theory. N. Bohr. *Philos Mag* 6th ser 43:1112-16 Je '22
- Theory of generalized quanta and the Balmer lines. S. C. Kar. *Philos Mag* 6th ser 45:610-21 Mr '23
- Within the atom. J. Mills. 215p Van Nostrand '21

Quarantine, Agricultural

- Menace of plant quarantine. *Nation's Business* 11:68+ N '23
- War to save our crops. F. M. Russell. *il Nation's Business* 11:50-1 My '23

Quarries and quarrying

- Charging stone quarry from hand to steam shovel methods. I. Warner. *Munic Eng* 61:sup24, 26, 28-9 S '21; Same. *Eng & Contr* 56:578-9 D 21 '21
- Geology of cement rock. U. S. Hannum. *Concrete* 21:sup37-9 S '22
- How to avoid waste of explosives. R. N. Van Winkle. *Eng & Contr (R & S)* 60:507-8 S 5 '23
- How we drill, blast and keep records. E. J. Strock. *il diag Concrete* 23:sup65-7 O '23
- Large quarry rock crushing and screening plant. H. F. Smith. *diags plan Eng N* 88:348-50 Mr 2 '22
- Late developments in quarrying for lime manufacture. O. Bowles. *Concrete* 23:sup4-5 Jl '23
- Quarry problems from engineer's viewpoint. O. Bowles. *Eng & Contr (Ry)* 59:442-3 F 21 '23
- Quarrying material for silica brick. E. E. Ayars. *il Brick & Clay Rec* 63:476-81 O 2 '23
- Scientific quarry blasting. J. Barab. *diags Concrete* 22:sup60-2, sup81-2 Ap-May '23; Excerpt. *Eng & Contr (Ry)* 59:1094-5 My 16 '23
- Stripping problems in limestone quarries. O. Bowles. *Eng & Contr (Ry)* 58:93-6 N 15 '22; Same. *Concrete* 22:sup5-7 Ja '23
- Technology of slate. O. Bowles. *flowsheets diags plans U S Bur Mines Bul* 218:1-132, pl 1-6 '22
- Use of explosives in production of crushed stone. S. R. Russell. *Eng & Contr* 57:371-4 Ap 19 '22
- Valuation of stone deposits for crushed rock production. J. H. Watkins. *Eng & Contr (R & S)* 59:771-5 Ap 4 '23

See also Blasting; Crushing; Feldspar; Limestone; Mines and mineral resources

Accidents

- Accidents in the quarry industry. *Safety Eng* 43:26 Ja '22
- Quarry accidents from falling rock. *Eng & Contr* 56:564 D 21 '21
- Quarry accidents in the United States, during the calendar year 1920. W. W. Adams. *U S Bur Mines Tech Pa* 295:1-66 '22
- Quarry accidents in the United States during the calendar year 1921. W. W. Adams. *U S Bur Mines Tech Pa* 329:1-90 '23
- Quarry accidents reduced. *Safety Eng* 44:178 O '22
- Stone quarry accidents throughout the United States in 1921. *Eng & Contr (Ry)* 58:23 O 18 '22

Cost

- Cost of excavating sandstone. J. S. Walton. *Pub Works* 54:82 Mr '23

Quarries and quarrying—Continued**Records**

Scientific quarry blasting; record systems. J. Barab. *Concrete* 23:sup7-8 J1 '23

Terminology

Glossary of scientific and quarry terms. T. N. Dale. *U S Geol S Bul* 738:467-71 '23

Quartz

Crystal structure of quartz. M. L. Huggins. *diags Phys R* 19:363-8 Ap '22

Crystal structure of quartz. L. W. McKeehan. *diags Phys R* 21:503-8 My '23

Rapid means for the determination of quartz content for feldspar. M. C. Booze and A. A. Klein. *Am Cer Soc J* 6:698-703 Je '23; Same, without il. *Can Chem & Met* 7:278-9 N '23; Discussion. *Am Cer Soc J* 6:704-5 Je '23

Rock crystal balls. H. Whitlock. *Sci Am* 125A:125 D '21

See also Chalcedony; Silica; Silica, Fused

Quartzite

Comparative study of American and German quartzites as raw materials for the silica brick industry. K. Endell. *Am Cer Soc J* 4:953-60 D '21

Geology of the Baraboo gneiss deposits. W. O. Hotchkiss. *il diag map Am Cer Soc J* 6:1160-6 N '23

Quaternary salts. See Salts, Quaternary**Quaternary systems**

Quaternary system potassium sulphate—magnesium sulphate—ammonium sulphate—water. A. Weston. *diags Chem Soc J* 121:1223-37 J1 '22

25°-isotherms of the systems magnesium nitrate-sodium nitrate-water and magnesium sulphate-magnesium nitrate-water. D. N. Jackman and A. Browne. *diag Chem Soc J* 121:694-7 Ap '22

Quays. See Wharves**Quebec**

See Hydroelectric plants—Quebec; Mines and mineral resources—Quebec; Roads—Quebec

Quebec (city)**Rapid transit**

Quebec's railways and their power supply. *il maps Elec Ry J* 59:855-8 My 27 '22

Quebrachine. See Yohimbine**Quebracho**

Effect of hydrogen-ion concentration upon the analysis of vegetable tanning materials. J. A. Wilson and E. J. Kern. *J Ind & Eng Chem* 14:1128-9 D '22

Time and concentration factors in the combination of tannin with hide substance. A. W. Thomas and M. W. Kelly. *J Ind & Eng Chem* 14:292-4 Ap '22

Queensland

See Labor laws and legislation—Queensland

Queenston-Chippawa canal

First unit for Queenston-Chippawa water power plant opened. *il Eng N* 88:110-11 Ja 19 '22

Lining Queenston-Chippawa power canal. R. B. Young. *il diags Concrete* 21:141-3 N '22

Moving Niagara into Canada. J. F. Springer. *il Sci Am* 126:162-3 Mr '22

Placing 410,000 cu. yd. of concrete on Ontario's Niagara power development. A. C. D. Blanchard and R. B. Young. *il diags Eng N* 88:554-9, 613-15 Ap 6-13 '22

Queenston-Chippawa development of the hydro-electric power commission of Ontario. F. A. Gaby. *il diags map plan Am Inst E E J* 41:508-26 J1 '22

See also Hydroelectric plants—Ontario

Quenching

Quenching: a mathematical study of various hypotheses on rapid cooling. K. Heindlhofer. *il diags Phys R* 20:221-42 S '22

Quenching small parts. E. B. Nichols. *diags Mach* 28:1603 Ak '22

See also Steel, Heat treatment of

Quenching tanks. See Dipping tanks**Quercetin**

Quercetin, constitution and uses. G. L. Terrasse. *Color Tr J* 12:6-9 Ja '23

Questionnaires

Do you analyze your business from the right angle? A. J. Reiss. *Ptr Ink* 117:121+ D 29 '21

Inconsiderate hunter for more facts. *Nation's Business* 11:59+ Ja '23

Keeping questionnaires out of the wastebasket. D. J. Kingsley. *Ptr Ink M* 4:62+ F '22

Keeping research reports out of the pigeon-hole. W. B. Edwards. *Ptr Ink* 117:87-9 D 22 '21

Putting persuasive power into a questionnaire. R. Perry. *Ptr Ink* 123:125-6+ My 10 '23

Quetelet's rings

Quetelet's rings and other allied phenomena. C. V. Raman and G. L. Datta. *diags Philos Mag* 6th ser 42:826-40, pl 25 N '21

Quicklime. See Lime**Quicksilver. See Mercury****Quinaldine**

New derivatives of quinaldine. K. L. McCluskey. *Am Chem Soc J* 44:1573-7 J1 '22

Quinaldinic acid

Quaternary salts of quinaldinic acid. W. H. Mills and F. M. Hamer. *Chem Soc J* 121:2003-14 O '22

Quinan, George E.

Sketch. *por Elec W* 81:432 F 24 '23

Quincy mining company

Facts for the stockholder. *Eng & Min J* 116:657 O 13 '23

Quinhydrone

Quinhydrone electrode as a comparison electrode. S. Veibel. *Chem Soc J* 123:2203-7 S '23

Quinhydrones

Chinhydrone der maleinsäure-anhydrid-reihe. P. Pfeiffer. *Deutsche Chem Gesell Ber* 55:413-29 F '22; Abstract. *Chem Soc J* 122 pt 1:341-3 Ap '22

Quinic acid

Abkömmlinge der chininsäure. J. Halberkann. *Deutsche Chem Gesell Ber* 54:3090-3107 D '21; Abstract. *Chem Soc J* 122 pt 1:174-5 F '22

Zur synthese der chininsäure. A. Kaufmann. *Deutsche Chem Gesell Ber* 55:614-16 Mr '22

Quinine

Cinchona and quinine in Great Britain in 1922. *Oil Paint & Drug Rep* 103:69 Mr 29 '23

Les écorces de quinquina des Indes néerlandaises et leur emploi. A. Grothoff. *il Chimie & Ind* 7:792-806 Ap '22

Quinine dermatosis as an occupational disease. *Int Labour R* 6:452-3 S '22

Quinine is an interesting chapter in economic chronicles of recent past. H. S. Abrahamson. *Oil Paint & Drug Rep* 104:20+ N 5; 20 N 19; 20 N 26 '23

Quinizarin

Über die einwirkung von brom auf chinizarin und alizarin. O. Dimroth, E. Schultze and F. Heinze. *Deutsche Chem Gesell Ber* 54:3035-50 D '21

Quinocyanines

Über die konstitution der pinacyanole, ein beitrag zur chemie der chinocyanine. W. König. *Deutsche Chem Gesell Ber* 55:3293-3313 O '22; Abstract. *Chem Soc J* 122 pt 1:1188-90 D '22

Quinodihydropyridines

Chino-dihydropyridine; (über arylierte pyridine). W. Diltthey. *Deutsche Chem Gesell Ber* 55:57-9 Ja '22

Quinoid compounds

Triphenylmethyl; quinoidation in the triaryl-methyls. M. Gomberg and F. F. Blicke. *Am Chem Soc J* 45:1765-79 J1 '23

Quinoketones

Zur kenntnis der china-alkaloide; über die synthese vinylfreier chinatoxine und chinaketone. P. Rabe, K. Kindler and O. Wagner. Deutsche Chem Gesell Ber 55:532-41 F '22

Quinoline

Equilibrium in the system lithium chloride: quinoline. J. H. Walton and C. R. Wise. Am Chem Soc J 44:103-4 Ja '22

Katalytische hydrierungen unter druck bei gegenwart von nickelsalzen; chinolinbasen. J. v. Braun, A. Petzold and J. Seemann. Deutsche Chem Gesell Ber 55:3779-92 D '22; Abstract. Chem Soc J 124 pt 1:139-8 F '23

Preparation of alpha, gamma quinolines. S. Palkin and M. Harris. J Ind & Eng Chem 14:704-5 Ag '22

Umwandlung des β -phenyl-hydroxylamins in chinolinbasen. E. Bamberger and H. Weitnauer. Deutsche Chem Gesell Ber 55:3376-82 N '22

Untersuchungen über isatin und verwandte verbindungen; über 5,5'-diisatylmethan und seine umwandlung in chinolin-derivate. W. Borsche and R. Meyer. Deutsche Chem Gesell Ber 54:2341-3 N '21

Zur kenntnis der keton-anile; konstitution der N-alkyl-ketonanile und überführung aliphatischer keton-anile in chinolin-derivate. E. Knövenagel and H. Bähr. Deutsche Chem Gesell Ber 55:1912-28 Je '22; Abstract. Chem Soc J 122 pt 1:750-1 Ag '22

Zur kenntnis der keton-anile; über fettaromatische keton-anile. E. Knövenagel and O. Goos. Deutsche Chem Gesell Ber 55:1929-37 Je '22

Zur synthese von 4-substituierten chinolinen und von chinolin-4-carbonsäuren. E. Thielepape. Deutsche Chem Gesell Ber 55:127-35 Ja '22

Quinolymethanes

Über das symmetrische di-[chinolyl-2]-keton. G. Scheibe and G. Schmidt. Deutsche Chem Gesell Ber 55:3157-60 O '22

Quinone

Effect of substitution on the free energy of oxidation-reduction reactions; benzo-quinone derivatives. V. K. LaMer and L. E. Baker. Am Chem Soc J 44:1954-64 S '22

Über die anlagerung von benzol an chinon. R. Pummerer and E. Prell. Deutsche Chem Gesell Ber 55:3105-16 O '22; Abstract. Chem Soc J 122 pt 1:1164-5 D '22

Quinones

Absorption spectra of the vapours of various quinones. J. E. Purvis. Il Chem Soc J 123: 1811-9 Ag '23

Benzile der superoxydform (pseudobenzile). A. Schönberg and O. Kraemer. Deutsche Chem Gesell Ber 55:1174-94 My '22; Abstract. Chem Soc J 122 pt 1:663-5 Jl '22

Free and total energy changes in the reduction of quinones. J. B. Conant and L. F. Fieser. Am Chem Soc J 44:2480-93 N '22

Reduction potentials of quinones; the effect of the solvent of the potentials of certain benzoquinones. J. B. Conant and L. F. Fieser. Am Chem Soc J 45:2194-2218 S '23

Über die umwandlungen der chinone aus brucin-sulfonsäure. H. Leuchs and K. Fricker. Deutsche Chem Gesell Ber 55: 1244-54 My '22; Abstract. Chem Soc J 122 pt 1:677-8 Jl '22

Über o-chinone und 1,2-diketone; über die konstitution des phenanthrenchinolinimid-anhydrids. A. Schönberg and B. Rosenthal. Deutsche Chem Gesell Ber 54:1789-1802 S '21; Abstract. Chem Soc J 120 pt 1:808-10 N '21

See also Thymoquinone

Quinotoxines

Zur kenntnis der china-alkaloide; über die synthese vinylfreier chinatoxine und chinaketone. P. Rabe, K. Kindler and O. Wagner. Deutsche Chem Gesell Ber 55: 532-41 F '22

Quinoxaline

Isomerism of reduced derivatives of quinoxaline; the four stereoisomeric 2:3-diphenyl-

1:2:3:4-tetrahydroquinoxalines. G. M. Bennett and C. S. Gibson. Chem Soc J 123: 1570-5 Je '23

Quinteninone

Über das chiteninon. S. Fränkel, C. Tritt-Zirning and L. Gottessmann-Grauer. Deutsche Chem Gesell Ber 55:3931-5 D '22

R**Rabinowitz, L. M., & company**

Manufacturer who succeeded against difficulties in a restricted field. J. Henle. Ptr Ink 124:97-8+ Ag 16 '23

Race tracks

Automobile race track on factory roof. Il Sci Am 129:235 O '23

Racemic acid

Optical activation of racemic acid by l-malic acid. A. McKenzie and N. Walker. Chem Soc J 121:349-57 Mr '22

Racemic acid in solution. S. W. Pennycuik. Am Chem Soc J 44:1133-6 My '22

Racemic compounds

Über umlagerungen bei der spaltung von racemstoffen. R. Wegscheider. Deutsche Chem Gesell Ber 55:764-6 Mr '22

Racemization

Autoracemisation of potassium chromioxalate. E. K. Rideal and W. Thomas. Chem Soc J 121:196-202 Ja '22

Catalytic racemisation of optically active acid amides. A. McKenzie and I. A. Smith. Chem Soc J 121:1348-61 Jl '22

Piperitone; the characterisation and racemisation of l-piperitone. J. Read and H. G. Smith. Chem Soc J 123:2267-72 S '23

Races. See Airplane races; Automobile racing; Balloon races

Racks. See Storage racks

Radiograph

Gas machine cutting in railroad shops; the radiograph—a mechanically operated torch for cutting sheet metal. Il Ity Mech Eng 95:705-6 N '21

Radiation

Characteristic soft X-rays from arcs in gases and vapors. F. L. Mohler and P. D. Foote. diag U S Bur Stand Sci Pa 425:471-96 '22

Collisions of a particles with hydrogen nuclei. J. Chadwick and E. S. Bieler. diags Philos Mag 6th ser 42:923-40 D '21

Communication by high frequency waves. J. B. Taylor. Gen Elec R 26:61-4 Ja '23

Deflection of a stream of electrons by electromagnetic radiation. E. O. Hulburt. Phys R 21:650-2 Je '23

Derivation of Planck's law of radiation by means of the adiabatic hypothesis. J. Kunz. Philos Mag 6th ser 45:300-3 F '23

Does an accelerated electron necessarily radiate energy on the classical theory? G. H. Livens. Philos Mag 6th ser 42:807-8 N '21

Does an accelerated electron necessarily radiate energy on the classical theory? G. A. Schott. Philos Mag 6th ser 45:769-77 Ap '23

Electromagnetic waves in absorbing media. L. Page. Phys R 20:166-73 Ag '22

Electron emission from heated metals. I. Langmuir. Elec R (Lond) 92:132 Ja 26 '23; Same. Elec W 81:384 F 17 '23; Same abr. Chem & Met Eng 28:69, 211 Ja 10, 31 '23

Energy losses accompanying ionization and resonance in mercury vapor. J. A. Eldridge. diag Phys R 20:456-75 N '22

Excitation of γ radiation by α particles from radium emanation. F. P. Slater. diags Philos Mag 6th ser 42:904-23 D '21

Graphs for calculation of electron emission from tungsten, thoriated tungsten, molybdenum and tantalum. S. Dushman and J. W. Ewald. Gen Elec R 26:154-60 Mr '23

Interaction between radiation and electrons. C. F. Bickerdike. Philos Mag 6th ser 43: 1064-70 Je '22

Radiation—Continued

- Ionization and resonance phenomena. C. B. Bazzoni. diags J Fr Inst 196:627-51 N '23
- J radiation. J. A. Crowther. diags Philos Mag 6th ser 42:719-28 N '21
- Measurement of the color temperature of the more efficient artificial light sources by the method of rotary dispersion. I. G. Priest. diags U S Bur Stand Sci Pa 443:221-34 '22
- Measurement of the resonance, radiation, and ionization potentials of several gases and vapors. P. E. Boucher. diags Phys R 19: 189-209 Mr '22
- New evidence regarding the interpretation of critical potentials in hydrogen. P. S. Ohmstead. diags Phys R 20:613-30 D '22
- Number of radiating atoms of various dimension within gaseous hydrogen, studied from the point of view of Bohr's atom model. P. Lasareff. Philos Mag 6th ser 45:430-2 Mr '23
- On the theory of δ -radiation. P. L. Kapitza. Philos Mag 6th ser 45:989-98 My '23
- Pathological effects of radiation on the eye. F. H. Verhoeff and L. Bell. Illum Eng Soc 16:625-64; Discussion. 664-5 no 9 '21
- Polarized resonance radiation of mercury vapour. R. W. Wood. diags Philos Mag 6th ser 44:1107-11, pl 9 D '22
- Pressure of radiation on transparent dielectrics. S. Ray. Phys R 19:467-9 My '22
- Process of light radiation from an atom of a gas leading to a possible interpretation of Planck's quantum by means of electrodynamics. A. C. Crehore. diags Philos Mag 6th ser 45:34-64 Ja '23
- Production of radiation and ionization by electron bombardment in pure and in impure helium. F. Horton and A. C. Davies. diags Philos Mag 6th ser 42:746-73 N '21
- Radiation. A. Bramley. Philos Mag 6th ser 44: 720-8 O '22
- Radiation and chemical reaction. H. S. Harned. J Fr Inst 196:181-201; Bibliography. 201-2 Ag '23
- Radiation and ionization potentials of the rare gases and the singlet and enhanced series of argon. W. M. Hicks. Philos Mag 6th ser 45:480-96 Mr '23
- Radiation equilibrium in an opaque uniformly heated solid and Duane's hypothesis as to its origin. A. G. Worthing. J Fr Inst 193:252-3 F '22; Same. Phys R 19:383-4 Ap '22
- Radiation from a group of electrons. L. Page. Phys R 20:18-25 Jl '22
- Radiation from transmission lines. C. Manneback. diags Am Inst E E J 42:95-105 F '23; Discussion. 42:981-2, 1362-5 S, D '23
- Radiation pressure. R. N. Ghosh and N. K. Sur. Phys R 18:380-4 N '21
- Recoil of hydrogen nuclei from swift α particles. A. L. McAulay. diags Philos Mag 6th ser 42:892-903 D '21
- Secondary radiations produced by X-rays. A. H. Compton. il diags Nat Research Council Bul v 4, pt 2:1-56 O '22
- Selective reflexion of λ 2536 by mercury vapour. R. W. Wood. Philos Mag 6th ser 44:1105-6 D '22
- Short-wave radiation from tungsten filaments. M. Luckiesh, L. L. Holladay and A. H. Taylor. il J Fr Inst 196:353-73, 495-519 S-O '23
- Significant exception to the principle of selection. P. D. Foote, F. L. Mohler and W. F. Meggers. Philos Mag 6th ser 43:659-61, pl 13 Ap '22
- Some properties of resonance radiation and excited atoms. K. T. Compton. diags Philos Mag 6th ser 45:750-60 Ap '23
- Spectroradiometric investigation of the transmission of various substances. W. W. Coblentz. U S Bur Stand Sci Pa 418: 267-76 '21
- Temperature ionization of elements of the higher groups in the periodic classification. M. N. Saha. Philos Mag 6th ser 44:1128-39 D '22
- Theory of generalized quanta and the Balmer lines. S. C. Kar. Philos Mag 6th ser 45:610-21 Mr '23
- Theory of radiation. C. G. Darwin. Philos Mag 6th ser 43:641-8 Ap '22

Trends in photochemical research. J. H. Mathews. Ind & Eng Chem 15:885-7 S '23

Visibility of radiant energy. K. S. Gibson and E. P. T. Tyndall. diags U S Bur Stand Sci Pa 475:121-31 '23

X-ray scattering and J radiations. C. G. Barkla and R. R. C. Sale. Philos Mag 6th ser 15:737-50 Ap '23

See also Alpha rays; Beta rays; Electromagnetic theory; Gamma-rays; Heat radiation; Heating—Tables, calculations, etc.; Light; Quantum theory; Radiators; Radioactivity; Radiography; Radium; Solar radiation; Sound; Spectrum; Ultra-violet rays; X rays

Radiative equilibrium. See Atmosphere

Radiator shields

Mostly about radiator shields, il Sanitary & Heat Eng 100:218+ O 5 '23

Radiator traps. See Steam traps

Radiators

- Getting customers to buy steadily; American radiator company. System 44:297-301 S '23
- Heating hot water radiators below the boiler and connecting up radiators to please owners. J. K. Raymond. diags Dom Eng 99:99-100+ Ap 15 '22
- Legless radiator supported by new attachment. il Pop Mech 39:112 Ja '23
- Painting and bronzing radiators. A. A. Kelly. Bldg Age 44:60 D '22
- Painting radiators. Power 56:301 Ag 22 '22; Discussion. R. S. Lane. 56:388-9 S 5 '22
- Prices of heating equipment to vary with cost of production during the year. Heat & Ven 20:53-4 My '23
- Radiator valve controlled by a touch of the foot. il Pop Mech 38:944 D '22
- Steam requirements of radiators. Power Pl Eng 27:985 O 1 '23
- Steam supply in radiators controlled as desired. diags Pop Mech 38:450 S '22

See also Heating; Hot water heating; Steam heating

Manufacture

- Castings for heat radiation. P. Dwyer. il plan Foundry 51:1-7 Ja 1 '23
- Improve practice in radiator shops. H. E. Diller. il Foundry 50:20-6 Ja 1 '22
- Making radiators under new conditions. G. L. Lacher. il plan Iron Age 111:805-9 Mr 22 '23

Rating

- How catalog ratings for boilers and radiators are figured. F. B. Howell. charts Dom Eng 101:326-7 N 25 '22; Same. Heat & Ven 19:66-7 D '22; Same. Sanitary & Heat Eng 98:318-20 D 1 '22

Radiators, Cooling

- Cast-iron radiators for refrigerating coils. H. J. Macintire. il diags Power 57:896-7 Je 5 '23

See also Airplane engines—Radiators; Anti-freeze solutions; Automobile engines—Radiators; Motor truck engines—Radiators

Radiators, Gas steam. See Gas steam radiators

Radicals (chemistry)

- Formation of free radicals by reduction with vanadous chloride. J. B. Conant and A. W. Sloan. Am Chem Soc J 45:2466-72 O '23
- New class of free organic radicals. R. Scholl and H. Hähle. Chem Soc J 124 pt 1:584-6 Je '23
- Radikale als Zwischenstufen bei chemischen reaktionen. S. Goldschmidt and B. Wurzschmidt. Deutsche Chem Gesell Ber 55:3216-20 O '22
- Tetraphenyl-diarsine. P. Borgstrom and M. M. Dewar. Am Chem Soc J 44:2915-23 D '22
- Triphenylmethyl; diphenyl-beta-naphthylmethyl and the color of free radicals. M. Gomberg and F. W. Sullivan, jr. il Am Chem Soc J 44:1810-33 Ag '22
- Über das auftreten freier radikale bei chemischen reaktionen; zur kenntnis der radikale der basischen triphenyl-methanfarbstoffe. H. Wieland, E. Popper and H. Seefried. Deutsche Chem Gesell Ber 55:1816-34 Je '22; Abstract. Chem Soc J 122 pt 1:772-4 Ag '22

Radicals (chemistry)—Continued

Über organische radikale mit vierwertigem stickstoff. H. Wieland and F. Kögl. Deutsche Chem Gesell Ber 55:1793-1803 Je '22

See also Ammonium

Radicals and radicalism

Concealed agencies formenting new strikes. Ry R 72:319-25, 375-81 F 24-Mr 3 '23
Issue of radicalism versus government. B: W. Hooper. Ry Age 74:771-4 Mr 17 '23

Radio antennae

Analysis of action of wave antenna. I. Herlitz. Am Inst E E J 42:733-6 JI '23
Antenna resistance. diags Wireless Age 9:42 Ja '22
Antenna resistance. L. P. Burt. diags Wireless Age 9:83-4 Ag '22
L'antenne de la grande station radiotélégraphique d'Elvèse (Allemagne). diag plan Génie Civil 79:594 D 31 '21
Burying the antenna in a well. S. R. Winters. il Wireless Age 10:69 JI '23
Characteristics of airplane antennas. E. Belini. diags Wireless Age 11:54-5 N '23
Condensers may supplant aerial antennas. W. B. Clausen. Wireless Age 9:65 JI '22
Field radiated from two horizontal coils. G. Breit. U S Bur Stand Sci Pa 431:589-606 '22
Four loops and a nation-wide radio service; receiving station of the Signal corps, Munitions building, Washington. il Wireless Age 10:57-8 JI '23
Frame aeriels and errors in bearings. E. Belini. diags Electrician 89:150-1 Ag 11 '22
Hazards of amateur radio antenna. Elec W 81:584 Mr 10 '23
How to build attic aeriels. F. L. Brittin. diags Pop Mech 40:143-4 JI '23
Importance of lead-in arrangements. S: C. Miller. diag Wireless Age 10:65 Ap '23
Indoor antenna with crystal set. T: S. Towle and others. il diags Wireless Age 9:78-9 Ag '22
Investigation of transmitting aerial resistances. T. L. Eekersley. diags Inst E E J 60:581-94 My '22; Abstracts. Electrician 87:786-7 D 23 '21; Elec R (Lond) 89:894 D 30 '21; Discussion. Inst E E J 60:594-604 My '22
Lightning danger to antenna small. Aerial Age 15:186 My 1 '22
Loop aerial cuts down interference. Aerial Age 15:139 Ap 17 '22
Loop aeriels displace less effective antennae. il Pop Mech 39:531 Ap '23
New transatlantic receiving aerial strung on telegraph poles. B. G. Priestly. il Pop Mech 38:17-18 JI '22
New type of cage antenna for radio stations. diag Pop Mech 38:652 O '22
On the earth resistance of antennae. A. Meissner. diag Electrician 88:685-6 Je 9 '22
1,000-mile transmission from 120-foot triangular loop. J. J. Dingman. il Wireless Age 10:54 Je '23
Oregon lumber camp boasts longest radio antenna. il Pop Mech 38:530 O '22
Radio antenna design. F. Conrad. Wireless Age 11:54-5+ O '23
Radio without interference. D. H. George. il Sci Am 129:255 O '23
Receiving antenna resistance. S: C. Miller. diags Wireless Age 11:47-8 N '23
Selective receiving antenna. diags Wireless Age 9:62-3 Je '22
Short wave reception vs. antenna resistance. S: Miller. diags Wireless Age 10:64-8 O '22
Six antennas and six transmitters for simultaneous operation at one radio station; Navy station, Radio, Va. S. R. Winters. il diag Wireless Age 11:58-9 N '23
Study of the loop antenna. W: A. Dickson. diags Wireless Age 10:60-1 My '23
Transmitting antenna and oscillations. G. Y. Allen. diags Elec J 19:332-4 Ag '22
Using the house-lighting circuit as antenna. il diag Pop Mech 39:162 Ja '23
Washington monument as radio antenna. S. R. Winters. il Wireless Age 10:59 Mr '23
Wasteful antenna resistance and its reduction. L. R. Felder and others. diags Wireless Age 10:71-4 Ja '23

Wave antenna; a new type of highly directive antenna. H. H. Beverage, C. W. Rice and E: W. Kellogg. il diags Am Inst E E J 42: 258-69, 372-81, 510-19, 636-44, 728-38 My-JI '23; Discussion. 42:753 JI '23
When lightning flashes nearby; a study of what electrical storms mean to the radio antenna. H. M. Towne. il diag Wireless Age 10:56-8 Ja '23
Why the cage antenna? E. D. Forbes. diags Wireless Age 9:34-6 D '21

Bibliography

Bibliography on antennas; directional, ground, underground and underwater. Am Inst E E J 42:736-8 JI '23

Radio apparatus

Aerial insulators for wireless telegraphy. il Elec R (Lond) 90:551 Ap 21 '22
Application of a revolving magnetic drum to electric relays, siphon recorders and radio transmitting keys. N. W. McLachlan. diags Inst E E J 61:903-26 Ag '23; Abstracts. Elec R (Lond) 92:593-4 Ap 13 '23; Engineering 115:500-1 Ap 20 '23; Engineer 135:641 Je 15 '23; Discussion. Inst E E J 61:926-33 Ag '23
Broadcasting photographs and motion pictures. il Pop Mech 38:824 D '22
Compensation for aerial wavelength changes. diags Wireless Age 9:63-4 Je '22
The c. w. manual. J. B. Dow. 105p Pacific radio pub. co., San Francisco '22
Direction-finding wireless. J. J. Bennett. il diags Engineering 112:333-5 S 2 '21; Excerpts. Soc Auto Eng J 9:374 D '21
Directional transmission of electromagnetic waves for navigational purposes. J. E. Erskine-Murray and J. Robinson. Inst E E J 60:352-6 Mr '22; Excerpts. Electrician 88: 315-16 Mr 17 '22; Discussion. Am Inst E E J 60:356-62 Mr '22
Directive radio transmission on a wave length of 10 meters. F. W. Dunmore and F. H. Engel. U S Bur Stand Sci Pa 469:1-16 '23
Effect of local conditions on radio direction-finding installations. R. L. Smith-Rose and R. H. Barfield. diags plans Inst E E J 61: 179-91 Ja '23; Abstracts. Elec R (Lond) 91: 750-1 N 17 '22; Engineer 134:562 N 24 '22; Discussion. Inst E E J 61:191-6 Ja '23
Eliminating capacity effects. Wireless Age 10: 73+ O '22
High-tone radio buzzer. diags Pop Mech 38: 654 O '22
Ideas for the radio experimenter's laboratory. M. B. Sleeper. 134p Henley '22
Is more power the only solution of longer-distance radio communication? Elec W 79: 168-9 Ja 28 '22
Les machines à cryptographier et leurs applications dans la télégraphie sans fil. M. Givierge. Génie Civil 81:218-20 S 2 '22
Mica clears radio tones of metallic sounds. Pop Mech 40:773 N '23
Motion pictures by radio. C. H. Claudy. il Sci Am 127:320 N '22
Negatron: a new negatron resistance device for use in wireless telegraphy. J: Scott-Taggart. il diags Engineering 112: 584-5 O 21 '21; Same abr. Wireless Age 9: 22-4 Ja '22; Abstracts. Elec R (Lond) 89: 449 S 30 '21; Electrician 87:386 S 23 '21
New type of coupler for short waves. G: A. Grogan. diags Wireless Age 9:39 F '22
Portable radio set. diag Wireless Age 9:37 F '22
Printing telegraph by radio. R. A. Heising. diags J Fr Inst 193:97-101 Ja '22
Radio apparatus for amateur and experimental use with instructions for the operation of continuous wave apparatus. 48p Radio corp. of America, Sales division, New York '21
Radio direction finder and its application to navigation. F: A. Kolster and F. W. Dunmore. il diags U S Bur Stand Sci Pa 428: 529-66 '22
Radio for amateurs. A. H. Verrill. 228p Dodd '22
Radio interrupter. R. U. Clark. il diag Pop Mech 38:976 D '22
Radio red book. Radio red book pub. co., New York '22
Radio vacuum tube. H. M. Freeman. diags Elec J 19:462-9 N '22

Radio apparatus—Continued

- Regeneration on a two-slide coil. A. G. Shirt. diags Wireless Age 10:71-2 N '22
- Scientist investigating moth radiograms. L. D. Lotton. il diags Pop Mech 37:711-12 My '22
- Selectivity of single circuit regenerative tuners. J. Weinberger. diags Wireless Age 10: 60-2 Mr '23
- Six persons may listen in with radio attachment. il Pop Mech 38:363 S '22
- Les soins à donner aux batteries d'accumulateurs des postes radiotéléphoniques. diag Génie Civil 82:307-8 Mr 31 '23
- Some developments in the electrical industry during 1921. J. Liston. il Gen Elec R 25: 29-30 Ja '22
- Some developments in the electrical industry during 1922. J. Liston. il Gen Elec R 26: 33-5 Ja '23
- Standard encyclopedia of radio apparatus. A. H. Wood. 123p Perry & Elliott co., Boston '22
- Thermionic triode as rectifier. E. B. Moullin and L. B. Turner. diags Inst E E J 60: 706-19 Je '22; Same cond. Electrician 88: 442-4 Ap 14 '22; Discussion. Inst E E J 60:719-24 Je '22
- Use of high-power vacuum tubes. I. Langmuir. il diag Elec W 80:881-3 O 21 '22
- Wave trap—what it does and how it does it. J. Marsten. diags Wireless Age 10:62-3 Je '23
- See also Amplifiers; Direction finding apparatus; Inductance coils; Kenotron; Oscillators; Pallophotophone; Radio antennae; Radio apparatus industry; Radio compass; Radio condensers; Radio detectors; Radio receivers; Radio stations; Radio transformers; Radio transmitters; Radiometers; Vacuum tubes; Wavemeter

Alexanderson system

- Alexanderson system for long-distance radio communication. diags Electrician 87:730-3, 759-61 D 9-16 '21

Exhibitions

- Boston radio exposition, Boston, May 3-6. Wireless Age 9:55-6 Je '22
- New York's amateur show, March 7-11. il Wireless Age 9:17-28 Ap '22
- New York's big radio show. A. C. Lescarbourea. il Wireless Age 11:22-4+ N '23
- 2d annual Boston radio exposition and combined New England amateur convention, Boston, Mass., Oct. 30-Nov. 4. Wireless Age 10:80 D '22
- Ten triumphant days of radio at the New York electrical show. il Wireless Age 9:16-21 N '21
- Wireless exhibition, Royal horticultural hall, Sept. 30-Oct. 7. il Elec R (Lond) 91:498-9, 532-4, 569-70 O 6-20 '22; Electrician 89:355-6, 390-1, 417-18, 444-6, 480-1 S 29-O 27 '22; Engineer 134:352-4 O 6 '22; Engineering 114:435-6 O 6 '22

Manufacture

- Hard rubber in radio instruments. il India Rubber W 68:419-20 Ap '23
- How to make commercial type radio apparatus. M. B. Sleeper. 159p Henley '22
- Making of radio apparatus. F. H. Colvin. il Am Mach 56:909-14 Je 22 '22
- Making radio parts. F. R. Daniels. il diags Mach 28:810-13, 875-8, 952-4; 29:14-18 Je-S '22
- Manufacture of radio receivers and valves; an Ediswan works visit. il Elec R (Lond) 93:204-5 Ag 10 '23
- Manufacturing radio-phone head sets. F. H. Colvin. il Am Mach 57:565-7 O 12 '22
- Methods in a radio shop. F. H. Colvin. il Am Mach 56:797-8 Je 1 '22
- Radio equipment and its dependence on rubber. W. S. Cobb. il diags India Rubber W 66:599-601 Je '22
- Radio equipment industry. Mach 28:710 My '22
- Rubber in radio sets. il India Rubber W 66: 535-6 My '22
- Soft rubber in radio equipment. il India Rubber W 67:81-2 N '22

- Superiority of hard rubber radio panels. il India Rubber W 68:694-6 Ag '23

Patents

- Radio patents situation. Sci Am 127:136+ Ag '23
- Valve tangle. Electrician 89:146-7 Ag 11 '22

Standards

- Development of radio standards. Wireless Age 10:55-6 Mr '23
- Forty societies unite in movement for radio standardization. Elec W 81:178 Ja 20 '23
- Radio apparatus industry**
- Buyers of radio crystals. Eng & Min J 114:418 S 2 '22
- Foreign markets for radiotelephone apparatus. S. H. Day. U S Bur For & Dom Com Trade Information Bul 89:1-17 '23
- Hints on radio merchandising. W. F. Crosby. Elec R (Lond) 91:990-1 D 29 '22
- How to retail radio. 226p McGraw-Hill '22
- Is there a future in the radio business for the dealer? T. Bibbins. J Elec 49:93 Ag 1 '22
- Need for organization in the radio business. C. J. Litscher. Elec W 79:841 Ap 29 '22
- Putting radio instruments into production. H. P. Davis. il Management Eng 3:65-8 Ag '22
- Radio—a Pacific coast analysis. Elec W 81: 246-7 Ja 27 '23
- Radio and the electrical dealer. D. Sarnoff. J Elec 50:486-8 Je 15 '23
- Radio as a sales aid to the electrical merchant. F. W. Christian. il J Elec 50:65 Ja 15 '23
- Radio equipment a promising line for electrical dealers. E. W. Stone. J Elec 47:429-30 D 1 '21
- Radio industry showing far more stability this summer. Elec W 82:104 JI 14 '23
- Restoring radio to health. D. Sarnoff. Elec W 80:398-9 Ag 19 '22
- Solving the radio distribution puzzle. E. P. Cochrane. Elec W 80:249-50 JI 29 '22
- Stabilizing the radio equipment market. F. S. Price. Elec W 79:1130 Je 3 '22
- Summer lull advantage to radio business. W. L. Wright. Elec W 80:43-4 JI 1 '22
- This radio business! W. Bishop. Nation's Business 10:36+ Je '22
- What is wrong with radio? R. F. Yates. il Nation's Business 11:56+ Ap '23

Advertising

- How radio broadcasts its advertising. A. L. Townsend. Ptr Ink 119:185+ Ap 27 '22
- How the Radio corporation is using advertising to stabilize a new industry. W. Kaempfert. Ptr Ink 120:3-4+ Ag 31 '22
- Is it wise to advertise only a partial price; the American radio & research corporation's complete-set price listing. D. Kirkland. Ptr Ink 124:133-4 JI 5 '23
- Wholesaler uses big space to stabilize whole industry. Ptr Ink 121:17-19 D 21 '22
- Wholesaler's advertising stirs up interest in new invention. R. Dickinson. Ptr Ink 118:17-20 Ja 19 '22
- Radio arc**
- Characteristics of 5-KW. Elwell-Poulsen arc generator. A. T. C. Moore. il diags Engineering 114:697-8 D 8 '22
- Simple generator of high frequency current for measurement purposes. diags Electrician 88:436-8 Ap 14 '22
- Radio beacons**
- Radio beacons and their operation. O. C. Roos. diags Wireless Age 11:47-8 O '23
- Radio broadcasting**
- About the radio round-table; opinions of radio leaders regarding the past, present and future of broadcasting. il Sci Am 127:378-9 D '22
- American broadcasting is permanently recorded in England. Wireless Age 10:30+ F '23
- Broadcast reception problem. R. R. Batcher. diags Wireless Age 9:76-7 Ag '22
- Broadcasting realistic piano music. Sci Am 129:282 O '23
- Broadcasting seen through RCA eyes. il Wireless Age 10:45 My '23

Radio broadcasting—Continued

Broadcasting's first leap o'er sea. Wireless Age 10:33 Ja '23

Business of broadcasting. A. C. Lescarbourea. il Sci Am 127:8-9+ J1 '22

Diaphragmless microphone for radio broadcasting. P. Thomas. diags Am Inst E E J 42:219-22 Mr '23; Discussion. 42:979-81 S '23

English report on the trans-Atlantics. Wireless Age 10:63-4 Ap '23

Every lamp socket a radio-phone. S. R. Winters. Sci Am 126:384 Je '22

Farm moves nearer the city. W. Seeley. il Wireless Age 10:24-6+ Ja '23

French report on the trans-Atlantics. P. Corret. Wireless Age 10:64 Ap '23

Gentle art of radio broadcasting. A. C. Lescarbourea. il Sci Am 126:376-7 Je '22

How and why of radio broadcasting. A. H. Lynch. 32p Country life press, Garden City, N.Y. '22

How large is the radio audience? il map Wireless Age 10:23-6 S '23

News and music from the air. P. Boucheron. il Sci Am 125A:104-5 D '21

Permanency of broadcasting. H. P. Davis. il Wireless Age 9:26-8 My '22

Possibilities in radio for the central station company. J. C. Martin. il map Elec W 79:673-6 Ap 8 '22

Radio audience decides programs are almost 100 per cent perfect. Wireless Age 10:28-31 Ag '23

Radio broadcasting. M. P. Rice. Gen Elec R 26:192-3 Ap '23

Radio revolution not yet here. C. Dreher. Wireless Age 10:52-3 Ap '23

Radio-telephone broadcasting boom. G. W. O. Howe. Electrician 88:684-5 Je 9 '22

Radio telephone broadcasting scheme. Elec R (Lond) 91:609-10 O 27 '22

Radio, the musical educator. C. M. Tremaine. il Wireless Age 10:39-40 S '23

Recording our broadcasts in England. J. H. D. Ridley. il Wireless Age 10:45-6 Mr '23

Reliability of radio shown by broadcasting experience. J. C. Martin. il diags Elec W 79:927-31 My 13 '22

Reporting baseball series to millions. R. F. Yates. il Wireless Age 11:25-8 N '23

Staging the unseen at WGY. K. D. Hager. il Gen Elec R 26:594-601 S '23

Summer time and radio. G. V. Haskell. il Sci Am 129:90-1 Ag '23

Vicissitudes of a radio impresario. H. B. Gaul. Wireless Age 9:53+ S '22

Westinghouse to cover country with radio entertainment. Elec R 79:887 D 10 '21

What can be done to improve radio broadcasting. J. J. Agutter. J Elec 51:129-30 Ag 15 '23

Will the great artists continue; all important phonograph companies, except Victor and Brunswick, are co-operating. il Wireless Age 10:22-9 Je '23

Wireless broadcasting. E. W. Marchant. Elec R (Lond) 90:832-3 Je 16 '22

WWJ—The Detroit news. 95p The Evening news association. Detroit, Mich. '22

Yes, the radiofan buys records! W. Seeley. il Wireless Age 10:23-6 Ag '23

See also Pallophotophone; Weather forecasts—Broadcasting

Agricultural information

Farm moves nearer the city. W. Seeley. il Wireless Age 10:24-6+ Ja '23

Radio does away with isolation of the farm. Wireless Age 10:35-6 F '23

Business applications

Answering how's business? by radio. Wireless Age 11:38 O '23

Broadcasting home service by radio. A. Irwin. il Gas Age 51:335-8 Mr 17 '23

How radio increased good-will for 9 concerns. il System 42:414-15+ O '22

How ten concerns are putting radio to practical use. il System 42:52-3+ J1 '22

Mistake to broadcast advertising by radio. Ptr Ink 122:157 F 22 '23

Radio as an advertising medium in competition with magazines and newspapers. Ptr Ink 123:85-6+ My 10 '23

Radio road bulletins feature Valvoline's service. il Nat Pet N 14:49 J1 26 '22

Should radio be used to broadcast facts about the railroads? views of railroad and supply men. Ry R 72:898-900 My 26 '23

Church services

"Give truth the open field—." Wireless Age 10:27-9 Ap '23

K T W; a church which enfolds its widely scattered flock by radio. S: Loomis. il Wireless Age 10:30+ Ja '23

New church to receive services via radio. F. N. Hollingsworth. il plan Pop Mech 39:663-4 My '23

Radio cathedral. R. E. Flynn. il Wireless Age 10:42-3 S '23

What hath God wrought; broadcasting church services. M. Henle. il Wireless Age 10:22-3 F '23

Concerts

Concert managers say yes, also no. W. Seeley. Wireless Age 10:28-35 J1 '23

Impressions from Paris. il Wireless Age 11:32 O '23

Long-distance concerts in Germany. il Sci Am 129:243 O '23

Radio and fine music. C. D. Isaacson. il Wireless Age 10:37-8 F '23

Ship concerts broadcast to Canadian exposition. H. F. Shoemaker. il plan Wireless Age 10:63-4 N '22

Symphony concerts on the air. St J: Martin. Wireless Age 10:35-6 O '22

Copyright laws

Composers and publishers cut programs: owner of popular music copyrights demand fees from broadcasters. Wireless Age 10:31+ Je '23

Pay if you profit, say copyright owners. E. C. Mills. Wireless Age 10:43-4 J1 '23

Educational applications

Educational facilities extended by radio; Columbia about to try radio in extending its correspondence school. E. Hall. Wireless Age 11:35-6 N '23

Radio school is practicable; experiment in broadcasting a lesson in machine accounting proves entirely successful. il Wireless Age 10:36-8 Je '23

University education by radio. F. M. Hughes. il Wireless Age 10:28-9+ S '23

Laws and regulations

See Radio laws and regulations

Police uses

Arrested by radio. W. Seeley. Wireless Age 10:23-5 Mr '23

See also Radio telephone—Police uses

Political speeches

Non-partisan political medium. M. Henle. Wireless Age 10:27-9 D '22

Asia Minor

Radio broadcasting soon to be introduced into Asia Minor. A. MacLaughlan. il Wireless Age 9:33 My '22

Cuba

Cuba leads the way in international broadcasting with P W X which speaks from Havana to both Cuba and the United States. il Wireless Age 10:33+ Mr '23

England

Boom is on in Britain. il Wireless Age 10:47-8 D '22

England impatient for broadcast programs. A. P. Morrison. il Wireless Age 10:31-2 F '23

Radio broadcasting in Great Britain. Electrician 89:60-1 J1 21 '22

Radio society and broadcasting. Elec R (Lond) 92:573 Ap 13 '23

Radio broadcasting—England—Continued

Report of the broadcasting committee. Elec R (Lond) 93:492-3 O 5 '23
 Some aspects of the broadcasting position. W. H. Stoker. Elec R (Lond) 92:765-6 My 18 '23
 This is station 2LO, London. il Wireless Age 10:27-9 Mr '23

Germany

German broadcasting service. il Wireless Age 10:44-5 S '23

South America

Latin America listens in. G. W. Gether. il Wireless Age 10:41-2 Ap '23
 Radio in South America. C. Burquo. Wireless Age 9:43 S '22
 Sobre las olas de la Plata; over the waves of the river Plate. W. H. Howard. il map Wireless Age 10:39-41 F '23

Sweden

Broadcasting in Sweden. Sci Am 129:281 O '23

Radio broadcasting stations

British radio broadcasting stations. il Elec R (Lond) 91:964-6 D 29 '22
 Broadcasting station directory. See monthly numbers of the Wireless age
 Broadcasting station in Rio de Janeiro. il Wireless Age 10:34 O '22
 Canadian broadcasting stations. See monthly numbers of Wireless age
 Government creates class B with authority to use 400 meters. Wireless Age 10:45 O '22
 How Uncle Sam entertains at W V P on Bedloe's Island. il Wireless Age 10:41-2 O '22

KDKA; how the nation's first regular broadcasting programs were started in East Pittsburgh. il map Wireless Age 9:40-1+ Ag '22

KFDB—on Telegraph Hill. E. A. Schivo. Wireless Age 10:38+ J '23

London wireless broadcasting station. il Engineering 114:686-8 D 1 '22

Manchester broadcasting station. il Electrician 89:748 D 29 '22; Engineer 134:670 D 22 '22

New broadcasting system to transmit two programs simultaneously. il Elec W 81:848 Ap 14 '23

New Pacific coast broadcasting station. Sci Am 129:139 Ag '23

Power requirements for radio broadcasting. il Power Pl Eng 26:756-8 Ag 1 '22

Private radio laboratory benefits public. F. N. Hollingsworth. il Pop Mech 39:239 F '23

Radio broadcast central, WJZ and WJY. il Wireless Age 10:40-1 J '23

Radio broadcast central, WJZ, New York. il N E L A Bul 10:456-7 Ag '23

Radio broadcast central; WJY and WJZ, New York city. I. F. Byrnes and H. R. Butler. il diags Gen Elec R 26:541-53 Ag '23

Radio broadcasting station WGY; General electric company, Schenectady, N.Y. W. R. G. Baker. il diags Gen Elec R 26:194-210 Ap '23

Radio equipment at KDKA. D. G. Little. il diags Elec J 19:245-9 Je '22

Radio music from KDKA; the radio telephone broadcasting station at East Pittsburgh, Pa. A. Nyman. il diags Elec J 19:242-5 Je '22

Radiophone broadcasting station WDY. il Wireless Age 9:18-19 F '22

Rebuilding a broadcasting station. R. P. King. il Wireless Age 10:43 N '22

Rio's remarkable radio station. il Elec W 81:1256 Je 2 '23

Talking both ways from the middle through station KSD at St Louis, Mo. il Wireless Age 10:35-6 Ap '23

WGY, the General Electric broadcasting station at Schenectady, N.Y. il Wireless Age 9:45-6 Ap; 42-3 J '22

WHAZ the Rensselaer polytechnic institute at Troy, N.Y. il Wireless Age 10:37-8 My '23

W J Z; a trip through the radio corporation —Westinghouse broadcasting station at Newark, New Jersey. il Wireless Age 9:36-7 Je '22

Radio circuits

A.C. for plate and plates of receiving tubes. A. Ringel. diags Wireless Age 10:72-3 D '22

Amplifying circuit. diags Wireless Age 9:66-7 J '22

Auto-coupled reception circuits. S. Hamilton. diags Wireless Age 10:70-1 J '23

Circuit for the elimination of static. diags Wireless Age 9:24-5 D '21

Coupling duo-lateral inductances. H. S. Pyle. diags Wireless Age 9:36-7 D '21

Design of a trap circuit. S. C. Miller. diags Wireless Age 10:60-1 Ag '23

Japanese-American radio circuit. C. W. Latimer. Am Inst E E J 42:1095-6 O '23

New radio receiving circuit. diags Elec R (Lond) 93:115-16 J '20 '23

Operating suggestions for Armstrong super-regenerative circuit. B. S. Clark. Wireless Age 10:71 O '22

Radio frequency notes for novices. M. Wolf. diags Wireless Age 10:64-5 Je '23

Rectified A.C. for plates of amplifier tubes. M. Wolf. diags Wireless Age 10:69-70 Mr '23

Regeneration systems. R. R. Batcher. diags Wireless Age 9:74-6 Je '22

Resistance neutralization; an application of thermionic amplifier circuits. E. Bennett and L. J. Peters. diags Am Inst E E J 41:234-48 Mr '22

Some practical super-regenerative circuits. A. Ringel. diags Wireless Age 10:63-8 Mr '23

Universal capacity, inductance and wave length chart. M. Buchbinder. Wireless Age 10:60 Je '23

Wave length relations for progressive antennae generation. A. Press. Electrician 87:729-30 F '21

Radio communication

Basis of wireless communication. O. Lodge. Elec R (Lond) 92:236 F 9 '23

Book of radio. C. W. Taussig. 447p Appleton '22

Book of wireless telegraph and telephone. A. F. Collins. 227p Appleton '22

Complete course in radio engineering. J. G. Branch. 111p Joseph G. Branch pub. co., 3917 Grand Blvd., Chicago '23

Complete radio book. R. F. Yates and L. G. Pacent. 330p Century co. '22

Conference discusses radio chaos. Elec W 81:708 Mr 24 '23

Critical resumé of radio science. A. Press. diags Electrician 89:34-5 J '22

Developments in radio telegraphy and telephony. E. H. Shaughnessy. Engineer 134:502-3 N 10 '22

Early days in radio. S. M. Kintner. Elec J 19:290-3 J '22

Elements of radio communication. E. W. Stone. 2d ed., rev. and enl. 318p [bibliog. p. 303-7] Van Nostrand '23

How radio affects the language. F. H. Vitzetelly. Wireless Age 10:30 N '22

Interview with General J. G. Harbord, president, Radio corporation of America. N. S. Gallison. J Elec 50:254-5 Ap 1 '23

Introduction to line radio communication. 51p U.S. Signal office, Washington '23

Listening in on radio's future. W. Bishop. Nation's Business 10:32-3 J '22

Marconi and the marvel of radio. W. A. Davenport. il Am Ind 23:11-14 S '22

Modern radio practice. C. B. Hayward. 306p Am. technical soc., Chicago '23

Outline of radio. J. V. L. Hogan. 256p Little, Brown & co., Boston '23

Principles underlying radio communication. 2d ed., rev. 619p (Signal Corps Radio Communication Pamphlet no. 40) \$1 Supt. of Doc. '22

Radio; a practical manual; with questions and answers. J. R. Irwin. 296p E. J. Clode, New York '23

Radio amateur's hand book. A. F. Collins. Rev. ed. 403p Crowell '22

Radio and research. O. B. Blackwell. Am Soc C E Pro 49:548-51 Mr '23

Radio chronology. Wireless Age 10:84-5+ D '22

Radio communication pamphlets. U. S. Signal office, War dept., Washington '21

Radio communication—Continued

- Radio for everybody. A. C. Lescarbourea. Rev. & enl. 354p Sci. Am. pub. co., New York '23
- Radio in Arctic with explorer MacMillan. il Wireless Age 10:54 Ag '23
- Radio of today and tomorrow. D: Sarnoff. Wireless Age 9:26-30 Je '22
- Radio pathfinder. R: H. Ranger. 155p Doubleday '22
- Les radiocommunications internationales et la station radiotélégraphique de Sainte-Assise, près Paris. C. Malgorn. il map plans Génie Civil 82:509-20 Je 2 '23
- Report of A. I. E. E. telegraphy and telephony committee. Am Inst E E J 41:936-9 D '22
- Secret radio communication. Sci Am 127:259 O '22
- Twelve months of radio: reviewing the outstanding features of the remarkable radio year 1922. J: Liston. il Sci Am 128:242+ Ap '23
- Unification of communication engineering: present trend toward our vast system of radio and wired wireless. G: O. Squier. Sci Am 127:85+ Ag '22
- Untrodden paths of radio. J. G. Harbord. il Nation's Business 11:50-1 Je '23
- Winter crews are to receive orders by wireless. il J Elec 49:255 O 1 '22
- Wireless as an aid to transport. Engineer 133:557 My 19 '22
- World wide radio and commerce. E. J. Nally. Am Ind 23:39-40 Ag '22
- See also* Radio broadcasting; Radio telegraph; Radio telephone; Relays, Radio

Bibliography

- Radio communication. (Radio service bul. no. 64) p. 13-19 U.S. Bur. of navigation, Dept. of commerce, Washington '22
- Radio communication; a selection of books suitable for general libraries. D. Hendry. (Lib. Bul. v.18, no.5) p.121-2 Wis. Free Lib. Comm., Madison, My '22
- Recent wireless publications; published in the Electrician, second number of each month
- References to current radio periodical literature. See monthly numbers of Radio service bulletin
- Sources of elementary radio information. U S Bur Stand Circ 122:1-16 '23

Classification

- Decimal classification of radio subjects—an extension of the Dewey system. U S Bur Stand Circ 138:1-33 '23

Interference elimination

- Eliminating static by means of the resonance coil. il Sci Am 127:331+ N '22
- High amplification circuit to help eliminate static. diags Wireless Age 9:64-6 Je '22
- How to select between 360 and 400 meters. C. W. Horn. Wireless Age 10:76 N '22
- Radio atmospheric elimination; the Marrec selective receiving apparatus. Elec R (Lond) 93:266-7 Ag 17 '23
- Radio noises stopped before reaching ears. il Pop Mech 40:608 O '23
- Radio without interference. D. H. George. il Sci Am 129:255 O '23
- Reducing the interference caused by static. R. H. Horning and others. diags Wireless Age 9:62-3 S '22
- Static elimination phantasies. C. Dreher. il diags Wireless Age 10:57-9 Ag '23

Safety devices and measures

- Radio hazards. il diags Nat Safety N 8:49-56 S '23
- See also* Radio laws and regulations

Australia

- Amateur radio activities in Australia. J. S. Kemp. il diag Wireless Age 10:63-4 Ja '23
- Radio activities in Australia. Wireless Age 11:45-6 O '23

France

- L'état actuel des applications des ondes hertziennes. Ferrié. Soc Ing Civils Bul 76:755-66 Je '23

They wireless news of schools of fish. Nation's Business 11:70-1 Ji '23

See also Radio stations—France

Great Britain

- Great Britain's radio sky line. P. F. Godley. il diags Wireless Age 9:31-7 Ap '22
- Imperial wireless communication. W. H. Eccles. Engineer 133:532-3 My 12 '22
- Imperial wireless communication; editorial. Engineering 113:591-2 My 12 '22
- See also* Radio broadcasting—England; Radio stations—Great Britain

India

- Radio communication in India. S. B. Banerjea. il map Wireless Age 10:53-4 O '22
- Wireless notes from India. S. B. Banerjea. map Wireless Age 10:53 My '23

Japan

- Japan's response to radio's appeal. Wireless Age 10:38+ O '22

Russia

- Radio communication in Russia. I. Mouromtzeff. maps Wireless Age 9:55-8 Ag '22

United States

- Can wireless be of practical service to western business? R. C. Denny. J Elec 48:406 My 15 '22
- Forest fire patrol by airplane and radio. S. R. Winters. il Aviation 13:282-3 S 4 '22
- How radio guides the coast guard. S. R. Winters. il Wireless Age 10:30-1 S '23
- See also* Radio broadcasting—United States; Radio stations—United States

Venezuela

- Progress of radio communication in Venezuela. G. H. Clarke. il diags Wireless Age 9:18-22 Ja '22

Radio compass

- Radio-compass bearings. O. S. Adams. 39p (Special publication, no. 75) U.S. Coast and geodetic survey, Washington '21

Radio condensers

- High potential condenser. diags Wireless Age 9:68-9 Ji '22
- New and efficient navy condenser. S. R. Winters. il Wireless Age 10:63 F '23
- Theory of action of the short wave condenser. F. Addey. diags Elec R (Lond) 90:724-5 My 26 '22
- Use of the condenser in the C. B. subscriber's circuit. H. J. B. Chapple. diags Electrician 89:288-9 S 15 '22

Radio conference, National. See National radio conference

Radio control

- Air service develops radio controlled automobile. il Aviation 11:690 D 12 '21
- Another radio controlled airplane. il Aviation 14:581 My 28 '23
- Army's man-less airplane. Aerial Age 16:73 F '23
- Mystery radio stops line of autos. Pop Mech 40:195 Ag '23
- Navy again to experiment with radio control. Wireless Age 10:54 F '23
- New wireless control also lands planes. Aerial Age 14:341 D 19 '21
- Pilotless warboat; abstract. L. Chauveau. Elec W 73:1085 N 26 '21
- Le problème du vol des avions sans pilotes. Génie Civil 79:496-7 D 3 '21
- Radio ship control. R. S. Griffin. diags Mech Eng 44:43-4+ Ja '22

- Relay recorder for remote control by radio. F. W. Dunmore. il diags Am Inst E E J 41:310-13 Ap '22; Same cond. Elec W 80:1222-3 D 2 '22; Discussion. Am Inst E E J 41:747-9 O '22

Radio corporation of America

- Filing radiograms with the postal. Wireless Age 10:55 O '22
- What "Via RCA" means to a message. W. Seeley. il Wireless Age 10:57-60 N '22

Radio detectors

- Crystal acts as valve in receiver. J. Binns. Aerial Age 15:185-6 My 1 '22
- Crystal rectifiers. A. K. Philippi. Elec J 19: 459-61 N '22
- Description and operation of an electron-tube detector unit for simple radio receiving outfits. il diags U S Bur Stand Circ 133:1-21 '22
- Detector and two-step amplifier for dry-cell tubes. F. L. Brittin. il diags Pop Mech 39: 976-9 Je '23
- French radio amateurs use novel crystal detector. il Pop Mech 36:864 D '21
- How and why of crystal detectors. J. Snyder. diags Wireless Age 10:69-71 S '23
- Minerals suitable for detectors in radio instruments. Eng & Min J 114:285 Ag 12 '22
- Minerals that are used as crystal detectors. E. Bade. il diags Wireless Age 11:52-3 N '23
- New radio-detector tube. diags Elec W 80: 1406 D 23 '22

Radio equipment industry. See Radio apparatus industry**Radio generators. See Radio arc; Vacuum tubes****Radio instruments. See Radio apparatus****Radio laws and regulations**

- Advertising through radio to be strictly regulated. Ptr Ink 119:10+ My 4 '22
- Bill to regulate radio communication; text. Wireless Age 9:81-2 J1 '22
- Department of commerce acts on radio recommendations. Elec W 81:794 Ap 7 '23
- Effort to provide us with a new and workable radio law; what happened in Washington during the public hearings. J. A. White. Wireless Age 10:42-8 F '23
- How can the broadcasting of advertising by radio be regulated? Ptr Ink 122:19-20 F '22 '23
- New radio code issued by fire underwriters. Aerial Age 15:235 My 15 '22; Abstract. Sci Am 127:139 Ag '22
- New radio regulations. Wireless Age 10:40-3 My '23
- Policing the ether; radio bill now before Congress. H. Hoover. il Sci Am 127:80 Ag '22
- Policing the radio highways and byways. Sci Am 127:72 J1 '22
- Proposals for regulating radio made by Washington radio conference. Wireless Age 9:37+ Ap '22
- Proposed revision of radio installation rules. N E L A Bul 9:509-11 Ag '22
- Radio conference recommendations for federal control. Elec W 79:897-8 My 6 '22
- Radio installation rules revised. Wireless Age 10:80 N '22
- Radio rules in the making. G: H. Dacy. Sci Am 127:20 J1 '22
- Recommendations of radio conference. Elec W 81:765 Mr 31 '23
- Shingles and radio. Eng N 88:812, 1051 My 18, Je 22 '22
- Uncle Sam and radio. G: H. Dacy. il Sci Am 126:375 Je '22

Radio measurement

- Determination of the decrement of a distant station by means of a coil aerial. J. Erskine-Murray and B. Williams. diags Inst E E J 60:347-51 Mr '22; Excerpt. Electrician 88:316 Mr 17 '22; Discussion. Inst E E J 60:356-62 Mr '22; Electrician 88:316-17 Mr 17 '22
- Investigation of transmitting aerial resistances. T. L. Eckersley. diags Inst E E J 60: 581-94; Discussion. 594-604 My '22
- Measurement of the electric intensity of received radio signals. J. Hollingworth. diags Inst E E J 61:501-9; Discussion. 510-16 Ap '23
- Observations of the field strength of Horsea wireless station. E. B. Moullin. diags Inst E E J 61:67-74 D '22; Discussion. 61:308 F '23
- Prepared radio measurements, with self-computing charts. R. R. Batchler. 138p Wireless press, New York '21
- Radio frequency ammeters and current transformers. P. MacGahan. il Elec J 19:271-3 Je '22

- Simple generator of high frequency current for measurement purposes. diags Electrician 88:436-8 Ap 14 '22
- Some measurements of telephone sensitivity. H. H. Smith. diags Wireless Age 9:65-6+ Ag '22
- Use of kilocycles in radio. il Sci Am 129:247 O '23
- Wavelength versus kilocycles. W. A. Cohen. Wireless Age 11:56 N '23
- See also Radio telegraph—Tables, calculations, etc.

Radio operators

- Radio operators. Monthly Labor R 14:519-20 Mr '22

Radio power transmission. See Radio waves**Radio receivers**

- Armstrong super-regenerative receiver. A. Ringel. il diags Wireless Age 9:58-61 J1 '22
- Armstrong's super-regenerative receiver. il Sci Am 127:160 S '22
- Auxiliary condensers and loading coil used with simple homemade radio receiving outfits. diags U S Bur Stand Circ 137:1-19 '23
- Basic principles in receiver design. Wireless Age 10:58 J1 '23
- Building a simple radio receiver. F. L. Brittin. diags Pop Mech 38:814-15 N '22
- Building a two or three-step spider-coil receiver. F. L. Brittin. il diags Pop Mech 39: 477-80 Mr '23
- Cheap receiving set with spider web coils. E. F. Lake. il diags Wireless Age 9:64-6 S '22
- Coil reception in radio-telegraphy. R. L. Smith-Rose. Electrician 89:533 N 10 '22
- Compact receiver. diags Wireless Age 9:66-7 Je '22
- Complete portable tube receiver. C. Dreher. il diags Wireless Age 10:62-3 J1 '23
- Condenser effects on receiver primaries. R. R. Batchler. charts diag Wireless Age 9:25-6+ D '21
- Construction and operation of a simple homemade radio receiving outfit. diags U S Bur Stand Circ 120:1-16 '22
- Construction and operation of a two-circuit radio receiving equipment with crystal detector. diags U S Bur Stand Circ 121:1-14 '22
- Construction of new type transatlantic receiving sets. M. B. Sleeper. 113p Henley '22
- Construction of radio phone and telegraph receivers for beginners. M. B. Sleeper. 142p Henley '22
- Construction of radio receiving sets. L. D. Perry and R. O. Buck. 72p Bruce pub. co., Milwaukee '22
- Description and operation of an audio-frequency amplifier unit for simple radio receiving outfits. il diags U S Bur Stand Circ 141:1-18 '23
- Design of modern radio receiving sets. M. B. Sleeper. 4th ed., rev. 48p Sleeper radio corporation, New York '22
- Developments in wireless reception. J. Scott-Taggart. diags Elec R (Lond) 93:591-2 O 19 '23
- Duplex radio system. diags Wireless Age 9: 68-9 Je '22
- Efficient crystal broadcast receiver. il diags Wireless Age 10:71-2 Mr '23
- Efficient homemade neutrodyne. L. Kranzl. il diags Wireless Age 10:60-1 S '23
- For instant tuning on board ship. il Wireless Age 10:61-2 Ap '23
- French wireless receiver made up of radio blocks. il Pop Mech 36:821 D '21
- Helpful hints on tuning. A. F. Van Dyck. il Wireless Age 10:63-4 D '22
- Honey-comb coils for short-wave receiver. F. L. Brittin. il diags Pop Mech 38:313-15 Ag '22
- How far can I receive? R. Dio. diags Wireless Age 10:57-8 Mr '23
- How far will my set receive? J. Marsten. Wireless Age 10:72+ F '23
- How I built my neutrodyne receiver. K. S. Houton. il diags Wireless Age 11:52-3 O '23
- How to make a complete home radio telephone receiving outfit at small cost. M. Elliott. 16p E. J. Hendrickson co., New York '22

Radio receivers—Continued

How to make your own radio set. 54p Goldsmith pub. co., Cleveland, O. '22

Hyper-regenerative receiver. A. Van Dyke. il diags Wireless Age 11:45-6 N '23

Improving the operation of receivers. A. Reisner. diags Wireless Age 11:51-2 O '23

Improving the quality of a receiving set. R. Dio. diags Wireless Age 10:67-8+ Ja '23

Increasing wave length of receivers. F. L. Brittin. diags Pop Mech 40:481-2 S '23

Interesting heterodyne receiver. diags Wireless Age 9:69 Je '22

Loud speaker circuits and devices. C. Fitch and others. il diags Wireless Age 10:68-70 D '22

Making a super-regenerative receiver. N. A. Martin and others. il diags Wireless Age 10:69-71 F '23

Midget receiver with aerial fits in vest pocket. R. F. Yates. diags Wireless Age 10:66 JI '23

Mineral crystals for radio receiving circuits. Eng & Min J 116:319 Ag 25 '23

Neutrodyne receiver. A. Ringel. il diags Wireless Age 10:54-9 Ap '23

New radio-telephone receiver; a combined kenotron and plotron capable of operating on alternating current. diags Elec R (Lond) 92:952-3 Je 15 '23

Novel long-distance broadcast receiver. A. L. Munzig. il diag Wireless Age 10:63-4 S '23

100-mile crystal receiver. C. Dreher. il diags Wireless Age 10:76-8+ D '22

101 radio receiving circuits. M. B. Sleeper. 47p M. B. Sleeper, New York '23

One-step spider-coil receiver. F. L. Brittin. il diags Pop Mech 39:322-4 F '23

Operation of receiving tubes from a D. C. power supply. A. Ringel. diags Wireless Age 10:64-5 F '23

Panels for receiving apparatus. diags Wireless Age 9:25 N '21

Portable radio receiver. F. L. Brittin. diags Pop Mech 38:649-51 O '22

Practical alternating-current radio receiving tube. H. M. Freeman. il diags Elec J 19:501-5 D '22

Practical super-heterodyne receiver. diags Wireless Age 10:75 D '22

Qualities of a good receiver. S. G. Taylor. Wireless Age 10:72 Ag '23

Radio experimenter's handbook. P. R. Coursey. 2d ed. 2v Wireless press, New York '23

Radio for the amateur. A. H. Packer and R. R. Haugh. 207p Goodheart-Willcox co., Chicago '22

Radio receiving for beginners. R. T. Snodgrass and V. F. Camp. 99p Macmillan '22

Ratio simplicity combined with radio efficiency. Sci Am 128:255 Ap '23

Radiophone receivers, their construction and operation. J. E. Smith. 45p National radio inst., Washington '22

Receiver radiation problem and some solutions. A. Ringel. diags Wireless Age 10:67-71 N '22

Récepteur de T. S. F. à cadre, type Clinker-Thomson-Houston. diags Génie Civil 82:88-9 Ja 27 '23

Rice receiving system. A. B. Cole. diags Wireless Age 10:63+ S '23

Selective receiving circuit. T. M. Libby. diags Wireless Age 9:21 N '21

Selective receiving system employing multiple detectors. diags Wireless Age 9:67 Ag '22

Selectivity between stations more important than selectivity for distance. E. P. Peck. Elec W 80:24 JI 1 '22

Shielded short-wave receiving set. R. Payne. diags Wireless Age 9:77-8 Je '22

Shielding of receivers. M. Wolf. diags Wireless Age 10:71-2 Ag '23

Short, medium and long wave receiver. E. T. Jones. il diags Wireless Age 9:38-9 F '22

Short-wave radio-telephone receiver. F. L. Brittin. il diags Pop Mech 37:963-8 Je '22

Short wave reception vs. antenna resistance. S. Miller. diags Wireless Age 10:64-8 O '22

Simple sets for broadcast reception. G. R. Troxell and others. diags Wireless Age 9:70-2 Je '22

Single circuit receiver, with special features. J. Snyder. diags Wireless Age 10:64-5 S '23

Single loop receiver with directional properties. diags Wireless Age 9:23-4 D '21

That loop receiver. L. W. Van Slyck. il diags Wireless Age 10:67 Ap '23

Two-step audio-frequency amplifier. F. L. Brittin. il diags Pop Mech 38:157-60 JI '22

Various types of receiving sets. A. Reisner. il diags Wireless Age 10:65-7 Ag '23

Where your receivers come from. W. Seeley. il Wireless Age 10:37-8 Ap '23

Widening the range of variometer receivers. F. E. Ostrman. il diags Wireless Age 10:74+ D '22

Wireless hints for electrical contractors. P. W. Harris. Elec R (Lond) 92:526-9, 567-9 Ap 6-13 '23

See also Radio detectors

Radio signals

Admiralty list of wireless signals including details of direction finding, weather bulletins, storm and navigational warnings, and time signal stations. Gt. Brit. Hydrographic office, London '22

Interplanetary communication. Elec W 78:620; 79:85, 186 S 24 '21, Ja 14, 28 '22

Lighthouse department extending radio compass service. Wireless Age 11:48-9 O '23

Measurement of the electric intensity of received radio signals. J. Hollingworth. diags Inst E E J 61:501-9; Discussion. 510-16 Ap '23

Observations of the field strength of Horsea wireless station. E. B. Moulin. diags Inst E E J 61:67-74 D '22; Discussion. 61:308 F '23

Radio signals of standard frequency. il Wireless Age 10:62 Ag '23

See also Loth guide cable; Radio beacons; Radio telegraph; Time signals, Radio

Radio stations

Big four-nation radio station. Wireless Age 9:38 Ap '22

Consolidated radio call book. 280p Consolidated radio call book co., New York '22

Experimental wireless stations. P. E. Edelman. New 1922 ed., rev., enl. & reset. 392p Henley '22

Farthest-north radio weather station. Jan Mavén Land. il Pop Mech 39:516-17 Ap '23

From the Bourse to Wall Street. F. P. Mann. il Sci Am 127:308 N '22

Radio's control of sealing; U. S. navy station in the middle of the Bering sea protects the American fur seal herd. S. C. Hooper. il Wireless Age 10:36-8 Ag '23

Wind pressure at high elevations and their application to radio towers. R. Fleming. Eng N 88:438-42 Mr 16 '22

See also Radio broadcasting stations; Radio receivers; Radio towers; Radio transmitters

Directories

Rand McNally broadcasting and special land stations, radio guide showing radio districts, call signals and time belts. 32p Rand McNally & co., New York '22

Africa

Radio in the Sahara desert. R. Moha. il map Wireless Age 10:61-2+ N '22

Belgium

Belgium's giant radio station. il Sci Am 127:27 JI '22

Central America

Five new stations to link the Americas by radio; three for Central America. Wireless Age 10:50 O '22

Six more stations for United fruit co. il Wireless Age 11:51 N '23

China

High power stations for China. Wireless Age 10:54 D '22

Czechoslovakia

Radio in Czecho-Slovakia. il Wireless Age 10:53 Ag '23

Radio stations—Continued**France**

Largest radio station of St Assise, France placed in operation. Elec W 80:820 O 14 '22
 New French radio central at St Assise. il Wireless Age 10:56-7 O '22
 Poste à lampes à usages multiples de la Société française radio-électrique. diags Génie Civil 82:497-9 My 26 '23
 Radio on the Riviera. il map Wireless Age 10:53-4 JI '23
 Les radiocommunications internationales et la station radiotélégraphique de Sainte-Assise, près Paris. G. Malignon. il map plans Génie Civil 82:509-20 Je 2 '23
 La radiotéléphonie et la réception des concerts par T. S. F. J. Lynn. il diags Génie Civil 82:269-77 Mr 24 '23
 Wireless plant at Sainte-Assise has worldwide connections. il Pop Mech 38:914-15 D '22

French Guiana

Radio systems of French Guiana. il Wireless Age 10:53-4 Je '23

Germany

Germany builds new super radio stations. Sci Am 129:252 O '23
 Gigantic radio station opened in Germany. il Pop Mech 38:331 S '22

Great Britain

England's trans-ocean radio system. il Wireless Age 10:53-4 S '23
 High-speed radio telegraphy; Marconi's central control organization. il Elec R (Lond) 93:99-101 JI 20 '23

Japan

When Japan called for help! J. O. Smith. il Wireless Age 11:26-7 O '23

Mexico

Radio in Mexico. J. F. J. Maher. il Wireless Age 9:60-1 My '22
 Radio transmitting sets for the Mexican national radio system. B. R. Cummings. il map Gen Elec R 26:172-7 Mr '23; Excerpt. Blast F & Steel Pl 11:285-6 My '23

Poland

Poland becomes a neighbor to the world. il Wireless Age 10:39-40 Mr '23

Sweden

New Swedish trans-oceanic station. Wireless Age 10:57+ O '22

Syria

Modern radio in ancient Syria. il map Wireless Age 10:57-8 D '22

United States

America's busiest radio station at Riverhead, L. I. il Wireless Age 9:55-6 S '22; Same. Sci Am 127:402 D '22
 Antenna tower erection for New York radio central. D: S. Fine. il diags plan Eng N 88:230-4 F 9 '22; Same cond. Eng & Contr (Bldgs) 58:76-8 N 22 '22
 Electrical plant of transocean radio telegraphy. E. F. W. Alexanderson, A. E. Reoch and C. H. Taylor. il diags Am Inst E E J 42:693-703 JI '23; Same. Gen Elec R 26:464-76 JI '23
 Most powerful radio station opened by the Radio corporation of America, on Long Island. Elec W 78:987-8 N 12 '21
 La nouvelle station Américaine de T.S.F. de Long Island, près New-York. J. Lynn. il diag map plan Génie Civil 81:209-15 S 2 '22
 Opening of new Long Island station of the Radio corporation of America. O. D. Young. il Gen Elec R 25:52-6 Ja '22
 Opening of radio central. il Wireless Age 9:18-22+ D '21
 Radio central; America's bid for world-wide wireless supremacy as crystallized in the huge station at Rocky Point. A. C. Lescarbours. il diag Sci Am 126:8-9 Ja '22
 Remote-control booths for Arlington station. il Pop Mech 38:417 S '22

Six antennas and six transmitters for simultaneous operation at one radio station; Navy station, Radio, Va. S. R. Winters. il diag Wireless Age 11:58-9 N '23
 La station radiotélégraphique de New Brunswick (New Jersey). J. Lynn. il diags Génie Civil 80:25-30, 54-7 Ja 14-21 '22

Venezuela

Progress of radio communication in Venezuela. G. H. Clarke. il diags Wireless Age 9:18-22 Ja '22

Wales

Marconi transatlantic wireless stations at Carnarvon and Towyn. il Engineering 115:131-6, 162-3 F 2-9 '23

Radio stations, Amateur

Amateur activities in Australia. J. S. Kemp. il Wireless Age 9:71-2 Ag '22
 Amateur radio stations of the United States. See monthly numbers of Wireless age
 Amateur wireless in England. F: L. Hogg. diags Wireless Age 9:72-5 Ag '22
 Consistent DX work by 2 OM. il diags Wireless Age 9:76-7 JI '22
 Construction of radio phone and telegraph receivers for beginners. M. B. Sleeper. 142p Henley '22
 French amateur station 8AB. diag Wireless Age 10:72-3 O '22
 High-tension direct-current power from house circuits. H. A. Lane. il diag Pop Mech 37:821-2 Je '22
 Practical amateur wireless stations. 136p Wireless press, 326 Broadway, New York
 Private radio station well equipped. H. A. Lane. il Pop Mech 38:662-3 N '22
 Remarkable distance records by 6XAD. il diag Wireless Age 9:57-8 My '22
 Three well-known amateur stations. il diag Wireless Age 9:30-1+ Mr '22
 Unusual distance work with 10-watt set. il diag Wireless Age 9:61 S '22
 Wireless in the home. L. De Forest. 32p De Forest radio telephone and telegraph co., New York '22

Radio telegraph

Acquiring the code. E. P. Gordon. 31p Wireless press, New York '22
 Amateurs transmit across Atlantic. il Wireless Age 9:24-6 Ja '22
 At the sending end of radio. P. Boucheron. il Sci Am 126:232-3 Ap '22
 Bridging the gap for the cables; how radio Central saved the day when the Irish seized cable stations. il Wireless Age 10:58-9 O '22
 Complete radio book. R. F. Yates and L. G. Pacent. 330p E. Nash & Grayson, London '22
 Continuous wave wireless telegraphy. B. E. G. Mittell. 114p Pitman '22
 Development of radiotelegraphy in Czechoslovakia. Wireless Age 9:50 My '22
 Direct wireless to Australia. il Elec R (Lond) 89:826 D 16 '21; Electrician 87:714 D 2 '21
 Directive radio transmission. J. Snyder. il diags Wireless Age 11:50-1 O '23
 Directive telegraphy. J. Snyder. il diags Wireless Age 10:63-5 JI '23
 Directive wireless telegraphy. L: H. Walter. (Pitman's technical primer series) 124p Pitman '21
 Doubling the traffic capacity of a radio-telegraphic station. H. Abraham and R. Planiol. Electrician 89:152 Ag 11 '22
 L'état actuel de la radiotélégraphie des dessins, textes et photographies. E: Belin. Génie Civil 81:523-4 D 2 '22
 Electrical plant of transocean radio telegraphy. E. F. W. Alexanderson, A. E. Reoch and C. H. Taylor. il diags Am Inst E E J 42:693-703 JI '23; Same. Gen Elec R 26:464-76 JI '23
 Experience with radio leads to extended use in the new developments of the Big Creek hydro-electric project of the Southern California Edison company. H. A. Barre. il Elec W 80:723-4 S 30 '22
 Far call; the phenomenal success of the amateur trans-Atlantic tests. P. F. Godley. il diags map Wireless Age 9:17-24 Mr '22

Radio telegraph—Continued

High frequency oscillations from a buzzer or rotary wheel. diags Wireless Age 9:26 N '21

High-speed wireless telegraphy. A. G. T. Cusins. diags Inst E E J 60:245-55 F '22; Abstracts. Elec R (Lond) 90:711-13 My 19 '22; Electrician 88:65-6 Ja 20 '22; Discussion. Inst E E J 60:255-62 F '22

Last year one of achievement in radio communication. D: Sarnoff. il Elec W 79:29-31 Ja 7 '22

Long distance radio communication. L. W. Austin. il diags maps J Fr Inst 193:437-59 Ap '22

Long-distance radiotelegraphy. Engineering 113:527 Ap 28 '22

Marconi demonstrates directional radio. il Wireless Age 9:55-7 JI '22

Marine wireless pocket book. W: H: Marchant. 180p Pitman '22

Provision of power for wireless telegraphy. J. H. Whittaker-Swinton. diags Inst E E J 60:845-52; Discussion. 852-60 JI '22

Putting a complete station in a chest. il Wireless Age 10:64-5 Ag '23

Radio central; America's bid for world-wide wireless supremacy as crystallized in the huge station at Rocky Point. A. C. Lescarbours. il diag Sci Am 126:8-9 Ja '22

Radio telegraphy. G. Marconi. il diags Am Inst E E J 41:561-70 Ag '22; Abstract. Engineer 134:225-6 S 1 '22

Radio telegraphy and telephony in 1921. Electrician 88:32-3 Ja 13 '22

Radio telegraphy is great aid in fighting forest fires. M. V. Chesnut. il Wireless Age 9:62-4 Ag '22

Radiotechnik. W. de Haas. 77p Kosmos, gesellschaft der naturfreunde, Stuttgart '21

Short-wave directional wireless telegraphy. C. S. Franklin. diags Inst E E J 60:930-4; Discussion. 934-8 Ag '22; Abstract. Electrician 88:593-4 My 19 '22; Same. Elec R (Lond) 90:824 Je 9 '22

Studies from a wireless laboratory; abstracts. W. H. Eccles. diags Elec R (Lond) 92:674-5 Ap 27 '23; Engineering 115:529-30 Ap 27 '23

Trans-Atlantic amateur tests successful. Wireless Age 10:55-8 F '23

Transmarine radio telegraphy. diags Wireless Age 9:23-4 N '21

La transmission des ondes radiotélégraphiques aux grandes distances. Génie Civil 81:243-4 S 9 '22

Wireless course in twenty lessons. S. Gernsback, A. Lescarbours and H. W. Secor. 12th ed., rev. & enl. 264p Experimenter pub. co., New York '23

Wireless telegraphy and telephony. A. P. Morgan. 6th ed. 154p Henley '22

World communication. A. N. Goldsmith. il maps Am Inst E E J 40:885-99 D '21

See also Amplifiers; Electric waves; Radio apparatus; Radio communication; Radio measurement; Radio stations; Radio transmitters; Telegraph, Carrier current; Vacuum tubes; also Radio corporation of America

Automatic recorders

Speeding up radio with phonograph records and photographic tape. F. P. Mann. il Sci Am 126:397 Je '22

Wireless messages received on phonograph records. il Pop Mech 37:920 Je '22

Examinations, questions, etc.

Radio questions and answers on government examination for radio operator's license. A. R. Nilson. [bibliog. p. 80-1] 86p McGraw-Hill '21

Radio quiz book. J. E. Smith. 2d ed. 105p National radio institute, Washington, D.C. '22

History

Sixty years of telegraph progress. H. H. Harrison. Electrician 87:600-1 N 11 '21

Installation on ships

Installing radio laboratory on a mastless ship; the airplane carrier Langley. il Wireless Age 10:61 JI '23

International shipping conference committee reports; wireless telegraphy. Marine Eng 27:643-4 O '22

Naval radio in the war zone. H. F. Breckel. il Wireless Age 10:56-9 S '23

Radio finds wider use on sea. il Marine R 52:243-4 Je '22

Radio triumphs over fire peril at sea. E. Ennis. il Wireless Age 10:35-8 D '22

Recent developments in the application of wireless telegraphy to shipping. J. A. Slee. il diag Engineering 116:410-11 S 28 '23; Same cond. Elec R (Lond) 93:443-4 S 21 '23; Abstract. Engineer 136:335 S 28 '23; Discussion. Engineering 116:387 S 28 '23; Elec R (Lond) 93:478 S 28 '23

Talking with ships at high speed. il map Wireless Age 10:37-9 Ja '23

Wireless telegraphy in the mercantile marine. F. J. Chambers. Electrician 88:682-3 Je 9 '22

Wireless warnings of iceberg danger; United States coast guard ice patrol functions exclusively by radio. O. Gordon. il Wireless Age 11:28-9 O '23

Picture transmission**See Phototelegraphy****Printing systems**

Automatic airplane transmitter. Wireless Age 9:50 S '22

Radio duplicates message typewritten in airplane on the keyboard at a station many miles away. Aviation 13:263 Ag 28 '22

Recording and printing of high-speed radio signals. G. W. O. Howe. diags Electrician 88:554-5 My 12 '22

Recording high speed signals in radio telegraphy. J. Weinberger. il diags Wireless Age 9:54-6 My '22

Typewriting by radio. H. A. Lane. il Pop Mech 38:689-91 N '22

Study and teaching

Radio. 32p Radio institute of America, New York '21

Radio code is taught to sleeping students. il Pop Mech 40:917 D '23

Tables, calculations, etc.

Dimensions of inductances. C. M. Grabson. Wireless Age 9:34-5 F '22

Graphical solution of a class of differential equations occurring in wireless telegraphy. A. A. Robb. diags Philos Mag 6th ser 43:206-15 Ja '22

UV-217 kenotron—its operation and application. W. R. G. Baker. il diags Wireless Age 9:20-5 F '22

See also Radio measurement**Underground signals**

Radio may direct rescuers in mine emergencies. G. E. Mitchell. il diag Wireless Age 10:55-6 Ja '23

Signalling by wireless telegraphy to entombed miners. Engineer 134:551 N 24 '22

Underground signaling with radio. diags Elec W 32:490 S 8 '23

France**Colonies**

La télégraphie sans fil dans les colonies françaises. G. Malignon. il map Génie Civil 83:248-53 S 15 '23

Great Britain

Imperial wireless telegraphy—a technical report. Electrician 88:130-2 F 3 '22; Elec R (Lond) 90:153-4 F 3 '22

Latin America

Latin-American engineering in 1921; progress in electrical projects and wireless telegraph installations. Elec R (Lond) 90:4-5 Ja 6 '22

Radio telegraph companies

See Radio corporation of America

Radio telegraph in aviation

Air industry to pay tribute on basic radio patent. Aerial Age 16:36-7 Ja '23

Automatic airplane transmitter. Wireless Age 9:50 S '22

Characteristics of airplane antennas. E. Bellini, diags Wireless Age 11:54-5 N '23

Directional wireless telegraphy in aircraft. C. K. Chandler, diags Inst E E J 61:803-11 J '23

Emergency radio equipment for airplanes. G. H. Daly. Wireless Age 9:61-2 My '22

Les essais en vol des avions nouveaux au service technique de l'aéronautique. A. Lesage. Il diags Génie Civil 81:85-7 JI 22 '22

Finding the way in cloudland. R. S. Wood. Wireless Age 10:41-3 Mr '23

Radio duplicates message typewritten in airplane on the keyboard at a station many miles away. Aviation 13:263 Ap 28 '22

Radio equipment of the ZR-1. S. R. Winters. Il Wireless Age 11:49 O '23

Radio in aeronautics. Aviation 13:35, 231 JI 10, Ag 21 '22

Radio typewriter for airplanes. G. H. Dacy. Sci Am 128:173 Mr '23

See also Direction finding apparatus

Radio telegraph in war

Finding and keeping war secrets. R. Lenier. Wireless Age 11:36-7 O '23

Rules for wartime use of radio adopted by international agreement. Wireless Age 10:63+ Ag '23

Radio telephone

A. B. C. of radio. W. B. Kaempffert. 63p M. H. Ray. New York '22

Amateur radio. M. J. Grainger. 160p James A. McCann co., New York '22

Armstrong super-regenerative circuit. G. J. Eltz, Jr. 52p Radio directory & pub. co., New York '22

Bell system in radio. A. H. Griswold. Wireless Age 9:42-5 My '22

Brooklyn daily eagle radio book. 62p Brooklyn daily eagle, Brooklyn, N.Y. '22

Comment recevoir la téléphonie sans fil. J. Roussel. 265p Vulbert, Paris '23

Converting sound into electricity. R. Steinmetz. Il diags Wireless Age 10:59-60 JI '23

Design of amateur 10-watt radiophone using 110-volt A. C. Il diags Wireless Age 10:61-3 F '23

Double circuit set reduces interference. J. Binns. Aerial Age 15:306 Je 5 '22

Duplex radio telephony; Marconi X series of sets. Il Elec R (Lond) 93:489-91 O 5 '23

Easy course in home radio. G. O. Squier, ed. 7v M. H. Ray & The Review of reviews co., New York '22

Efficient wireless telephone. F. L. Brittin. Il diags Pop Mech 37:475-8 Mr '22

Electrical industry and the radiophone boom. H. C. Hopkins. J Elec 48:281-2 Ap 1 '22

Elements of radio telephony. W. C. Ballard, Jr. 2d ed. 140p McGraw-Hill '23

Esperanto for the radio language. J. D. Sayers. Wireless Age 9:41-2 S '22

Example of service to the blind. W. Seeley. Il Wireless Age 10:39-40 O '22

Experience with the radiophone; report of the San Joaquin light & power corporation's experience. R. C. Denny. Il diag map Elec W 81:973-7 Ap 28 '23; Discussion. E. P. Peck. 81:1092-3 My 12 '23

Fundamental principles of radio-telephony. L. W. Chubb. Elec J 19:293-7 JI '22

Fundamentals of radio. C. F. Gray 62p Polytechnic pub. co., Los Angeles '22

Fundamentals of radio. J. L. Thomas. 207p Van Nostrand '23

Government information by radiotelephone. Il Pop Mech 37:382-3 Mr '22

Home radio; how to make and use it. A. H. Verrill. 105p Harper '22

How and why of radio. H. W. Kirby. 48p H. W. Kirby, Los Angeles '22

Install wireless telephone in fire chief's car. Il Pop Mech 36:848 D '21

Installing radio apparatus on the farm. E. L. Haan, diags Pop Mech 33:314-16 Me '23

Lamp socket can now replace antenna and battery. J Elec W 75:1166 Je 10 '22

Large scale rural radio. J. Farrell. Wireless Age 11:29-30 N '23

Last year one of achievement in radio communication. D. Suroff. Il Elec W 75:29-31 Ja 7 '22

Letters of a radio-engineer to his son. J. Mills. 265p Harcourt, Brace & co. New York '22

Making the deaf hear and the dumb speak by radio. H. H. Dunn. Pop Mech 37:80-3 Ja '22

Method of eliminating the carrier wave in wireless telephony. K. Heather. diag Elec R (Lond) 91:510-11 O 13 '22

Model electric home has radio equipment. J. T. Bartlett. Il Pop Mech 39:547-8 Ap '23

Modern radio operation. J. O. Smith. 133p Wireless press, New York '22

Modulation and distortion in radiophone sets. A. F. Murray. diags Wireless Age 9:81-3 Ag '22

Modulation systems in radio telephony. L. R. Felder. diags Wireless Age 9:29-31 Ja '22

Operation of the modulator tube in radio telephone sets. E. S. Purington. diags U S Bur Stand Sci Pa 423:377-406 '21

Le pallophotophone, appareil pour l'enregistrement photo-électrique des sons et leur transmission par radiotéléphonie. diags Génie Civil 82:621-5 Je 30 '23

Paradise for the deaf. J. G. Gebhard, sr. Wireless Age 10:27+ S '23

Le poste de radiotéléphonie, système Vitus. diag Génie Civil 83:258-9 S 15 '23

Power company communication developments. Il diags J Elec 50:358-69 My 15 '23

Power modulation for radio transmission. diags Wireless Age 9:67-8 JI '22

Practical radio. H. S. Williams. 413p Funk & Wagnalls co., New York '22

Principles of radio telephony. A. Machson. diags Wireless Age 9:72-4 Je '22

Radio? E. H. Dion. 95p Radio book co., New York '22

Radio; a practical manual with questions and answers. J. R. Irwin. 280p [Bibliography: p. 249-263] E. J. Clode, New York '22

Radio blesses the lives of the blind. W. Seeley. Il Wireless Age 9:29-30+ JI '22

Radio cheers lonely lighthouses. S. Loomis. Il Wireless Age 10:39-40+ N '22

Radio communication. W. R. G. Baker. Il diags Gen Elec R 25:535-44 S '22

Radio communication between life boat and shore. S. R. Winters. Il Wireless Age 9:45 My '22

Radio equipment at KDKA. D. G. Little. Il diags Elec J 19:245-9 Je '22

Radio experimenter's hand book. M. B. Sleeper. 143p Henley '22

Radio for all. H. Gernsback. 292p Lippincott '22

Radio for beginners. J. R. Cameron. 160p Technical bk. co., New York '22

Radio for everybody. A. C. Lescarbourea. Il map Sci Am 126:166-8+ Mr '22

Radio for everybody. A. C. Lescarbourea. 334p Scientific American pub. co., New York '22

Radio for the beginner. H. A. Fowler. 40p Harry Alfred Fowler, Kansas City, Mo. '22

Radio handbook. 564p International textbook co., Scranton, Pa. '23

Radio in the great outdoors. S. Loomis. Il Wireless Age 9:33-4 JI '22

Radio is an educational force. Il Wireless Age 9:40-1 Je '22

Radio made plain. J. D. Haskell. 79p Radlox associates, Cambridge, Mass. '22

Radio outfit compact and portable. Il Pop Mech 39:106 Ja '23

Radio phone receiving. E. Hausmann and others. 179p Van Nostrand '22

Radio primer, how to make and operate a home radiophone. W. Remy. 60p R. T. Goodwin, New York '22

Radio reception. H. J. Marx and A. Van Muffing. 241p Putnam '22

Radio telephone—Continued

- Radio simplified. L. F. Kendall, jr. and R. P. Koehler, 271p John C. Winston co., Philadelphia '22
- Radio telegraphy and telephony in 1921. Electrician 88:32-3 Ja 13 '22
- Radio telephone circuits. (Ext. div. bul. 87) 15p The University, Iowa City '23
- Radio telephone for power station intercommunication. R. C. Denny. il J Elec 49:244-5 O 1 '22
- Radio telephone handbook. H. G. Cisin. 85p Allied eng. institute, New York '22
- Radio telephony. Electrician 89:145-6 Ag 11 '22
- Radio telephony for amateurs. S. Ballantine. 296p McKay '22
- Radio-telephony for everyone. L. M. Cockaday. 212p Stokes '22
- Radio telephony in the life-saving service. Am Inst E E J 41:98 F '22
- Radio wisdom, by experts. H. B. Kanter. 34p H. B. Kanter, 1928 University Av., New York '22
- Radiophone aids Alaskan lighthouse service. Wireless Age 11:57 O '23
- Radiophone insures service to customers. E. F. Pearson. il diags Elec W 80:1395-6 D 23 '22
- Radiophone, theory and practice for amateurs. L. E. Johnson, 84p G. H. & A. L. Nichols, Lynn, Mass. '22
- Radiophones to aid crime detection. il Pop Mech 37:489 Ap '22
- La radiotéléphonie et la réception des concerts par T. S. F. J. Lynn. il diags Génie Civil 82:203-7, 226-32, 253-6, 269-77 Mr 3-24 '23
- Radio-telephony on transmission lines; the system of the Société française radio-électrique. il diags Elec R (Lond) 92:36-7 Ja 5 '23
- Roger's instructions in radio. 30p Ambassador radio co., Los Angeles, Cal. '22
- Sermon on radio. E. Margolis. Wireless Age 9:33-4 S '22
- Simple battery radiophone. F. L. Brittin. diags Pop Mech 38:979-80 D '22
- 1600-mile amateur radiophone. il diag Wireless Age 9:59-61 Je '22
- Standard radio guide. 80p Popular science monthly, New York '22
- Summer time and radio. G. V. Haskell. il Sci Am 129:90-1 Ag '23
- Taking the riddles out of radio; solving at the Washington conference the perplexities that complicated wireless communication. G. H. Dacy. il Sci Am 126:298-9+ My '22
- Ten-tube receiving and transmitting set. T. W. Hood. il Wireless Age 9:38-9 Ja '22
- Thirty-five easy lessons in radio. C. R. Smith. 117p Shrewsbury pub co., Chicago '22
- Transatlantic conversation nearly here. Elec W 81:177 Ja 20 '23
- Transatlantic radio telephony H. D. Arnold and L. Espenschied. il diags Am Inst E E J 42:815-26 Ag '23
- Transatlantic radiotelephony. Engineering 115:80-1, 272-3 Ja 19, Mr 2 '23; Elec R (Lond) 92:90-1 Ja 19 '23
- Transatlantic wireless telephony test. il Engineer 135:63 Ja 19 '23
- Transoceanic wireless telephony. H. W. Nichols. il diags Inst E E J 61:812-20; Discussion. 820-2 Jl '23; Abstract. Elec R (Lond) 92:356-8 Mr 2 '23
- Trans-Pacific radio. E. Ennis. il Wireless Age 10:36-8+ S '23
- 2EL talks to GXAD on 100 watts; trans-continental communication, by voice absolutely without parallel in annals of amateur radio operation. il diag Wireless Age 10:56-7 Mr '23
- Use of radio telephones by western power companies. R. C. Denny. il J Elec 49:317-19 N 1 '22
- What radio means to the blind. il Wireless Age 9:45+ Ag '22
- Why to use the radio telephone. H. L. Wills. Elec W 81:332 F 10 '23
- Wireless hints for electrical contractors. P. W. Harris. Elec R (Lond) 92:526-9, 567-9 Ap 6-13 '23

- Wireless telegraphy and telephony. A. P. Morgan. 6th ed. 154p Henley '22
- Wireless telephone progress. Sci Am 126:91 F '22
- Wireless telephony; Radio research board's report. Elec R (Lond) 91:211-12 Ag 11 '22; Electrician 89:130 Ag 4 '22; Engineer 134:145-6 Ag 11 '22
- World communication. A. N. Goldsmith. il maps Am Inst E E J 40:885-99 D '21
- See also Radio apparatus; Radio broadcasting; Radio communication; Radio stations; Telephone, Carrier current; Vacuum tubes

Advertising

See Radio apparatus industry—Advertising

Dictionaries

- Radio dictionary. J. R. Cameron. 80p Technical bk. co., New York '22

Exhibitions

See Radio apparatus—Exhibitions

History

- Important dates in progress of radio-telephony. Aerial Age 15:210-11 My 8 '22

Installation on ships

- Biggest ship has biggest radio. il Wireless Age 10:44-5 Ag '23
- Duplex radio telephone transmitter; with special reference to tests on the S.S. America. W. R. G. Baker and I. F. Byrnes. il diags Gen Elec R 25:477-83 Ag '22; Same cond. Elec R (Lond) 91:319-21 S 1 '22
- Radio connects ship and shore telephone. W. Seeley. il map Wireless Age 10:41-3 D '22
- Telephoning to sea. il diag Sci Am 126:304-5 My '22

Laws and regulations

See Radio laws and regulations

Police uses

- Philadelphia police through radio have solved the problem of patrolling wide areas and quelling sudden disturbances. W. Seeley. il Wireless Age 10:25-6 F '23
- Radio on motorcycle used to catch bandits. il Pop Mech 40:199 Ag '23

Study and teaching

- Easy course in home radio. G. O. Squier, ed. 7v. Martin H. Ray and Review of Reviews co., New York '23

Testing

- Some measurements of telephone sensitivity. H. H. Smith. diags Wireless Age 9:65-6+ Ag '22

Radio telephone, interdepartmental

- Radio for the plant telephone system. il Sci Am 128:187 Mr '23

Radio telephone in aviation

- Radiophoning from airplanes. Aerial Age 15:138 Ap 17 '22
- Wireless equipment of aircraft. il diags Engineer 135:192-6 F 23 '23

Radio telephone in hospitals

- Boy scouts recruit radio. W. Seeley. il Wireless Age 10:37+ N '22
- Necessity of providing radio equipment for hospitals. B. S. Coler. Wireless Age 9:37 S '22
- Radio aid for muddled minds. W. Seeley. il Wireless Age 9:35-6 S '22
- Radio relief for the ailing. W. Seeley. il Wireless Age 9:35-6+ Ag '22
- Radiotherapy in many hospitals. A. S. Hyman. il Wireless Age 11:39-40 O '23
- 350 headsets on hospital's staff. W. E. Johnson. il Wireless Age 10:40-1 Ag '23

Radio telephone in petroleum industry

- Consistent use of radiophone proves advantages over wire line. J. S. Milam. Nat Pet N 15:67+ F 21 '23

- Indian pipe line to use wireless phones. Nat Pet N 14:52-3 Ap 12 '22

Radio telephone in prisons

- How Atlanta prisoners listen in. il Wireless Age 11:33 O '23

Radio telephone in prisons—Continued

- Prison wardens want radio. M. B. Booth. il
Wireless Age 10:31-2 My '23
Radio penetrates prison walls. M. Henle. il
Wireless Age 10:27-8+ O '22
Radio's chance in the prison. M. B. Booth. il
Wireless Age 10:23-5 Ap '23

Radio telephone on motor buses

- Motor buses equipped with radio apparatus. il
Pop Mech 38:169-70 Ag '22

Radio telephone on motor trucks

- Practical demonstration of radio equipped
motor repair lorry. J. S. Smith. il Wireless
Age 11:60+ N '23

Radio telephone on railroads

- Ninety-mile voice communication by radio-
phone on moving train. il Wireless Age 9:63
Jl '22
Pullman and caboose radio; the pioneer work
of the Lackawanna railroad. S. G. Roberts.
il Sci Am 127:12-13 Jl '22
Radio equipment installed on railroad trains.
il Pop Mech 37:842 Je '22
Train radiophone test successful. D. W.
Richardson. Wireless Age 9:59-60 My '22

Radio towers

- Le calcul des pylônes haubanés; application
aux pylônes de la station radioélectrique
de Sainte-Assise. M. Bourseire. il Génie
Civil 83:97-105 Ag 4 '23
Design of radio towers and masts: wind-
pressure assumptions. C. F. Elwell. Inst E
E J 61:407-12; Discussion. 412-16 Mr '23
Methods of erecting 410 ft. high radio towers.
Eng & Contr 57:624 Je 28 '22
Tallest concrete tower for Japanese radio. il
Pop Mech 38:844 D '22
Welded radio towers 150 ft. high built at
Peking. H. S. Bear. il diags Eng N 88:650-1
Ap 20 '22

Radio transformers

- Oscillation transformer. diags Pop Mech 37:
150 Ja '22
Radio frequency ammeters and current trans-
formers. P. MacGahan. il Elec J 19:271-3
Je '22

Radio transmitters

- American arc radio transmitter. C. R. Leutz.
il diags Electrician 88:8-9 Ja 6 '22
Arc versus alternator. A. Bidault des
Chauxes. il Wireless Age 9:41 Mr '22
At the sending end of radio. P. Boucheron.
il Sci Am 126:232-3 Ap '22
Commercial radio telephone and telegraph
transmitting equipment. W. R. G. Baker
and B. R. Cummings. Gen Elec R 25:603-6,
666-73 O-N '22
Diaphragmless transmitter improves broad-
casting. il Pop Mech 39:836 Je '23
Directive radio transmission on a wave-length
of 10 meters. S. R. Winters. il Wireless Age
10:55-6 Ag '23
Duplex radio telephone transmitter; with
special reference to tests on the S. S. Amer-
ica. W. R. G. Baker and I. F. Byrnes. il
diags Gen Elec R 25:477-83 Ag '22; Same
cond. Elec R (Lond) 91:319-21 S 1 '22
Duplex radio transmitting system. diags
Wireless Age 9:68+ Ag '22
DX transmission from a New York apart-
ment. R. L. Duncan. il diags Wireless Age
10:60 Ap '23
Factors affecting the range of radio trans-
mission. B. R. Cummings. Wireless Age
10:59 Ja '23
5-watt vacuum tube transmitter. G. L. Gates
and others. diags Wireless Age 9:27-31 F
'22
French high power transmitting tubes. il
Wireless Age 9:56-8 S '22
Glow-discharge transmitter. il Wireless Age
10:64 My '23
Hot cathode rectifier as applied to radio
transmitters. D. G. Little. il diags Elec J
20:139-41 Ap '23
Ideal amateur 5-watt radiophone transmitter.
S. C. Miller. il diags Wireless Age 10:60-2
D '22
Low-power radio telephone and telegraph
transmitter. I. F. Byrnes. il diags Gen Elec
R 26:512-17 Jl '23

- Modulating the output of your C.W. set. C.
A. Phillips and others. Wireless Age 9:63-
5+ My '22
New C. W. transmitter at 2EL. il diags
Wireless Age 10:72-4 N '22
Operation of the modulator tube in radio
telephone sets. E. S. Furlington. diags U S
Bur Stand Sci Pa 423:377-406 '21
Performance of a radio-telegraphic trans-
mitter, with special reference to the new in-
stallation at North Foreland. N. Lea. diags
Inst E E J 60:942-5 Ag '22; Same cond.
Electrician 89:154-6 Ag 11 '22; Discussion.
Inst E E J 60:945-7 Ag '22
Portable transmitter in Winnipeg. il Wireless
Age 10:66 Ja '23
Practical CW telegraph and telephone trans-
mission. E. T. Jones. diags Wireless Age 9:
68-70 S '22
Radio-telegraphic transmitters. A. C. Warren.
diags Inst E E J 60:80-4 D '21
Radio transmitting sets for the Mexican
national radio system. B. R. Cummings. il
map Gen Elec R 26:172-7 Mr '23
Ship concerts broadcast to Canadian expo-
sition. H. F. Shoemaker. il plan Wireless
Age 10:63-4 N '22
Simple radio-transmitting set. F. L. Brittin.
diags Pop Mech 38:488-9 S '22
Transformer iron loss data. J. Marsten. charts
diags Wireless Age 9:31, 34 Ja '22
2 K. W. vacuum tube set for Panama. il
Wireless Age 9:58 Je '22
See also Pallophotophone

Radio waves

- Can power be transmitted by radio? Power Pl
Eng 27:482-4 My 1 '23
Communication by high frequency waves. J.
B. Taylor. Gen Elec R 26:61-4 Ja '23
International radio-communication; the classi-
fication of waves. Electrician 88:552-3 My 12
'22
Ionized strata. H. de A. Donisthorpe. diags
Wireless Age 10:61 Je '23
Marconi shows results with short waves in
radio experiments. Elec W 79:1285 Je 24
'22
Power transmission by radio. O. S. Sawn. il
Pop Mech 39:521-2 Ap '23
Radio power transmission's improbability. C.
P. Steinmetz. Wireless Age 10:63 O '22
Radio waves and attenuation. L. P. Burt.
Wireless Age 10:58 F '23
Short story in wireless. E. Thompson. Elec-
trician 89:148 Ag 11 '22; Discussion. 89:206-
7, 412-13 Ag 25, O 13 '22
Stationary waves on open-ended solenoids.
A. Press. Inst E E J 61:405-6 Mr '23
Wave motion for the production of distant
effects. J. Slepian. Elec J 19:335-7 Ag '22

Radioactive substances

- Les gaz rares des gaz naturels. C. Moureu.
Chem Soc J 123:1905-47 Ag '23
International table of the radioactive ele-
ments and their constants. Am Chem Soc
J 45:870-4 Ap '23; Excerpt (Table). Soc
Chem Ind J (Chem & Ind) 42:175 F 23 '23
Photographing the ionization tracks of the
rest atoms of radioactive elements. D. M.
Bose and S. K. Ghosh. diags Philos Mag 6th
ser 45:1050-4, pl 14 My '23
Über die adsorption radioaktiver substanzen.
E. Ebler and A. J. van Rhyn. diags Deut-
sche Chem Gesell Ber 54:2896-2912 N '21
Über die anreicherung radioaktiver substanz
in eisenhaltigen quellenabsätzen. F. Hen-
rich. Deutsche Chem Gesell Ber 54:1715-22
S '21

See also Autunite; Mesothorium; Protac-
tinium; Radioluminescence; Radium; Tho-
rium; Uranium

Radioactivity

- Artificial disintegration of the elements. E.
Rutherford. Chem Soc J 121:400-15 Mr '22
Attempt to detect induced radioactivity re-
sulting from α -ray bombardment. A. G.
Shenstone. diags Philos Mag 6th ser 43:938-
43 My '22
Characteristics of highly sensitive discharge
points. J. Zeleny. diags Phys R 19:566-71 Je
'22

Radioactivity—Continued

Determination of the degree of hydration of salts by a radioactive method. H: Terrey and V: G: Jolly. *diag Chem Soc J* 123: 1979-82 Ag '23

Determination of the number of α -particles per second emitted by thorium C of known γ -ray activity. A. G. Shenstone and H. Schlundt. *Philos Mag* 6th ser 43:1038-47 Je '22

Introduction to the chemistry of radioactive substances. A. S. Russell. 173p J. Murray, London '22

Radio-active disintegration series and the relation of actinium to uranium. A. S. Russell. *diags Philos Mag* 6th ser 46:642-56 O '23

Radio-activity. E. Rutherford. *diags Engineering* 113:299-300, 331-2, 365-6, 386-7, 414-15, 464-6 Mr 10-Ap 14 '22; *Abstract. Electrician* 88:411-13, 501-4 Ap 7, 28 '22

Radioactivity and radioactive substances. J. Chadwick. 111p Pitman '21

Radioactivity of miscellaneous waters examined in the Bureau of chemistry. W. W. Skinner and J. W. Sale. *J Ind & Eng Chem* 14:949-50 O '22

Rays of positive electricity and their application to chemical analysis, by J. J. Thomson. *Review. 2d ed. Engineering* 112:846 D 23 '21

Transmuting the elements. R. D. Rusk. *il diag Pop Mech* 38:917-18 D '22

Utilization of atomic forces. *Sci Am* 126:121 F '22

See also Alpha rays; Beta rays; Electrons; Helium; Ionization; Phosphorescence; Radiography; Radioluminescence; Radium; Thorium; X rays

Radiography

Checking up the X-ray with the half-tone screen. *il Sci Am* 127:317 N '22

Crystal structure as determined by X-ray analysis. *diags Elec R (Lond)* 90:909-10 Je 30 '22

Effect of the form and dimensions of the sample upon the accuracy of X-ray crystal analysis by the powder method. L. W. McKeehan. *J Fr Inst* 193:231-42 F '22

Lead diaphragm is used with X-ray apparatus. *il Pop Mech* 37:166 F '22

New protective material for radiological work. *Pop Mech* 38:498 O '22

Die praktische durchführung von röntgenstruktur-untersuchungen. R. Glocker. *diags Stahl & Eisen* 42:542-5 Ap 6 '22

Principles of radiography. J. A. Crowther. 138p Van Nostrand '22

Putting the X-ray to work in everyday production of metals. A. St John. *il diag Chem & Met Eng* 29:280-3 Ag 13 '23; *Same. Iron Age* 112:467-9 Ag 23 '23; *Same. Brass W* 19: 301-4 S '23; *Same. Iron Tr R* 73:1299-1303 N 8 '23

Radiological inspection. V. E. Pullin. *il Aeronautical J* 26:336-40; *Discussion. 340-8 S '22*

Radiométallographie. H. Pilon. *il Chimie & Ind* 6:579-82 N '21

Roentgen-ray photography. P. J. Risdon. *il diag Sci Am* 126:182 Mr '22

Röntgenphotographie und materialprüfung. R. Schenck. *il diags Stahl & Eisen* 41:1441-9 O 13 '21; *Abstract (X-ray in metal analysis). Iron Age* 109:531 F 23 '22

Röntgenstruktur-untersuchungen an blöcken und knüppeln. F. Heinrich. *il Stahl & Eisen* 42:540-2 Ap 6 '22

Scattered X-rays in X-ray photography. R. B. Wilsey. *J Fr Inst* 194:583-96 N '22

Use of X-rays in examination of textiles. R. Truesdale and C. Hayes. *Textile World* 61: 653+ F 4 '22; *Abstract. India Rubber W* 66: 478-9 Ap '22

X-ray examination of alloys. *Engineering* 113:206 F 17 '22

X-ray examination of materials. J. F. Driver. *il diags Elec R (Lond)* 90:784-5 Je 2 '22

X-ray examination of materials. A. G. Warren. *il diags Inst E E J* 61:949-59 S '23; *Abstract. Elec R (Lond)* 92:672-3 Ap 27 '23

X-ray examination of steel castings. H. H. Lester. *il diags Chem & Met Eng* 28:261- F 7 '23; *Abstract. Mech Eng* 45:257 Ap '2

X-raying heart action of school children. *il Pop Mech* 40:54 J1 '23

X-rays and engineering investigation. A. M. Codd. *il diag Automobile Eng* 12:179-81 Jc '22

X-rays as a means of determining the composition of alloys. T. S. Fuller. *il Gen Elec R* 25:746-50 D '22

Radioluminescence

Junghaus patent for luminous compound invalid. W. Gustin. *Chem & Met Eng* 27:1258 D 27 '22

Radioluminescence and its technical application. V: F. Hess. *Illum Eng Soc* 17:127-34 Mr '22

Radiometers**Testing**

Further tests of stellar radiometers and some measurements of planetary radiation. W. W. Coblenz. *U S Bur Stand Sci Pa* 460: 535-58 '23

Tests of stellar radiometers and measurements of the energy distribution in the spectra of 16 stars. W. W. Coblenz. *il U S Bur Stand Sci Pa* 438:725-50 '22

Radiophragm heating. See Surface combustion

Radiotelephony. See Radio telephone

Radiotherapy

American practice as regards the generation of suitable voltages and currents for deep therapy. C. H. Holbeach. *diags Inst E E J* 61:369-76 Mr '23

Precise control of dosage in X-ray therapy. *il Pop Mech* 38:882-3 D '22

See also Radium—Therapeutic use

Radiotron

New dry battery receiving tube radiotron UV-199. J. C. Warner. *il diags Wireless Age* 10: 58-9+ Je '23

New receiving radiotron—UV-201A. J. C. Warner. *il Wireless Age* 10:57-8 My '23

20 k.w. transmitting radiotron. I. Langmuir. *por Wireless Age* 9:58 S '22

See also Kenotron

Radium

Action of penetrating radium radiation on inorganic and bio-colloids. A. Fernau and W. Pauli. *Chem Soc J* 122 pt 2:202 Mr '22

Adsorption of radium-B and radium-C by ferric hydroxide. J: A. Cranston and R. Hutton. *Chem Soc J* 121:2843-9 D '22

Adsorption of the -B and -C members of the radium and thorium series by ferric hydroxide. J: A. Cranston and R. Hutton. *Chem Soc J* 123:1318-24 My '23

Chemical action produced by radon; characteristics of the alpha-ray bulb as a source of ionization. D. C. Bardwell and H. A. Doerner. *Am Chem Soc J* 45:2593-9 N '23

Chemical action produced by radon; the determination by a chemical method of the mean effective path of alpha particles in small spheres. S. C. Lind and D. C. Bardwell. *Am Chem Soc J* 45:2585-92 N '23

Coloring and thermophosphorescence produced in transparent minerals and gems by radium radiation. S. C. Lind and D. C. Bardwell. *il J Fr Inst* 196:375-90 S '23

Coloring of the diamond by radium radiation. S. C. Lind and D. C. Bardwell. *J Fr Inst* 196:521-8 O '23

Coloring precious stones by radium. F. H. Mason. *Eng & Min J* 112:965 D 17 '21

Department of calcites toward radium radiations. W: P. Headden. *Am J Sci* 5th ser 6:247-61 S '23

Drop in radium price seen as result of discovery. *Pop Mech* 40:931 D '23

Excitation of γ radiation by a particles from radium emanation. F. P. Slater. *diags Philos Mag* 6th ser 42:904-23 D '21

Extraction and recovery of radium, vanadium, and uranium from carnotite. K. B. Thews and F. J. Heinle. *flow sheet Ind & Eng Chem* 15:1159-61 N '23

Fused silica in radium production. C: H. Viol. *Chem & Met Eng* 28:692 Ap 16 '23

Radium—Continued

Gamma-ray action of extensive flat radium preparations at different distances with and without absorbing materials. V: F. Hess. *Phys R* 19:73-9 F '22

Is radium heating up the earth? R. D. Rusk. *Pop Mech* 39:227-3 F '23

Life history of an a particle from radium. E. Rutherford. *Engineering* 115:769-70 Je 22 '23

Madagascar source française de radium. A. Karl. *Chimie & Ind* 8:915-20 O '22

Making a mole hill out of a mountain; how radium is extracted from Katanga ores in a new plant at Oolen, in Belgium. Eng & Min J 116:545 S 29 '23

Les minerais à radium du Congo Belge et leur traitement en Belgique. A. Schoep. *Chimie & Ind* 10:167-9 J1 '23

Price of radium in relation to the cost of mining. G: Kunkle. Eng & Min J 114:503-4 S 16 '22

Producers of radium-bearing ores and radium. F: H. Hess. Eng & Min J 114:859 N 11 '22

Radioluminescence and its technical application. V: F. Hess. *Illum Eng Soc* 17:127-34 Mr '22

Radium-bearing minerals found on British Columbia islands. F. Dickie. *il Pop Mech* 37:335-6 Mr '22

Radium in the house. W: H. Dey. *il Am Arch* 122:423-4 N 8 '22

Radium: its recovery, applications, and the present industrial situation. H. E. Bishop. *Chem Age* 31:52-4 F '23

Radium ores of Jachymov. *Sci Am* 127:355 N '22

Radium production in America. S. C. Lind. *Chem & Met Eng* 26:1012-13 My 31 '22

Radium production in Czecho-Slovakia. Eng & Min J 113:50 Ja 14 '22

Radium, uranium and vanadium. F. L. Hess. Eng & Min J 115:95 Ja 20 '23

Radium, uranium and vanadium deposits of southwestern Colorado. R. C. Coffin. (*Colorado. Geol. survey. Bul.* 16) 231p Eames bros., Denver '21

Rise of γ -ray activity of radium emanation. F. P. Slater. *Philos Mag* 6th ser 44:300-4 Ag '22

Romance of industry—radium. J. C. Gray. *il Am Ind* 23:21-3, 26-7 O '22

Sources and marketing of radium. K. L. Kithil. Eng & Min J 116:457-9 S 15 '23

Über den ionium-gehalt in radium-rückständen. E. Rona. *Deutsche Chem Gesell Ber* 55:294-301 F '22

Uranium and radium mining in 1921. R: B. Moore. Eng & Min J 113:92 Ja 21 '22

Uranium and radium of Katanga. M. H. Buttgenbach. *Min & Sci P* 123:636-7 N 5 '21

See also Carnotite; Radioactivity; Radiography

Analysis

Improvement in the determination of the radium content of low-grade radium-barium salts. V: F. Hess and E. E. Damon. *Phys R* 20:59-64 J1 '22

New method of determining the radium content of carnotite ores and other products of low activity. V: F. Hess. *Am Electrochem Soc Trans* v 41 (preprint 19):263-77 Ap '22

Quantitative estimation of radium by the emanation method. C. E. Baumgarten and H. H. Barker. *diags Ind & Eng Chem* 15:597-9 Je '23

Bibliography

Bibliography on radium; its uses and results from its discovery to January 1922. (v. 2) 132p U.S. Radium corporation, 58 Vine st., N.Y. '22

Prices

What is the meaning of radium at \$70 per milligram? H. H. Barker. *Chem & Met Eng* 27:1114-5 D 6 '22

Therapeutic use

First city radium clinic for rich and poor in Philadelphia. D. C. Miner. *il Pop Mech* 37:592 Ap '22

X-ray and radium protection committee; general recommendations. *Elec R (Lond)* 91:174-5 Ag 4 '22

Bibliography

Bibliography on radium; its uses and results from its discovery up to January, 1922. Comp. by American institute of medicine for United States radium corporation, New York. 132p American institute of medicine, New York '22

Radium paint. See Radioluminescence

Radon. See Radium

Raffia

See Dyes and dyeing—Raffia

Raffinose

Improved method for preparing raffinose. E. P. Clark. U S Bur Stand Sci Pa 432:607-10 '22; Same. *Am Chem Soc J* 44:210-13 Ja '22

Rafters

Short cuts to rafter bevels. C. A. Doner. *diags Bldg Age* 44:52-3 O '22

Rag picking. See Rags

Rag rugs. See Rugs

Rags

Rag sorting and shredding. *Int Labour R* 7:377-401 F '23

Ragweed

Phytosterols of ragweed pollen. F: W. Heyl. *Am Chem Soc J* 44:2283-6 O '22

Rail. See Rails

Rail bender

Bending device renders old rails usable. *il Pop Mech* 39:932 Je '23

Effective rail bender. *il Elec Ry J* 61:687 Ap 21 '23

Rail bender developed by Eastern Massachusetts street Ry. co. for use on T-rail. *il Eng & Contr (Ry)* 58:55 O 18 '22

Rail bonds

Measuring voltage drop on rail or feedwire. F. C. Sinback. *diag Coal Age* 21:492 Mr 23 '22

Special track work bonding. Eng & Contr (Ry) 60:834 O 17 '23

Steel rails embrittled by welding bonds. *il diag Eng N* 88:524-5 Mr 30 '22; Discussion. *Elec Ry J* 59:715 Ap 29 '22

See also Rail joints

Rail fastenings

Attaches de rails, système V, pour traverses en bois ou métalliques. *diags Génie Civil* 83:14-15 J1 7 '23

Clips for fastening track rails to stringers of ore dock. *diag Eng & Contr (Ry)* 59:1354 Je 20 '23

See also Rail joints; Railroad tie plates

Specifications

A. R. E. A. specifications for quenched carbon steel and alloy steel track bolts. *Ry Age* 74:622-4 Mr 14 '23

Testing

Determining the impact loads on track bolts. *il Ry Age* 73:277-8 Ag 12 '22

Rail handling

Handling of high carbon steel rails. Eng & Contr 56:491 N 30 '21

Method of handling rail with rail forks. J. J. Hess. *diags Eng & Contr (Ry)* 59:421 F 21 '23

Rail joints

Bonding and joint welding. R. C. Warring. *Aera* 10:1083-6 J1 '22

Boosting rail joints. *diags Elec Ry J* 61:1009 Je 16 '23; Same. Eng & Contr (Ry) 60:108 J1 18 '23

Butt-weld process of rail joinery. *il Elec Ry J* 60:285-7 Ag 26 '22

Cast welded joints in Brooklyn. G. H. McKelway. *il Elec Ry J* 60:660-2 O 21 '22

Co-operative effort to solve welded rail joint problems. Eng & Contr (Ry) 59:1140-1 My 16 '23

Electric resistance welded rail joints. E. B. Entwisle. *diags Elec Ry J* 59:940-1 Je 10 '22

Rail joints—Continued

- Increasing the weld section in the seam-weld joint. diag Elec Ry J 60:808 N 18 '22
 Joint used to join rails for pipe laying. il diags Concrete 21:29 J1 '22
 Location of joints in track. W. B. Potter. Eng & Contr (Ry) 59:889 Ap 18 '23
 Method and cost of reclaiming used fish plates. E. J. Schuler. Eng & Contr (Ry) 59:178-9 Ja 17 '23
 New mitered rail joint for Cleveland street railways. diag Eng & Contr 58:273 S 20 '22; Elec Ry J 62:181 Ag 4 '23
 New paving block for track joints. il Can Eng 43:563 N 21 '22
 Non-spacing of joint ties and non-slotting of joints. Eng & Contr (Ry) 58:139-40 D 20 '22
 Recent improvements on design of rail joint. diags Ry R 73:398-9 S 15 '23
 Reclaiming joints in Indianapolis. T. H. David. Elec Ry J 59:199-201 F 4 '22; Same. Eng & Contr 57:158-9 F 15 '22
 Reclaiming worn rail joints. il Eng & Contr (Ry) 59:888 Ap 18 '23
 Surface welding and grinding. G. H. Smith. Aera 10:1086-8 J1 '22
 Welding postponed rail renewal. R. J. Custer. Elec Ry J 59:202-3 F 4 '22
 Why use base plates with welded rail joints? H. H. George. Elec Ry J 60:265-6 Ag 19 '22
See also Rail bonds

Testing

- Joint testing machine proposed. diags plan Elec Ry J 59:977 Je 17 '22
 Progress toward rail joint tests. Aera 11:644-6 Ja '23
 Rail joint tests on the Detroit municipal railway. il Elec Ry J 62:89-95 J1 21 '23
 Technical points in connection with the approaching rail-joint tests. Elec Ry J 61:92-3 Ja 13 '23
 Tests of welded joints by the Boston Elevated railway. diags Elec Ry J 61:555-60 Mr 31 '23
 Tests of welded rail joints. W. L. Wilson. Elec Ry J 62:414-15 S 15 '23; Same. Eng & Contr (Ry) 60:833-4 O 17 '23
Rail laying. *See* Railroads—Track
Railcars. *See* Motor cars (railroad)
Railings
 Balustrade in Boboli gardens, Siena, Italy, measured and drawn by R. M. Blackall. Am Arch 121:218-19 Mr 15 '22
 Expansion details for concrete bridge railing. O. W. Gatchell. il diag Eng N 91:520 S 27 '23

Railroad, Gravity. *See* Gravity railroad**Railroad administration (United States).** *See* Railroads and state—United States—Government operation, 1917-1920; United States—Railroad administration**Railroad bonds.** *See* Railroads—Securities**Railroad bridges.** *See* Bridges, Railroad**Railroad construction.** *See* Railroad engineering; Railroads—Construction**Railroad education**

- Education—the answer to excessive rail regulation. C. G. Juneau. Ry R 70:85-7 Ja 21 '22
 Institute of transport's educational program; courses of study to be required of applicants for admission. Ry Age 75:395-7 S 1 '23
 Maintenance of mental equipment account. Ry R 73:205-7 Ag 11 '23
 Traveling school for railway men. il Sci Am 129:249 O '23
Railroad engineering
 Economics of railroad engineering. F. S. Stevens. Ry R 72:937-40 Je 2 '23; Same. Eng & Contr (Ry) 59:1403-7 Je 20 '23
 Eliminating a tunnel without interrupting traffic on Bessemer & Lake Erie R.R. il diags plan Eng N 89:182-5 Ag 3 '22
 Filing engineering literature. A. F. Ganier. Eng & Contr (Ry) 59:1137-8 My 16 '23
 Railroad engineer and the needs of tomorrow. W. S. Kinnear. Eng N 90:428-31 Mr 8 '23

What is the general outlook for railway engineering; views of railroad and supply men. Ry R 72:448-50 Mr 10 '23

See also Grade crossing elimination; Locomotives; Railroad surveying; Railroads—Construction; Railroads—Curves and turnouts; Railroads—Earthwork; Railroads—Location; Railroads—Maintenance and repair; Railroads—Track

Tables, calculations, etc.

See Railroads—Curves and turnouts

Railroad engineers

- Can the railway engineer become an operating officer? Eng N 88:606 Ap 13 '22
 New engineering organization on a British railway. Eng N 91:517 S 27 '23
 Relation of the engineers to railroad operation. R. J. Smith. Eng & Contr 57:250-1 Mr 15 '22
 Training young engineers in railway maintenance work. Eng & Contr 58:272-3 S 20 '22
See also Locomotive engineers; *also* Reed, Samuel B.

Railroad labor. *See* Railroads—Employees; Railroads—Wages**Railroad labor board**

- Abolition of railroad labor board favored by Secretary of labor. Comm & Fin Chr 115:2125 N 11 '22
 Appropriations recommended for I.C.C. and Labor board. Ry Age 74:184-5 Ja 13 '23
 Board condemns labor policy of Pennsylvania. Ry Age 74:1513-14 Je 23 '23
 Chairman Hooper sees red. S. Thompson. Ry R 71:560-1 O 21 '22
 Chicago court rules in favor of Pennsylvania R.R. in question involving jurisdiction of Railroad labor board. Comm & Fin Chr 114:1969-70 My 6 '22
 Contract work under fire before Labor board. Ry Age 71:1267-70 D 24 '21
 Contractor sues to test contract ruling of Labor board. Ry R 71:797 D 2 '22
 Controversial opinions of the Labor board in the case of signalmen's pay. Ry R 73:587-90 O 20 '23
 Decision of Railroad labor board re wages of clerical and station employees and others. Monthly Labor R 15:346-50 Ag '22
 Decision of the Railroad labor board on the living wage. Monthly Labor R 15:1287-94 D '22
 Decisions of Labor board violated. B. W. Hooper. Ry R 72:93 Ja 6 '23
 Decisions of the Railroad labor board; the Pennsylvania railroad cases. Monthly Labor R 17:418-25, 677-81 Ag-S '23
 Employees question legality of wage conferences. Ry Age 72:739-41 Mr 18 '22
 Enforcement of railroad labor board decisions. 84p University of North Carolina, Chapel Hill, N.C. '22
 Enforcement of the decisions of the Railway labor board. L. T. Beman, comp. Ref Shelf 1:1-81 no 7 '23
 Excess of well intentioned zeal in decisions of the Railroad labor board regarding contract work. Ry Age 72:1158-9 My 20 '22
 Functions and limitations of the Labor board. Comm & Fin Chr 116:757-8 F 24 '23
 Further cuts in wages. Ry Age 72:1504 Je 17 '22
 Hearings on wage reductions. Ry Age 72:563-5 Mr 11 '22
 Hooper addresses New York railroad club. Ry Age 71:1197-9 D 17 '21
 Hooper scarecrow. Ry R 71:562-4 O 21 '22
 Issue raised with and by the Railroad labor board. Comm & Fin Chr 114:2174-5 My 20 '22
 Labor board again rejects living wage theory. Ry Age 73:837-8 N 4 '22
 Labor board appeals adverse court decision in Pennsylvania case. Ry Age 72:1124-5 My 13 '22
 Labor board considers new rules for clerks. Ry Age 72:174 Ja 14 '22
 Labor board decision on shop wages. Ry R 70:343-4 Je 17 '22

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Labor board declares contract shops under its jurisdiction. Ry R 70:688-90 My 13 '22

Labor board disapproves contracting of repairs. Ry Age 72:1111-12 My 13 '22

Labor board hands down significant decision; carriers' ability to pay recognized as secondary factor in fixing wage scales. Ry Age 71:929-31 N 12 '21

Labor board renders two significant decisions. Ry Age 73:985-6 N 25 '22

Labor board sustained by Supreme court. Ry Age 74:479 F 24 '23

Labor board without power to compel negotiations with labor unions; decision in the Pennsylvania case. Ry R 70:605-8 Ap 29 '22; Same cond. Ry Age 72:1021-4 Ap 29 '22

Labor leaders argue for large wage increases. Ry Age 72:884-6 Ap 8 '22

Labor leaders withdraw from wage cut hearing. Ry Age 72:1079-81 My 6 '22

Maintenance of way men before the Labor board. Ry R 71:321-2 S 2 '22

Pennsylvania labor board case argued in Supreme court. Ry Age 74:228 Ja 20 '23

Pennsylvania railroad obtains injunction restraining U.S. labor board. Comm & Fin Chr 113:2469-70 D 10 '21

Pennsylvania railroad's issue with the Labor board. S: Rea. Ry R 72:777-8 My 5 '23; Excerpt. Comm & Fin Chr 116:2086-7 My 12 '23

Pennsylvania stands ground against Labor board. Ry Age 74:1093-4 My 5 '23

Power of United States Railroad labor board to enforce awards. Monthly Labor R 14:1252-5 Je '22

Powers of the United States railroad labor board (Pennsylvania railroad case). Monthly Labor R 16:835-8 Ap '23

Rail strike against government; legally authorized board having taken complete jurisdiction over wages and conditions. J. C. Davis. Iron Tr R 69:1429 D 1 '21

Railroad labor board decision on railroad shop rules and working conditions. Monthly Labor R 14:127-51 Ja '22

Railroad labor board decisions. Monthly Labor R 16:1038-40, 1312-16 My-Je '23

Railroad labor board economics. B. Baker. Annalist 19:580-4 My 29 '22

Railroad labor board; its history, activities and organization. J. Bernhardt. 83p [biblog. p. 78-81] Johns Hopkins press, Baltimore '23

Railroad labor board reverses itself on status of strikers. Ry R 71:761 N 25 '22

Railroad labor board wins appeal in Pennsylvania case. Ry R 71:151-4 JI 29 '22; Excerpts. Ry Age 73:193-4 JI 29 '22

Railroads and brotherhoods said to be planning concerted action to abolish Labor board. Comm & Fin Chr 117:45-6 JI 7 '23

Railroads—decision of the Railroad labor board on outside contracts. Monthly Labor R 14:1198-1204 Je '22

Report of committee on public ownership and operation. Ry Age 73:1002-3 N 25 '22

Samuel Rea explains stand of Pennsylvania R.R. to Labor board. Ry Age 74:1314 Je 2 '23

Shippers' views of the Railroad labor board. Ry Age 73:982-3 N 25 '22

Should the Railroad labor board be moved to Washington; views of a typical group of railroad men. Ry R 71:334-6 S 16 '22

Test power of Railroad labor board in court. Ry R 70:488-91 Ap 8 '22

Time to abolish the Railroad labor board. B: Baker. Annalist 20:411-12 O 23 '22

Wages of M. of W. employees before Labor board. Ry Age 72:921-4 Ap 15 '22

See also Railroads—Employees—National agreements and Labor board rules

Railroad land

How to buy right-of-way. O. F. Scudder. Ry Age 73:739 O 21 '22

Methods employed by the Bureau of valuation in appraising railway lands. H. S. Marshall. W Soc E J 28:443-6 O '23; Same. Eng & Contr (Ry) 60:1297-1300 D 19 '23

Unearned increment in railway land. Ry Age 74:984-5 Ap 21 '23

Railroad law

Effect of the elections on railroad legislation. Ry Age 73:946-7 N 18 '22

Interchangeable mileage bill passed by Senate. Ry Age 72:267-3 Ja 28 '22

Interstate commerce act, and other federal statutes of particular interest to railroad and industrial traffic men. 86p Traffic service corp., Chicago '23

I.C.C. members appear in Capper bill hearings. Ry Age 72:183-4 Ja 14 '22

La Follette warns against special interests. Ry Age 71:1321-2 D 31 '21

Legislation in West shows improvement. Ry Age 75:495-6 S 15 '23

Lehigh Valley railroad proposed amended plan of dissolution filed with United States district court. Comm & Fin Chr 116:576-7 F 10 '23; Excerpt. Ry R 72:315 F 17 '23

New laws enacted in 1922. Ry Age 73:1250 D 30 '22

Proposed railroad legislation. Ry Age 73:976 N 25 '22

Senator Brookhart's radical railroad bill; would repeal section 15-a, base valuation on market value of securities and abolish Labor board. Ry Age 74:503-4 Mr 3 '23

Treatise on the law of railroads. B. K. Elliott and W. F. Elliott. 3d ed. 6v Bobbs '21-'22

Use of federal power in settlement of railway labor disputes. C. O. Fisher. U S Bur Labor Statistics Bul 303:1-121 '22

See also Carriers; Grade crossings—Law; Locomotives—Inspection; Railroads—Equipment trust; Railroads—Rates; Railroads—Safety devices and measures; Railroads—Valuation; Railroads and state; Street railroads—Law; Transportation act, 1920

Railroad libraries

Railroad libraries. R: H. Johnston. Lib J 48:259-63 Mr 15 '23

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Railroad management. See Railroads—Management

Railroad motor cars. See Motor cars (railroad)

Railroad rates. See Railroads—Rates

Railroad regulation. See Railroads and state

Railroad research

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Railroad shopmen's strike, 1922

Consequences of the shop strike taking shape.

B: Baker. Annalist 20:351-2 O 9 '22

Daugherty's law sound: error was in tactics.

B: Baker. Annalist 20:243-4 S 11 '22

Department of justice and the injunction against railroad shopmen; Daugherty's Canton speech. Comm & Fin Chr 115:1907-10 O 28 '22

Does Bolshevism lurk behind the railway unions; views of railroad men in various positions. Ry R 71:284-6 Ag 26 '22

Final strike negotiations. D. Willard. Ry R 71:323-4 S 2 '22

Government's injunction against shopmen made permanent. Comm & Fin Chr 117:169-70 JI 14 '23

How mediation has prolonged the shopmen's strike. B: Baker. Annalist 20:195-6 Ag 28 '22

How railroad shopmen's strike was fought.

Iron Age 111:739 Mr 15 '23

Issue in the railway strike. J: G. Walber. Am Ind 23:15-16 Ag '22

Labor problem enters the political arena. H. Parkes. Ry Age 74:37-40 Ja 6 '23

Legal battle over Daugherty injunction opens. Ry Age 73:453, 507-9, 560, 611-12 S 9-30 '22

Many angled railroad strike. E: A. Bradford. Annalist 20:123-4 Ag 7 '22

Message to Congress on coal and rail strikes.

W. G. Harding. Comm & Fin Chr 115:825-7 Ag 19 '22; Same. Ry R 71:276-9 Ag 26 '22

Excerpts. Ry Age 73:379-80 Ag 26 '22

Mr Bert Jewell's railroad strike. B: Baker.

Annalist 19:675-6 Je 26 '22

Railroad shopmen's strike, 1922—Continued

No hope in the law of seniority for the strikers. B: Baker. Annalist 20:171-2 Ag 21 '22

Opinion and comment on the strike injunction. Ry R 71:351-2 S 9 '22

Pending issues of the railroad strike. B: Baker. Annalist 20:319+ O 2 '22

President wants emergency authority; would not take over roads or mines except as last resort. Ry Age 73:435-9 S 2 '22

Progress of the strike. Comm & Fin Chr 115: 139-44, 267-70, 394-400, 555-9, 610-14, 718-21, 832-8, 915-16, 950-4, 1050-6, 1165-73, 1279-86, 1393-6, 1495-7, 1595-7 J1 8-O 7 '22

Rail strike a crime under Interstate commerce act. B: Baker. Annalist 20:219-20 S 4 '22

Railroad shopmen's strike. Ry R 71:58-61, 89-91, 150-1, 189-91, 209-17, 250-1, 342-5, 351-2, 387, 421-2, 443-6 J1 8-15, 29, Ag 5-26, S 9-30 '22

Railroad strike and the resort to violence. Comm & Fin Chr 115:803-5 Ag 19 '22

Railroad strike—the question of seniority. Comm & Fin Chr 115:1029-30 S 2 '22

Railway shop employees' strike and marketing. S. O. Dunn. Ptr Ink 120:17-19+ Ag 24 '22

Seniority a vital issue in rail shop strike. B: Baker. Annalist 20:39-100 J1 31 '22

Shop workers' walkout scheduled for July 1. Ry Age 73:13-16 J1 1 '22

Shopmen begin first general strike on July 1: train service not affected. Ry Age 73:53-61, 94-5, 98-104, 141-2, 161-9, 187, 201-10, 233, 243-50, 279-86, 340-7, 367-73, 379-82, 417-25, 469-75, 503-9, 548-51, 567-70, 604-5, 649, 736 J1 8-O 14 '22

Shopmen ordered to strike. Ry R 71:21 J1 1 '22

Shopmen's strike—who won it? R: Waterman. Nation's Business 10:25-6 N '22

Significance of the railroad strike. R. Estcourt. Annalist 20:435-6+ O 30 '22

Some results of the shop strike. Ry Age 74: 1141-3 My 12 '23

Strike injunction's legal basis. P. Bakewell. Am Ind 23:9-10+ N '22

Strike of the railroad shopmen. M. Gadsby. Monthly Labor R 15:1171-91 D '22

Threatened rail strike—discussion for joint action by coal and rail workers. Comm & Fin Chr 114:2789 Je 24 '22

Threatened strike of rail men—action by United States railroad labor board. Comm & Fin Chr 115:29-31 J1 1 '22

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New York Central opening; railroad receives bids on large number of steel products. Iron Age 109:859-60 Mr 30 '22

Prices of all materials have increased. C. B. Peck and W. S. Lacher. Ry Age 74:29-35 Ja 6 '23

Transition year in railroad buying. G. L. Lacher. Iron Age 111:96+ Ja 4 '23

Trend in railway material and supply purchases. Published monthly in the Railway review

What is the supply man's greatest difficulty in selling to railroads? views of a typical group of railroad supply men. Ry R 71:491-3 O 7 '22

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15th annual exhibit of the N. R. A. A. at the Coliseum. Ry Age 74:603-9 Mr 13 '23

National railway appliance association exhibition at the Coliseum, Chicago. Ry R 70:395-7 Mr 18 '22

1923 railway appliance show. Eng & Contr (Ry) 59:674-6 Mr 21 '23

Railroad surveying

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Tractor used on swampy railroad location. Il Eng N 90:459 Mr 8 '23; Discussion. 90:720, 1058 Ap 19, Je 14 '23

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Railroad ticket protective bureau

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Tie-plate development. W: Goldie. Ry R 70:sup38-9 Je 24 '22

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All-metal railway tie. Il Elec Ry J 62:748 O 27 '23

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Creosote shortage threatens wood preservation. C. M. Taylor. Il Ry Age 74:505-7 Mr 3 '23

Crisis in wood preserving. E. B. Fulks. Ry R 72:270 F 10 '23

Danish railroads benefit from tie preservation. Ry Age 73:215-16 J1 29 '22; Excerpt. Eng & Contr (Ry) 58:7-8 O 18 '22

Demonstrating the economy of timber treatment. Ry Age 74:804 Mr 24 '23; Same. Eng & Contr (Ry) 59:1407-8 Je 20 '23

Douglas fir as tie timber. Elec Ry J 59:189 F 4 '22

Douglas fir invades the East. C. J. Hogue. Il Elec Ry J 60:161-3 J1 29 '22

Economic aspects of treated ties for railway track. Eng N 90:704 Ap 19 '23

Experimental work in tie preservation. Il Elec Ry J 59:969 Je 17 '22

Factors of the cost of treated ties. E. E. Pershall. Ry R 70:226-9 F 18 '22

Fundamentals to be considered in design of substitute ties. Eng & Contr (Ry) 59:683-4 Mr 21 '23

Inspection of tie treating practices on the Philadelphia & Reading Ry. Ry R 72:864-6 My 19 '23

It pays to treat wood poles and ties. H. H. George. Il Elec Ry J 61:1002-3 Je 16 '23; Same cond. Eng & Contr (Ry) 60:335 Ag 15 '23

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Methods of making tie renewals; report presented at the convention of the Roadmasters and maintenance of way association. Ry R 71:783-4 D 2 '22; Same. Eng & Contr (Ry) 58:134-5 D 20 '22

Mixture of creosote and crude oil for ties. G: E. Rex. Ry Age 74:748-9 Mr 17 '23

More about cross ties. G: G. Yeomans. Ry Age 74:412 F 17 '23

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Proper handling of ties. F. S. Pooles. Eng & Contr 57:76 Ja 18 '22

Purchase of railway ties under federal control; an answer to G. G. Yeomans. Ry R 70:159-61 F 4 '22

Railway ties from the tropics. N. C. Brown. Eng N 88:560 Ap 6 '22; Same cond. Ry Age 72:743-4 Mr 18 '22

Renewing ties. F. J. Meyer. Ry R 71:410-11 S 23 '22

Report of A. R. E. A. committee on ties. Ry R 72:503-5 Mr 17 '23; Excerpt. Eng N 90:542 Mr 22 '23; Excerpts. Ry Age 74:667-70 Mr 15 '23

Report on the non-spacing of joint ties. Ry Age 73:997 N 25 '22; Ry R 71:741-2 N 25 '22

Responsibility for tie purchases. Ry Age 75:375-6 S 1 '23

Results with steel tie construction. L. A. Mitchell. il diag Elec Ry J 62:101-2 Jl 21 '23

Should cost of treating ties be charged to maintenance or capital account? E. Stimson. il Ry R 70:188-9 F 11 '22; Same cond. Ry Age 72:416 F 18 '22; Same. Eng & Contr 57:255 Mr 15 '22; Discussion. Ry R 70:189-90, 486-8 F 11, Ap 8 '22; Ry Age 72:1003-4 Ap 29 '22; Eng & Contr 57:584 Je 21 '22; Eng N 88:921-2; 89:161 Je 1, Jl 27 '22

Statistics show increase in timber preservation. Ry Age 73:391 Ag 26 '22

Steel ties and curbs. il diags Can Eng 43:558-9 N 21 '22

Systematic tie distribution insures long life. map Ry 75:243-4 Ag 11 '23; Same. Ry R 73:418-19 S 22 '23

Tie and timber preservation. J. H. Waterman. Elec Ry J 59:524-5 Mr 25 '22

Tie and timber treating plant of the Boston Elevated Ry. H. M. Steward. il plan Eng & Contr (Ry) 58:104-6 N 15 '22

Tie production greatly curtailed. Ry Age 72:322 F 4 '22

Tie renewals. J. E. Jacobs. Eng & Contr (Ry) 59:1363-4 Je 20 '23

Tie storage yard of the M.K. & T. Ry. il Ry R 72:233-4 F 3 '23

Tie treating practices of the A. T. & S. F. Ry. S. D. Cooper. map Ry R 73:415-18 S 22 '23; Same, without map. Eng & Contr (Ry) 60:818-21 O 17 '23; Abstract. Ry Age 75:533-4 S 22 '23

Timber treating plant at Louisville, Ky. operates different processes. il diags plans Eng N 90:782-5 My 3 '23

Track building with steel ties. C. L. Hedges. Elec Ry J 62:376 S 8 '23

Traverse métallique sans trou, de la Société d'Ougrée-Marihay. diags Génie Civil 81:400 O 28 '22

Treated tie records on the C. B. & Q. R. R. Ry R 71:272-4 Ag 26 '22

Treating plant solves New Haven's tie problem. il diag plan Ry Age 73:1179-83 D 23 '22

Treating ties with creosote in two minutes. il Ry Age 74:911-13 Ap 7 '23

Tropical hardwood tie question. C. D. Mell. Ry Age 72:744 Mr 18 '22

Two aspects of the tie-treatment question. H. H. George. Elec Ry J 59:460-2 Mr 18 '22

Use of treated cross ties by American railways. Eng & Contr (Ry) 58:25 O 18 '22

Utilizing old bridge ties in street crossings. Eng & Contr (Ry) 59:1408 Je 20 '23

Value of gum wood as tie material; abstracts. J. R. Keig. Ry Age 74:332 F 3 '23; Eng N 90:444 Mr 8 '23

Way committee report on substitute ties. Elec Ry J 60:536, 709, 778-9 O 7, 23, N 11 '22

What is a tie? Ry Age 74:366 F 10 '23

Wood preservers discuss economics of ties at 18th annual convention. il Ry Age 72:269-72 Ja 28 '22; Ry R 70:119-21 Ja 28 '22

See also Railroads—Construction; Railroads—Track

Cost

Diagram for calculating annual cost of cross ties. E. R. Cary. Eng & Contr 57:245-6 Mr 15 '22

Economics of cross tie renewals. V. K. Hendricks. Eng & Contr 57:149-51 F 15 '22

Wages for hewing ties. Eng & Contr 57:77 Ja 18 '22

Inspection

Is a central tie inspection bureau feasible? Ry Age 74:1404-5 Je 16 '23

Lax grading now characterizes tie inspection. il Ry Age 75:61-4 Jl 14 '23

There should be an A.R.A. tie inspection bureau. G. G. Yeomans. Ry R 73:107-8 Jl 21 '23

Specifications

Procurement of railway ties under federal control. G. G. Yeomans. Ry R 70:20-2, 55-7 Ja 7-14 '22

Testing

Means of determining the average life of ties. V. K. Hendricks. charts Ry Age 72:779-83 Mr 25 '22

Railroad ties, Concrete

Concrete block ties of the Stent design on railways in India. il diag Eng N 91:511 S 27 '23

Green-Moore concrete railway ties in India. Eng & Contr (Ry) 60:586 S 19 '23

Reinforced concrete railway ties. W. Petry. il Concrete 22:243 Je '23

Stent reinforced concrete railway sleeper. il diags Engineering 116:536-7 O 26 '23

Types récents de traverses en béton armé. Génie Civil 80:408-9 My 6 '22

Use of concrete and reinforced concrete on railways; reports at the International railway congress. Engineering 113:643-6 My 26 '22

Testing

Actual tests on the Ickes concrete tie. E. L. Heidenreich. il Concrete 22:243-4 Je '23

Railroad tracks. See Mine tracks; Railroads—Track; Street railroads—Track

Railroad yards. See Railroads—Yards

Railroads

American railway engineering association. 23d annual convention, Chicago, Mar. 14-21. diags Ry R 70:373-89 Mr 18 '22

Le congrès international des chemins de fer (Rome 18-28 avril 1922). Génie Civil 80:571-7 Je 24 '22

Deficiency in construction during the past eighty years. H. P. Gillette and J. C. Black. Eng & Contr 57:261-3 Mr 22 '22

Improvement in railway communications. (Brochure no. 30) 32p International chamber of commerce, 33, Rue Jean-Goujon, Paris '23

Railroad as an operator of highway transport. A. H. Blanchard. Can Eng 42:561-2 My 30 '22; Same. Good Roads 63:8-9 Jl 6 '22

Traffic relations between steam and electric lines improve. C. E. Thompson. Elec Ry J 59:519-20 Mr 25 '22

Transportation as related to national development. J. G. Sullivan. Am Soc C E Pro 49:1413-16 S '23

Transportation—the master key to progress. E. J. Kearney. Ry Age 75:683-6 O 13 '23; Same cond. Am Mach 59:595-8 O 18 '23; Abstract. Ry Mech Eng 97:745-6 N '23

Untold millions being spent by railroads to meet nation's needs. il Pop Mech 40:691-3 N '23

See also Air brakes; Bridges, Railroad; Cableways; Carriers; Cars; Electric railroads; Elevated railroads; Express service; Freight car service; Freight cars; Freight tunnels; Grade crossings; Locomotive shops; Locomotive terminals; Locomotives; Mine tracks; Motor cars (railroad); Mountain railroads; Radio telephone on railroads; Rail bonds; Rail fastenings; Rail joints; Railroad engineering; Railroad research; Railroad ties; Rails; Railway mail service; Rapid transit; Roundhouses; Street railroads; Subways; Terminals; Train des-

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patching; Train ferries; Train resistance; Transportation; Trestles; Tunnels and tunneling; *also* names of railroads, e.g. Baghdad railway; Pan American railroad (proposed); Pennsylvania railroad; *also* National association of railway and utilities commissioners

Accidents

Accidents to platelayers. Engineer 133:46 Ja 13 '22
 Best accident record in history. Ry Age 72:903-4 Ap 15 '22
 Black Diamond express derailed by an automobile. il Ry Age 72:1176 My 20 '22
 Careful crossing campaign and other safety measures. il Ry R 71:391-2 S 16 '22
 Causes of train accidents in 1921. Eng & Contr (Ry) 59:1366 Je 20 '23
 Cello collision. il Ry Age 72:1031-2 Ap 29 '22
 Changing problem of railway accidents. Ry Age 73:637 O 7 '22
 Disastrous collision on Philadelphia & Reading. il Ry Age 71:1163-1 D 10 '21
 Disastrous derailment at Winslow Junction, N.J. il plan Ry Age 73:77-8 Jl 8 '22
 Five types of crossing protection fail to prevent accident. il Ry R 71:601-2 O 28 '22
 Flood causes disastrous wreck on the Burlington. il Ry Age 75:634 O 6 '23
 Government report on Sulphur Springs collision. il Ry Age 73:938 N 18 '22
 Has the careful crossing campaign reduced accidents at grade crossings? views of a typical group of railroad men. Ry R 71:451-4 S 30 '22
 Highway crossing accidents increasing, carrier finds. Ry R 71:502-3 O 7 '22
 I.C.C. accident bulletin no. 78—annual report. Ry Age 71:945-6 N 12 '21
 I.C.C. accident bulletin no. 82—annual report, 1921. Ry Age 73:652 O 7 '22
 I.C.C. accident bulletin no. 87—annual report, 1922. Ry Age 75:594 S 29 '23
 I.C.C. accident investigations; quarterly statistics. Ry Age 71:1145-6; 72:1343-5, 1483-4; 73:426-8, 1233-42; 74:815-17; 75:117-20, 448; 479-81 D 10 '21, Je 10-17, S 2, D 30 '22, Mr 24, Jl 21, S 8-15 '23
 Locomotive thrown up side of hill by collision. il Pop Mech 37:172 F '22
 Michigan Central express wrecked by removal of track spikes. il diag Ry Age 73:392 Ag 26 '22
 Missouri Pacific accident at Sulphur Springs. Mo. il plan Ry Age 73:287-8, 318 Ag 12-19 '22
 Preventable railway accidents. Engineering 112:891-2 D 30 '21
 Railway accidents and track work. Eng N 90:702 Ap 19 '23
 Railway accidents in Great Britain. Engineer 132:574-5; 134:73, 520; 136:44, 145 N 25 '21, Jl 21, N 17 '22, Jl 13, Ag 10 '23; Engineering 114:529-30; 116:183 O 27 '22, Ag 10 '23
 Relation of syphilis to railway accidents. A. E. Chace and G. A. Hays. Ry Age 73:1103-5 D 9 '22
 Remarkable reduction in railway accidents. Ry Age 71:1020-1 N 26 '21
 Report of the Bureau of safety on collision near Meadville, Mo. Ry R 72:313-14 F 17 '23
 Report on collision at Adeline, Louisiana. il Ry Age 71:188 Ja 13 '23
 Report on collision at Alexis, Ohio. Ry Age 74:1052 Ap 28 '23
 Report on collision at Denver, Indiana. Ry Age 74:180 Ja 13 '23
 Report on collision at Fowler, Colorado. Ry Age 75:624 O 6 '23
 Report on collision near Leeds, Mo. il Ry Age 73:328 Ag 19 '22
 Report on collision near Plains, Kan. Ry Age 72:1332 Je 10 '22
 Report on Gould (Ohio) collision. Ry Age 71:1052 N 26 '21
 Report on the Manhattan collision. W. P. Borland. plan Ry R 69:902-4 D 31 '21
 Report on the Philadelphia & Reading collision. il Ry R 70:10-15 Ja 7 '22; Ry Age 72:173-4 Ja 14 '22

Report on three accidents on the Union Pacific railroad. Ry R 72:308-9 F 17 '23; Ry Age 74:384 F 10 '23
 Six collisions. Ry Age 73:454-5 S 9 '22
 Steam railway accidents in 1921. Ry Age 72:825 Ap 1 '22
 Vandals commit series of outrages. il diags Ry R 71:265-6 Ag 26 '22
 When headlight meets headlight. Ry Age 73:703-4, 784 O 14, 28 '22

See also Explosives—Transportation; Grade crossing accidents; Grade crossings; Locomotives—Failures; Railroads—Safety devices and measures; Railroads—Signals; Street railroads—Accidents

Accounting

Co-operation between accounting and other departments. W: J. Cunningham. Ry R 73:284 Ag 25 '23
 Division accounting—an operating viewpoint. J. E. Slater. Ry Age 72:341-3, 435-8 F 4, 18 '22
 Educational value of the Railway accounting officers' association. C: E. Parks. Ry R 73:318-21 S 1 '23
 Essentials of division accounting. C: Hine. Ry Age 75:539-40 S 22 '23
 Fuel accounting; abstract of report to International railway fuel association convention. Ry Mech Eng 96:502 S '22
 Future company accounting and disbursement. C: Hine. Ry Age 74:1103-5 My 5 '23
 Future of railway accounting. Ry R 71:24-5 Jl 1 '22
 How to measure shop output and efficiency. D. J. Mullen. Ry R 73:53-4 Jl 14 '23
 Influence of use on different maintenance accounts. Ry R 72:524-5 Mr 17 '23
 I.C.C. accounting and statistical requirements. W: J. Cunningham. Ry Age 74:1463-5 Je 16 '23; Excerpt. Ry R 72:1179 Je 30 '23
 Mandatory rules feature 1921 accounting progress. C: W. Foss. Ry Age 72:58 Ja 7 '22
 Mechanical facilities for material accounting; report of the A.R.A. committee. Ry R 70:1006-7 Je 24 '22
 Method for the determination of proper allowances for maintenance of way expenses due to increased use and increased investment; A.R.E.A. report. Ry Age 74:686-90 Mr 15 '23
 Need better cost accounting for water softening. W. H. Hobbs. diags Ry R 71:267-9 Ag 26 '22
 Opportunities of the auditor. S. Ennes. Ry R 71:274-6 Ag 26 '22
 Practical plan for analyzing account no. 314; would exhibit effect of freight car design on maintenance. L. Richardson. Ry R 73:133-5 Jl 28 '23
 Proposed revision of the operating expenses classification. Ry Age 72:1466 Je 17 '22
 R. A. O. A. mandatory interline accounting rules. 1922 ed. 68p Ry. accounting officers assn., Washington, D.C. '22
 Railway accounting officers association, 34th annual meeting, Cleveland, Ohio, June 6-9. Ry Age 72:1485-92, 1743-6 Je 17-24 '22; Ry R 70:944-7 Je 17 '22
 Railway accounting officers' association 35th annual meeting, Richmond. Ry Age 74:1515-20 Je 23 '23; Ry R 72:1094-8 Je 23 '23
 Railway accounting procedure. 1923 ed. E. K. Woodson, ed. 551p Railway accounting officers assn., Washington '23
 Railways waste over \$150,000,000 in unnecessary bookkeeping. S. Thompson. Ry R 69:757-6 D 3 '21
 Report of A. R. E. A. committee on records and accounts. Ry R 72:527-8 Mr 17 '23
 Revision of operating expense classification. Ry Age 72:1473-5 Je 17 '22
 Revision of operating expense classification. J. S. Eaton. Ry Age 73:457-8 S 9 '22
 Should cost of treating ties be charged to maintenance or capital account? E. Stimson. il Ry R 70:188-9 F 11 '22; Same cond. Ry Age 72:416 F 18 '22; Same. Eng & Contr 75:255 Mr 15 '22; Discussion. Ry R 70:189-90 F 11 '22; Eng N 88:921-2; 89:161 Je 1, Jl 27 '22

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Simplified system of car accounting saves large expense. J. W. Fox. Ry R 70:251-7 F 25 '22

Why mechanical men object to modernizing motive power. F. P. Roesch. Ry R 69:291-2 S 3 '21; Discussion. 69:683-4, 836-7 N 19, D 17 '21

See also Locomotive shops—Accounting; Railroads—Auditors; Railroads—Finance; Railroads—Valuation

Advertising

Advance guard of Christmas advertising. Ptr Ink 121:141 O 19 '22

British railroads advertise and prepare to reduce fares. T. Russell. Ptr Ink 117:42+ N 17 '21

Do American railways lack the selling sense? Ry Age 73:1039-42 D 2 '22; Discussion. M. Hitt. 73:1223-4 D 30 '22

Eastern railroad finds something to advertise. J. G. Condon. Ptr Ink 118:49-50+ Mr 23 '22

Football games furnish a lucrative field of patronage. S. C. Lambert. Ptr Ink 117:25-6 N 24 '21

For the railroads—a sales manager. E. Hungerford. Ptr Ink 119:74-6+ Ap 6 '22

Great need of salesmanship in transportation. C. A. Cairns. Ry Age 73:1133-5 D 16 '22; Discussion. 74:320 F 3 '23

How Baltimore & Ohio railroad is developing ticket salesmanship. M. McDonald. Ptr Ink 124:65-6+ S 20 '23

Interesting and educational advertising campaign on the Louisville & Nashville. Ry R 73:643-5 N 3 '23

New business must be created for railroads. J. M. Campbell. Ptr Ink 121:149-50+ O 19 '22

Railroad finds much to talk about. Ptr Ink 124:25-6 JI 5 '23

Railroad salesmanship is wrong. Ptr Ink 118:57-8 Mr 9 '22

Railroads and public relations advertising. Ry Age 73:967-8 N 25 '22

Railroads counteract shippers' inclination to await lower rates. J. G. Condon. Ptr Ink 119:50+ Je 29 '22

Railroads find advertising angle for freight facilities. J. G. Condon. Ptr Ink 118:73-4 Mr 2 '22

Railroads will advertise the Northwest in three-year campaign. Ptr Ink 121:112+ D 21 '22

Santa Fe—a study in consistent railroad advertising. E. Hungerford. Ptr Ink 121:53-4+ D 21 '22; Excerpts. Ry R 72:158-9 Ja 20 '23

Should railroads practice better merchandising methods? N. C. Tompkins. Ry Age 75:196 Az 4 '23

Southern railway advertises its value to its territory. Ptr Ink 125:137-8 O 4 '23

See also Electric railroads—Advertising; Railroads—Public relations; Street railroads—Advertising

Bibliography

Backward glance at railroad advertising. Ptr Ink 120:161-2+ S 14 '22

Air brakes

See Air brakes

Auditors

Plea for recognition of the traveling auditor. Ry Age 72:239-41 Ja 21 '22

Automatic operation

See Electric railroads—Automatic operation

Automatic stop

Angus system of automatic train control. Il Ry R 69:863-4 D 24 '21

Automatic hand on the throttle. S. G. Roberts. Il Sci Am 127:174-5 S '22

Automatic mechanical train controller. Il diags Engineer 132:520-1 N 11 '21

Automatic stop made obligatory. Sci Am 126:164 Mr '22

Automatic train control. Ry Age 75:487-8 S 15 '23

Automatic train control. Engineer 133:131-2 F 3 '22

Automatic train control. F. J. Sprague. Il J Fr Inst 194:133-63 Ag '22

Automatic train control. W. J. Thorrowgood. Engineer 132:658 D 16 '21

Automatic train control for fog signals. Ry R 72:703 Ap 21 '23

Automatic train control (from a mechanical standpoint). C. F. Giles. W Soc E J 27:374-6 D '22; Abstract. Ry Age 73:807-8 O 28 '22

Automatic train control (from a signal standpoint). T. S. Stevens. W Soc E J 27:370-3 D '22; Same abr. Ry Age 73:853-4; Discussion. 854-5 N 4 '22

Automatic train control (from a transportation standpoint). A. W. Towsley. W Soc E J 27:377-8; Discussion. 378-82 D '22

Automatic train control made obligatory. C. H. Claudy. Sci Am 126:314 My '22

Automatic train control on Chicago & Alton R.R. il diags Ry R 73:379-84 S 15 '23

Automatic train control problem. E. J. Blake. Am Inst E E J 42:27-34 Ja '23; Abstract. Elec W 81:443 F 24 '23; Discussion. Am Inst E E J 42:845-7 Ag '23

Automatic train control system of General railway signal co. il diags Ry R 70:330-7 Mr 11 '22

Automatic train control to supplement signals. J. Beaumont. Ry Age 74:850 Mr 31 '23

Automatic train stops in use on American railroads. Ry Age 72:279-80 Ja 28 '22

Big Four tests I. E. C. train control device. il diags Ry Age 75:103-6 JI 21 '23

Big Four tests train control in passenger service. il Ry Age 75:402 S 1 '23

Bourdette-Brookings train control system. il diags Ry R 70:353-5 Mr 11 '22

Braking phase of automatic train control. W. G. Fischer. Ry R 72:1098-1103 Je 23 '23

C. & O. installs new signalling with train control. il diags Ry Age 74:1357-60 Je 9 '23

Close relation between airbrake and automatic stop. Sci Am 127:15 JI '22

Combine train control with block signals. J. Beaumont. Ry Age 73:1078 D 9 '22

Development and installation of automatic train control. W. J. Eck. il Ry R 71:616-20 N 4 '22; Same. W Soc E J 27:362-9 D '22

Same, without table. Eng & Contr (Ry) 59:149-54 Ja 17 '23; Same cond. Ry Age 73:805-7 O 28 '22

Electro-magnet at the throttle. C. W. Burrows. il diags Sci Am 127:242 O '22

Federal automatic train control system. diags Ry R 72:694-5 Ap 21 '23; Ry Age 74:1002 Ap 21 '23

Finnigan's automatic train control. diags Ry Age 72:580 Mr 11 '22

Four objections to installing automatic stops. Ry Age 72:783-4 Mr 25 '22

Freight train tests of train control on the C.I. & W.R.R. il Ry R 70:627-8 My 6 '22

G.R.S. company's auto-manual train control. il diags Ry Age 72:521-3 Mr 4 '22

G. R. S. train control demonstrated on C. & N.W. il plan Ry Age 75:717-18 O 20 '23

Great Northern train control committee reports. Ry Age 74:1454 Je 16 '23

Hearing on train control before Interstate commerce commission. Ry R 70:421-4, 455-60, 534, 567-72 Mr 25-Apr 1, 15-22 '22; Ry Age 72:787-91, 837-9, 927-8, 971-4 Mr 25-Apr 1, 15-22 '22

Honoring a notable inventor, William Robinson. Sci Am 127:306 N '22

I.C.C. order for automatic train control. Ry R 70:1018-25 Je 24 '22; Ry Age 72:1739-42 Je 24 '22

Interstate commerce commission orders installation of automatic train control. Ry R 70:39-43 Ja 14 '22; Same cond. Ry Age 72:189-91 Ja 14 '22

I.C.C. reviews status of tests of automatic train control. Eng N 89:1025 D 14 '22

Is the Commission consistent? Ry Age 74:409 F 17 '23

Is train control more desirable than signals? G. P. Finnigan. Ry R 70:594-7 Ap 29 '22

Railroads—Automatic stop—Continued

- Latest development in automatic train control. Ry R 72:563 Mr 24 '23
- M-V air weather train control on Raritan river. il Ry Age 72:185-6 Ja 14 '22
- National train control. il Ry Age 74:609 Mr 13 '23
- 1922 an epochal year for automatic train control. Ry R 72:69 Ja 6 '23
- Official report on train control for British railways. Ry R 71:113-17, 140-4 Jl 22-29 '22; Ry Age 73:149-53 Jl 22 '22; Summary. Elec R (Lond) 91:210 Ag 11 '22; Engineer 133: 720 Je 30 '22
- One railroad's experience with train control; the Chicago and Eastern Illinois. il Ry Age 75:813-15 N 3 '23
- Permissive features omitted from automatic stop specifications. Ry Age 73:51, 188 Jl 8, 29 '22
- Permissive movements with train control. Ry R 71:383-4, 441-3 S 16, 30 '22
- Permissive use of the automatic stop. Ry R 71:118-19, 266-7, 380 Jl 22, Ag 26, S 16 '22
- Progress in automatic train control. Ry Age 72:1001-2 Ap 29 '22
- Progress with train control. il Ry R 72:424-5 Mr 10 '23
- Regan automatic train control on the Great Eastern Ry. J. Beaumont. il Ry R 69:719-21 N 26 '21
- Regan automatic train control systems. il diags Ry R 70:337-44 Mr 11 '22
- Report on Sprague automatic train control. Ry Age 75:399-400 S 1 '23
- Results of an automatic train control test on the Pennsylvania railroad. Ry R 73:158-9 Ag 4 '23; Same. Nat Safety N 8:43 S '23
- Richards automatic train control system. diags Ry R 73:135-9 Jl 28 '23
- Road test of Clifford automatic train control. Ry Age 73:1085-6 D 9 '22
- Signal engineer in England—automatic train control. R. J. Insell. il Ry Age 74:822 Mr 24 '23
- Simplex train control system. diags Ry R 70:351-3 Mr 11 '22
- Some fundamentals of train control. F. L. Dodgson. diags Ry R 72:544-50 Mr 24 '23; Same cond. Ry Age 74:575-9 Mr 10 '23
- Sprague system of auxiliary control on New York Central. Ry R 69:759-60 D 3 '21; Same cond. Ry Age 71:1051-2 N 26 '21
- Sprague system of auxiliary train control. il diags Ry Age 72:963-7 Ap 22 '22; Ry R 70: 747-57 My 27 '22; Elec R (Lond) 92:494-5 Mr 30 '23
- Stop! Look! Listen! automatic device slows the train at the "distant" and stops it at the "home" signal. J. T. Bramhall. il Sci Am 126:385-6 Je '22
- Test of the automatic control company's device. il diags Ry Age 74:861-2 Mr 31 '23
- Test of train control on the Chicago & Alton. il Ry Age 75:723 O 20 '23
- Train control installations. Ry Age 74:1707 Je 30 '23
- Union switch & signal company's automatic train control system. Ry R 70:348-50 Mr 11 '22
- Union system of automatic train control. L. V. Lewis. diags Ry R 71:371-5 S 16 '22
- Webb automatic train stop tested on the Erie. il Ry Age 72:175-6 Ja 14 '22
- When the hand on the throttle fails; the construction and operation of the Webb automatic train-stop system. R. G. Skerrett. il Sci Am 127:22 Jl '22
- Why eliminate permissive feature from automatic stop? Ry Age 72:859 Ap 8 '22

Bibliography

- Revised list of references on automatic train control. Library of Bureau of railway. 32p Mr '22 (typew)

Bibliography

- Books on railroad transportation selected by authorities for McAlpin hotel library. Ry R 71:499-500 O 7 '22
- Brief list of railroad bibliographies. Lib J 48:263-4 Mr 15 '23

New books and special articles of interest to railroaders; compiled by Elizabeth Cullen. Published in weekly numbers of Railway age, beginning with June 16, 1923

Brakes

See Air brakes; Brakes

Branch lines

See Railroads, Short line

Buffers

See Buffers (railroad)

Buildings and structures

- Buildings and facilities for handling materials. diags Ry Age 74:1217-20 My 19 '23
- Cement stucco covering for small railway buildings. diags plans Eng N 87:852-3 N 24 '21
- Development of concrete in railway construction. M. Hirschthal. il diags Ry Age 73: 705-9, 791-7, 843-6 O 14, 28-N 4 '22
- Framing bridge timbers before treatment. Ry Age 73:751-2 O 21 '22; Eng & Contr (Bldgs) 58:72-5 N 22 '22
- Framing of bridge timbers before treatment. Eng & Contr (Bldgs) 59:705 Mr 28 '23
- Labor-saving devices in routine bridge and building work; report to the American railway bridge and building association. il diags Ry R 71:583-9 O 28 '22; Same. Eng & Contr (Ry) 58:67-78 N 15 '22
- New wall unit simplifies standardized buildings. il Ry Age 71:1275-6 D 24 '21
- Reinforced concrete constructions on railways. il Engineer 132:628-9 D 9 '21
- Reinforced concrete on the Chinese railways. H. Stringer. Engineering 115:73 Ja 19 '23
- Report of American railway bridge and building association on construction and maintenance of cinder pits. diags Ry Age 71:781-2 O 22 '21; Same. Ry Mech Eng 95: 707-8 N '21
- Report of the A.R.E.A. committee on buildings. Ry Age 74:718-20 Mr 16 '23
- Report of the A. R. E. A. committee on masonry. Ry Age 74:626-8 Mr 14 '23
- Use of concrete and reinforced concrete on railways; reports at the International railway congress. Engineering 115:643-6 My 26 '23
- Use of concrete on railways. W. W. Grierson. Can Eng 42:680 Jl 4 '22
- See also Ash pits; Bridges, Railroad; Car houses; Coaling stations; Culverts; Freight houses; Locomotive shops; Locomotive terminals; Railroads—Shops; Railroads—Stations; Railroads—Terminals; Railroads—Train sheds; Roundhouses; Warehouses

Cost

- Cost of passenger platforms on Pennsylvania railroad. Eng & Contr 57:594 Je 21 '22

Car departments

- Co-operation between the car service dept. and superintendent. C. Burlingame. Ry R 73:249-51 Ag 18 '23; Discussion. F. L. Lewis. 73:311 S 1 '23
- Practical education in the car department. C. G. Juneau. Ry Age 72:223-4 Ja 21 '22; Same. Ry Mech Eng 96:213-14 Ap '22; Discussion. C. E. Parkes. Ry Age 72:512 Mr 4 '22
- What car foremen owe their industry. C. B. Peck. Ry Mech Eng 97:289-92 My '23

Cars

See Car axles; Car cleaning; Car couplings; Car doors; Car heating; Car inspection; Car lighting; Car painting; Car roofs; Car trucks; Car wheels; Cars; Container cars; Dining cars; Freight cars; Motor cars (railroad); Refrigerator cars; Sleeping cars

Chief clerks

- Chief clerk—his duties, responsibilities and qualifications; personal views of a typical group of railroad men. Ry R 71:417-19 S 23 '22
- Chief clerk; his problems, duties and qualifications. E. C. Pierre. Ry R 71:679-81 N 11 '22

Railroads—Chief clerks—Continued

Chief clerk in Canada and the United States. Ry R 71:325 S 2 '22
 Chief clerk in the motive power department. H. H. Hummel. Ry R 71:589-90 O 28 '22

Claim departments

Claim agent and his job. F. H. Warren. Aera 11:762-4 F '23
 Claim agents' text book for the guidance of field men. A. Darling, comp. 200p W. H. Kistler stationery co., Denver '21
 Duties of a claim agent. J. H. Handlon. Elec Ry J 59:1005 Je 24 '22

Claims

First quarter of 1923 shows increase in claims. il Ry Age 75:437-8 S 8 '23
 Four adjustment letter secrets. J. T. Bartlett. Ptr Ink 119:141-2+ Ap 20 '22
 Freight claim adjustments decreased. R. A. Doster. il Ry Age 74:51-2 Ja 6 '23
 Freight claim division of A.R.A. has developed successful campaign. K. H. Koach. il Ry Age 72:55-7 Ja 7 '22
 Labor-saving method in disbursement of freight claims. il Ry R 72:971-3 Je 9 '23
 Loss and damage freight claims. A. N. Breland. Ry R 71:942 D 30 '22
 Missouri Pacific reduces freight claims. Ry Age 75:126 Jl 21 '23
 Motion pictures in freight claim prevention. il Ry R 72:821-3, 886-8, 949-51; 73:15-18 My 12, 26, Je 9, Jl 7 '23
 Notation in receipt regarding disputed shortage not sufficient notice of loss. W. Gustin. Chem & Met Eng 27:889 N 1 '22
 Reducing railroad claims. N. Hutchings. Administration 4:311-16 S '22
 Reduction in freight loss and damage on N. Y. N. H. & H. R. R. Ry R 72:147-8 Ja 20 '23
 Report of committee on freight claim prevention. Ry Age 74:1373-6 Je 9 '23
 Seriousness of the egg claim situation. A. L. Green. Ry Age 71:1270 D 24 '21
 Statement of the work which has devolved on the railroad administration since the roads were relinquished by the government. J. C. Davis. Ry Age 73:948-9 N 18 '22

See also Street railroads—Claims; also American railway association—Freight claim division; Pacific claim agents' association

Clerks

Labor board announces new rules for clerks. Ry Age 72:277-9 Ja 28 '22
 Labor board reduces wages of clerks. Ry R 70:1025-9 Je 24 '22
 New rules for clerks and station employees effective Feb. 1. Ry R 70:131-5, 167-8 Ja 23-F 4 '22

See also Railroads—Chief clerks

Consolidation

Comparing British and American methods of consolidation. W. W. Cook. Ry Age 74:215-16 Ja 20 '23
 Concerning railroad consolidations. Ry Age 74:1253-4 My 26 '23
 Consolidation no panacea for railroad ills. Ry Age 74:513-14 Mr 3 '23
 Consolidation of railroads. C. A. Morse. Am Soc C E Pro 49:1440-7 S '23; Abstracts. Ry Age 75:154-5 Jl 28 '23; Ry R 73:169-70 Ag 4 '23
 Consolidation of railroads. J. S. Worley. Am Soc C E Pro 49:1448-54 S '23; Same cond. Ry R 73:198-200 Ag 11 '23; Excerpt. Ry Age 75:108-9 Jl 21 '23; Discussion. Am Soc C E Pro 49:1799-1805, 1936-9 O-N '23
 Consolidation of railroads in the United States. (Research rep. no. 56) 107p National industrial conference board, New York '23; Review by W. J. Cunningham. Ry Age 74:897-8 Ap 7 '23
 Escape government ownership! A. B. Cummins. Nation's Business 10:13 Mr '22
 Forced railroad consolidations and the government. Comm & Fin Chr 117:938-9 S 1 '23; Same. Ry R 73:351 S 8 '23
 Hearing on tentative consolidation plan. Ry Age 72:1731-3 Je 24 '22

Hearing on the railroad consolidation plan. Ry Age 74:525-30 Mr 3 '23
 Hearings on consolidation of eastern railroads. Ry Age 74:1225-9, 1269-74, 1315-20 My 19-Je 2 '23; Ry R 72:906-8 My 26 '23
 Hill roads oppose I.C.C. consolidation plan. Ry Age 73:1007-11 N 25 '22; Ry R 71:757-9 N 25 '22
 Holden proposes four western systems. maps Ry Age 74:567-75 Mr 10 '23; Excerpts. Ry R 72:454-6 Mr 10 '23
 I.C.C. consolidation hearing postponed. Ry Age 72:1025-6 Ap 29 '22
 I.C.C. consolidation hearings resumed. Ry Age 74:245-6 Ja 20 '23
 Is consolidation the answer? R. Waterman. Nation's Business 11:27-8 Ja '23
 Judge Lovett disapproves of Holden plan. Ry Age 74:915-18 Ap 7 '23; Ry R 72:616-18 Ap 7 '23
 Legal questions in S.P. and Nickel Plate cases. Ry Age 74:1382-4 Je 9 '23
 Nickel Plate consolidation; brief and oral argument. Ry Age 74:1327-8, 1472 Je 2, 16 '23
 Oldham scheme of consolidation for New England railroads. J. E. Oldham. Ry R 70:640-4 My 6 '22; Excerpts. Textile World 61:2687+ My 6 '22
 Plight of minority holders in railway consolidations. Ry R 73:345 S 8 '23
 President Harding on railroad consolidations. Ry Age 74:1676-7 Je 30 '23
 Problem of railroad consolidations. J. E. Oldham. p. 139-53 Reprinted from Harvard business review '23
 Proposed new trunk line, Chicago to New York. P. E. Crowley. map Ry R 73:527-8 O 13 '23
 Railroad consolidation—Supreme court and I.C.C. in conflict. Eng N 90:1049 Je 14 '23
 Railroad consolidations—hearings by commission on merger of leading roads in South-eastern region. Comm & Fin Chr 114:1369-70 Ap 1 '22
 Railroads may not evade consolidation provisions of law. Ry Age 71:1263-4 D 24 '21
 Railway business association states its position on consolidation. Ry R 73:132-3 Jl 28 '23
 Railway consolidation hearings at Boston. Ry Age 75:638-40, 659-60 O 6-13 '23
 Railway consolidation viewed by a British authority. W. M. Acworth. Ry R 73:324 S 1 '23
 Railway consolidations as a constructive solution. W. G. Harding. Ry R 72:1164-7 Je 30 '23; Same. Comm & Fin Chr 116:2844-6 Je 23 '23; Same cond. Ry Age 74:1687-8 Je 30 '23
 Selected authorities. W. A. Colston and others. 2v Press of Judd & Detweiler, Washington, D.C. '23
 Some problems in rail consolidation. Eng N 91:127 Jl 26 '23
 Spreading depressions thinner. T. C. Powell. Nation's Business 10:14-15 Mr '22
 Western roads heard on consolidation plan. Ry Age 74:269-72 Ja 27 '23
 What do you think of plans proposed for grouping the railroads; views of railroad and supply men. Ry R 72:510-12 Mr 17 '23
 What do you think of the President's attitude on R. R. consolidation; views of railroad and supply men. Ry R 72:1171-4 Je 30 '23

See also Bessemer & Lake Erie railroad; Carolina, Clinchfield & Ohio railroad

Bibliography

List of references on the proposed consolidation of railroads. 29p Bur. of railway economics, Washington '23 (typew)

Construction

Belt line and industry district at Flint, Mich. diags map Eng N 91:12-13 Jl 5 '23
 Building a 50-kilometer railroad through tropical swamps. F. R. Molther. il Eng N 91:67 Jl 12 '23
 Building new Argentine-Chilean Transandine railway. R. F. Maury. il diags map Eng N 91:332-6 Ag 30 '23

Railroads—Construction—Continued

Building the North Platte branch; Union Pacific R. R. map plans Eng N 89:1014-15 D 14 '22

C. & O. improves line and grades at St Albans, W. Va. il map Ry Age 71:973-5 N 19 '21

Castleton bridge and freight cut-off, diag plan Ry Age 72:1246-7; 74:1681-6 My 27 '22, Je 30 '23

Castleton cut-off of the New York Central Ry R 70:758-9; 73:41-52 My 27 '22, JI 14 '23

Converting a tunnel into an open cut on a busy line. W. S. McFetridge. il diags Ry Age 72:1275-7 Je 3 '22

La démolition du tunnel des Batignolles, près de la gare Saint-Lazare, à Paris. P. Calfas. il diags plans Génie Civil 82:121-8 F 10 '23

Economic reasons for building the Clarks Summit-Hallstead cutoff. G. J. Ray. il W Soc E J 27:65-83 Mr '22; Same cond. Ry Age 71:1243-50 D 24 '21; Excerpts. Eng & Contr 57:61-4, 90 Ja 18-25 '22

Electrification project recalls Maltrata location. E. Low. map Eng N 90:785-6 My 3 '23

Grade reduction and widening on Illinois Central Rr. il diags Eng N 90:432-4 Mr 8 '23

Grade reduction increases train loads on coal road. il diags plans Eng N 88:952-3 Je 8 '22

International railway association; reinforced concrete. Engineer 133:391 Ap 7 '22

Logging railway practice in the northwestern forests. il Eng N 89:879-81 N 23 '22

Old days of railroad construction are gone forever. il Ry R 72:407-14 Mr 10 '23

Ontario provincial railway extending to Hudson Bay. il diags maps Eng N 90:1112-15 Je 28 '23

Railroad construction, theory and practice. W. L. Webb. 7th ed., rev. & enl. 847p Wiley '22

Santa Fe is building 212 miles of second track. il maps Ry Age 75:335-40 Ag 25 '23

Southern Pacific builds more second track. il map Ry Age 75:851-4 N 10 '23

See also Ballast; Bridges, Railroad; Culverts; Electric railroads—Construction; Elevated railroads; Grade crossing elimination; Mountain railroads; Rail handling; Railroad engineering; Railroad ties; Railroads—Curves and turnouts; Railroads—Earthwork; Railroads—Electrification; Railroads—Grades; Railroads—Location; Railroads—Maintenance and repair; Railroads—Stations; Railroads—Terminals; Railroads—Track; Railroads—Track depression; Rails; Trestles—Filling; Tunnels and tunneling

Contract work

Contract system for railway maintenance work. E. E. R. Tratman. Eng N 89:702-4 O 26 '22

Contract work under fire before Labor board. Ry Age 71:1267-70 D 24 '21

Contracting of work by railroads not new. Ry Age 72:979-80 Ap 22 '22

Excess of well intentioned zeal in decisions of the Railroad labor board regarding contract work. Ry Age 72:1158-9 My 20 '22

I.C.C. holds cost of contract repairs to locomotives excessive. Ry R 70:502-8 Ap 8 '22

I.C.C. reports on outside locomotive repairs. Ry Age 72:867-72 Ap 8 '22

Labor board declares contract shops under its jurisdiction. Ry R 70:688-90 My 13 '22; Excerpts. Ry Age 72:1111-12 My 13 '22

Outside contract repairs to locomotives found justified. Ry Age 73:28-9 JI 1 '22

Outside locomotive repairs. W. M. Acworth. Ry Age 72:1716 Je 24 '22

Railroad equipment repair report. Comm & Fin Chr 114:1492-4 Ap 8 '22

Railroads—decision of the Railroad labor board on outside contracts. Monthly Labor R 14:1198-1204 Je '22

Railway maintenance by contract prior to the civil war. Eng & Contr 57:468 My 17 '22

United States railroad labor board rules against farming out of railroad repair work. Comm & Fin Chr 115:34 JI 1 '22

Cost of operation

Boston switching rates—studies in cost of service. J. C. Owers. map Ry Age 73:337-9 Ag 19 '22

Bureau of Ry. economics compares results of operation. Ry R 71:420-1 S 23 '22

Cost of stopping freight trains. Sci Am 128:156 Mr '23

Effect on ton-mile cost of reducing train loads. il Ry Age 73:1145-8 D 16 '22

Savings from the Paulista electrification estimated; the costs of electric and steam operation over a period of five years. S. B. Fortenbaugh. il Elec Ry J 62:767-9 N 3 '23

Transportation costs vs. rates. O. O. Carr. Ry R 73:645-6 N 3 '23

Trend in transportation costs: all class I roads 1919 to date; chart. Ry R 69:699 N 19 '21 [continued monthly]

Costs

Analysis of cost of freight service, Grand Trunk railway company of Canada. J. P. Newell. Am Soc C E Fro 49:3-36 Ja '23; Discussion. J. G. Sullivan. 49:991-2 My '23

Economic reasons for building the Clarks Summit-Hallstead cutoff. G. J. Ray. il W Soc E J 27:65-83 Mr '22; Same cond. Ry Age 71:1243-50 D 24 '21; Excerpts. Eng & Contr 57:61-4, 90 Ja 18-25 '22

Railway economics for extra-European railways. H. Stringer. Engineering 115:73 Ja 19 '23

Railway improvements cost 1½ billions. Eng N 91:180 Ag 2 '23

Study in railroad costs. F. L. Hutchins. Analyst 19:197-8 F 6 '22

See also Locomotives—Cost of operation; Railroads—Building and structures—Cost

Crossings

11 types of railroad crossings. diags Eng & Contr 57:375-7 Ap 19 '22

Life of switches and crossings. Eng & Contr 58:197 Ag 30 '22

Reinforced concrete slab railroad crossings. O. A. Seward, jr. il Eng & Contr (R & S) 58:54 O 4 '22

See also Grade crossing elimination; Grade crossings; Street railroads—Crossings

Curves and turnouts

Formula for parabolic railway curves. L. Piérard. diag Eng N 91:610 O 11 '23

How to figure grade compensation for metric curves. C. K. Conrad. Eng N 89:141 JI 27 '22

Raccordements paraboliques des lignes de chemins de fer. T. de la Neuville. Génie Civil 83:346-9, 377-81, 398-401 O 13-27 '23

Railway curves; superelevation and maintenance. E. E. R. Tratman. Eng N 88:446-9, 489-92 Mr 16-23 '22

Solution for a compound-curve trackwork problem. L. R. Brown. diag Elec Ry J 60:704 O 28 '22; Same. Eng & Contr (Ry) 58:81 N 15 '22

Transition spiral and its introduction to railway curves. A. L. Higgins. 111p Van Nostrand '23

Transverse forces in truck side frames on curves; an analysis for determining the stresses set up by wheel slippage, coupler pull and elevation of rail. G. A. Anderson. diags Ry Age 74:1423-5 Je 16 '23

Earnings

See Railroads—Finance

Earthwork

Earthwork in railway engineering. J. W. F. Gardner. 152p Van Nostrand '22

Filling of railway trestles and steel viaducts; abstracts. Eng N 88:727-8 My 4 '22; Eng & Contr 58:60-2 JI 19 '22

Grade reduction and widening on Illinois Central Rr. il diags Eng N 90:432-4 Mr 8 '23

Methods of treatment of slides and soft spots in excavations and embankments. Eng & Contr 57:469-70 My 17 '22

Preventing slides by dynamiting sub-strata. C. M. McVay. Eng & Contr 57:69 Ja 18 '22

Railroads—Earthwork—Continued

Recent practice in replacing trestles by earth fill. *il plan Eng N 88:576-7 Ap 6 '22*

See also Culverts; Earthwork; Railroads—Grades; Trenching machinery; Trestles—Filling

Electric equipment

Electrical developments for the year 1921. A. G. Oehler. *il Ry Age 72:61-2 Ja 7 '22*

Report of the Mechanical division on electric rolling stock. *Ry Age 74:1607-9 Je 23 '23; Same. Ry Mech Eng 97:529-31 Jl '23; Abstract. Ry R 72:1156-7 Je 30 '23; Discussion. Ry Age 74:1609-10 Je 23 '23; Ry Mech Eng 97:531-2 Jl '23*

See also Car lighting; Railroads—Signals; Railroads—Telegraph

Electrification

Abstract of appendix C of Superpower report on the electrification of railroads. W. D. Bearce. *map Gen Elec R 25:88-94 F '22*
Abstract of the report of the commission appointed to consider the choice of a system of electrification for the Netherlands' railroads. W. D. Bearce. *Gen Elec R 25:285-7 My '22; Excerpts. Elec R (Lond) 91:249 Ag 18 '22*

Advantages of railroad electrification. R. J. O'Brien. *il Elec J 19:252-61 Je '22*

Advantages of railway electrification. V. Raven. *Eng & Contr 57:313-14 Mr 29 '22*

Choice of a system for electric traction on main line railroads. L. Thormann. *Engineering 114:1-3, 35-6, 83-4 Jl 7-21 '22; Abstract. Elec Ry J 60:627-8 O 14 '22*

Economic aspect of railway electrification. A. S. Hampton. *Inst E E J 61:149-51 Ja '23*

Economics of main line electrification. R. T. Smith. *Engineering 113:592 My 12 '22; Discussion. C. Belli. 114:501-2 O 20 '22*

Electric traction development outside of the United States. *Ry Age 74:48 Ja 6 '23*

Electric traction for steam railroads. *Ry Age 72:335-7 F 4 '22*

Electric traction on heavy traffic lines. G. Gibbs. *diags Elec Ry J 59:147-50 Ja 23 '22*

Electric traction; reports at International railway congress. *Engineer 133:434-5 Ap 21 '22; Engineering 113:575-7 My 12 '22*

Electrification a question of financial soundness. P. Dawson. *Elec Ry J 59:314 F 25 '22*

L'électrification des chemins de fer au moyen de courants alternatifs de fréquence élevée. *diags Génie Civil 81:202-3 Ag 26 '22*

Electrification largely a financial problem. W. R. Stinemetz. *Elec Ry J 61:855 My 19 '23*

Electrification of main line railroads. S. T. Dodd. *Gen Elec R 25:439-40 Jl '22*

Electrification of railways with high-frequency currents. M. Leblanc. *diags Elec R (Lond) 91:393-4 S 15 '22*

Electrification of the steel plant railroad; abstracts. R. B. Gerhardt. *Blast F & Steel Pl 9:613-17 O '21; Iron Age 108:1663-6 D 29 '21*

Financial prospects of railway electrification. P. Dawson. *Elec R (Lond) 92:837-8, 914-15 My 25, Je 8 '23; Discussion. 92:915-16 Je 8 '23; Engineering 115:589-90 My 11 '23*

Future of railway electrification. P. Dawson. *Electrician 87:707 D 2 '21*

Future of railway electrification and its connection with power supply and distribution. P. Dawson. *map Elec R (Lond) 91:742-5 N 17 '22*

Future of transportation by rail. E. O'Brien. *Engineering 116:381-2 S 21 '23; Same cond. Engineer 136:305 S 21 '23*

Heavy electric traction abroad; papers prepared for ninth congress of International railway association. *Elec Ry J 59:322-4 F 25 '22*

Hydro-electric power development as related to the electrification of railroads. C. F. Loweth. *Am Soc C E Pro 48:1872-8 D '22; Same. Eng & Contr (Ry) 58:141-5 D 20 '22; Same. Can Eng 44:413-15 Ap 17 '23*

International railway association. 9th congress. Rome, April 18-May 3. *Electrician 88:652-4 Je 2 '22; Elec Ry J 59:975-6 Je 17 '22*

Lancaster-Morecambe-Heysham electric railway; some experiences with the single-phase overhead system. *il diags plans Electrician 88:124-9, 155-6 F 3-10 '22*

New world interest in railway electrification developed in 1922. *Ry R 72:70 Ja 6 '23*

Progress report of the special committee on electrification of steam railroads. *Am Soc C E Pro 49:488-90 Mr '23; Same. Eng & Contr (Ry) 59:642-3 Mr 21 '23; Same. Ry Age 74:340 F 3 '23*

Question of inductive interference and electrolysis relating to railroad electrification. C. F. Scott. *Elec J 19:146-9 Ap '22; Same. Ry Age 72:727-9 Mr 18 '22; Discussion. R. Beeuwkes. Ry Age 72:1052-3 My 6 '22*

Railroad electrification. W. J. Cunningham. *Soc Auto Eng J 10:12 Ja '22*

Railroad electrification and the Bell telephone system. B. Gherardi. *Elec Ry J 59:753 My 6 '22*

Railroad electrification and the electric locomotive. A. J. Manson. 332p Simmons-Boardman pub. co., 30 Church st., New York '23

Railroad electrification will make important changes in the coal industry. C. Means. *Coal Age 22:235-6 Ag 17 '22*

Railway electrification. V. L. Raven. 70p North east coast institution of engineers and shipbuilders, Newcastle-upon-Tyne; Spon '22

Record breaking current collection tests at Erie. W. D. Bearce. *il diag Gen Elec R 26:619-23 S '23*

Rotary converters, with special reference to railway electrification. F. P. Whitaker. *il diags Inst E E J 60:501-12 My '22; Abstracts. Engineer 133:221-2 F 24 '22; Elec R (Lond) 90:391-3 Mr 17 '22; Electrician 88:258-60 Mr 3 '22; Discussion. Inst E E J 60:512-25, 835-44 My, Jl '22; Electrician 88:346-7, 476 Mr 24, Ap 21 '22; Elec R (Lond) 90:713-15 My 19 '22*

Saving energy on the Long Island. L. S. Wells. *chart map Elec Ry J 59:926-9 Je 10 '22*

Some arguments for railroad electrification. W. J. Davis, jr. *Gen Elec R 25:720-3 D '22; Same. Can Eng 44:112-14 Ja 2 '23*

Some service records of electric equipment. H. K. Smith. *Ry Age 73:1013-14 N 25 '22*

Status of railroad electrification. C. Townley. *Am Inst E E J 41:559-60 Jl '22; Same. Ry Age 73:348-9 Ag 19 '22; Same. Elec Ry J 59:974 Je 17 '22*

Superpower advocates strive to answer criticisms. *Ry Age 71:1189-92 D 17 '21*

See also Electric locomotives; Electric railroads; Railroads. Industrial—Electrification; Third rails

Argentina

Buenos Ayres Western railway; electrification of the suburban lines. *il plan Elec R (Lond) 92:779-82, 821-3 Mr 18-25 '23; Engineer 135:517-20, 526 My 18 '23*

Steam road electrifications in the Argentine. L. G. Riley. *il map Ry Age 73:375-8 Ag 26 '22*

Australia

Suburban electrification at Melbourne. Australia. *il diags map Eng N 91:600-2 O 11 '23*

Austria

Electrification of Austrian roads planned. R. Mossman. *map Elec Ry J 60:738-9 N 4 '22*

Electrification of the Austrian railroads. *il Elec R (Lond) 93:200-1 Ag 10 '23*

Brazil

Brazilian railway electrification schemes. *Elec R (Lond) 90:294-5 Mr 3 '22*

L'électrification du chemin de fer de Paulista (Brésil). *il map Génie Civil 80:221-3 Mr 11 '22*

Fuel cost key to Paulista railway electrification. S. B. Fortenbaugh. *il Ry R 69:857-60 D 24 '21*

Savings from the Paulista electrification estimated; the costs of electric and steam operation over a period of five years. S. B. Fortenbaugh. *il Elec Ry J 62:767-9 N 3 '23*

Railroads—Electrification—Continued

Canada

Electric traction recommended for T. & N. O. Ry Age 74:325-6 F 3 '23; Can Eng 44:219 F 6 '23

Electrification of Stave Lake railway. Elec Ry J 60:850 N 25 '22

Toronto electrification disapproved by Canadian commission. Ry Age 72:286 Ja 28 '22

Chile

Chilean railroad electrification program. map Ry Age 71:1109-10 D 3 '21; Same. Elec Ry J 58:991-2 D 3 '21; Same. Elec R 79:837-9 D 3 '21; Same cond. J Elec 48:19 Ja 1 '22

Chilean railway electrification. Eng N 87:976; 89:152 D 15 '21, JI 27 '22

Electrical progress in Chile. maps Elec W 80:1408-9 D 23 '22

Electrification of the Chilean state railways. il map Ry R 70:185-8 F 11 '22; Engineer 133:711-14 Je 30 '22; Electrician 88:102 Ja 27 '22; Can Eng 42:346 Mr 28 '22

Electrification of the Chilean state railways. D. C. Hershberger. il maps Elec J 19:99-106 Mr '22

Railroad electrification in Chile. W. H. Easton. il diag Sci Am 127:229 O '22

England

See Railroads—Electrification—Great Britain

Europe

Observations on electric railway practice. W. B. Potter. il diags Gen Elec R 26:211-21 Ap '23; Same. Elec Ry J 61:292-6 F 17 '23; Same. Am Inst E E J 42:490-7 My '23; Same cond. Ry Age 74:423-6 F 17 '23; Discussion. Am Inst E E J 42:657 Je '23

France

Apparatus for French Midi railway electrification. il Ry R 71:137-8 JI 29 '22; Elec Ry J 60:261 Ag 19 '22; Same. Eng & Contr (Ry) 58:15-16 O 18 '22

L'électrification des Chemins de fer du Midi. il diags maps Génie Civil 83:169-76 Ag 25 '23

L'électrification des Chemins de fer du Midi; les sous-stations à courant continu (1500 volts) de la section Montréjeau-Pau. H. Ledoux. il diags plans Génie Civil 83:193-8 S 1 '23

Foremost French railway electrification project. G. De La Rochette. il map diags Ry R 70:148-52 F 4 '22

France making real progress in electrification. P. Charpentier and E. M. Bill. il map Elec Ry J 59:923-5 Je 10 '22

France revisited. T. Rich. il diags map Elec R (Lond) 91:476-9, 512-13 O 6-13 '22

France progressing with electrification projects J. C. Thirlwall. Elec Ry J 61:410-11 Mr 10 '23

Midi electrification making rapid progress. Elec Ry J 61:607 Ap 7 '23

Paris-Orleans railway begins electrification program. A. H. Candee and L. E. Lynde. Ry R 71:662-3 N 11 '22; Same. Elec Ry J 60:745-6 N 4 '22; Same. Ry Age 73:803-4 O 28 '22

Le programme d'électrification partielle du Chemin de fer d'Orléans. diags plan Génie Civil 83:157-60 Ag 18 '23

Projet d'électrification d'une partie du réseau de la Compagnie du chemin de fer d'Orléans. diag Génie Civil 81:596-8 D 23 '22

Germany

Electrification of the German railways. Engineer 135:169 F 16 '23

Great Britain

Electrification boom. Electrician 87:561-3 N 4 '21

Electricity supply for the S. E. & C. R. Elec R (Lond) 91:321 S 1 '22; Same cond. Engineer 134:188 Ag 25 '22

Electrification of British railways as a relief for unemployment. Ry R 73:268-9 Ag 25 '23

Electrification of English main line railways; discussion. Engineer 133:104-5 Ja 27 '22; Engineering 113:102-4 Ja 27 '22; Electrician 88:133-4 F 3 '22; Elec R (Lond) 90:174-6, 212-14 F 3-10 '22

Electrification of the S. E. and C. railway. map Elec R (Lond) 93:236 Ag 17 '23

Electrification of the South-Eastern and Chatham railway. map Electrician 87:576 N 4 '21

Electrification on the London, Brighton and South Coast railway. Engineer 132:538 N 18 '21

Euston and Watford railway; new L. & N. W. electric service. diag Elec R (Lond) 91:68-9 JI 14 '22

Final report on the electrification of British railways. Gen Elec R 25:60-4 Ja '22; Excerpts. Ry Age 71:1110-11 D 3 '21

Further developments in railway electrification; details of an extended suburban and main line scheme. map Electrician 87:678-9 N 25 '21

Good record for British single-phase electrification. Elec Ry J 61:367 Mr 3 '23

Returns from a British electrification; London, Brighton & South Coast railway. Elec Ry J 61:1092 Je 30 '23

Twelve years' experience with alternating current traction on the London, Brighton & South Coast railway. Ry Age 74:381-2 F 10 '23

Hungary

Electrification of the Hungarian state railways. L. Von Verebely. Engineer 135:318 Mr 23 '23; Abstract. Elec W 81:705 Mr 24 '23

Italy

Electric traction on the Mont Cenis (Italy) road. G. Hulschiner. Elec W 79:92-3 Ja 14 '22

L'électrification du chemin de fer de Turin à Ceres en courant continu à 4 000 volts. Génie Civil 81:261-2 S 16 '22; Abstract. Elec R (Lond) 91:539 O 13 '22

4,000-volt D.C. Italian electrification successful. il Elec Ry J 61:409 Mr 10 '23

Railway electrification in Italy. Eng & Contr 57:527 My 31 '22

Japan

Electrification of Chichibu railway. D. E. Renshaw. il Elec Ry J 60:290-1 Ag 26 '22

Electrification of the Chichibu railway of Japan. C. A. Bercau. il map Ry R 70:911-12 Je 17 '22

Japanese railways and their operating problems. H. K. Smith. il diags map Ry R 71:365-9 S 16 '22

2,000 miles of Japanese railways designated for electrification. Elec Ry J 58:1136 D 24 '21

Mexico

Electrification of the Mexican railway. il diags map Gen Elec R 26:184-5 Mr '23

Mexican railway to be electrified. map Elec Ry J 60:811 N 18 '22; Same abr. Ry Age 73:936-7 N 18 '22

Mexico's scenic railroad to be electrified. G. F. Paul. il Pop Mech 39:397 Mr '23

Netherlands

Abstract of the report of the commission appointed to consider the choice of a system of electrification for the Netherlands' railways. W. D. Bearce. Gen Elec R 25:285-7 My '22; Excerpts. Elec R (Lond) 91:249 Ag 18 '22

Electrification in Holland and Switzerland. map Elec Ry J 58:988 D 3 '21

Norway

Electrification of the railroad from Narvik to Riksgränsen in Norway. H. Schreiner. Elec W 82:823 O 20 '23

Russia

Soviet plan to electrify Russia. C. P. Steinmetz. map Elec W 80:715-19 S 30 '22

Silesia

Electric traction on the Silesian mountain railways. Electrician 89:70 JI 21 '22

Railroads—Electrification—Continued*South Africa*

- Electric traction in South Africa. Electrician 88:507 Ap 28 '22
 Electrification on South African railways. Eng N 91:99 Jl 19 '23

Spain

- Electrification in Spain. diags Ry R 69:832-3 D 17 '21

Switzerland

- Alpine railway electrification. H: S. White. il Pop Mech 39:231-4 F '23
 Completion of the Rhaetian railway electrification. il diags Engineer 135:464-6, 474, 492-4 My 4-11 '23
 Completion of the St Gothard railway electrification. Engineer 133:638 Je 9 '22; Same. Eng & Contr 58:211-12 Ag 30 '22
 L'électrification générale du réseau des chemins de fer rhétiques (Engadine, Suisse). map Génie Civil 81:327 O 7 '22
 Electrification improves Alpine scenery on Rhaetian Ry. il Ry R 71:297-301 S 2 '22
 Electrification in Holland and Switzerland. map Elec Ry J 58:988 D 3 '21
 Electrification of the Gotthard road. K. Sachs. Elec W 79:843-4 Ap 29 '22
 Electrification of the St Gothard railway. il Engineer 133:68-70, 72 Ja 30 '22
 Recent electric developments in Switzerland. S. P. Smith. il Electrician 87:782-5 D 23 '21
 St Gothard electrification. P. J. Risdon. il Sci Am 127:154-5 S '22
 Where electrification is both logical and picturesque; Gotthard line in Switzerland. il Ry R 70:559-64 Ap 22 '22

United States

- Another forward step in electrification; how the Virginian railway will replace steam. il Sci Am 129:92+ Ag '23
 Decade of the N. & W. electrification. il diags map Elec Ry J 62:203-8 Ag 11 '23
 \$84,000,000 program; 28 miles of Long Island railroad to be electrified. Elec Ry J 62:187 Ag 4 '23
 Electric operating data on American railroads. Eng & Contr (Ry) 58:25 O 18 '22
 Electrical operation in mountain districts; what is being done on the Chicago, Milwaukee & St Paul. F. Rusch. Ry Age 72:833-4 Ap 1 '22; Same. Eng & Contr 57:474-5 My 17 '22; Same. Gen Elec R 25:362-4 Je '22
 Heavy traction service records. H. K. Smith. Elec Ry J 61:44 Ja 6 '23
 How the Virginian will double operating capacity. R. L. McClellan. il diag map Ry R 72:1040-3 Je 16 '23; Same. Ry Age 74:1451-3 Je 16 '23; Same. Aera 11:1660-3 Jl '23
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 Illinois Central adopts electrification system. Ry Age 73:665 O 7 '22; Elec Ry J 60:630-1 O 14 '22
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 New Haven operation has justified electrification. S. Withington. il Ry R 72:71-3 Ja 6 '23
 New single phase equipment for the New Haven. W. H. Smith. il Ry Age 72:1477-9 Je 17 '22
 N. & W. electrification a good investment. N. D. Maher. il Elec Ry J 62:45-6 Jl 14 '23
 Notes on operation of electrified line of C., M. & St P. Ry. A. W. Baker. Eng & Contr (Ry) 58:65-6 N 15 '22
 Performance of electrified railway. A. L. Mudge. Eng & Contr (Ry) 59:661-7 Mr 21 '23
 Proposal to equip Texas steam road approved by Dallas. Elec Ry J 60:487, 612 S 23, O 7 '22
 Proposed electrification of heavy traction railroads in zone, Boston to Washington. Comm & Fin Chr 113:2152-3 N 19 '21
 Some phases of railway electrification. E. Marshall. Ry R 73:424 S 22 '23; Abstract. Ry Age 75:470 S 15 '23
 Survey of electric traction on American railroads. G: Gibbs. diags Eng N 89:434-8 S 14 '22
 Virginian railway awards 213-mile electrification contract. F. H. Shepard. Ry R 72:780-1 My 5 '23
 Virginian railway to electrify. Elec Ry J 61:777 My 5 '23
 Virginian to electrify 134 miles of line. map Ry Age 74:1115-16 My 5 '23; Excerpt. Eng & Contr (Ry) 59:1103-4 My 16 '23
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 Common interests of roads and employees. W. G. Lee. Ry Age 74:475-7 F 24 '23
 Concealed agencies fomenting new strikes. Ry R 72:319-25 F 24 '23
 Constructive program for organized railroad labor. B: W. Hooper. Ry R 72:255-6 F 10 '23
 Dealing with the labor problem. Ry Age 73:828-9 N 4 '22
 Decisions of the Railroad labor board; the Pennsylvania railroad cases. Monthly Labor R 17:418-25 Ag '23
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 Employee morale problem of our railroads. O. S. Beyer, jr. Ry Age 75:656-8 O 13 '23
 Employee representation and discipline. E. Lee. Ry Age 75:855-7 N 10 '23
 Employing and educating enginemen and firemen. Ry Age 73:942 N 18 '22; Ry R 71:717-18 N 18 '22
 Employment and earnings of railroad employees, March, 1922, and February and March, 1923. Monthly Labor R 16:1333-9 Je 23 [continued monthly]
 Essentials of morale. S. E. Shoup. Ry Age 73:998-9 N 25 '22; Same. Eng & Contr (Ry) 58:156-7 D 20 '22
 Eyesight tests for railwaymen. E. Ginestous. Int Labour R 8:594-6 O '23
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 Fifty years of railway trade unionism. G. W. Alcock. 631p Co-operative printing society limited, London '22
 Fight for power lost in 1922 by railway unions. Ry R 72:75 Ja 6 '23
 40,000 attend P.R.R. athletic meet at Altoona. il Ry Age 75:581-2 S 29 '23
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 Good-will and how it may be cultivated. F. Snow. Ry Age 75:215-17 Ag 4 '23
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 Government-made labor monopoly. B: Baker. Annalist 20:147-8 Ag 14 '22
 Group versus collective bargaining in the railway shop. il Ry R 72:77-83 Ja 6 '23
 Guard against physically unsound employees. J. Leeming. Ry Age 73:393-4 Ag 26 '22
 Handling track labor—leading vs. driving. C: Weiss. Ry R 72:891-2 My 26 '23
 He profits most who serves best; the principle underlying the employee representation plan. W. W. Atterbury. Ry Age 75:573-4 S 29 '23
 Hours of labor on German federal railways. Monthly Labor R 16:1011-12 My '23
 How can employee relations be improved? R. V. Wright. Ry Age 73:1079-81 D 9 '22; Discussion. F. J. Bailey. 74:414 F 17 '23

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How can the railroads regain control of their employees? views of a typical group of railroad men. Ry R 71:246-8 Ag 19 '22

How Pennsylvania railroad keeps peace with its employees. H. A. Enochs. Ry R 71:787-9 D 2 '22

If interested in railway shop efficiency and output, read what has been accomplished at the Beech Grove shops of the Big Four railway. il Ry R 71:927-34 D 30 '22

Illinois Central holds railroading as as attractive now as ever. C. H. Markham. Ry R 69:660 N 12 '21

Incident and a suggestion; humanize the railroad. W. W. Adair. Ry Age 73:893-4 N 11 '22

Interest of railroad work and how foremen may instill enthusiasm in their men. Ry R 71:255-6 Ag 19 '22

Labor board chairman answers union critics. Ry Age 74:379-80 F 10 '23

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Manufacturers say railroads should control labor relations. Ry R 70:190-1 F 11 '22

Methods of increasing efficiency of track forces. Eng & Contr 56:454-5 N 16 '21

Methods of settling wage and working conditions between railroads and unions have entered new era. W. G. Lee. Comm & Fin Ch 115:1688 O 14 '22; Same cond. Ry Age 73:717 O 14 '22

Missouri Pacific hospital dedicated at St Louis. il Ry Age 75:529-30 S 22 '23

Nationalization of basic industries. E: A. Bradford. Annalist 20:75-6 Jl 24 '22

New kind of propaganda against the railroads; workers' education in socialist labor colleges being used to promote scheme for nationalization of roads. Ry R 72:586-91 Mr 31 '23

New regulation of hours of work on the French railways. Int Labour R 7:328-34 F '23

New shop agreements have novel features. Ry Age 73:603-4 S 30 '22; Ry Mech Eng 96:629-30 N '22

On the firing line. F. W. Connor. Ry Age 74:439 F 17 '23

Opportunities for college graduates. A. H. Burnham, Jr. il Ry Mech Eng 97:677-8 O '23

Organization in railroad work. R. N. Begien. Ry R 71:620-3 N 4 '22; Same. Eng & Contr (Ry) 58:97-101 N 15 '22; Same cond. Ry Age 73:1247-9 D 30 '22; Discussion. L. J. Carnalt. 74:174-5 Ja 13 '23

Organized co-operation on the railroads. W. H. Johnston. Ry Age 74:1415-16 Je 16 '23

Our road. Ry Age 73:549-50 S 23 '22

Pennsylvania-American plan from the labor standpoint. Ry R 71:681-2 N 11 '22

Pennsylvania decision: a challenge to railroad executives. B: Baker. Annalist 21:318-19 F 26 '23

Pennsylvania system holds third annual field meet. il Ry Age 73:607-9 S 30 '22

Place of athletics on the railroad. L. H. Poor. Ry Age 73:894-5 N 11 '22

Plan for closer industrial relations; how representatives of brotherhoods and management of the Pennsylvania deal with each other. H. E. Core. Ry Age 75:681-2 O 13 '23

Political program of railway labor decied. B: W. Hooper. Ry R 71:834-7 D 9 '22

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Practice growing of paying old-age pensions. Ry Age 75:65-8 Jl 14 '23

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Proceedings before the United States Railroad labor board, Chicago, July 8-9, 135p Pennsylvania railroad co., Philadelphia '21

Progress towards normalcy in railway labor field. H. Larkes. Ry Age 72:31-5 Ja 7 '22

Railroad employment bureau functions in strike. Ry Age 73:661-2 O 7 '22

Railroad labor and education. D. C. Buell. Ry R 71:837-8 D 9 '22

Railroad labor board reverses itself on status of strikers. Ry R 71:761 N 25 '22

Railroad strike in Germany. Monthly Labor R 14:1044-50 My '22

Railroad veterans' association. J: Draney. Ry R 72:304-5 F 17 '23

Railroads and their employees. W. N. Doak. Am Soc C E Pro 48:303-7 F '22

Railroads' next step—amalgamation. W: Z. Foster. 63p Trade union educational league, Chicago '22

Railway labour. Engineer 134:472 N 3 '22; Excerpts. Eng & Contr 53:4-5 N 29 '22

Real teamwork—every employee a booster. E. K. Hall. lty Age 74:751-4 Mr 17 '23

Representation plan on the Pennsylvania railroad. E. Lee. Aera 12:613-19 N '23; Same cond. Elec Ry J 62:593-4 O 13 '23

Rights and status of employees injured in commerce. L. D. Clark. Monthly Labor R 15:399-409 Ag '22

Seniority rights and wrongs. E: A. Bradford. Annalist 20:196+ Ag 28 '22

Settlements with train service employees. Ry Age 73:683-4 O 14 '22

Shipper comments on railroad morale. W. Martin. Ry Age 73:929-30 N 18 '22

Shop committees as a suggested means of improving industrial relations on railroads. H: T. Hunt. Monthly Labor R 17:46-7 Jl '23

Speaking for 80,000. 26p Pennsylvania railroad co., Philadelphia '21

Standardization of output in railway maintenance-of-way work. Monthly Labor R 16:1032-3 My '23

Strengthening the morale of supervisory forces. Ry Age 74:1431-2 Je 16 '23

Talk money to employees. G. Gibson. Ry Age 73:4-5 Jl 1 '22

Three classes of labor to avoid; prejudices and habits displayed by men in certain occupations. H. A. Harring. Ind Management 62:370-3 D '21

Trainmen and the eight-hour day. F. J. Bailey. Ry Age 72:461 F 25 '22

Union Pacific plan of employee representation. G. H. Sines. Ry R 72:760-4 My 5 '23

Use of federal power in settlement of railway labor disputes. C. O. Fisher. U S Bur Labor Statistics Bul 303:1-121 '22

W. G. Bied opposes regional board of adjustment. Ry Age 72:220-1 Ja 21 '22

What a railroad man thinks of the A. F. of L's advertising viewpoint. J. G. Condon. Ptr Ink 120:93-4+ S 21 '22

What causes inefficiency on the railroads? Ry Age 73:455-6 S 9 '22

What does a successful executive require? D. C. Sheffield. Ry Mech Eng 97:737-8 N '23

Where to start in railroad work. Ry R 71:186-8 Ag 5 '22

Why college men fail on the railroads. Ry Age 71:1130-1 D 10 '21

Why do not college men enter railroading? H. D. Dozier. Ry Age 75:19-20 Jl 7 '23; Discussion. 75:147-8, 462 Jl 28, S 15 '23

Why not employee relations departments too? F. Snow. Ry Age 73:1033-4 D 2 '22

Why shopmen strike. Ry R 71:179-80 Ag 5 '22

Women's aid of the Pennsylvania system; social welfare work done. il Ry Age 72:919-20; 73:610 Ap 15, S 30 '22

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Dispatchers given new national agreement. Ry Age 72:483-4 F 25 '22; Ry R 70:275-6 F 25 '22

Effect of national agreements. T: DeW. Cuyler. Ry R 70:269-70 F 25 '22

Evils of national shop rules. F. H. Alfred. Ry R 71:356-7 S 9 '22

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Labor board announces new rules for M. of W. men. Ry Age 73:1199-1200 D 23 '22

Labor board announces new rules for telegraphers. Ry Age 72:566 Mr 11 '22

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New rules for maintenance of way employees announced. Ry R 69:843-7 D 17 '21

New rules for shops crafts issued by Labor board. Ry Mech Eng 96:9-16 Ja '22

Railroad labor board decision on railroad shop rules and working conditions. Monthly Labor R 14:127-51 Ja '22

Railroad rules as revised for men engaged in maintenance of way. Comm & Fin Chr 113:2682-3 D 24 '21

Railroad rules for clerks, station employees, etc. Comm & Fin Chr 114:485-6 F 4 '22

Railroad shop craft rules completely revised for economy and efficiency. Comm & Fin Chr 113:2370-1 sec 1 D 3 '21

Railroads—decisions of the Railroad labor board. Monthly Labor R 13:1274-7; 14:326-32

497-507, 713-34; 15:93-101; 16:101-6, 393-6 D '21, F-Apr, Jl '22, Ja-F '23

Railroads—decisions of the Railroad labor board on overtime. Monthly Labor R 13:840-3 O '21

Railroads gain by Labor board decision. G. L. Lacher. Iron Age 108:1478-9 D 8 '21

Rules for supervisors of mechanics announced. Ry Age 72:524 Mr 4 '22

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Car department apprentice system. H. L. Shipman. Ry Mech Eng 97:31-2; Discussion. 32-3 Ja '23

Educating workers in fundamental economics. C. F. Dietz. Ry Age 75:617-20 O 6 '23

Education and development of track foremen. Ry Age 75:534-6 S 22 '23

Education and training on railroads. D. C. Buell. Mech Eng 44:91-2 F '22; Same. Ry R 69:796-7 D 10 '21

Education—the answer to excessive rail regulation. C. G. Juneau. Ry R 70:85-7 Ja 21 '22

Essentials of a successful system of railway apprentice education. W. B. Russell. il Ry R 72:582-3 Mr 31 '23

Is education of trackmen worth while? Ry Age 73:1225-6 D 30 '22

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Merits of shop training and apprentice systems. Ry R 71:935-8 D 30 '22

Methods of training railway shop foremen. H. Diemer. Ry Mech Eng 96:469-71 Ag '22

1,000 employees of English road are attending classes in transportation. Ry Age 73:864 N 4 '22

Programs of apprenticeship and special training in representative corporations; the

Atchison, Topeka & Santa Fe railway. J. V. L. Morris. Am Mach 56:62-3 Ja 12 '22

Special apprentices. Ry R 69:839-40 D 17 '21

Specialized training versus apprenticeship. L. E. Gardner. il Ry Mech Eng 96:225-6 Ap '22

Training and inspiring the supervisory forces. I. U. Kershner. Ry Age 74:1259-61 My 26 '23

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Traveling school for railway men. il Sci Am 129:249 O '23

Wabash railway engineers operate model instruction cars. S. E. Cotter. il Ry R 70:445-7 Ap 1 '22

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Billion and a half for railroads. J: L. Leighton. Am Ind 23:5-7 My '23

Custody and delivery of railway material. il Ry R 71:773-7, 847-50; 72:86-9 D 2, 16 '22, Ja 6 '23

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Labor-saving devices in routine bridge and building work; report to the American railway bridge and building association. il diags

Ry R 71:583-9 O 28 '22; Same. Eng & Contr (Ry) 58:67-78 N 15 '22; Abstract. Ry Age 73:748-9 O 21 '22

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\$1,230,000,000 spent for material and supplies by class I railroads in 1922. Ry R 72:85 Ja 6 '23

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Railroads must use labor saving equipment. Ry Age 74:515-16 Mr 3 '23

Railroads profit from lower material costs. W. S. Lacher and C. B. Peck. il Ry Age 72:43-6+ Ja 7 '22

Railways will make many improvements in 1923. E. T. Howson. il Ry Age 74:15-18 Ja 6 '23

Some factors in the design of railway power plants; report of the committee on modernization of stationary boiler plants of the A.R.A. Ry R 70:991-5 Je 24 '22

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Exhibitions

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Prices

Current material prices. Eng & Contr (Ry) 59:870 Ap 18 '23

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Equipment trust

Car trust securities. 5th ed. 138p Freeman & co., New York '23
 Equipment trust agreements of Jan. 15, 1920. Comm & Fin Chr 117:5 sec 2 N 24 '23
 Plan for locomotive terminal equipment trust. Ry R 72:901-2 My 26 '23

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Hearing on sleeping car rates and surcharge. Ry Age 75:442, 471-3 S 8-15 '23
 Interchangeable mileage tickets. Comm & Fin Chr 116:1139, 2087-8 Mr 17, My 12 '23; Ry Age 74:345-6, 536, 765-6, 855-6, 1055-6 F 3, Mr 3, 17, 31, Ap 28 '23; Ry R 72:228-30 F 3 '23
 Mileage book legislation would reduce passenger revenues. Ry Age 72:818-19 Ap 1 '22
 Le nouveau régime des chemins de fer français. G. Peyraron. Génie Civil 79:458-61 N 26 '21
 Railroads oppose reduced rate mileage book. Ry Age 73:613-17, 657-9 S 30-O 7 '22
 Rates for the American legion. Ry Age 73:494-5 S 16 '22
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 Roads present data defending Pullman surcharge. Ry Age 74:1697-8 Je 30 '23
 Tarifs de voyageurs. G. Peyraron. Génie Civil 79:460-1 N 26 '21
 La taxation de la vitesse dans les transports de voyageurs. G. Mesnard; G. Peyraron. Génie Civil 80:209-11 Mr 4 '22
 Tentative report finds Pullman rates reasonable. Ry Age 73:618 S 30 '22
 We need more business in business, too; impressions of a government expert at hearings on reduced rate mileage or scrip book. J. W. Kean. Nation's Business 10:82-3+ D '22
 Why should sleeping and parlor cars be advertised? J. G. Condon. Ptr Ink 120:119-20+ O 12 '22

See also Electric railroads—Fares; Railroads—Tickets; Street railroads—Fares

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 Agricultural commission reports findings on transportation. Ry R 70:651-3 My 6 '22
 Ambiguity of recapture provisions caused speculation. Ry Age 73:106, 410 J 15, S 2 '22
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 Analysis of the railway statistics for 1922. J. H. Parmelee. Ry Age 74:112-15+ Ja 6 '23
 Anti-railway propaganda. E. A. Bradford. Annalist 19:196 F 6 '22
 As the railroad worker sees it. W. N. Doak. il Nation's Business 11:23-4 Je 5 '23
 Baltimore & Ohio common dividend restored. map Ry Age 75:621-4 O 6 '23
 Baltimore and Ohio railroad annual report, 1922. Comm & Fin Chr 117:903-6 Ag 25 '23; Same. Ry Age 75:366-9 Ag 25 '23
 Banking and transportation. J. S. Alexander. Comm & Fin Chr 116:1854-6 Ap 28 '23
 Business man's interest in railway net. S. O. Dunn. Ry Age 75:312-14 Ag 18 '23
 Can railroads earn a fair return? W. M. Acworth. Ry Age 72:261-2, 558 Ja 28, Mr 11 '22
 Canadian National improves position in 1922. Ry Age 75:75-6 J 11 '23
 Canadian railways. J. L. Payne. il Ry Age 72:70-2; 74:87-90 Ja 7 '22, Ja 6 '23
 Carrier earnings running close to 6% on valuation. R. Bean. Annalist 19:507-8 My 8 '22
 Costs of the railroad business. Ry Age 75:610 O 6 '23

Chicago and Eastern Illinois railway. 1st annual report, 1922. Ry Age 75:207-9, 228 Ag 4 '23
 Chicago and Northwestern railway, 63d annual report. Ry Age 75:29-31, 49-51 J 1 '23
 Chicago, St Paul, Minneapolis and Omaha railway, 41st annual report. Ry Age 75:52 J 1 '23
 Cleveland, Cincinnati, Chicago & St Louis railway, 34th annual report, 1922. Ry Age 75:165-6, 184-5 J 28 '23
 Coal strike and railroad earnings. Ry Age 72:1049 My 6 '22
 Commission sustains short line interpretation of deficit. Ry Age 72:741-2 Mr 18 '22
 Delaware & Hudson will maintain dividend. Ry Age 74:239-40 Ja 20 '23
 Distribution of railway operating revenues expressed in cents per dollar of gross revenues; charts. Ry Age 74:1000-1 Ap 21 '23
 Distribution of the railway dollar; compiled by the Bureau of railway economics for class I railways. Ry R 72:142 Ja 20 '23
 Dividend changes on railroad stocks in 1921. C. W. Foss. Ry Age 72:133-4 Ja 7 '22
 Dividend changes on railroad stocks in 1922. Ry Age 74:140 Ja 6 '23
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 Duncan replies to charges of Lauck and Warne that large financial interests control the railroads. Ry Age 72:1117-18 My 13 '22; Ry R 70:645 My 6 '22
 Effect of traffic fluctuations on operating expenses. Ry Age 73:11-12 J 1 '22
 El Paso & Southwestern earnings improve. Ry Age 74:823-4 Mr 24 '23
 Financial results of operation 1921 were disappointing. Ry R 70:298-9 Mr 4 '22
 Financial settlement with railroads. J. C. Davis. Comm & Fin Chr 113:2042-3 N 12 '22
 Ford plan of employee participation. Ry R 73:622-3 O 27 '23
 Ford's railroad reports in red. Ry Age 72:858-9 Ap 8 '22
 Foremost French railway electrification project. G. De La Rochette. il map diags Ry R 70:148-52 F 4 '22
 Freight revenue by classes of commodities. Ry Age 74:1266-7 My 26 '23
 Funding depreciation reserves. Ry Age 75:755-6 O 27 '23; Discussion. 75:998, 1144; 76:180, 274 D 1, 22 '23, Ja 12, 26 '24
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 Loree denies Lauck charges of an interlocking combination. Ry Age 72:1726 Je 24 '22; Same. Comm & Fin Chr 115:34-5 J 1 '22; Same abr. Ry R 70:1017-18 Je 24 '22
 Maine Central has good equipment condition. map Ry Age 74:875-6 Mr 31 '23
 Michigan Central earns \$12,818,271 after charges. Ry Age 75:163-4 J 28 '23
 Michigan Central 77th annual report, 1922. Comm & Fin Chr 117:450-2 J 28 '23; Same cond. Ry Age 75:183-4 J 28 '23
 Minneapolis, St Paul & Sault Ste Marie railway annual report, 1922. Ry Age 75:121-2, 138 J 21 '23
 Needs on the railroads. J. J. Hanauer. Comm & Fin Chr 114:375-6 Ja 28 '22
 Net operating income and deferred maintenance. S. Thompson. Ry R 71:178-9 Ag 5 '22
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 Northern Pacific not reporting good earnings. map Ry Age 75:349-51 Ag 25 '23
 Northern Pacific railway annual report, 1922. Comm & Fin Chr 116:3009-13 Je 30 '23; Same abr. Ry Age 75:363-5 Ag 25 '23

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Le nouveau régime des chemins de fer français. G. Peyraron. Génie Civil 79:458-61, 485-8 N 26-D 3 '21
 One year under increased rates. Ry R 69:692-3 N 19 '21; Comm & Fin Chr 113:2155-6 N 19 '21
 Peak load and capital expenditures. Ry Age 73:1029-30 D 2 '22
 Plain facts for Rock Island stockholders. Ry Age 72:367-8 F 11 '22
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 Rail net income in 1921 falls below fixed charges. S. Thompson. Ry R 69:910-11 D 31 '21
 Railroad and its dollar. Comm & Fin Chr 115:2091-2 N 11 '22
 Railroad earnings and operations for 1921 as summarized by Inter-state commerce commission. Comm & Fin Chr 114:1492 Ap 8 '22
 Railroad funding bill as amended. Comm & Fin Chr 113:2043-4 N 12 '21
 Railroad gross and net earnings. Comm & Fin Chr 113:2026-9, 2450-3; 114:123-6, 674-7, 1120-3, 1711-14, 2179-82, 2648-50 N 12, D 10 '21, Ja 14, F 18, Mr 18, Ap 22, My 20, Je 17 '22
 Railroad gross and net earnings; discussed in monthly editorial in Commercial and financial chronicle, usually in second weekly number
 Railroad gross and net earnings for the calendar year, 1921. Comm & Fin Chr 114:2651-7 Je 17 '22
 Railroad gross and net earnings for the calendar year 1922. Comm & Fin Chr 116:988-95 Mr 10 '23
 Railroad gross and net earnings for the six months ending June 30; editorial. Comm & Fin Chr 115:805-10 Ag 19 '22
 Railroad gross and net earnings for the six months ending June 30. Comm & Fin Chr 117:715-20 Ag 18 '23
 Railroad melons, rates and wage. C. E. Russell. 332p C. H. Kerr & co., Chicago '22
 Railroad transportation and owners of railroad securities. F. A. Molitor. Am Soc C E Pro 48:208-14 F '22
 Railroads not controlled by bank combine. R. S. Lovett. Ry Age 72:1339-40 Je 10 '22
 Railroads should pay dividends when earned. Ry Age 74:297-8 Ja 27 '23
 Railway capitalization in various countries. Eng & Contr (Ry) 58:164 D 20 '22
 Railway earnings. Published in monthly Railway earnings section of Commercial and financial chronicle
 Railways and railway securities. F. C. Betts. 446p Mortimer, Harley & co., London '22
 Rebuilding railroad credits. W. W. Head. Nation's Business 11:21-2 Je 5 '23
 Receiverships and foreclosure sales during 1921. Ry Age 72:134-6 Ja 7 '22
 Receiverships and foreclosure sales during 1922. Ry Age 74:122-4 Ja 6 '23
 Reduction of the fair return. Ry Age 72:1267 Je 3 '22
 Remarkable improvement shown by Pennsylvania in 1921. il Ry Age 72:863-5 Ap 8 '22
 Repayment of loans advanced to railroads under Transportation act. Comm & Fin Chr 115:609-10 Ag 5 '22
 Report of railroad securities committee of the Investment bankers' association. Comm & Fin Chr 117:1942-4 N 3 '23
 Reports of excess earnings. Ry Age 74:158-9 Ja 6 '23
 Results of operation of French railways in 1921. M. Peschaud. Ry Age 73:23-7 J1 1 '22
 Revenues and expenses of railways for month of September and nine months of

calendar year 1921; tabulation. Ry Age 71:1006-11 N 19 '21 [continued monthly]
 Revenues and expenses of railways for month of December and 12 months of 1921. Ry Age 72:492-7 F 25 '22
 Revenues and expenses of railways; month of December and twelve months of calendar year 1922. Ry Age 74:393-7 F 10 '23
 Santa Fe earns common dividends twice over. map Ry Age 74:1117-19 My 5 '23
 Seasonal variation of operating income. Ry Age 72:273-4 Ja 28 '22
 Senate committee hearings. Ry Age 71:1167-8 D 10 '21
 Senator Brookhart attacks railroads. Ry Age 73:1190 D 23 '22
 Senator Capper on the railroad situation. Ry Age 73:923 N 18 '22
 Senator's views on the railroad question. L. L. Lenroot. Ry Age 75:773-4 O 27 '23
 Simplified analysis of the railroad problem. H. Emerson. Ry Age 72:1011-14 Ap 29 '22; Same cond. Ry R 70:628-31 My 6 '22
 Sinking fund for deterioration, obsolescence, etc. H. H. Laughton. Ry R 71:53 J1 8 '22
 Situation of the western roads. Ry Age 75:508-9 S 22 '23
 Three years' reduction in cost of railroad service. Ry Age 75:800 N 3 '23
 Traffic unit in operating statistics analysis. Ry Age 74:463-6 F 24 '23; Discussion. M. O. Lorenz. 74:799 Mr 24 '23
 Transportation act and the treasury department. E. L. Copeland. Ry Age 73:802-3 O 28 '22
 Transportation and credit. A. P. Thom. Ry R 72:1110-16 Je 23 '23; Excerpt. Eng & Contr (Ry) 60:601-3 S 19 '23
 Trend of traffic and earnings. Ry Age 75:700-1 O 20 '23
 Trouble with the Minneapolis & St. Louis. F. J. Lisman. map Ry Age 75:347-8 Ag 25 '23
 What is wrong with the Northwestern roads? Ry Age 75:257-8 Ag 11 '23
 What the railroads do in twenty minutes. R. H. Aishton. Ry R 70:690-1 My 13 '22
 Wheeling & Lake Erie watches cost factors closely; annual report. C. W. Foss. il map Ry Age 72:771-4 Mr 25 '22
 When equipment renewals become an investment. G. W. Bashaw. Ry Age 73:253-6 Ag 5 '22

See also Electric railroads—Finance; Railroads—Accounting; Railroads—Cost of operation; Railroads—Costs; Railroads—Equipment trust; Railroads—Fares; Railroads—Management; Railroads—Rates; Railroads—Securities; Railroads—Valuation; *also* names of railroads, e.g. Norfolk & Western railway, Southern Pacific railroad; *also* National railway service corporation; Railway motor finance corporation; Railway treasury officers' association

Fires and fire protection
 Damage by fire to creosoted trestle. N. C. & St. L. Ry. il diag plan Ry R 69:133-5 J1 30 '21; Same. Eng & Contr 58:278-9 S 20 '22
 D. & I. R. builds terminal fire protection system. O. H. Dickerson. il plan Ry Age 75:241-3 Ag 11 '23
 Fighting fire on the right-of-way. il Pop Mech 40:265-6 Ag '23
 Reducing locomotive fire hazards. Ry Mech Eng 96:131-2 Mr '22

See also Railway fire protection association

Forms, blanks, etc.
 Labor-saving method in disbursement of freight claims. il Ry R 72:971-3 Je 9 '23

Freight
 Affirmative check system, Kansas City transfer. A. T. & S. F. Ry. R. F. Burnham. Ry R 73:65-6 J1 14 '23
 Analysis of cost of freight service Grand Trunk railway company of Canada. J. P. Newell. Am Soc C E Pro 49:3-36 Ja '23; Discussion. J. G. Sullivan. 49:991-2 My '23
 Car service division issues annual statistical bulletin. Ry R 72:576-8 Mr 31 '23
 Five years of freight traffic growth is lost. H. F. Lane. Ry Age 72:15-20 Ja 7 '22

Railroads—Freight—Continued

Freight car loading. See weekly numbers of Railway age
 Freight car loading in 1921. Ry Age 72:284-5 Ja 28 '22
 Freight commodity statistics for 1922. Ry Age 74:996 Ap 21 '23
 Freight revenue by classes of commodities. Ry Age 74:1266-7 My 26 '23
 Freight traffic conditions in New England. Ry R 69:731 N 26 '21
 Freight traffic guide. C. F. Welden, comp. 361p Association press, New York '21
 Freight train classification on the Baltimore & Ohio. Ry R 71:693-6 N 18 '22
 L. C. L. problem and motor trucks. Ry Age 73:970 N 25 '22
 New high record for railroad tonnage. Comm & Fin Chr 116:353 Ja 27 '23
 President urges co-operation between railroads and steamships. Ry Age 72:531-2 Mr 4 '22
 Railroad contracts with foreign shipping lines. W. Fawcett. Marine Eng 27:11-12+ Ja '22
 Railroad freight transportation. L. F. Loree. 771p Appleton '22; Review. Ry Age 73:781-2 O 28 '22; Review. J. A. L. Waddell. Eng & Contr (Ry) 59:871-8 Ap 18 '23
 Railroads asked to abrogate foreign ship line contracts in favor of American merchant marine. Ry Age 71:1153-6 D 10 '21
 Shipping board asks conference with railroads on contracts with foreign steamship lines. Ry Age 71:948 N 12 '21
 Store-door delivery in England. Ry Age 72:758 Mr 18 '22
 Traffic man's handbook. 386p International text book co., Scranton, Pa. '23
 Traffic studies show need of balanced budgets. B. H. Mann. Ry Age 74:1699-1704 Je 30 '23; Abstract. Eng N 91:400 S 6 '23
 Ups and downs in railway freight traffic in 1922. H. F. Lane. Ry Age 74:27-8 Ja 6 '23
 Veri-direct method of handling L.C.L. freight. Ry Age 73:1053-7; 74:1011-12 D 2 '22, Ap 21 '23; Ry R 72:902-3 My 26 '23
 Your personal instructor in principles of classification. E. J. Martin. 59p American commerce assn., Chicago '22

See also Bills of lading; Container system (freight handling); Demurrage; Electric railroads—Freight; Freight car service; Freight cars; Freight handling; Priorities. Industrial; Railroads—Claims; Railroads—Loading rules; Railroads—Motor vehicle auxiliaries; Railroads—Rates; Railroads—Terminals; Railroads—Train load; Railroads—Yards; Refrigerator cars; Tank cars; Terminals; Track scales; also American railway association—Regional advisory boards; Interstate commerce commission; Transcontinental freight bureau

Freight cars

See Freight cars

Fuel

Assigned cars for railroad fuel. F. H. Alfred. Ry R 71:331-2 D 9 '22
 Cold weather practices related to fuel conservation. W. E. Dunham. Il Ry R 72:550-2 Mr 24 '23; Same. Ry Mech Eng 97:210-11 Ap '23
 Fuel accounting; abstract of report to International railway fuel association convention. Ry Mech Eng 96:502 S '22
 Fuel conservation as viewed from several practical standpoints; addresses at the International railway fuel association convention. L. W. Baldwin and others. Ry R 70:736-40 My 27 '22; Ry Age 72:1233-5, 1236-7 My 27 '22
 Fuel economy forum. Ry R 70:260-3 F 25 '22
 The other ten percent. R. S. Twogood. Ry Mech Eng 97:562-3 Ag '23; Same cond. Ry Age 74:1335-6 Je 2 '23
 Painful history of the rail administration's fuel bill. G. G. Yeomans. Ry R 70:88-90, 115-16 Ja 21-28 '22
 Railway fuel problem of the Pacific coast. J. C. Martin, jr. Mech Eng 44:656-7 O '22

Report of A. R. A. committee on fuel conservation. Ry R 69:640-3 N 12 '21
 Report of fuel distributor. Ry Age 75:719-20 O 20 '23
 When and where does it pay to store railway fuel? L. E. Dale. Il diags Ry R 72:852-5 My 19 '23
 Will history of fuel economy repeat itself? Ry R 70:107-9 Ja 28 '22
 See also Coaling stations; Locomotives—Fuel

Gages

Australian railway gauge question. Engineering 113:80 Ja 20 '22
 Australian railway problems. Engineering 114:334-5 S 15 '22
 Economics of narrow-gage railways. C. C. Muhs. Eng N 88:624-5 Ap 13 '22
 Indian railway gauge problem. F. G. Royal-Dawson. Engineering 112:696 N 18 '21; Same abr. Eng & Contr 58:212 Ag 30 '22
 Many gages are found throughout the world. Ry Age 73:1234-5 D 30 '22; Discussion. 74:319 F 3 '23
 Railway gauge problem in Australia; unification of gauge; abstracts. T. H. Beare. Engineer 134:251-2 S 8 '22; Electrician 89:324 S 22 '22
 Unification of railway gauges in Australia. Engineer 133:280 Mr 10 '22
 Unifying the railway gages of Australia. F. M. Whyte. Il maps Ry Age 72:107-10 Ja 7 '22
 See also Railroads, Narrow gage

Government ownership

See Railroads and state—United States

Grades

Economic reasons for building the Clarks Summit-Hallstead cutoff. G. J. Ray. Il W Soc E J 27:65-83 Mr '22; Same cond. Ry Age 71:1243-50 D 24 '21; Excerpts. Eng & Contr 57:61-4, 90 Ja 18-25 '22
 Effect of grade on locomotive coal consumption. G. S. Chiles. Ry R 69:715-19 N 26 '21
 Grade change improves helper performance. Il maps Ry Age 74:941-4 Ap 14 '23
 Grade reduction increases train loads on coal road. Il diags plans Eng N 88:952-3 Je 8 '22
 How to figure grade compensation for metric curves. C. K. Conrad. Eng N 89:141 JI 27 '22
 Seven locomotives pull long test train to ridge of continental divide. G. F. Paul. Il Pop Mech 37:331-2 Mr '22
 See also Grade crossings; Mountain railroads; Railroads—Track depression

History

See also Southern Pacific railroad

Ice supply

Car icing station for the Belt railway of Chicago. diags plan Eng N 89:240-2 Ag 10 '22; Same. Refrig W 57:21-3 S '22
 Establishing icing facilities on a large scale on Southern Pacific and Union Pacific. W. C. Phillips. diag plan Ry Age 72:533-4 Mr 4 '22
 Railway car-icing plant to serve refrigerator trains. diags Eng N 89:657-8 O 19 '22

Inspection

See also Car inspection; Locomotives—Inspection

Interchangeable mileage tickets

See Railroads—Tickets

Law

See Railroad law

Lighting

Floodlights on trains. H. A. Lane. Il Pop Mech 38:514-15 O '22
 See also Car lighting; Railroads—Yards—Lighting

Loading rules

Report of committee of A.R.A. on loading rules. Ry R 70:979-81 Je 24 '22

Railroads—Continued**Location**

- A.R.E.A. report on economics of railway location. Ry Age 74:672-3 Mr 15 '23
 Dotted maps aid in location of railroads to reach timber. map Eng N 90:174 Ja 25 '23
 Recent railway location in southern Colombia. F. R. Molther. il map Eng N 91:268-71 Ag 16 '23
 Relocation on the South African government railways. il map Eng N 88:116-18 Ja 19 '22
 Reverse studies detect errors in railroad location. C. K. Conard. Eng N 89:515 S 28 '22; Discussion. R. S. Blinn. 89:808-9 N 9 '22

See also Railroad surveying; Railroads—Construction; Railroads—Curves and turn-outs

Machinery

See Railroads—Track making machinery
 Maintenance and repair

- Contract system for railway maintenance work. E. E. R. Tratman. Eng N 89:702-4 O 26 '22
 Deferring repairs a costly policy. Ry Age 72:215 Ja 21 '22
 Maintenance in 1921 failed to meet railway needs. J. H. Parmelee. Eng N 88:405-7 Mr 9 '22
 Practical railway maintenance. C. Weiss. 349p McGraw-Hill '23
 What shop equipment means to a railroad. V. Z. Caracristi. Ry R 70:344-8 Mr 11 '22; Same, with tables. Ry Age 72:745-8 Mr 18 '22; Same, with tables and discussion. Ry Mech Eng 96:215-20 Ap '22

See also Cars—Repair; Freight cars—Repair; Locomotive shops; Locomotives—Repair; Railroad ties; Railroads—Contract work; Railroads—Equipment and supplies; Railroads—Management; Railroads—Roadmasters; Railroads—Shops; Railroads—Track; Rails

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Management

- Application of engineering in transportation. G. D. Brooke. il Ry Age 73:289-92 Ag 12 '22; Same. W Soc E J 27:279-86 S '22; Same. Eng & Contr 58:283-6 S 20 '22; Discussion. W Soc E J 27:312-18 O '22
 Case of the Detroit, Toledo & Ironton. H. F. Lane. Ry Age 71:969-71 N 19 '21
 Couzens' criticisms of railroads answered. F. H. Alfred. Ry Age 74:1095-6 My 5 '23
 De-centralized reclamation on the C. M. & St P. railway. il Ry R 71:131-7 Jl 29 '22
 Despatch board gives effective control of locomotives and crews. il Ry Mech Eng 97:175-6 Mr '23
 Efficiency of the railroads. Ry Age 74:1083-4 My 5 '23
 Ford is right—and wrong. W. D. Hines. Nation's Business 9:14-15 D '21; Same. Ry Age 71:1047-8 N 26 '21
 Greatest recent improvement in railway efficiency; service of supply accomplished 50% reduction of material stocks in relation to gross earnings. charts Ry R 72:789-93 My 12 '23
 I.C.C. statistics and operating efficiency. J. E. Slater. Ry Age 75:427-30 S 8 '23
 Making good with the employees and the public. il Ry Age 72:879-80 Ap 8 '22
 Marked economies effected by water service; organization chart. il Ry Age 74:1111-14 My 5 '23
 Methods for performing maintenance of way work the purpose of establishing units of measure of work performed; A.R.E.A. report on economics of railway labor. diagrs Ry Age 74:680-2 Mr 15 '23
 Mr Ford's methods of operating a railroad. C. C. Henkel. Ry Age 71:921 N 12 '21
 Mr Kruttschnitt's letter to Senator Couzens. Ry R 72:618-20 Ap 7 '23; Same. Ry Age 74:865-6 Mr 31 '23
 More about Ford's railroad operating methods. H. F. Lane. Ry Age 71:1137-8 D 10 '21

Opportunities for ingenuity in solving railroad problems. W. D. Hines. Comm & Fin Chr 115:1910-11 O 28 '22

Organization in railroad work. R. N. Begien. Ry R 71:620-3 N 4 '22; Same. Eng & Contr (Ry) 58:97-101 N 15 '22; Same cond. Ry Age 73:1247-9 D 30 '22; Discussion. L. J. Carmalt. 74:174-5 Ja 13 '23

Present-day working of the locomotive department of a railway, from the commercial and financial aspect. R. H. Whitelegg. Engineering 114:753-6 D 15 '22

Railroad efficiency: past and present. J. Kruttschnitt. Ry R 70:15-20 Ja 7 '22

Railway fuel—a reducible 13% of operating costs. J. Kruttschnitt. Ry R 72:877-84 My 26 '23; Excerpts. Ry Age 74:1277-80 My 26 '23

Railway management. S. Fay. Engineer 134:361-2 O 6 '22

Railway operating methods in Argentina. H. Ashton. il Ry Age 74:369-72 F 10 '23

Regional organization of Pennsylvania has proved effective. Ry R 70:48 Ja 14 '22

Reply to Senator Couzens. J. Kruttschnitt. Ry R 72:861-4 My 19 '23

Senator Couzens' charges of incompetency. Ry Age 74:983-4 Ap 21 '23

Senator Couzens replies to Mr Kruttschnitt. Ry Age 74:989-92 Ap 21 '23

Some of Mr. Ford's ideas may be sound. Ry Age 71:1298 D 31 '21

Some points in refined discipline. H. W. Forman. Ry Age 75:31-2 Jl 7 '23

Suggestions for greater efficiency and economy. F. Snow. Ry Age 73:702-3 O 14 '22; Discussion. 73:831-2 N 4 '22

Superintendent's responsibility beyond the right-of-way. J. R. Koontz. Ry Age 74:1529-30 Je 23 '23

Supervision—a vital problem of management. J. L. Wilkes. Ry R 71:235-8 Ag 19 '22

Transportation act, amendment vs. further trial: reviewing the railroads' recent record of operating efficiency. J. Kruttschnitt. Ry Age 75:861-6 N 10 '23

Transportation ratio must be reduced. S. Ennes. Ry Age 75:197-9 Ag 4 '23

Victorian railways consolidate departments. chart Ry Age 73:1245-6 D 30 '22

W. G. McAdoo defends his administration. Ry Age 72:327-30, 371-4, 392-3 F 4-11 '22

Western Maryland 1921 net in sharp contrast. il Ry Age 71:1309-11 D 31 '21

What economies in railroad operation can you suggest; views of a typical group of railroad men. Ry R 72:152-4 Ja 20 '23

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Mileage

Construction activities improve during 1922. il Ry Age 74:116-18 Ja 6 '23

Decline of railroad mileage. Ry Age 74:845-8 Mr 31 '23

Not much activity in new construction in 1921. M. Moore. Ry Age 72:149-51 Ja 7 '22

Railroad construction in 1921. Eng & Contr 57:77 Ja 18 '22

Railway construction in 1922. Eng & Contr (Ry) 59:180 Ja 17 '23

Railway lines abandoned during the year 1921. M. Moore. Ry Age 72:147-8 Ja 7 '22

Railway mileage by states, December 31, 1920. 56p Bureau of railway economics, Washington '21

Railway mileage of the world. Eng & Contr (Ry) 58:120 D 20 '22

Railway mileages of the continents. Ry R 71:679 N 11 '22

What America's railroads need. C. F. Carter. il Nation's Business 11:25-7 F '23

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- Co-operation versus competition between motor truck and railroad transportation. W. H. Lyford. *Good Roads* 63:181-3, 185-7 N 22-29 '22; Same. *Eng & Contr* (Ry) 58:85-92, N 15 '22; Same. *Ry Age* 73:991-4 N 25 '22; Excerpts. *Automotive Ind* 47:882-4 N 2 '22; Abstract. *Eng N* 89:933-6 N 30 '22
- Coordination of motor-truck and railroad transportation. W. J. L. Banham. *Soc Auto Eng J* 13:122-4+ Ag '23
- Japan needs 10,000 motor trucks to aid railroads. *Automotive Ind* 48:777-8 Ap 5 '23
- Mr Harding pleads for trucks as railroad feeders. J. Dalton. *Automotive Ind* 47:1159-61 D 14 '22
- Motor truck and the railroad. P. White. *Am Ind* 23:16-18 Jl '23
- Railroad as an operator of highway transport. A. H. Blanchard. *Can Eng* 42:561-2 My 30 '22; Same. *Eng & Contr* 58:148-9 Ag 16 '22
- Railroads are urged to enter highway transport field. J. Dalton. *Automotive Ind* 48:309-12 F 15 '23
- St Louis roads coordinate rail and motor service. *Il Ry Age* 74:1689-91 Je 30 '23
- Will railways use buses and trucks in Britain? *Bus Transportation* 1:13 Ja '22

Motor vehicle competition

- Effect of the national movement for good roads on short line railroads; views of a typical group of railroad men. *Ry R* 72:188-90 Ja 27 '23
- Have large expenditures changed the public attitude toward highway development? S. E. Bradt. *Good Roads* 64:77-9 F 28 '23
- Motor truck and our railroads. E. Lee. *Soc Auto Eng J* 12:151-4+ F '23; Same cond. *Automotive Ind* 48:139-41 Ja 18 '23; Same cond. *Ry R* 72:145-7 Ja 20 '23; Excerpt. *Eng & Contr* (Ry) 59:438-40 F 21 '23; Abstract. *Bus Transportation* 2:81-2 F '23

Office management

- Systematize work of clerical forces. V. Cahalin. *Ry Age* 75:7 Jl 7 '23; Discussion. W. Balfour. 75:282 Ag 18 '23
- Use of mechanical devices in the treasury department. F. L. Paetzold. *Ry Age* 73:839 N 4 '22

Officials

- Biographical directory of the railway officials of America. 1922 ed. 717p Simmons-Boardman pub. co., New York '22
- Interlocking directors and officers as viewed by I.-S. commerce commission. *Comm & Fin Chr* 113:2785-6 D 31 '21
- Passing the buck—perhaps the dividend. H. Elliott. *Ry Age* 71:989-90 N 19 '21
- Why is a general manager; views of railroad and supply men. *Ry R* 72:300-1 F 17 '23

See also Railroads—Roadmasters

Salaries

- Are the salaries of railroad men equitable as compared with their duties and responsibilities; views of a typical group of railroad men. *Ry R* 71:565-6 O 21 '22
- Fancy salaries. *Ry Age* 74:172-3 Ja 13 '23
- Inadequate salaries of railway chief engineers. *Eng & Contr* (Ry) 59:1352-3 Je 20 '23
- List of salaries of railroad officers. *Ry Age* 73:1201-4, 1227-8 D 23-30 '22
- Most economically managed big business in America. *Ry R* 72:351-5 Mr 3 '23
- Per cent of gross income paid in official salaries at the rate of \$5,000 or over per annum. January 1 to June 30, 1921. *Ry R* 72:466 Mr 10 '23
- Why is a railroad president? C. F. Carter. *Nation's Business* 10:16-18 D '22

Organization

See Railroads—Management

Passenger traffic

- How one line developed a passenger business. F. W. Shappert. *Ry Age* 74:1156 My 12 '23
- See also* American association of passenger traffic officers

Public relations

- Complaints or compliments? C. H. Markham. *Nation's Business* 10:12-13 Ag '22
- Farmers and railway public relations work. *Ry Age* 73:96-7 Jl 15 '22
- Good-will and how it may be cultivated. F. Snow. *Ry Age* 75:215-17 Ag 4 '23
- How can railroads combat propaganda against their interests; views of a typical group of railroad or supply men. *Ry R* 71:713-15 N 18 '22
- How can the public learn the truth; campaign of misrepresentation of the railroads must be met by organized campaign of education. F. W. Sargent. *Ry Age* 74:321-2 F 3 '23; Discussion. 74:455 F 24 '23
- On educating farmers about railroad matters. C. A. Richards. *Ry Age* 74:551-2 Mr 10 '23
- On making friends for the railways. *Ry Age* 73:1075-6 D 9 '22
- Pressing question of public relationships. *Ry Age* 74:905-8 Ap 7 '23
- Railroad advertising during the shopmen's strike. J. G. Condon. *Ptr Ink* 120:10+ Jl 27 '22
- Railroads and public relations advertising. *Ry Age* 73:967-8 N 25 '22
- Railways and public opinion in the new year. *Ry Age* 74:5-7 Ja 6 '23
- Santa Fe's public relations campaign. *Ry Age* 74:204-5 Ja 13 '23
- Should radio be used to broadcast facts about the railroads? views of railroad and supply men. *Ry R* 72:898-900 My 26 '23
- Transportation institute proposed. B. M. Robinson. *Il Ry R* 70:631-3 My 6 '22
- What small customers can do for a business. C. H. Markham. *Il System* 41:665-9 Je '22
- Why operate efficiently and neglect public sentiment? *Ry Age* 74:793-5 Mr 24 '23
- See also* Railroads and state

Purchasing

- Control of purchases and stores on the C. & O. Ry. *Il diags Ry R* 72:795-813 My 12 '23
- New York Central opening; railroad receives bids on large number of steel products. *Iron Age* 109:859-60 Mr 30 '22
- Origin and development of the service of supply. G. G. Yeomans. *Ry R* 70:868-9, 923-7; 71:12-15 Je 10-17, Jl 1 '22
- Purchasing on specifications viewed from various angles. H. P. Hass and others. *Ry R* 70:392-5 Mr 18 '22
- Railroad buying for 1922 undetermined. *Iron Age* 109:104-6 Ja 5 '22
- Railroads are buying! *Ry Age* 72:905 Ap 15 '22
- Railways as purchasers. *Ry Age* 74:566 Mr 10 '23
- Real functions of a department of purchases and stores; abstracts. H. C. Pearce. *Ry R* 71:402-5 S 23 '22; *Ry Age* 73:521-3 S 16 '22
- Responsibility for tie purchases. *Ry Age* 75:375-6 S 1 '23
- Review of fuel and procurement section work under federal control. G. G. Yeomans. *Ry R* 70:115-18 Ja 28 '22
- Stability of railway purchases. *Ry Age* 75:876-7 N 10 '23
- Standardization—basis for efficient purchasing. N. F. Harriman. *Ry R* 73:265-7 Ag 25 '23
- Trend in railway material and supply purchases. Published monthly in the *Railway review*
- Yardsticks for the service of supply. G. G. Yeomans. *charts Ry R* 73:170-3 Ag 4 '23
- See also* Railroad supplies industry; Rails

Purchasing agents

- Official list of railway purchasing agents of the United States and Canada. *Ry R* 70:924 Je 17 '22

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Rates

Agitation for reduced rates termed menace to reviving prosperity. Ry Age 73:1233-4 D 30 '22

Agricultural conference asks rate reduction. Ry Age 72:317-18 F 4 '22

Amendment to Transportation act opposed. Ry Age 71:1266-7 D 24 '21

Arguments before I. C. C. in general rate case. Ry Age 72:573-8 Mr 11 '22

Arguments on live stock rates heard by Interstate commerce commission. Ry R 69: 697-8 N 19 '21

Arguments on railroad rate reductions. L. W. Moffett. Iron Age 109:735-6 Mr 16 '22

Association of railway executives propose a temporary freight rate reduction. Ry Age 71:380 N 19 '21

Attacks on railway valuation cannot result in reduced rates. F. W. Sargent. Ry R 73: 143-4 J 1 28 '23

Authority for reduced rates to Pacific coast denied. Ry Age 73:939-41 N 18 '22

Business awaits freight rate decision. J. G. Condon. Ptr Ink 118:25-7+ Mr 9 '22

Carriers accept proposed rate reductions. Ry R 70:800-1 Je 3 '22

Carriers advise against general rate reduction. Ry R 70:361-2 Mr 11 '22

Carriers reduce freight rates on farm products. T. D. Cuyler. Ry R 69:687-8 N 19 '21

Carriers want commission to announce rate policy. Ry Age 71:1036 N 26 '21

Coal, wheat and politics; an appraisal of President Coolidge's latest program. B. Baker. Annalist 22:531-2 O 22 '22

Coking-in-transit rate. Iron Age 112:1244 N 8 '23

Commerce commission hears arguments for cut in rates on coal from Kansas field to Missouri river. Coal Age 23:871-2 My 24 '23

Commerce commission shown rates drive oil from railroads. A. E. Heiss. Nat Pet N 14: 17-20 Mr 1 '22

Commerce commission's argument in support of its cut in railroad rates. Comm & Fin Chr 114:2408-10 Je 3 '22

Commission allows 3.5-cent cut in rail rates in C.F.A. territory. A. E. Heiss. Nat Pet N 14:20 Ja 4 '22

Commission begins general rate investigation. Ry Age 71:1211-13, 1251-6; 72:192-4, 227-32, 319-22, 383-6, 419-22, 535, 731-4 D 17-24 '21, Ja 14-21, F 4-18, Mr 4, 18 '22

Commission orders general rate inquiry. Ry Age 71:1093-6 D 3 '21; Ry R 69:733 N 26 '21

Commissioner Potter expresses views on rates and wages. Ry Age 72:221 Ja 21 '22

Commodity rates decided in Memphis-Southwestern investigation. Ry Age 74:828 Mr 24 '23

Co-operation of state and federal commissions. Ry R 70:648-9 My 6 '22

Cut in coal freights, Morrow thinks, would increase rail traffic and reduce operating expense. P. Wooton. Coal Age 21:145-6 Ja 19 '22

Dow shows concrete cases where high rates cut rail revenue. A. E. Heiss. Nat Pet N 14:19-20 Mr 15 '22

Eastern refiners charge freight rates deprive them of export trade. R. B. Stafford. Nat Pet N 15:25-6 Ap 25 '23

Economic reaction from high freight rates. H. C. Wallace. Ry R 71:638-9 N 4 '22

Effect of railroad rate readjustment upon American industry. D. L. Taylor. Administration 3:348-50 Mr '22

Export trade in the light of iron costs. P. M. Tyler. Iron Age 111:605-6 Mr 1 '23

Farmer and freight rates. Ry Age 73:872-3 N 11 '22

Farmers and the railroads. Ry Age 75:190-1 Ag 4 '23

Freight on empty return bags. Concrete 23: sup45 S '23

Freight rate embargo on fruits and vegetables. Ry Age 74:1030 Ap 28 '23

Freight rate reduction alone won't give jobber living margin. J. C. Chatfield. Nat Pet N 14:22 Je 21 '22

Freight-rate reductions should readjust oil industry in Southwest. Eng & Min J 113: 1010-11 Je 10 '22

Freight rates and charges. H. C. Barnes. Traffic law service corp. Chicago '22

Freight rates and commodity prices. Ry Age 73:1219-20 D 30 '22

Freight rates on farm products must be lowered. H. C. Wallace. Comm & Fin Chr 115: 1689 O 14 '22

Freight rates on ore and products. L. S. Ropes. Eng & Min J 115:1097-8 Je 23 '23

Freight rates 6.9 per cent of wholesale value. Ry Age 73:96 J 15 '22

Hearings as to further general rate reductions; questionnaire. Comm & Fin Chr 113: 2470 D 10 '21

Hearings on bills to repeal rate making rule. Ry Age 71:1053-6 N 26 '21

Hearings on Capper bill in Senate committee. Ry Age 71:971-2, 1103-4. N 19, D 3 '21

High rates on iron ore to be restored. L. W. Moffett. Iron Age 108:1557-9 D 15 '21

Hoover wants lower rates. Ry R 70:200-3 F 11 '22; Same cond. Comm & Fin Chr 114: 588-90 F 11 '22; Same cond. Iron Tr R 70: 387-9 F 9 '22

How freight rates on bituminous coal play their part in the nation's fuel distribution. W. P. Ellis. maps Coal Age 21:101-5 Ja 19 '22

How labor leaders seek lower railway rates. Ry Age 74:1305-6 Je 2 '23

How much does the farmer pay? Ry Age 74: 364-5 F 10 '23

How the railway business association views the rate decision. A. B. Johnson. Ry R 70: 795-6 Je 3 '22

Increased divisions ordered for Missouri & North Arkansas. Ry Age 72:786-7 Mr 25 '22

I. C. C. finds hardwood lumber rates unreasonable. Ry Age 72:283-4 Ja 28 '22

Inter-state commerce commission in favor of a 10 per cent reduction in freight rates; text of decision. Comm & Fin Chr 114:2317-29 My 27 '22; Excerpts. Ry Age 72:1221-6 My 27 '22; Ry R 70:763-4 My 27 '22

I. C. C. orders grain rate investigation. Ry Age 75:727-8 O 20 '23; Same. Comm & Fin Chr 117:1850-1 O 27 '23

I. C. C. orders increase in New England divisions. Ry Age 72:425-7 F 18 '22

I. C. C. orders increasing intrastate rates upheld. Ry Age 72:519-20 Mr 4 '22

I. C. C. prevents reduction in ex-lake ore rates. Ry Age 73:258-9 Ag 5 '22

I.C.C. report in the matter of rates, fares and charges, reduced rates, 1922. Ry R 70: 802-7 Je 3 '22

I.C.C. reports on average rate per ton of freight. Ry R 72:973 Je 9 '23

Interstate commerce commission rulings on limestone rates. Iron Age 110:1637 D 21 '22

I.C.C. sustained in New England divisions case. Ry Age 74:480 F 24 '23

Intrastate and interstate rates being harmonized. Ry Age 72:1109 My 13 '22

Iron and steel interests ask reductions. L. W. Moffett. Iron Age 109:284-91 Ja 26 '22

Iron ore prices reduced fifty cents. Iron Age 109:1633-4 Je 15 '22; Iron Tr R 70:1743-5 Je 15 '22

Iron ore rail rate map revised. Iron Tr R 71:18 J 1 6 '22

Long-and-short haul case decided. Ry R 71: 716 N 18 '22

Lower rail rates to right agricultural conditions. H. C. Wallace. Comm & Fin Chr 114:1971 My 6 '22

Mining prosperity and the railroad problem. F. R. Raiff. Eng & Min J 113:117-19 Ja 21 '22

Net cost rates; reports at the International railway congress. Engineering 113:611-12 My 19 '22

New development in rate regulation. Ry Age 75:752-3 O 27 '23

New England division case. J. S. Eaton. Annalist 19:342-3 Mr 20 '22

New freight raise in Germany. Iron Tr R 71: 381 Ag 10 '22

Railroads—Rates—Continued

- Le nouveau régime des chemins de fer français. G. Peyraron. diags Génie Civil 79:485-8 D 3 '21
- One year under increased rates. Ry R 69:692-3 N 19 '21; Comm & Fin Chr 113:2155-6 N 19 '21
- Ore shippers seek rate refund. Iron Tr R 71:1434 N 23 '22
- Pigment rate cut barred by I. C. C. Oil Paint & Drug Rep 101:36h Ap 10 '22
- Preferential transportation rates and their relation to import and export traffic of the United States. 316p U.S. Tariff comm., Washington '22
- President Coolidge proposes that freight rates be cut on grain and coal. Comm & Fin Chr 117:1741 O 20 '23
- President Harding's conference with railroad heads. Comm & Fin Chr 114:2310-11 My 27 '22
- President touches on freight rates in message. Ry Age 71:1161-2 D 10 '21
- President urges voluntary rate reduction. H. F. Lane. Ry Age 72:1227-8 My 27 '22
- Prices still much higher than railway rates. Ry Age 71:1089-92 D 3 '21
- Progress of rate inquiry. Ry R 70:126 Ja 28 '22
- Proposed changes in pig iron rates. Iron Age 112:1243-4 N 8 '23
- Proposed reductions in transcontinental rates. Ry Age 74:546-7 Mr 10 '23
- Public control of railroad service. W. W. Atterbury. Ry R 70:301-3 Mr 4 '22
- Questionnaire on rates and earnings sent to the railroads by the interstate commerce commission. Ry R 69:766-7 D 3 '21
- Rail rate decision is criticized. Iron Tr R 70:1590-1 Je 1 '22
- Railroad executives inform Inter-state commerce commission no benefit would result to farmers from President Coolidge's proposal to lower freight rates on wheat exports. Comm & Fin Chr 117:1962 N 3 '23
- Railroad labor board controls rates by fixing wages. Ry R 70:402-3 Mr 18 '22
- Railroad rate reduction not adequate. L. W. Moffett. Iron Age 109:1568-9 Je 1 '22
- Railroad rates—changes recently ordered, authorized, etc. Comm & Fin Chr 113:2681-2 D 24 '21
- Railroad rates—New England roads granted an increase of about 15%. Comm & Fin Chr 114:702-3 F 18 '22
- Railroad rates on iron and steel products. Iron Age 110:1702-3 D 28 '22
- Railroads act on commission's freight-rate decision. Ry Age 72:1278 Je 3 '22
- Railroads ask I. C. C. to make petroleum rate investigation. Nat Pet N 15:18+ O 24 '23
- Railroads decline to reduce export wheat rates. Ry Age 75:869-70 N 10 '23
- Railway executives testify at inquiry into freight rates. Ry R 69:881-2; 70:96-9 D 24 '21, Ja 21 '22
- Railway rates. Engineer 133:555-6 My 19 '22
- Railway rates and revival of business. Ry Age 71:1126-7 D 10 '21
- Railway situation and general business. S. O. Dunn. Ry Age 71:1305-8 D 31 '21
- Railways of the United States. Engineering 115:147-8 F 2 '23
- Rate decision; editorial. Ry Age 72:1207-8 My 27 '22
- Rate reductions predicted. B. W. Hooper. Ry R 70:121 Ja 28 '22
- Rates on Eastern iron ore reduced. L. W. Moffett. Iron Age 110:281-3 Ag 3 '22
- Rates unjustified. J. A. Topping. Iron Tr R 70:258-60 Ja 26 '22
- Reduced railroad rates effective July 1. Iron Age 110:20-1 J1 6 '22
- Reduction in Canadian freight rates. Comm & Fin Chr 115:270-2 J1 15 '22
- Reduction of ore freight rate granted. L. W. Moffett. Iron Age 109:1599-1600 Je 8 '22
- Reductions in transcontinental rates. Ry Age 71:955 N 12 '21
- Refutes Capper's statements. W. W. Baldwin. Ry Age 74:949 Ap 14 '23
- Relation of freight rates to agriculture. Ry Age 72:967-8 Ap 22 '22
- Relation of wages to freight rates. B. W. Hooper. Ry Age 71:932 N 12 '21
- Relations of transportation to agriculture; congressional commission report. Ry Age 73:107-12 J1 15 '22; Same cond. Comm & Fin Chr 115:940-2 Ag 26 '22
- Report of N. P. O. & V. A. committee on transportation and classification. Oil Paint & Drug Rep 104:19+ O 30 '23
- Report of N. W. D. A. committee on transportation. Oil Paint & Drug Rep 104:48-50 O 17 '23
- Report of transportation and classification committee for the year 1921-22. Oil Paint & Drug Rep 102:23+ N 23 '22
- Revision of western coal rates recommended in tentative report of I.C.C. inquiry. Coal Age 22:1049-50 D 28 '22
- Secretary Hoover speaks for the public. L. W. Moffett. Iron Age 109:419-20 F 9 '22
- La "semaine des transports" et la révision des tarifs de marchandises. G. Peyraron. Génie Civil 80:58-60 Ja 21 '22
- Senate committee hears intrastate rate dispute. Ry R 69:697 N 19 '21
- Senator Cummins on the law regulating R.R. rates. Ry R 73:26-9 J1 7 '23
- Shall railway rates be based on prices? Ry Age 74:744-5 Mr 17 '23
- Shippers and the freight rates. B. C. Clarke. Am Ind 22:19-20+ Ja 22
- Shippers urge reductions in freight rates. Ry Age 72:281-2 Ja 28 '22
- Some freight rates are too low; long haul car load carries more than its share of the burden. R. S. Henry. Nation's Business 11:22-3 O '23
- Die ständige tarifikommission und ihre bedeutung für die weiterbildung der tarife. W. Beukenberg. Stahl & Eisen 42:881-4 Je 8 '22
- Steel revival depends on ore rate reduction. J. A. Topping; A. C. Dinkey and others. Iron Age 108:1535-9 D 15 '21
- Study of rate cut gives no cause for alarm. R. Bean. Annalist 19:579 My 29 '22
- Supreme court decision in the case from Wisconsin involving the power of the I. C. C. to advance state rates is a doubtful victory. Ry Age 72:556-7 Mr 11 '22
- Tariff interpretation and rate construction. C. F. Walden. 146p Association press, New York '21
- Ten per cent cut announced in railroad rates on farm products pending wage reduction—previous rate cuts. Comm & Fin Chr 113:2153 N 19 '21
- Ten per cent reduction in freight rates. Chem & Met Eng 26:1049-50 My 31 '22
- Textile side of transportation problems. D. L. Taylor. Textile World 61:1531+ Mr 11 '22
- Trans-Atlantic freight rate reduction to aid exporting. Am Mach 58:500c Mr 29 '23
- Transcontinental freight problems vs. the Panama canal. J. C. Stone. il J Elec 48:189-90 Mr 1 '22
- Trans-continental freight rate situation. E. Chambers. Ry Age 71:1033-6 N 26 '21
- Trancontinental roads reduce freight rates to Pacific coast. Ry Age 74:485 F 24 '23
- Transportation situation and the farmer. J. H. Barnes. Ry Age 73:757 O 21 '22
- Useful purposes of Transportation bureau. Ry Age 74:421-2 F 17 '23
- Wage reductions offset by rate cuts. S. Thompson. Ry R 69:723-4 N 26 '21
- Walker D. Hines defends transportation act, 1920. Ry Age 71:1205-7 D 17 '21
- Western Canada's unsolved grain rate problem. T. M. Fraser. Ry Age 75:673-4 O 13 '23
- Western refiners seek general rate adjustment for country. J. C. Chatfield. Nat Pet N 15:28+ N 7 '23
- What freight rates cost the public. H. S. Elkins. Brick & Clay Rec 61:391 S 19 '22
- When the mistake was made on freight rates. Ry R 71:412-13 S 23 '22
- Where will they get the money? G. W. Luce. Ry R 70:118-19 Ja 28 '22
- Who pays the freight? S. Ballou. Annalist 19:435-6 Ap 17 '22

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Who pays the freight on nationally advertised goods? C. Grunsky. *J Elec* 47:383-5 N 15 '21

See also Railroads—Fares; Railway mail service

Records

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Roadmasters

Tribute to the old time roadmaster. F. H. Jonah. *Ry R* 73:464 S 29 '23; Excerpt. *Eng & Contr (Ry)* 60:811 O 17 '23

Rolling stock

Are the railroads over-equipped? F. L. Hutchins. *Annalist* 19:531-2 My 15 '22
Equipment conditions show dangerous tendency. A. F. Stuebing. *Ry Age* 72:59-60 Ja 7 '22

Future buying of railroad rolling stock. *Iron Age* 110:1123-4 N 2 '22

Hearing on adequacy of cars and locomotives. *Ry Age* 74:1321-4 Je 2 '23

Improved equipment condition assists operations. *Ry Age* 74:1443-9 Je 16 '23

Increase in total tractive power and car capacity. *Ry Age* 72:507-8 Mr 4 '22

Interstate commerce commission may require additional equipment. *Ry Age* 73:1235-6 D 30 '22

Large orders for equipment placed in 1922. *Ry Mech Eng* 97:78-80 F '23

Proposal for reserve bank of railway rolling stock. H. Hoover. *Comm & Fin Chr* 115:2124-5 N 11 '22

Putting them back on the rails. H. Harper. *Nation's Business* 11:35-6 Mr '23

Rail facilities expansion behind traffic growth. *Ry Age* 74:19-26 Ja 6 '23

Railway progress in England and America. A. Curran. *Ry Age* 75:418 S 8 '23

Rolling stock orders unusually small in 1921. *Ry Mech Eng* 96:66-8 F '22

Weight reduction in rolling stock. *il Elec R (Lond)* 92:644-6 Ap 27 '23

Why have attractive colors been scrapped? H. G. Boutell. *il Ry Age* 74:1145-6 My 12 '23

See also Cars; Cars—Statistics; Container cars; Dining cars; Freight cars; Locomotives; Motor cars (railroad); Refrigerator cars; Sleeping cars; Tank cars

Roundhouses

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Safety devices and measures

Annual report of the Bureau of safety. W. P. Borland. *Ry R* 69:833-6 D 17 '21

Bureau of safety's 1922 report. *Ry R* 71:950-3 D 30 '22

Les dispositions adoptées sur le réseau d'Alsace-Lorraine pour la sécurité des trains. Génie Civil 81:573 D 16 '22

Highway crossing protection, theory and practice. J. A. Peabody. *il Ry Age* 73:641-4 O 7 '22

Little drops of water, little grains of sand; observations of an unofficial inspector. H. W. Forman. *Ry Age* 74:389-90 F 10 '23; Discussion. J. L. Coss. 74:851 Mr 31 '23

Nouveau mode de protection des trains sous les tunnels des Batignolles et de Meudon. J. Netter. *diags Génie Civil* 82:108-10 F 3 '23

Photograph started painted railroad gates. *Am Ind* 24:32-3 O '23

Railroad safety officers meet at Buffalo. *il Ry Age* 75:669-72 O 13 '23

Railroads in a careful crossing campaign. J. G. Condon. *Ptr Ink* 119:64-4 Je 1 '22

Safety arm aids delivery of train orders. *il Pop Mech* 40:33 J1 '23

Safety in railroad operation. C. W. Galloway. *Safety Eng* 43:57-9 F '22

Safety in railway operation; abstracts. J. W. Pringle. *Engineering* 113:665 My 26 '22; *Engineer* 133:582 My 26 '22; Discussion. *Engineering* 113:651-2 My 26 '22

Safety in railway operation; editorial. *Engineer* 133:586 My 26 '22

Safety of railroad operation. C. C. McChord. *Ry Age* 73:1004 N 25 '22

Safety section of A.R.A. holds meeting in Chicago. *Ry Age* 72:1131-2 My 13 '22

Southern roads using the "Little watchman." *il Ry R* 70:655 My 6 '22

This store selling plan cut railway accidents. E. Thompson. *il System* 42:281-2 S '22

Union Pacific safety rally promotes good will. *il Ry Age* 75:521-2 S 22 '23

What are the best methods of conducting railroad safety work; views of railroad and supply men. *Ry R* 72:698-701 Ap 21 '23

What safety has meant to the railroad man. P. M. Sullivan. *Nat Safety N* 8:29-4 Ag '23

See also Air brakes; Brakes; Car couplings; Guard rails; Railroads—Automatic stop; Railroads—Fires and fire protection; Railroads—Signals; Sleeping cars—Safety devices and measures; also American railway association—Safety division

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See Railroads—Officials—Salaries; Railroads—Wages

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See Railroad education; Railroads—Employees—Training

Scrap material

Constructive suggestions on reclamation of material; report of the A.R.A. committee. *il plan Ry R* 70:1000-3 Je 24 '22

De-centralized reclamation on the C. M. & St P. railway. *il Ry R* 71:131-7 J1 29 '22

How to handle railway scrap most efficiently; report of the A.R.A. committee. *Ry R* 70:1004-6 Je 24 '22

Origin of reclamation; panic of 1907 gave birth to reclamation on Southern Pacific. H. C. Pearce. *il Ry R* 70:921-2 Je 17 '22

Railroad salvage and other shop work. S. A. Hand. *il Am Mach* 58:169-72 Mr 29 '23

Reclaiming a railroad scrap pile. E. K. Hammond. *il Mach* 28:769-72 Je '22

Reclamation of discarded material. *Ry Age* 74:1221-2 My 19 '23; *Ry R* 72:1178-9 Je 30 '23

Reclamation of spikes at Portland shops. O.-W. R. R. & N. co. *il Ry R* 72:143-4 Ja 20 '23

Repair of railroad equipment and reclaiming of scrap material with the electric arc in railroad shops. J. J. Liles. *il Gen Elec R* 25:502-5 Ag '22

Salvage and repair of railroad equipment. S. A. Hand. *il Am Mach* 57:517-19 O 5 '22

Scrap reclamation. L. C. H. Weidman. *diag Ry Mech Eng* 97:773 N '23

Scrap reclamation on the Chesapeake & Ohio. E. A. Murray. *il Ry Mech Eng* 96:308-11 Je '22

Scrapping steel cars by means of the carbon arc. E. H. Dralle. *il Ry Mech Eng* 97:157-60 Mr '23

See also Rails, Used

Securities

Course of prices of railroad and miscellaneous bonds. *Comm & Fin Chr* 114:38-45 Ja 7 '22

Course of prices of railroad and miscellaneous stocks and bonds, at the New York stock exchange, 1922. *Comm & Fin Chr* 116:34-48 Ja 6 '23

General quotations of bonds and stocks. Published in monthly Bank and quotation section of Commercial and financial chronicle

L. C. regulation of security issues. H. F. Lane. *il Ry Age* 72:27-30 Ja 7 '22

Plight of minority holders in railway consolidations. *Ry R* 73:345 S 8 '23

Price fixing and competitive bidding on railroad securities opposed. *Ry Age* 73:846-9 N 4 '22

Railroad bill discussed on floor of Senate. *Ry Age* 71:993-4 N 19 '21

Railroad bonds. 4th ed. 231p Harris, Forbes & co., New York '21

Railroads—Securities—Continued

- Railroad bonds as investments. T. H. B. McKnight. Ry Age 73:801-2 O 28 '22
- Railway hope lies in industrial revival. R. Bean. Annalist 19:267-8 F 27 '22
- Railway stocks and bonds. Comm & Fin Chr
- Railway and industrial section 114:1-239 My 27 '22 [Issued semi-annually, May and November]
- Railways and the investing public. G. T. Reid. Ry R 73:660-2 N 3 '23
- Regulation of securities under section 20a; an analysis of the decisions. R. Walker. il Ry Age 72:21-6 Ja 7 '22
- Right kind of public ownership. L. F. Wiegand. Aera 11:544-6 D '22
- Should railroad employees be encouraged to buy stock in their road; views of a typical group of railroad or supply men. Ry R 71:754-6 N 25 '22
- Value of railroad stock. R. Estcourt. Annalist 19:464-5 Ap 24 '22

Service

- Improved service and morale features of 1921. C. W. Foss. il Ry Age 72:47-8+ Ja 7 '22
- Railway requirements of an important industrial area. J. A. Jenkinson. Engineer 135:654 Je 22 '23

Shops

- A.T. & S.F. Ry. shop improvements at Albuquerque. il diags plans Ry R 70:889-96 Je 17 '22
- Business handicaps of the railway car shop. J. W. Roberts. il Ry Age 72:529-31 Mr 4 '22; Same. Ry Mech Eng 96:265-7 My '22
- Car construction at the shops of the C.P.R. H. R. Naylor. il plan Ry R 72:917-21 Je 2 '23; Same. Ry Mech Eng 97:335-40 Je '23; Same. Mech Eng 45:349-52 Je '23; Same cond. Am Mach 58:841-3 Je 7 '23
- Car-shop gangs. Ry R 70:472-4 Ap 1 '22
- Design of passenger car repair shops. plan Ry Mech Eng 96:332-6 Je '22
- Digest of a shop foremen's convention; annual staff meetings of the C. M. & St P. Ry. mechanical organization. il diags Ry R 73:601-9 O 27 '23
- Electric steel plant at the Southern Pacific shops. L. J. Barton. il plan Chem & Met Eng 26:838-40 My 3 '22
- Eliminate costly hand fitting and filing; many operations more profitably done on modern milling or grinding machines than by filing. M. H. Williams. il Ry Mech Eng 96:584-7 O '22
- Engine terminal for economical operation. G. W. Tutant. il diag plan Ry Age 72:463-7 F 25 '22
- European grinding practice being extended. il diags Ry Mech Eng 97:236-9 Ap '23
- Examples of toolroom work at Readville. il diags Ry Mech Eng 97:303-4 My '23
- Experiment in railroad repair work; securing greater interest by local management. F. H. Colvin. Am Mach 55:807-8 N 17 '21
- Grinding in the railroad industry. il Mach 29:174-7 N '22
- Hand book of American railroad repair facilities. 193p Railway mechanical engineer, New York '22
- Heavy machine work in a railroad shop. il Am Mach 57:334-7 Ag 31 '22
- How can we increase the output of a small back shop? G. W. Lillie. Ry R 72:368 Mr 3 '23
- How shop output is increased and costs reduced at Angus. il chart plan Ry R 70:854-65 Je 10 '22
- How to measure shop output and efficiency. D. J. Mullen. Ry R 73:53-4 Jl 14 '23
- If interested in railway shop efficiency and output, read what has been accomplished at the Beech Grove shops of the Big Four railway. il Ry R 71:327-34 D 30 '22
- Increasing the output of small back shops. Ry R 72:1033-7 Je 16 '23
- Is the average railroad shop as efficient as the average industrial plant; views of a typical group of railroad men. Ry R 71:674-6; 72:149 N 11 '22, Ja 20 '23
- Kinks from far-western railroad shops. il diags Am Mach 55:853-4 N 24 '21

- Locomotive and car shop efficiency. Ry Mech Eng 97:708-10 O '23
- New roundhouse and shops for Central of Georgia. W. H. Fetter. il diag plan Ry Mech Eng 96:5-8 Ja '22
- Oxy-acetylene welding in railroad car shops. il Mach 30:177-80 N '23
- Practical points in railroad shop welding. E. S. Eldridge. diags Am Mach 58:844 Je 7 '23
- Railroad salvage and other shop work. S. A. Hand. il Am Mach 58:469-72 Mr 29 '23
- Railroad shop organized for efficiency; Angus shops of the Canadian Pacific railway co., Montreal, Canada. il plan Mach 28:291-3, 389-92 D '21-Ja '22
- Railroad shop repair work. I. B. Rich. il diags Am Mach 59:600-1 O 18 '23; Discussion. C. Lyndelle. 59:864 D 13 '23
- Reclaiming coil springs at McKees Rocks. il Ry Mech Eng 96:656-7 N '22
- Repair jobs in a railroad shop. S. A. Hand. il diags Am Mach 58:213-15 F 8 '23
- Repair shop and enginehouse developments. E. L. Woodward. il Ry Age 72:63-5 Ja 7 '22
- Repair work in a Georgia railroad shop. S. A. Hand. il diags Am Mach 58:403-6 Mr 15 '23
- Repair work in a Tennessee railroad shop. S. A. Hand. il Am Mach 57:829-32 N 30 '22
- Results of scheduling at Milwaukee coach shops. Ry Mech Eng 96:82-3 F '22
- Sacramento shop of the Southern Pacific railway. F. H. Colvin. il Am Mach 59:43-4 Jl 12 '23
- Safety suggestions on the Atlantic Coast line. Ry Mech Eng 97:768 N '23
- Schedule assists in rapid shop reorganization. il Ry Age 73:973-6 N 25 '22; Same. Ry Mech Eng 97:44-7 Ja '23
- Scheduling of car equipment through repair shops; report of A.R.A. committee. Ry R 70:965-70 Je 24 '22
- Seeing ourselves through the census. Am Mach 58:585-8 Ap 19 '23
- Shop and terminal construction in 1922. Ry Mech Eng 97:80-1 F '23
- Shop management problems are discussed by Mechanical division. Ry Age 74:1617-21 Je 23 '23; Same. Ry R 73:55-6 Jl 14 '23; Same. Ry Mech Eng 97:490-4 Jl '23
- Some faulty shop methods. T. E. Stuart. Ry Mech Eng 96:723 D '22
- Some suggestions for improved shop efficiency. S. W. Mullinix. Ry Mech Eng 96:588-9 O '22
- Standards of railroad shop welding practice. G. M. Calmbach. diags Ry Mech Eng 95:772-5; 96:41-3 D '21-Ja '22
- Suggested economies for the railroad shop. L. S. Love. il Iron Age 111:1317-19; 112:1-4 My 10, Jl 5 '23
- Two good railroad shops. F. C. Hudson. Am Mach 59:221-2 Ag 9 '23
- Unit system of repairing freight cars. il plans Ry Age 75:70-4 Jl 14 '23; Same. Ry Mech Eng 97:568-72 Ag '23
- Welding practice on the Southern Pacific. H. J. McCracken and F. J. Hickey. il Ry Mech Eng 97:122-5 F '23
- What is wrong with the railroad shops; an investigation into the relative costs of performing machining operations. E. K. Hammond. il Mach 28:557-60 Mr '22
- What's wrong with the railroad shops? Am Mach 57:677-80, 755-7, 879, 955-7; 58:1-3, 265, 550 N 2, 16, D 7, 21 '22, Ja 4, F 15, Ap 12 '23
- Who is the central character in shop management? C. P. Hubbard. Ry R 70:223-5 F 18 '22

See also Electric railroads—Shops; Locomotive shops; Locomotive terminals; Railroad shopmen's strike, 1922; Railroads—Contract work; Roundhouses

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- Advantages of a manufacturing tool room. J. H. Painter. diags Ry Mech Eng 96:91-4 F '22
- Air brake repairs at Milwaukee car shops. il diags Ry Mech Eng 96:268-70 My '22
- Air-brake repairs on a New England railroad. F. H. Colvin. il Am Mach 57:406-8 S 14 '22
- Coping machines for steel car shops. il diag Ry Mech Eng 96:601 O '22

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 Getting results from modern grinding machines in railroad shops. M. H. Williams. il Ry Mech Eng 96:317-18 Je '22
 Grinding machine in the railroad shop. F. A. Stanley. il Am Mach 56:64-6 Ja 12 '22
 High power surface grinder a useful shop tool. il Ry Mech Eng 96:95-7 F '22
 Interesting car shop practices employed at Sayre. il Ry Mech Eng 96:270-2 My '22
 Lack of modern machinery handicaps railroads. E. L. Woodward. Ry Age 74:219-23 Ja 20 '23; Same. Ry Mech Eng 97:117-21 F '23
 Machines à saboter, à percer, à tronçonner et à marquer les traverses de chemins de fer, système Greenlee. A. Pallet. il diag plans Génie Civil 79:577-81 D 31 '21
 Mechanical gas cutting torch a labor-saver. il Ry Mech Eng 97:294-5 My '23
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 Necessity for modern machine tools. M. Schwarze. Ry R 73:640-1 N 3 '23
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 Production methods in a railroad shop. L. S. Love. il Iron Age 111:881-5 Mr 29 '23
 Railroad repair-shop work. S. A. Hand. il Am Mach 56:949-52 Je 29 '22
 Railroad shop methods and tools. S. A. Hand. il diags Am Mach 56:395-8 Mr 16 '22
 Railroad shop operations and apparatus. F. A. Stanley. il diags Am Mach 55:922-3 D 8 '21
 Railway shop of 40 years ago—and today. S. W. Mullinix. Ry R 73:57-8 JI 14 '23
 Selection of railroad shop machine tools. M. H. Williams. il Ry Mech Eng 96:36-9 Ja '22
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 Simple devices facilitate machine work. J. R. Phelps. il Ry Mech Eng 97:242-3 Ap '23
 Some modern railroad shop equipment. I. B. Rich. il Am Mach 57:349 Ag 31 '22
 Some revamped motor drives in the railroad shops at Portland, Maine. il Elec R 80:282 Je '22
 Special devices in the Grand Trunk shop at Battle Creek. F. H. Colvin. il Am Mach 59:273-5 Ag 23 '23
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 Special tools in the Great Northern shop. F. C. Hudson. il diags Am Mach 59:351-3 S 6 '23
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 Tools and methods in a railroad shop. diags Am Mach 56:553-5 Ap 13 '22; Discussion. F. M. A'Hearn. 57:351 Ag 31 '22
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 Use of electric heat in the railway shop. E. F. Collins. il Ry R 71:69-73 JI 15 '22
 What shop equipment means to a railroad. V. Z. Caracristi. Ry R 70:344-8 Mr 11 '22; Same, with tables. Ry Age 72:745-8 Mr 18 '22; Same, with tables and discussion. Ry Mech Eng 96:215-20 Ap '22

Side tracks

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Signals

American railway association 28th annual convention, Chicago. Ry R 72:518-22 Mr 17 '23
 Automatic and semi-automatic railway signalling. H. S. Petch. diags Inst E E J 61:81-8 D '22
 Automatic block signal installation D.L. & W.R.R. il Ry R 72:884-6 My 26 '23
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 Cab signals in France. Ry Age 73:606 S 30 '22
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 C. B. & Q. installs new light signals. il plan Ry Age 75:159-60 JI 28 '23
 Color light signal developments on British railways. Eng & Contr 57:525-6 My 31 '22
 Colors for traffic signals; efforts being made to secure standardization of signals. Elec Ry J 59:974-5 Je 17 '22
 Combine train control with block signals. J. Beaumont. Ry Age 73:1078 D 9 '22
 Crossing signal that cannot fail. il Sci Am 129:341 N '23
 Electric signal for either freight or passenger train. il Pop Mech 37:36 Ja '22
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 Federal signal company's audible signal on the Boston & Albany at Chatham and East Brookfield. il Ry Age 72:517-18 Mr 4 '22; Discussion. 72:558 Mr 11 '22
 Form 19 and the three-position train-order signal. E. W. Weston. Ry Age 74:1031 Ap 28 '23
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 Limitation on automatic block signals. Ry Age 74:364 F 10 '23
 Location of signals as an aid to traffic working. R. S. Proud. Engineering 113:533-5 Ap 28 '22
 Locomotive cab signals; reports at the International railway congress. Engineering 113:610-11 My 19 '22
 Long distance operation of facing points on railways. il Engineer 133:560-1 My 19 '22
 Mazda lamps for approach lighting in railway signal service. L. C. Porter and F. Pollard. il Gen Elec R 25:422-4 JI '22
 Meeting of the signal section. A. R. A. Ry R 70:385-9 Mr 18 '22
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 Modern developments in railway signalling. A. E. Tattersall. 299p Railway engineer, London '21
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 Pre-cast reinforced concrete signal cellar. il Ry R 72:426-8 Mr 10 '23
 Railway signal duplicated for use in foggy weather. il Pop Mech 36:860 D '21
 Railway signaling. E. E. King. 371p McGraw-Hill '21

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- Railway signaling. S. E. Denny. 66p American school of correspondence, Chicago '20
 Railway-signalling: automatic. F. R. Wilson. 116p Pitman '22
 Railway signaling safety devices. M. Meredith. Ry R 73:322-3 S 1 '23
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 Report of signal section committee on power interlocking. Ry Age 74:652-3 Mr 14 '23
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 Signal and interlocking work shows slight gain. K. E. Kellenberger. il Ry Age 72:137-42 Ja 7 '22
 Signal construction activities show improvement. K. E. Kellenberger. il Ry Age 74:141-52 Ja 6 '23
 Signal engineering in the early days of railroading. il Ry R 72:423 Mr 10 '23
 Signal section report on maintenance rules and instructions. Ry Age 74:640-2 Mr 14 '23
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- Difficulties of winter operation, White Pass and Yukon Route. il Ry R 71:850-2 D 16 '22
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Station agents

- Plea for the station agent. Ry Age 72:1054 My 6 '22
 Points for station agents. C. G. Johnson. Ry Age 74:438 F 17 '23

Stationery

- How to save in supplying railway stationery requirements. C. B. Tobey. Ry R 71:168-71 Ag 5 '22
 Modern system of handling railroad stationery. il Ry R 71:161-8 Ag 5 '22
 New methods adopted for handling stationery. R. H. Ewry. il Ry Age 71:1325-7 D 31 '21

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- A.R.E.A. report on yards and terminals; proper relation which should exist between passenger station facilities and the business handled. Ry Age 74:720-6 Mr 16 '23; Excerpt. Eng N 90:574 Mr 29 '23; Same. Eng & Contr (Ry) 59:1125-7 My 16 '23
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 Chicago union station development. J. D'Esposito. Am Soc C E Pro 49:1545-51 S '23; Same. Eng & Contr (Ry) 60:305-10 Ag 15 '23
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 Concrete units for station platforms. diags Eng N 91:151-2 Jl 26 '23
 Design of passenger stations for electrified railways. F. Bushrod and J. F. S. Tyler. Elec Ry J 61:693 Ap 21 '23
 Flat-slab designs for two railway elevated stations. M. Hirschthal. il diags plans Eng N 90:568-73 Mr 29 '23
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 New Chicago union station center of attractive group. Eng N 87:894-5 D 1 '21
 New Haven railroad station, New Haven, Conn.; views and plans. Am Arch 123:106k-l 107-11 Ja 31 '23
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 Proposed Cleveland union passenger station. Ry R 72:731-2 Ap 28 '23
 Railroad sets example in beautifying homes. G. A. Barclay. il Bldg Age 44:43 N '22
 Railroad station, Helsingfors, Finland; views. Am Arch 124:288b-g S 26 '23
 Railway terminal station plans for Chicago. Eng N 90:453 Mr 8 '23
 St Paul union station work enters third stage. G. H. Wilsey. il diags plans Ry Age 71:1200-4 D 17 '21
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- Analysis of 1922 railroad operating results. M. O. Lorenz. Ry Age 74:507-8 Mr 3 '23; Same. Ry R 72:366-7 Mr 3 '23; Same. Comm & Fin Chr 116:870-2 Mr 3 '23
 British railway statistics. Engineering 112:764-5, 819 D 2, 16 '21
 Complete railway statistics for 1920 covering 250,834 miles of line. S. Thompson. Ry R 70:27-8 Ja 7 '22
 Complete railway statistics for 1921 covering 250,649 operated miles of line. Comm & Fin Chr 115:2866-7 D 30 '22
 Digest of transportation statistics for 1922. Ry Age 74:564-5 Mr 10 '23
 I. C. C. shows figures of rail facilities expansion. Ry Age 74:44 Ja 6 '23
 I. C. C. statistics and operating efficiency. J. E. Slater. Ry Age 75:115-17, 427-30, 907-10 Jl 21, S 8, N 17 '23
 Matter of statistics. Ry Age 73:50-1 Jl 8 '22
 Operating officers' interest in statistical requirements. Ry Age 73:143-4, 365-6 Jl 22, Ag 26 '22

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Operating ratios, tonnage, fuel performance, etc., for the month of September, 1922. Ry R 71:751 N 25 '22

Operating statistics of class I railroads. Ry R 72:308 F 17 '23

Operating statistics of large steam roads—selected items for the month of September, 1921, compared with September, 1920. Ry Age 71:1062-3 N 26 '21 [continued monthly]

Physical statistics and economical operation; the difference between financial and physical statistics. W: H. Williams. Ry R 75:245-7 Ag 11 '23; Abstract. Ry R 73:321-2 S 1 '23

Progress on A.R.A. transportation program. Ry R 73:309-10 S 1 '23; Ry Age 75:706-7 O 20 '23

Public's use of railway statistics. Ry Age 74: 938 Ap 14 '23

Railroad lines constructed and abandoned and equipment purchased in the worst railway year in history. Comm & Fin Chr 114: 163-4 Ja 14 '22

Railroad operating statistics of various countries compared. Ry Age 73:962 N 18 '22

Railway earnings. Published in monthly Railway earnings section of Commercial and financial chronicle

Railway operating efficiency improves in 1922. Ry R 72:91 Ja 6 '23

Railways of India adopt revised statistics. F. H. Budden. Ry Age 75:635-8, 675-7 O 6-13 '23

Railways of the world; comparison of the mileage, equipment, working force and total investment of the eight leading railroad systems. Sci Am 125A:85, 91 D '21

Responsibility for analysis of statistical report. W: J. Cunningham. Ry R 73:181-2 Ag 4 '23

Statistical section of Railway age. Ry Age 72:118-54 Ja 7 '22

Statistical section of Railway age. Ry Age 74:111-57 Ja 6 '23

Statistics of railways of the United States, compiled by the Bureau of railway news and statistics, for the year ending December, 1921. Ry R 71:873-4 D 16 '22

Traffic unit in operating statistics analysis. Ry Age 74:463-6 F 24 '23; Discussion. M. O. Lorenz. 74:799 Mr 24 '23

Trend in railway operation: all class I roads 1919 to date; chart. Ry R 69:661 N 12 '21 [continued monthly]

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Stores systems

Administration of railway stores under federal control. G. G. Yeomans. il Ry R 69: 743-5, 824-6, 865-8 D 3, 17-24 '21

Advantage of railway supply train operation; report of the A.R.A. committee. il Ry R 70:998-1000 Je 24 '22

Control of purchases and stores on the C. & O. Ry. il diags Ry R 72:795-813 My 12 '23

Custody and delivery of railway material. il Ry R 71:773-7, 847-50; 72:86-9 D 2, 16 '22, Ja 6 '23

How to prevent accumulations of surplus and obsolete materials. Ry R 71:55-7 Jl 8 '22

Inventory. D. C. Curtis. Ry R 70:1010-11 Je 24 '22

Mechanical facilities for material accounting; report of the A.R.A. committee. Ry R 70: 1006-7 Je 24 '22

Origin and development of the service of supply. G: G. Yeomans. Ry R 70:868-9, 923-7; 71:12-15 Jo 10-17, Jl 1 '22

Origin of the supply train. H. C. Pearce. il Ry R 70:866-8 Je 10 '22

Purchases and stores division, A.R.A., 4th annual convention, Chicago, May 15-17. Ry Age 74:1217-25 My 19 '23

Railway stores catalogue. C. D. Young. Ry R 72:892-5 My 26 '23

Real functions of a department of purchases and stores; abstracts. H. C. Pearce. Ry R 71: 402-5 S 23 '22; Ry Age 73:521-3 S 16 '22

Report of the A.R.A. committee on stores department rules. Ry R 70:1003 Je 24 '22

Unit piling and numbering system for material; report of the A.R.A. committee. Ry R 70:1007-8 Je 24 '22

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Advantage of railway supply train operation; report of the A.R.A. committee. il Ry R 70: 993-1000 Je 24 '22

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Railroads paying out more in taxes than in dividends. Ry R 73:285 Ag 25 '23

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Railroad telegraph and telephone activities. J. H. Dunn. Ry Age 72:143-6 Ja 7 '22

Railroad telegraph and telephone work. J. H. Dunn. il Ry Age 74:153-7 Ja 6 '23

Telegraph and telephone section, American railway association, 5th session, Richmond, Va., March 21. Ry Age 72:775-6 Mr 25 '22

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Chicago terminal improvements, Illinois Central railroad. D. J. Brumley. Am Soc C E Pro 49:1526-34 S '23; Same. Ry R 73:299-303 S 1 '23; Excerpt. Eng & Contr (Ry) 60:622-5 S 19 '23; Elec Ry J 62:822 N 10 '23

Chicago union station development. J. D'Esposito. Am Soc C E Pro 49:1545-51 S '23; Same. Eng & Contr (Ry) 60:305-10 Ag 15 '23

Chicago union station, its design and construction. J. D'Esposito. il W Soc E J 28:357-72 S 23

Cleveland passenger terminal project approved. maps Ry Age 71:1193-4 D 17 '21

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Consolidation of freight terminals. F. J. Lisman. Ry Age 72:477-9 F 25 '22; Discussion. W. E. Gray. 72:862 Ap 8 '22

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New terminal for the P. & R. Ry. in Philadelphia. Ry R 71:375 S 16 '22

Passenger and freight terminals; reports at the International railway congress. Engineering 113:677-8 Je 2 '22

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Pennsylvania R.R. completes its entrance into Detroit, Mich. il maps Ry R 73:561-8 O 20 '23

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Report to National association of owners of railroad securities. Eng & Contr 58:163-6 Ag 16 '22; Ry Age 72:1179-81 My 20 '22; Eng N 89:59-60 J 13 '22

Smoke prevention in Chicago union station. R. H. Moulton. il Pop Mech 39:423-4 Mr '23

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Terminal engineering in the early days of railroading. il Ry R 72:429-30 Mr 10 '23

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See also Electric railroads—Terminals; Freight houses; Freight tunnels; Locomotive terminals; Mail terminal buildings; Railroads—Stations; Railroads—Yards; Terminals

Ticket offices

Concentrating Pullman reservations at San Francisco. il Ry Age 72:832 Ap 1 '22
Does Consolidated ticket office best serve traveling public? J. G. Condon. Ptr Ink 119: 97-8 Ap 20 '22
On the firing line. F. W. Connor. Ry Age 74: 439 F 17 '23

Tickets

Interchangeable mileage bill passed by Senate. Ry Age 72:267-8 Ja 28 '22
Interchangeable mileage book bill passed by House. Ry Age 73:76 J1 8 '22
Interchangeable mileage tickets. Comm & Fin Chr 116:1139. 2087-8 Mr 17, My 12 '23; Ry Age 74:345-6, 536, 765-6, 855-6, 1055-6 F 3, Mr 3, 17, 31, Ap 28 '23; Ry R 72:228-30 F 3 '23
Railroad ticket protective bureau still fighting scalpers. Ry Age 71:994 N 19 '21
Tickets with hat checks attached. il Ry Age 73:78 J1 8 '22
We need more business in business, too: impressions of a government expert at hearings on reduced rate mileage or scrip book. J. W. Kean. Nation's Business 10:82-3+ D '22

Ties

See Railroad ties

Tools

See Railroads—Shops—Equipment

Track

Chalk Farm widening. L. and N.-W. Rly. il diag Engineer 134:32-3 J1 14 '22
Concrete shed protects railroad track from mud slides. il Eng N 91:610 O 11 '23
Concrete slab supports for Chicago union station tracks. il diag Eng & Contr (Ry) 60:611-13 S 19 '23
Concrete slab track support, new union station Chicago. il diag plans Ry R 72:539-44 Mr 24 '23; Discussion. 72:629 Ap 7 '23
Contracting railway maintenance work. Eng & Contr 56:460-1 N 16 '21
Conveying railway sleepers. il Ind Management (Lond) 9:214-15 Ap 5 '23
Cost of ballasting with slag. Eng & Contr 57:76 Ja 18 '22
Developments in railway maintenance-of-way methods. E. E. R. Tratman. Eng N 90: 438-42 Mr 8 '23
Illinois Central cut-off line approved by I.C.C. Ry Age 75:293-4 Ag 18 '23
Illinois Central preparing to build big cut-off. map Ry Age 74:278-9 Ja 27 '23
Importance of modern repair track facilities. Ry Age 74:1656-7 Je 23 '23; Same. Ry Mech Eng 97:472-3 J1 '23
International railway association; summary of English and American reports of interest to engineers. Engineer 133:362-4 Mr 31 '22
Labor saving equipment in maintenance of way work. Eng & Contr (Ry) 58:136-8 D 20 '22
Lost efficiency in maintenance of way. C. A. Paquette. il Ry R 71:820-2 D 9 '22; Same. Eng & Contr (Ry) 58:128-30 D 20 '22
Maintenance and supervision of track; reports at International railway congress. Engineering 113:577-8 My 12 '22
Maintenance of large yards and yard tracks. Eng & Contr (Ry) 60:801-4 O 17 '23
Maintenance of light traffic branch lines. Eng & Contr (Ry) 60:799-800 O 17 '23
Maintenance-of-way is now on the upgrade. W. S. Lacher. il Ry Age 72:53-4 Ja 7 '22
Many opportunities for eliminating hand labor. R. H. Ford. Ry Age 72:1009-10 Ap 29 '22; Same. Eng & Contr 58:158-9 Ag 16 '22

Mechanical equipment saves men and money.

G. L. Moore. il Ry Age 74:559-63 Mr 10 '23
Method for the determination of proper allowances for maintenance of way expenses due to increased use and increased investment; A.R.E.A. report. Ry Age 74:686-90 Mr 15 '23
Methods for performing maintenance of way work the purpose of establishing units of measure of work performed; A.R.E.A. report on economics of railway labor. diags Ry Age 74:680-2 Mr 15 '23; Excerpts. Monthly Labor R 16:1032-3 My '23; Eng & Contr (Ry) 59:684 Mr 21 '23
Methods of increasing efficiency of track forces. Eng & Contr 56:454-5 N 16 '21
Methods of renewing ties. F. J. Meyer. Eng & Contr (Ry) 58:24-5 O 18 '22
Oiling prevents corrosion of rail and fixtures. il Ry R 73:377-8 S 15 '23
Preservative treatment of railway sleepers in India. Engineering 114:807 D 29 '22
Rail maintenance and conservation. F. W. Curtis. Eng & Contr (Ry) 60:116-18 J1 18 '23
Raising track—reasons, requirements and methods. Eng & Contr 57:464 My 17 '22
Rapid relaying of track under traffic. S. W. Gould. Eng & Contr (Ry) 58:19 O 18 '22
Record made in renewing track pans. A. W. Davis. il Ry R 73:641-2 N 3 '23
Report of A. R. E. A. committee on track. Ry R 70:378-9 Mr 18 '22
Report of the A.R.E.A. committee on track. diags Ry Age 74:674-9 Mr 15 '23; Ry R 72: 507+ Mr 17 '23
Section gangs versus extra gangs. Eng & Contr (Ry) 58:126-7 D 20 '22; Same cond. Ry Age 73:995-6 N 25 '22; Same cond. Ry R 71:749-50 N 25 '22
Specializing in track work. C. Weiss. Ry R 72:824-6 My 12 '23
Spring track work. J. W. Griffith. Eng & Contr (Ry) 59:1100-2 My 16 '23
Steam line method of preventing ice forming around track pans. Eng & Contr (Ry) 59:131-2 Ja 17 '23
Steam railroad tracks in paved streets at Philadelphia. diags Eng N 91:139 J1 26 '23
Stresses in railroad track; third progress report. diags Am Soc C E Pro 49:297-456 Mr '23; Abstracts. Ry Age 74:229-34 Ja 20 '23; Eng N 90:445-50 Mr 8 '23; Ry R 72:506 Mr 17 '23; Ry Mech Eng 97:270-3 My '23; Discussion. Am Soc C E Pro 49:1279-84 Ag '23; Ry Age 74:670-2 Mr 15 '23
Summary of the discussions at the Rome congress of the International railway congress association. Engineer 134:302-3 S 22 '22
Track maintenance by contract on the Canadian Pacific Ry. H. G. Harton. Eng N 88:399-401 Mr 9 '22

See also Ballast; Electric railroads—Track; Grade crossings; Mine tracks; Railroad ties; Railroads—Construction; Railroads—Curves and turnouts; Railroads—Grades; Railroads—Side tracks; Railroads—Snow protection and removal; Railroads—Switches, frogs, etc.; Railroads—Weed removal; Rails; Rails—Stresses; Street railroads—Track

Cost

Methods and costs of laying rail. G. W. Morrow. Eng & Contr (Ry) 59:133-4 Ja 17 '23

Track depression

Nickel Plate is completing grade separation work. il diags plans Ry Age 72:169-72 Ja 14 '22
Track depression at Milwaukee, Wis. C. & N. W. Ry. il diags plans Ry R 73:367-74 S 15 '23

Track elevation

Aurora track elevation expedites traffic. il diags plan Ry Age 73:7-11 J1 1 '22
Concrete structures for D. L. & W. R. R. new grade crossings. M. Hirschthal. il diags plans Eng N 90:536-8 Mr 22 '23
Flat-slab designs for two railway elevated stations. M. Hirschthal. il diags plans Eng N 90:568-73 Mr 29 '23
Flat slab structure carries track elevation. A. W. Newton. il diags plan Concrete 21: 200-1 D '22

Railroads—Track elevation—Continued

- Grade separation in U.S. il Ry R 72:419-22 Mr 10 '23
- Handling concrete with railway motor cars in track elevation work at Aurora. il Eng & Contr (Ry) 59:1120 My 16 '23
- Handling precast bridge slabs on track elevation. C. M. & St P. Ry. T. H. Strate. il Eng N 90:455 Mr 8 '23
- Lackawanna continues grade crossing elimination. il diags plan Eng N 89:778-81 N 9 '22
- Strengthening Chicago track elevation subways. diags Ry Age 73:199-200 Jl 29 '22
- Track elevation at Aurora, Illinois. il map plan Ry R 73:191-8 Ag 11 '23
- Track Elevation of the D.L. & W.R.R. at East Orange, N.J. il diags plans Ry R 72:326-32 F 24 '23
- Track elevation on long concrete viaduct at Aurora, Ill. il diags map plan Eng N 89:1056-9 D 21 '22
- Train operation in East Orange improved by grade separation. il diags plans Ry Age 75:420-5 S 8 '23
- See also Elevated railroads—Track; Grade crossing elimination

Track making machinery

- Applying machinery to railway maintenance of way. Eng N 88:824-5 My 18 '22
- Care and handling of mechanical tie tampers. Eng & Contr (Ry) 59:909-11 Ap 18 '23
- Labor saving in maintenance of way work. il diags Eng & Contr (Ry) 59:645-51 Mr 21 '23
- Labor saving machines for railway construction and maintenance. N. M. Clougher. il Eng & Contr 57:305-9 Mr 29 '22
- Mechanical equipment saves men and money. G. L. Moore. il Ry Age 74:559-63 Mr 10 '23
- Pneumatic bonding drills and track wrenches on Lehigh Valley R.R. il Ry R 72:1121-2 Je 23 '23
- Report on labor saving devices. Ry Age 75:536-7 S 22 '23; Eng & Contr (Ry) 60:816-17 O 17 '23
- Simple and effective track liner. il Ry Age 74:662 Mr 14 '23
- Special machines and combinations for track work. il Eng & Contr 57:368-70 Ap 19 '22
- Speeding up track work. M. Moore. il Sci Am 128:386+ Je '23

Track oiling

- Oiling prevents corrosion of rail and fixtures. il Ry R 73:377-8 S 15 '23

Track sprinklers

- Laying dust for passenger trains. il Ry Age 73:760 O 21 '22

Track sweepers

- Cleaning railroad track with a power-driven sweeper. il Sci Am 128:165 Mr '23
- Cleaning track with a power driven sweeper. il Ry Age 73:655-6 O 7 '22; Same. Eng & Contr (Ry) 58:18-19 O 18 '22
- Motor-driven track sweeper halves cleaning cost. il Pop Mech 39:433 Mr '23

Traffic

- Analysis of the railway statistics for 1921. J. H. Parmelee. il Ry Age 72:119-23+ Ja 7 '22
- Railroad traffic in New York city. Elec Ry J 60:236-7 Ag 12 '22
- See also Freight car service; Railroads—Freight; Railroads—Passenger traffic

Train load

- Avoidable waste in the operation of locomotives and cars; abstracts. W. Elmer. il Ry R 69:746-52 D 3 '21; Ry Age 71:1081-4, 1149-50 D 3-10 '21; Mech Eng 44:93-7; Discussion. 97-8 F '22
- Economical loading of trains. W. C. Morse. Ry Age 75:172-3 Jl 28 '23
- Effect of tonnage rating and speed on fuel consumption. J. E. Davenport. Ry R 70:777-82 Je 3 '22; Same. Ry Age 73:71-5 Jl 8 '22; Same. Ry Mech Eng 96:565-9 O '22
- Effect on ton-mile cost of reducing train loads. il Ry Age 73:1145-8 D 16 '22

- Freight train resistance and tonnage ratings. R. J. McCarty, jr. il Ry Mech Eng 97:83-6, 146-50, 204-7 F-Ap '23
- Locomotive loadings for railway bridges. D. B. Steinman. Am Soc C E Pro 48:1043-73, pl 11-19 My '22; Abstract. Eng & Contr 58:175-8 Ag '23 '22; Discussion. Am Soc C E Pro 48:1675-1704, 1789-1806, 1901-7; 49:952-83 O-D '22, My '23
- Train loading—a problem for the dispatcher. O. O. Carr. Ry R 72:850-2 My 19 '23
- Train loads. Engineering 112:701 N 18 '21

Train sheds

- Bringing order out of chaos; the emergency job of reconstruction after Philadelphia's station fire. W. A. McGarry. il Sci Am 129:160 S '23
- Dismantle Jersey City trainshed of Pennsylvania R.R. il diags plan Eng N 89:270-2 Ag 17 '22
- Fire destroys Pennsylvania R.R. Broad St. station trainshed. Eng N 90:1059-60, 1086-7 Je 14-21 '23; Ry Age 74:1459-61 Je 16 '23
- Quick restoration of wire service at Broad street station. il Ry Age 74:1704-6 Je 30 '23

Train speed

- Economic speeds for freight operation. H. Ashton. Ry Age 71:1273-4 D 24 '21; Discussion. 72:312 F 4 '22
- Effect of tonnage rating and speed on fuel consumption. J. E. Davenport. Ry R 70:777-82 Je 3 '22; Same. Ry Age 73:71-5 Jl 8 '22; Same. Ry Mech Eng 96:565-9 O '22
- Fastest train in Great Britain; Cheltenham to Paddington. il Ry Age 75:450-1 S 8 '23
- Great Western express running; Birmingham—Paddington. Engineer 135:220-2 Mr 2 '23
- High speed of British passenger trains. Ry Age 72:1752 Je 24 '22
- Speeding up train movement. Ry Age 73:597, 735-6 S 30, O 21 '22
- Tables of British railway speeds in 1921. Engineer 133:120-1 F 3 '22
- Train speeds: a revelation. C. Rous-Marten. Engineer 134:531-2 N 17 '22; Discussion. 735-6 S 30, O 21 '22

Trainmen's manuals

- Explanation of train rules, train orders, special instructions, and rules governing the use of block signals and interlocking plants. O. W. Brandt. 2d ed. 174p O. W. Brandt, Kansas City, Mo. '21

Trains

- Art of train operation. Ry Age 75:419 S 8 '23
- Articulated trains; a method of reducing the weight and improving the riding of railroad trains. il diags Sci Am 126:230-1 Ap '22
- Baltimore & Ohio systematizes terminal operation. Ry Age 73:329-30 Ag 19 '22
- Change in engine districts improves operation. il map Ry Age 75:661-3 O 13 '23
- Complex problems of the transportation department. G. D. Brooke. Ry R 71:938-42 D 30 '22
- Control of trains. A. W. Rendell. Eng & Ind Management 7:76 Ja 19 '22
- Cost of a train-limit law. Ry Age 74:859-60 Mr 31 '23
- Cost of stopping freight trains. Sci Am 128:156 Mr '23
- Electric train-recorder. il Engineering 114:139 Ag 4 '22
- Feasibility and economy of through routing of solid trains and its effect upon the capacity of terminals; A.R.E.A. report. diags Ry Age 74:684-6 Mr 15 '23
- Form nineteen train order. E. W. Weston. Ry Age 71:1107-8 D 3 '21
- Freight train classification on the Baltimore & Ohio. Ry R 71:693-6 N 18 '22
- Handling fast freight as main trackers. L. C. Fritch. plan Ry R 73:248-9 Ag 18 '23
- How the capacity of a line can be increased; symposium. Ry Age 75:463-8, 564-8, 625-8 S 15, 29-O 6 '23
- Mesure de la résistance de l'air sur le matériel des chemins de fer. C. Maurain, A. Toussaint and R. Pris. Génie Civil 83:138-9 Ag 11 '23

Railroads—Trains—Continued

Methods of increasing the traffic capacity of a railway; A.R.E.A. report. Ry Age 74: 683-4 Mr 15 '23

Moving 6,700 cars daily over the Alleghenies; difficult operating conditions on Pennsylvania system met by Decapod freight locomotives. *il* maps Ry Age 74:1089-93 My 5 '23

Traffic studies show need of balanced budgets. B. H. Mann. Ry Age 74:1699-1704 Je 30 '23; Abstract. Eng N 91:400 S 6 '23

Train rules committee advocates use of 19 order. Ry Age 74:1531-2 Je 23 '23

Value of a single minute—sixty seconds. H. W. Forman. Ry Age 75:341-3 Ag 25 '23

See also Freight car service; Railroads—Signals; Railroads—Train load; Train despatching; Train resistance

Valuation

Actual facts about valuation. W. A. Mitchell. Ry Age 74:1679-80 Je 30 '23

Attacks on railway valuation cannot result in reduced rates. F. W. Sargent. Ry R 73:143-4 Jl 28 '23

Estimating reproduction cost of buildings for valuation. F. E. Barnes. Eng N 88:986-7 Je 15 '22

Federal valuation is entering new stages. E. T. Howson. *il* Ry Age 72:36-8 Ja 7 '22

Federal valuation of railroads. E. F. Wendt. Am Soc C E Pro 49:1432-9 S '23; Abstracts. Eng N 91:189 Ag 2 '23; Ry Age 75:153-4 Jl 28 '23

Federal valuation of railroads and its results. W. A. Van Hook. Eng N 90:1043-9 Je 14 '23

Federal valuation of the railroads in the United States. 38p Investment bankers assn. of America, New York '22

Federal valuation of the railroads in the United States; report of the committee on railroad securities of the Investment bankers' association. Comm & Fin Chr 115:1798-1803 O 21 '22

Federal valuation of United States railroads. A. Crumpton. Can Eng 44:396-9 Ap 10 '23; Same. Eng & Contr (Ry) 59:897-903 Ap 13 '23; Discussion. Can Eng 44:353 Mr 27 '23

Gigantic program of confiscation. Ry Age 74: 315-16 F 3 '23

Great question of railroad valuation. Ry Age 75:797-9 N 3 '23

How federal valuation of the roads may be used. T. P. Artaud. Ry Age 72:337-8 F 4 '22

I.C.C. explains valuation methods to LaFollette. Ry Age 74:1209-11 My 19 '23

I.C.C. has served valuations on 184 railroads. Ry Age 72:432-3 F 18 '22

Interstate commerce commission issues first final valuation. Ry Age 73:808 O 28 '22

I.C.C. issues first final valuation reports. Ry Age 75:489-94 S 15 '23; Ry R 73:431-3 S 22 '23

I. C. C. to prescribe depreciation charges. Ry Age 75:383-8 S 1 '23

I.C.C. urged to define valuation method. Ry Age 74:329-31 F 3 '23

Law pertaining to railway valuation. L. Craven. W Soc E J 28:447-50 O '23

Methods employed by the Bureau of valuation in appraising railway lands. H. S. Marshall. W Soc E J 28:443-6 O '23; Same. Eng & Contr (Ry) 60:1297-1300 D 19 '23

New Haven valuation report issued. Ry Age 73:1038 D 2 '22; Ry R 71:832-4 D 9 '22

Progress in valuation work. Ry Age 73:659-60 O 7 '22

Progress of railroad valuation. F: H. Lee. Ry R 72:940-1 Je 2 '23

Progressives hold railroad valuation conference. Eng N 90:1016 Je 7 '23

Progressives want estimate of what railroads cost. Ry Age 75:20-1 Jl 7 '23

Railroad valuation: a statement of the problem. L. Craven. Ry Age 75:807-12 N 3 '23

Report of the committee on the valuation for rating of amalgamated railways. 51p H. M. Stationery off., London '23

Review of the Grand Trunk railway arbitration. J. P. Newell. maps Eng N 90:211-15 F 1 '23

Senator Brookhart as an aid to Wall Street. Ry Age 74:548-9 Mr 10 '23

Senator Brookhart's radical railroad bill; would repeal section 15-a, base valuation on market value of securities and abolish Labor board. Ry Age 74:503-4 Mr 3 '23

Senator La Follette's conference on railroad valuation. Chicago. Ry Age 74:1167-8, 1329-32 My 12, Je 2 '23; Comm & Fin Chr 116: 2479-81 Je 2 '23

Shippers protest against valuation conference. Ry R 72:925-8 Je 2 '23

Some thoughts on valuation. Ry Age 72:1050-1 My 6 '22

Tentative valuation of Big Four. Ry Age 73: 650 O 7 '22

Tentative valuations of the G. N. and the D. & H. Ry Age 74:960 Ap 14 '23

Utilities' commissioners' views on valuation. Ry Age 73:1042-3 D 2 '22

Valuation amendment. Ry Age 72:1715-16 Je 24 '22

Valuation as a basis of rate-making. Ry Age 75:562-3 S 29 '23

Valuation bill passed by Senate. Ry Age 72: 520 Mr 4 '22

Valuation for rate making. T: Conway, Jr. Aera 10:481-7, 597-602 Ja-F '22

Valuation of O.-W.R.R. & N. Ry Age 74:1155-6 My 12 '23

Valuation of railroads. C: Hansel. Comm & Fin Chr 117:283-4 Jl 21 '23

Valuation questions argued before I.C.C. Ry Age 73:888 N 11 '22

Valuation—recapture—depreciation reserves. W. A. Colston. Ry Age 72:1745-6 Je 24 '22

Valuation work makes progress during 1921. E. T. Howson. *il* Ry Age 74:49-50 Ja 6 '23

Valuations served on 231 railroads. Ry Age 72:1330-1 Je 10 '22

What did you think of the Chicago valuation conference: views of railroad and supply men. Ry R 72:934-6 Je 2 '23

When equipment renewals become an investment. G: W. Bashaw. Ry Age 73:253-6 Ag 5 '22

See also Electric railroads—Valuation; Public utilities—Valuation; Rails—Rating

Wage tables

Hayes' railroad fast express daily and hourly wages computing tables, arranged on an original plan by whole days, tenth and quarters. L. Hayes. 19th ed. 408p W. C. Stahl co., Pittsburgh '21

Wages

Average daily and monthly wage rates of railroad employees on class 1 carriers, 1917-1921. Monthly Labor R 14:690-3 Ap '22

Average monthly wage of R. R. employees is \$140.63. Ry R 72:970 Je 9 '23

Award in Canadian railway dispute. Monthly Labor R 14:155-6 Ja '22

B. M. Jewell attacks nation's industrial system. Ry Age 72:809-10, 821-2 Ap 1 '22

Basis of railroad wage settlements. B: Baker. Annalist 20:3-4 Jl 3 '22

Bonus system for train service employees. Ry Age 73:639-40 O 7 '22

Carriers denounce delay in wage reduction case. Ry Age 72:819-20 Ap 1 '22

Chart illustrating relation of railway wages to cost of living, compiled by the Bureau of railway economics. Ry R 72:74 Ja 6 '23

Clerks demand large wage increases. Ry Age 73:1057-8 D 2 '22

Commissioner Potter expresses views on rates and wages. Ry Age 72:221 Ja 21 '22

Comparison of present wages of striking railroad workers with those paid before the war. Dom Eng 100:85+ Jl 8 '22

Comparison of railway employee earnings, class 1 carriers, with cost of living; chart. Ry Age 74:1106 My 5 '23

Conductors' and trainmen's wages to stand in West. Ry Age 73:656 O 7 '22

Controversial opinions of the Labor board in the case of signalmen's pay. Ry R 73:587-90 O 20 '23

Criticism of rail wage cuts. B. M. Jewell. Comm & Fin Chr 114:2542-3 Je 10 '22

Railroads—Wages—Continued

- Economic status of rail workers still 18.75 per cent above 1914. Ry Age 73:62 J1 8 '22
- Employees question legality of wage conferences. Ry Age 72:739-41 Mr 18 '22
- Employment and earnings of railroad employees. Monthly Labor R 15:1301-5; 16:584-6, 793-4, 1062-4, 1338-9; 17:902-3 D '22, Mr-Je, O '23
- Employment and earnings of railroad employees, March 1922, and February and March, 1923. Monthly Labor R 16:1338-9 Je '23 [continued monthly]
- Freight handlers and common laborers get two cent increase. Ry Age 74:766 Mr 17 '23
- Further cuts in wages. Ry Age 72:1504 Je 17 '22
- How to get at the inside of a railroad payroll. J. C. Owers. Ry Age 73:1094-6 D 9 '22
- Increase in the railroad pay-rolls. Ry Age 75:456-7 S 15 '23
- I.C.C. general rate investigation; Frank J. Warne testifies for railroad labor organizations. Ry Age 72:419-22 F 18 '22
- Labor board and a living wage. Comm & Fin Chr 115:1985-6 N 4 '22
- Labor board begins hearings on wage reductions. Ry Age 72:563-5 Mr 11 '22
- Labor board concludes hearing on maintenance wages. Ry Age 73:476-7 S 9 '22
- Labor board cuts wages of M. of W. employees. Ry Age 72:1279-81 Je 3 '22
- Labor board decision on shop wages. Ry R 70:943-4 Je 17 '22
- Labor board gives maintenance men an increase of two cents an hour. Ry Age 73:741-2 O 21 '22
- Labor board hands down significant decision; carriers ability to pay recognized as secondary factor in fixing wage scales. Ry Age 71:929-31 N 12 '21
- Labor board hears plea for wage increases. Ry Age 75:157-8 J1 28 '23
- Labor board recognizes financial circumstances as pertinent to wage adjustment. Ry R 73:179-80 Ag 4 '23
- Labor board reduces wages of clerks. Ry R 70:1025-9 Je 24 '22
- Labor board removes inequalities in telegraphers' pay. Ry Age 73:1130 D 16 '22
- Labor board split over Orient wage decision. Ry Age 75:201-2 Ag 4 '23
- Labor leaders argue for large wage increases. Ry Age 72:884-6 Ap 8 '22
- Labor leaders withdraw from wage cut hearing. Ry Age 72:1079-81 My 6 '22
- Lauck gives Senate committee the views of labor bodies. Ry R 70:577-8 Ap 22 '22
- Living wage. B. W. Hooper. Ry R 71:637-8 N 4 '22; Same cond. Ry Age 73:905 N 11 '22
- Living wage and family of five branded as fallacies. Ry R 71:624-5+ N 4 '22
- Maintenance of way men before the Labor board. Ry R 71:321-2 S 2 '22
- Maintenance of way wage dispute remanded to roads. Ry Age 75:18 J1 7 '23
- M. of W. wage increase hearing begins. Ry Age 74:1466-9 Je 16 '23
- New railroad shop rates. B. Baker. Annalist 19:627-8 Je 12 '22
- Notices of railroad wage reductions. Comm & Fin Chr 113:2154 N 19 '21
- Pay of technical engineers in railway service. A. M. Van Auken. Eng & Contr 57:374 Ap 19 '22
- Pennsylvania R.R. asks employees to accept wage reduction. Ry R 69:692 N 19 '21
- Railroad labor board cuts wages of signalmen, clerks, stationary firemen, etc.—minority views. Comm & Fin Chr 114:2784-7 Je 24 '22
- Railroad labor board holds living wage theory on railroads untenable. Comm & Fin Chr 115:2010-11 N 4 '22; Ry Age 73:837-8 N 4 '22
- Railroad labor board orders cut in wages of shopmen and freight car men. Comm & Fin Chr 114:2541 Je 10 '22
- Railroad labor board orders cuts aggregating \$48,000,000 in wages of shopmen and maintenance of way employees. Comm & Fin Chr 114:2432-5 Je 3 '22
- Railroad labor organization heads tell Labor board it has blundered. Comm & Fin Chr 115:31-2 J1 1 '22
- Railroad labor pay—and mine. W. Butterworth. II Nation's Business 10:9-10 Ja '22
- Railroad salaries. Am Mach 55:1022c D 22 '21
- Railroad shopmen better paid than in private industry. Am Mach 57:203 Ag 3 '22; Same. Ry Age 73:250-1 Ag 5 '22
- Railroad wages and cost-of-living budgets. B. Baker. Annalist 19:651-2 Je 19 '22
- Railroad wages and working rules. (Nat. industrial conference bd. Research rep. 46) 130p Century co. '22
- Railroad wages in United States. Comm & Fin Chr 114:1143-4 Mr 18 '22
- Railway shopmen's wages in Great Britain. Monthly Labor R 15:779-81 O '22
- Railway wage situation. Ry Age 72:767-8 Mr 25 '22
- Railway wages discussed by agricultural commission. Ry Age 72:1112 My 13 '22
- Rates and wages. S. Thompson. Ry R 70:426-7 Mr 25 '22
- Relation of railroad wages to general prosperity. J. G. Walber. Ry R 70:403-4 Mr 18 '22
- Relation of wages to freight rates. B. W. Hooper. Ry Age 71:932 N 12 '21
- Reply to criticisms of board by labor organization heads. B. W. Hooper. Comm & Fin Chr 115:33 J1 1 '22
- Report of A.R.A. committee on prices for labor and materials. Ry R 71:18-19 J1 1 '22
- Shopmen's wages cut five to nine cents an hour. Ry Age 72:1337-9 Je 10 '22
- Supporting opinion of majority members in wage cut decision. Comm & Fin Chr 114:2787-9 Je 24 '22
- System shop crafts acted in union in wage conferences. Ry R 70:468-9 Ap 1 '22
- Threatened railroad strike. Monthly Labor R 13:1328-41 D '21
- Trackmen's wages. J. W. Higgins. Ry R 71:345-6 S 9 '22
- U. P. system's unique wage agreement with new shop union. Ry R 71:377-8 S 16 '22
- Wage cut order induces bitter controversy. Ry Age 72:1719-26 Je 24 '22
- Wage cuts for clerical forces before Railroad labor board. Ry Age 72:978-9 Ap 22 '22
- Wage hearings begin March 6. Ry R 70:195 F 11 '22
- Wage increases granted. Ry Age 74:1211-12, 1265-6, 1376-7, 1686 My 19-26, Je 9, 30 '23
- Wage increases on sixty-five railroads granted by Railroad labor board to clerks, freight handlers, &c. Comm & Fin Chr 117:1849 O 27 '23; Ry Age 75:777-8 O 27 '23
- Wage rates and employment in the British railway service. Monthly Labor R 16:385-7 F '23
- Wage reduction disputes now before the Labor board. Ry Age 72:377-8 F 11 '22
- Wage reductions agreed to in case of Pennsylvania R.R. employees. Comm & Fin Chr 115:33-4 J1 1 '22
- Wage reductions offset by rate cuts. S. Thompson. Ry R 69:723-4 N 26 '21
- Wage situation misunderstood. F. H. Alfred. Ry R 71:455-6 S 30 '22
- Wage statistics for 1922. Ry Age 74:1070. Ap 28 '23
- Wage statistics for July on new basis. Ry Age 71:1085-7 D 3 '21
- Wage statistics for last half of 1921. Ry Age 72:1140 My 13 '22
- Wages cut 35 per cent on class I road in South by Labor board. Ry R 69:655-60 N 12 '21
- Wages cut 25 per cent on M. & N. A. by Railroad labor board. Ry R 70:274-5 F 25 '22
- Wages of M. of W. employees before Labor board. Ry Age 72:921-4 Ap 15 '22
- Why the budget theory of wages is not practicable. Ry R 71:498-9 O 7 '22
- Why the living wage is bunk. Ry R 71:389-90 S 16 '22

Railroads—Continued**Water supply**

Economies of water service for railway locomotive. C. H. Koyl. W Soc E J 28:214-19 My '23; Same cond. Ry R 72:460-3 Mr 10 '23; Same cond. Ry Age 74:275-7 Ja 27 '23; Same cond. Eng & Contr (Ry) 59:453-6 F 21 '23; Excerpt. Ry Mech Eng 97:278 My '23; Excerpts. Eng N 90:1091 Je 21 '23; Discussion. W Soc E J 28:223-5 My '23

Effects of water treatment on the reduction of maintenance expense and increasing capacity of locomotives. W. C. Smith. W Soc E J 28:220-3 My '23; Same. Ry R 72:219-21 F 3 '23; Same. Eng & Contr (Ry) 59:430-2 F 21 '23; Same. Ry Mech Eng 97:277-8 My '23; Discussion. W Soc E J 28:223-5 My '23

Extensive boiler-water treating on C., M. & St P. Ry.; abstracts. C. H. Koyl. diags plans Eng N 89:560-2 O 5 '22; Ry Age 73:573-6 S 23 '22

How the Illinois Central overcame a water shortage. il map Ry Age 73:333-6 Ag 19 '22

Marked economies effected by water service; organization chart. il Ry Age 74:1111-14 My '23

Modernizing the water supply. Ry Age 74:366, 457 F 10, 24 '23

More water softeners on the Illinois Central. C. R. Knowles. il Ry Age 75:213-14 Ag 4 '23; Discussion. R. C. Bardwell. 75:418-19 S 8 '23

Report of the A.R.E.A. committee on water service. Ry Age 74:632-5 Mr 14 '23

Water supply at Hoisington, Kas., Mo. Pac. R. R. il map Ry R 72:959-61 Je 9 '23

Water waste on the railroads. C. Kennicott. Ry R 72:826-7 My 12 '23

See also Feed water purification

Weed removal

Chemical killing of weeds in railway track. Eng & Contr (Ry) 59:679-80 Mr 21 '23

Chemical killing of weeds on railway roadbeds. Eng & Contr 57:592-3 Je 21 '22

Labor of eighty men saved by railroad weed cutter. il Pop Mech 40:775 N '23

New Fairmont disc weeder. il Ry R 73:625-6 O 27 '23

Report of the A.R.E.A. committee on roadway. Ry Age 74:690-1 Mr 15 '23

Simple weed exterminator built by railroad. il Pop Mech 38:262 Ag '22

Track mower economically produced by attaching car wheels to ordinary farm implement. Eng & Contr (Ry) 60:327 Ag 15 '23

Weed-uprooting machine operates on railroads. il Pop Mech 38:441 S '22

Yardmasters

Plea in behalf of the supervisory officers. J. L. Eldridge. Ry Age 71:1265-6 D 24 '21

Yards

Canadian National increases facilities at Moncton. S. B. Wass. diag map Ry Age 73:463-6 S 9 '22; Same. Eng & Contr 58:267-9 S 20 '22

Cedar Hill yard of the N.Y.N.H. & H.R.R. at New Haven, Conn. il diag plan Ry R 69:677-82 N 19 '21

Gravity freight yard at Canton, Ohio; W. & L. E. Ry. diags plan Eng N 90:746-9 An 26 '23

How yard operation can be graphically controlled. V. I. Smart. il diag Ry R 71:439-41 S 30 '22

Maintenance of large yards and yard tracks. Eng & Contr (Ry) 60:801-4 O 17 '23; Abstract. Ry Age 75:532 S 22 '23

New gravity freight yard at Denison, Tex.; M.-K.-T. Ry. diags plan Eng N 91:221-4 Ag 9 '23

New Haven builds freight yards at Providence. il plan Ry Age 72:1467-70 Je 17 '23

Rip track equipment and methods on Ft. D.D.M. & S. J. Duncan. il diags Ry R 70:491-5 Ap 8 '22

Some practical phases of adding to facilities. C. Weiss. Ry R 73:124-6 J1 28 '23

See also Railroads—Switching

Lighting

Norfolk & Western installs lights in 15 yards. il plan Ry Age 75:283-7 Ag 18 '23

Afghanistan

Conquest of the Khyber Pass. H. J. Shepstone. il Pop Mech 39:222-3 F '23

Africa, East

Railways of East Africa. Engineering 114:451-3 O 13 '22

Recent railway developments in Eastern Africa. maps Eng N 89:400-1 S 7 '22

Trans-Zambesia railway. Ry Age 72:1251 My 27 '22

Alaska

Alaskan engineering commission. J. Bernhardt. (Service monographs no. 4) 124p [bibliog. p. 99-119] Appleton '22

Building a railroad in the frozen North. il Sci Am 128:42 Ja '23

Completing the government railroad in Alaska. il map Ry Age 72:813-17 Ap 1 '22

Formal completion of Alaska railroad. maps Ry R 73:131-2 J1 28 '23

Government railroad in Alaska connecting Seward with Fairbanks nearing completion. il Sci Am 126:28-9 Ja '22

Argentina

Argentina looks to new year with hope. M. Michelin. il Ry Age 74:91-2 Ja 6 '23

Building new Argentine-Chilean Transandine railway. R. F. Maury. il diags map Eng N 91:332-6 Ag 30 '23

Feeder railways of 24-in. gage in Argentina. il Eng N 90:307-8 F 15 '23; Discussion. F. Lavis. 90:506 Mr 15 '23

New transcontinental line in northern Argentina. R. F. Maury. il map Ry Age 73:1237-9 D 30 '22

Railway construction in Argentina. map Eng & Contr 59:292 Ja 31 '23

Railway development in the Argentine Republic. il map Ry R 69:721-3 N 26 '21

Railway operating methods in Argentina. H. Ashton. il Ry Age 74:369-72 F 10 '23

Recent railway developments in Argentina. Ry Age 75:90-1 J1 14 '23

Steam road electrifications in the Argentine. L. G. Riley. il map Ry Age 73:375-8 Ag 26 '22

See also Railroads—Electrification—Argentina

Australia

Australia turning to American practice. W. H. Newman. il Ry Age 74:93-6 Ja 6 '23

Australian railway gauge question. Engineering 113:80 Ja 20 '22

Australian railway problems. Engineering 114:334-5 S 15 '22

Australian railway projects. map Eng & Contr 59:281-2 Ja 31 '23

In justice to Australia. Sci Am 126:379 Je '22

Railway gauge problem in Australia; unification of gauge; abstracts. T. H. Beare. Engineer 134:251-2 S 8 '22; Electrician 89:324 S 22 '22

Unification of railway gauges in Australia. Engineer 133:280 Mr 10 '22

Unifying the railway gages of Australia. F. M. Whyte. il maps Ry Age 72:107-10 Ja 7 '22

Victorian railways consolidate departments. chart Ry Age 73:1245-6 D 30 '22

See also Railroads—Electrification—Australia

Austria

Electrification of Austrian roads planned. R. Mossman. map Elec Ry J 60:738-9 N 4 '22

See also Railroads and state—Austria

Belgium

Belgian roads and railways. E. François. Engineering 113:200 F 17 '22

French and Belgian railways from an American standpoint. E. S. Rice. Ry R 71:904-5 D 23 '22

Railroads—Continued

Bolivia

Atocha-Villazon railway under construction in Bolivia. P. C. Campbell. *il Ry R* 72:243-6 F 10 '23

Bolivian state railway being built by Americans. *il diags maps Eng N* 89:352-4 Ag 31 '22

Railways in Bolivia. map plan Engineer 136: 74-5 J1 20 '23

Brazil

Brazilian railway electrification schemes. *Elec R (Lond)* 90:294-5 Mr 3 '22

L'electrification du chemin de fer de Paulista (Brésil). *il map Génie Civil* 80:221-3 Mr 11 '22

Fuel cost key to Paulista railway electrification. S. S. Fortenbaugh. *il Ry R* 69:857-60 D 24 '21

British Columbia

Electrification of Stave Lake railway. *Elec Ry J* 60:850 N 25 '22

California

California railroads seek to crush highway transport. *Automotive Ind* 47:202-5 Ag 3 '22

Canada

Canada's experience with its railway lines. *Comm & Fin Chr* 115:2316-19 N 25 '22

Canadian railway operation in 1921. *Ry R* 70: 461-2 Ap 1 '22

Canadian railway problem. F. B. Carvell. *Ry Age* 74:706-8 Mr 15 '23; Same *abr. Ry R* 72: 517-18 Mr 17 '23

Canadian railways are in a bad way. J. L. Payne. *il Ry Age* 72:70-2 Ja 7 '22

Canadian roads improve with lower gross. J. L. Payne. *il Ry Age* 74:87-90 Ja 6 '23

Development of Canadian railway construction. H. K. Wicksteed. *Can Eng* 42:104-8 Ja 3 '22

Grand Trunk investors' claims against Canada. T. M. Fraser. *Ry Age* 75:857-8 N 10 '23

New project for a railroad to Hudson bay. *il map Ry Age* 73:925-6 N 18 '22

Railroad construction in Canada in 1921. *Ry Age* 72:154 Ja 7 '22

Railroad problems in Canada. E. W. Beatty. *Ry R* 70:680-1 My 13 '22

Railway development during the past year. *Can Eng* 42:249-51 F 21 '22

Railway operating reports of Canada for 1922. *Ry R* 72:627-8 Ap 7 '23

Rendering a service that the modern public want; self-propelled car destined to become potent factor in Canadian National railway service. *il diags Ry R* 72:715-19 Ap 23 '23

Transportation problems of the Toronto district. H. K. Wicksteed. *Can Eng* 44:316-20 Mr 13 '23

See also Electric railroads—Canada; Railroads—Electrification—Canada; Railroads and state—Canada; also Canadian National railways; Canadian Pacific railway; Hudson Bay railway

Central Europe

Central Europe's roads need fuel and equipment. W. B. Causey. *il map Ry Age* 71: 924-7 N 12 '21

Hope for normal railroading in Central Europe. B. Clagett. *il Ry Age* 72:1471-2 Je 17 '22

Railway chaos central Europe's greatest problem. *il Ry Age* 72:97 Ja 7 '22

Some improvement in Central Europe's railways. A. Nikitchek. *il Ry Age* 74:75-7 Ja 6 '23

Chile

Chilean railroad electrification program. map *Ry Age* 71:1109-10 D 3 '21; Same. *Elec Ry J* 58:991-2 D 3 '21; Same. *Elec R* 79:837-9 D 3 '21; Same cond. *J Elec* 48:19 Ja 1 '22

Chilean railroad problem and its solution. D. C. Hershberger. *il map Ry Age* 72:216-20 Ja 21 '22; Abstract. *Elec Ry J* 59:151-2 Ja 28 '22

Chilean railway electrification. *Eng N* 87:976; 89:152 D 15 '21, J1 27 '22

Electrification of the Chilean state railways. *il map Ry R* 70:185-8 F 11 '22; Engineer 133: 711-14 Je 30 '22; Electrician 88:102 Ja 27 '22; *Can Eng* 42:346 Mr 28 '22

Electrification of the Chilean state railways. D. C. Hershberger. *il maps Elec J* 19:99-106 Mr '22

New transcontinental line in northern Argentina. R. F. Maury. *il map Ry Age* 73:1237-9 D 30 '22

Railroad electrification in Chile. W. H. Easton. *il diags Sci Am* 127:229 O '22

See also Electric railroads—Chile; Railroads—Electrification—Chile

China

China notes. *Ry Age* 73:487-8 S 9 '22

Chinese Consortium should negotiate for construction of railways. T. W. Lamont and C. Addis. *Comm & Fin Chr* 114:1354-6 Ap 1 '22

Chinese government railways. Engineer 133: 459 Ap 28 '22

Chinese government railways; heavy gradient haulage on the Peking-Suiyuan railway. *il Engineer* 135:34-5, 42 Ja 12 '23

Chinese railways experience normal year in 1921. *il Ry Age* 72:98-100 Ja 7 '22

Chinese railways had a bad year in 1922. *il Ry Age* 74:107-10 Ja 6 '23

Following the Great Wall of China. J. A. L. Waddell. *il Eng N* 88:643-6 Ap 20 '22

Imperialism, intrigue and the Chinese Eastern. *il map Ry Age* 75:253-7 Ag 11 '23

Peking-Suiyuan railway of China. *il Sci Am* 126:116-17 F '22

La politique des chemins de fer en Chine. G. Grené. *Génie Civil* 81:361-3 O 21 '22

Railway construction in China. Engineer 133: 552 My 19 '22

Shantung railway turned over to Chinese. *il Ry Age* 74:458-62 F 24 '23

United States surrenders control of Chinese Eastern railway in accordance with resolution of Arms conference. *Comm & Fin Chr* 115:1991 N 4 '22; Excerpt. *Ry Age* 73:864 N 4 '22

See also Railroads and state—China

Colombia

Recent railway location in southern Colombia. F. R. Molther. *il map Eng N* 91:268-71 Ag 16 '23

Cuba

Bill causes wrangle over consolidation of railroads in Cuba. *Ry R* 73:252-3 Ag 18 '23

Cuban railroads and the political situation. *Ry R* 73:281-2 Ag 25 '23

Tarafa bill proposing consolidation of railroads in Cuba; text. *Comm & Fin Chr* 117: 850-4, 951-2 Ag 25-S 1 '23

Tarafa bill signed by President Zayas of Cuba. *Comm & Fin Chr* 117:1614-15 O 13 '23

England

Electricity supply for the S. E. & C. R. *Elec R (Lond)* 91:321 S 1 '22; Same cond. Engineer 134:188 Ag 25 '22

Electrification boom. Electrician 87:561-3 N 4 '21

Electrification of the South-Eastern and Chatham railway. map Electrician 87:576 N 4 '21

Further developments in railway electrification; details of an extended suburban and main line scheme. map Electrician 87:678-9 N 25 '21

Lancashire and Yorkshire railway amalgamation. Engineer 132:700 D 30 '21

See also Railroads—Electrification—Great Britain

Europe

Conditions improve on European roads. J. G. Lyne. *il Ry Age* 74:81-3 Ja 6 '23

Some observations on European railway service. S. O. Dunn. *Ry Age* 72:1211-13 My 27 '22

Survey of railway conditions in continental Europe. *Eng N* 90:434-5, 589-91 Mr 8, 29 '23

See also Railroads—Central Europe; Railroads—Electrification—Europe

Railroads—Continued**Federated Malay States**

Federated Malay States railways—annual report, map Engineer 134:645 D 15 '22
 Railways in British Malaya, il map Engineer 134:114-16, 118 Ag 4 '22

Florida

Florida East Coast Ry. proposes to build new line in Florida, Ry R 72:114-5 Ja 20 '23

France

Analysis of French railroad situation, W: C. Huntington, (Trade information bul. 17) 24p U.S. Bureau of foreign & domestic commerce, Washington '22
 Apparatus for French Midi railway electrification, il Ry R 71:137-8 Jl 29 '22; Same, Elec Ry J 60:261 Ag 19 '22; Same, Eng & Contr (Ry) 58:15-16 O 18 '22
 France making real progress in electrification, P. Charpentier and E. M. Bill, il map Elec Ry J 59:923-5 Je 10 '22
 France revisited, T. Rich, il diags map Elec R (Lond) 91:476-9, 512-13 O 6-13 '22
 French railways show operating surplus, Ry Age 75:602 S 29 '23
 French railways still operate at deficit, M. Peschaud, il Ry Age 74:59-61 Ja 6 '23
 French summer railway services in 1922, Engineer 134:191-2 Ag 25 '22
 Les grands réseaux français en 1922, M. Peschaud, Chimie & Ind 10:565-7 S '23
 High lights in the French railway situation, M. Peschaud, il Ry Age 72:81-4 Ja 7 '22
 Locomotive practice and performance in France, J. T. Burton-Alexander, Engineer 136:119-20, 143-5, 178-9 Ag 3-17 '23
 Operating results of French railways for 1920, Ry Age 71:1067 N 26 '21
 Paris-Orleans railway begins electrification program, A. H. Candee and L. E. Lynde, Ry R 71:662-3 N 11 '22; Same, Elec Ry J 60:745-6 N 4 '22; Same, Ry Age 73:803-4 O 28 '22
 Les progrès techniques réalisés dans la reconstruction des ouvrages d'art des Chemins de fer du Nord et de l'Est, il Génie Civil 79:516-20 D 10 '21
 Railway conditions in France, Germany and Poland, maps Eng N 90:484-6 Mr 15 '23
 Rebuilding railway structures in northern France, Pellarin, il Eng N 88:397-8 Mr 9 '22
 Reorganization of French railways, Ry R 69:735-6 N 26 '21
 Results of operation of French railways in 1921, M. Peschaud, Ry Age 73:23-7 Jl 1 '22
 La "semaine des transports" et la révision des tarifs de marchandises, G. Peyraron, Génie Civil 80:58-60 Ja 21 '22
 La situation des chemins de fer français d'après les résultats d'exploitation de l'exercice 1921, Génie Civil 81:178-9 Ag 19 '22

See also Electric railroads—France; Railroads—Electrification—France; Railroads and state—France

Germany

First steps in unification of German railroads, J. Stumpf, il Ry Age 74:78-80 Ja 6 '23
 German railways operating under difficulty, G. Reder, il Ry Age 72:93-4 Ja 7 '22
 Observations sur l'organisation matérielle des chemins de fer allemands, G. Mesnard, diags Génie Civil 82:492-4 My 26 '23
 Railway conditions in France, Germany and Poland, maps Eng N 90:484-6 Mr 15 '23
 Zulassung und entziehung des privatan schlusses, Schmidt-Ernsthausen, Stahl & Eisen 43:912-14 Jl 12 '23
 Zur deutschen eisenbahnfrage, D. G. Franke, Stahl & Eisen 42:933-40 Je 15 '22

See also Railroads—Electrification—Germany; Railroads and state—Germany

Gold Coast, Africa

Gold Coast railways, map Engineering 114:808-9 D 29 '22

Great Britain

British railway amalgamation, Ry R 71:313 S 2 '22

British railway statistics, Engineering 112:764-5, 819 D 2, 16 '21

British railways and the great war, E. A. Pratt, 2v Selwyn & Blount, London '21; Review, Engineering 112:845-6 D 23 '21
 British railways as seen by an American engineer, E. S. Rice, Ry R 71:878-9 D 16 '22
 British railways being reorganized into four systems, H. B. A. Smith, Eng & Contr (Ry) 59:676 Mr 21 '23

British railways in 1922, Engineering 115:469 Ap 13 '23

British railways show progress during 1922, W. H. Fraser, il Ry Age 74:55-8 Ja 6 '23
 Comparing British and American methods of consolidation, W: W. Cook, Ry Age 74:215-16 Ja 20 '23

Development of light railways in Great Britain, Eng N 88:205 F 2 '22

England's four railway systems, map Eng N 90:616 Ap 5 '23

English and United States railroads compared, S: Rea, Ry R 71:495-6 O 7 '22

Far-reaching reform in English railway administration, W. M. Acworth, Annalist 21:667+ My 14 '23

Fewer railway passengers in United Kingdom, Ry R 71:761 N 25 '22

Final report on the electrification of British railways, Gen Elec R 25:60-4 Ja '22; Excerpts, Ry Age 71:1110-11 D 3 '21

Future of British railways, Engineering 112:826-7 D 16 '21

Grouping of the railways, Engineer 133:216 F 24 '22

New organisation of British railways, Engineering 115:17-18 Ja 5 '23

Railway act, 1921, E. C. Geddes, Engineer 133:629-30 Je 9 '22

Railway companies and road transport, Automobile Eng 12:113-14 Ap '22

Railway management, S. Fay, Engineer 134:361-2 O 6 '22

Railway position, Engineer 135:263-4 Mr 9 '23

Railway results in 1922, Engineer 135:269 Mr 9 '23

Railway returns for 1921, Engineer 134:392-3 O 13 '22

Railway returns for 1922, Engineer 136:322-3 S 21 '23

Railways in 1921, Engineer 133:21-2 Ja 6 '22

Railways in 1922, Engineer 135:32-4 Ja 12 '23

Railways jointly owned, Engineer 135:12 Ja 5 '23

Railways under grouping, Engineer 134:695 D 29 '22

Reorganization of railways in Great Britain, H. B. A. Smith, U S Bur For & Dom Com Trade Information Bul 79:1-28 '23

Review of English railways during 1921, R. E. Thayer, il Ry Age 72:76-80 Ja 7 '22

Some post-war problems of transport, J: A. F: Aspinall, maps Engineering 113:569-74 My 5 '22; Same cond, Engineer 133:500-1 My 5 '22

Statistics of British railways in 1922, Ry Age 74:1344 Je 2 '23

Twelve months of railway decontrol, Engineer 134:145 Ag 11 '22

Working of the British railway act, Ry R 71:529-30 O 14 '22

See also Railroads—Electrification—Great Britain

Honduras

Building a 50-kilometer railroad through tropical swamps, F. R. Molther, il Eng N 91:67 Jl 12 '23

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Railways of Hungary in 1922, Ry Age 75:133 Jl 21 '23

See also Railroads—Electrification—Hungary

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Oregon short line R. R. improves Idaho division, maps plan Eng N 91:388-90 S 6 '23

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See also Electric railroads—Illinois

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India

Company versus state management for Indian railways. Eng N 89:969 D 7 '22
 Future of India's railways. Ry Age 74:830 Mr 24 '23

Indian railway administration report. Engineer 133:573; 135:450-1 My 26 '22, Ap 27 '23

Indian railway gauge problem. F. G. Royal-Dawson. Engineering 112:696 N 18 '21; Same abr. Eng & Contr 58:212 Ag 30 '22

Indian railways face a serious problem. R. E. Thayer. il Ry Age 72:105-6 Ja 7 '22

Many railway developments in India in 1922. il Ry Age 74:101-4 Ja 6 '23

Railway expansion in India. Engineer 134:90 Jl 25 '22

Railways of India adopt revised statistics. F. H. Budden. Ry Age 75:635-8, 675-7 O 6-13 '23

Railways of India as seen by an American engineer. E. S. Rice. Ry R 72:1116-18 Je 23 '23

Ireland

Irish railways. Engineer 134:501 N 10 '22

Railways of Ireland. Engineer 135:60 Ja 19 '23

Italy

Italy plans return to private ownership. A. Giordano. il Ry Age 74:62-4 Ja 6 '23

Railway experiences in Italy. E. S. Rice. Ry R 72:121-3 Ja 13 '23

Review of the Italian railway situation. A. Giordano. il Ry Age 72:85-7 Ja 7 '22

See also Railroads—Electrification—Italy

Japan

Electrification of Chichibu railway. D. E. Renshaw. il Elec Ry J 60:290-1 Ag 26 '22

Electrification of the Chichibu railway of Japan. C. A. Bercaw. il map Ry R 70:911-12 Je 17 '22

Extent of damage to Japan's railways. Ry Age 75:790 O 27 '23

Japan needs 10,000 motor trucks to aid railroads. Automotive Ind 48:777-8 Ap 5 '23

Japanese railways and their operating problems. H. K. Smith. il diags map Ry R 71:365-9 S 16 '22

Recent developments on Japanese railways. il map Ry Age 74:105-6 Ja 6 '23

Some observations of the Japanese railroads; 2000 miles of private lines operated in close harmony with 6000 miles of nationalized lines. B. B. Milner. il maps Ry Age 72:101-4 Ja 7 '22

2000 miles of Japanese railways designated for electrification. Elec Ry J 58:1136 D 24 '21

See also Electric railroads—Japan

Jugoslavia

International position of Yugoslavia railroad system. Comm & Fin Chr 115:2322-3 N 25 '22

Jugo-Slavia plans railroads to open up resources. W. G. Atwood. il map Eng N 89:1070-2 D 21 '22

Latvia

Latvian railway system. Annalist 22:39 Jl 9 '23

Mexico

Electrification project recalls Maltrata location. E. Low. map Eng N 90:785-6 My 3 '23
 Mexican government proposes to rehabilitate the National Tehuantepec. Ry Age 72:1144 My 13 '22

Mexican railway to be electrified. map Elec Ry J 60:811 N 18 '22; Same abr. Ry Age 73:936-7 N 18 '22

Mexican railways prepared for improved business. C. W. Foss. il map Ry Age 72:1055-9, 1119-21 My 6-13 '22

Mexico makes progress in railway rehabilitation. il Ry Age 72:73-4 Ja 7 '22

Railway mileage in Mexico still inadequate. W. D. Hornaday. il Ry Age 74:84-6 Ja 6 '23

Steel needed for Mexican railroads. J. E. Kelly. Iron Age 112:963-4 O 11 '23; Same abr. Ry R 73:690-1 N 10 '23

See also Railroads—Electrification—Mexico

Morocco

Le réseau ferré marocain; lignes construites, en construction, ou concédées. map Génie Civil 80:552-3 Je 17 '22

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New England

Associated industries of Massachusetts finds Transportation act inadequate—urges trunk line affiliation for New England roads. Comm & Fin Chr 115:955-7 Ag 26 '22

Divergent opinion in New England; editorial. Ry Age 75:510-11 S 22 '23

Freight traffic conditions in New England. Ry R 69:731 N 26 '21

I.C.C. sustained in New England divisions case. Ry Age 74:480, 750 F 24, Mr 17 '23

Joint New England railroad committee report suggest plans to rehabilitate B. & M. and New Haven roads. Comm & Fin Chr 117:87-8, 170-5 Jl 7-14 '23; Ry Age 75:15-18 Jl 7 '23

New England divisions and Transportation act. J. S. Eaton. Ry Age 74:181-4, 235-8 Ja 13-20 '23

New England divisions case. J. S. Eaton. Ry Age 74:900 Ap 7 '23

New England railroad report; editorial. Ry Age 75:100-1 Jl 21 '23

New Haven's views of joint committee report. Ry Age 75:307-10 Ag 18 '23; Same. Comm & Fin Chr 117:749-50 Ag 18 '23; Abstract. Ry R 73:240-1 Ag 18 '23

Oldham scheme of consolidation for New England railroads. J. E. Oldham. Ry R 70:640-4 My 6 '22; Excerpts. Textile World 61:2687+ My 6 '22

Place of the New England railroads in the plan for railroad consolidations. J. E. Oldham. 46p Investment bankers association of America, Cambridge, Mass. '22

Railway consolidation hearings at Boston. Ry Age 75:589-90, 638-40, 659-60 S 29-O 13 '23

Recent railway progress in New England. C. L. Bardo. Ry Age 75:879-81 N 10 '23

Report of the Council of the Affiliated technical societies of Boston upon the New England railroad problem. Boston Soc C E J 10:139-60 Ap '23; Abstract. Ry Age 74:1150-1 My 12 '23

See also Eastern railroad company

New Jersey

Eliminating three miles of grade crossings. R. G. Skerrett. il Sci Am 127:186-7 S '22

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Northwestern states

What is wrong with the Northwestern roads? Ry Age 75:257-8 Ag 11 '23

Ontario

Ontario provincial railway extending to Hudson Bay. il diags maps Eng N 90:1112-15 Je 28 '23

Oregon

Construction of the Oregon California & Eastern Ry. il map Ry R 71:399-402 S 23 '22
 Oregon wants more railroads. Ry Age 73:950 N 18 '22

Palestine

Railway progress in Palestine. map Engineering 116:120-1 Jl 27 '23

Will the lost tribes return to Jerusalem? L. R. Freeman. il map Pop Mech 37:659-65 My '22

Panama Canal Zone

Changes ordered in Panama railroad operation. Ry Age 71:949 N 12 '21

Railroads—Continued**Pennsylvania**

General plan for increasing the capacity of the railroad systems in the Pittsburgh district. G. S. Davison and N. W. Storer. map Eng Soc W Pa 39:159-82; Discussion. 183-7 Je '23

Philippines

Railroads in the Philippines. V. Villamin. Ry Age 74:486-7 F 24 '23

Poland

Les chemins de fer polonais et leur situation actuelle. Génie Civil 81:498-9 N 25 '22

Polish railways make great strides in 1922. A. B. Barber. il maps Ry Age 74:65-71 Ja 6 '23

Railway conditions in France, Germany and Poland. maps Eng N 90:484-6, 974 Mr 15, My 31 '23

Russia

Condition of railway transport in soviet Russia. Eng N 89:365 Ag 31 '22

Railroad situation in soviet Russia. L. Pasvol'sky. Annalist 18:532 D 5 '21

Railroad transportation situation in soviet Russia. E. A. MacMillan. il Ry R 70:218-23 F 18 '22

Railway conditions in Russia. Ry Age 74:1018-19 Ap 21 '23

Railway conditions in soviet Russia. Sci Am 125A:158 D '21

Railways of Russia, the Balkans and the Baltic states. map Eng N 90:589 Mr 29 '23

Russian railways aid famine relief work. G. L. Carden. il Ry Age 74:72-4 Ja 6 '23

Soviets demolish already inadequate system. J. M. Goldstein. il Ry Age 72:91-2 Ja 7 '22

See also Railroads—Electrification—Russia

Scandinavia

Comments on the problems and present conditions of the railways in Norway, Sweden. R. E. Thayer. il Ry Age 72:95-6 Ja 7 '22

Silesia

Electric traction on the Silesian mountain railways. Electrician 89:70 Jl 21 '22

South Africa

Electric traction in South Africa. Electrician 88:507 Ap 28 '22

Extensive development planned in South Africa. G. E. Chittenden. il Ry Age 74:97-100 Ja 6 '23

Relocation on the South African government railways. il map Eng N 88:116-18 Ja 19 '22

South African railways progress despite deficits. M. T. Griffin. il Ry Age 72:111-12 Ja 7 '22

South African railways to extend lines. Ry Age 73:398 Ag 26 '22

See also Railroads—Electrification—South Africa

South America

Nor do South America's roads escape adversity. J. G. Lyne. il Ry Age 72:113-14+ Ja 7 '22

Railroad building in the Andes. L. Matters. il Sci Am 128:104 F '23

See also Pan-American railroad (proposed)

Spain

See Railroads—Electrification—Spain; Railroads and state—Spain

Sudan

New Sudan railway—Thamiam-Kassala line. map Eng & Contr 59:293-4 Ja 31 '23

Switzerland

Completion of the St Gothard railway electrification. Engineer 133:638 Je 9 '22; Same Eng & Contr 58:211-12 Ag 30 '22

L'électrification générale du réseau des Chemins de fer rhétiques (Engadine, Suisse). map Génie Civil 81:327 O 7 '22

Electrification improves Alpine scenery on Rhaetian Ry. il Ry R 71:297-301 S 2 '22

Electrification of the St Gothard railway. il Engineer 133:68-70, 72 Ja 20 '22

Operating results, first four months of 1923. Ry Age 75:602-3 S 29 '23; Ry R 73:518 O 6 '23

Piercing the Alps. T. B. Preston. map Ind Management 64:162-4 S '22

St Gothard electrification. P. J. Risdon. il Sci Am 127:154-5 S '22

Swiss railways as seen by an American engineer. E. S. Rice. Ry R 71:953-4 D 30 '22

Swiss railways in the year 1921. J. Grande. il Ry Age 72:88-90 Ja 7 '22

Where electrification is both logical and picturesque; Gothard line in Switzerland. il Ry R 70:559-64 Ap 22 '22

See also Railroads—Electrification—Switzerland

Texas

Proposal to equip Texas steam road approved by Dallas. Elec Ry J 60:487, 612 S 23, O 7 '22

United States

Adequate transportation—how will our nation get it? A. J. County. Comm & Fin Chr 116:259-61 Ja 20 '23

Analysis of the railway statistics for 1922. J. H. Parmelee. Ry Age 74:112-15+ Ja 6 '23

Cabinet officers discuss transportation. il Ry Age 73:789-90 O 28 '22

Comprehensive program of railroads to meet expected record volume of freight traffic. Comm & Fin Chr 116:1490-1 Ap 7 '23

Conference board issues report on railroads. Ry Age 75:393-4 S 1 '23

Constructive transportation program for 1923; resolutions adopted by the American railway association and the Association of railway executives. Ry R 72:641-5 Ap 14 '23; Ry Age 74:919-21, 950 Ap 7-14 '23

Country's prosperity depends on a liberal railroad policy. H. Elliott. Comm & Fin Chr 114:266-9 Ja 21 '22

Development of transportation and its effect upon industry. E. Lee. Ry R 72:232-3 F 3 '23

Drawbacks on railroad development. C. H. Markham. Ry R 71:664-8 N 11 '22; Same cond. Ry Age 73:883-6 N 11 '22

Engineer as a leader in transportation. E. H. Lee. Eng Educ 14:63-73 O '23

English and United States railroads compared. S. Rea. Ry R 71:495-6 O 7 '22

Executives review railway prospects for 1922. Ry Age 72:5-7 Ja 7 '22

Farmers and the railroads. S. H. Church. Comm & Fin Chr 117:1201-2 S 15 '23

Fifty years a trader. C. R. Flint. System 41:30-2+ Ja '22

Financial starvation of the railways. H. Hoover. Ry Age 73:899-900 N 11 '22

General railroad developments during the year. H. F. Lane. Ry Age 72:9-13+ Ja 7 '22

Interesting suggestions at R.B.A. dinner. E. Meyer, jr. and F. P. Fish. Ry Age 72:343-6 F 4 '22

Joint commission on agricultural inquiry to report on transportation problems. Ry R 70:578-9 Ap 22 '22; Ry Age 72:1015-18 Ap 29 '22

Limited facilities retard railroads. A. R. Smith. Ry Age 74:1114-15 My 5 '23

Maintenance in 1921 failed to meet railway needs. J. H. Parmelee. Eng N 88:405-7 Mr 9 '22

Need of increased railroad facilities and services. S. Rea. Comm & Fin Chr 114:2436 Je 3 '22

Needs of railroad construction. R. C. Marshall, jr. Eng & Contr 58:72-3 Jl 19 '22

Needs of the American railroads, and the public served by them. W. G. Bied. Ry R 72:1085-8 Je 23 '23

Observations of a transcontinental traveler. W. S. Wollner. Ry Age 72:583-4 Mr 11 '22

Our railroads to-morrow. E. Hungerford. 332p Century co. '22

Present day conditions of the railroads, and their betterment. W. G. Bied. Ry R 73:651-3 N 3 '23

Railroads—United States—Continued

The present, the crucial year for the railroads. F. J. Lisman. *Annalist* 19:57 Ja 9 '22

Principles of railroad transportation. E. R. Johnson and T. W. Van Metre. 617p Appleton '21

Problem of the railroads. R. Estcourt. *Annalist* 19:269+ F 27 '22

Problems of the railroads. W. Z. Ripley. *Ry* R 70:143-8 F 4 '22

Railroad construction in the United States in 1921. *Ry Age* 72:151-4 Ja 7 '22

Railroad construction in the United States in 1922. *Ry Age* 74:118-22 Ja 6 '23

Railroad freight rates on hardwood lumber ordered reduced by an amount supposed to represent about 10%. *Comm & Fin Chr* 114:374-5 Ja 28 '22

Railroad lines constructed and abandoned and equipment purchased in the worst railway year in history. *Comm & Fin Chr* 114:163-4 Ja 14 '22

Railroad outlook for 1923; opinions of a group of railroad presidents and others interested. *Ry R* 72:3-8 Ja 6 '23

Railroad rehabilitation and business improvement. *Eng & Contr* 57:241 Mr 15 '22

Railroad situation. S. O. Dunn. *Iron Age* 110:1001 O 19 '22

Railroad system a powerful engine of civilization. H. Elliott. *Comm & Fin Chr* 116:135-6 Ja 13 '23

Railroad transportation. H. Elliott. *Am Soc C E Pro* 48:288-302 F '22; Excerpt. *Eng & Contr* 57:596-7 Je 21 '22

Railroad year 1922—and after. B. Baker. *Annalist* 21:47+ Ja 8 '23

Railroads adopt new transportation program. *Ry Age* 73:871-2 N 10 '23

Railroads and business prosperity. T. W. Van Metre and P. T. Moon, eds. 120p Academy of political science, Columbia university, New York '22

Railroads and distribution. C. R. Gray. *Nation's Business* 11:37-9 My '23

Railroads and the industry. *Soc Auto Eng J* 12:497-9 My '23

Railroads are doing their job. C. F. Carter. *il Nation's Business* 11:23-5 Ja '23

Railroads are intimately associated with the economic life of the nation. W. B. Storey. *Ry R* 73:579-81 O 20 '23

Railroads' construction progress. R. S. Binkerd. *Am Ind* 24:21-2 S '23

Railroads; rates—service—management. H. B. Vanderblue and K. F. Burgess. 488p Macmillan '23; Review. *Ry Age* 74:549-50 Mr 10 '23

The railroads—ten years from now. *Nation's Business* 11:38+ N '23

Railroads—the arteries of commerce. J. R. Bibbins. *diags map Am Soc C E Pro* 49:1417-31 S '23; Same. *Eng & Contr* (Ry) 60:317-27 Ag 15 '23; Abstracts. *Ry Age* 75:151-2 Jl 28 '23; *Munic Eng* 65:136-7 S '23

Railway executives expect large traffic in 1923. *Ry Age* 74:8-14 Ja 6 '23

Railways of the United States. *Engineering* 113:18-19 Ja 6 '22

Real program of railroad construction needed. H. Hoover. *Ry Age* 72:379-82 F 11 '22; Same. *Am Mach* 56:262-5 F 16 '22; Same. *Ry Mech Eng* 96:123-7 Mr '22; Same cond. *Comm & Fin Chr* 114:588-90 F 11 '22; Excerpts. *Elec W* 79:524-5 Mr 18 '22; *Eng & Contr* 57:160-1 F 15 '22

Senator Couzens' ideas on railroads. F. H. Alfred. *il Ry R* 72:573-5 Mr 31 '23

Some phases of present-day railroad transportation. J. W. Kendrick. *Am Soc C E Pro* 49:1406-12 S '23; Same. *Eng & Contr* (Ry) 60:328-32 Ag 15 '23; Abstract. *Ry Age* 75:107-8 Jl 21 '23

Survey of electric traction on American railroads. G. Gibbs. *diags Eng N* 89:434-8 S 14 '22

Three years of railroad operation under the Transportation act. *Ry R* 73:109-12 Jl 21 '23

Transportation problems confronting the American people. E. R. Johnson. *Eng & Contr* 57:479-81 My 17 '22

Transportation situation. S. A. Vauclain. *Ry Age* 74:1706-7 Je 30 '23

Truth about the Transportation act. A. B. Cummins. *Ry Age* 73:931-5 N 18 '22

U. S. Chamber of commerce discusses transportation. *Ry Age* 72:1171-2 My 20 '22

Wall Street fifty years after Erie. E. Howard. 181p Stratford co., Boston '23

Water transportation in its relation to the railways. S. O. Dunn. *Am Soc C E Pro* 48:281-6 F '22

Way out of the railroad tangle. H. Hoover. *il Nation's Business* 10:12 Mr '22

What America's railroads need. C. F. Carter. *il Nation's Business* 11:25-7 F '23

What of railroad construction this year; extracts from letters of railway officials regarding the outlook for 1922. *Eng & Contr* 57:242-4 Mr 15 '22

See also Electric railroads—United States; Interstate commerce commission; Railroads—Consolidation; Railroads—Electrification—United States; Railroads—Securities; Railroads and state—United States; United States—Railroad administration; also subdivision Railroads under names of cities, e.g. New York (city)—Railroads; also Transportation conference, Washington, 1923

History

Chronological review; a résumé of the leading railroad events of 1922. *Ry Age* 74:160-2 Ja 6 '23

Chronological review; a résumé of the outstanding railroad events of 1921. J. E. Cole. *Ry Age* 72:66-8 Ja 7 '22

Venezuela

Railroads of Venezuela. H. C. Plummer. *Am Mach* 56:367-8 Mr 9 '22

Western states

Interview with W. S. Murray on railway electrification in the West. R. Sibley. *J Elec* 49:393-5 D 1 '22

Railroads, Electric. See Electric railroads

Railroads, Elevated. See Elevated railroads

Railroads, Industrial

Industrial sidings that impede grade separation. *Eng N* 88:876-7 My 25 '22

Trackage for industrial plants. F. D. Hartford. *il diags Ind Management* 63:151-4 Mr '22

See also Conveying machinery; Electric railroads, Industrial; Mine tracks

Electrification

Electrification of railways at large industrial plants. D. M. Petty. *Eng N* 88:146-7 Ja 26 '22

Safety devices

Safety devices for hauling on industrial track on steep grades. A. H. Sauerbrun. *Eng & Contr* 58:26 Jl 5 '22

Safety on the plant railroad. *Iron Age* 112:979-80 O 11 '23

Railroads, Interurban. See Interurban railroads

Railroads, Light

Development of light railways in Great Britain. *Eng N* 88:205 F 2 '22

Feeder railways of 24-in. gauge in Argentina. *il Eng N* 90:307-8 F 15 '23; Discussion. F. Lavis. 90:506 Mr 15 '23

Future of light railways. *Electrician* 87:764 D 16 '21

Railroads, Monorail

By rail and by water; combination train and tow barges invented by a Belgian engineer for use in the Congo. *il Sci Am* 126:374 Je '22

Monorail railroad constructed to tap desert mine. *il Eng N* 91:509 S 27 '23

Railroads, Mountain. See Mountain railroads

Railroads, Narrow gauge

Electrification improves Alpine scenery on Rhaetian Ry. *il Ry R* 71:297-301 S 2 '22

Indian railway gauge problem. F. G. Royal-Dawson. *Engineering* 112:696 N 18 '21

Model railway in the workaday world; Eskdale railway. *il diag Sci Am* 129:88 Ag '23

See also Railroads, Light

Railroads, Short line

Common sense in branch passenger service. W. H. Barnes. Ry Age 72:1104 My 13 '22
 Effect of the national movement for good roads on short line railroads; views of a typical group of railroad men. Ry R 72:188-90 Ja 27 '23
 Gasoline rail car proves short line salvation. Il Ry R 69:753-5 D 3 '21
 Meeting auto competition on western short lines; operation of White gasoline rail car improves service and cuts operating cost on light traffic lines. Il Ry R 69:792-6 D 10 '21
 Oregon short line R. R. improves Idaho division. maps plan Eng N 91:388-90 S 6 '23
See also American short line railroad association; Railway motor finance corporation

Railroads and state

Government ownership. H: Thornton. Ry Age 75:705-6 O 20 '23
 Public benefit from more railroad freedom. R. Budd. Ry Age 75:629-31 O 6 '23
 State railways. Engineer 136:369-70 O 5 '23
See also Railroads—Rates; Railway mail service

Austria

Austrian state railways. W: Acworth. Engineering 116:533 O 26 '23; Same. Ry R 73:736 N 17 '23

Canada

Canada's heavy railway losses. Ry Age 72:555-6 Mr 11 '22
 Canadian political situation and railway policy. J. L. Payne. Ry Age 72:1297-9 Je 3 '22
 Less politics in Canadian railways. Ry Age 72:1065-6 My 6 '22
 Problem of the government railways in Canada. W. T. Jackman. Ry Age 72:567-70, 735-8 Mr 11-18 '22
 Review of the Grand Trunk railway arbitration. J. P. Newell. maps Eng N 90:211-15 F 1 '23
 A try at government ownership. J. L. Payne. Nation's Business 10:16-18 Ag '22
 Work of the Canadian railway commission. S. J. McLeon. Ry R 71:171-6 Ag 5 '22

China

Administration of Chinese government railways. C. Wang. Il diags Ry R 70:600-5 Ap 29 '22
 Chinese government railways. map Engineer 135:333-4, 347 Mr 30 '23

Europe

Government operation not popular in Europe. R. S. Binkerd. Ry Age 75:779-80 O 27 '23

France

Agreement of reorganization of French railways. M. Peschaud. Ry Age 71:1311-14 D 31 '21
 New rail regulatory body in France. Ry Age 72:1039 Ap 29 '22
 Le nouveau régime des chemins de fer français. G. Peyraron. Génie Civil 79:458-61, 485-8 N 26-D 3 '21

Germany

Zur ueberführung der reichseisenbahnen in privatwirtschaftliche formen. W: Kloeve-korn. Stahl & Eisen 42:171-82 F 2 '22

Japan

Some observations on the Japanese railroads; 2000 miles of private lines operated in close harmony with 6000 miles of nationalized lines. E. B. Milner. Il maps Ry Age 72:101-4 Ja 7 '22

Spain

State co-operation proposed for Spanish railways. Ry Age 72:1308-9 Je 3 '22

Switzerland

Government railways ruining Swiss tourist business. J. Grande. Ry Age 72:545-6 Mr 4 '22

United States

Ability of government to finance roads under conditions unattractive to capital questioned. E. T. Whiter. Ry Age 74:819-20 Mr 24 '23
 Accounts for six months guaranty to be closed. Ry Age 71:1257-8 D 24 '21
 American railroads: government control and reconstruction policies. W: J. Cunningham. 409p Shaw '22
 Another government regulator? A. B. Johnson. Nation's Business 10:16-17 Mr '22
 Brookhart-LaFollette bloc begins radical government ownership fight. Il Ry R 72:171-5 Ja 27 '23
 Chamber of commerce discusses railroad problem. Ry Age 72:389-91 F 11 '22
 Character and effect of federal R.R. regulation. W. D. Hines. Ry Age 74:857-9 Mr 31 '23
 Constructive measures needed for the railways. H. Hoover. Comm & Fin Chr 115:2233-4 N 18 '22; Same. Eng & Contr (Ry) 58:145-8 D 20 '22
 Constructive regulation of railways. C. D. Jackson. Eng & Contr (Ry) 59:173-4 Ja 17 '23
 Factors in the railroad situation. A. T. Hadley. Ry Age 74:803-4 Mr 24 '23
 Free the railroads from politics; abstracts. F. H. Alfred. Ry R 71:535-8 O 14 '22; Iron Tr R 71:1066-8 O 19 '22
 Gigantic program of confiscation. Ry Age 74:315-16 F 3 '23
 Give management a chance. H. Elliott. Nation's Business 10:17-18 Mr '22
 Government control of railway labor challenged. J. A. Emery. Ry R 71:677-9 N 11 '22; Same. Ry Age 73:886-7 N 11 '22
 Government regulation is responsible for decline in railroad development and car shortage. C. H. Markham. Comm & Fin Chr 115:2232-3 N 18 '22
 I.C.C. and state commissions adopt plan of co-operation. Ry Age 72:1076-7 My 6 '22
 I.C.C. says state commissions are essential. Ry Age 74:284 Ja 27 '23
 New railroad agency opposed. Nation's Business 10:15 Mr '22
 Not less, but wiser, regulation. A. Smith. Nation's Business 10:18-19 Mr '22
 Opposes plan of U.S. chamber for commissioner general of transportation. Ry R 70:198-200 F 11 '22
 Our railroad policy and the business man. System 42:348-9 S '22
 Preparedness the policy for carriers on political issues. Ry R 72:289-90 F 17 '23
 President discusses transportation problem. W. G. Harding. Ry Age 73:1149-51 D 16 '22; Same. Ry R 71:860-2 D 16 '22
 Problem of railroad transportation; abstracts. J. C. Davis. Ry Age 74:869-72 Mr 31 '23; Ry R 72:558-61 Mr 24 '23; Eng & Contr (Ry) 59:1376-82 Je 20 '23
 Proposal for a commissioner general of transportation. Ry Age 72:723 Ja 28 '22
 Public opinion and the steam railroad situation. B. I. Budd. Elec Ry J 61:731 Ap 28 '23
 Railroad regulation—the real issue. S: M. Felton. Prof Eng 8:6-8 Mr '23
 Railroad transportation and owners of railroad securities. F. A. Molitor. Am Soc C E Pro 48:208-14 F '22
 Railroading is no longer a business. L. F. Loree. Comm & Fin Chr 116:1853-4 Ap 28 '23
 Railroads and government. F. H. Dixon. 384p Scribner '22
 Railroads' appeal to the business man. E. Lee. Ry Age 74:820-1 Mr 24 '23
 Railroads—not entities but a national system. J. B. Eastman. Eng N 87:986-7 D 15 '21
 Railways and the people. S. P. King. 170p Four Seas co., Boston '23
 Regulation—super-regulation—strangulation. S. Thompson. Ry R 69:870-2 D 24 '21
 Senator Couzens explains attitude on railroad problems. Ry R 72:231 F 3 '23
 Should there be a secretary of transportation in the cabinet; personal views of a typical group of railroad men. Ry R 71:946-8 D 30 '22

Railroads and state—United States—Continued
 State power to order expenditures superseded. Ry Age 75:664-6 O 13 '23
 Stop tinkering with the railroads. S: Rea. Ry R 71:747-9 N 25 '22
 Tax-supported competition of non-rail carriers unfair to roads. H. B. Titcomb. Ry R 69:909-10 D 31 '21
 Transportation and credit. A. P. Thom. Ry R 72:1110-16 Je 23 '23; Excerpt. Eng & Contr (4ty) 60:601-3 S 19 '23
 Transportation and the government. Comm & Fin Chr 115:357-8 J 22 '22
 Trouble with the railroads. F: P. Fish. Ry R 70:192-5 F 11 '22
 Urges constructive regulation. C. D. Jackson. Ry Age 73:1183-4 D 23 '22
 Urges period of rest from politics and legislation for railroads. R. H. Aishton. Comm & Fin Chr 117:1629 O 13 '23
 What railway officials think of the radical legislative program. Ry R 72:226-8 F 3 '23
 What the railroads would like. C: F: Carter. il Nation's Business 11:25-7 Mr '23
 What we have done to the railroads. C: F: Carter. Nation's Business 11:44+ J 1 '23
See also Interstate commerce commission; Railroad labor board; Railroad law; Railroads—Consolidation; Railroads—Valuation; Transportation act, 1920; United States—Railroad administration

Government operation, 1917-1920

Administration of railway stores under federal control. G. G. Yeomans. il Ry R 69:743-5, 824-6, 865-8 D 3, 17-24 '21
 Aftermath of federal control. J. C. Davis. Ry R 70:713-17 My 20 '22; Same cond. Ry Age 72:1169-71 My 20 '22
 Aftermath of federal control. S. Thompson. Ry R 70:757-8 My 27 '22
 Analysis of federal control of American railroads. P. G. Otterback. Eng & Contr (Ry) 58:56-7 O 18 '22
 Cost of federal operation. Ry R 72:260-3 F 10 '23
 Financial settlement with railroads. J. C. Davis. Comm & Fin Chr 113:2042-3 N 12 '21
 Former railroad guaranty payments delayed till 1923. Ry Age 72:1001 Ap 29 '22
 Government and the railroads. R. Bean. Analyst 19:195-6 F 6 '22
 How McAdoo and Hines reduced costs of railway operation. S. Thompson. Ry R 70:216-17 F 18 '22
 List of railroads with which the United States railroad administration has concluded final settlements of claims for federal control period. Comm & Fin Chr 115:949 Ag 26 '22
 Losses of \$1,800,000,000 to government during war-time operation of railroads. Comm & Fin Chr 116:687-8 F 17 '23
 Mr McAdoo makes serious charges against railway executives. Ry R 73:401-3 S 15 '23; Discussion. 73:439 S 22 '23
 Net income under government control as compared with the guaranteed rental. Comm & Fin Chr 113:15 sec 2 D 10 '21
 Payments by Treasury department to railroads under transportation act. Comm & Fin Chr 115:2123-4, 2648 N 11, D 16 '22; Ry Age 73:917, 1113-14; 74:255 N 11, D 9 '22; Ja 20 '23
 Reply to McAdoo's charges before committee. Ry Age 72:877-8, 913-15, 925, 959-62, 1067-8 Ap 8-22, My 6 '22; Ry R 70:499-501, 541-6 Ap 8-15 '22
 Settlement of accounts with Director-general of railroads. Comm & Fin Chr 116:2351-2 My 26 '23
 Status of railroad accounts with the government. Ry Age 74:35-6 Ja 6 '23
 Treasury payments to railroads. Ry Age 73:543 S 16 '22
 Was seizing the railroads either necessary or helpful? Comm & Fin Chr 114:670-2 F 18 '22

See also United States—Railroad administration

Plumb plan

Nothing very new about the Plumb plan. C: F: Carter. Ry Age 72:581-2 Mr 11 '22

Rails

British adopt curved head rails. diags Elec Ry J 60:396 S 16 '22
 Experience of Baltimore & Ohio R. R. with precurving rails. diags Eng & Contr (Ry) 59:688-9 Mr 21 '23
 Heavy tonnages of rails ordered for 1923. Iron Tr R 72:94 Ja 4 '23
 Latest in steel rails. F: C. Carl. Sci Am 126:44 Ja '22
 Modern trackwork and its importance. R. Hadfield. Engineer 135:654-5 Je 22 '23
 New 121-lb. Market street rail for San Francisco. diags Elec Ry J 60:163 J 29 '22
 Rail buying declines during 1921. Iron Tr R 70:80-1 Ja 5 '22
 Rail creeping. W. M. Osborn. Ry R 70:524-7 Ap 15 '22; Discussion. E: Laas. 71:234-5 Ag 19 '22
 Rail maintenance and conservation. F. W. Curtis. Eng & Contr (Ry) 60:116-18 J 18 '23
 Rail production in 1921. Ry Age 72:970 Ap 22 '22; Excerpt. Iron Age 109:1017 Ap 13 '22
 Rail production in 1922. Ry Age 74:1096-7 My 5 '23
 Rail reclamation practice on the Illinois Central railroad. il plans Eng N 90:164-5 Ja 25 '23
 Record in rail production. Eng & Contr 57:580 Je 21 '22
 Report of the special committee of A. E. R. E. A. on wheel and rail contours. diags Elec Ry J 62:647-8 O 13 '23
 Studies on a design for a 150-lb. rail section. W. C. Cushing. diags Ry R 70:447-9 Ap 1 '22
 World trade in steel rails. Blast F & Steel Pl 11:383+ J 1 '23; Elec Ry J 61:747 Ap 28 '23
See also Electric railroads—Track; Rail bonds; Rail handling; Rail joints; Rails. Used; Railroads—Crossings; Railroads—Track; Street railroads—Track; Third rails

Corrugation

Corrugation of tramway rails. il Engineer 133:66, 248, 279 Ja 20, Mr 3-10 '22
 How to avoid or overcome rail corrugation. C: H. Clark. Eng & Contr (Ry) 58:120 D 20 '22

Failures

American railway association requests information on rail failures from transverse fissures. Ry R 73:657-8 N 3 '23
 Les causes de l'usure prématurée des rails. il Génie Civil 79:429-33 N 19 '21; Abstract. Iron Age 109:523-4 F 23 '22; Same. Eng & Contr 57:528 My 31 '22
 Contributing cause of transverse fissures suggested. W. Osborn. diags Ry R 73:282-3 Ag 25 '23
 English rail failure; accident on the London & Northwestern Ry. Eng N 90:927 My 24 '23
 Peculiar rail failure. il Ry Age 72:738-9 Mr 18 '22
 Rail failures; discussed by railroad engineers. Iron Age 109:804 Mr 23 '22
 Report of the A.R.E.A. committee on rail. Ry Age 74:621-2 Mr 14 '23
 Report on the formation of transverse fissures in steel rails and their prevalence on certain railroads. 166p U.S. Interstate commerce commission, Washington '23; Abstract. Ry R 73:177-9 Ag 4 '23
 Les ruptures accidentelles des rails. il Génie Civil 80:364-6 Ap 22 '22
 Study of transverse fissures in steel rails. J. E. Howard. Ry Age 75:210-12 Ag 4 '23; Abstract. Iron Age 112:547 Ag 30 '23; Abstract. Eng N 91:720-1 N 1 '23; Discussion. C. W. Gennet, Jr. Ry Age 75:236 Ag 11 '23; Same. Iron Age 112:547-8 Ag 30 '23; Discussion. Ry Age 75:281-2 Ag 18 '23; Eng N 91:721-2 N 1 '23
 Transverse fissure in an old rail. il Ry Age 75:239 Ag 11 '23

See also Rails—Stresses

Joints

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Rails—Continued

Manufacture

- Control of segregation in rail steel by use of silicon or titanium. G. F. Comstock. Ry Age 72:1323-4 Je 10 '22
- L'emploi des aciers spéciaux sur les voies de chemins de fer, aux États-Unis. W. C. Cushing. Génie Civil 79:569-70 D 24 '21
- Radical departure in rail production. Sci Am 128:46 Ja '23
- Recent developments in rail manufacture. C. W. Gennet, Jr. il Ry R 70:484-6 Ap 8 '22
- Rolling girder rails. R. C. Cram, il diags plan Elec Ry J 59:102-6 Ja 21 '22
- Sound ingots and rails as a matter of course. E. Gathmann. Chem & Met Eng 25:1080 D 14 '21
- Toronto hardens rails by new process. Eng & Contr (Ry) 59:911 Ap 18 '23
- Das wiederverwalzen alter eisenbahnschienen. A. Nöhl, il diags Stahl & Eisen 43:617-24; Discussion. 624-5 My 10 '23

Protection

See Railroads—Track oiling

Rating

- Determination of rail wear for valuation purposes by the rail pantograph. J. P. Newell. il Eng N 89:310-12 Ag 24 '22
- Device for determining wear of rails and car wheels. diags Eng & Contr 58:272 S 20 '22

Specifications

- British revise rail specifications. Ry Age 73:386 Ag 26 '22
- New experimental rail specification developed by American railway engineering association. Eng N 88:498-9 Mr 23 '22
- New specification for rails. Ry Age 72:828 Ap 1 '22

Standards

- Present status of rail standardization. H. H. George. Elec Ry J 60:198-9 Ag 5 '22
- Six standards adopted. G. C. Hecker. Aera 11:954 Mr '23
- Standard rails reduce costs. R. C. Cram. diags Aera 10:581-3 F '22

Stresses

- American railway association requests information on rail failures from transverse fissures. Ry R 73:657-8 N 3 '23
- Analysis of special trackwork loads. M. Bernard. diag Elec Ry J 62:173-4 Ag 4 '23
- Conditions affecting the head of a rail. J. E. Howard. Ry Age 72:237-9 Ja 21 '22; Same. Eng & Contr 57:252-3 Mr 15 '22
- Determination of rail wear for valuation purposes by the rail pantograph. J. P. Newell. il Eng N 89:310-12 Ag 24 '22
- Determining the amount of wheel impact on rail. il diag Ry Age 75:206 Ag 4 '23
- Etude de l'action des charges roulantes sur les rails. S. Timochenko. Génie Civil 79:555-6 D 24 '21
- étude sur les efforts subis par les voies de chemins de fer. Génie Civil 83:323-5 O 6 '23
- Formation of transverse fissures in steel rails and their prevalence on certain railroads. Ry R 73:177-9 Ag 4 '23
- Measuring rail deformation by moving picture photography. il Ry R 70:483-4 Ap 8 '22; Ry Age 72:916 Ap 15 '22; Eng & Contr 57:465 My 17 '22; Pop Mech 38:236-7 Ag '22
- Otheograph test tie designed to determine track stresses. il Ry R 73:123-4 Jl 28 '23; Elec Ry J 62:294-5 Ag 25 '23; Eng & Contr (Ry) 60:835 O 17 '23; Ry Mech Eng 97:784 N '23
- Relation of railway wheels and rails. Eng N 91:263 Ag 16 '23
- Some notes on the wear of rail. C. Weiss. diag Ry R 73:275-6 Ag 25 '23
- Stresses in railroad track: third progress report. diags Am Soc C E Pro 49:297-456 Mr '23; Abstracts. Ry Age 74:229-34 Ja 20 '23; Eng N 90:445-50 Mr 8 '23; Ry R 72:506 Mr 17 '23; Ry Mech Eng 97:270-3 My '23; Discussion. Am Soc C E Pro 49:1279-84 Ag '23; Ry Age 74:670-2 Mr 15 '23

- Study of transverse fissures in steel rails. J. E. Howard. Ry Age 75:210-12 Ag 4 '23; Abstract. Iron Age 112:547 Ag 30 '23; Abstract. Eng N 91:720-1 N 1 '23; Discussion. C. W. Gennet, Jr. Ry Age 75:236 Ag 11 '23; Same. Iron Age 112:547-8 Ag 30 '23; Discussion. Ry Age 75:281-2 Ag 18 '23; Eng N 91:721-2 N 1 '23
- Wear on rail head may determine life of track. C. H. Clark. diag Elec Ry J 62:47-9 Jl 14 '23; Discussion. 62:220-2, 374 Ag 11, S 8 '23

When tracks tell their troubles: determining deflection of rails under traffic. il Sci Am 127:324 N '22

Testing

- Characteristics of rail-carbon steel. J. B. Carswell. Can Eng 42:281-4 Mr 7 '22
- Ferro carbon titanium reduces rail failures. Ry Age 74:1378 Je 9 '23
- Magnetic surveys of railroad rails. Iron Age 108:1271-3 N 17 '21
- Measuring locomotive and car wheel loads. il Ry Mech Eng 95:722 N '21
- Thermit insert rail weld. il Iron Age 110:532 Ag 31 '22

Weight

- Relation of weight of rail to weight of locomotives. J. S. Robinson. Ry R 69:864-5 D 24 '21; Same abr. Eng & Contr 57:68 Ja 18 '22

Rails, Used

- Old steel lives again in huge skyscrapers built of scrapped and rusty rails. il Pop Mech 40:709-12 N '23
- Rail linings for ball mills. H. W. Hardinge. il Eng & Min J 112:899-900 D 3 '21
- Railroad rails for ball-mill linings. P. G. Harrison. il Eng & Min J 112:778-9 N 12 '21

Railway accounting officers' association

- Educational value. C. E. Parks. Ry R 73:318-21 S 1 '23
- 34th annual meeting. Cleveland, Ohio, June 6-9. Ry Age 72:1485-92, 1743-6 Je 17-24 '22; Ry R 70:944-7 Je 17 '22
- 35th annual meeting. Richmond, June 13-15. Ry Age 74:1515-20 Je 23 '23; Ry R 72:1904-8 Je 23 '23

Railway and locomotive historical society

- Organization and officers. Ry Age 72:578 Mr 11 '22
- Railway and locomotive historical society. Ry Mech Eng 96:197-8 Ap '22

Railway business association

- Annual meeting. New York, Feb. 1. Ry R 70:157-8, 203-4 F 4-11 '22
- Annual meeting. New York, Feb. 1. E. Meyer and F. P. Fish. Ry Age 72:343-6 F 4 '22
- Annual meeting. New York, Nov. 9. Ry Age 73:883-7 N 11 '22; Ry R 71:685 N 11 '22
- Resolutions adopted. Ry R 71:716-17 N 18 '22; Ry Age 73:937-8 N 18 '22

Railway development association, American.

See American railway development association

Railway electric motors. See Electric motors, Railway

Railway fire protection association

- 9th annual meeting. Washington, D.C., Oct. 17-21. Ry Age 73:745-6, 799-800 O 21-28 '22
- 10th annual meeting. Cleveland, Ohio, May 16-18. Ry Age 75:775-7 O 27 '23

Railway fuel association, International. See International railway fuel association

Railway mail service

- Mail pay committee is busy. L. H. Palmer. Aera 10:517-19 Ja '22
- Recent development in mail cranes. il Ry Age 71:1084 D 3 '21

See Also Mail terminal buildings

Railway motor finance corporation

- Railway motor finance corp. Ry R 72:516-17 Mr 17 '23

Railway real estate association

- 4th annual meeting. Chicago, Oct. 10-12. Ry Age 73:739-41 O 21 '22

Railway treasury officers' association

16th annual meeting, Asheville, N. C., Oct. 19-20. Ry Age 73:801-4 O 28 '22

Rain and rainfall

Cloudburst flood at Hot Springs, Arkansas. J: R. Fordyce. il map Eng N 90:922-4 My 24 '23
Data concerning cloudburst flood at Colorado Springs. P. V. Hodges. map Eng N 89:921-2 N 30 '22

Electrification produced by the pulverization of aqueous solutions. J. J. Nolan and H. V. Gill. Philos Mag 6th ser 46:225-44 Ag '23

Floods on small streams caused by rainfall of the cloudburst type. G. H. Matthes. map Am Soc C E Pro 48:1096-1107 My '22; Abstract. Eng N 88:654-5 Ap 20 '22

Frequency of high rates in rainfall. A. Hazen. maps Eng N 87:858-60 N 24 '21
Hydrology of the 1922 flood in the Illinois river. H. E. Grosbach. map Eng N 89:1118 D 28 '22

No excess of unusually heavy rains during current year. Eng N 87:987 D 15 '21
Periodic fluctuations of rainfall in Hawaii. J. B. Cox. Am Soc C E Pro 49:1699-1721, pl 7 O '23

Predicting next year's rainfall for southern California. P. A. Ewing. Eng N 91:17 JI 5 '23
Probable frequency of given rates of rainfall. A. F. Meyer. Eng N 87:1067-9 D 29 '21

Rainfall and floods. Engineering 114:614-16 N 17 '22; Discussion. G. Ribeiro. 115:246 F 23 '23

Rainfall and run-off studies. C. E. Grunsky. map Am Soc C E Pro 47:203-42, pl 5 S '21; Discussion. 47:561-70, 775-90; 48:69-74, 963-5 N '21-Ja, Ap '22

Rainfall and runoff studies in St. Louis; sprinkling experiments at Washington university. W. W. Horner. Munic Eng 63:176-80 N '22

Rainfall and the flow of rivers. Engineering 116:45-6 JI 13 '23

Rainfall and the San Antonio flood. Pub Works 51:454 D 10 '21

Rainfall at Norfolk compared with long-term records at Boston and elsewhere. J. R. West. Eng N 88:459 Mr 16 '22

Rainfall intensity curves for the city of New York. Pub Works 53:176-7 O '22

Record-breaking rainfall and flood at Fort Worth, April, 1922. Eng N 89:345 Ag 31 '22

Relation of run-off to rainfall. Engineering 112:513-14 O 7 '21; Same. Eng & Contr 56:504-5 N 30 '21

Report of the Committee on run-off in New England. Boston Soc C E J 9:163-212 O '22

La sécheresse des années 1920-1921; ses causes et ses conséquences. Génie Civil 80:480-1 My 27 '22

Sewers and rainfall. J. B. L. Meek. Engineer 134:488 N 10 '22

12.76-in. rainfall in 4½ hours at Beaumont, Texas. Eng N 91:63 JI 12 '23

Two cloudbursts in a week at Syracuse. il Pop Mech 38:380 S '22

Unusual series of intense rainfalls. J. H. Lance. map Eng N 90:798-9 My 3 '23

Water-power studies. W. T. Taylor. Elec R (Lond) 93:524-6 O 12 '23

See also Floods; Meteorology; Run-off; Snow; Water storage

Rain making

Making artificial rain at McCook field; fliers drop magnetic sand and clouds vanish. Aviation 14:223 F 19 '23

Sand-blasting the clouds for man-made weather. Sci Am 128:224 Ap '23

Raincoats

Worst and cotton raincoat fabric. il Textile World 62:201+ JI 8 '22
See also Cravenette

Advertising

Change in copy results in a fifty per cent increase in sales. R. Cole. Ptr Ink 122:65-6+ Mr 1 '23

Raisins

Finding new market outlets for California raisins. H. W. Helderich. Ptr Ink 119:133-4+ Ap 20 '22

Advertising

Little Sun-Maids are advertising in British Isles. Ptr Ink 120:64+ JI 20 '22
Little Sun-Maids attain success in first year. A. C. Joy. Ptr Ink 118:101-2 Mr 30 '22

Ramie

Behaviour of bast fibres under the influence of caustic alkalies. C. R. Nodder and R. W. Kinkead. il Textile Inst J 14:1133-56, pl 1-2 Je '23

Chemical treatment of ramie. W. C. Holmes. Color Tr J 12:213-17 My '23

Mercerizing, dyeing, and finishing of ramie. W. Marshall. il Color Tr J 12:88-92 F '23
See also Hemp

Ramps

Internal transportation in a large textile finishing plant. A. H. Church. il diags plan Management Eng 2:197-202, 293-6 Ap-May '22

New ramp system for garages. il diags Eng N 88:147 Ja 26 '22

Ramp design in public garages. H. F. Blanchard. il plans Arch Forum 35:169-75 N '21

Rancidity

Analytical detection of rancidity. R. H. Kerr and D. G. Sorber. Ind & Eng Chem 15:383-5 Ap '23

Deterioration of edible fats. J. F. Bevis. Soc Chem Ind J 42:417-20 O 26 '23

New test for acrolein and its bearing on rancidity in fats. W. C. Powick. Ind & Eng Chem 15:66 Ja '23

Quantitative aspects of the Kreis test. G. E. Holm and G. R. Greenbank. Ind & Eng Chem 15:1051-3 O '23

Studies on rancidity. J. A. Emery and R. R. Henley. J Ind & Eng Chem 14:937-40 O '22

Range finding

Huge British range finder with range of 22 miles. il Pop Mech 37:684 My '22; Sci Am 127:167 S '22

Rangoon, Burma**Harbor**

Rangoon and its proposed new docks. map plan Engineer 132:560-2, 568 N 25 '21

Ransom, Will

Will Ransom, maker of books. J. L. Frazier. Inland Ptr 69:529-31 JI '22

Rapeseed oil

Making petroleum from colza oil. Sci Am 126:93 F '22

New qualitative tests for rape and tung oils. A. W. Thomas and Chai-Lan Yu. Am Chem Soc J 45:129-30 Ja '23

Rapid construction. See Bridges—Rapid construction; Building—Rapid construction; Roads, Concrete—Rapid construction

Rapid transit

Bus facts I learned abroad. C. D. Emmons. Aera 10:666-72 Mr '22

City transit conditions compared. W. E. Edgerton and W. O. Smith. Elec Ry J 61:802-3 My 12 '23

Co-ordination of service. E. B. Whitman. Aera 10:691-6 Mr '22

Fundamentals of transit planning for cities. D. L. Turner. Eng N 88:1002-3 Je 15 '22; Excerpt. Elec Ry J 60:14 JI 1 '22; Excerpt. Eng & Contr 58:147 Ag 16 '22

Planning mass transportation facilities. T. Fitzgerald. Eng Soc W Pa 39:47-68; Discussion. 69-77 Mr '23

Progress in rapid transit. Eng N 91:87 JI 19 '23

Railway men discuss the bus and its relation to rail transportation. Bus Transportation 1:195-6 Mr '22

Respective fields of the rail car, trolley bus, and gasoline bus in city transportation. J. C. Thirlwall. il Gen Elec R 24:974-85 D '21; Same cond. Can Eng 43:549-52 N 21 '22; Same. Eng & Contr (Ry) 58:121-5 D 20 '22

Situation abroad. D. L. Turner. Elec Ry J 60:883 D 2 '22

\$372,833,000 construction proposed for Chicago. charts diags Elec Ry J 62:167-72 Ag 4 '23

Transportation and development of modern cities. P. Seurot. Can Eng 42:130-2 Ja 10 '22

Rapid transit—Continued

Transportation as it relates to the National housing problem. E. P. Goodrich. *Am Soc C E Pro* 48:495-7 Mr '22

Twelve large companies compared; operating ratio goes down for surface lines and up slightly for rapid transit. *Elec Ry J* 59: 981 Je 17 '22

See also Electric railroads; Elevated railroads; Motor bus lines; Motor buses; Moving platforms; Railroads; Street railroads; Subways; also subdivision Rapid transit under names of cities, e.g. Chicago—Rapid transit; Paris, France—Rapid transit; St Louis—Rapid transit; Sydney, New South Wales—Rapid transit

Rare earths. See Earths, Rare

Ratchets. See Gearing

Ratdolt, Erhard

Erhard Ratdolt of Venice and Augsburg, and his improvements in typography. H: L: Bullen. *Inland Ptr* 68:489-91 Ja '22

Rate making for public utilities. See Public utilities—Rates

Rate-of-climb indicators

Statoscopes and rate-of-climb indicators. A. H. Mears. *il diags U S Nat Advisory Com for Aeronautics* 1921:534-49 '23

Rate setting

Adjustment of piece rates. C. C. Hermann. *Ind Management* 65:88-92 F '23

Allowances in rate setting. *Management Eng* 2:131-2 F '22

Effect of rate setting on labor costs. W: O. Lichtner. *Ind Management* 64:169-72 S '22

Evils of rate cutting. C. Segal. *Ind Management* 65:337 Je '23

Fallacy of management—that a piece-rate is not a moral contract. B. M. Maynard and J. Heywood. *il Factory* 31:182-5 Ag '23

Incentives and rate-setting applied to the smaller plant and varied product. E. W. Stone. *Management Eng* 2:205-8 Ap '22

Occupational rating plan of the International harvester company. A. H. Young. *Management Eng* 4:301-6 My '23

Piecework and the duties of a rate fixer. F. Builo. *Eng & Ind Management* 8:88-9+, 152-5 Ag 24, S 21 '22

Rate setting by means of elemental time study. F. M. Avery. *Ind Management* 65: 161-3 Mr '23

Relation of time study to cost accounting. R. W. Darnell. *Ind Management* 64:272-8, 341-5 N-D '22

Setting piece rates by formula, chart and slide rule. D. Ross-Ross. *il charts Ind Management* 65:301-5 My '23

Training time-study men; avoiding the hit-or-miss in rate setting by educational methods. S. M. Lowry. *Ind Management* 64:365-71 D '22; Same. *Ind Management* (Lond) 9: 369-70, 393-5; 10:8-10 Je 14-Jl 12 '23

See also Piece work; Time study

Rathbone, Edgar P., 1856-

Mining engineers of note. *por Eng & Min J* 114: 316 Ag 19 '22

Rathenau, Walter, 1867-1922

Assassination of German foreign minister. *Comm & Fin Chr* 115:20-1 Jl 1 '22

Ratio chart. See Business charts

Rattlesnakes

Rattlesnake etiquette for tourist and camper. J: E. Hogg. *il Pop Mech* 38:197-202 Ag '22

Raw materials

Advertising

Pig iron sold by advertising. R. Dickinson. *Ptr Ink* 117:113-15 N 24 '21

Ray consolidated copper company

Facts for the stockholder. *Eng & Min J* 115: 561 Mr 24 '23

Rays. See Alpha rays; Canal rays; Gamma rays; Radiation; X rays

Razors

Some properties of steels containing globular cementite. C. H. Desch and A. T. Roberts. *Iron & Steel Inst J* 107:254-9, pl 10-13a;

Discussion. 260-6 no 1 '23; Discussion. *Engineering* 115:613-14 My 18 '23; *Engineer* 135:547 My 25 '23

To find a new selling point for Edgewear safety razor. E: Henn. *System* 44:600 N '23

See also Gillette safety razor company

Advertising

Durham-Duplex priceless sales invite the public to fix prices. T. C. Sheehan. *Ptr Ink* M 4:19-20 My '22

Reactance

Inductive alternating-current circuits. E. K. McDowell. *diags Power Pl Eng* 27:1037-40 O 15 '23

Reactance coils. See Reactors

Reactions, Chemical. See Chemical reaction

Reactive factor

Approximate integration of reactive power in three-phase circuits. G. W. Stubbings. *Elec R (Lond)* 92:846-7 Je 1 '23

Wattmeter used as reactive-factor meter. *diags Power* 55:500 Mr 28 '22

Reactors

Development of current limiting reactors and their shunting resistors. F. H. Kierstead. *il diag Gen Elec R* 26:560-4 Ag '23

Forcing most economical load division by reactors. A. H. Sweetnam. *Elec W* 81: 1463-5 Je 23 '23

Furnace reactance requirements need consideration. P. B. Short. *il Elec W* 79:81-3 Ja 14 '22

Installing twenty-seven reactors for \$20,177. C. R. Bush. *il diags Elec W* 81:866-7 Ap 14 '23

Operating experience with current-limiting reactors. N. L. Pollard. *il diags Am Inst E E J* 42:915-20 S '23; Abstract. *Elec W* 81: 1030-1 My 5 '23; Discussion. *Am Inst E E J* 42:1334-8 D '23

Protective features of current limiting reactors. C. L. Knotts. *il diag Power Pl Eng* 27:989-91 O 1 '23

Report of A. I. E. E. subcommittee on current limiting reactors. *Am Inst E E J* 41: 897-8 N '22

Result of short-circuit tests on outdoor type reactance coils. A. F. Bang. *il diag Elec W* 79:425-8 Mr 4 '22

Short-circuit forces on reactor supports. R. E. Doherty and F. H. Kierstead. *bibliog Am Inst E E J* 42:832-41 Ag '23; Discussion. 42:1334-8 D '23

See also Petersen earth coil

"Readiness to serve" charge. See Gas rates

Reading. See Books and reading

Reading company

Modification of Reading company's dissolution decree ordered—preferred and common stockholders to share alike in distribution of assets of coal and iron company. *Comm & Fin Chr* 114:2431-2 Je 3 '22

Reading company's second modified segregation plan filed with United States district court. *Comm & Fin Chr* 116:479-81 F 3 '23

Reading machine

Stretching the five-foot shelf; Fiske reading machine which will make possible great condensation in the bulk of reading matter. S. R. Winters. *il Sci Am* 126:407 Je '22

Ready-cut houses. See Building—Standards

Ready reckoners

Acme rapid calculation course. H. F. Hippenstiel. 59p Gregg '23

Bestman's pro-rater and interest calculator, computed on the basis of 28, 29, 30, 181, 184 and 365 days. H: R. Bestman. 93p H: R. Bestman, Chicago '21

Making use of tables. W: S. Ayars. *Am Mach* 56:306-7 F 23 '22

Time in decimal form, for calculations in interest, speed and miscellaneous engineering. Computed by H: Barnes. 44p Decimal day index co., Seattle '22

See also subdivision Tables, calculations, etc. under various subjects

Real estate business

Centralizing the rental business of a city. *Ptr Ink* 120:44+ O 12 '22
102 plans for closing real estate deals. 160p Shaw '23

Principles of real estate practice. E. M. Fisher. 309p Macmillan '23
Real estate business as a profession. J. B. Spilker and P. G. Cloud. 77p Ebbert & Richardson co., Cincinnati '21

Real estate principles and practices. P. A. Benson and N. L. North. 342p Prentice-Hall, New York '22

See also Rent

Advertising

Better copy in the want ads. L. J. Boughner. *Ptr Ink M* 4:27-8 F '22

Real estate advertised in a different way. *Ptr Ink* 119:44+ My 25 '22

Real estate operator with a changed viewpoint finds new selling angles. *Ptr Ink* 124:81-2 Ag 2 '23

Real estate organization advertises not houses but services. J. Henle. *Ptr Ink* 123:49-50+ My 31 '23

Real estate publicity offerings make effective advertising copy. *Ptr Ink* 124:105-6 S 27 '23

Selling real estate by giving the prospect an idea. *Ptr Ink* 122:76 Mr 1 '23

See also Farms—Advertising

Real property

Costs and increments in vacant urban land. G. B. L. Arner. *Annalist* 20:440 O 30 '22

Land studies in New York city. C. S. Stein. *Am Inst Arch J* 10:390-4 D '22

See also Cadastral resurveys; Land

Reamers

Boiler check valve seat reamer. E. A. Miller. *diags Ry Mech Eng* 97:176 Mr '23

Floating reamer and holder. H. J. Murphy. *diags Am Mach* 58:561 Ap 12 '23

Floating reamers. H. G. Frantz. *diags Mach* 28:656 Ap '22

Homemade cylinder-reaming machines. L. R. Perry. *il diags Pop Mech* 37:620-2 Ap '22

Machines Hélico pour la fabrication des mèches hélicoïdales. *il Génie Civil* 80:409-10 My 6 '22

Making a tapered helical reamer. J. Davies. *diags Am Mach* 59:66-7 J1 12 '23

Making and hardening small reamers. A. Ferber. *diag Am Mach* 58:773 My 24 '23

Making oil well tools. F. A. Stanley. *il diags Am Mach* 55:1003-5 D 22 '21

Manufacture of adjustable reamers; operations performed on the body, nuts, and blades of adjustable reamers. J. B. Dillard. *il diags Mach* 29:598-601 Ap '23

New line of expansion reamers. *diag Elec Ry J* 61:1054 Je 23 '23

Reamer and reamer-grinding fixture. J. V. Romig. *diags Mach* 28:822-3 Je '22

Standardizing shell reamers and arbors. H. S. Kartsher. *il diags Mach* 28:892-5 J1 '22

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 56:374-7, 413-16 Mr 9-16 '22

Reaming

Connecting-rod boring and reaming fixture. W. Owen. *diags Mach* 28:739 My '22

Line-reaming. C. J. Dorer. *il diags Mach* 29:52 S '22

Rearrangements, Molecular. See Molecular rearrangements

Reasoning

Is reasoning merely a kind of remembering? H. P. Gillette. *Eng & Contr* 57:410 My 3 '22

Receipts

How to make and how to mend. Rev. ed. 294p Macmillan

Receivable companies. See Finance companies

Receivers

Need for accountants as receivers and trustees. J. B. Niven. *J Account* 36:321-6 N '23

Reception rooms. See Factories—Reception rooms

Recessing tools

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 56:292-5, 326-8 F 23-Mr 2 '22

Reclamation of land

Abandoned settlement in Oregon reclaimed by wells. H. E. Thomas. *il Pop Mech* 37:197-8 F '22

Borrowing a lake bottom to raise grain. F. S. Walker. *il map Pop Mech* 37:395-400 Mr '22

Checking our over-urbanization. A. B. Fall. *il Am Ind* 22:15-17 My '22

Drainage feature of land reclamation. E. F. Drake. *il Can Eng* 44:571-4 Je 12 '23

Electricity in British Columbia reclamation work. J. Lightbody. *il J Elec* 51:168-9 S 1 '23

Extending Bombay, India, by reclamation work. *il Pop Mech* 39:21 Ja '23

Floating land for home sites in Holland. *il Pop Mech* 39:674-6 My '23

Irrigation opportunities and duties of federal government in western land reclamation. F. H. Newell. *Eng N* 90:28-9 Ja 4 '23

Making the Mississippi rebuild its banks. *il Sci Am* 128:30 Ja '23

Peaceful conquest; how Germany is reclaiming marshlands. A. Neuberger. *il Sci Am* 128:390 Je '23

Proposed uniform law for land reclamation by drainage. J. A. Harman. *Eng N* 88:692-9 Ap 27 '22

Reclaiming land at Belle Isle. W. K. Crosson. *il Pub Works* 52:281-2 Ap 22 '22

Reclamation amendment is included in bonus bill. *Eng N* 89:410 S 7 '22

Reclamation plant and its operation. G. Lumley. *il diags Engineering* 114:784-6 D 22 '22; Same. *Eng & Contr* 59:269-76 Ja 31 '23; Same cond. *Engineer* 134:659-60 D 22 '22; Discussion. *Engineering* 114:764-5 D 22 '22; *Engineer* 134:668-9 D 22 '22

Reclamation work in Carrot river district. E. F. Drake. *Can Eng* 43:556 N 21 '22

Section lines on photographs aid land reclamation. *il Eng N* 89:889 N 23 '22

Your interest in reclamation. J. Underwood. *Nation's Business* 11:27-8 Mr '23

See also Clearing of land; Dikes (engineering); Drainage; Irrigation; Reclamation service (United States); Zuider Zee

Reclamation service (United States)

Federal land reclamation; a national problem. *Eng N* 91:666-73, 715-18, 756-61, 801-7, 838-41, 890-2, 924-5, 977-81, 1018-21 O 25-D 20 '23; Discussion. 91:943, 1030 D 6, 20 '23

Interior department tells new reclamation policy; explains Davis removal. *Eng N* 91:320 Ag 23 '23

Through the reclamation country. F. E. Schmitt. *Eng N* 91:566, 603-4, 636, 676-7, 722-3, 766-7, 798-800, 848-9, 887-8, 919-21, 970-2, 1023-4 O 4-D 20 '23

Turning our sands into arable land. D. M. Edwards. *il Am Ind* 22:13-17 Mr '22

Work of the U.S. reclamation service. *Eng & Contr (W W)* 60:96 J1 11 '23

Recommendations of employees.

See Employees—References and recommendations

Reconnoitregraph.

See Surveying instruments

Reconstruction (European war)**Belgium**

La restauration des régions dévastées belges. H. Marchand. *il diags plans Génie Civil* 80:309-15 Ap 8 '22

See also Railroads—Belgium

France

France's particular problem. R. Masson. *Nation's Business* 11:17-19 Je 5 '23

French industrial reconstruction and how it has been accomplished. A. L. Greene and H. Obermeyer. *il Am Mach* 58:107-11 Ja 18 '23

Hugo Stinnes's contract for reconstruction of France. *Comm & Fin Chr* 115:1149 S 9 '22

Reconstruction (European war)—France—*Cont.*
Position of the metallurgical industries of northern and eastern France; their destruction and reconstruction. L. Guillet. *Iron & Steel Inst J* 104:73-89 no 2 '21; Same. *Iron Age* 108:796-800 S 29 '21

Rebuilding railway structures in northern France. Pellarin. *il Eng N* 88:397-8 Mr 9 '22

Reconstruction in France. H: J. Harms. *il Concrete* 20:156-7 Ap '22

Reconstruction of the French devastated region. Engineering 112:636-8 N 4 '21

See also Railroads—France

Recording departments

Do your shop reports mean anything? C. de Zafra. *Ind Management* 66:224-6 O '23

Recording instruments

Application of recording instruments to pulp and paper mills. L. G. Bean. *il Paper Tr J* 75:57-9 O 12 '22

Care of recording instruments. A. D. Palmer. *Power* 55:863 My 30 '22

Use of graphic instruments in power plants. *Power Pl Eng* 27:1100 N 1 '23

See also Carbon dioxide recorders; Electric driving—Recording instruments; Telegraph—Recorders

Records

Business archive records. W: E. Kastendike. *Administration* 2:755-8 D '21

Business forecasting in the Edison industries. J. W. Robinson. *Administration* 5:402-6 Ap '23

Comparative production chart. R. Booth. *Am Mach* 56:957 Je 29 '22

Controlling costs in building experimental machines. F: H. Colvin. *Am Mach* 58:589-91 Ap 19 '23

Cost recording and production control in drop-forging plants. H. F. Osler. *diags Mach* 28:807-9, 882-6 Je-Jl '22

Development of service engineering records. C. F. Lautz. *Management Eng* 2:35-6 F '22

Developments of a modern service-system. D. T. Hastings. *chart Soc Auto Eng J* 12: 193-204 F '23; Discussion. 12:539-44 Je '23

Duplicating industrial records and reports. H. L. Keely. *il Management Eng* 2:363-6 Je '22

Enlarging the use of service record cards. L. M. Stowell. *Management Eng* 2:11-12 Ja '22

Handling factory costs. *Factory* 29:172+ Ag '22

How production planning cuts costs. H. S. Owen. *Ind Management* 65:182-7 Mr '23

How proper colors of ruling and paper cut clerical costs. F: E. Rein. *Administration* 3:534-8 My '22

Leak-proof plan for handling office records. T. R. Evans. *System* 43:44-6 Ja '23

Making output records control material purchases. K. Coggeshall. *charts Ind Management* 64:6-11+ Jl '22

Measuring administrative efficiency. W. N. Polakov. *charts Chem & Met Eng* 27:404-6 Ag 30 '22; Same. *Ind Management (Lond)* 8:156-8 S 21 '22

Planning in large contract plants; cards and records used in planning and dispatching work. G: H. Shepard. *Mach* 28:547-51 Mr '22

Planning—its place in cost control. R. W. Darnell. *Management & Adm* 6:605-10 N '23

Preparation of office codes. F: E. Rein. *Administration* 4:155-62 Ag '22

Principles of designing forms. H. P. Losely. *Management Eng* 2:158-60 Mr '22

Records as a basis for management. B. A. Franklin. *Management Eng* 3:133-7 S '22

Repair records that save machines. *Factory* 29:523-4 N '22

Simple but flexible system of equipment and inspection records. *il Elec R* 80:211-13+ My '22

Simple records that make mail orders pay. G: N. Cohen. *System* 43:190-1+ F '23

Some of the ways procedure in maintenance work can be audited. A. J. Whitcomb. *Ind Eng* 81:426-31 S '23

Three savings that came from checking routine. W. C. Mattox. *il System* 42:427-9+ O '22

Using a mezzanine office in standardizing processes. *Management Eng* 3:362 D '22

Visualizing potential occupations. R. W. Immel. *Management Eng* 3:143-6 S '22

What the production executive should know from the financial records. W: M. Lybrand. *Management Eng* 4:19-23 Ja '23

Why not a standard invoice form? J. B. M. Clark. *Ind Management* 66:108 Ag '23

See also Accidents, Industrial—Records; Accounting; Business charts; Electric motors—Records; Equipment records; Factory management; Files and filing (documents); Gantt charts; Machine tools—Records; Motor trucks—Records; Photographic records; Power plants—Records; Progress records; Sales records; Stores systems; Time cards; Time keeping

Recreation buildings

Recreation building, New Holland, Ga., for employees of Pacolet manufacturing co. *Arch Forum* 33:pls 65-6 N '21

Recreation centers

Municipal recreation in this restless age. E. T. Lies. *Munic Eng* 65:72-4 Ag '23

Proctor recreation center, Peoria, Ill.; views. *Am Arch* 122:452h-i N 22 '22

Progress in municipal playground and recreation activities. M. T. Wood. *Munic Eng* 64:228-9 Je '23

See also Community centers

Recrystallization. See Crystallization

Rectification

Fundamentals of rectification. C. C. Van Nuys. *diags Chem & Met Eng* 28:207-10, 255-6, 311-13, 359-62, 408-13 Ja 31-F 28 '23

Rectification of spirits. See Distillation

Rectifiers, Electric current. See Electric current rectifiers

Recuperators. See Furnaces, Recuperative and regenerative

Red

Attempts to prepare red sulphide dyes. E. R. Watson and S. Dutt. *Chem Soc J* 121:1939-43, 2414-19 S, N '22

Isoquinoline and the isoquinoline-reds. J: E. G. Harris and W: J. Pope. *Chem Soc J* 121: 1029-33 Je '22

New dye products of the Farbwerke Hoechst. *Color Tr J* 11:242 D '22

Production of diamine fast red. F. H. Herlinger. *Color Tr J* 13:85-6 S '23

Seeing red—in advertising. S. Curtiss. *Ptr Ink M* 4:70+ D '21

Some new sensitizers for the deep red. C. E. K. Mees and G. Gutekunst. *il J Ind & Eng Chem* 14:1060-1 N '22

See also Paranitraniline red

Red lead

Physical chemistry of the oxides of lead; red lead and lead sesquioxide. S: Glasstone. *Chem Soc J* 121:1456-69 Ag '22

Red river

Investigation on the Red river made in connection with the Oklahoma-Texas boundary suit. E. H. Sellards, B. C. Tharp and R. T. Hill. *il maps Texas U Bul* 2327:1-174, pl 1-9 '23

Red river of the North

Flood relief plans for Red River of the North. *diags maps Eng N* 91:133-6 Jl 26 '23

Redemption funds. See Sinking funds

Reduction, Chemical

Catalytic reduction of nitro compounds; α,β -unsaturated nitro compounds. E. P. Kohler and N. L. Drake. *Am Chem Soc J* 45:1281-9 My '23

Effect of substitution on the free energy of oxidation-reduction reactions; benzoquinone derivatives. V: K. LaMer and L. E. Baker. *Am Chem Soc J* 44:1954-64 S '22

Electrochemical method of studying irreversible organic reductions. J. B. Conant and R. E. Lutz. *Am Chem Soc J* 45:1047-60 Ap '23

Reduction, Chemical—Continued

Electrochemical study of the reversible reduction of organic compounds. J. B. Conant and others. *Am Chem Soc J* 44:1382-96 Je '22

Emploi des réducteurs tournants en analyse. A. Kling and A. Lassieur. *Chimie & Ind* 7:43-4 Ja '22

Erweiterung und ausbau der Kishner-Wolffschen reduktionsmethode. E. Thielepape. *Deutsche Chem Gesell Ber* 55:136-8 Ja '22

Erweiterung und ausbau der Kishner-Wolffschen reduktions-methode. E. Thielepape and O. Spreckelsen. *Deutsche Chem Gesell Ber* 55:2929-39 S '22; *Abstract. Chem Soc J* 122 pt 1:1191-2 D '22

Free and total energy changes in the reduction of quinones. J. B. Conant and L. F. Fieser. *Am Chem Soc J* 44:2480-93 N '22

Isopropyl, menthyl and bornyl semicarbazides, reduction of phenylhydrazones. D. Neighbors and others. *Am Chem Soc J* 44:1557-64 Ji '22

Organischer halogenverbindungen über phenoläther der tetraphenyl-butanreihe. K. Brand and F. Kercher. *Deutsche Chem Gesell Ber* 54:2007-17 S '21; *Abstract. Chem Soc J* 120 pt 1:787-8 N '21

Platinum oxide as a catalyst in the reduction of organic compounds; preparation and properties of the oxide of platinum obtained by the fusion of chloroplatinic acid with sodium nitrate. R. Adams and R. L. Shriner. *Am Chem Soc J* 45:2171-9 S '23

Platinum oxide as a catalyst in the reduction of organic compounds; reduction of aldehydes. W. H. Carothers and R. Adams. *Am Chem Soc J* 45:1071-86 Ap '23

Quantitative reduction by hydriodic acid of halogenated malonyl derivatives; the *s*, tetra-substituted amides of bromo- and chloro-malonic acid. R. W. West. *Chem Soc J* 121:2196-2202 O '22

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; preliminary investigations. C. A. Kraus and G. F. White. *Am Chem Soc J* 45:768-78 Mr '23

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the action of sodium on phenyl halides in liquid ammonia. G. F. White. *diags Am Chem Soc J* 45:779-84 Mr '23

Reduction of copper oxide by carbon monoxide and the catalytic oxidation of carbon monoxide in presence of copper and of copper oxide. H. A. Jones and H. S. Taylor. *diag J Phys Chem* 27:623-51 O '23

Reduction of copper oxide by hydrogen. R. N. Pease and H. S. Taylor. *diags Am Chem Soc J* 43:2179-88 O '21

Reduction of ethyl ethyldienemalonate as affected by choice of reducing agent. L. Higginbotham and A. Lapworth. *Chem Soc J* 123:1618-24 Je '23

Reduction of solutions of ferric salts with mercury. L. W. McCay and W. T. Anderson, jr. *Am Chem Soc J* 43:2372-8 N '21

Reduction of some rarer metal chlorides by sodium. M. A. Hunter and A. Jones. *Am Electrochem Soc Trans v* 44 (preprint 4) 35-41 S '23

Reduction potentials of quinones; the effect of the solvent on the potentials of certain benzoquinones. J. B. Conant and L. F. Fieser. *Am Chem Soc J* 45:2194-2218 S '23

Reduktion organischer halogenverbindungen; über 1.1.4.4-tetraaryl-butine-2. K. Brand. *Deutsche Chem Gesell Ber* 54:2017-21 S '21

Reduktion substituierter salicylsäuren. H. Weil and K. Brimmer. *Deutsche Chem Gesell Ber* 55:301-5 F '22

Studies on thallium compounds; the reduction of thallic compounds with ferrous sulphate and with sodium arsenite. A. J. Berry. *Chem Soc J* 123:1109-14 My '23

Sur la réduction des oxydes métalliques par l'hydrogène et l'oxyde de carbone. G. Chaudron. *diags Chimie & Ind* 8:959-64 N '22

Theory of reduction; the reduction of the carbonyl group by zinc amalgam. W. Steinkopf and A. Wolfram. *Chem Soc J* 124 pt 1: 216-17 Mr '23

Über die reduktion substituierter salicylsäuren. H. Weil, M. Traun and S. Marcel. *Deutsche Chem Gesell Ber* 55:2664-74 S '22; *Abstract. Chem Soc J* 122 pt 1:1023-4 N '22

Über untersuchungen in der tetraaryl-butanreihe und über das 1.1.4.4-tetraphenylbutatrien; über die reduktion organischer halogenverbindungen. K. Brand. *Deutsche Chem Gesell Ber* 54:1987-2006 S '21; *Abstract. Chem Soc J* 120 pt 1:783-5 N '21

Use of the oxides of platinum for the catalytic reduction of organic compounds. V. Voorhees and R. Adams. *Am Chem Soc J* 44:1397-1405 Je '22

See also Hydrogenation

Reduction, Electrolytic

Electrolytic preparation of ortho-amidophenol. O. W. Brown and J. C. Warner. *Am Electrochem Soc Trans v* 41 (preprint 12):143-56 Ap '22

Electrolytic preparation of ortho-amidophenol. O. W. Brown and J. C. Warner. *J Phys Chem* 27:455-65 My '23

Electrolytic reduction of chromic chloride to the divalent salt. M. C. Taylor, W. A. Gersdorff and E. J. Tovrea. *Am Chem Soc J* 44:612-14 Mr '22

Electrolytic reduction of metals from fused salts. *Chem Age* 30:368-9 Ag '22

Studies on oxidation-reduction; electrode potentials of mixtures of 1-naphthol-2-sulphonic acid indophenol and the reduction product. W. M. Clark and B. Cohen. 28p U.S. Pub. health serv., Washington '23

Reductodehydrocholic acid

Untersuchungen über die konstitution der gallensäuren; über reducto-dehydrocholsäure. W. Borsche and F. Hallwass. *Deutsche Chem Gesell Ber* 55:3318-23 O '22; *Abstract. Chem Soc J* 122 pt 1:1158-9 D '22

Reed, Samuel B.

Monuments to early engineers of the Rock Island Ry. *por il Eng N* 90:121-3 Ja 18 '23

Memorials

In memory of an engineer. *por W Soc E J* 27: [current news] 196-7 O '22

Reeds

Fiber and paper manufacture from reeds; abstract. *Mech Eng* 44:669 O '22

Reels

Reels for insulated wire and cable work. *il diag India Rubber W* 69:76 N '23

Reference books

Guide to the use of libraries. M. Hutchins, A. S. Johnson and M. S. Williams. 2d ed. 227p H. W. Wilson co. '22

See also Engineering handbooks

Bibliography

New guide to reference books. I. G. Mudge. 278p American library assn., Chicago '23

Some reference books of 1922. I. G. Mudge. *Lib J* 48:13-19, 71-5 Ja 1-15 '23

References, Employees'. See Employees—References and recommendations

Reflection (optics)

Departure from Fresnel's laws of reflection. N. K. Sur. *Phys R* 21:699-700 Je '23

Determination of reflection factor surfaces. W. F. Little. *Illum Eng Soc* 18:333-7; Discussion. 357-65 Ap '23

Determination of the coefficient of reflexion of X-rays for calcite and rock-salt. B. Davis and H. M. Terrill. *Philos Mag* 6th ser 45: 463-70 Mr '23

Effect of some substitutes for tin oxide on the opacity of white enamels for sheet steel; determination of reflection values. R. R. Danielson and M. K. Frehafer. *Am Cer Soc J* 6:634-44 My '23

Interferometer method of determining the phase difference resulting from metallic reflexion. H. P. Waran. *diag Philos Mag* 6th ser 43:471-7, pl 8 Mr '22

Measurement of coefficients of reflection. C. H. Sharp and W. F. Little. *Illum Engr* 14: 220 N '21

Optical properties of some metallic sulfides. E. P. T. Tyndall. *diags Phys R* 21:162-80 F '23

Reflection (optics)—Continued

- Reflection factors of industrial paints and pigments. H. A. Gardner. *Illum Eng Soc* 17: 313-22 J1 '22
- Reflection factors of powdered pigments for various illuminants. M. Luckiesh. *Illum Eng Soc* 17:315-17 J1 '22
- Reflection from a moving mirror and the Michelson-Morley experiment. E. H. Kennard and D. E. Richmond. *Phys R* 19:572-7 Je '22
- Reflexion of X-rays by crystals. H. A. Wilson. *Phys R* 18:396-401 N '21
- Reflexion of X-rays from imperfect crystals. C. G. Darwin. *Philos Mag* 6th ser 43:800-29 My '22
- Reflection of X-rays from rock salt. B. Davis and W. M. Stempel. *diags Phys R* 19:504-11 My '22
- Scattering of X-rays by crystals. G. E. M. Jauncey. *diag Phys R* 20:405-20 N '22
- Use of the Ulbricht sphere in measuring reflection and transmission factors. E. Karner. *diags U S Bur Stand Sci Pa* 415:203-25 '21

See also Reflectors

Reflection, Molecular

- Coefficients of slip in gases and the law of reflection of molecules from the surfaces of solids and liquids. R. A. Millikan. *Phys R* 21:217-38 Mr '23
- General law of fall of a small spherical body through a gas, and its bearing upon the nature of molecular reflection from surfaces. R. A. Millikan. *Phys R* 22:1-23 J1 '23

Reflectometer

- Integrating sphere reflectometer. J. W. T. Walsh. *Illum Eng Soc* 18:475-80 My '23

Reflectors

- Anti-glare form of reflector for office and table use. *diag Illum Engr* 14:223 N '21
- Characteristics of media for lamp reflectors. *Elec W* 80:399 N 4 '22
- Combinaison de réflecteurs, applicable aux phares d'automobiles. Marsat. *diags Génie Civil* 83:38-9 J1 '23
- Fluted reflectors for automobile headlamps. *il Am Inst E E J* 42:754 J1 '23
- Last word in illuminated highways. J. M. Bird. *il diag Sci Am* 126:97-+ F '22
- Reflectors for incandescent lamps; abstract, with bibliography. *Am Inst Arch J* 10:XV+Ag '22
- Studies in the projection of light. F. Benford. *diags Gen Elec R* 26:160-7 Mr '23
- Wide variations in light distribution of R-L-M dome reflectors. D. W. Blakeslee. *diags Elec W* 80:330-1, 670 Ag 12, S 23 '22

Reflexes

- Doing two things at once; multiple consciousness, or reflex action of unaccustomed range? A. Gradenwitz. *il Sci Am* 128:17 Ja '23

Reforestation. See Forests and forestry

Refraction

- Limits of the validity of the geometrical law relating to the refraction of light. P. Froelich. *J Fr Inst* 192:837-8 D '21
- Unit magnification surfaces of a glass ball. A. Everett. *diags Philos Mag* 6th ser 46: 450-4 S '23

Refraction, Molecular

- Molecular refractions of chloro-, dichloro-, and chlorobromo-acetates. P. L. Vanderstichele. *Chem Soc J* 123:1225-9 My '23
- Molekularrefractionen höher schmelzender Körper und die umrechnung der zugehörigen brechungsponenten auf die vergleichstemperatur von 20°. F. Eisenlohr. *Deutsche Chem Gesell Ber* 54:2857-67 N '21
- Über den molekularen brechungskoeffizienten. K. v. Auwers and H. Kolligs. *Deutsche Chem Gesell Ber* 55:21-45 Ja '22; Abstract. *Chem Soc J* 122 pt 2:174-6 Mr '22
- Über die molekulare refraction aromatischer kohlenwasserstoffe und den aromatischen kohlenstoff. K. v. Auwers. *Deutsche Chem Gesell Ber* 54:3188-94 D '21

Zur graphit-auffassung des aromatischen kohlenstoffs. A. L. v. Steiger. *Deutsche Chem Gesell Ber* 55:1968-79 J1 '22

Refractive index

- Investigations on the dependence of rotatory power on chemical constitution; the rational study of optical properties including refraction. H. Hunter. *Chem Soc J* 123:1671-82 J1 '23
- Refractive indices of selenic and selenous acids. H. W. Stone. *Am Chem Soc J* 45: 29-36 Ja '23
- Refractive indices of solutions of hydrochloric acid, acetic acid and ethanol in water at 25° and 30°. H. M. Elsey and G. L. Lynn. *J Phys Chem* 27:342-5 Ap '23
- Variation of refractive index and density of benzene with temperature. W. B. Parker and G. Thompson. *Chem Soc J* 121:1341-3 J1 '22
- Variation of the index of refraction of water, ethyl alcohol, and carbon bisulphide, with the temperature. E. E. Hall and A. R. Payne. *Phys R* 20:249-58 S '22

Refractories accountants institute

- Refractories accountants work on cost problems. G. W. Greenwood. *Brick & Clay Rec* 59:736-7 N 15 '21

Refractory materials

- Action of slag upon silica, magnesite, chrome, diaspore and fire-clay refractories. R. M. Howe, S. M. Phelps and R. F. Ferguson. *Am Cer Soc J* 6:589-95 Ap '23; Discussion. (Bul) 6:307-8 S '23
- Carbonized clay as a refractory material. W. Smith. *Iron Age* 111:822-4 Mr 22 '23
- Chrome refractories. J. S. McDowell and H. S. Robertson. *Am Cer Soc J* 5:865-82 D '22
- Data on refractories. *Power* 58:418 S 11 '23
- Developing better refractories. R. F. Ferguson. *Iron Tr R* 72:65-7 Ja 4 '23
- Does the trade want better refractories? R. E. Griffith. *Brick & Clay Rec* 61:180-1 Ag 8 '22
- Durability of refractories. W. J. Rees. *Gas J (Lond)* 161:451-2, 527-8 F 21-28 '23
- Fuel and refractory materials. A. H. Sexton. *Rev. & enl.* 382p Van Nostrand '21
- Fuel economy and refractories features of ceramic day at Chemical exposition. *Chem & Met Eng* 29:594 S 24 '23
- Furnace settings and refractory cements. F. J. Wakem. *Ind & Eng Chem* 15:893-4 S '23
- Industrial furnace brickwork. M. H. Mawhinney. *diags Blast F & Steel Pl* 11:145-7 F '23
- Joining materials for silica refractories. D. Jones and W. Emery. *Gas J (Lond)* 163:157-9 J1 4 '23
- Judicious purchasing of refractories. W. A. Hull. *Brick & Clay Rec* 60:770-2 My 16 '22; Same abr. *Blast F & Steel Pl* 10:296, 362 My-Je '22; Abstract. *Iron Tr R* 70:1408 My 18 '22; Abstract. *Iron Age* 109:1583 Je 8 '22
- Metallurgical requirements of refractories for furnaces melting copper alloys. H. W. Gillett. *il diags Am Cer Soc J* 6:596-609 Ap '23
- Metallurgical requirements of refractories for use in the aluminum industry. R. J. Anderson. *Am Cer Soc J* 6:1090-3 O '23; Same. *Brass W* 19:405-6 D '23
- Movement to improve refractories. *Brick & Clay Rec* 61:867 D 12 '22
- Progress report of 1921 committee of A.G.A. on refractory materials. W. H. Fulweiler. *Am Gas Assn Technical sec v* 3:94-100 '21; Same. *Gas Age* 48:653-4 N 19 '21
- Refractories colloquium—consumers' problems. *Am Cer Soc J* 6:1176-96 N '23
- Refractories for oil-burning furnaces; discussion. *Am Cer Soc J (Bul)* 5:229-34; (Bul) 6:19-20 O '22, Mr '23
- Refractories for zinc smelting. G. C. Stone. *diags Am Cer Soc J* 5:597-601 S '22
- Refractories in the steel industry. J. S. McDowell. *il Blast F & Steel Pl* 11:525-9, 569-74 O-N '23
- Refractories in the steel plant. W. A. Hull. *Blast F & Steel Pl* 10:100-4 Ja '22; Abstracts. *Iron Age* 108:1376-8 N 24 '21; *Iron Tr R* 69:1352-3 N 24 '21; Discussion. *Iron Tr R* 69:1550; 70:143-4 D 15 '21, Ja 12 '23

Refractory materials—Continued

- Refractory output gains during 1922. Iron Tr R 72:385 F 1 '23
- Report of committee on glass industries refractories. Am Cer Soc J (Bul) 6:30-6; Discussion. 36-8 Mr '23
- Requirements of a refractory mortar. R. F. Lindsay. Chem & Met Eng 28:1080 Je 18 '23
- Reversible thermal expansion of refractory materials. H. S. Houldsworth and J. W. Cobb. Am Cer Soc J 6:645-62 My '23
- Review of 25 years. Am Cer Soc J 6:275-306 Ja '23
- Selecting refractory materials. F. W. Davis. Iron Tr R 72:664-5 Mr 1 '23
- 13th meeting of the refractory materials section of the Ceramic society, Chester, Oct. 4-5. Engineering 116:457 O 12 '23; Gas J (Lond) 164:195-6 O 17 '23
- Transfer of heat through refractories and its determination. A. S. Watts and R. M. King. il diags Am Cer Soc J 6:1075-88; Bibliography. 1088-9 O '23
- Ueber den gegenwärtigen stand der feuerfesten industrie in Nordamerika. K. Endell. il diag Stahl & Eisen 43:361-8; Discussion. 368-70 Mr 15 '23
- Use of refractory materials in gas works. G. M. Gill. il diags Engineering 115:696-8 Je 1 '23; Abstract. Gas J (Lond) 162:540 My 30 '23

See also Carborundum; Electric furnaces—Refractories; Fire brick; Fire clay; Isolantite; Magnesite; Saggers; Silica brick; Sillimanite; Zirconia

Analysis

- Analysis of high alumina products. C. A. Underwood. Am Cer Soc J (Bul) 6:152-61 Je '23
- Tentative methods for ultimate chemical analysis. Am Cer Soc J 5 pt 2:50-6 Ap '22

Bibliography

- Chrome refractories. J. S. McDowell and H. S. Robertson. Am Cer Soc J 5:882-7 D '22

Manufacture

- Burning refractories with special reference to the control of labor costs. L. C. Hewitt. Am Cer Soc J (Bul) 6:109-16 My '23; Discussion. (Bul) 6:305-7 S '23
- Dry pressing refractory shapes. L. W. Flood. diag Brick & Clay Rec 61:865-6+ D 12 '22

Patents

- Use of rotary kiln in making magnesite refractory compound not invention. W. Gustin. Chem & Met Eng 27:20-1 Jl 5 '22

Specifications

- Status of thermal conductivity in specifications for refractories. W. A. Hull. Am Soc T M Pro 22 pt 1:309-16 '22; Same abr. Chem & Met Eng 27:538-40 S 13 '22

Standards

- Standardization of refractories. R. C. Purdy. Chem & Met Eng 27:637-8 S 27 '22; Same. Oil Paint & Drug Rep 102:xvii sec 2 S 18 '22

Testing

- Disintegration of refractory brick by carbor monoxide. B. M. O'Harra and W. J. Darby. il diag Am Cer Soc J 6:904-14 Ag '23
- Effect of size and physical properties on the heat absorption of checkerbrick. O. A. Hougen and D. H. Edwards. Chem & Met Eng 29:800-3 O 29 '23
- Oxygen-acetylene high-temperature furnace. H. Wilson. diags Am Cer Soc J 4:835-41 O '21
- Progress report on specifications for refractories. R. F. Geller. Am Cer Soc J 6:1098-1111 O '23
- Standard method of test for refractory materials. Am Soc T M Pro 22 pt 1:317-20 '22
- Standard method of test for refractory materials under load at high temperatures. diags Am Soc T M Standards 21:617-21. pl 4 '21; Same. Am Cer Soc J 5 pt 2:77 Ap '22

- Testing refractory materials under load. diag Gas J (Lond) 163:474 Ag 8 '23; Am Cer Soc J 6 (Cer A 2):223-5 O '23

See also Fire brick—Testing; Fire clay—Testing

Refrigerants

- Commercial value of hydro-carbon refrigerants; discussion. Refrig Eng 9:279 Mr '23
- Gasoline as a refrigerant. L. D. Wyant. plan Refrig W 58:16-21 O '23; Same. Nat Pet N 15:99+ O 3 '23
- Low pressure refrigerants. H. D. Edwards. Refrig W 57:15-18 N '22; Same. Power 56:954-6 D 12 '22
- Properties of carbon dioxide. C. H. Herter. Refrig W 58:13-16+ S; 13-14 O '23
- Refrigerating fluids. J. E. Starr. Refrig Eng 9:93-4 S '22

See also Ammonia; Calcium chloride; Carbon dioxide; Ethyl chloride; Liquid air; Methyl chloride; Sulfur dioxide

Refrigerants, Physiological effects of

- Effect of the various refrigerants upon the human body. Refrig Eng 9:141-2 O '22

Refrigerating engineers

Directories

- Alphabetical and geographical lists of members of A.S.R.E. Refrig Eng 10:41-56 Jl '23

Refrigerating machines, Domestic

- Cheaper refrigeration than ice. J. E. Starr. Refrig W 58:11-12 Je '23
- Homemade refrigerating machine. J. Gorrell. il diags Pop Mech 40:783-7 N '23
- Rating of household refrigerating machines. C. H. Herter. Refrig Eng 9:81-2 Ag '22

See also Refrigerators, Electric

Refrigerating plants

- Air batteries as applied to refrigeration in New Zealand meat works. W. G. Croll. plan Refrig Eng 9:158-9+ N '22; Discussion. 9:226 Ja '23
- Anheuser-Busch New York plant. il Refrig W 57:13-14 Jl '22
- Few facts about steam- and electric-driven refrigerating plants. G. E. Porce. Power 55:855-6 My 30 '22
- Ice and cold storage from an oil engine. J. Pierce. diags Power Pl Eng 26:717-18 Jl 15 '22
- Kansas City plant model of refrigeration methods. il plans Power Pl Eng 27:209-15 F 15 '23
- Mine refrigeration: air-cooling plant installed at the Morro Velho mine, Brazil: abstracts. E. Davies. diags Refrig W 58:23-4 F '23; Mech Eng 44:832 D '22
- Remodelling a refrigerating plant. G. T. Taylor. Refrig W 58:19-20 Ap '23
- Working temperatures and pressures in the refrigeration plant. W. H. Motz. Power 54:1005-7 D 27 '21
- See also Electricity in refrigeration; Ice—Manufacture; Refrigeration and refrigerating machinery

Equipment

- Measuring refrigeration. J. E. Starr. Refrig W 58:15-17 Ja '23; Same abr. Refrig Eng 9:229-30 Ja '23; Same cond. Power 56:1010-11 D 26 '22

Management

- Economics of refrigerating plants. V. J. Azbe. Power Pl Eng 27:437-9 Ap 15 '23
- Instructions for the care and operation of refrigerating plants. rev. 78p U.S. Bureau of engineering. Washington '21
- Operating suggestions for refrigerating plants. F. E. Matthews. Power Pl Eng 26:341-2 Mr 15 '22
- Reasons for lack of economy in refrigerating plants. Power 57:1022-3 Je 26 '23
- Refrigerating plant economy. V. J. Azbe. Refrig W 57:14-16 Ja '22
- Refrigerating plant experiences. G. T. Taylor. Refrig W 57:17-18 S '22

Refrigerating plants—Continued**Repair**

- Autogenous welding of refrigerating equipment. J. C. Moran. diags Power 55:145-6 Ja 24 '22
- Overhauling a hotel refrigerating plant. L. C. Miller. Power 57:487-8 Mr 27 '23
- Overhauling a refrigerating plant. L. C. Miller. Power 55:100-1 Ja 17 '22
- Overhauling the ice plant. diags Power Pl Eng 26:69-74 Ja 1 '22
- Spring house cleaning in the refrigerating plant. L. C. Miller. diag Power 57:594-6 Ap 17 '23
- Refrigeration and refrigerating machinery**
- Absorption machinery. C. O. Fehl. Refrig W 58:16-18 Jl '23
- Absorption refrigerating system. G. H. Pardee. Power 57:191-2 Ja 30 '23
- Advantages in compound compression. J. E. Starr. Power 56:606-7 O 17 '22
- Ammonia compression refrigerating system. W. D. Spooner. 223p Nickerson & Collins co. Chicago '21
- Application of refrigeration. F. Ophuls. Refrig W 58:15-16+ F '23
- Application of refrigeration in Milwaukee bakeries. H. L. Fischer. il chart diag Refrig Eng 9:297-300 Ap '23; Same. Refrig W 58:22-4 Ag '23
- Brine circulation with centrifugal pumps. R. K. Annis. diags Power 57:401-2 Mr 13 '23
- Brine spray refrigeration; with discussion. S. C. Bloom. il diags plan A S R E J 8:308-21 Ja '22
- Burning gas to make ice without motor. Pop Mech 40:179 Ag '23
- Carbon-dioxide refrigerating machine. H. J. Macintire. diags Power 55:24-6 Ja 3 '22
- Carbonic refrigerating cycle. H. J. Macintire. diags Power 55:175-7 Ja 31 '22
- Carrier's valveless compressor. il Refrig W 57:25-6 Je '22; Heat & Ven 19:54-5 Ag '22
- Cast iron heat absorbers. C. H. Herter. Refrig W 58:15-17+ Mr '23
- Cast-iron radiators for refrigerating coils. H. J. Macintire. il diags Power 57:896-7 Je 5 '23
- Charging a refrigerating system. Power 56:730: 57-35 N 7 '22. Ja 2 '23
- Checking up on the absorption system. H. Cochran. il plan Power Pl Eng 27:328-31 Mr 15 '23
- Condenser-water supply for CO₂ refrigerating machines. A. E. Kimberly. Power 56:48-9 Jl 11 '22
- Conservation par le froid des denrées périssables. A. Monvoisin. 502p Dunod, Paris '23
- Correct oiling of refrigerating machinery. J. W. Stack. Power Pl Eng 26:1165-7 D 1 '22
- Difficulties encountered in sharp freezer work; tendency of the coldest coils to flood is explained. plan Power Pl Eng 27:181-3 F 1 '23
- Economic value of precooling liquid ammonia. T. M. Gunn. Power 57:357-9 Mr 6 '23
- Effect of precooling on the capacity of a refrigerating plant. T. M. Gunn. Power 57:244-5 F 13 '23
- Elementary refrigeration—a simple explanation of how the compression refrigerating system works. G. Grow. diags Power 54:884-6 D 6 '21
- L'emploi de l'air comme agent frigorifique; nouvelle machine frigorifique, système Maurice Leblanc. il diag plan Génie Civil 81:289-92 S 30 '22; Abstracts. Mech Eng 44:731-3 N '22; Engineering 114:765-6 D 22 '22
- Ethyl chloride refrigeration. C. H. Herter. Refrig W 57:13-16+ S '22
- Flexibility of cast iron radiator sections for direct expansion of ammonia. H. J. Macintire. il diags Refrig Eng 9:174-8; Discussion. 178-9 D '22
- Foreign gas in the refrigerating system. T. M. Gunn. diags Power 56:122-5 Jl 25 '22
- Frozen brine cooler. R. L. Cornell. Power 57:107 Ja 16 '23
- Generation and utilisation of cold; discussion at a joint meeting of the Faraday society and of the British cold storage and ice association. Engineering 114:498-500, 524 O 20-27 '22
- Getting next to an absorption system. J. H. Ryan. plan Power Pl Eng 26:1109-12 N 15 '22
- Heat waste in the ammonia compression refrigerating machine. J. H. H. Voss. diags Refrig Eng 9:249-51; Discussion. 251 F '23
- Hospital refrigeration. J. F. Musselman. plan Arch Forum 37:301-2 D '22
- Internal steam coils to heat gas refrigeration generator. W. F. Schaphorst. il Gas Age 49:460 Ap 15 '22
- Keeping oil out of the refrigerating system. W. F. Osborne. Power 56:603-4 O 17 '22
- Mechanical refrigeration and refrigerants. diag Locomotive 34:73-7 Jl '22
- Mechanical refrigeration dates from early experiments in India. il J Elec 51:133 Ag 15 '23
- Neuere kühlmachines, ihre konstruktion, wirkungsweise und industrielle verwendung. H. Lornz, and C. Heinel. 401p R. Oldenbourg, München & Berlin '22
- New refrigeration appliances. R. H. Tait. Refrig W 57:31+ N '22; Same. Can Chem & Met 7:94 Ap '23
- Novel industrial applications of refrigeration. C. H. Herter. Refrig W 58:23 S '23
- Operating an absorption system. Power 55:1017 Je 27 '22
- Outline of the absorption refrigerating system. D. L. Fagnan. diags Power 55:977-9 Je 20 '22
- Power's practical refrigeration. 283p McGraw-Hill '21
- Practical refrigerating engineers' pocketbook. J. E. Starr. 192p Nickerson & Collins co., Chicago '22
- Precooling fruits and vegetables before shipment. C. T. Baker. Refrig Eng 9:333-4 My '23
- Principles and practical operations of absorption machines. H. Cochran. diag Power 57:53-5 Ja 9 '23
- Principles of mechanical refrigeration. H. J. Macintire. 252p McGraw-Hill '22
- Refrigerating fakes. J. E. Starr. il Refrig W 57:11-12+ F '22; Discussion. 57:23-4+ Mr '22
- Refrigerating machine with centrifugal compressor and new low-pressure refrigerant. Mech Eng 44:667 O '22
- Refrigeration—a desirable outlet for gas. H. D. Valentine. il diags Gas Age 52:431-6 O 13 '23
- Refrigeration for hotels. S. T. Smith. il diag Am Arch 124:195-7 Ag 29 '23
- Refrigeration in the manufacture of rubber. J. H. Vance. A S R E J 8:405-7 Mr '22
- Refrigeration in the textile industry. L. Nussbaum. il Textile World 62:3189+ D 2 '22
- Refrigeration pointers. 53p Power, New York '22
- Refrigeration: what it is and how to use it. S. A. Woolner. diags Chem & Met Eng 29:506-11 S 10 '23
- Refrigeration with two suction pressures. H. J. Macintire. diags Power 56:279-81 Ag 22 '22; Same abr. Refrig Eng 9:102-3 S '22
- Safety automatic refrigerating equipment. J. C. Goosmann. diags Refrig Eng 9:359-72+ Je '23
- Some properties of hydro-carbon refrigerants. H. D. Edwards. A S R E J 8:488-95 My '22; Discussion. Refrig Eng 9:134 O '22
- Sulphur dioxide (SO₂). C. H. Herter. Refrig W 58:13-16 Ag '23
- Use of air as a refrigerating agent. Leblanc. diags Refrig Eng 10:101-6, 120-4 S-O '23
- Warm cooling water for carbon dioxide refrigerating plant. Power 56:738 N 7 '22
- See also Ammonia compressors; Ammonia condensers; Carbon dioxide compressors; Cold storage; Cooling; Electricity in refrigeration; Ice—Manufacture; Insulation (heat); Refrigerating machines, Domestic; Refrigerating plants; Refrigerator cars; Refrigerators, Electric; also international congress of refrigeration, London, 1924

Bibliography

Papers and articles of interest. See monthly numbers of Refrigerating engineering

Refrigeration and refrigerating machinery

—Continued

Control

Coleman refrigeration control. diag Power 55:976 Je 20 '22

Directories

Trade directory. See monthly numbers of Refrigerating world

Safety devices and measures

Mechanical refrigeration safety code. Refrig Eng 9:188-94 D '22

Societies

Association directory. See monthly numbers of Refrigerating world

Specifications

Specifications for refrigerating equipment. A. C. Bishop. Power Pl Eng 26:1217-19 D 15 '22; Power 56:884-6 D 5 '22

Study and teaching

Courses for refrigerating engineers. W. H. Motz. Refrig Eng 9:111-12 S '22

Tables, calculations, etc.

Ammonia as a refrigerant. W. H. Motz. Can Chem & Met 6:269-4; 7:7-11 D '22-Ja '23

Ammonia heat diagram and how to use it. T. M. Gunn. charts diag Power 56:494-7 S 26 '22

Carbon dioxide versus ammonia as a refrigerant. H. J. Macintire. Power 57:288-90 F 20 '23; Same. Refrig Eng 9:318-20 Ap '23

Comparative ammonia condenser reports point out inefficiencies. P. W. Evans. Power 57:28-30 Ja 2 '23; Discussion. 57:147, 261-2 Ja 23, F 13 '23

Compression refrigerating cycle. W. H. Motz. Refrig Eng 9:267-74+ Mr '23; Abstract. Mech Eng 45:366-7 Je '23

Consumption of calcium chloride in ice making and refrigerating. Refrig W 57:29-30 Je '22

Determining refrigerating efficiency by temperature and pressure readings. J. H. H. Voss. chart diags Refrig Eng 9:307-12 Ap '23; Discussion. 10:68-70 Ag '23

Economic thickness of insulation in the refrigerating field. P. Nicholls. Am Soc Heat & V E J 28:343-58 Ap '22; Same. Refrig Eng 9:152-7+ N '22

Lineal feet of pipe per expansion valve. Refrig Eng 10:64-7+ Ag '23

Methyl chloride refrigeration. C. H. Herter. Refrig W 58:13-16 Jl '23

Mollier chart. E. F. Mueller and C. H. Meyers. Refrig Eng 9:295-6+ Ap '23

Numerical values of some constants used by the refrigerating engineer. F. G. Keyes. A S R E J 8:505-8 My '22

Performance of single acting simple ammonia compressor, and tubular condensers. G. A. Horne. il Refrig Eng 9:143-51 N '22; Discussion. 10:14-21 Jl '23

Performance scale for ammonia refrigerating plants. T. M. Gunn. Power 57:211-14 F 6 '23

Pound of ammonia. J. E. Starr. Refrig W 57:11-12 Ap; 19-20 Je '22

Pressure-total heat diagram for carbon dioxide. H. J. Macintire. A S R E J 8:211-15 N '21; Discussion. Refrig Eng 9:12-14 Jl '22

Proper steam pressures for absorption refrigerating machines. A. W. Akins. Power 57:762-3 My 15 '23; Same. Refrig Eng 9:381-2 Je '23

Solving refrigerating problems by the total heat diagram. diags Power 54:839-41 N 29 '21

Specific heat of calcium chloride and magnesium chloride brines as used in refrigeration. W. Koch. Refrig Eng 9:19-20 Jl '22

Specific volume of saturated ammonia vapor. C. S. Cragoe, E. C. McKelvy and G. F. O'Connor. diags Refrig Eng 9:239-48+ F '23; Abstract. Mech Eng 45:313 My '23

Testing

Checking the performance of a refrigerating plant. G. Grow. charts Power 58:724-6 N 6 '23

Compound ammonia compression. G. A. Horne. il diags A S R E J 8:245-96, 455-87 Ja, My '22; Abstract. Mech Eng 44:535-6 Ag '22; Discussion. A S R E J 8:296-307 Ja '22; Refrig Eng 10:23-33 Jl '23

Reliability of fluid meters in refrigerating tests. L. S. Morse. diags Refrig Eng 10:1-8; Discussion. 8-13 Jl '23

Testing new refrigerating system. Pop Mech 37:462-3 Mr '22

Tests of refrigerating systems. C. H. Herter. Power 58:49 Jl 10 '23

Refrigeration from central stations

Some notes on pipe line refrigeration. R. H. Tait. Refrig Eng 10:113-14 O '23

Refrigeration industry

Great need of our industry today. W. S. Shipley. Refrig Eng 9:349-51 My '23

Refrigeration on ships, cars, etc.

Inland transport of refrigerated produce. Engineering 116:117-18 Jl 27 '23

Shallow draft refrigerator steamers. diags plans Marine Eng 27:173-7 Mr '22

Refrigerator cars

Asked to prevent waste of refrigerator cars. M. J. Gormley. Ry Age 75:718-19 O 20 '23

Best representative examples of refrigerator cars built in 1922. il Ry R 72:44-5 Ja 6 '23

Centralized control of refrigerator cars. Ry R 72:164 Ja 20 '23

Convert refrigerator cars for winter use. il diags Pop Mech 37:769-70 My '22

Co-operation in distribution of refrigerator cars. H. P. Dreyer. Ry Age 75:729-31 O 20 '23

Design of railway wagons for the carriage of perishable foods. Refrig Eng 10:99-101 S '23

Device records temperature inside refrigerator cars. il Pop Mech 36:894 D '21

First refrigerated cars on the German Imperial railways. Refrig W 58:33-4 Jl '23

Mechanical refrigeration of railroad cars. W. M. Baxter. il diags plan Mech Eng 44:570-4 S '22; Same cond. Ry Mech Eng 96:576-8 O '22

New designs of refrigerator cars for the Santa Fe. il diags plan Ry Mech Eng 96:455-9 Ag '22; Same. Ry Age 73:189-93 Jl 29 '22

Notable development in refrigerator car design. il diags Ry R 72:1015-32 Je 16 '23; Discussion. 73:246-7, 663 Ag 18, N 3 '23

Refrigerator car. Engineering 114:148-9 Ag 4 '22

6,000 gallon refrigerator-tank car for milk. il plan Ry R 73:61-5 Jl 14 '23

Some notes on railway refrigerator cars; abstracts. W. H. Winterrowd. il diag Ry Mech Eng 96:339-41, 398-405 Je-Jl '22; Ry Age 72:1173-5, 1229-32 My 20-27 '22; Ry R 70:850-3 Je 10 '22; Mech Eng 44:419-26 Jl '22; Refrig Eng 9:62-71; Discussion. 71-3+ Ag '22

Testing

Tests on a refrigerator car model. P. X. Rice. il diags Ry Mech Eng 97:351-5 Je '23; Same. Refrig Eng 9:376-81 Je '23

Ventilation

Acme system of ventilation eliminates moisture from refrigerator cars. diags Ry R 70:692-3 My 13 '22

Refrigerators

California cooler. W. D. Brinckloe. il diag Pop Mech 40:469-70 S '23

Water takes place of ice in cooler for food. il Pop Mech 40:604 O '23

See also Cold storage; Refrigerating machines, Domestic; Refrigeration and refrigerating machinery

Refrigerators, Electric

Automatic refrigeration in homes is adjudged not subject to city ordinance. N E L A Bul 10:661-3 N '23

Features of Utility electric refrigerator. il Elec R 79:828 N 26 '21

Household electric refrigeration. T. I. Jones. Elec W 80:1000-1 N 4 '22

Small automatic refrigerating installations. diags Refrig Eng 9:340-2 My '23

Refrigerators, Electric—Continued

Study of domestic refrigeration. H. C. Rice. J Elec 50:418-19 Je 1 '23

Refuse, Utilization of

Garbage and refuse used for land filling at Ottawa. G: H. Wilson. Eng N 90:106 Ja 18 '23

Garbage collection and disposal in Richmond. D. B. Davis. il diag plan Pub Works 53: 251-3 D '22

Garbage in working clothes; the efforts to get the value out of this municipal waste. H. A. Mount. il Sci Am 127:106-7 Ag '22

Garbage piggery and residue drying cheapest for Buffalo. H. P. Eddy. Eng N 91:479-82 S 20 '23

Gasification of low calorific combustibles; a process for producing gas from dust, garbage, etc. E. Wolff. Am Gas J 118:246, 248-50 Mr 24 '23

Making an island from city refuse; Riker's Island, N.Y.C. W. B. Goodwin. il Pop Mech 37:740-2 My '22

Power from refuse in Britain; producer gas made from factory and dust-bin refuse used in gas engines and boiler furnaces. C. H. S. Tupholme. diag Power Pl Eng 26:853-4 S 1 '22

Refuse destruction in suction gas plant. Eng & Contr 58:263 S 13 '22

Refuse reclamation at Halifax. Pub Works 54:314-15 O '23

Refuse salvaging at Eccles, England. Pub Works 54:196-7 Je '23

Sacramento paid for one-third weight-grain of garbage-fed hogs. Eng N 91:181 Ag 2 '23

Seattle fills land with garbage, ashes and refuse. Eng N 89:876-7 N 23 '22

Successful experiment in salvage of house refuse. Eng & Contr 59:263-4 Ja 31 '23

See also Refuse disposal—Reduction plants

Refuse as fertilizer

Getting our money's worth in fertilizer. H. A. Mount. il Sci Am 128:392-3 Je '23

Humus from garbage. Eng & Contr (Equip R) 60:933 O 31 '23

Refuse collection

La collecte et le traitement des ordures ménagères; nouvelles dispositions et nouvelles taxes adoptées par la Ville de Paris. P. Razous. il diags Génie Civil 80:49-54 Ja 21 '22

Collection and disposal of municipal refuse. E. L. Waterman. Eng & Contr (W W) 59: 385-8 F 14 '23; Same, without table. Can Eng 44:470-2 My 8 '23

Garbage collection in St Paul. J. W. Routh. Pub Works 52:177-9, 196-8; 54:307-9 Mr 11-18 '22, O '23

Garbage collection statistics. Pub Works 54: 97-103 Mr '23

Motor trucks collect and deliver garbage to farmers for pay. W. F. Bates. Eng N 88: 785 My 11 '22

Motorization of refuse collection service in Los Angeles, California. il Munic Eng 62: sup17 My '22

Refuse collection in New Orleans. Pub Works 52:419-20 Je 10 '22

Refuse collection in Waltham, Mass. Pub Works 54:228 Jl '23

Refuse collection in Washington. Pub Works 52:283-4 Ap 22 '22

Street cleaning and refuse disposal data; information concerning appliances and methods used by about two hundred and fifty municipalities. Pub Works 53:270-84; 54:24-38 D '22-Ja '23

Troubles experienced in modern methods of garbage disposal. S: A. Greeley. Munic Eng 63:192-7 N '22; Same abr. Eng & Contr (W W) 58:27-31 O 11 '22; Abstract. Eng N 89:614-15 O 12 '22; Excerpts. Can Eng 44: 432-3 Ap 24 '23

See also Ash handling

Cost

Garbage collection in Goldsboro. Pub Works 52:368-9 My 20 '22

Methods and cost of motorized garbage collection in Akron, Ohio, for 1921. F. C. Tolles. il Munic Eng 62:sup18+ F '22

Le prix de revient de l'enlèvement des ordures ménagères de Genève, en 1921. Génie Civil 81:70-1 Jl 15 '22

Refuse collection in Faferson. Pub Works 52:321-2 My 6 '22

Refuse disposal

Beccari garbage disposal process. Pub Works 54:111, 197-8 Mr, Je '23

Collection and disposal of municipal refuse. E. L. Waterman. Eng & Contr (W W) 59: 385-8 F 14 '23; Same, without table. Can Eng 44:470-2 My 8 '23

Common sense garbage disposal. Eng N 89:961 D 7 '22

Design of city refuse destructors. F. A. Combe. diags plan Eng & Contr (W W) 59:1337-43 Je 13 '23; Same. Can Eng 45:381-5 O 9 '23

Disposal of London refuse. Engineering 112: 889-90 D 30 '21

Elimination of industrial organic odors. Y. Henderson and H. W. Haggard. il J Ind & Eng Chem 14:548-51 Je '22

Garbage and refuse disposal at Seattle. R. H. Thomson. Eng N 90:761 Ap 26 '23

Garbage collection and disposal in Richmond. D. B. Davis. il diag plan Pub Works 53: 251-3 D '22

Garbage crisis. H. A. Mount. il Sci Am 126: 38-9 Ja '22

Garbage disposal and the daily press. Eng N 90:241 F 8 '23

Incineration of garbage. R. R. Knight. Pub Works 52:288-9 Ap 22 '22

Italian garbage process ready for use in U. S. il Eng N 90:324-5 E 15 '23

Municipal waste disposal in Iowa. Eng N 90: 633-4 Ap 5 '23

New York's concrete municipal dump. F. W. Skinner. il diags Pub Works 54:313-14 O '23

Present day aspects of the refuse disposal problem; with cost tables. S: A. Greeley. il plans W Soc E J 27:33-46 F '22

Pulverizing house refuse. Pub Works 51:453-4 D 10 '21

Recent developments in sanitary engineering. G: W. Fuller. Can Eng 45:450 O 30 '23; Same. Pub Works 54:311-12 O '23

Refuse collection and disposal at Newark, England. Eng N 90:706 Ap 19 '23

Refuse destructors and disposal in Great Britain. C. Chambers-Smith. Pub Works 52:63-4 Ja 28 '22

Refuse disposal and salvage methods for small towns. J. W. Hipwood. Can Eng 43:328-9 S 5 '22

Refuse disposal for London. Eng & Contr 57:300-1 Mr 29 '22; Same cond. Engineer 132:685 D 23 '21

Refuse disposal in Chicago. Pub Works 51: 412; 54:317 N 26 '21, O '23

Refuse disposal in Dallas. Pub Works 51:412-13 N 26 '21

Refuse disposal in smaller cities and towns. R. S. Wallis. Eng & Contr 57:138-41 F 8 '22

Street cleaning and refuse disposal data; information concerning appliances and methods used by about two hundred and fifty municipalities. Pub Works 53:270-84; 54:24-38 D '22-Ja '23

Troubles experienced in modern methods of garbage disposal. S: A. Greeley. Munic Eng 63:192-7 N '22; Same abr. Eng & Contr (W W) 58:27-31 O 11 '22; Abstract. Eng N 89:614-15 O 12 '22; Excerpts. Can Eng 44: 432-3 Ap 24 '23

See also Ash handling; Refuse, Utilization of; Refuse collection; Refuse incinerators; Sewage disposal; Street cleaning; Trade waste; Water pollution

Cost

Garbage disposal in St Louis. il diag Pub Works 54:289-91 S '23

Garbage piggery and residue drying cheapest for Buffalo. H. P. Eddy. Eng N 91:479-82 S 20 '23

Garbage reduction expensive in Chicago. Pub Works 54:325-6 O '23

Refuse disposal—Continued**Reduction plants**

Chlorine gas for killing garbage and other offensive odors. W. J. Springborn. Eng N 88:646 Ap 20 '22

La collecte et le traitement des ordures ménagères; nouvelles dispositions et nouvelles taxes adoptées par la Ville de Paris. P. Razous. il Génie Civil 80:51 Ja 21 '22

Garbage in working clothes; the efforts to get the value out of this municipal waste. H. A. Mount. il Sci Am 127:106-7 Ag '22

Odor elimination, New Bedford garbage plant. W. J. Springborn. il Pub Works 52:442-3 Je 17 '22

Reduction plants, Municipal

Chicago's garbage problem. L. F. King. W Soc E J 27:47-50 F '22

Cleveland's grease and tankage prices. Pub Works 54:91-2 Mr '23

Refuse incinerators

Design of city refuse destructors. F. A. Combe. diag. plan Eng & Contr (W W) 59:1337-43 Je 13 '23; Same. Can Eng 45:381-5 O 9 '23

Features of continental practice in refuse destruction. Eng & Contr 56:506-7 N 30 '21

Garbage disposal in St Louis. il diag Pub Works 54:289-91 S '23

Garbage incinerator at Chatham, Ont. diag plan Can Eng 44:343-4 Mr 20 '23

Incinerator for mill refuse made of brick and concrete. il J Elec 47:473 D 15 '21

Milwaukee refuse destructor report. G. F. Staal. diag Pub Works 54:53-4 F '23

New garbage incinerating plant on Chouteau ave., St. Louis, Missouri. Munic Eng 65:51-4 Ag '23; Excerpt. Eng & Contr (W W) 60:286-7 Ag 8 '23

New refuse destructor at Rochdale, England. Eng N 89:575 O 5 '22

Refuse disposal by incineration in institutional and industrial buildings. W: F. Morse. Munic Eng 62:137-8+ Ap '22

Refuse incinerators advised for city of Boston. Eng N 90:588 Mr 29 '23

Some refuse incinerators as reported from an investigation by the city manager of Alameda, California. C. E. Hickok. Pub Works 53:285-6 D '22

Le traitement des ordures ménagères. P. Razous. il diag Génie Civil 80:7-11, 30-4 Ja 7-14 '22

Refuse incinerators, Domestic

Escape from the garbage can. il Sci Am 128:25 Ja '23

Refuse receptacles

Dayton's waste paper receptacles. il Pub Works 54:312 O '23

Regenerative braking. See Braking, Regenerative**Regional advisory boards. See American railway association—Regional advisory boards****Regional planning**

City planning broadens into regional planning. N. P. Lewis. Munic Eng 63:181-4 N '22

Interlocking specification for the regional plan Los Angeles county. Eng & Contr (Bldgs) 58:119-22 D 27 '22

Regional and metropolitan planning. G: B. Ford. Eng & Contr (R & S) 60:499-506 S 5 '23

Regional planning. N. P. Lewis. Am Soc C E Pro 49:554-60 Mr '23; Same. Eng & Contr (R & S) 59:1015-19 My 2 '23

Regional planning schemes. L: Mumford. il Am Inst Arch J 11:404-5 O '23

Town and regional planning in relation to sanitation. R. O. Wynne-Roberts. Can Eng 43:371-4 S 19 '22

See also Nation planning

Registers (heating)

Elimination of waste in register trade. Sheet Metal Worker 14:653+ S 14 '23

Furnacemen to standardize registers. Sheet Metal Worker 14:468b-c+, 504 J1 6-20 '23

Regulator, Arca. See Arca regulator**Regulators, Voltage. See Voltage regulators****Rehabilitation. See Disabled—Rehabilitation****Reindeer**

Michigan now has its own reindeer herd. il

Pop Mech 39:668 My '23

Migrating herds of wild caribou delay Alaskan river steamers and interfere with domesticated reindeer. S. F. Corbett. il map Pop Mech 39:346-8 Mr '23

Reinforced concrete. See Concrete, Reinforced**Reinhardt method**

Prolonging the life of forging dies; Reinhardt method of maintaining the dies or tools, while in use, at a temperature above that resulting from normal operation but below the temperature at which they are hardened and drawn. M. Parker. il Mach 29:671-4 My '23

Relativity (physics)

Another ether-drift experiment. R. J. Kennedy. diag. Phys R 20:26-33 J1 '22

Critiques des théories de la relativité; celle d'Einstein n'est pas une théorie physique. P. Juppont. Génie Civil 80:430-3, 443-6, 468-73 My 13-27 '22

Definition of simultaneity and the ether. E. H. Synge. Philos Mag 6th ser 43:528-31 Mr '22

Deflexion of a ray of light in the solar gravitational field. F. D. Murnaghan. Philos Mag 6th ser 43:580-8 Mr '22

Einstein and the theory of relativity. H. J. Jones. Engineer 132:529-30, 556-8, 588-9 N 18-D 2 '21; Discussion. 132:644 D 16 '21

Einstein and the universe. C: Nordmann. 185p Holt '22

Einstein theory of relativity. G. P. Serviss. 96p E. M. Fadman, 229 W. 42d st., New York '23

Einstein's relativity. D. J. McAdam. 204p R. G. Badger, Boston '22

Einstein's theory of relativity. E. H. Kennard. Sibley J 36:155-6+ N '22

Einstein's theory of relativity. C: P. Steinmetz. Gen Elec R 24:1014-18 D '21

Four lectures on relativity and space. C: P. Steinmetz. 130p McGraw-Hill '23

General principle of relativity applied to the Rutherford-Bohr atom-model. T. Wereide. Phys R 21:391-6 Ap '23

Gravitation versus relativity. C: L. Poor. 277p Putnam '22

Ideas of Einstein's theory. J. H. Thirring. 166p Methuen & co., London '21

Introduction to Einstein and universal relativity. W: F. Hudgings. 64p Arrow bk. co., New York '22

Introduction to the theory of relativity. L. Bolton. 177p Dutton '21

Light emission from a moving source in connection with the relativity theory. N. Rashed. Phys R 18:369-76 N '21

Mathematical theory of relativity. A. S. Eddington. 247p University press, Cambridge, England '23

Mathematical theory of relativity. A. Kopff. 214p Methuen & co., London '23

Meaning of relativity. A. Einstein. 123p Princeton university press '22

La mécanique classique et la théorie de la relativité. P. Painlevé; E. Picard. Génie Civil 79:412-13 N 12 '21

Mechanical forces indicated by relativity in an electromagnetic field; can their existence be demonstrated? A. McAulay. Philos Mag 6th ser 46:156-62 J1 '23

Philosophy and the new physics. L: A. P. Rougier. 159p Blakiston '21

Physical interpretation of relativity mathematics. C. H. Bickerdike. Philos Mag 6th ser 45:327-35 F '23

Postulates and conclusions of the theory of relativity. L: T. More. Philos Mag 6th ser 42:841-52 N '21

Le principe de la relativité et les théories d'Einstein. H. Vigneron. Génie Civil 79:408-12 N 12 '21

Principle of relativity with applications to physical science. A. N. Whitehead. 190p Macmillan '22

Relativity (physics)—Continued

- Reflection from a moving mirror and the Michelson-Morley experiment. E. H. Kennard and D. E. Richmond. *Phys R* 19:572-7 Je '22
- Die relativitätstheorie Einsteins und ihre physikalischen Grundlagen. M. Born. 261p J. Springer, Berlin '21
- La relativité des phénomènes. G. Moch. 366p E. Flammarion, Paris '21
- Relativity, a romance of science. A. Henderson. 65p Univ. of North Carolina press, Chapel Hill '23
- Relativity: a systematic treatment of Einstein's theory. J. Rice. 397p Longmans '23
- Relativity and the universe. H. Schmidt. 135p Robert M. McBride & co., New York '22
- Relativity-contraction in a rotating shaft moving with uniform speed along its axis. F. E. Hackett. *Philos Mag* 6th ser 44:740-52 O '22
- Relativity for all. H. Dingle. 70p Little, Brown, and co., Boston '22
- Relativity in the films. *il Sci Am* 127:92 Ag '22
- Relativity of field and matter. A. S. Eddington. *Philos Mag* 6th ser 42:800-6 N '21
- Sidelights on relativity. A. Einstein. 56p Dutton
- Space, time, matter. H. Weyl. 330p Dutton '22
- Substance and function and Einstein's theory of relativity. E. Cassirer. 465p Open Court pub. co., Chicago '23
- Tensors of given types in Riemann space. P. Franklin. *Philos Mag* 6th ser 45:998-1009 My '23
- Theory of general relativity and gravitation. L. Silberstein. 141p Van Nostrand '22; Review by G. Paaswell. *Eng N* 89:1082-3 D 21 '22
- Theory of relativity and its influence on scientific thought. A. S. Eddington. 32p Oxford '22
- Transformation of the equation of motion of the dynamics of continuous media in the restricted principle of relativity. H. T. Flint. *Philos Mag* 6th ser 42:794-9 N '21
- Validity of Einstein's doctrine. *Engineer* 134: 668 D 22 '22
- Wege zur relativitätstheorie. R. Laemmel. 76p Kosmos, gesellschaft der naturfreunde, Stuttgart '21

Relays

- Application of a revolving magnetic drum to electric relays, siphon recorders and radio transmitting keys. N. W. McLachlan. *diags Inst E E J* 61:903-26; Discussion. 926-33 Ag '23
- Application of relays. L. A. Terven. *diags Elec J* 19:266-8, 303-8, 328-30, 395-7, 506-11 Je-S. D '22
- C. G. S. relay graphers. *il diags Electrician* 89: 513-14 N 3 '22
- Current relay for parallel line protection. H. P. Sleeper. *il diags Elec J* 19:153-5 Ap '22
- Distance relay. S. L. Goldsborough. *il diags Elec J* 20:154-9 My '23; Abstract. *Elec Ry J* 61:930 Je 2 '23
- Distance relay for automatically sectionalizing electrical net works. L. N. Crichton. *il diags Am Inst E E J* 42:793-8 Ag '23; Abstract. *Elec W* 81:1028 My 5 '23; Discussion. *Am Inst E E J* 42:1087-92 O '23; *Elec W* 81:1029-30 My 5 '23
- Ground relays improve protection. L. A. Terven. *diags Elec W* 80:711-14 S 30 '22
- Ground-selector relay scheme. P. Ackerman. *diags Elec W* 81:1029; Discussion. 1029-30 My 5 '23
- Indicating relays at the Hell Gate station. H. P. Sleeper. *il diags Elec J* 19:499-501 D '22
- Installing directional relays. R. Rader. *diags Elec W* 81:457 F 24 '23
- Long time element relays for large apparatus. H. D. Hineline and B. H. Smith. *il Power Pl Eng* 26:1053-4 N 1 '22
- Methods for checking relay connections. J. L. Thompson. *Elec W* 80:995-6 N 4 '22
- Multi-contact auxiliary relay provides differential protection. C. A. Corney. *il diags Elec W* 80:1162-3 N 25 '22
- New low-energy relays. *diag Elec Ry J* 61: 936 Je 2 '23
- New multicontact relay. *il Power Pl Eng* 26: 1228 D 15 '22

- New radial relay protection. P. Ackerman. *diags Elec W* 81:619-23 Mr 17 '23
- New type of open-phase and phase-reversal relay. *il diags Power* 55:294 F 21 '22
- New types of control relays. *il Power Pl Eng* 26:930 S 15 '22
- Over-power induction relay, IG-3 type. *il Power Pl Eng* 26:730-1 Jl 15 '22
- Overload inverse-time-limit relay with a definite adjustable minimum. *il diags Elec R (Lond)* 90:825-6 Je 9 '22
- Protection of electrical apparatus; thermally actuated relays. *Electrician* 88:569 My 12 '22
- Protective relays. V: H. Todd. 274p McGraw-Hill '22
- Protective relays applied to transmission systems. H. P. Sleeper. *diags Elec J* 19:50-2 F '22
- Les relais de disjoncteurs pour les circuits électriques. *Génie Civil* 79:521-2 D 10 '21
- Relay as ground detector for D. C. control bus. J. E. Goodale. *diags Elec W* 81:695 Mr 24 '23
- Relay operation indicator. H. P. Sleeper. *il diags Elec J* 20:113-14 Mr '23
- Relay protection for electrical apparatus in western use. G. H. Bragg. *diags J Elec* 48:402-5 My 15 '22
- Relay protects motors against damage. *il Iron Tr R* 70:687 Mr 9 '22
- Relaying of interconnected systems. C. A. Powel. *diags N E L A Bul* 10:602-5 O '23
- Relays affected by wave form. V. H. Todd. *diags Elec W* 79:434 Mr 4 '22
- Report of signal section committee on d.c. relays; specification for d.c. indicators. *Ry Age* 74:737-8 Mr 16 '23
- Report of the relay sub-committee. E. R. Stauffacher. *J Elec* 50:429-32 Je 1 '23
- Selective relay system of the 66,000-volt ring of the Duquesne light company. H. P. Sleeper. *il diags map Am Inst E E J* 42: 723-7 Jl '23; Abstract. *Elec W* 81:1027-8 My 5 '23; Discussion. *Am Inst E E J* 42:1087-92 O '23; *Elec W* 81:1029-30 My 5 '23
- Shunting characteristics of the relay in an a-c track circuit employed in railroad signaling. C. F. Estwick. *diags Am Inst E E J* 40:919-25 D '21
- Synchronous timing device for relays. *il diags Power* 56:986 D 19 '22
- Transmission line relay protection. E. A. Hester and others. *diags Am Inst E E J* 41:839-52, 997-1011 N-D '22; Discussion. 41: 984-90 D '22
- Trend in relay protection; protective devices committee of the A.I.E.E. finds differential schemes most popular. *il diags Elec W* 80: 66-8 Jl 8 '22; Discussion. 80:130-1 Jl 15 '22
- Westinghouse differential relay protects transmission lines. *il diags Power Pl Eng* 27:703-4 Jl 1 '23
- What is meant by relay maintenance? A. H. Nicholson. *Elec W* 82:25 Jl 7 '23

See also Electric protective apparatus; Track circuits

Terminology

- Relay nomenclature. *Power* 57:64 Ja 9 '23; Same. *Elec W* 81:399 F 17 '23

Testing

- Checking ammeters and relays. R. Brown. *diags Power* 58:683-5 O 30 '23
- Checking and calibrating relays in place. R. Bailey. *il diags Elec W* 81:925-7 Ap 21 '23
- Oscillograph investigation of the Gulstad relay. S. S. Richardson. *diags Inst E E J* 60: 921-9 Ag '22
- Portable relay testing set. A. F. Palmer. *il diags Elec W* 82:494 S 8 '23
- Portable set for testing relays. *il diags Elec W* 81:1153 My 19 '23
- Report of the signal section committee on electrical testing. *diags Ry Age* 74:692-5 Mr 15 '23
- Synchronous timer for testing relays. *il diags Power Pl Eng* 27:345-6 Mr 15 '23
- Testing and inspection of relay systems. R. Bailey. *diags Elec W* 82:26-7 Jl 7 '23

Relays—Testing—Continued

Testing relays prior to installation. R. Bailey. *diags Elec W* 81:338-9 F 10 '23

Relays, Radio

Radio relays by re-radiation. P. Mason. *Wireless Age* 9:67 S '22

Relay recorder for remote control by radio. F. W. Dunmore. *il diags Am Inst E E J* 41:310-13 Ap '22; Same cond. *Elec W* 80:1222-3 D 2 '22; Discussion. *Am Inst E E J* 41:747-9 O '22

Releasing mechanisms

Releasing mechanisms and adjustable stop. C. M. Linley. *diags Mach* 29:131 O '22

Relief maps

Landscapes with a jigsaw; making a replica of Yosemite national park by stacking up contour boards. O. Van Wyck, jr. *il Sci Am* 128:394 Je '23

Quantity production of relief maps. A. Gradewitz. *maps Sci Am* 126:178 Mr '22

Remedial loans. See Loans, Small**Remington arms company**

New Remington labels reduce line from 12,000 items to 24. B. F. Berfield. *il Ptr Ink M* 5:33-4 Ag '22

Remington typewriter company

29th annual report—for the year ending December 31, 1921. *Comm & Fin Chr* 114:1547 Ap 8 '22

Remodeled houses. See Houses, Remodeled**Remsen, Ira**

American contemporaries. E. E. Reid. *por J Ind & Eng Chem* 14:1078 N '22

Portrait. *Chem Age* 30:410 S '22

Rennin

Comparison between the chemical and physiological characteristics of pepsin and rennin. F. Fenger. *Am Chem Soc J* 45:249-55 Ja '23

Rent

Can industrial unrest be eliminated? R. Estcourt. *Annalist* 19:390-1+ Ap 3 '22

Commercial rent as an expense and its relation to profits. H. Secrist. 30p Northwestern university, School of commerce, Chicago '23

Decisions on reasonable rent—Federal Judge Hand fixes 8% as fair return. *Comm & Fin Chr* 113:2258 N 26 '21

Determining rental profits of office buildings. D. G. Scott. *Eng & Contr (Bldgs)* 59:1180-2 My 23 '23

La loi sur les loyers. A. Toulouse. *Chimie & Ind* 7:807-13 Ap '22

Nature of industrial unrest. R. Estcourt. *Annalist* 19:437+ Ap 17 '22

Ricardian rent theory in early American economics. J. R. Turner. 221p New York univ. press, New York '21

See also Housing laws and regulations; Landlord and tenant; Real estate business

Repair shops

Bringing down the cost of plant upkeep. H. Abbott. *il plans Factory* 30:32-4 Ja '23

Central repair shop for Philadelphia waterworks. J. M. Brogini. *il plan Eng N* 88:772-3 My 11 '22

Cost keeping in repair shops. *Textile World* 61:75+ Ja 7 '22

Systematizing the repair department. L. F. Libgotte. *il diags Ind Management* 65:101-9 F '23

See also Automobile service stations; Electric railroads—Shops; Locomotive shops; Mine shops; Motor bus lines—Shops; Railroads—Shops

Repairing

Costly maintenance due to too much labor specialization. E. W. Howe. *Management & Adm* 6:164 Ag '23

Planning, scheduling, and dispatching of maintenance and repairs. P. M. Atkins. *Ind Management* 66:78-83 Ag '23

See also subdivision Maintenance and repair and Repair under various subjects, e.g. Electric lines—Maintenance and repair; Factories—Maintenance and repair; Freight cars—Repair; Machinery—Repair

Repaving. *See Pavements—Maintenance and repair*

Replege steel company, New York

Large ore reserves; important increase in Replege steel co. *Iron Age* 109:1088 Ap 20 '22

Representation

La représentation professionnelle. A. Ranc. *Chimie & Ind* 9:1230-4 Je '23

Reptiles

Odd reptiles from Santo Domingo. E. A. Higgins. *il Pop Mech* 39:377-9 Mr '23

Reptiles, Fossil

See Ichthyosaurus; Thecodontia

Republican iron and steel company

22d annual report—for the fiscal year ending December 31, 1921. *Comm & Fin Chr* 114:962-3 Mr 4 '22

23d annual report for the fiscal year ending December 31, 1922. *Comm & Fin Chr* 116:628-9 F 10 '23; Excerpts. *Iron Age* 111:489 F 15 '23

Republic rubber company

Advertising puts whole town behind one industry. R. Dickinson. *Ptr Ink* 120:109-10+ Ag 24 '22

Resale prices. See Price fixing, Resale**Research**

Classification of research activities. *Chem & Met Eng* 25:638, 681, 948 O 5-12, N 23 '21

Executive and research. J. A. Matthews. *Chem Age* 30:521-2 D '22

See also Aeronautic research; Agricultural research; Automobile research; Business research; Ceramic research; Chemical research; Concrete research; Cotton research; Electric research; Foundry research; Gas research; Government research; Highway research; Industrial research; Mining research; Paper research; Psychical research; Railroad research; Rubber research; Scientific research; Textile research; Wool research; *also* Canada—Advisory council for scientific and industrial research; National research council; Personnel research federation

Research corporation

Work of the Research corporation. *Eng & Min J* 115:1072-3 Je 16 '23

Research information service. *See* National research council—Research information service

Research laboratory. *See* Laboratories

Research libraries. *See* Technical libraries

Reserve accounts

Reserves. H. A. Finney. *J Account* 34:249-61 O '22

Reserve funds

Sinking funds, reserve funds, and depreciation. J. H. Burton. 91p Pitman '22

See also Sinking funds

Reservoirs

Balancing reservoir of Baltimore water supply. W. A. Megraw. *diag Eng & Contr* 58:36-7 Jl 12 '22; Same. *Pub Works* 53:87-8 Jl 29 '22; Same. *Am Water Works Assn J* 10:243-6 Mr '23

Barrages triangulaires en maçonnerie. G. Pigeaud. *Génie Civil* 82:591-6 Je 23 '23

Cement gun in water works practice. L. R. Talbot. *Am Water Works Assn J* 9:446-8 My '22; Same abr. *Eng & Contr* 58:144 Ag 9 '22

Comparison of flood control measures. H. Taylor. *Munic Eng* 65:22-7 Jl '23; Same. *Eng & Contr (W W)* 60:563-7 S 12 '23

Computing reservoir outflow and height from inflow and capacity. J. C. Stevens. *Eng N* 87:1031-2 D 22 '21

Constructing Scituate reservoir. *il diags plan Pub Works* 53:137-43 S '22

Floating islands in storage reservoirs. *Pub Works* 53:195 O '22

Largest storage reservoirs in the United States in use in 1920. A. Hazen. *Eng N* 88:799; 89:576 My 11, O 5 '22

Microscopic organisms in reservoirs in relation to the esthetic qualities of potable waters. C. A. Kofoid. *Am Water Works Assn J* 10:183-91 Mr '23

Reservoirs—Continued

New service reservoirs for London. *il* diags map Engineering 113:612-14, 622, 648-9 My 19-26 '22

Observations on beaching slopes on reservoir embankment. C. A. Bissell. *diags* Eng N 90:1117 Je 28 '23

Operation of reservoirs for water supply. S. A. Greeley. Am Soc C E Pro 47:674-8 D '21; Same abr. Eng & Contr 57:52-3 Ja 11 '22

Regulating hydro-plant reservoirs. *diags* Elec W 80:831 O 14 '22

Removal of floating islands from storage reservoir. *il* Eng & Contr 58:261-2 S 13 '22

Reservoir embankment protected by gunite reinforced slab. A. S. Holway. *il* diag Eng N 90:880-1 My 17 '23

Reservoir loses 84% of storage capacity in nine years. T. U. Taylor. Eng N 91:380-2 S 6 '23

Reservoir storage for Kansas—Colorado water. Pub Works 52:32-3 Ja 14 '22

Some details of six covered reservoirs. G. C. Bunker and A. G. Nolte. Eng & Contr (W) 60:783 O 10 '23

World's greatest reservoirs. Elec W 81:922, 1093 Ap 21, My 12 '23

See also Dams; Flood control; Irrigation; Retaining walls; Water storage; Water supply; Water supply engineering; Waterworks

Repair

Waterproofing a leaky reservoir at Nashville, Tenn. *il* diags plan Eng N 88:310-12 F 23 '22

Reservoirs, Concrete

Building the Baldwin reservoir, Cleveland water-works. *il* diags plans Eng N 89:916-20 N 30 '22

Comparison of concrete groined arches as an aid in their design. P. O. Macqueen. Am Soc C E Pro 48:1665-74 O '22; Same abr. Eng & Contr (W) 58:91-7 N 8 '22; Abstract. Pub Works 54:158-9 My '23

Covered water reservoir 14 acres in extent. W. J. Laubenstein. *il* Pop Mech 39:550-1 Ap '23

English groined arch service reservoir. *il* Eng & Contr 56:550-1 D 14 '21

Fifth Omaha reservoir embodies new principles in design. *il* Munic Eng 62:179-80 My '22

Littleton reservoir for the Metropolitan water board. *il* diags maps Engineering 114:417-19, 480-2 O 6, 20 '22; Excerpt. Eng & Contr 58:39-40 N 29 '22

Methods and costs of building 10 million gallon, reinforced concrete reservoir for the Indianapolis water co. W. C. Mabee. *il* Munic Eng 62:141-5 Ap '22; Same. Eng & Contr 57:446-8 My 10 '22; Same cond. Eng N 88:739-40 My 4 '22

Precast block and reinforced concrete in Cross Hill reservoir. *il* Concrete 19:230-1 D '21

Reservoir with cathedral architecture. *il* Sci Am 128:236 Ap '23

Revamping the artesian water supply of Bryan, Ohio. *il* Eng N 88:351 Mr 2 '22

Tennis courts roof new water reservoir. *il* Concrete 19:185-6 N '21

Repair

Cracks in concrete reservoir forced by icing process. *il* Eng N 90:251 F 8 '23

Thirteen-ton concrete slab moved to repair reservoir floors. *il* Eng N 89:309 Ag 24 '22

Waltham reservoir waterproofed by a new lining. M. W. Fisher. Eng N 91:185 Ag 2 '23

Residual affinity. See Chemical affinity

Resin acids

See Abietic acid

Resinous products

Artificial resins, varnishes and lacquers. R. Furness. Soc Chem Ind J (Chem & Ind) 42:1000-4 O 19 '23; Abstract. Soc Dyers & Col J 39:380-1 D '23

Compounded synthetic resins. Chem Age 31:80-1 F '23

Coumarone resin. Chem Age 30:285 Je '22

Effects produced by aging in synthetic resin molded products of the phenol-formaldehyde group. E. J. Casselman. Am Electrochem Soc Trans v 44 (preprint 14):153-9 S '23; Same. Chem Age 31:443-5 O '23

Furfural for the production of synthetic resins. Chem Age 31:62 F '23

Furfural resins. J. P. Trickey, C. S. Miner and H. J. Brownlee. bibliog Ind & Eng Chem 15:65-6 Ja '23

Glycerol-polybasic acid resins. Chem Age 30:367-8 Ag '22

Paracoumaron resin in flake form; patent. Chem Age 30:514 N '22

Les résines synthétiques. Clément and Rivière. Chimie & Ind 8:38-40 Jl '22

Synthetic resins and their plastics. C. Ellis. 514p Chemical catalog co. '23

Resins. See Gums and resins; Rosin

Resins, Synthetic. See Resinous products

Resistance, Air. See Air resistance

Resistance, Automobile. See Automobile resistance

Resistance, Electric. See Electric resistance

Resistance, Road. See Road resistance

Resistance, Ship. See Ship resistance

Resistance grids. See Grids, Resistance

Resistance neutralization; an application of thermionic amplifier circuits. E. Bennett and L. J. Peters. *diags* Am Inst E E J 41:234-48 Mr '22

Resistance of materials. See Strains and stresses; Strength of materials

Resistance welding. See Electric welding

Resistors, Electric. See Electric resistors; Grids, Resistance; Rheostats

Resonance potential

Measurement of the resonance, radiation, and ionization potentials of several gases and vapors. P. E. Boucher. *diags* Phys R 19:189-209 Mr '22

Resorcinol

Condensation of certain nitriles and various poly-hydroxyphenols to form phenolic acids. W. D. Langley and R. Adams. Am Chem Soc J 44:2320-30 O '22

Condensation of diphenic anhydride with resorcinol. F. Bischoff and H. Adkins. Am Chem Soc J 45:1030-3 Ap '23

Constitution of resorcinol and some of its derivatives; abstract. R. Fabre. Chem Soc J 122 pt 1:1147-8 D '22

Production of imido thiol esters by the condensation of thiocyanates with resorcinol or phloroglucinol. R. J. Kaufmann and R. Adams. Am Chem Soc J 45:1744-52 Jl '23

Rings through the meta and para positions of benzene; a study of certain ethers of resorcinol and meta-aminophenol. W. C. Wilson and R. Adams. Am Chem Soc J 45:528-40 F '23

Some interesting dyestuffs derived from resorcinol. E. Lang. Color Tr J 13:68-9 Ag '23

See also Dinitrosoresorcinol

Resorcinolphenylsuccinein

Resorcinolphenylsuccinein. A. Lapworth and J. A. McRae. Chem Soc J 121:2722-4 D '22

Resorcyaldehydes

Über die vanillin-isomeren der resorcyal-reihe. E. Ott and E. Nauen. Deutsche Chem Gesell Ber 55:920-9 Ap '22; Abstract. Chem Soc J 122 pt 1:555-6' Je '22

Respiration, Artificial

Carbon monoxide asphyxia; artificial respiration. C. K. Drinker and others. J Ind Hygiene 5:109-23; Bibliography. 123-4 Ag '23

Respiration calorimeter

Respiration calorimeter experiments with fruits, celery and eggs. H. G. Barott. Refrig Eng 9:103-5 S '22

Respiratory apparatus

Air chamber saves divers stricken at work. *il* Pop Mech 40:357 S '23

Air from tank on back used to save lives. *il* Pop Mech 40:170 Ag '23

Respiratory apparatus—Continued

Appareil respiratoire destiné à la protection contre l'oxyde de carbone. A. Desgrez and others. *diags Chimie & Ind* 6:536-8 O '21

L'appareil respiratoire Fenzy. *diag Génie Civil* 82:530 Je 2 '23

Appareil respiratoire Fernex contre le gaz ammoniac et l'acide sulfureux. *il Génie Civil* 83:156-7 Ag 18 '23

Breathing apparatus shows developments important in overcoming fumes. *il Safety Eng* 44:60-2 Ag '22

Comparison of gas masks, hose masks and oxygen-breathing apparatus. *Blast F & Steel Pl* 11:459 Ag '23

Gas masks and other respiratory apparatus. *Safety Eng* 46:74-5, 130-2 Ag-S '23

Liquid air boiling away at partially regulated speed used to supply mine rescuers and rescued. H. Briggs. *il diags Coal Age* 21:609-12 Ap 13 '22

Liquid oxygen in a vaporizer used for resuscitation. H. Briggs. *diags Coal Age* 21:655-6 Ap 20 '22

Oxygen-breathing apparatus works automatically. *il Pop Mech* 39:868 Je '23

Protection from gases. *Engineering* 116:370-1 S 21 '23

Pulmotor advertises gas company. *il Gas Age* 49:257-8 Mr 4 '22

Respirators for railway and industrial purposes. *Engineer* 134:283 S 15 '22

Resuscitation; fact vs. propaganda. F. F. Morris. *Sci Am* 129:55 Jl '23

Temple coal co. supplements its breathing apparatus with mask that absorbs all poisons in mine air. D. C. Ashmead. *il Coal Age* 22:791-2 N 16 '22

Use of breathing appliances in chemical works. L. Levy. *il Chem Age (Lond)* 8:362-3 Ap 7 '23

Victims of gas are saved by respirator mask. *il Pop Mech* 40:405 S '23

See also Oxygen apparatus

Testing

Tests of gas masks and respirators for protection from locomotive smoke in railroad tunnels with analyses of tunnel atmospheres. A. C. Fieldner, S. H. Katz and S. P. Kinney. *il U S Bur Mines Tech Pa* 292:1-27 '22; Abstract. *Ry R* 71:658-62 N 11 '22

Respiratory organs

Lead studies; absorption of lead by the upper respiratory passages. H. L. Blumgart. *bibliog J Ind Hygiene* 5:153-8 S '23

See also Bronchitis; Lungs

Rest houses

Small brick building of Elizabethan character the rest house at Mt. Auburn cemetery, Cambridge, Mass. *il diags plan Arch Forum* 36:105-8, pl 42 Mr '22

Rest periods. See Fatigue**Restaurants**

Building a six-million-dollar business on trust; Exchange buffet chain of Metropolitan restaurants. *Ptr Ink* 121:109-10+ D 14 '22

See also Hotels; Kitchen utensils; Lunch rooms and cafeterias, Employees'; Tea rooms

Accounting

Food cost finding and control for hotels, restaurants, cafeterias, clubs, etc. J. D. Vehling. 66p Food research bur. of Chicago, Chicago '23

Advertising

Getting a flavor in restaurant mail. G. Evans. *Ptr Ink* 120:117 Ag 17 '22

Glorifying an arm chair lunch by means of advertising. R. M. Rhodes. *Ptr Ink* 119:141-2+ My 18 '22

Muse and the menu. J. J. Leibson. *Ptr Ink* 117:100+ D 22 '21

Restaurant advertising flavored with humor and jazz. *Ptr Ink* 121:73-4+ O 26 '22

Why Mary Dutton spends 2 per cent of receipts for advertising. G. A. Nichols. *Ptr Ink M* 7:31-2+ S '23

Electric equipment

B. & K. electric restaurant. *il Elec R (Lond)* 89:593-5 N 4 '21; Electrician 87:571-3 N 4 '21

Lighting

Lighting for public eating places. J. L. Stair. *il diags plan Illum Eng Soc* 17:621-41 N '22; Abstract. *Am Arch* 122:511-16 D 6 '22

Toilet rooms

More toilets in more restaurants. S. Sayward. *il Dom Eng* 104:477-9 S 8 '23

Restraint of trade

Cases on trade regulation. H. Oliphant. 1078p West pub. co., St Paul '23

Conspiracy and the right to carry on business. *Engineering* 115:468-9 Ap 13 '23

Contracts requiring return of acetylene containers held not in restraint of trade. W. Gustin. *Chem & Met Eng* 27:745-6 O 11 '22

Disciplined shoe machinery trust. E. A. Bradford. *Annalist* 19:486+ My 1 '22

Discrimination between customers; decision of the United States circuit court of appeals in the Mennen case. F. Neilson. *Elec W* 81:774 Mr 31 '23

Economics of the prosecution of the potters; effect of application of the Sherman law. H. A. Call. *Sanitary & Heat Eng* 99:277-80+ My 4 '23

Federal jury returns verdict of guilty against pottery firms indicted under Sherman law. *Comm & Fin Chr* 116:2211-12 My 19 '23

Judge John C. Knox dissolves the Cement manufacturers protective association. *Eng* N 91:726-7 N 1 '23

Mennen case is laid before Supreme court. *Oil Paint & Drug Rep* 103:19 My 28 '23

Mennen files petition against Federal trade commission ruling. *Ptr Ink* 121:108 N 9 '22

Mennen wins fight for trade discounts. *Ptr Ink* 122:33-4 Mr 22 '23

Mennen wins over F.T.C. in suit to maintain right to select customers. *Oil Paint & Drug Rep* 103:21+ Mr 19 '23; *Brick & Clay Rec* 62:599-600 Ap 3 '23

Palm Beach submits new licensee agreement. *Ptr Ink* 124:26-7 Jl 12 '23

Settling sales policies in court. *Nation's Business* 11:58+ My '23

Supreme court decides on tying clauses. *Ptr Ink* 119:162+ Ap 20 '22

Supreme court holds linseed crushers violated Sherman act. *Chem & Met Eng* 28:1046 Je 11 '23

Trade commission asked to define right to refuse to sell. *Ptr Ink* 122:49-50+ Mr 8 '23

Trade commission attacks right to classify customers. *Ptr Ink* 117:17-18 D 22 '21

U. S. Supreme court holds lease contracts of United shoe machinery corporation in violation of Clayton act. *Comm & Fin Chr* 114:1729-30 Ap 22 '22

See also Competition, Unfair; Price fixing; Trade associations; Trusts, Industrial

Resuscitation

Apparent death and resuscitation. I. Ginsberg. *Sci Am* 128:22 Ja '23

Carbon monoxide asphyxia. C. K. Drinker and others. *J Ind Hygiene* 4:463-73; 5:109-23 Mr. Ag '23; Bibliography. 5:123-4 Ag '23

Final report of the commission on resuscitation from carbon monoxide asphyxia; the treatment of carbon monoxide asphyxia. *bibliog J Ind Hygiene* 5:125-9 Ag '23

McLagan system of resuscitation from electric shock. J. A. Brown. *il Elec R (Lond)* 92:572 Ap 13 '23

Les meilleurs moyens de sauvetage des asphyxiés. R. Legendre. *il Génie Civil* 83:130-1 Ag 11 '23

Present status of the problem of resuscitation in cases of electric shock and of carbon monoxide poisoning. C. K. Drinker. *J Ind Hygiene* 5:255-63 N '23

Report 1 of the commission on resuscitation from carbon monoxide asphyxia to the American gas association. *diags Am Gas Assn General Sessions* sec v 4:173-208; Bibliography. 208-9 '22

Resuscitation from electric shock. C. B. Auel. *N E L A Bul* 10:61-2 Ja '23

Resuscitation—Continued

Resuscitation from inhalation of gas, by the Prone pressure method. *il Am Gas Assn General Sessions sec v 3:64-7 '21*

Retail salesmen. See Salesmen, Retail

Retail shoemen's institute of Boston, Massachusetts

Co-operative schools for retail salespeople. *Ptr Ink 120:17-18 S 14 '22*

Retail stores (buildings). See Store buildings; Stores (retail trade)

Retail stores, Manufacturer's

When a manufacturer decides to go direct to consumer; Van de Kamp stores. *C: A. Goddard. il Ptr Ink M 5:484+ J1 '22*
When the advertiser opens his own store. *R. Dickinson. Ptr Ink M 7:23-4+ O '23*

See also Gotham silk hosiery company

Retail trade

Advertising hold-upitis breaking out among big retailers. *Ptr Ink 125:81-2+ O 11 '23*

Advertising's answer to the query, Are there too many retailers? *J: A. Murphy. il Ptr Ink M 5:17-18+ O '22*

Answering a retailer's query about profit on advertised goods. *Ptr Ink 118:61-2 F 23 '22*

Are there really too many retailers? *L. D. H. Weld. il maps System 44:149-51+ Ag '23*

Business barometer for retailers. *H. Secrist. 20p Northwestern univ., School of commerce, Chicago '22*

Business management for small retailers. *H. M. Theedam. 108p Pitman '21*

Capitalizing a retail business. *T: J. Kavanaugh. Dom Eng 100:236-7 Ag 5 '22*

Charm of color; various use of color to attract business. *W. Moore. Color Tr J 12:202-3 My '23*

Cutting away from mail order and what it means. *G. A. Nichols. Ptr Ink 123:58+ Je 7 '23*

Dealer education work of one association. *Ptr Ink 118:136+ Ja 12 '22*

The dealer—he is panned and praised. *Brick & Clay Rec 62:780-4 My 1 '23*

Dealers—and what they aren't. *P. K. Marsh. Ptr Ink 119:61-2+ My 11 '22*

Elements of retailing. *R. Leigh. 385p Appleton '23*

High cost of convenience. *A. L. Filene. il Nation's Business 11:17-19 J1 '23*

How an association of manufacturers is saving accounts for its members by helping retailers. *J. True. Ptr Ink 123:77-8+ Ap 26 '23*

How dealers are making a success of house-to-house selling. *M. L. Pierce. Ptr Ink 125:89-90+ O 4 '23*

How six stores swell net profits. *System 44:154-5 Ag '23*

How swapping customers adds to distribution cost. *P. M. Fahrendorf. Ptr Ink M 6:104+ Mr '23*

How the banker can help the retailer in his business. *T: J. Kavanaugh. Dom Eng 101:230-1 N 11 '22*

How the manufacturer can help the retailer out of the jungle. *E: M. Skinner. Ptr Ink 120:117-18+ S 21 '22*

How to sell at retail. *W. W. Charters. 326p Houghton '22*

How we applied simplification in a retail store. *F. Altermatt, jr. il System 43:35-7+ Ja '23*

In the back of the customer's mind; the price reduced yarn that the customer doesn't believe. *O. R. Tyson. Nation's Business 11:40 Ag '23*

Is it better to concentrate on one line or handle several? *Ptr Ink 119:161-2 Ap 20 '22*

Jungle delta of retail trade. *W: G. Shepherd. Ptr Ink 120:17-20 S 7 '22*

Letters to teach the dealer to be a better merchant. *D. C. Gale. Ptr Ink 118:111+ Ja 5 '22*

Making farmers feel at home. *A. W. Douglas. Nation's Business 11:52+ N '23*

Making the retailer a part of your sales force. *W. S. Ashby. Ptr Ink 117:101-2 N 10 '21*

Managing a store for greater profit. See monthly numbers of System

Manufacturers who use their dealers as emergency salesmen. *J: A. Murphy. Ptr Ink M 4:31-2 F '22*

Methods that 10 stores are using to cut costs. *System 41:287-8+ Mr '22*

Meyer Gerson. *E. M. Wickes. il System 41:152-4+ F '22*

Modern scientific management from manufacturing to retailing. *J: M. Van Voris. Administration 3:613-18 My '22*

More sales; more satisfied customers—but smaller stocks. *E: A. Filene. il System 44:269-74+ S '23*

Personally conducted tour among advertised commodities. *Ptr Ink 118:133+ Mr 16 '22*

Price concessions to the retailer that hurt advertising. *A. H. Deute. Ptr Ink 119:25-8 My 18 '22*

Problems of retailing. *J: W. Mettler. Textile World 63:2275+ Ap 7 '23; Same. Ptr Ink M 6:43-4+ My '23*

Retail store management problems. *D. K. David. 1050p Shaw '22*

Retail trade account. *F: W. Walter, ed. 264p Ronald press '22*

Retailer and the engineer. *H. B. Wess. Soc Auto Eng J 12:465-6 My '23*

Rumely dealers work in shops to learn how to sell tractors. *G. A. Nichols. Ptr Ink M 4:33-4 Ap '22*

Seasonal distribution of retail trade. *L. B. Mann. Annalist 20:32 J1 10 '22*

Selling expenses and their control; a study in the retail distribution of clothing, by Northwestern university School of commerce. *416p Prentice-Hall '22*

Selling plan may be legal and yet be bad merchandising; not lawful to give spiffs. *Ptr Ink 119:10+ Je 1 '22*

Selling telephone service and carbon paper to the same list. *J. E. Bullard. il map System 44:182-3 Ag '23*

Selling to retail dealers. *H. G. Kenagy. Management & Adm 6:55-8 J1 '23*

Soured customers seen as real brake on business. *G. A. Nichols. Ptr Ink 120:49-50+ O 12 '22*

Split cases make amateur storekeepers. *R: S. Childs. Ptr Ink 120:10+ S 28 '22*

Teaching dealers how to sell semi-perishables. *Ptr Ink 122:41-2+ F 22 '23*

Teaching dealers to do more business on less capital; advertised merchandise. *J. R. Sprague. il Ptr Ink M 5:17-18+ Ag '22*

There are not too many retailers. *R. W. Babson. Ptr Ink 123:65-6+ Je 7 '23*

Three price levels that move stocks. *E: A. Filene. il System 44:431-4+ O '23*

Unusual ways of earning profits. *J: Morrow. il System 43:175-6+ F '23*

Weil brothers. *E. M. Wickes. il System 42:45-7 J1 '22*

What can the dealer do for you? *Brick & Clay Rec 62:496-500 Mr 20 '23*

What is happening to retailing? *G. A. Nichols. il Ptr Ink M 5:17-18+ D '22*

What kind of co-operation does the dealer need? *J. L. Demoville. Ptr Ink 119:89-90+ My 4 '22*

What the better half thinks. *Nation's Business 11:29-30 Mr '23*

What the manufacturers may do to help their dealers. *S. C. Lambert. Ptr Ink 119:153-4+ Ap 20 '22*

What's wrong with the retailer? *A. E. Dodd. Nation's Business 9:19-20 D '21*

When the dealer fails to render an advertised service—what then? *R. Cole. Ptr Ink 117:57-8+ N 17 '21*

When the dealer goes broke. *E: M. Skinner. Ptr Ink M 4:19-20 Ap '22*

Why dealer distribution pays. *H. Botsford. Brick & Clay Rec 62:686-7 Ap 17 '23*

Why it pays the manufacturer to advertise his financial responsibility to the trade. *J. R. Sprague. Ptr Ink 120:3-4+ J1 20 '22*

Why retail merchants get into financial trouble. *J. R. Sprague. Ptr Ink 120:3-4+ S 21 '22*

Retail trade—Continued

Why selling, rather than buying, is the retailer's problem. *Ptr Ink* 122:19-20 *Mr* 29 '23

Why the dealer is indifferent. *G. I. Shreiber. Ptr Ink* M 5:55-6+ *S* '22

Why traveling salesmen call me a crank; by a small-town storekeeper. *Ptr Ink* 122:33-4+ *Ja* 11 '23

Woman retailer tells how she makes sales. *Ptr Ink* 120:125-6 *S* 28 '22

See also Advertising—Dealer cooperation; Bargain sales; Chain stores; Charge account (retail trade); Company stores; Counter display cabinets; Country stores; Dealer helps; Delivery of goods; Department managers; Department stores; Deposit accounts; Dry goods; Electric shops; Exclusive agencies; Five- and ten-cent stores; Grocery trade; Marketing; Merchandizing; Plumbing shops; Purchasing; Returned goods; Salesmanship; Salesmen, Retail; Self-service stores; Space saving (in business); Stores (retail trade)—Location; Street trades; Traveling stores; Turnover; also Retail shoemen's institute of Boston, Massachusetts; Tel-U-Where company of America, Boston, Massachusetts

Advertising

Advertising for the retailer. *L. D. Herrold. 677p Appleton* '23

Advertising to equalize demand for sugar. *Ptr Ink* 123:76+ *My* 10 '23

Building retail business by letter. *J. B. Ruffalo. 550p The John service, 79 5th av., New York* '23

How we increased our trading population. *System* 43:53-4+ *Ja* '23

Planning a campaign for a retailer. *R. E. Ramsay. Inland Ptr* 70:677-80 *F* '23

Pushing a retail business. *W. H. Richards. 384p Richards school of advertising, Chicago* '21

Store that capitalized summer advantages. *System* 44:159-61 *Ag* '23

See also Business streets—Advertising; Department stores—Advertising

Bibliography

How retailers have advertised co-operatively. *Ptr Ink* 122:149-50+ *F* 22 '23

Costs

Cost of doing business at retail. *Elec W* 79:541 *Mr* 18 '22

Costs in the retail distribution of clothing. *Monthly Labor R* 15:1274-6 *D* '22

How rising retail selling cost affects national advertisers. *J. R. Sprague. Ptr Ink* 124:3-4+ *Ag* 30 '23

New conditions and retail profits. *System* 43:157-9+ *F* '23

What size store is most profitable? *L. D. H. Weld. il System* 44:571-3+ *N* '23

Service

Advertising drive to teach women how to sew; *Marshall Field & co. help retailers. C. M. Harrison. Ptr Ink* 122:129-30+ *Mr* 22 '23

England

How American advertisers are selling in England. *J. R. Sprague. il Ptr Ink* M 6:19-20+ *Mr* '23

Retaining walls

Brownsville avenue reconstruction. *A. N. Dick. il diags Pub Works* 53:144-7 *S* '22

Measured retaining-wall pressure from sand and surcharge. *J. Feld. diag Eng* N 88:106-8 *Ja* 19 '22

Retaining wall construction of C. & N.W. Ry. at Milwaukee. *diags Eng & Contr (Ry)* 60:797-8 *O* 17 '23

Some data on the design of steel coal bins. *R. Fleming. diags Eng* N 89:346-50 *Ag* 31 '22; *Discussion. 89:669-70, 808, 1132; 90:270, 553 O 19, N 9, D 28 '22, F 8, Mr 22 '23*

Stability of deep-water quay walls. *F. E. Wentworth-Shields. Eng & Ind Management* 6:723 *D* 22 '21

See also Dams; Earth pressure; Earthwork; Embankments; Railroads—Construction; Reservoirs

Retaining walls, Concrete

Building concrete retaining walls. *A. C. Cole. diags Pop Mech* 40:615-16 *O* '23

Designing concrete shore walls. *A. W. Consoer. Munic Eng* 63:44-5 *Ag* '22

Flexible concrete mattress protects levees. *I. E. Houk. il Pop Mech* 37:220-1 *F* '22

Nimishillen creek wall, Canton, O. *Pub Works* 51:484 *D* 24 '21

Precast concrete cribbing for retaining walls. *il diags Eng* N 91:718-19 *N* 1 '23

Special types of reinforced concrete retaining walls. *R. N. Stroyer. diags Eng & Contr* 58:13-15 *N* 29 '22

Retene

New azo dye from retene for wool. *Color Tr J* 10:248-9 *Je* '22

Retting

Analysis of materials used in the retting of jute. *H. Rudolph. Am Dyestuff Rep* 12:543-5 *JI* 30 '23

Flax retting in Europe. *C. F. Goldthwait. il Textile World* 62:1677+ *S* 23 '22

Return flow water. *See Seepage*

Returned goods

How liberal should a manufacturer be in returned goods privileges? *T. C. Russell. Ptr Ink* 121:25-8 *D* 7 '22

How manufacturers are checking the returned-goods practice. *Ptr Ink* 120:122+ *JI* 20 '22

Using the order-blank to fight return goods evil; *Kalamazoo stove co. C. M. Harrison. Ptr Ink* 117:57-8 *N* 24 '21

We pay the postage on consumers' complaints. *P. R. Boyle. Ptr Ink* M 5:72+ *S* '22

When the customer refuses the C.O.D. delivery. *S. C. Lambert. Ptr Ink* 118:17-20 *Ja* 5 '22

Revenue act of 1921

United States revenue act of 1921. 112p National city co., National city bank bldg., New York

See also Income tax—United States

Reviewing stands

Reviewing stand; *Beaux-Arts institute competition. il Am Arch* 123:459-64 *My* 23 '23

Revolvers**Advertising**

Meeting the handicap of unfavorable legislation with advertising; campaign of Colt's fire arms company. *R. Cole. Ptr Ink* 120:95-6+ *JI* 6 '22

Rewards, prizes, etc.

See Bonus system; also Perkin medal; Vail medal

Rhaetian railway. *See Railroads—Switzerland*

Rheostats

Large field rheostat rebuilt to eliminate troubles. *F. I. Morgan. il Elec W* 78:1123 *D* 3 '21

Method for increasing the carrying capacity of a rheostat. *W. E. Forsythe. J Fr Inst* 193:551-2 *Ap* '22

Portable outfit with simple grid connections to give wide range of resistance. *E. C. Soares. il diags Ind Eng* 81:62 *Ja* '23

Rheostatic type of voltage regulator. *J. H. Ashbaugh. diag Power Pl Eng* 27:533-4 *My* 15 '23

Rheostats for large currents. *diags Power Pl Eng* 25:1103-4 *N* 15 '21

Some notes on the design of liquid rheostats. *W. Wilson. diags Inst E E J* 60:196-211 *F* '22; *Abstract. Elec R (Lond)* 89:833-5 *D* 16 '21; *Discussion. Inst E E J* 60:211-17 *F* '22; *Elec R (Lond)* 89:835; *90:570-2 D* 16 '21, *Ap* 21 '22

Universal chart method of calculating starting rheostats for direct-current motors. *A. T. Dover. charts diags Inst E E J* 60:867-82 *Ag* '22

Rheostats—Continued

- Water cooled resistors. H. F. Wilson. *il Gen Elec R* 26:258-62 My '23
See also Electric controllers; Electric resistance

Base plates

- Advantages of build-up die construction. C. E. Stevens. *il diags Mach* 29:528-30 Mr '23

Rheotropism. *See* Stream line shape**Rhine-Danube canal.** *See* Canals—Germany**Rhine-Herne canal**

- L'équipement électrique des écluses du canal du Rhin à Herne (Westphalie). G. Mesnard. *diags plan Génie Civil* 79:413-15 N 12 '21

Rhine river

- Proposed hydro-electrical development on the Rhine between Basle and Strasburg. A. Antoine. *diags map Elec R (Lond)* 91: 660; Discussion. 661 N 10 '22
 Regularising the Rhine. *Engineer* 133:440 Ap 21 '22

Rhizopoda

- Earliest inhabitant; some of the simplest of the animal forms that go back into geological time. W. Butterfield. *Sci Am* 126:248 Ap '22

Rhoads, Samuel

- Hand books of Samuel Rhoads, carpenter-builder. A. L. Kocher. *Arch Rec* 50:507-9 D '21

Rhodamines

- Effect of the age and the concentration of a solution of rhodamine-B upon the photo-electric current developed. R. Y. Jenkins. *diags Phys R* 18:402-12 N '21

Rhodesia

- See* Mines and mineral resources—Rhodesia

Rhoubenite process. *See* Roads, Concrete—Rhoubenite process**Ribbon weavers**

- Silk ribbon industry—New York city. Monthly Labor R 16:1321-2 Je '23

Ribbons

- Year of progress in ribbons. *Textile World* 61:829 F 4 '22

Rice, Richard H., 1863-1922

- Sketch. *por Power* 55:323 F 21 '22

Rice

- Indian-rice harvesting new industry. L. W. Pedrose. *il Pop Mech* 39:728-30 My '23
 Oriental rice-farm labor becoming harder. L. W. Pedrose. *il Pop Mech* 38:255-6 Ag '22
 Rice-field waste benefits sugar refining. *il Pop Mech* 39:916 Je '23
 Rice hulls are converted into useful products. *Pop Mech* 37:66 Ja '22
 Water requirements for rice culture in Sacramento valley, Cal. *Eng & Contr (W W)* 59: 1074-6 My 9 '23

Advertising

- Associated rice millers get advertising into schools. E. F. Roark, jr. *Ptr Ink M* 4:64+ Ap '22

Statistics

- Acreage and production of tobacco, cotton and rice in the United States. *Comm & Fin Chr* 115:2237-8 N 18 '22

Rice mills**Accounting**

- Accounting for rice milling. T. J. Tapp. *J Account* 35:26-31 Ja '23

Rice straw

- Paper making tests with rice straw. L. Vidal and P. Aribert. *Paper Tr J* 77:49-50 Ji 19 '23
 Sugar cane bagasse and rice straw as paper stock. H. Kumagawa and K. Shimomura. *Paper* 32:7-10 My 2 '23

Richards, Edward Windsor, 1831-1921

- Sketch. *Engineer* 132:534 N 18 '21; *Engineering* 112:701-2 N 18 '21

Richards, Joseph William, 1864-1921

- Sketch. *por Metal Ind* 19:457 N '21
 Sketch. B. Stoughton. *por Min & Met* 180: 27-9 D '21

Richmond, California

- Re-planning Richmond. G. W. Hayler. *Munic Eng* 61:184+ N '21

Richmond, Virginia**Rapid transit**

- Better service possible in Richmond. *Elec Ry J* 61:243-7 F 10 '23
 Proposed amendment to franchise. *Elec Ry J* 60:690 O 21 '22
 Rerouting would save money in Richmond. plans *Elec Ry J* 61:397-403 Mr 10 '23
 Richmond finances analyzed. *Elec Ry J* 60: 905-6 D 9 '22
 Richmond problems being analyzed. *Elec Ry J* 60:391 S 16 '22
 Richmond valuation report published. *Elec Ry J* 61:161-2 Ja 27 '23
 Strike reduces earnings of the Virginia railway and power company. *Elec Ry J* 61:699 Ap 21 '23
 Surplus of \$990,099 in the Virginia railway & power company. *Elec Ry J* 59:656 Ap 15 '22

- See also* Motor bus lines—Richmond, Virginia

Richmond, Fredericksburg and Potomac railway

- Perishable freight service specialty of R.F. & P. *il Ry Age* 73:1044-9 D 2 '22

Richmond Hill, Ontario**Water supply**

- Water works system at Richmond Hill, Ont. G. H. Baker. *il diag plans Can Eng* 42:437-9 My 2 '22

Richthofenia

- Occurrence of richthofenia in Japan. I. Hayasaka. *il Am J Sci* 5th ser 4:465-8 D '22

Rickard, T. A., 1864-

- T. A. Rickard, engineer-editor; an interview. C. Butters and W. J. Loring. *Eng & Min J* 113:528-36 Ap 1 '22

Rickets

- Recent researches on the causation of rickets. J. C. Drummond. *Soc Chem Ind J (Chem & Ind)* 42:811-12 Ag 24 '23

Riddles

- New electric foundry riddle. *il Iron Tr R* 69:1693 D 29 '21

Riemann's *n*-manifold

- Poisson's and Green's theorems in Riemann's *n*-manifold both when it is space-like and when time-space-like. A. McAulay. *diag Philos Mag* 6th ser 46:146-55 Ji '23

Rifles

- Abraham Lincoln and the repeating rifle; other inventions of C. N. Spencer. *il Sci Am* 125A:102-3 D '21

- Development of accurate ammunition; rifle-bullets that have made the long-range target match a contest of endurance. E. C. Crossman. *il Sci Am* 127:98-9 Ag '22

- New military self-loading rifle. E. C. Crossman. *il Pop Mech* 39:412-13 Mr '23

- Thompson autorifle. H. E. Hartney. *Soc Auto Eng J* 10:134+ F '22

Rig irons

- Conference on standardization adopts set of specifications for rig irons. *Nat Pet N* 13: 51-2 D 14 '21

- Standardization of rig irons. H. J. Lockhart. *Am Pet Inst Bul* 3:78-81 D 30 '22; Same. *Nat Pet N* 15:71-2+ Ja 10 '23

Right-of-way law. *See* Rule of the road**Riker's Island**

- Making an island from city refuse; Riker's Island, N.Y.C. W. B. Goodwin. *il Pop Mech* 37:740-2 My '22

Ring-chain tautomerism. *See* Tautomerism

Ring closure

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; über den ringschluss beizweifach benzylierten naphthalinen. R. Scholl und H. Neumann. Deutsche Chem Gesell Ber 55:118-26 Ja '22

Formation of derivatives of tetrahydronaphthalene from γ -phenyl fatty acids; the influence of substituents on ring closure. A. J. Attwood, A. Stevenson and J. F. Thorpe. Chem Soc J 123:1755-66 JI '23

Ring closure of hydrazodithio- and -monothio-dicarbonamides with acetic anhydride. P. C. Guha. Am Chem Soc J 45:1036-42 Ap '23

Ringschlüsse an schwefelhaltigen dicarbonhydraziden; dithio-urazol und iminothiourazol. F. Arndt and E. Milde. Deutsche Chem Gesell Ber 54:2089-2110 S '21; Abstract. Chem Soc J 120 pt 1:813-15 N '21

Ringschlüsse an schwefel-haltigen dicarbonhydraziden; thio-urazol. F. Arndt, E. Milde and F. Tschenschner. Deutsche Chem Gesell Ber 55:341-56 F '22; Abstract. Chem Soc J 122 pt 1:375-7 Ap '22

Untersuchungen und ringschlüsse in der reihe der methyl-naphthaline. F. Mayer and others. Deutsche Chem Gesell Ber 55:1835-59 Je '22; Abstract. Chem Soc J 122 pt 1:740-4 Ag '22

Ring formation

Conditions of formation of rings attached to the α -, m -, and p -positions of the benzene nucleus; the action of sodium on α -phenylenediacyclic ester. W. H. Perkin, jr. and A. F. Titley. Chem Soc J 121:1562-71 Ag '22

Formation and stability of *spiro*-compounds; *spiro*-compounds derived from *cyclo*-heptane. J. W. Baker and C. K. Ingold. Chem Soc J 123:122-33 Ja '23

Oxime of mesoxamide (isonitrosomalonamide) and some allied compounds; ring formation in the tetra-substituted series. E. H. Usherwood and M. A. Whiteley. Chem Soc J 123:1069-89 My '23

Rings through the meta and para positions of benzene; a study of certain ethers of resorcinol and meta-aminophenol. W. C. Wilson and R. Adams. Am Chem Soc J 45:528-40 F '23

Ring opening

Opening of the lactone ring of phthalide derivatives by hydrazine. J. Teppema. Chem Soc J 124 pt 1:256-9 Mr '23

Über die ringöffnung in der phenopyryliumreihe. H. Decker and P. Becker. Deutsche Chem Gesell Ber 55:375-94 F '22; Abstract. Chem Soc J 122 pt 1:358-9 Ap '22

Rings

Rolling steel and non-ferrous rings. il Iron Age 112:204-6 JI 26 '23

Rings (jewelry)

When customers suggest new designs for the product. Ptr Ink 123:69-70 Ap 12 '23

Rings, Packing. See Packing; Piston rings**Rinman process.** See Paper making—By-products**Rio de Janeiro**

Leveling Morro do Castello in Rio de Janeiro. il plan Eng N 91:558-60 O 4 '23

Rio Grande

Rectification of Rio Grande through El Paso valley proposed. Eng N 89:551 O 5 '22

Ripert engines

Ripert motor. M. Grison. diag Mech Eng 45:186-7 Mr '23

Risk bearing

Risk and risk-bearing. C. O. Hardy. 400p Univ. of Chicago press '23

River coal. See Coal—River coal**River traffic**

Kentucky refiners utilize waterways in crude and fuel shipping. L. E. Smith. il Nat Pet N 15:61-2 My 2 '23

New river-and-rail terminals on the Mississippi. diags maps Eng N 89:18-20 JI 6 '22

Old-time Ohio river coal traffic is revived. A. W. Williams. il map Coal Age 24:137-41 JI 26 '23

Waterfront improvements in the Central business district of Pittsburgh. E. K. Morse. Eng Soc W Pa 38:267-76; Discussion. 277-308 O '22

See also Barges; also names of rivers, e.g. Danube river; Mississippi river; Rhine river

Riverbank laboratories

Small private laboratory; some general impressions of the Riverbank laboratories. A. C. Lescarbours. il Sci Am 129:154-5+ S '23

Rivers

See also Dams; Erosion; Flood control; Floods; Hydraulic engineering; Hydraulics; Ice on rivers, lakes, etc.; River traffic; Stream flow; Water flow; Water laws and legislation; Water pollution; Water power; Water rights; Water supply; Waterways; also names of rivers, e.g. Colorado river, Mississippi river, Red river, Rio Grande, Sacramento river, St Lawrence river

Bank protection

Bridge protected from shifting channel; B. & O. R. R. il diags Eng N 89:884-5 N 23 '22; Discussion. R. W. Macintyre. 89:1086 D 21 '22

Concrete blocks protect river bank from flood. Concrete 21:180 D '22

Emergency revetment on river diversion channel. E. S. Blaine. il Eng N 89:442-3 S 14 '22

Flexible concrete mattress protects levees. I. E. Houk. il Pop Mech 37:220-1 F '22

Making the Mississippi rebuild its banks. il Sci Am 128:30 Ja '23

Missouri river bank erosion checked by rafts of bridge ties. diag Eng N 88:788-9 My 11 '22

Missouri river bank protection at Omaha, Nebraska. R. N. Towl. Am Soc C E Pro 48:1185 My '22

Missouri river banks protected by tree retard. il diag map Eng N 87:966-8 D 15 '21

New Orleans learns the lesson of this year's flood; entire commercial river front being raised. T. E. Dabney. il diag Pop Mech 38:369-73 S '22

Rock-and-wire deflectors protect banks against floods. il Eng N 89:801 N 9 '22

Thin concrete revetments on the Sacramento river. il Eng N 90:1002 Je 7 '23

Wire and willow mat revetment on the Missouri river. il diags Eng N 90:258-9 F 8 '23

Bank subsidence

Subsidence of river banks as affecting water front improvements. H. M. Harding. Eng & Contr 56:558 D 14 '21

Regulation

Cofferdams for the Dnieper river improvement; Russia. S. N. Petrenko. diags Eng N 87:943 D 8 '21

Colorado river; its control and development. il map Eng N 88:741-4 My 4 '22

Curbing the Colorado. R. G. Skerrett. il Sci Am 126:246-7 Ap '22

Engineers change course of river in Indiana. il map Pop Mech 39:759 My '23

Experiments on the effect of upper channel improvements upon the downstream flood heights. L. K. Sherman. diags W Soc E J 28:293-303; Discussion. 303-18 Ag '23

Flood conditions and flood-protection problems; extracts from papers read at Dayton meeting of American society of civil engineers. Eng N 88:653-8 Ap 20 '22

Flood control of the Mississippi river. J. A. Ockerson. il map Am Soc C E Pro 48:1168-84 My '22; Abstract. Eng N 88:703-4 Ap 27 '22

Flood problems in China. J. R. Freeman. il maps Am Soc C E Pro 48:1113-67 My '22; Abstract. Eng N 88:704-5 Ap 27 '22

Flood relief plans for Red River of the North, diags maps Eng N 91:133-6 JI 26 '23

Illinois drainage works involve river control. E. F. Mail. Eng N 89:185-7 Ag 3 '22

Rivers—Regulation—Continued

- Island removal causes scour upstream. I. E. Houk. map Eng & Contr (W W) 58:52-4 O 11 '22
- Mississippi problem in light of the 1922 flood. map Eng N 90:21-7 Ja 4 '23
- Rectification of Rio Grande through El Paso valley proposed. Eng N 89:551 O 5 '22
- Relative advantages of dredging and training walls in estuaries. H. C. Reid. Eng & Contr 56:507 N 30 '21
- Remodeling a river channel. I. E. Houk. il Pop Mech 38:230-1 Ag '22
- River and harbor problems of the lower Mississippi: a symposium. Am Soc C E Pro 49:1133-1249, 1722-31 Ag, O '23; Discussion. 49:1624-43, 1792-8, 1929-35 S-N '23
- River diversion on the delta of the Colorado in relation to Imperial Valley, California. S. L. Rothery. il diags maps Am Soc C E Pro 49:671-97 Ap '23; Discussion. P. M. Entenmann. 49:1285-91 Ag '23
- River made to pursue prescribed course. J. B. Holderoff. il Pop Mech 38:754-5 N '22
- St Maurice river flow regulation. O. LeFebvre. Am Soc C E Pro 48:1425-8 Ag '22
- Taking the kinks out of our rivers. I. E. Houk. il Sci Am 128:240-1 Ap '23
- Le tracé du chenal maritime, dans l'estuaire de la Seine. map Génie Civil 80:150-2 F 18 '22
- Utility of models for estuarial experiments. G. E. W. Cruttwell. Eng & Contr 56:517 N 30 '21
- Why the spillway will not solve the Mississippi problem. C. M. Townsend. Eng N 90:24-7 Ja 4 '23
- See also Barrages; Dams; Dikes (engineering); Flood control; Jetties; Levees; also names of rivers, e.g. Ohio river, St Lawrence river, Snake river

Standing waves

- Standing waves in rivers. N. C. Grover. Am Soc C E Pro 48:1108-12 My '22; Abstract. Eng N 88:656-7 Ap 20 '22

Riveted joints

- Calculating the efficiency of boiler seams. R. J. Finch. diags Ry Mech Eng 96:193-6 Ap '22
- Efficiency of butt and double-strap joint, double-riveted. diag Power 58:151 JI 24 '23
- Further experiments on large-size riveted joints. J. Montgomerie. diags Engineering 115:727-30, 755-7 Je 8-15 '23; Excerpt. Engineer 135:397 Ap 13 '23
- Large containers. E. E. Thum. Chem & Met Eng 28:679 Ap 16 '23
- Types of riveted joints. Power 55:669 Ap 25 '22

Cost

- Applications of arc welding to ship construction; comparison of cost of welded and riveted joints. E. H. Ewertz. il diags plans Marine Eng 28:625-30 O '23

Riveting

- American Kron riveting hammer and concrete drill. il Mach 29:404-6 Ja '23
- Bucking up rivets by vacuum. diags Marine R 52:180-1 Ap '22
- Calorac portable electric rivet heaters. il Ry Mech Eng 97:389-90 Je '23
- Crane for serving vertical gap riveter. il Iron Age 109:996 Ap 13 '22
- Cutting costs with riveting hammers. F. R. Daniels. il diags Mach 28:474-6 F '22
- Data for riveting. Mach 29:856a JI '23
- Device for riveting small parts. C. J. Dorer. il diags Am Mach 58:638 Ap 27 '22
- Electric rivet hammer works without shock. il Pop Mech 39:750 My '23
- Hanna last-head boiler riveting machine. il Am Mach 57:901 D 7 '22; Iron Age 110:1567 D 14 '22
- Hanna 150-ton portable pneumatic riveting machine. il Am Mach 58:676 My 3 '23; Iron Age 111:1255-6 My 3 '23; Iron Tr 72:1315 My 3 '23; Eng & Contr (W W) 59:1073-4 My 9 '23; Mach 29:739 My '23; Power Pl Eng 27:890 S 1 '23; Sci Am 129:333 N '23
- High speed riveting hammers in automobile production. il Automotive Ind 45:1174-6 D 15 '21

- Influence of rivet holes on the strength and endurance of steel structures. J. S. Wilson and B. P. Haigh. il diags Engineering 114:309-12 S 8 '22; Excerpts. Eng & Contr 58:8-10 N 29 '22; Discussion. Engineering 114:336 S 15 '22
- Kobert type-NB dual-head electric riveting machine. il Am Mach 57:1010-11 D 28 '22
- National automatic-feed semi-hot bolt and rivet header. il Mach 29:575-6 Mr '23; Ry Mech Eng 97:187-8 Mr '23
- Rivet gun and its role. il Sci Am 129:115 Ag '23
- Rivet spinning operations. il diags Mach 29:8-11 S '22
- Rules for rivet-hole deductions in tension members. V. H. Cochran. diags Eng N 89:847-8 N 16 '22
- Shepard pneumatic riveting machine. il Mach 28:757-8 My '22; Iron Age 109:1006 Ap 13 '22; Ry Mech Eng 96:364 Je '22
- Southwark pneumatic riveter. il Am Mach 56:153 Ja 26 '22; Ry R 70:126-7 Ja 28 '22; Ry Mech Eng 96:176 Mr '22
- United States electric company rivet heater. il Am Mach 55:940-1 D 8 '21
- See also Riveted joints; Rivets

Rivets

- Die beanspruchung der bleche beim nieten und die sprödigkeit von flusseisen als folge der erwärmung gequetschten baustoffes. R. Baumann. diags Stahl & Eisen 42:1865-8 D 21 '22
- Cold rivets for electrical apparatus. J. E. Unger. diags Mach 28:569 Mr '22
- Cutting steel car and locomotive boiler rivets; alleged disadvantages of electric rivet cutting discounted by installation on Chesapeake & Ohio. E. A. Murray. il Ry Mech Eng 96:406-7 JI '22
- Electric-arc cutting tool for rivets. il Pop Mech 39:79 Ja '23
- Electric arc transformer rivet cutter. il Am Mach 57:277 Ag 17 '22
- Passing rivets with a rivet gun. il Iron Age 110:422 Ag 17 '22
- True net sections of riveted tension members. C. R. Young. diags Am Arch 122:121-6 Ag 2 '22; Summary. Eng N 88:911 Je 1 '22; Discussion. Eng N 88:1051; 89:33, 366, 490, 759 Je 22, JI 6, Ag 31, S 21, N 2 '22

Specifications

- A.S.M.E. proposed specifications for steel boiler rivets. Mech Eng 45:381 Je '23

Testing

- Effect of sulphur on rivet steel. E. E. Thum. Chem & Met Eng 26:1019-24 My 31 '22
- Effect of sulfur on rivet steel; preliminary report. diags Am Soc T M Pro 22 pt 1:94-126; Discussion. 127-30 '22
- Investigation on sulphur in rivet steel. Iron Age 109:1745-8 Je 22 '22

Ro (artificial language)

- Ro. Sci Am 129:9 JI '23

Roach, John M., 1852-

- Fifty years in railroading in Chicago. por Elec Ry J 60:928 D 9 '22

Road builders' association, American. See American road builders' association**Road congresses. See International road congress; Roads—Congresses****Road drags**

- New type of road drag. Pub Works 53:158 S '22
- R. F. D. road dragging associations. J. W. Wilson. Eng & Contr (R & S) 56:134 D 6 '22
- Road drag competition in Saskatchewan. Eng & Contr (R & S) 58:38 O 4 '22
- Road drag competition in Saskatchewan. H. S. Carpenter. Can Eng 43:181-2 JI 25 '22
- Road engineering. See Highway engineering
- Road graders. See Road making machinery
- Road ironwork. See Ironwork, Road
- Road making machinery
- Automotive equipment in road construction. A. C. Godward. Soc Auto Eng J 11:355-7; Discussion. 357-8 O '22

Road making machinery—Continued

- Building concrete roads in half widths affects use of finishing machine. *il Eng N 91:406 S 6 '23*
- Concrete-surface crusher for road repair. *il Pop Mech 38:723 N '22*
- Economical methods of handling materials. H. L. Bowlby. *Can Eng 42:657 Je 27 '22*; Same. *Good Roads 63:55-6 Ag 16 '22*
- Hand-operated highway tamping and finishing machine. *il Sci Am 128:249 Ap '23*
- Highway maintenance in Bureau county, Ill. C. L. Melcher. *Munic Eng 63:93-7 S '22*; Same. *Eng & Contr (R & S) 58:49-53 O 4 '22*
- Homemade road shoulder shaper. E. B. Blough. *il Eng N 90:755-6 Ap 26 '23*
- Internal-combustion-engine power for road-grading machinery. C. O. Wold. *il Soc Auto Eng J 11:323-6*; Discussion. 326-7 O '22
- Machine cuts mechanically true road sub-grade. *il Pop Mech 36:853 D '21*
- Maintaining earth roads in Iowa with blade grader and drag. W. H. Root. *Munic Eng 64:130-2 Mr '23*; Same. *Good Roads 64:49-50 Ja 31 '23*; Same. *Can Eng 44:459-60 My 1 '23*; Same. *Eng & Contr (R & S) 59:993-5 My 2 '23*
- Mechanical handling of road building material. R. M. Gates. *Eng & Contr 57:552-3 Je 7 '22*
- Mobile outfit drills cores from concrete roads. D. E. Dunn and R. N. Coolidge. *il Eng N 88:53 Ja 12 '22*
- New and improved contractors' appliances. *il Pub Works 54:5-8 Ja '23*
- New road building equipment. *il Eng & Contr 57:213-14 Mr 1 '22*
- New road-building machine rolls as it grades. *il Pop Mech 39:224 F '23*
- 100-ton tar macadam drying and mixing plant. *diag Engineering 115:364, pl 23 Mr 23 '23*; *Engineer 135:321-2 Mr 23 '23*
- Road machinery and its economic aspect. F. L. MacPherson. *Can Eng 44:357-61 Mr 27 '23*
- Road-making machinery. A. Dryland. *Engineering 113:788 Je 23 '22*
- Road maintenance machines. *il diags Engineering 116:142-4 Ag 3 '23*
- Road material preparing plant. *il diags Engineering 115:682-3, 707, 708-9 Je 1-8 '23*
- Steel plays new role in highway construction. F. G. Steinebach. *il Iron Tr R 73:525-30+ Ag 23 '23*
- Use and care of road machinery. W. E. Voorhees. *il Eng & Contr (R & S) 60:488-90 S 5 '23*
- See also* Paving mixers; Road drags; Road rollers; Road scrapers; Roads, Concrete—Construction equipment

Exhibitions

- English engineer's impressions of the road show. *Eng & Contr 57:118-19 F 1 '22*
- 14th American good roads show. *Good Roads 64:36-8 Ja 24 '23*
- Public works, roads and transport exhibition. *il Engineering 112:734-6 N 25 '21*; *Engineer 132:564-5 N 25 '21*; *Elec R (Lond) 89:708 N 25 '21*
- Road convention and exhibition. *Eng & Contr (R & S) 59:298-9 F 7 '23*
- Road show brings out wide range of improved construction equipment and materials. *il Eng N 90:184-5+ Ja 25 '23*

Road maps

- Locating and mapping highways in North Carolina. G. F. Syme. *Eng N 89:971-2 D 7 '22*

Road materials

- Controlling the quality of materials in highway construction and maintenance. J. H. Bateman. *Good Roads 62:183-4, 186-9 Mr 29 '22*; Same. *Can Eng 42:631-4 Je 20 '22*
- Developments in the use of local materials. V. M. Peirce. *Good Roads 64:47-9 Ja 31 '23*; Same. *Eng & Contr (R & S) 59:313-15 F 7 '23*; Same. *Can Eng 44:401-2 Ap 10 '23*
- How one state aids contractors in locating road materials. G. H. Henderson. *Eng N 91:606-8 O 11 '23*

Materials survey maps aid North Carolina road contractors. *Eng N 89:449 S 14 '22*

Research work on semi-gravel, top soil and sand clay, and other road materials in Georgia. C. M. Strahan. 35p *The University of Georgia, Athens '22*

See also Asphalt; Coal tar; Concrete; Gravel; Road oils; Stone, Crushed; Tar

Inspection

Inspecting materials used in constructing Illinois highways. H. F. Clemmer. *Munic Eng 62:7-9 Ja '22*; Same. *Eng & Contr 57:205-6 Mr 1 '22*

Prices

Seven years' bidding prices on New York roads. W. G. Crandall. *Eng N 88:1101-2 Je 29 '22*

Specifications

Natural or artificial sand-clay mixtures for road surfacing. *Eng & Contr (R & S) 60:13 Jl 4 '23*

Report of committee D-4 of A.S.T.M. on road and paving materials. *Am Soc T M Pro 22 pt 1:452-8 '22*

Testing

Apparatus used in highway research projects in the United States. C. A. Hogen-togler. *il diags Nat Research Council Bul v 6, pt 4:63-91 Ag '23*

Field testing of materials in highway construction. J. H. Bateman. *Eng & Contr 58:10 Jl 5 '22*

Impact tests of road materials. E. B. Smith. *Am Soc T M Pro 22 pt 2:74-7 '22*

Pennsylvania state highway testing laboratory. *Pub Works 52:25-6 Ja 14 '22*

Report of committee D-4 of A. S. T. M. on road and paving materials. *Am Soc T M Pro 21:375-80 '21*

Road materials of Kansas; abstract. C. H. Scholer. *Am Inst Arch J 11:78+ F '23*

Significance of some road material tests. F. H. Jackson. *Eng & Contr (R & S) 56:167-72 D 6 '22*; Same. *Munic Eng 63:216-21 D '22*

Standard and tentative methods of sampling and testing highway materials. *il diags plans U S Agric Bul 949:1-98 '21*

Standard tests for non-bituminous materials as adopted by the American society for municipal improvement. *Good Roads 63:159 N 1 '22*; Excerpt. *Eng & Contr (R & S) 60:58 Jl 4 '23*

Road oiling

Field experiments in earth road oiling in Illinois. H. F. Clemmer. *Munic Eng 64:100-1 Mr '23*; Same. *Eng & Contr (R & S) 59:761-2 Ap 4 '23*

Illinois counties join state in experimental study of oiled roads. H. F. Clemmer and F. L. Sperry. *il Munic Eng 65:97-101 S '23*; Same. *Eng & Contr (R & S) 60:730-5 O 3 '23*

Oiling roads in Jackson county, Missouri. L. E. Koehler. *Munic Eng 62:173-4+ My '22*; Excerpts. *Eng & Contr 58:117 Ag 2 '22*

Road oils

See also Asphalt

Specifications

Illinois prepares new road oil specifications. H. F. Clemmer. *Good Roads 62:280-1 My 17 '22*; Same. *Eng & Contr 57:412 My 3 '22*; Same. *Munic Eng 63:45-6 Ag '22*

Testing

Road oils and their properties as demonstrated by current tests. C. M. Baskin. *Can Eng 43:238-41 Ag 8 '22*

Testing road oils. H. F. Clemmer and H. C. Helmle. *il Eng & Contr (R & S) 60:497-8 S 5 '23*

Road resistance

Research on tractive resistance of roads. *Eng & Contr 58:110-11 Ag 2 '22*; Same. *Good Roads 63:42+ Ag 2 '22*

Road resistances. *Can Eng 43:303-4 Ag 29 '22*; Same cond. *Good Roads 63:112+ S 27 '22*

See also Automobile resistance

Road rollers

- Care and use of steam road rollers. G. W. Allen. Eng & Contr (R & S) 60:708-10 O 3 '23
- Eight-ton motor road roller. il diags Engineering 112:759, 762 D 2 '21
- Five-tone tandem steam roller. diags Engineering 113:681 Je 2 '22; Engineer 132:678 D 23 '21
- Improved type of steam roller wheel. C. A. Elliott. il Eng & Contr (Ry) 60:109-10 J1 18 '23
- Motor road roller with attached scarifier. il Engineer 133:728 Je 30 '22
- Road rollers exhibited at Public works, roads and transport exhibition. il diag Engineer 132:564-5 N 25 '21
- 10-ton steam road roller. il diags Engineer 135:348-9 Mr 30 '23
- Three-wheel road roller has engine at rear. il Pop Mech 37:905 Je '22
- Three-wheel water-ballast motor road roller. il diags Engineering 112:884-5 D 30 '21
- 12-14-ton motor road roller. il diags Engineer 135:560 My 25 '23

Road scrapers

- Motorizing the Fresno scraper. E. M. Lagron. Munic Eng 62:sup31-3 My '22
- New principle in plowing and road surfacing and ice surfacing. E. M. Stevenson. il Sci Am 128:33 Ja '23
- Sauerman portable power scraper. il Pub Works 53:sup22 O '22

Road signs

- British road direction posts and warning signs. diags Eng N 89:573 O 5 '22
- Detour and barricade signs on Illinois state highway construction. il Eng & Contr 56:417 N 2 '21
- Highway curves and traffic safety. H. E. Breed. Can Eng 43:302-3 Ag 29 '22
- Highway marking system of state of Illinois. E. R. Benedict. il Eng & Contr 58:15-16 J1 5 '22; Same. Eng N 89:596-8 O 12 '22
- Illinois makes its highways safe. R. F. Mundorff. il Pop Mech 39:67-9 Ja '23
- Markers and signs of the Minnesota highway department. Eng & Contr (R & S) 59:1255-9 Je 6 '23
- Road marking and signing in Wisconsin. N. M. Isabella. Good Roads 62:214-16 Ap 12 '22
- Signs direct, and protect lives of, tourists. il Pop Mech 40:211-12 Ag '23
- Standard highway danger signs. Munic Eng 64:244-5 Je '23; Same. Eng & Contr (R & S) 59:1295-6 Je 6 '23; Same. Can Eng 45:215 Ag 7 '23
- Standardization of British road direction posts and warning signs. Eng & Contr 56:520 N 30 '21
- Uniform road warnings in Massachusetts. diags Safety Eng 42:219-20 N '21

Road traffic

- Analysis of motor vehicle traffic on Connecticut highways. Eng & Contr 57:413-14 My 3 '22
- Analysis of present highway traffic and a prediction of future highway traffic. J. H. Mullen. Good Roads 62:87-8, 90-2 F 8 '22; Same. Eng & Contr 57:24-7 Ja 4 '22; Same. Can Eng 42:555-7 My 30 '22
- Comparison of highway traffic in Rhode Island and Nevada. Eng & Contr (R & S) 59:548 Mr 7 '23
- Connecticut investigation of highway traffic. G. E. Hamlin. Eng & Contr (R & S) 60:11-19 J1 4 '23
- Connecticut makes detailed study of highway traffic. il map Eng N 88:48-52 Ja 12 '22
- Effect of the one-man car on traffic hazard. T. G. A. Ashton. Elec Ry J 58:875 N 12 '21
- Elimination of traffic hazards in highway improvement. A. H. Blanchard. Good Roads 63:95+ S 13 '22
- Highway traffic surveys in nine Tennessee counties. N. W. Dougherty. il map Eng N 91:546-7 O 4 '23
- New device measures volume of highway traffic. chart diag Automotive Ind 49:63 J1 12 '23; Eng N 91:237 Ag 9 '23; Eng & Contr (R & S) 60:993-4 N 7 '23

Our startling automobile traffic. C: E. Fowler. Sci Am 128:48 Ja '23

Relation of motor truck overloading to road construction and maintenance. J. G. McKay. Good Roads 62:165-70 Mr 22 '22; Same abr. Eng & Contr 57:416-19 My 3 '22; Same abr. Can Eng 42:580-2 Je 6 '22; Excerpt. Eng N 88:826-30 My 18 '22

Tourist traffic as a factor in highway development. A. R. Hirst. Eng & Contr (R & S) 59:801-3 Ap 4 '23

Traffic census on British highways. H: Maybury. Eng & Contr (R & S) 60:729 O 3 '23

Traffic facts shown by highway transportation surveys. Automotive Ind 46:917-19 Ap 27 '22; Same. Good Roads 62:265-8 My 10 '22

Traffic on a Tennessee road. N. W. Dougherty. diag Pub Works 53:232 N '22

Traffic on Maryland's roads shown on map. A. N. Johnson. Eng N 88:958-9 Je 8 '22

See also Automobiles and roads; Bridge traffic; Highway engineering; Motor trucks and roads; Roads—Width; Street traffic; Traffic regulations; Traffic signals

Roadmasters. Sea Railroads—Roadmasters**Roadmasters' and maintenance of way association**

- 40th annual convention, Cleveland, Ohio. Nov. 21-23. Ry Age 73:995-9 N 25 '22; Ry R 71:740-3 N 25 '22
- 41st annual convention, Chicago, Sept. 18-20. Ry Age 75:531-8 S 22 '23; Ry R 73:409-15 S 22 '23

Roads

- Appearance of our highways. C: F. Boehler. Good Roads 62:205-8 Ap 12 '22
- Arterial roads and town planning. H: Maybury. Can Eng 43:sup54 D 12 '22
- Building more and better roads. R. D. Chapin. Automotive Ind 49:615-17 S 27 '23
- Coordination of highway interests. W: Ord. Good Roads 62:160, 162-3 Mr 15 '22
- Development of permanent highways. J: P. Hartman. Good Roads 63:75-7 Ag 30 '22
- Early preparation of road building programs. F. Rutherford. Can Eng 42:387 Ap 11 '22
- Effect of wheel diameter on highways. J. R. Kemp and D. A. Crawford. diags Eng & Contr (R & S) 58:39-40 O 4 '22
- Good roads and the farmer. K. L. Hatch. Good Roads 62:176-7 Mr 22 '22
- Grading of earth roads. W. M. Wilson. Ill U Eng Exp Sta Circ 10:1-27 '23
- Heavy truck haulage on highway construction. C: H. Fry. Munic Eng 64:sup19-21 F '23; Same. Good Roads 64:92-3 Mr 7 '23
- High stockpiles built up with heavy trucks. H. B. Jay. il Eng N 89:139 J1 27 '22
- Highway and transportation problems. S. J. Latta. Can Eng 42:651-2 Je 27 '22
- Highway contractors' problems. H: H. Wilson. Eng & Contr 57:330-1 Ap 5 '22; Same cond. Pub Works 52:314-15 My 6 '22
- Highways and highway transportation. G: R. Chatburn. 472p Crowell '23
- Keep the public sold on highways. H. E. Hilts. Eng N 90:153 Ja 25 '23
- Lost time in construction. C. S. Hill. Eng N 89:548-51, 600-2, 645-7, 696-8 O 5-26 '22
- Main streets of the nation; a series of projects on highway transport for elementary schools. F. C. Fox. bibliog il maps U S Bur Educ Bul, 1923, no 38:1-42 '23
- Mixing cement with road soils. Concrete 21:111 O '22
- Modern road construction. H. P. H. Morgan. Can Eng 45:313-14 S 11 '23
- Need of reform in road building and national transportation. S: Hill. Good Roads 61:273-4 D 14 '21
- New standards in road design. H: Maybury. Eng & Contr 56:503 N 30 '21
- Practical road construction. R. C. Schoen. Soc Auto Eng J 11:346-8; Discussion. 348-9 O '22
- Present trend of highway development. P. Hubbard. Can Eng 42:635-6 Je 20 '22
- Recent developments in pavement construction details. C: M. Upham. Munic Eng 62:48-51 F '22; Same. Eng & Contr 57:206-8 Mr 1 '22; Same. Can Eng 42:424-5 Ap 25 '22

Roads—Continued

- Relation of adequate highway transport facilities to national defense. L. H. Beach. Good Roads 64:109-11+, 119-20 Mr 21-28 '23
- Remedies for some common defects in road construction. B. H. Piepmeier. Munic Eng 62:99-100+ Mr '22
- Road builders' convention stresses financial and administrative sides of highway work. Eng N 88:152-6 Ja 26 '22
- Road in inaccessible canyon built by novel method. il Eng N 89:525 S 28 '22
- Road work in national forests. F. E. Bonner. il Good Roads 62:81-2 F 8 '22
- Roads and pavements for average conditions; abstracts. J. S. Crandell. Can Eng 43:140 J1 11 '22; Good Roads 63:50+ Ag 9 '22
- Roads on steep grades for horse-drawn and motor traffic. A. E. Brookes. diag Eng & Contr 56:503 N 30 '21
- Safety and beauty as factors in road design and construction. A. R. Hirst. Good Roads 62:137-42+ Mr 8 '22; Same abr. Eng & Contr 57:20-3 Ja 4 '22; Excerpt. Can Eng 42:583-6 Je 6 '22
- Sociological aspects of highway transportation. C. J. Galpin. Eng & Contr (R & S) 58:113-15 N 1 '22; Same. Automotive Ind 47:887-8 N 2 '22
- Streets, roads and pavements. H. G. Whyatt. 140p Pitman '23
- United States should assume leadership in world highway development. Automotive Ind 49:747-8 O 11 '23
- Use and abuse of highways. T. J. Wasser. Munic Eng 64:59-65 F '23; Same. Good Roads 64:39-41, 46 Ja 24 '23; Same abr. Eng & Contr (R & S) 59:347-50 F 7 '23; Same cond. Eng N 90:158-9 Ja 25 '23; Same cond. Can Eng 44:273-4 F 27 '23; Excerpt. Nat Safety N 7:8+ F '23
- Winter road work. J. H. Mullen. Can Eng 44:181-2 Ja 30 '23; Same. Munic Eng 64:76-8 F '23; Same. Eng & Contr (R & S) 59:549-51 Mr 7 '23; Same abr. Eng N 90:489 Mr 15 '23

See also Automobiles and roads; Causeways; Curbs; Highway administration; Highway engineering; Highway law; Highway research; Highway transportation; Motor trucks and roads; Pavements; Road making machinery; Road materials; Road rollers; Road scrapers; Road traffic; Roadside planting; Sidewalks; Snow removal; Street cleaning; Street railroads; Streets; Tree planting; also Custer battlefield hwy, Jamaica Bay boulevard, Lincoln highway

Administration

See Highway administration

Bibliography

- Highway engineering: roads and pavements; a subject catalog of the books and pamphlets in the Engineering societies library. December, 1921. Am Soc C E Pro 48:[Soc aff] 57-91 Ja '22

Congresses

- Gasoline tax recommended at Pennsylvania highway conference. Eng & Contr (R & S) 59:757-8 Ap 4 '23
- Le IV^e congrès international de la route (Séville, 7-12 mai 1923). C. Dantin. Génie Civil 82:520-5 Je 2 '23
- 10th annual Canadian good roads association convention, Hamilton. Can Eng 44:591-4+ Je 19 '23

See also International road congress; Inter-provincial good roads conference

Contracts

- Against maintenance guarantees for roads and pavements. E. W. Bush. Eng N 88:365-6 Mr 2 '22
- Business methods in highway contracting; an interview with Henry W. Horst. C. S. Hill. chart diag plans Eng N 90:948-51 My 31 '23
- Contractors suggest means for reducing cost of road construction. S. D. Moore and C. V. Burghart. Eng & Contr 56:526-7 D 7 '21

- Equitable provision for highway construction. Eng & Contr (R & S) 59:533-5 Mr 7 '23
- Highway bonding from the viewpoint of the surety company. E. A. St John. Am Soc C E Pro 48:331-6 F '22
- Large mileage highway contracts; symposium. Eng N 88:70-2 Ja 12 '22
- Modified construction contract of Georgia highway commission. W. R. Neel. Eng & Contr 57:426 My 3 '22
- Problems of the highway contractor. H. H. Wilson. Good Roads 62:60-2 Ja 25 '22; Abstract. Eng N 88:203-4 F 2 '22
- Qualifications of bidders on Kentucky highway work. Eng & Contr (R & S) 58:115 Ag 2; 5-6 O 4 '22
- Recommended changes in highway contract practice. Eng N 89:749-50 N 2 '22
- Reducing cost of road construction; report submitted to the American association of state highway officials by the highway division of the Associated general contractors. Can Eng 43:536-8 N 14 '22; Same. Good Roads 63:199-201 D 13 '22
- Selecting the responsible bidder. Eng & Contr (R & S) 60:711-12 O 3 '23
- Technical progress of A.G.C. shown by committee reports. Eng N 90:260-2 F 8 '23
- Where paper profits go in highway contracting. Eng & Contr 58:118 Ag 2 '22

Convict labor

- Jefferson county's road system. E. M. Wheeler. il Pub Works 52:299-300, 315-16 Ap 29-My 6 '22

Cost

- Annual costs of highways in a Florida county. G. B. Hill. Eng & Contr (R & S) 58:109-11 N 1 '22; Abstract. Pub Works 53:161 S '22
- Automotive equipment in road construction. A. C. Godward. Soc Auto Eng J 11:355-7; Discussion. 357-8 O '22
- Comparative cost of road grading with tractor and mule outfits. il Eng & Contr 57:195 Mr 1 '22
- Comparative unit prices on road work. F. D. Messenger. Eng & Contr (R & S) 59:1252-3 Je 6 '23
- Connecticut publishes cost of road construction. Good Roads 65:141-2 O 31 '23
- Cost of detours in constructing Wisconsin roads. N. M. Isabella. il Eng N 90:1088-9 Je 21 '23; Discussion. J. E. Pennybacker. 91:114 J1 19 '23
- Cost of federal aid roads. Eng & Contr 58:22-3 J1 5 '22
- Cost of grading for highways. Eng & Contr 57:336 Ap 5 '22; Same abr. Eng N 88:729 My 4 '22
- Cost of highway construction. Good Roads 62:242-3 Ap 26 '22
- Cost of placing stone on road. R. Wiley. Pub Works 54:153-4 My '23
- Cost of sandstone excavation on a road job. J. S. Walton. Eng & Contr (R & S) 59:972 My 2 '23
- Highway cost reduction. Good Roads 62:74-7 F 1 '22
- Highway costs in Montana for 1920-1922. Eng & Contr (R & S) 56:136 D 6 '22
- Highway statistics. Pub Works 54:137-47, 262-73 Ap, Ag '23
- Ideal section of Lincoln highway built at moderate cost. Munic Eng 64:sup21-2 F '23
- Lincoln county road work by day labor. Pub Works 54:275 Ag '23
- Methods and cost of constructing experimental earth road near Champaign, Ill. il Eng & Contr 58:114-15 Ag 2 '22
- Rates of wages on government contracts for public roads, March, 1922. Monthly Labor R 14:1166-7 Je '22
- Relative paving and grading costs on federal aid projects. Good Roads 62:134-5 Mr 1 '22
- Road grading costs reduced by tractor hauling. E. R. Wiggins. il Eng N 90:200-1 F 1 '23
- Wages in road building. Eng & Contr 57:429 My 3 '22
- What is the cost of county road construction? G. R. Marston. Good Roads 64:174 My 2 '23

Roads—Cost—Continued

Where the good roads dollar goes. J. E. Pennybacker. Pub Works 52:139-40 F 25 '22
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Construction of highway curves. Eng & Contr (R & S) 59:1270-2 Je 6 '23; Same. Can Eng 45:185-6 Jl 31 '23
 Maryland's road accident map shows great danger of speed. H. D. Williard, jr. il diags Pub Roads 4:15-16 S '21; Same. Eng & Contr 56:331 O 5 '21; Same abr. Good Roads 61:201-2 O 26 '21
 Methods of laying brick pavement around curves. il Eng & Contr 56:419 N 2 '21
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 Simple method of banking curves on concrete roads. A. H. Gardiner. diags Eng N 90:1040-1 Je 14 '23
 Simple slide rule solution of vertical curve formula. R. E. Royall. Pub Roads 4:26 N '21; Same. Eng & Contr 56:525 D 7 '21
 Status of the construction of highway curves and recommended practice to increase safety to traffic; report of National highway traffic association committee. Munic Eng 62:sup27-9 Je '22; Same. Eng & Contr 58:4 Jl 5 '22; Same abr. Good Roads 62:298-9 My 31 '22
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Cost of detours in constructing Wisconsin roads. N. M. Isabella. il Eng N 90:1088-9 Je 21 '23; Discussion. J. E. Pennybacker. 91:114 Jl 19 '23
 Detour and barricade signs on Illinois state highway construction. il Eng & Contr 56:417 N 2 '21
 Detour practice of Pennsylvania state highway department. Munic Eng 63:97-8 S '22; Same. Eng & Contr (R & S) 58:14-15 O 4 '22
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 Handling traffic during highway construction. P. D. Sargent. Eng N 88:64-5 Ja 12 '22
 Meditations on detour practice by an autoist. C. A. Holder. Eng N 89:669 O 19 '22
 No detours—road under construction—do not stop. G. C. Warren. il Munic Eng 63:198-200 N '22
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 Serve traffic is the detour slogan in Wisconsin. A. R. Hirst. il Eng N 88:66-7 Ja 12 '22
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 Combination road and drainage ditch crossing. C. A. Elliott. il diag Elec Ry J 62:373 S 8 '23
 Comparison of sub-drainage by deep side ditches and tile drains. C. M. Upham. Good Roads 62:247-50 My 3 '22; Same. Munic Eng 62:197-200 Je '22; Same. Can Eng 43:305-7 Ag 29 '22; Same abr. Eng & Contr 58:21-2 Jl 5 '22
 Cross drain construction on concrete roads. L. L. Coudert, jr. Good Roads 63:138+ O 18 '22
 Drainage as an aid to better roads. R. J. Randall. Good Roads 63:121 O 4 '22
 Drainage expert discusses highway as compared with agricultural drainage. E. A. Rossiter. Munic Eng 63:83-8 S '22

Drainage expert's ideas on highway construction. E. A. Rossiter. diags plan Munic Eng 62:9-12 Ja '22; Discussion. 62:85-7 Mr '22

Drainage methods for prairie roads. H. R. Mackenzie. Can Eng 42:653-4 Je 27 '22; Same. Eng & Contr 58:236-8 S 6 '22

Highway drainage and the application of drainage acts. U. W. Christie. Can Eng 42:309-10 Mr 14 '22

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Road and pavement drainage a necessary economic investment. J. W. Howard. Munic Eng 65:143-4 O '23

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Tile drainage of highways in Iowa. J. L. Parsons. Munic Eng 64:55-6 F '23; Same. Eng & Contr (R & S) 59:300 E 7 '23

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Disappearance of paper profits. H: H. Wilson. Good Roads 62:131-3, 147-8 Mr 1-8 '22; Same cond. Eng & Contr 58:99 Ag 2 '22
 Facing facts in highway estimates; standard estimate of cost forms prepared and advocated by the Kentucky association of highway contractors. Eng & Contr 56:410-11 N 2 '21; Same. Good Roads 62:41-2+ Ja 18 '22
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Federal aid

Army materials ingeniously used by states for road construction. il Pub Roads 4:22-4+ N '21
 Distribution of federal aid funds. Good Roads 61:282-3 D 21 '21
 Federal aid act and its relation to state highway financing. R. M. Hubbard. Good Roads 63:78+ Ag 30 '22
 Federal aid for state highways; the problem of coordinating state and federal effect. C. N. Bass. Good Roads 63:145-6+ O 25 '22
 Federal aid in development of highway transportation. T. H. MacDonald. Eng & Contr (R & S) 59:566-71 Mr 7 '23
 Federal aid, its implications and results in Canada. A. W. Campbell. Can Eng 42:649-51 Je 27 '22
 Federal aid status; financial statement as of June 30, 1922. Automotive Ind 47:208 Ag 3 '22
 Federal funds for national forest roads. Eng & Contr 57:549 Je 7 '22
 Federal highway act. Pub Roads 4:17-21 D '21
 Federal highway appropriation will benefit western states. J Elec 48:275-6 Ap 1 '22
 Federal road money. Soc Auto Eng J 12:122 Ja '23
 Functioning of federal aid in the development of highway transportation. T. H. MacDonald. Good Roads 64:1-3+ Ja 3 '23
 Government gives aid. Bus Transportation 1:66-7 Ja '22
 How the provisions of the Federal highway act are carried out. Good Roads 64:145-6 Ap 11 '23
 \$100,000,000 for new highways. Am Ind 23:18 S '22

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- Outlook for road building. H. E. Breed. Eng N 88:901-3 Je 1 '22
- Part played by Federal government in construction of highways. H. C. Wallace. Comm & Fin Chr 117:1947-8 N 3 '23
- Petroleum and automotive engineers discuss common problems. Soc Auto Eng J 12:118-21 Ja '23
- Plans for 1,170 miles of forest highways approved. Eng & Contr 58:14 JI 5 '22; Good Roads 63:18 JI 12 '22
- Progress in federal aid road construction. T. H. MacDonald. Eng & Contr (R & S) 59: 5-6 Ja 3 '23
- Relative paving and grading costs on federal aid projects. Good Roads 62:134-5 Mr 1 '22
- Resumé of federal aid work and future policies. T. H. MacDonald. Eng & Contr 57: 13-16 Ja 4 '22; Same. Good Roads 62:95-100 F 15 '22; Same cond. Can Eng 42:603-5 Je 13 '22; Same cond. Eng N 88:156-7 Ja 26 '22
- Rules issued for federal-aid road work. Eng N 89:368 Ag 31 '22
- Seven years' federal aid road work. Eng N 91:477 S 20 '23
- \$75,000,000 federal aid funds available for road construction. Eng & Contr 56:523 D 7 '21
- Status of federal aid October 31, 1921. Pub Roads 4:24 D '21
- Three year federal aid program for road construction. Good Roads 62:333 Je 21 '22; Same. Automotive Ind 47:67 JI 13 '22; Same. Eng & Contr 58:2 JI 5 '22; Same. Munic Eng 63:sup35-6 JI '22
- Urge three-year federal-aid road program. Eng N 88:805 My 11 '22
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- Federal aid for roads in Canada. Can Eng 43: 583 N 28 '22
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- Abstract of the annual report of State highway engineer of California. A. B. Fletcher. Eng N 89:1028 D 14 '22
- Assessment for benefit; highway construction improves value of property. K. W. McKay. Can Eng 42:349 Mr 28 '22
- Benefit district assessments for road improvement. M. W. Furr. Munic Eng 64:12-14 Ja '23
- Challenge to accepted theories of highway finance. R. M. Haig. Eng N 88:790-2 My 11 '22; Discussion. J. N. Mackall. 88:1052 Je 22 '22
- Economic foundation for future highway progress. T. H. MacDonald. Good Roads 62:307-12 Je 7 '22; Excerpts. Eng N 88:954-6 Je 8 '22; Excerpts. Eng & Contr 58:17-18 JI 5 '22; Excerpts. Soc Auto Eng J 11:219-20 Ag '22; Excerpts. Can Eng 43:324-5 S 5 '22; Abstract. Bus Transportation 1:352 Je '22
- Effect of tax limits on county and municipal bonds. C. B. Masslich. Pub Roads 4:21-2 S '21; Same. Good Roads 61:204+ O 26 '21; Same abr. Eng & Contr 56:337 O 5 '21
- Equitable distribution of cost of construction, interest on bonds, replacements and maintenance of state highways. R. D. Chapin. Eng & Contr (R & S) 60:44-7 JI 4 '23
- Finance of the modern highway; abstracts with discussion. D. H. Davies. II Engineer 133:602-3 Je 2 '22; Engineering 113: 652 My 26 '22
- Financing a state highway system. R. D. Chapin. Munic Eng 64:27-30 Ja '23; Same. Good Roads 63:213-14+ D 27 '22
- Financing and bonding. F. S. Greene. Am Soc C E Pro 48:511-12 Mr '22
- Financing and bonding. H. S. Sisson. Am Soc C E Pro 48:513-15 Mr '22
- Financing and bonding highway work. E. C. Lunt. Am Soc C E Pro 48:337-9 F '22
- Financing and bonding highways. J. N. Cole. Am Soc C E Pro 48:326-30 F '22
- Financing construction and maintenance on a state highway system. A. B. Fletcher. Eng & Contr (R & S) 59:39-44 Ja 3 '23; Same abr. Good Roads 65:39-42 Ag 1 '23
- Financing of public highways. H. H. Truxillo. Eng & Contr 57:539-41 Je 7 '22
- General road situation in United States. T. H. MacDonald. Eng & Contr (R & S) 59: 977-83 My 2 '23; Same. Good Roads 64:214-16+ Je 6 '23
- Good roads and the financiers in Illinois. Eng N 90:775 My 3 '23
- Have large expenditures changed the public attitude toward highway development? S. E. Bradd. Good Roads 64:77-9 F 28 '23
- Highway bonding from the viewpoint of the surety company. E. A. St John. Am Soc C E Pro 48:331-6 F '22
- Highway construction in the United States; a review of the work done in 1921 and an outline of the construction planned for 1922. Good Roads 63:1-6 JI 5 '22
- Highway finance requires research. J. G. McKay. Eng N 89:943 N 30 '22
- Highway outlook. T. H. MacDonald. Good Roads 62:78 F 1 '22
- Highway transportation correlated to highway financing. H. G. Hotchkiss. Aera 11:1251-61 My '23
- Highways and the tax payer; a discussion of the problem of highway finance; abstracts. A. J. Brosseau. Good Roads 64:3-5+ Ja 3 '23; Eng & Contr (R & S) 59:557-61 Mr 7 '23
- Highways must be made self supporting. J. C. Dalton. Automotive Ind 46:1100-3 My 25 '22
- How highways are being built in the Southern states. R. H. Bethea. Automotive Ind 47: 775-7 O 19 '22
- How Iowa levies assessments for surfacing country roads. F. W. Parrott. Eng & Contr 58:239-40 S 6 '22
- How shall we finance our highways? R. M. Hubbard. Good Roads 63:109-10 S 27 '22
- How should provincial highways be financed? F. H. Richardson. Can Eng 42:347-8 Mr 28 '22
- Illogical opposition to long-term highway bonds. Eng & Contr (R & S) 59:1248 Je 6 '23
- Iowa transportation problems and suggested solutions. C. C. Coykendall. Munic Eng 64: 142-6 Ap '23
- Justifiable highway expenditures determined by traffic. N. W. Dougherty. chart Eng N 89:688-9 O 26 '22
- Minnesota builds roads under Babcock plan. II Good Roads 62:107-10 F 22 '22; Same. Munic Eng 62:sup34-8 Je '22
- Minnesota highways; how they are being developed under the Babcock good roads plan. Good Roads 64:89-91+ Mr 7 '23
- Minnesota to spend \$26,000,000 on counties, townships, and cities' roads this year. Good Roads 64:201-2 My 30 '23
- Minnesota's highway financing. C. M. Babcock. Eng N 88:204 F 2 '22
- Motor vehicles in highway financing. H. Meixell. Am Soc C E Pro 48:340-4 F '22
- Patrol system of road repairs. R. J. Windrow. Good Roads 63:194-5+ D 6 '22
- Pay-as-you-pave highway plan to cut costs in half. Automotive Ind 48:937 Ap 26 '23
- Plan road construction and finance; annual convention of the American road builders' association held in Chicago. Bus Transportation 1:133-4 F '22
- Problems in highway finance. A. J. Brosseau. Automotive Ind 47:879-81 N 2 '22
- Proper highway finance essential to automotive progress. A. J. Brosseau. Automotive Ind 47:304-5 Ag 17 '22
- Reaction against highway expenditures. Eng N 89:886-9 N 23 '22
- Roads and trails in Alaska. J. G. Steese. II map Good Roads 62:121-3 Mr 1 '22
- Theory of bond issues for road construction. J. C. Finch. Eng N 89:927-8 N 30 '22
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Asphaltic concrete foundations. P. J. M. Larranaga. Pub Works 52:33-4 Ja 14 '22
 Illinois first black base highway. G. Abson. il Munic Eng 65:168-71 O '23
 Method of constructing modified Telford base. J. H. Thomas. Eng & Contr 57:102 F 1 '22
 Modified Telford base for Tennessee highways. Eng & Contr 57:12 Ja 4 '22
 Rolled-base brick roads in Ohio. A. T. Goldbeck and F. H. Jackson. il Pub Roads 4:19-21+ N '21; Same. Eng & Contr 56:528-9 D 7 '21
 Sledged-stone base developed for Missouri roads. il diag Eng N 91:295 Ag 23 '23

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 Economic theory of highway grades; tests in Iowa give working equations for both automobiles and commercial vehicles. T. R. Agg. il diags Eng N 90:76-9 Ja 11 '23; Abstracts. Can Eng 45:236 Ag 14 '23; Good Roads 65:79 S 5 '23; Pub Works 54:356 N '23
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 Grading of earth roads. W. M. Wilson. il diags il U Eng Exp Sta Circ 10:1-27 '23
 Novel road-grading method uses two graders abreast. il Pop Mech 37:371 Mr '22
 Practical hints on operation and maintenance of tractor grading outfits. il Eng N 87:800-3 N 17 '21
 Road grading costs reduced by tractor hauling. E. R. Wiggins. il Eng N 90:200-1 F 1 '23
 Road grading with elevating grader with 30-ft carrier. Eng & Contr (R & S) 58:32 O 4 '22

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Adequate highway lighting as a developer of business. C. K. Chapin. il J Elec 48:149-50 F 15 '22
 Highway illumination on Albany-Schenectady road. C. H. Huntley. il Munic Eng 61:168-70 N '21; Same. Elec R 79:975-6 D 31 '21
 Highway lighting. H. H. Ashinger. diags Elec J 19:194-5 My '22; Same, without diags. Elec R 79:873-4 D 10 '21
 Highway lighting; Novalux units. H. E. Butler. il diags Gen Elec R 25:465-76 Ag '22
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 Improved lighting system to be installed on Lincoln highway. H. H. Bell. il diags Elec W 79:731-2 Ap 15 '22; Excerpt. Eng & Contr 58:111-12 Ag 2 '22
 Inadequate highway lighting an accident factor. A. W. Devine. Elec W 80:127 JI 15 '22
 Last word in illuminated highways. J. M. Bird. il diag Sci Am 126:97-4 F '22
 Light aids motorists to see around a curve. il Pop Mech 40:66 JI '23
 Lighting the Miami, Florida, causeway. E. T. Austin. Munic Eng 62:222 Je '22
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Mushroom traffic light prevents accidents. il Munic Eng 61:sup16+- N '21
 Novel method of road illumination. il Elec W 79:234 F 4 '22
 Township of Amherst, New York, will light 100 miles of highways. O. J. Helvey. il Munic Eng 62:sup22-3 Ap '22
 Traffic accidents in relation to street and highway lighting. C. J. Stahl. Munic Eng 64:181-3 My '23; Same. Eng & Contr (R & S) 60:226-8 Ag 1 '23
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Does highway engineering call for locating skill? Eng N 90:70-2 Ja 11 '23
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 Highway location near levees. L. A. Sumner. Eng N 89:407 S 7 '22
 Locating and mapping highways in North Carolina. G. F. Syme. Eng N 89:971-2 D 7 '22
 Storm King—a modern road built under pioneer conditions. il diags maps plan Eng N 90:66-9 Ja 11 '23

Maintenance and repair

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 Earth road maintenance in Massachusetts. R. L. Phillips. Eng & Contr 57:538 Je 7 '22
 Field control of state highway maintenance. G. C. Dilman. Eng & Contr (R & S) 59:25-7 Ja 3 '23
 Five years experience with patrol maintenance in Wisconsin. J. T. Donaghey. Munic Eng 64:119-24 Mr '23; Excerpts. Eng & Contr (R & S) 59:319-23 F 7 '23; Excerpts. Eng N 90:534-5 Mr 22 '23; Excerpts. Good Roads 64:69-71 F 21 '23; Concrete 22:184-5 My '23
 Gravel and stone road maintenance. F. Pineo. Can Eng 42:306 Mr 14 '22; Same. Eng & Contr 57:411-12 My 3 '22
 Highway maintenance in Bureau county, Ill. C. L. Melcher. Munic Eng 63:93-7 S '22; Same. Eng & Contr (R & S) 58:49-53 O 4 '22
 How much should be spent on a road improvement. N. W. Dougherty. Eng & Contr 58:112-13 Ag 2 '22
 Improving improved roads in Maryland. il diags Eng N 89:56-8 JI 13 '22
 Iowa road-maintenance costs. Eng N 90:306 F 15 '23; Same. Eng & Contr (R & S) 59:297 F 7 '23
 Maintaining earth roads in Iowa. W. H. Root. Munic Eng 64:130-2 Mr '23; Same. Good Roads 64:49-50 Ja 31 '23; Same. Can Eng 44:459-60 My 1 '23; Same. Eng & Contr (R & S) 59:993-5 My 2 '23
 Maintenance cost of Iowa highways. Eng & Contr 57:211 Mr 1 '22
 Maintenance costs in Kentucky during 1922. R. F. Albert. Good Roads 65:72 S 5 '23; Same. Eng & Contr (R & S) 60:713-14 O 3 '23
 Maintenance costs on New York state highways, 1921. Concrete 22:9 Ja '23
 Maintenance of gravel roads. A. H. Cunningham. Good Roads 62:244-5 Ap 26 '22
 Maintenance of gravel roads. D. J. Kean. Can Eng 42:329 Mr 21 '22; Same. Eng & Contr 57:328 Ap 5 '22
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- Maintenance of roads. E. H. Morey. Can Eng 43:158 J1 18 '22
- Maintenance of roads; tables. Pub Works 52:265-73 Ap 15 '22
- Need of proper maintenance of improved roads. J. S. Crandell. il Munic Eng 65:116-20 S '23; Same. Can Eng 45:407-8 O 16 '23
- Operation of a county maintenance organization on gravel roads; with cost tables. S. Steigerwalt. Munic Eng 62:sup32-4 Je '22; Same. Eng & Contr 58:103 Ag 2 '22
- Patrol maintenance of roads. G. E. Stephenson. Can Eng 44:495-6 My 15 '23; Same. Eng & Contr (R & S) 59:1025-6 My 2 '23
- Patrol maintenance practice in North Carolina. il map Eng N 89:150-2 J1 27 '22
- Road maintenance and traffic counts. H. G. Hotchkiss, jr. Eng N 90:951 My 31 '23
- Road maintenance in Manitoba. M. A. Lyons. Can Eng 43:656-7 D 26 '22
- Road maintenance outfit operated by one man. il Pop Mech 38:364 S '22
- Tar surface treatment of gravel roads in Maine. P. D. Sargent. Munic Eng 63:88-93 S '22

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- Truck outfit for painting pavement center lines. E. N. Hines. il Eng N 89:807 N 9 '22
- Wayne county, Michigan, paints traffic division mark on pavement by machine. il Eng & Contr (R & S) 59:758 Ap 4 '23

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- Photographic records as aid to road construction and maintenance. A. S. MacDougall. il Eng & Contr (R & S) 56:148-50 D 6 '22

Specifications

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- Highway construction in the United States; a review of the work done in 1921 and an outline of the construction planned for 1922. Good Roads 63:1-6 J1 5 '22
- Highway statistics. Pub Works 54:137-47, 262-73 Ap, Ag '23
- Highway work done during 1921; tables. Pub Works 52:306-7, 324-5 Ap 29-My 6 '22
- State highway construction in 1921 and 1922. Eng & Contr 57:5-10 Ja 4 '22
- State highway construction in 1922 and 1923. Eng & Contr (R & S) 59:45-59 Ja 3 '23
- Status of federal aid October 31, 1921. Pub Roads 4:24 D '21

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- Bates experimental road of Illinois. C. Older. il Eng & Contr 57:199-204 Mr 1 '22; Same. Good Roads 62:151-60 Mr 15 '22; Abstract. Eng N 88:80-3 Ja 12 '22
- Design of rigid type road surfaces. A. T. Goldbeck. Can Eng 43:227-30 Ag 8 '22
- Distribution of wheel loads on pavement sections. H. F. Clemmer and C. A. Hogentogler. Good Roads 62:273-8 My 17 '22; Same. Eng & Contr 58:5-9 J1 5 '22
- Effect of soil moisture on highway design. J. L. Harrison. Munic Eng 62:122-5 Ap '22
- Highway researches and what the results indicate. A. T. Goldbeck. Good Roads 62:233-8 Ap 26 '22
- Illinois to make extensive investigation in subgrades. H. F. Clemmer. il Munic Eng 65:49-51 Ag '23
- Machine cuts mechanically true road subgrade. il Pop Mech 36:853 D '21
- Method of mechanical analysis of subgrade soil. Eng & Contr 58:220 S 6 '22

- Physical properties of subgrade materials. J. R. Boyd. Can Eng 43:362-4 S 19 '22; Same. Eng & Contr (R & S) 58:27-31 O 4 '22; Same. Am Soc T M Pro 22 pt 2:337-55, pl 1 '22; Conclusions. Eng N 89:112 J1 20 '22; Discussion. Am Soc T M Pro 22 pt 2:356-61 '22

- Preparing a dusty subgrade for concrete. H. K. Davis. Eng N 90:84 Ja 11 '23
- Proper design of highway subgrade. C. Upham. Eng & Contr (R & S) 59:342-6 F 7 '23; Same cond. Can Eng 44:201-2 F 6 '23; Excerpts. Eng N 90:154 Ja 25 '23
- Subgrade and its design. diags Concrete 23:23-5 J1 '23
- Subgrade drainage tests yield interesting preliminary data. I. B. Mullis. diags Pub Roads 4:22-6 O '21; Same. Eng & Contr 56:407-9 N 2 '21; Same. Good Roads 62:29-33 Ja 11 '22
- Subgrade results in the Pittsburgh road tests. L. Aldrich and J. B. Leonard. Eng N 91:141 J1 26 '23
- Sub-grade treatment experiments of California highway commission. Eng & Contr 57:18 Ja 4 '22
- Subgrade work on Illinois highways. B. H. Piepmeier. Munic Eng 61:sup21-2+ N '21; Same. Eng & Contr 56:524-5 D 7 '21
- Subgrades and subgraders. R. B. Gage. Good Roads 64:30-1+ Ja 17 '23
- Test of impact on pavements by the Bureau of public roads. C. A. Hogentogler. il Pub Roads 4:3-18 O; 1-18+ N '21; Same. Good Roads 61:225-8+, 235-6+, 246-8+, 255-6+, 267-9+, 278-80+, 289-92; 62:1-4+ N 16 '21- Ja 4 '22
- Tests for soils with relation to their use in the subgrade of highways. A. T. Goldbeck and F. H. Jackson. il diags plans Am Soc T M Pro 21:1057-72 '21
- What the Arlington investigations are showing. A. T. Goldbeck. il charts Good Roads 64:163-9 My 2 '23; Excerpts. Eng & Contr (R & S) 59:301-12 F 7 '23; Can Eng 44:367-71 Ap 3 '23

See also Soil moisture

Surface treatment

- Asphaltic surface treatment of gravel roads. G. C. Dillman. Can Eng 45:412 O 16 '23
- Bituminous bound roads. D. W. Johnston. Can Eng 43:162-4 J1 18 '22
- Bituminous surface treatment on macadam roads. A. K. Hay. Can Eng 42:385-6 Ap 11 '22; Same. Good Roads 62:250-2 My 3 '22
- Bituminous surfaces on gravel roads. P. D. Sargent. Good Roads 62:179-83 Mr 29 '22; Same. Eng & Contr 57:325-7 Ap 5 '22; Same. Can Eng 42:506-8 My 16 '22; Same. Munic Eng 63:88-93 S '22
- Developments in bituminous pavement maintenance. B. C. Tiney. Munic Eng 64:115-19 Mr '23; Same cond. Eng & Contr (R & S) 59:541-4 Mr 7 '23; Same. Can Eng 44:283-5 F 27 '23
- Gravel road surface maintenance. W. H. Root. Eng N 89:942-3 N 30 '22
- Heater on auto truck used in resurfacing asphalt. il Pop Mech 39:375 Mr '23
- Preparing bituminous gravel and sand roads. W. D. Sohler. Can Eng 42:206-8 F 7 '22; Same abr. Eng & Contr 57:212-13 Mr 1 '22
- Preserving sand-clay, gravel and top soil roads in North Carolina. Munic Eng 62:214 Je '22
- Scoria-surfaced highways in Montana. Eng & Contr (R & S) 58:127 D 6 '22
- Solving the highway problem in Quebec municipalities. J. S. Crandell. il Can Eng 43:643-5 D 19 '22
- Surface treating and liquid asphalts. C. M. Baskin. diag Can Eng 45:167-70 J1 24 '23

See also Road oiling; Roads, Oiled; Roads, Tarred

Surfaces

- Comparative gasoline consumption on different road surfaces. A. B. Cutter. Munic Eng 64:193-5 My '23; Same. Good Roads 65:3-4 J1 4 '23; Same abr. Eng & Contr (R & S) 59:1254 Je 6 '23

Roads—Surfaces—Continued

Importance of surface finish and methods of control in pavement construction. H. E. Breed. *Munic Eng* 62:43-4 F '22; Same. *Concrete* 20:74-5 F '22; Same. *Good Roads* 62:83-4 F '22; Same. *Eng & Contr* 57:210 Mr 1 '22; Same. *Can Eng* 42:478 My 9 '22; Same cond. *Pub Works* 52:260 Ap 15 '22

Macadam road smoothed by combining dragging with surface treatment. A. H. Hinkle. *Eng N* 91:312 Ag 23 '23

Method of surfacing roads with chert. E. A. Eubank. *Eng & Contr* 57:431 My 3 '22

Recording device on auto shows condition of road surface. *il Eng N* 90:514-15 Mr 15 '23; *Eng & Contr (R & S)* 59:299 F 7 '23

Road surfaces and motor transport discussed by International road congress. *Eng N* 90:1121-5 Je 28 '23

Silt roads periodically flooded to maintain wearing surface. *Eng N* 88:164 Ja 26 '22

Slippery road surfaces. H. Maybury. *Engineer* 132:601-2 D '21

Uses of asphalt in highway construction. I. W. Patterson. *il Can Eng* 45:109-15 J1 3 '23; Same. *Eng & Contr (R & S)* 60:691-704 O 3 '23; Same cond. *Good Roads* 65:73-9+ S 5 '23

See also Roads, Sand-marl

Surveying

General instructions for surveys for highway pavements. G. N. Lamb. *Eng & Contr (R & S)* 60:510-13 S 5 '23

Graphs allow rapid yardage calculation. R. C. Hardman. *diag Eng N* 89:1129-30 D 28 '22

Testing

Apparatus used in highway research projects in the United States. C. A. Hogentogler. *il diags Nat Research Council Bul v* 6, pt 4:1-91 Ag '23

Bates experimental road of Illinois. C. Older. *il Eng & Contr* 57:199-204 Mr 1 '22; Same. *Good Roads* 62:151-60 Mr 15 '22

Bates experimental road tests. *Good Roads* 62:333-5; 63:19-20, 65-6 Je 21, J1 12, Ag 23 '22; *Pub Works* 52:423-5; 53:5-6, 30, 86-7 Je 10, J1 1-8, 29 '22; *Eng & Contr* 58:100-2 Ag 2 '22; *Concrete* 20:225-6 My '22

Bates experimental road traffic tests summarized and tabulated. *Eng N* 89:236-8 Ag 10 '22

California builds longest test road. *Automotive Ind* 45:1044 N 24 '21

Calyx drill pavement tests. *Pub Works* 52:392 My 27 '22

Construction data and tests on Bates experimental highway. C. Older. *il W Soc E J* 27:319-37; Discussion. 337-9 N '22

Determining the best type pavement. G. Klein. *il Brick & Clay Rec* 61:95-8 J1 25 '22

Developments in the scientific testing of road surfaces, subgrades and materials; equipment and methods developed for use on the Bates and Arlington experimental roads. *il Eng & Contr* 57:547-9 Je 7 '22

Experimental road work at Arlington to continue. *il Concrete* 21:118 O '22

Government road tests show progress. *il Eng & Contr (R & S)* 58:9-11 O 4 '22

Illinois experimental highway tests. C. C. Brown. *Pub Works* 53:253-5 D '22

Measurement of impact. E. B. Smith. *diags Am Soc T M Pro* 21:1073-80 '21; Same. *Good Roads* 61:149-51+ S 21 '21; Discussion. *Am Soc T M Pro* 21:1081-5 '21

Motor truck tractive resistances on road surfaces. T. R. Agg. *il Eng N* 89:982-5 D 7 '22

Official conclusions from the Bates road. C. Older. *Pub Works* 54:13-14 Ja '23

Pittsburgh, California, service test road. T. E. Stanton. *Eng & Contr (R & S)* 59:562-5 Mr 7 '23; Abstract. *Pub Works* 54:127-8 Ap '23

Pittsburg, California, test highway. *il Pub Works* 51:448-50 D 10 '21

Pittsburg test highway. C. W. Geiger. *il Pub Works* 52:23-5, 102-4, 118 Ja 14, F 11-18 '22

Preliminary report on the Bates experimental road. C. Older and H. F. Clemmer. *il diag Pub Roads* 4:3-11+ S '21; Same abr. *Good Roads* 61:181-4+, 193-4+ O 12-19 '21; Same cond. *Automotive Ind* 45:716-19 O 13 '21

Recent developments in highway research; experimental work on Bates, Arlington and Pittsburgh test roads. *Good Roads* 62:314-17 Je 7 '22

Reinforcing steel for road use. C. W. Geiger. *il diags plans Iron Age* 108:1222-3 N 10 '21

Severe motor road test. *Concrete* 19:236 D '21

Study road surface irregularities. *il Concrete* 21:119-20 O '22

Taking the roughness out of our roads; the profilometer. *il Sci Am* 127:233 O '22

Test experimental highway with trailer. *il Pop Mech* 40:56 J1 '23

Test of impact on pavements by the Bureau of public roads. C. A. Hogentogler. *il Pub Roads* 4:3-18 O; 1:13+ N '21; Same. *Good Roads* 61:225-8+, 235-6+, 246-8+, 255-6+, 267-9+, 278-80+, 289-92; 62:1-4+ N 16 '21- Ja 4 '22

Test road construction with impact machine. *il Pop Mech* 38:216 Ag '22

Tests for tractive resistance of roads. W. E. White. *il diags Eng & Contr (R & S)* 53:77-82 N 1 '22

What experimental road testing has taught us. C. Older. *Good Roads* 64:117-19+ Mr 28 '23

What the Arlington investigations are showing. A. T. Goldbeck. *il charts Good Roads* 64:163-9 My 2 '23; Excerpts. *Eng & Contr (R & S)* 59:301-12 F 7 '23; *Can Eng* 44:367-71 Ap 3 '23

See also Pavements—Testing; Roads, Brick—Testing; Roads, Concrete—Testing; Roads, Experimental

Widening

Wayne county, Mich., widens old concrete highways. *il Eng N* 87:767 N 10 '21

Widening narrow road surfaces. O. C. Rollman. *Good Roads* 62:191-3 Ap 5 '22

Widening Wayne county concrete roads. *il Concrete* 19:226 D '21; *Eng & Contr* 56:411 N 2 '21

Width

Economic study of highway design and location. O. L. Kipp. *Eng N* 90:699-701 Ap 19 '23; Discussion. 90:894; 91:74, 154 My 17, J1 12, 26 '23

Favors two-lane highways. *Automotive Ind* 46:1054 My 18 '22

Handling traffic during highway construction. P. D. Sargent. *Eng N* 88:64-5 Ja 12 '22

Highway widths. *Eng & Contr (Equip R)* 60:458-9 Ag 29 '23

Paving widths for highways serving large cities. W. F. Cavanaugh. *Good Roads* 62:92-3 F 8 '22; Same. *Eng & Contr* 57:105 F 1 '22; Same. *Munic Eng* 63:sup-29-30 J1 '22

Portland cement concrete roads. J. T. Voshell and R. E. Toms. *diags U S Agric Bul* 1077:1-67, pl 1-10 '22; Excerpts. *Bus Transportation* 2:22 Ja '23

Traffic capacity and widths of highways outside municipalities. H. C. Smith. *Can Eng* 42:558 My 30 '22; Same. *Good Roads* 62:303+ My 31 '22; Same. *Munic Eng* 63:sup 27-8 J1 '22; Same. *Eng & Contr (R & S)* 58:20-1 O 4 '22

Width of pavement

Concrete single track highways. A. M. Jackson. *il Eng & Contr (R & S)* 60:473-7 S 5 '23; Same. *Can Eng* 44:619-20 Je 26 '23

Alabama

Jefferson county's road system. E. M. Wheeler. *il Pub Works* 52:299-300, 315-16 Ap 29-My 6 '22

Alaska

Highway development by the Alaska road commission. J. G. Steese. *il map Eng N* 91:506-8 S 27 '23

Roads and trails in Alaska. J. G. Steese. *il map Good Roads* 62:121-3 Mr 1 '22

Roads—Continued

Alberta

Experiments in improving and maintaining our prairie roads of Alberta with bitumen and soils. K. A. Clark. Can Eng 42:658-9 Je 27 '22; Same. Eng & Contr 58:227-8 S 6 '22

Improving earth, clay and sand roads. J. D. Robertson. Can Eng 42:655-6 Je 27 '22; Same. Eng & Contr 58:230-2 S 6 '22

Argentina

Road building grows in Argentina. Automotive Ind 47:1239 D 21 '22

Arizona

Routes to desert watering places in the lower Gila region, Arizona. C. P. Ross. map U S Geol S Water-supply Pa 490—C:1-315, pl 1-22 '22

Arkansas

Building roads on gumbo fills in the Arkansas bottoms. C. T. Fisher. il map Eng N 88:603-5 Ap 13 '22

Methods employed on difficult road construction on Ozark trail highway in eastern Arkansas. A. S. Fry. il Munic Eng 63:203-8 D '22

Solving a typical road problem in the swamp lands of Arkansas. B. H. Klyce. Munic Eng 62:140 Ap '22

Asia

Notes on roads in the Orient. W. W. Crosby. il Eng N 91:437-9 S 13 '23

Belgium

Belgian roads and railways. E. François. Engineering 113:200 F 17 '22

California

Abstract of the annual report of State highway engineer of California. A. B. Fletcher. Eng N 89:1028 D 14 '22

California's new Skyline boulevard. il Good Roads 65:113 O 3 '23

Concrete road tests completed at Pittsburgh. Cal. Eng N 89:558 O 5 '22

First concrete road. W. A. Gillette. Eng & Contr (R & S) 56:163 D 6 '22

Klamath river road nears completion. il Good Roads 63:157 N 1 '22; Excerpt. Eng & Contr (R & S) 58:73-4 N 1 '22

Proposed road on Mexican border would involve treaty. il Eng N 89:103-4 JI 20 '22

Results of heavy traffic on Pittsburgh test road. il diag Eng N 88:1066-9 Je 29 '22

Road construction through Coachella desert. il Eng & Contr (R & S) 59:60-4 Ja 3 '23

Road to big-tree country difficult to build. il Pop Mech 39:48 Ja '23

Seven-million road to relieve traffic jam. R. Morgan. map Pop Mech 39:93-4 Ja '23

Sidehill viaducts carry highway in canyon above railroad. il diag Eng N 89:278-9 Ag 17 '22

Test highway at Pittsburg, California. L. Aldrich. Munic Eng 65:174-81 O '23

Canada

Banff-Windermere highway opened. Can Eng 45:157 JI 17 '23

Canadian highways and roads. Can Eng 44:132-6 Ja 9 '23

Considerations for a good road policy for Canada. M. A. Lyons. Eng & Contr (R & S) 58:103-8 N 1 '22; Same abr. Good Roads 63:99-101+ S 20 '22; Same cond. Can Eng 43:584-6 N 28 '22

Federal aid, its implications and results in Canada. A. W. Campbell. Can Eng 42:649-51 Je 27 '22

Last link in 6,500-mile highway completed; opening of the Banff-Windermere highway. E. M. Webber. il map Pop Mech 39:886-8 Je '23

Provincial systems of highways. G. Hogarth. Can Eng 44:609-11 Je 19 '23

See also Roads—Ontario; Roads—Quebec; Roads—Saskatchewan

China

China's roads. il map Engineer 134:461-2, 470 N 3 '22; Same abr. Eng & Contr 58:48-50 N 29 '22

Roads in North China. il Engineer 134:682-4 D 29 '22

Colorado

Colorado to spend \$7,767,596 for road construction during 1923. Good Roads 64:198 My 23 '23

Connecticut

New London turnpike. il Pub Works 52:17-19, 44-6, 64-6 Ja 14-28 '22

Two-cut machine trench excavation. il Pub Works 52:44 Ja 21 '22

England

Concrete roads and road vehicles in England. F. C. Horner. Good Roads 62:345-8 Je 28 '22

Concrete roads in Manchester. J. B. L. Meek. il diag Engineer 134:375-6, 386 O 13 '22; Same. Eng & Contr 58:41-4 N 29 '22

Design, construction and maintenance of highways. C. H. Bressey. Engineering 113:616-17 My 19 '22

Florida

Brick pavements in Florida. E. C. Garvin. Pub Works 52:244-5 Ap 8 '22

How good roads developed Polk county, Florida. Munic Eng 63:171-2 N '22

France

Constructing durable roadways in France. F. Miltoun. il diag Iron Tr R 70:895 Mr 30 '22; Same. Foundry 50:315 Ap 15 '22

Great Britain

British and American methods in road construction and maintenance. A. Dryland. Engineering 115:786-7 Je 22 '23; Same cond. Engineer 135:655-6 Je 22 '23; Discussion. Engineering 115:766 Je 22 '23

Nationalization of British highways considered. Eng N 90:724 Ap 19 '23

Report of the administration of the Road fund for 1921-22. map Engineering 114:748-9 D 15 '22; Engineer 134:644 D 15 '22

See also Roads—England

Hawaiian Islands

Road building in the Hawaiian Islands. W. W. Crosby. il Good Roads 64:173+ My 2 '23

Illinois

Construction features of the Illinois state road between Elgin and Marengo. il Eng & Contr 56:422-4 N 2 '21

Further tests of Bates road. il diag plan Pub Works 53:5-6 JI 1 '22

Highway construction in Illinois; progress in 1921 and plans for 1922. map W Soc E J 27:[current news] 7-9 Ja '22

Highway maintenance in Bureau county, Ill. C. L. Melcher. Munic Eng 63:93-7 S '22; Same. Eng & Contr (R & S) 58:49-53 O 4 '22

Highway marking system of state of Illinois. R. R. Benedict. il Eng & Contr 58:15-16 JI 5 '22; Same. Eng N 89:596-8 O 12 '22

Illinois road tests. Pub Works 52:423-5 Je 10 '22

1921 road construction in Illinois. B. H. Piepmeier. Pub Works 52:244 Ap 8 '22; Same abr., with charts. Eng & Contr 57:208 Mr 1 '22

Practical lessons from the Bates road tests. il Eng N 90:57-61 Ja 11 '23

Scientific road building in Illinois. Munic Eng 62:47-8 F '22

Single track concrete roads for the average country. P. C. McArdle. Eng & Contr 57:103 F 1 '22

Survey of road work in Illinois. C. Older. il Good Roads 62:11-13+ Ja 11 '22

Traffic tests of Bates experimental road summarized. Eng N 89:236-8 Ag 10 '22

India

British roadbuilding expedition penetrates India's last frontier. il Pop Mech 39:862-3 Je '23

Roads—India—Continued

Good roads movement in Bombay, India. R. W. Parkhurst. Good Roads 65:109-10+ O 3 '23

Indiana

Experiment in earth road construction. B. H. Petty. il Eng N 91:754-5 N 8 '23

Indiana's good road program; 1,300 miles of hard surface roads the aim by 1925. C. H. Parrish. il maps Good Roads 65:69-72 S 5 '23

New Dunes highway. C. H. Parrish. il Good Roads 64:135-6+ Ap 4 '23

Iowa

Iowa builds 1069 miles of permanent grading, 432 miles of graveling and 101 miles of paving during 1922. Good Roads 64:32 Ja 17 '23

Iowa practice in progressive construction of highways. C. C. Coykendall. Munic Eng 64:82-5 F '23; Same. Good Roads 64:134-5+ Ap 4 '23; Same. Eng & Contr (R & S) 60:220-3 Ag 1 '23; Excerpt. Eng N 90:155 Ja 25 '23

Iowa transportation problems and suggested solutions. C. C. Coykendall. Munic Eng 64:142-6 Ap '23

Japan

Development of the good roads movement in Japan. T. Matsumoto. Good Roads 65:36-7 Ag 1 '23

Kansas

Benefit district assessments for road improvement. M. W. Furr. Munic Eng 64:12-14 Ja '23

Good season's record in highway work in Kansas. A. A. Anderson. il Pub Works 52:68-72 Ja 28 '22

Kentucky

Constructing Kentucky rock asphalt pavement on Dixie highway between Louisville and West Point, Kentucky. J. H. Cahill. il Munic Eng 62:12-15 Ja '22

Construction and maintenance of low cost road surfaces. W. N. Bosler. Good Roads 62:145-7 Mr 8 '22; Same. Can Eng 43:463-4 O 17 '22

Kentucky recovering from local control. chart Eng N 91:228-9 Ag 9 '23

Latin America

Road work starts in Latin-America. Automotive Ind 46:491+ F 23 '22

Maryland

Improving improved roads in Maryland. il diags Eng N 89:56-8 Jl 13 '22

Traffic on Maryland's roads shown on map. A. N. Johnson. Eng N 88:958-9 Je 8 '22

Massachusetts

Highway construction in Massachusetts. A. W. Dean. Boston Soc C E J 9:1-16; Discussion. 17-35 Ja '22

State highway maintenance in Massachusetts. Pub Works 52:382-4 My 27 '22

Michigan

Conducting road patrol systems. L. H. Neilson. il Can Eng 45:149-52 Jl 17 '23; Excerpt. Eng & Contr (R & S) 60:53-5 Jl 4 '23

Field control of state highway maintenance. G. C. Dilman. Eng & Contr (R & S) 59:25-7 Ja 3 '23

Road building in Michigan. F. F. Rogers. Good Roads 61:257-8 D 7 '21

Road construction in Michigan. L. H. Belknap. Good Roads 61:185+ O 12 '21

Roadside development. C. F. Boehler. il Good Roads 61:171-2+ O 5 '21

Minnesota

Difficult highway grading on iron range. il map Eng & Contr (R & S) 59:28-32 Ja 3 '23

Markers and signs of the Minnesota highway department. Eng & Contr (R & S) 59:1255-9 Je 6 '23

Minnesota builds roads under Babcock plan. il Good Roads 62:107-10 F 22 '22; Same. Munic Eng 62:sup34-8 Je '22

Minnesota highways; how they are being developed under the Babcock good roads plan.

Good Roads 64:89-91+ Mr 7 '23

Minnesota to spend \$26,000,000 on counties, townships, and cities' roads this year. Good Roads 64:201-2 My 30 '23

Minnesota's highway financing. C. M. Babcock. Eng N 88:204 F 2 '22

Winter road work proving successful in Minnesota. E. M. Richter. il Eng N 88:234-5 F 9 '22

Missouri

Missouri speeding construction. chart Eng N 91:256-7 Ag 16 '23

Nebraska

County road work discredited in Nebraska. Eng N 89:61 Jl 13 '22

New Jersey

Demonstrate better town roads at state fair. il Eng N 89:580 O 5 '22

New York (state)

New York state appropriates \$25,000,000 for road work. Good Roads 62:201 Ap 5 '22

See also Bronx river parkway; Storm King highway

North Carolina

High standard concrete roads in North Carolina. diags plan Eng N 89:315-16 Ag 24 '22

Locating and mapping highways in North Carolina. G. F. Syme. Eng N 89:971-2 D 7 '22

North Carolina constructing roads progressively. chart Eng N 91:131-2 Jl 26 '23

North Carolina top-soil road theory and practice. il diag Eng N 89:99-100 Jl 20 '22

North Carolina's sub-grade roads. C. M. Upham. Eng N 88:202 F 2 '22

Patrol maintenance practice in North Carolina. il map Eng N 89:150-2 Jl 27 '22

Progressive construction of highways. C. M. Upham. Good Roads 64:56-7 F 7 '23; Same. Munic Eng 64:108-11 Mr '23; Same. Can Eng 44:523-4 My 22 '23; Same. Eng & Contr (R & S) 60:223-5 Ag 1 '23; Same abr. Eng N 90:155-6 Ja 25 '23

Road work in North Carolina mountains. R. S. Blinn. il Pub Works 53:41 Jl 15 '22

Ohio

Building and maintaining bituminous macadam roads in Franklin county, Ohio. C. C. Lattimer. Munic Eng 62:88-91 Mr '22

Detour practice standardized on Ohio state roads. diag Eng N 89:273 Ag 17 '22

Ontario

Beautifying the highways of Ontario. H. J. Moore. Good Roads 63:137-8+ O 18 '22

Good roads system in Ontario. F. C. Biggs. Can Eng 42:327-8 Mr 21 '22

Ontario provincial highways. G. Hogarth. Can Eng 42:566-7 My 30 '22

Road-building in Ontario. P. Hubbard. Can Eng 42:289-90 Mr 7 '22

Road construction in Victoria county, Ont. E. L. Miles. Can Eng 44:513-16 My 22 '23

Some aspects of Ontario good roads movement. W. A. McLean. Can Eng 42:350 Mr 28 '22

Status of Ontario's provincial highways. map Can Eng 45:401-4 O 16 '23

Oregon

See Columbia river highway

Panama

Highway construction in Panama. R. C. Hardman. il diags map Eng N 91:594-7 O 11 '23

Road building in Panama. J. W. Beardsley. Eng & Contr 58:228-30 S 6 '22

Pennsylvania

Citizens committee reports on Pennsylvania roads. Eng N 89:991 D 7 '22

Constructing the Duncannon highway. il Pub Works 51:443-5, 465-7 D 10-17 '21

Construction of Franklin highway. E. H. Sauerman. il Pub Works 52:253-7, 282-3 Ap 15-22 '22

Roads—Pennsylvania—Continued

From railroad to highway; how 33 miles of abandoned right-of-way was converted into a scenic boulevard. *il Sci Am* 126:317-18 My '22

Materials used in 4 years state highway construction in Pennsylvania. *Eng & Contr* (R & S) 56:153 D 6 '22

Pennsylvania highway department; developing a state highway system. *Pub Works* 51:389-91 N 19 '21

See also Pennsylvania—Highway department

Quebec

Big roads program for Quebec. *Can Eng* 42:589-90 Je 6 '22

Extensive program for next year. *Can Eng* 43:564 N 21 '22

Mileage of good roads built in Quebec in 1921. *Can Eng* 42:169 Ja 24 '22

Saskatchewan

Highway activity in province of Saskatchewan. H. S. Carpenter. *il Can Eng* 44:101-2 Ja 2 '23

South Carolina

South Carolina highways. *Pub Works* 54:116-17 Ap '23

South Carolina mobilizing for highway development. map *Eng N* 91:130-1 JI 26 '23

Southern states

Highway developments improving southern motor market. J. Dalton. *Automotive Ind* 47:678-9 O 5 '22

Highway progress and problems in the mid-South. *Eng N* 91:128-32, 168-70, 228-30, 256-7 JI 26-Ag 16 '23

How highways are being built in the Southern states. R. H. Bethea. *Automotive Ind* 47:775-7 O 19 '22

Tennessee

Highway traffic surveys in nine Tennessee counties. N. W. Dougherty. *il map Eng N* 91:546-7 O 4 '23

Tennessee learning finance and administration. *Eng N* 91:229-30 Ag 9 '23

Texas

Highway problem in Texas—past and future. R. M. Hubbard. *Good Roads* 65:110 O 3 '23

Link in Bankhead highway completed. R. V. Glenn. *il diags Pub Works* 52:47-8 Ja 21 '22

Road work in Colorado county. *il Pub Works* 52:215 Mr 25 '22

United States

All records for road-building broken during 1922. *Good Roads* 64:24 Ja 10 '23

British and American methods in road construction and maintenance. A. Dryland. *Engineering* 115:786-7 Je 22 '23; Same cond. *Engineer* 135:655-6 Je 22 '23; Discussion. *Engineering* 115:766 Je 22 '23

British view of American highway practice. A. Dryland. *Eng N* 87:892-4 D 1 '21

General road situation in United States. T. H. MacDonald. *Eng & Contr* (R & S) 59:977-83 My 2 '23; Same. *Good Roads* 64:214-16+ Je 6 '23

Minor roads in national forests. F. D. Mendenhall. *Eng & Contr* (R & S) 59:1020 My 2 '23

Our highway system. *Nation's Business* 10:42-3+ Je 5 '22

Plans for forest highways approved. *Good Roads* 63:18 JI 12 '22

Proceedings of a conference on the economics of highway transport. C. J. Tilden. 51p The Highway and highway transport educ. committee, Washington '22

Recommendations for increased road building by conference on unemployment. *Good Roads* 61:265-6+ D 14 '21

Resumé of federal aid work and future policies. T. H. MacDonald. *Eng & Contr* 57:13-16 Ja 4 '22; Same. *Good Roads* 62:95-100 F 15 '22; Same cond. *Can Eng* 42:603-5 Je 13 '22; Same cond. *Eng N* 88:156-7 Ja 26 '22

Review and forecast of highway construction, 1921-1922. *Eng N* 88:16-17 Ja 5 '22

Road construction lags far behind car registration. *Automotive Ind* 46:427 F 16 '22

Road work in 1921. C. Older. *Pub Works* 52:224-5 Ap 1 '22

See also Roads—Federal aid; also Custer battlefield hiway; Dixie highway; Lincoln highway; National park-to-park highway; also United States—Public roads, Bureau of

Virginia

Virginia debating methods of financing. *Eng N* 91:168-9 Ag 2 '23

Washington (state)

Developing a national transportation system. F. Terrace. *Good Roads* 63:111-12 S 27 '22

West Virginia

Elk district highway. S. H. Lea. *il Good Roads* 63:85-6 S 6 '22

West Virginia pushing system construction. map *Eng N* 91:169-70 Ag 2 '23

Western states

Federal highway appropriation will benefit western states. *J Elec* 48:275-6 Ap 1 '22

Making western highway programs build car sales. N. G. Shidle. *Automotive Ind* 47:501-3 S 14 '22

Wisconsin

Brief summary of the principal provisions and of financial effect of Wisconsin highway bills 283-S and 284-S. *Good Roads* 65:16-17 JI 11 '23

Developing a highway transportation system for a state. A. R. Hirst. *il W Soc E J* 27:13-18; Discussion. 19-25 Ja '22

Five years experience with patrol maintenance in Wisconsin. J. T. Donaghey. *Munic Eng* 64:119-24 Mr '23; Excerpts. *Eng & Contr* (R & S) 59:319-23 F 7 '23; Excerpts. *Eng N* 90:534-5 Mr 22 '23; Excerpts. *Good Roads* 64:69-71 F 21 '23

Road marking and signing in Wisconsin. N. M. Isabella. *Good Roads* 62:214-16 Ap 12 '22

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Construction methods on a canyon-side road in Wyoming. R. L. Silver. *il diags map Eng N* 90:988-91 Je 7 '23

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Asphalt roads of the Texas panhandle. O. A. Seward, jr. *il Eng & Contr* (R & S) 56:181-2 D 6 '22

Asphalt vs. concrete. J. E. Pennybacker. *Sci Am* 126:345 My '22

Clinker asphalt roads. *Can Eng* 45:191 JI 31 '23

Hot-mix asphalt sand roads. V. M. Pierce. *Eng N* 90:154-5 Ja 25 '23

Paving Cote Saint Catherine road, Outremont. I. H. Parker. *Can Eng* 45:192-4 JI 31 '23

Uses of asphalt in highway construction. I. W. Patterson. *il Can Eng* 45:109-15 JI 3 '23; Same. *Eng & Contr* (R & S) 60:691-704 O 3 '23; Same cond. *Good Roads* 65:73-9+ S 5 '23

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Pressure intensity of truck tires on asphalt tested at Detroit. *Eng N* 89:598 O 12 '22

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Bituminous bound roads. D. W. Johnston. *Can Eng* 43:162-4 JI 18 '22

Building and maintaining bituminous macadam roads in Franklin county, Ohio. C. C. Lattimer. *Munic Eng* 62:88-91 Mr '22

Construction and maintenance of bituminous macadam roads. R. W. Coburn. *Boston Soc C E J* 10:298-313 S '23; Same. *Eng & Contr* (R & S) 60:715-21 O 3 '23

Experiences at Ottawa with refined tar in road construction. A. F. Macallum. *Eng & Contr* 58:241 S 6 '22

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Preparation and uses of tar and its simple crude derivatives. W. W. Odell. U S Bur Mines Tech Pa 268:30-5 '22; Same (Use of tar in road construction). Pub Works 52:403-5 Je 3 '22

Sand asphalt pavement construction in North Carolina. E. R. Olbrich. Eng & Contr (R & S) 59:297 F 7 '23

Use of local mineral aggregates in bituminous macadam roads. W. A. Welch. Good Roads 62:117-18 F 22 '22; Same. Eng & Contr 57:105-6 F 1 '22; Same. Can Eng 42:449 My 2 '22; Same cond. Pub Works 52:370 My 20 '22

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Developments in bituminous pavement maintenance. B. C. Tiney. Munic Eng 64:115-19 Mr '23; Same cond. Eng & Contr (R & S) 59:541-4 Mr 7 '23; Same. Can Eng 44:283-5 F 27 '23

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Highway construction in Massachusetts. A. W. Dean. Boston Soc C E J 9:3-7 Ja '22

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Bituminous concrete and penetration surfaces. E. A. James. Eng & Contr (R & S) 59:779-81 Ap 4 '23; Same. Can Eng 44:403-4 Ap 10 '23

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Rapid laying of monolithic brick pavement. il Pub Works 52:180 Mr 11 '22

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Alkali attack on concrete roads and building brick. I. Furlong. il Eng N 89:64-7 JI 13 '22

Asphalt vs. concrete. J. E. Pennybacker. Sci Am 126:345 My '22

Bates experimental road of Illinois. C. Older. il Eng & Contr 57:199-204 Mr 1 '22; Same. Good Roads 62:151-60 Mr 15 '22; Abstract. Eng N 88:80-3 Ja 12 '22

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Calcium chloride in concrete highway construction. B. H. Piepmeier and H. F. Clemmer. il Eng N 88:409-11 Mr 9 '22; Same. Eng & Contr 57:323-4 Ap 5 '22

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Concrete road foundations. Can Eng 45:105 JI 3 '23

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Concrete road surfaces. L. A. Pardo. Can Eng 42:383-4 Ap 11 '22; Same abr. Eng & Contr 57:322 Ap 5 '22

Concrete roads. Engineering 113:172 F 10 '22

Concrete roads and road vehicles in England. F. C. Horner. Good Roads 62:345-8 Je 28 '22

Concrete roads in Manchester. J. B. L. Meek. il diag Engineer 134:375-6, 386 O 13 '22; Same. Eng & Contr 58:41-4 N 29 '22; Discussion. J. H. Walker. Engineer 134:408 O 20 '22

Concrete roads with longitudinal plane of weakness. diags Eng N 87:888 D 1 '21

Concrete single track highways. A. M. Jackson. il Eng & Contr (R & S) 60:473-7 S 5 '23; Same. Can Eng 44:619-20 Je 26 '23

Concreting Troy-Pocahontas highway. il Pub Works 53:24-6 JI 8 '22

Construct concrete surfacing with special aggregate soliditt. L. Luiggi and I. Vendone. Eng & Contr (R & S) 59:1296-7 Je 6 '23

Construction features of I. W. Carr concrete road. J. C. Seright. il Eng & Contr 57:193-5 Mr 1 '22

Construction features of Oklahoma federal aid project. il Eng & Contr 57:113-14 F 1 '22

Construction features of the Illinois state road between Elgin and Marengo. il Eng & Contr 56:422-4 N 2 '21

Construction methods on Southern Indiana road job. J. D. Stemm. il Eng & Contr 57:537-8 Je 7 '22

Construction of concrete pavements. W. E. Hawkins. Good Roads 62:210-12 Ap 12 '22

Construction of concrete roads. J. Allen. Good Roads 63:83-4+ S 6 '22

Construction of Franklin highway. E. H. Sauerman. il Pub Works 52:253-7, 282-3 Ap 15-22 '22

Construction of reinforced concrete section of Lee highway at Pulaski, Va. G. H. Derrick. Munic Eng 63:79-8 S '22

Design and construction features of the ideal section of the Lincoln highway. W. G. Thompson. Am Concrete Inst Pro 19:129-32 '23

Design of rigid type road surfaces. A. T. Goldbeck. Can Eng 43:227-30 Ag 8 '22

Development of concrete road construction during 1921. L. N. Whitcraft. Good Roads 63:63-4 Ag 23 '22; Same abr. Can Eng 43:485-6 O 24 '22; Same. Eng & Contr (R & S) 58:118-19 N 1 '22

Developments in concrete pavement design in Iowa counties. R. Zack. Munic Eng 64:202-6 My '23

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Experiments with the construction joints in concrete pavement. diags Eng N 88:1069-70 Je 29 '22

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- Good season's record in highway work in Kansas. A. A. Anderson. *il Pub Works* 52:68-72 Ja 28 '22
- Handling a 140-mile road contract in Arizona. *il Concrete* 19:170-2 N '21
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- Horicon-Beaver dam road. *il Pub Works* 51:499-500 D 31 '21
- How shall we build better concrete roads? *Concrete* 22:3-9 Ja '23
- Importance of surface finish and methods of control in pavement construction. H. E. Breed. *Munic Eng* 62:43-4 F '22; Same. *Concrete* 20:74-5 F '22; Same. *Good Roads* 62:83-4 F 8 '22; Same. *Eng & Contr* 57:210 Mr 1 '22; Same. *Can Eng* 42:478 My 9 '22; Same cond. *Pub Works* 52:260 Ap 15 '22
- Improvement in center joints for concrete road. C. V. R. Fullenwider. *il Munic Eng* 64:21-3 Ja '23
- Inspection and control of concrete materials. R. W. Crum. *Good Roads* 62:127-8+ Mr 1 '22; Same. *Can Eng* 43:183-4 Jl 25 '22
- Inspection of Casper-Salt Creek monolithic concrete road. *il Eng N* 89:516-17 S 28 '22
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- Laying concrete road in cold weather. C. Tappan. *Eng N* 90:266 F 8 '23
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- Merits of bar reinforcement for concrete pavements. W. S. Edge. *Good Roads* 63:91-3 S 13 '22; Same. *Can Eng* 44:354-5 Mr 27 '23
- Method of constructing precast concrete slab pavement for Wyoming highway. Z. E. Severson. *il Eng & Contr* 57:329 Ap 5 '22
- Methods and equipment employed in building concrete roadway on Muskegon-Grand Rapids, Mich., turnpike. C. E. Foster. *il plan Munic Eng* 62:sup25-7 Ja '22
- Modern methods; constructing concrete pavements. E. G. Willemin. *Concrete* 22:237-40 Je '23; Same. *with il Eng & Contr (R & S)* 60:229-38 Ag 1 '23; Same abr. *Munic Eng* 64:sup19-22+ Mr '23; Same. *Can Eng* 44:480-2 My 8 '23
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- New features in concrete road construction. C. Upham. *Concrete* 22:37-8 Ja '23
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- New York develops double-slab concrete roads. *il diags Eng N* 87:804-5 N 17 '21
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- Oldest county concrete highway in Iowa promises years of service still. *Eng N* 90:619 Ap 5 '23
- Outstanding ideas influencing concrete road building; a symposium, with discussions. C. Older and others. *Concrete* 20:51-4 F '22
- Overcoming cracking and expansion joint troubles in Lucas county, Ohio, concrete roads. *il Munic Eng* 62:60+ F '22
- Pave Colorado road with precast slabs. *Concrete* 21:27 Jl '22
- Pavement with thickened edges takes heavy loads. C. L. Jenken. *Eng N* 88:607 Ap 13 '22
- Paving on the Neenah-Oshkosh road. *Pub Works* 52:156-7 Mr 4 '22
- Pittsburg, California, test highway. *il Pub Works* 51:448-50 D 10 '21
- Portland cement concrete roads. J. Allen. *Can Eng* 42:629-30 Je 20 '22; Same. *Good Roads* 62:324-6 Je 14 '22
- Portland cement concrete roads. J. T. Voshell and R. E. Toms. *diags U S Agric Bul* 1077:1-67, pl 1-10 '22; Same abr. *Can Eng* 44:562-6, 582-6, 633-6 Je 5-12, 26 '23
- Pounding concrete to make smooth roads. *il Pop Mech* 40:895 D '23
- Practical lessons from the Bates road tests. *il Eng N* 90:57-61 Ja 11 '23
- Precast concrete slab road after fourteen months' use. *il Eng N* 89:516 S 28 '22
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- Recent British concrete road practice. F. Johnstone-Taylor. *diags Eng N* 90:405-6 Mr 1 '23
- Reinforcing steel for road use. C. W. Geiger. *il diags plans Iron Age* 108:1222-3 N 10 '21
- Removing earth covering from new concrete. W. E. Voorhees. *il Eng & Contr (R & S)* 58:22-3 O 4 '22
- Report of committee on concrete roads and pavements. *Am Concrete Inst Pro* 17:297-300 '21
- Road finishing methods in Washington. *Concrete* 21:158 N '22
- Selection of aggregate for concrete roads. D. A. Abrams. *Concrete* 20:159-63 Ap '22; Same cond. *Good Roads* 62:67-70 F 1 '22; Same cond. *Eng & Contr* 57:419-21 My 3 '22; Excerpts. *Can Eng* 43:211-13 Ag 1 '22; Discussion. *Eng N* 89:287, 809 Ag 17, N 9 '22
- Simple method of banking curves on concrete roads. A. H. Gardiner. *diags Eng N* 90:1040-1 Je 14 '23
- Six construction mistakes in one concrete road. G. L. Smith. *diags plan Eng N* 88:357-8 Mr 2 '22
- Slag-concrete roads—their construction and wear. C. S. Hill. *Eng N* 89:439-40 S 14 '22
- Some construction features of 13-mile concrete road in Illinois. F. C. Feutz. *il Eng & Contr (R & S)* 58:89-90 N 1 '22
- Special methods in using slag in concrete roads. *il Eng N* 88:58-9 Ja 12 '22
- Steel mattresses reinforce concrete roads. *il Pop Mech* 39:388 Mr '23
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- Trend of highway design. H. E. Breed. *Am Concrete Inst Pro* 19:133-9 '23; Same. *Concrete* 22:141-3 Ap '23; Excerpts. *Eng & Contr (R & S)* 59:551-4 Mr 7 '23; Excerpt. *Eng N* 90:218 F 1 '23; Discussion. *Am Concrete Inst Pro* 19:140-1 '23
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- Wayne county, Mich., widens old concrete highways. *il Eng N* 87:767 N 10 '21; *Concrete* 19:226 D '21
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- Wide concrete road constructed half at a time. L. E. Andrews. *diags Eng N* 89:1059-60 D 21 '22
- Winter construction of concrete roads; an interview with W. W. Fisher and Joseph Gradison. C. S. Hill. *il Eng N* 90:1082-4 Je 21 '23

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- Bucket loader charges batch boxes from stock piles. *plan Eng N* 88:52 Ja 12 '22
- Carefully planned layout speeds construction on North Carolina road job. *il Munic Eng* 61:sup21-5 D '21
- Concrete road finishing machines. G. Maxon, Jr. *Pub Works* 54:17 Ja '23
- Developments in plant and organization for concrete road construction. C. R. Ege. *Am Concrete Inst Pro* 17:79-85; Discussion. 86-9 '21

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Device supports finishing machine in concrete street paving. G. E. Wright, diag Eng N 90:269 F 8 '23

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Hauling water on concrete paving jobs. C. M. Hathaway, Eng N 90:81 Ja 11 '23

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Material handling on a federal aid job in Iowa. Eng & Contr 57:23-4 Ja 4 '22

Mechanical labor saving devices in road work. W. S. Cumming, Eng & Contr (R & S) 59:536-9 Mr 7 '23

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Cost analysis of day labor construction of Wisconsin concrete roads. H. J. Kuelling, Concrete 20:81-6 F '22

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Concrete road maintenance cost in Ohio, 1917-1922. E. C. Blosser, Eng N 91:65 Jl 12 '23

Concrete road maintenance methods and tools. G. C. Dillman, Eng N 90:736-9 Ap 26 '23

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Concrete highway test at Pittsburg, California. C. Geiger, il diag Concrete 21:23-5 Jl '22

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Pittsburg test highway. C. W. Geiger, il Pub Works 52:23-5, 102-4, 118 Ja 14, F 11-18 '22

Pocket strain gage gives stresses in concrete roads. A. T. Goldbeck, il diags plans Eng N 90:575-6 Mr 29 '23

Practical lessons from the Bates road tests. il Eng N 90:57-61 Ja 11 '23

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Test highway at Pittsburg, California. L. Aldrich, Munic Eng 65:174-81 O '23

Tests of impact on pavements by the Bureau of public roads. C. A. Hogentogler, il diags Pub Roads 4:3-18 O; 1-18 N '21; Abstract. Eng N 87:944-7 D 8 '21

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Variety of movements occur in concrete test highway. il diags Eng N 87:1048-51 D 29 '21

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Experiment in earth road construction. B. H. Petty, il Eng N 91:754-5 N 8 '23

Field experiments in earth road oiling in Illinois. H. F. Clemmer, Munic Eng 64:100-1 Mr '23; Same, Eng & Contr (R & S) 59:761-2 Ap 4 '23

Grading of earth roads. W. M. Wilson, il diags Ill U Eng Exp Sta Circ 10:1-27 '23

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Methods and cost of constructing experimental earth road near Champaign, Ill. il Eng & Contr 58:114-15 Ag 2 '22

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- Bates experimental road of Illinois highway department. C. Older. Eng & Contr 57:106-7 F 1 '22
- Bates experimental road tests. Good Roads 62:333-5; 63:19-20, 65-6 Je 21, Jl 12, Ag 23 '22; Pub Works 52:423-5; 53:5-6, 30, 86-7 Je 10, Jl 1-8, 29 '22; Eng & Contr 58:100-2 Ag 2 '22; Concrete 20:225-6 My '22
- Bates experimental road traffic tests summarized and tabulated. Eng N 89:236-8 Ag 10 '22
- Broken stone bases and brick pavements. C. C. Brown. Pub Works 54:117-21 Ap '23; Discussion. 54:231-2 Jl '23
- California's test highway. C. W. Geiger. il Sci Am 127:172 S '22
- Determining the best type pavement. G. Klein. il Brick & Clay Rec 61:95-8 Jl 25 '22
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- Distribution of wheel loads on pavement sections. H. F. Clemmer and C. A. Hogen-togler. Good Roads 62:273-8 My 17 '22; Same. Eng & Contr 58:5-9 Jl 5 '22
- Experimental road work at Arlington to continue. il Concrete 21:118 O '22
- Illinois experimental highway tests. C. C. Brown. Pub Works 53:253-5 D '22
- Kentucky to build test road of sandstone aggregate. Good Roads 64:146 Ap 11 '23
- Pittsburg, California, service test road. T. E. Stanton. Eng & Contr (R & S) 59:562-5 Mr 7 '23; Abstract. Pub Works 54:127-8 Ap '23
- Preliminary report on the Bates experimental road. C. Older and H. F. Clemmer. il diag Pub Roads 4:3-11+ S '21; Same abr. Good Roads 61:181-4+, 193-4+ O 12-19 '21
- Use of marl in road construction. C. H. Dow. Univ of Minn Eng Exp Sta Bul 1:1-67 '23; Excerpts. Eng & Contr (R & S) 59:763-70 Ap 4 '23; Abstract. Eng N 90:925 My 24 '23
- What experimental road testing has taught us. C. Older. Good Roads 64:117-19+ Mr 28 '23

Roads, Gravel

- Asphaltic surface treatment of gravel roads. G. C. Dillman. Can Eng 45:412 O 16 '23
- Bituminous surfaces on gravel roads. P. D. Sargent. Good Roads 62:179-83 Mr 29 '22; Same. Eng & Contr 57:325-7 Ap 5 '22; Same. Can Eng 42:506-8 My 16 '22; Same. Munic Eng 63:88-93 S '22
- Causes of rhythmic corrugations in gravel roads. Eng & Contr (R & S) 59:66-7 Ja 3 '23
- Constructing and maintaining gravel roads in Muskogee county, Oklahoma. J. H. Tait. il Eng & Contr 57:331-2 Ap 5 '22
- Construction and maintenance of gravel roads. C. Coykendall. Good Roads 62:193-6+ Ap 5 '22; Same. Eng & Contr (R & S) 58:95-100 N 1 '22; Same abr. Munic Eng 63:53-8 Ag '22
- Dust suppression on gravel and macadam roads. H. C. Smith. Munic Eng 64:105-8 Mr '23
- Gravel road construction in Montana. Eng & Contr (R & S) 56:172-3 D '22
- Gravel roads in Nevada. H. M. Log. Pub Works 54:123-4 Ap '23
- Iowa procedure in gravel road construction. J. F. Reynolds. Munic Eng 62:sup26-7 Ap '22; Same. Eng & Contr 57:100-1 F 1 '22; Discussion. 57:192, 321-2 Mr 1. Ap 5 '22

- New method of gravel road construction. il Pub Works 54:121-2 Ap '23
- Preparing bituminous gravel and sand roads. W. D. Sohler. Can Eng 42:206-8 F 7 '22; Same abr. Eng & Contr 57:212-13 Mr 1 '22
- Solving the highway problem in Quebec municipalities. J. S. Crandell. il Can Eng 43:643-5 D 19 '22
- Using gravel on secondary roads in Illinois. B. H. Piepmeier. Munic Eng 64:28 Ja '23

Maintenance and repair

- Elevating grader in gravel road maintenance. il Eng & Contr (R & S) 59:800 Ap 4 '23
- Gravel and stone road maintenance. F. Pineo. Can Eng 42:306 Mr 14 '22; Same. Eng & Contr 57:411-12 My 3 '22
- Gravel road maintenance by tractor patrol. J. H. Dennis. Eng & Contr (R & S) 59:1273-4 Je 6 '23
- Gravel road maintenance with spring scrapers. O. S. Hess. Eng & Contr (R & S) 60:25-7 Jl 4 '23
- Gravel road surface maintenance. W. H. Root. Eng N 89:942-3 N 30 '22
- Maintenance of gravel roads. A. H. Cunningham. Good Roads 62:244-5 Ap 26 '22
- Maintenance of gravel roads. D. J. Kean. Can Eng 42:329 Mr 21 '22; Same. Eng & Contr 57:328 Ap 5 '22
- Operation of a county maintenance organization on gravel roads; with cost tables. S. Steigerwalt. Munic Eng 62:sup32-4 Je '22; Same. Eng & Contr 58:103 Ag 2 '22
- Strengthening gravel roads with tar surface treatments at Elgin, Ill. G. E. Martin. Munic Eng 63:82-3 S '22

Roads, Macadamized

- Inverted penetration macadam roads in Texas. A. D. Stivers. il Eng N 89:478 S 21 '22
- Macadam construction for feeder highways. W. J. Tonkel. Eng & Contr (R & S) 59:799 Ap 4 '23; Same. Munic Eng 65:86-7 Ag '23
- Machine built tar penetration macadam roads of St Louis county, Missouri. G. H. Martin. il Eng & Contr 58:19-20 Jl 5 '22
- Reconstructing macadam roads. J. Pearson. Can Eng 44:604-5 Je 19 '23; Same. Good Roads 65:37-8+ Ag 1 '23
- Refined tar in road construction. J. S. Crandell. il Can Eng 45:351-3 S 25 '23; Same. Eng & Contr (R & S) 60:947-50 N 7 '23
- Solving the highway problem in Quebec municipalities. J. S. Crandell. il Can Eng 43:643-5 D 19 '22
- Utilizing existing road metal in new construction. G. F. Schlesinger. il diags Eng N 89:428-30 S 14 '22

Maintenance and repair

- Bituminous treatments on macadam roads. A. K. Hay. Can Eng 42:385-6 Ap 11 '22; Same. Good Roads 62:250-2 My 3 '22
- Maintenance of macadam roads. W. A. Van Duzer. Good Roads 63:73-4+ Ag 30 '22; Same. Can Eng 43:499-500 O 31 '22
- Maintenance of macadam roads with bituminous materials. H. S. Perry. Munic Eng 64:162-70 Ap '23
- Refined tars in maintenance and construction. P. P. Sharples. Good Roads 63:207-9 D 20 '23
- Road maintenance in Monroe county, Michigan. G. E. Martin. il Eng & Contr (R & S) 60:480-2 S 5 '23
- Salvage and maintenance of macadam roads. A. W. Muir. Eng & Contr (R & S) 59:326-8 F 7 '23; Same cond. Eng N 90:156-7 Ja 25 '23
- Salvage and maintenance of macadam roads—practice in Pennsylvania. W. A. Van Duzer. Eng & Contr (R & S) 59:323-6 F 7 '23; Same. Good Roads 64:45-7 Ja 31 '23; Same. Can Eng 44:468-70 My 8 '23; Same. Munic Eng 64:199-202 My '23; Same abr. Eng N 90:156 Ja 25 '23
- Stone roads maintenance. E. A. James. Can Eng 42:311 Mr 14 '22; Same. Eng & Contr 58:238 S 6 '22

Roads, Oiled

- Illinois counties join state in experimental study of oiled roads. H. F. Clemmer and F. L. Sperry. il Munic Eng 65:97-101 S '23; Same. Eng & Contr (R & S) 60:730-5 O 3 '23

Roads, Oiled—Continued

Road oil tank and kettle. C. A. Elliott. *il Elec Ry J* 61:94-5 Ja 13 '23

Roads, Sand and oil. See **Roads, Bituminous**

Roads, Sand-marl

Use of marl in road construction. C. H. Dow. *Univ of Minn Eng Exp Sta Bul* 1:1-67 '23; Excerpts. *Eng & Contr (R & S)* 59:763-70 Ap 4 '23; Abstract. *Eng N* 90:925 My 24 '23

Roads, State

Developing a highway transportation system for a state. A. R. Hirst. *il W Soc E J* 27:13-18; Discussion. 19-25 Ja '22

Roads, Stone. See **Roads, Macadamized**

Roads, Tarred

Patent fuel industry and the use of tar on roads. *Gas J (Lond)* 161:600-2 Mr 7 '23

Practice in tar road construction in Great Britain. *Eng N* 89:564-6 O 5 '22

Refined tar in road construction. J. S. Crandell. *il Can Eng* 45:351-3 S 25 '23; Same. *Eng & Contr (R & S)* 60:947-50 N 7 '23

Refined tars in maintenance and construction. P. P. Sharples. *Good Roads* 63:207-9 D 20 '23

Strengthening gravel roads with tar surface treatments at Elgin, Ill. G. E. Martin. *Munic Eng* 63:82-3 S '22

Use of tar in road construction. *Pub Works* 52:403-5 Je 3 '22

Roadside planting

Appearance of our highways. C. F. Boehler. *Good Roads* 62:205-8 Ap 12 '22

Need for tree planting along the public highways. F. W. Besley. *il Pub Roads* 4:19-20 S '21; Same. *Good Roads* 61:217+ N 9 '21; Same abr. *Eng & Contr* 56:418 N 2 '21

Selection, arrangement and planting of road side trees. C. F. Boehler. *diags Eng & Contr* 58:233-4 S 6 '22

Useful trees for roadside planting. C. A. Reed. *Good Roads* 61:173-6+ O 5 '21; Same cond. *Eng & Contr* 56:537-9 D 7 '21

Roasters. See **Furnaces, Metallurgical**

Roberts, Milnor, 1877-

Mining engineers of note. *por Eng & Min J* 114:597 S 30 '22

Robertson, William Ewart, 1874-

Portrait. *Elec W* 78:1308 D 31 '21

Robertson, William Fleet, 1859-

Sketch. T. A. Rickard. *por Eng & Min J* 116:50, 63-7 J1 14 '23

Robertson process metal. See **Metal protection**

Robinson, Dwight Parker, 1869-

Portrait. *Elec W* 79:2 Ja 7 '22

Robinson, Lewis Taylor, 1869-

Sketch. *por Elec W* 81:1128 My 19 '23

Robinson, William

Honoring a notable inventor. *Sci Am* 127:306 N '22

Rochelle salt. See **Potassium sodium tartrate**

Rochester, New York

Eastman theatre and school of music. *il Am Arch* 123:180-4, 194-9 F 28 '23

Passing of industrial depression marked by Rochester convention of American foundrymen. *il Foundry* 50:396-406 My 15 '22; *Iron Tr R* 70:1571-6 Je 1 '22

See also Eastman theater and school of music

Rapid transit

Pass expert analyses situation in Rochester. *Elec Ry J* 61:536 Mr 24 '23

Rochester begins work of making subway out of Erie canal. E. A. Fisher. *diags map Eng N* 88:744-5 My 4 '22

Rochester to utilize Erie canal bed for transportation. *il diags plan Elec Ry J* 60:908-9 D 9 '22

Second year under service-at-cost more successful. *Elec Ry J* 60:993 D 23 '22

Service-at-cost sustained in Rochester grant. *Elec Ry J* 60:366-7 S 9 '22

Trackless trolley application before Rochester council. *map Elec Ry J* 60:829 N 18 '22

Rochester (New York) engineering society

How Rochester engineers have solved problems of making luncheon meetings interesting. W. G. Wildes. *Eng N* 88:909-11 Je 1 '22

Rock-crystal. See **Quartz**

Rock drills

Breakage and heat treatment of rock drill steels. *Eng & Contr* 58:66-7 J1 19 '22

Detachable bits for drilling augers eliminate blacksmithing edges. *il Coal Age* 23:939 Je 7 '23

Detachable rock-drill bit. *Min & Sci P* 123:806 D 10 '21

Dorman self-contained dustless wave power rock drill. *il Concrete* 22:sup 19 Mr '23

Drill steel and drill bits at United Verde mine. H. D. Smith and W. H. Sirdevan. *diags Eng & Contr* 58:155 Ag 16 '22

Drill steel survey reports practices in various districts. *Eng & Min J* 114:68-9 J1 8 '22

Hawkesworth detachable drill-bit. F. E. Wormser. *il Eng & Min J* 114:262-4 Ag 5 '22

Hundrieser rock drill. *il Eng & Min J* 113:655-6 Ap 15 '22

Hydraulic power vs. compressed air as applied to rock drills. B. V. S. Davies. *diags Eng & Min J* 115:431-2 Mr 3 '23

McLellan rock drill bit. H. A. Kee. *diags Eng & Min J* 113:294-5 F 18 '22

Outil élargisseur de sondage, système Otlet. *diag Génie Civil* 80:190; 81:241-2 F 25, S 9 '22

Promoting efficiency in drilling ore and rock. B. F. Tillson. *diags Eng & Min J* 113:104-7 Ja 21 '22

Proper use and care of drills necessary to avoid waste. J. H. Jowett. *Eng & Min J* 116:423 S 8 '23

Rock drill steel. R. J. Day. *diags Eng & Min J* 115:670-3 Ap 14 '23; Discussion. F. B. Foley. 115:833-4 My 12 '23

Rock drill users profit by manufacturers' policy of field service. *il Eng N* 91:738-40 N 1 '23

Rotation mechanisms for rock drills. R. J. Day. *diags Eng & Min J* 115:1017-23 Je 9 '23

Setting diamonds in drill bits. G. J. Young. *diags Eng & Min J* 115:576-7 Mr 31 '23; Same. *Coal Age* 23:637-8 Ap 19 '23

Wave-power rock drill. *Eng & Min J* 115:916 My 19 '23

See also Drilling and boring (earth and rocks); Mining machinery

Testing

Rock drilling tests in the Tri-state mining district. C. R. Forbes. *Eng & Contr* 56:568-9 D 21 '21; Same. *Min & Sci P* 123:937-8 D 31 '21; Excerpts. *Eng & Min J* 112:977 D 17 '21; *J Fr Inst* 193:122-3 Ja '22

Testing rock drills. R. J. Day. *charts diags Eng & Min J* 114:317-20 Ag 19 '22

Rock dust

Dustiness of the air in granite-cutting plants. S. H. Katz and L. J. Trostel. *il charts diags Am Soc Heat & V E J* 28:421-42 My '22

Petrography of rock dust in Barre granite plants. H. Inasley. *il Am Soc Heat & V E J* 28:442-7 My '22

Rock Island railroad. See **Chicago, Rock Island and Pacific railway**

Rock salt

Breaking stress of crystals of rock-salt. G. N. Antonoff. *Philos Mag* 6th ser 44:62-6 J1 '22

Determination of the coefficient of reflexion of X-rays for calcite and rock-salt. B. Davis and H. M. Terrill. *Philos Mag* 6th ser 45:463-70 Mr '23

Reflection of X-rays from rock salt. B. Davis and W. M. Stempel. *diags Phys R* 19:504-11 My '22

Scattering of X-rays by crystals. G. E. M. Jauncey. *diag Phys R* 20:405-20 N '22

See also Salt mines and mining

Rock wool. See **Mineral wool**

Rockbestos heater cord**Advertising**

Advertising for repairs and replacements to bring back electric equipment business. *Ptr Ink* 117:18-20 N 17 '21

Rockefeller, John D.

Mr. Business, meet the public! R. C. Mitchell. *Nation's Business* 10:22-4 N '22

Rocker, Trevelyan. See Trevelyan rocker**Rockers, Mechanical**

Mechanical rocker. H. W. Turner. *il diags Eng & Min J* 116:334-5 Ag 25 '23

Rockford, Illinois**Rapid transit**

New grant proposed. *Elec Ry J* 60:684 O 21 '22
 Railway will run buses. *Elec Ry J* 58:884 N 12 '21

Rocks

Compressibility of minerals and rocks at high pressures. L. H. Adams and E. D. Williamson. *il diags J Fr Inst* 195:475-529 Ap '23

Metasomatic processes in silicate rocks. V. M. Goldschmidt. *Econ Geol* 17:105-22; *Bibliography*. 123 Mr '22

Petrographic methods and calculations. A. Holmes. 515p Van Nostrand '21

Petrology of the sedimentary rocks. F. R. Hatch and R. H. Rastall. 368p George Allen & Unwin, London '23

Rock-alteration and ore-deposition at Telluride, Colorado. M. C. Hurst. *il diags map Econ Geol* 17:675-702 D '22

Structure of the Triassic rocks in southern Connecticut. C. R. Longwell. *map Am J Sci* 5th ser 4:223-36 S '22

Zircon as criterion of igneous or sedimentary metamorphisms. P. Armstrong. *il Am J Sci* 5th ser 4:391-5 N '22

See also Boulders; Cone-in-cone; Conglomerate; Crystallography; Geochemistry; Geology; Granite; Leucite; Limestone; Melilites; Mineralogy; Pebbles; Schists; Shale; Stone; Tufa

Analysis

Essentials for the microscopical determination of rock-forming minerals and rocks. A. Johannsen. 53p Univ. of Chicago press, Chicago '22

Estimation of alkalis in rocks by indirect method. F. Walker. *Chem Soc J* 123:2336-41 S '23

Rapid volumetric method for the determination of magnesia in carbonate rocks. H. R. Brandenburg and A. H. Avakian. *Concrete* 21:sup78 N '22

Temperature

Thermometers for measuring rock temperatures. *Sci Am* 128:237 Ap '23

Rocks, Igneous

After-effect of igneous intrusion. J. F. Kemp. *Eng & Min J* 113:338-9 F 25 '22

Genetic features of alnoitic rocks at Isle Cadieux, Quebec. N. L. Bowen. *diags Am J Sci* 5th ser 3:1-34, pl 1 Ja '22

Intrusive rocks of the Portsmouth Basin, Maine and New Hampshire. A. Wandke. *map Am J Sci* 5th ser 4:139-58 Ag '22

Nickel in igneous rocks. J. H. L. Vogt. *Econ Geol* 18:307-53 Je '23

Origin of metallic concentrations by magmatization. J. E. Spurr. *Econ Geol* 18:617-38 O '23

See also Augite; Batholith; Gabbro; Lava; Peridotite; Norite-micropegmatite

Rocky Mountain coal mining institute

Fall meeting, Glenwood Springs, Col., Sept. 7-9. *Coal Age* 22:463 S 21 '22

17th meeting, Salt Lake City, Aug. 27-29. *Coal Age* 24:368-9 S 6 '23

Rocky Mountain electrical co-operative league

1st annual conference, Salt Lake City, April 6-7. *Elec W* 79:850 Ap 29 '22

1st annual conference, Salt Lake City, April 6-7. M. L. Cummings, jr. *J Elec* 48:363-4 My 1 '22

Rocky Mountain national park, Colorado

Peneplains of the Front Range and Rocky Mountain national park, Colorado. W. T. Lee. *U S Geol S Bul* 730—A:1-17, pl 1-8 '22

Rocky mountains

Crustal shortening of the Colorado Rockies. R. T. Chamberlin. *il map Am J Sci* 5th ser 6:215-21 S '23

Indications of important horizontal compression in the Colorado Rockies. F. P. Shepard. *il diags Am J Sci* 5th ser 5:403-8 My '23

Relations between the Purcell Range and the Rocky mountains in British Columbia, Canada. L. D. Burling. *Am J Sci* 5th ser 3:254-6 Ap '22

Rod mills. See Crushing machinery; Tube mills**Rodents, Fossil**

Diplophopus, a new genus of rodents. E. L. Troxell. *il Am J Sci* 5th ser 5:157-9 F '23

Eocene rodents scuravus and tilomys. E. L. Troxell. *il Am J Sci* 5th ser 5:383-96 My '23

Oligocene rodents of the genus ischyromys. E. L. Troxell. *il Am J Sci* 5th ser 3:123-30 F '22

Pauromys perditus, a small rodent. E. L. Troxell. *Am J Sci* 5th ser 5:155-6 F '23

Rods

Lateral vibrations of rods of variable cross-section. D. M. Wrinch. *Philos Mag* 6th ser 46:273-91 Ag '23

Roentgen, William Conrad von. See Röntgen, Wilhelm Konrad von**Roll paper.** See Paper rolls**Roller bearings**

Anti-friction bearings for electric cars. O. R. Wikander. *il diags Elec Ry J* 60:935-40 D 16 '22

Anti-friction bearings in the steel mill. A. M. MacCutcheon. *diags Iron Age* 110:267-8 Ag 3 '22

Anti-friction belt bearings save power, making longer belts permissible. *il Coal Age* 20:925 D 8 '21

Ball and roller bearings for use on electric motors. G. Fox. *Power* 56:135 J 25 '22

Ball and roller bearings; their design and performance. A. W. Macaulay. *diags Engineering* 113:37 Ja 20 '22

Ball and roller bearings with details of their installation on line shafts. G. A. Van Brunt. *il diags Ind Eng* 80:420-9+ S '22

Business is on the mend; roller bearing sales forecast better times. F. C. Gunion. *Management Eng* 2:243-4 Ap '22

Can tapered roller bearings be run at high speeds? T. V. Buckwalter. *Mach* 29:107 O '22

Determining the friction and carrying capacity of ball and roller bearings. A. P. Child. *il Am Mach* 59:500-1 O 4 '23

English roller bearings introduced in this country. *il Bus Transportation* 2:245 My '23

How roller-bearing wheels reduce operating costs. P. B. Liebermann. *Coal Age* 23:1004-6 Je 21 '23

Huge roller bearings carry big hangar doors. A. P. Child. *il Sci Am* 126:268 Ap '22

Inspecting bearing rollers by machine. *il diag Mach* 29:94-5 O '22

Metric-type roller bearings; S.A.E. proposed revisions. *Soc Auto Eng J* 12:127-8 Ja '23

New heavy duty roller bearing. L. Cammen. *diags Iron Age* 111:1708-10 Je 14 '23

New roller bearings to be marketed. *il Elec Ry J* 61:487-8 Mr 17 '23

Norma to manufacture Hoffman roller bearings. *il Automotive Ind* 48:669 Mr 22 '23

Pulverizing 1,000 tons of ore per day on 40-kw. input. C. A. Gauss. *il Eng & Min J* 116:483-4 S 15 '23

Roller bearing mill tables. J. M. Kelly. *diags Blast F & Steel Pl* 10:139-41 F '22

Roller bearings for cars; abstract. Albert. *Elec Ry J* 61:813 My 12 '23

Roller bearings for line shafting. *Eng & Ind Management* 7:294+ Mr 23 '22

Roller bearings in passenger train service. *il Ry R* 72:253-4 F 10 '23

Roller bearings on spinning frames. C. W. Nugent, jr. *Textile World* 61:2455+ Ap 29 '22

Roller bearings—Continued

Roller bearings reduce mill motor maintenance. L. J. Hess. Elec W 81:224-5 Ja 27 '23

S K F spherical type roller bearing. il diag Mach 29:574-5 Mr '23; Iron Age 111:687 Mr 8 '23

Spherical-type roller bearing. H. E. Brunner. il diags Am Mach 58:276-8 F 15 '23; Same. Ry Mech Eng 97:225-7 Ap '23; Same cond. Ry Age 74:517-19 Mr 3 '23

Stafford roller bearing for railway cars. diag Mech Eng 45:362 Je '23

Stafford roller bearings. il Ry R 70:952-3 Je 17 '22

Stafford roller bearings for pedestal trucks. il diags Ry Age 74:872-3 Mr 31 '23; Same. Ry Mech Eng 97:185-6 Mr '23

Value of anti-friction bearings in determining the power constants of belt conveyors. il chart Ind Management (Lond) 9:119-21 F 22 '23

Whitney roller bearing. il diag Am Mach 57:589 O 12 '22

See also Bearings

Advertising

Making autoists better drivers through advertising; how the Timken roller bearing co. advertises its roller bearings. R. Cole. Ptr Ink 120:89-90+ Ag 24 '22

Opening new outlets in the industrial market with advertising's help. R. W. Leavenworth. Ptr Ink 122:122-4 Mr 29 '23

Manufacture

Automatic machines replace hand labor. il Iron Age 109:1057-60 Ap 20 '22

Babbitt—a material for roll bearings. W. S. Standiford. Blast F & Steel Pl 10:166-71 Mr '22

Casehardening plant, Timken roller bearing co. E. W. Ehn. il diags Chem & Met Eng 28:578-87 Mr 28 '23

La cémentation des roulements à rouleaux Timken. R. Chenal. il diags Génie Civil 83:34-6 Jl 14 '23

Some operations in roller bearing manufacture. il Am Mach 55:1044-5 D 29 '21

Testing

Comparative tests on tramcars; roller versus plain bearings. Elec R (Lond) 91:214 Ag 11 '22

Friction and carrying capacity of ball and roller bearings. H. L. Whittemore and S. N. Petrenko. il U S Bur Stand Tech Pa 201:1-34 '21; Abstract. Am Mach 55:842 N 24 '21; Same. J Fr Inst 192:805-7 D '21

Roller-bearing tests in England. Elec Ry J 61:682-3 Ap 21 '23

Tests on anti-friction line shaft bearings. J. F. McGuinness. Mach 29:108 O '22

Roller chains. See Chain gear

Rollers, Road. See Road rollers

Rolling (metal work)

Cold rolling and annealing of some copper-zinc alloys. P. Powell. diags Brass W 19:281-4 335-8 S-O '23

Cold strip rolling. W. H. Cleaver. Iron Age 112:744 S 20 '23

Continuous die rolling. G. R. Norton. il Soc Auto Eng J 10:43-6 Ja '22; Same. Iron Age 109:207-9 Ja 19 '22; Discussion. Soc Auto Eng J 10:374 My '22

Double mill promotes regularity; development of the mechanical doubling machine makes possible the rolling of black plate by the three-part system. J. D. Knox. il diags Iron Tr R 71:178-81+ Jl 20 '22

First rolling of bar iron in America described. Iron Tr R 70:753 Mr 16 '22

Forming gears by hot rolling. R. Trauttschold. il Iron Tr R 70:396-9 F 9 '22

Grundlagen zur berechnung des kraft- und arbeitsbedarfs beim schmieden und walzen. E. Siebel. diags Stahl & Eisen 43:1295-8 O 11 '23

Hot rolling of gears. R. Trauttschold. il Blast F & Steel Pl 10:270-3 My '22; Same cond. Mech Eng 44:458 Jl '22

Improving the surface of steel by cold rolling. J. H. McElhinney. Blast F & Steel Pl 11:91-2 Ja '23

Der kaltwalz- und ziehvorgang und sein leistungsverbrauch. E. Siebel. diags Stahl & Eisen 43:532-4 Ap 19 '23

Die nutzarbeit des walzvorgangs. G. Liss. Stahl & Eisen 42:689-97, 735-41, 768-72, 806-16, 891-6 My 4-25, Je 8 '22

Rolling girder rails. R. C. Cram. il diags plan Elec Ry J 59:102-6 Ja 21 '22

Rolling mill in a pencil factory; rolling and drawing of precious metals. G. L. Lacher. il Iron Age 111:26-30 Ja 4 '23

Rolling steel and non-ferrous rings. il Iron Age 112:204-6 Jl 26 '23

Rolling threads in screw shells. il Mach 29:359-60 Ja '23

Sheet steel rolling and heating. E. Llewellyn. Blast F & Steel Pl 10:373-4 Jl '22

Das wiederverwalzen alter eisenbahnschienen. A. Nöll. il diags Stahl & Eisen 43:617-24; Discussion. 624-5 My 10 '23

Cost

Steel rolled for less on electric mills than with steam drive. G. E. Stoltz. il Elec W 80:6-10 Jl 1 '22

Rolling mills

Adapts bar mills to alloy steel. J. D. Knox. il plan Iron Tr R 69:1275-81 N 17 '21

American rolling mills for France. il diags Blast F & Steel Pl 10:68-70 Ja '22

Anregungen für die bauart künftiger sondertragerstrassen auf grund von erfahrungen an der Differdinger greystrasse. K. Raabe. diags Stahl & Eisen 43:521-7 Ap 19 '23

Apollo steel company enlarges plant by the addition of a new sheet mill unit. il plan Blast F & Steel Pl 10:126-30 F '22

Apply time study to steel mills. R. Gregg. Iron Tr R 72:1608-10 My 31 '23; Same cond. Iron Age 111:1549-51 My 31 '23

Building merchant mill in South; Fairfield steelworks of the Tennessee coal, iron and railroad co. E. C. Kreutzberg. il Iron Tr R 73:176-9 Jl 19 '23; Same. Iron Age 112:142-5 Jl 19 '23

Business status halts expansion. J. D. Knox. Iron Tr R 70:39-42 Ja 5 '22

Cold rolled strip mill developed by Philadelphia company. il Iron Age 112:552 Ag 30 '23

Cold rolling mill with wedge adjustment. diag plan Iron Age 110:857-8 O 5 '22; Iron Tr R 71:307-8 Ag 3 '22

Construction gains momentum; financial conditions exerted restraining influence on blast furnace, open-hearth and rolling mill extension. J. D. Knox. Iron Tr R 72:11-14 Ja 4 '23

Continuous annealing furnaces for sheets; new sheet mill plant of Ashtabula steel co. il Iron Age 110:1342-3+ N 23 '22

Continuous die rolling. G. R. Norton. il Soc Auto Eng J 10:43-6 Ja '22; Same. Iron Age 109:207-9 Ja 19 '22; Discussion. Soc Auto Eng J 10:374 My '22

Continuous rolling-mills. J. W. Shepherdson. diags plans Eng Soc W Pa 37:221-52 My '21; Same. Iron Age 109:791-4, 993-5, 1149-51 Mr 23, Ap 13, 27 '22; Discussion. Eng Soc W Pa 37:253-7 My '21

Double two-high rolling mill. il Engineering 113:485-6, 492, pl 21 Ap 21 '22

Enlarges roll mill capacity; Atlas steel corp., Dunkirk, N. Y. J. D. Knox. il plan Iron Tr R 73:807-11 S 20 '23

Experimentelle untersuchungen des walzvorgangs; abstract. H. Metz. il diags Stahl & Eisen 43:914-16 Jl 12 '23

Foreign blooming mill practice. C. Kiesselbach. diags Blast F & Steel Pl 11:83-5 Ja '23

Friction drive for rolling mills. il diags Engineer 133:247 Mr 3 '22; Same. Iron Age 109:1808 Je 29 '22

Friemel cross-rolling mills. diags Mech Eng 44:259-60 Ag '22

Hadfields adds new mills to East Hecla works. il diags map Iron Tr R 71:370-8 Ag 10 '22

Improved tube rolling mill. diags Mech Eng 45:130-1 F '23

Rolling mills—Continued

Improvement in sheet mill practice; new Italian design. E. D'Amico. *il diags* Iron Age 109:1655-7 Je 15 '22

Indiana rolling mill co., New Castle, Ind., completes new additions. A. C. Gaylord. *il Blast F & Steel Pl* 10:219-20 Ap '22

International nickel company's rolling mills. *il Metal Ind* 20:420-2 N '22; Same cond. Iron Tr R 71:1213-16 N '22

Large new rolling mill shop in Sheffield. *il (supp)* *diag plan* Engineer 134:134-7 Ag 11 '22

Mansfield sheet and tin plate company's new steel unit. C. W. Peirce. *il plan* Blast F & Steel Pl 10:71-6 Ja '22

Massstab für die leistung unserer walzenstrassen. W. Tafel and E. Schneider. *Stahl & Eisen* 43:370-4 Mr 15 '23

Mill produces small size tubes. E. F. Ross. *il diag* Iron Tr R 72:1877-82 Je 28 '23

Mill to roll monel metal. F. C. Watson. *Iron Age* 110:1011-12 O 19 '22

Mills built for rolling nickel and monel. *il Blast F & Steel Pl* 10:605-11 D '22

Modern rolling mills for France. *il diags* Iron Age 108:1542-3 D 15 '21

Modern sheet mill practice. *il Blast F & Steel Pl* 11:283-4 My '23

Mossend steel works and rolling mills. plans Engineering 114:447-8, 484, 494, 543-5, 603-6, 618, 641-3, 704, 712, 795-7, pl 33-4, 36, 39-41, 43, 48-9 O 13-20, N 3, 17-24, D 8, 29 '22

New cold rolled strip steel plant of the Wallingford steel co., Wallingford, Conn. *il Iron Age* 110:920-2 O 12 '22

New continuous strip mill of the Trumbull steel company. *diag Blast F & Steel Pl* 10:326-8 Je '22; Same. *Iron Age* 109:1510-12 Je 1 '22

New Eastern mill for rolling alloys. E. C. Wills. *il Blast F & Steel Pl* 11:224-5 Ap '23

New five-stand cold-rolling strip mill of Greer steel co., Dover, Ohio. *il Iron Age* 109:1289-91 My 11 '22

New wire mill has unusual features. J. E. McDonald. *il plan* Iron Age 111:1245-9 My 3 '23

Les nouveaux laminoirs de l'interstate iron and steel co., à Chicago (E. U.). F. Couleru. *il Génie Civil* 80:373-5 Ap 29 '22

Les nouveaux laminoirs électriques des aciéries Hadfield, à Sheffield. *il diag plan* Génie Civil 81:269-73 S 23 '22

Ohio leads in strip production: statistics of strip mills in the United States. J. D. Knox. *Iron Tr R* 73:321-6 Ag 2 '23

Only 11 states produce sheets. J. D. Knox. *map* Iron Tr R 71:302-6 Ag 3 '22

Plant making small weldless tubes. *il Iron Age* 111:1399-1402 My 17 '23

Plate mill for Granite City plant. M. E. Griffin. *diags plan* Blast F & Steel Pl 10:459-60 S '22

Possibility of improved methods of rolling sheet steel. S. B. Ely. *il diags plan* Eng Soc W Pa 37:296-308 Je '21; Same, without diags. Blast F & Steel Pl 10:175-8 Mr '22; Same cond. Mech Eng 43:670-1 O '21; Same. Iron Tr R 69:1076-8 O 27 '21; Same. Iron Age 108:1405-7 D 1 '21; Abstract. Eng & Ind Management 6:526-8 N 10 '21; Discussion. Eng Soc W Pa 37:309-10 Je '21; Blast F & Steel Pl 10:373-4 Jl '22

Production and yield of rolling mills. J. F. Shadgen. *flow sheet* Iron Age 109:43-6, 151-2 Ja 5-12 '22

Production control in non-ferrous rolling-mills. W. R. Grunow. *chart diags* Management Eng 4:125-30 F '23

Refinery and rolling mill for monel metal. W. L. Wotherspoon. *flowsheet diags* map plans Engineering 115:25-8 Ja 5 '23; Same. Mech Eng 45:285-8+ My '23

Rolling broad-flanged beams. K. Raabe. *diags* Iron Age 112:616, 652-3 S 6 '23

Rolling mill development. W. J. Pettis. *il Metal Ind* 21:6-8 Ja '23

Rolling mill developments. J. F. Shadgen. *Iron Age* 111:409 F 8 '23

Semi-continuous bar mill for alloy steel. F. L. Prentiss. *il Iron Age* 109:141-4 Ja 12 '22

Sheet mill at Lake Port. E. L. Shaner. *il chart plan* Iron Tr R 71:1423-7 N 23 '22

Sheet steel plant in Ashtabula completed. F. J. Crolius. *il plan* Blast F & Steel Pl 10:623-8 D '22

Sheetmaker builds steel plant; Mansfield sheet & tin plate co., Mansfield, O. *il diag* Iron Tr R 70:194-8 Ja 19 '22

Standardisation of steel mill practice through time study. R. Gregg. *Engineering* 116:125-7 Jl 27 '23; Same cond. Iron Tr R 72:1608-10 My 31 '23; Same cond. Iron Age 111:1549-51 My 31 '23

Start work on plant extension of subsidiaries of Wheeling steel corp. *Iron Tr R* 70:759 Mr 16 '22

Tandem rolling of cold-rolled steel. *il Iron Age* 109:211-13 Ja 19 '22

Tyre roughing mill at Parkhead forge. *il diags* Engineering 113:354-6 Mr 24 '22

Ueber des walzen von stahlblöcken aus nicht-geheizten wärmequellen. A. Johansson. *Stahl & Eisen* 42:224-6 F 9 '22

Universal plate mill with new features. *il Iron Age* 111:165 Ja 11 '23; *Iron Tr R* 72:169 Ja 11 '23

Western bar mill now operating; steel company in Washington completes 12-inch mill at Everett. R. C. Hill. *il Iron Tr R* 73:257-9 Jl 26 '23

See also Iron industry and trade; Rolls (iron mills); Soaking pits; Steel industry and trade; Steel workers; Steel works

Electric equipment

Adjustable speed main roll drives. A. K. Bushman. *il Gen Elec R* 26:681-7 O '23

B.T.H. electric rolling-mill installation; speed regulation of strip and bar mills. *il Elec R (London)* 92:299-303 F 23 '23

Control apparatus for rolling mill motors. W. R. Wickerham. *il diags* Elec J 19:372-5 S '22

Control equipments for steel mill auxiliary motors. J. D. Wright. *il diags* Gen Elec R 24:986-90 D '21

Direct-connected induction motors vs. geared motors for rolling iron and steel. H. L. Barnholdt. *il diags* Elec J 20:314-17 S '23

Direct-current automatic substation as a labor-saving device for steel mills. G. R. Wilson. *il diag* Elec J 20:337-9 S '23

Electrical control for a hot strip mill at the West Leechburg steel company. M. J. Wohlgenuth. *il diags* Elec J 20:322-5 S '23

Foot control for main reversing mill motors. R. H. Wright; J. C. Reed. *il Elec J* 20:320-2 S '23

Sheet steel cubicles and truck type switching equipment in steel mills. G. P. Wilson. *il diags* Elec J 19:386-90 S '22

Speed regulator for individual-motor reel drive. J. H. Ashbaugh. *il diag* Elec J 20:317-19 S '23

Equipment

Automatic hot billet scraper. R. C. Rohrbacher. *il diags* Iron Age 109:1126-8 Ap 27 '22

Cleaning steel billets with a hot scraper. *il Sci Am* 127:336 N '22

Improve equipment despite lull. E. L. Shaner. *diags* Iron Tr R 70:36-7 Ja 5 '22

Material-handling equipment as used in the iron and steel industry. F. L. Leach. *il diags* plans Mech Eng 44:495-9 Ag '22

Otis steel company completes the erection of a modern sheet mill department. D. N. Watkins. *il Blast F & Steel Pl* 10:118-22 F '22

Otis steel co. extends facilities for sheet making. *il Iron Tr R* 70:532-7 F 23 '22

Roller bearing mill tables. J. M. Kelly. *diags* Blast F & Steel Pl 10:139-41 F '22

Sheet mill of the Otis steel company. *il Iron Age* 109:259-63 Ja 26 '22

Speed control of latest mills at Gary. G. L. Lacher. *il plan* Iron Age 111:1831-4 Je 28 '23

See also Grinding machines

Inspection

Steel and tube mill inspection and maintenance practices. A. J. Whitcomb. *il chart* Elec R 80:23-6 Ja '22

Rolling mills—Continued

Lubrication

Friction in rolling mills. W. F. Parish. Iron Age 108:1661 D 29 '21

Power

Development of rolling mill engines. F. J. Denk. Blast F & Steel Pl 10:153-4 F '22
Double-range Scherbius rolling mills. il diag Engineer 134:516-18, 526 N 17 '22

Electric blooming mill drive. S. N. Roberts. il diags plan Elec J 19:356-62 S '22

Electric drive for cold-rolled steel strip reels. J. Maloney and D. W. Dean. il Elec J 20:326-9 S '23

Electric drive of reversing mill. C. B. Huston. il diags Elec W 82:577-80 S 22 '23; Same abr. Blast F & Steel Pl 11:642+ D '23

Electric drives for wire mills. il Blast F & Steel Pl 10:64-7 Ja '22

Electric mill drive is efficient. H. E. Davis. Iron Tr R 72:1611-14 My 31 '23; Abstract. Iron Age 111:1551-2 My 31 '23

Electric motor drive in steel industry. G. Fox. diags plan W Soc E 7:27:161-84 Je '22; Excerpts. Iron Age 110:339-41, 408-12 Ag 10-17 '22

Electric power application in the steel mills. G. E. Stoltz. il Blast F & Steel Pl 11:159-60 F '23

Electrical development in steel industry. Iron Age 110:1729 D 28 '22

Electrically-driven strip mill plant. il Electrician 87:658-9 N 18 '21

Electricity and tube tyre and wheel mills. W. E. Swale. diags Electrician 87:654-5 N 18 '21

Equalizing power demand in sheet mills. Iron Tr R 70:600+ Mr 2 '22

Fly-wheels on rolling mill drives. F. R. Burt. charts Blast F & Steel Pl 11:201-4 Mr '23

Four main problems in applying electricity in steel mills. W. S. Hall. Elec W 78:1338 D 31 '21

Future of the electrically-driven rolling mill. L. Rothera. Electrician 87:632-3 N 18 '21

General effect of electrification on the operation of steel mills; abstracts. W. Sykes. il charts Blast F & Steel Pl 10:306-12 Je '22; Iron Tr R 70:1550-4 Je 1 '22; Iron Age 109:1557-60 Je 1 '22

Hadfield's Hecla steel works. il Elec R (Lond) 91:833-5 D 1 '22

Internal combustion engines for power. D. M. Petty. diag Iron Age 110:1673-5 O 26 '22; Same abr. Blast F & Steel Pl 10:528-30 O '22; Abstract. Power 56:512 S 26 '22

Modern reversing mill drive. il Electrician 87:659-60 N 18 '21

Most powerful reciprocating steam engine ever built. il Sci Am 128:89 F '23

Motor equipment for main drive of rolling mills; tabulation. Electrician 87:647-53 N 18 '21

Motorizing the 33-inch structural mill at the Homestead steel works. S. S. Wales. il Gen Elec R 26:662-8 O '23

New development in rolling mill drive. A. K. Bushman. il diag Blast F & Steel Pl 10:467-9 S '22

Power for rolling mills. C. A. Ablett. Iron Age 112:273 Ag 2 '23

Power problems of rolling mills. A. H. Dyckerhoff. diags Iron Age 111:17-21 Ja 4 '23

Power required to roll wrought iron bars. E. L. Fletcher. Iron Age 109:1144 Ap 27 '22

Production and yield of rolling mills. J. F. Shadgen. flow sheet Iron Age 109:45-6 Ja 5 '22

Rolling mill drives and accessories. L. Rothera. il Electrician 89:590-3 N 24 '22

Rolling speed affects production. G. E. Stoltz. diags plans Iron Tr R 72:293-7 Ja 25 '23; Same cond. Iron Age 111:411-14 F 8 '23

Selection of mill-type motors. R. H. Wright. il Elec W 80:379-80 Ag 19 '22

Some methods of obtaining adjustable speed with electrically driven rolling mills. K. A. Pauly. il diags Eng Soc W Pa 37:158-78 Ap '21; Same. Gen Elec R 24:422-32 My '21; Same cond. Iron Age 108:1595-8 D 22 '21;

Abstract. Sci Am M 4:87 Jl '21; Discussion. Eng Soc W Pa 37:179-88 Ap '21; Iron Age 108:1598-1600 D 22 '21

Steel mill auxiliary drives. L. A. Umansky. il diags Gen Elec R 25:611-17, 699-710 O-N '22

Steel mill motor failures. A. J. Whitcomb. il Ind Eng 80:377-81+ Ag '22

Steel plant power considered at meeting of Association of iron and steel electrical engineers at Cleveland. Iron Tr R 71:798-9 S 21 '22

Steel rolled for less on electric mills than with steam drive. G. E. Stoltz. il Elec W 80:6-10 Jl 1 '22

Traces electrification of mills; abstracts. B. G. Lamme and W. Sykes. Iron Tr R 71:716-18+ S 14 '22; Iron Age 110:1497-9 D 7 '22

Trend in rolling mill drives. G. Fox. Blast F & Steel Pl 10:386-8 Jl '22

Where to look for things that cause trouble in reversing-roll electric drives. A. J. Whitcomb. il Elec R 80:63-6+ F '22

Safety devices and measures

Protecting the blooming mill worker. Nat Safety N 8:43 Ag '23

Tables, calculations, etc.

Cold rolled strip steel calculations. S. T. Hilliard. Iron Age 109:267-8 Ja 26 '22

Rolls (iron mills)

Breakage of rolls on sheet and tin mills. W. H. Melaney. diags Blast F & Steel Pl 10:284-6, 334-5, 425-7 My, Jl-Ag '22

Foreign methods of roll design. R. H. Ronnebeck. diags Blast F & Steel Pl 9:712-18 D '21

New rolls for steel mills. il Blast F & Steel Pl 10:358-9 Je '22

Cooling

Use of steam for cooling sheet rolls. G. C. Brown. il Iron Age 110:279-80 Ag 3 '22

Manufacture

Chilled roll making for sheet mills. W. H. Melaney. il Blast F & Steel Pl 11:86-7 Ja '23

Diverse methods of roll molding. R. H. Palmer. diags Foundry 50:153-63 F 15 '22

Heating cast rolls electrically. G. Fox. chart diags Iron Tr R 73:665-8 S 6 '23; Same. Engineering 116:283-4 Ag 31 '23; Same cond. Iron Age 112:974-6 O 11 '23

Roll grinding shows economy. S. S. Shoemaker. il Iron Tr R 71:1765-8 D 28 '22

Rolls molded in sectional flasks. J. R. Hadsum. diags Foundry 50:206-7 Mr 1 '22

Rolls (machinery)

Casting hard rolls. diags Engineering 115:695 Je 1 '23

Manufacture of rollers for rubber mangles. A. Clegg. diags Am Mach 57:789-94 N 23 '22

Ueber die wissenschaftlichen grundlagen zur herstellung von hartgusswalzen. E. Schütz. il diags Stahl & Eisen 42:1610-17, 1773-81, 1900-6 O 26, N 30, D 28 '22

Rolls (paper). See Paper rolls

Rolls, Printers'

Grinding printers' rollers. B. W. Lewis. il Am Mach 58:896 Je 21 '23

Rolls (textile machinery)

Cork covered rolls. il Textile World 63:2101 Mr 31 '23

Removable journals for textile plant rolls. C. W. Dalton. diags Mach 30:217-18 N '23

Rolls-Royce of America, inc.

Rolls-Royce advertises to help competing dealers. R. L. Burdick. Ptr Ink 119:25-7 Ap 13 '22

Roma (airship). See Airships—Failures

Rome (city)

Architecture

Restorations in the Palazzo di Venezia in Rome. H. D. Eberlein. il diags plans Arch Rec 53:44-65 Ja '23

Rome, Watertown and Ogdensburg railroad

Story of the Rome, Watertown and Ogdensburg railroad. E. Hungerford. 269p R. M. McBride & co., New York '22

Röntgen, Wilhelm Konrad von, 1845-1923

Death of Professor Koentgen. *Sci Am* 128:
272 Ap '23

Sketch. *Elec W* 81:412 F 17 '23

Röntgen rays. See X rays**Roof collars**

Laying out collars and roof flanges. *diags*
Sheet Metal Worker 12:797-8; 13:74-5 D 23
'21, Mr 3 '22

Patterns for collars and roof flanges. *diags*
Sheet Metal Worker 13:137-8 Mr 31 '22

Roof insurance. See Insurance, Roof**Roof trusses. See Trusses****Roof ventilators. See Ventilators****Roofing**

Helpful newspaper article on roofing. *W: Mc-*
Farland. il Sheet Metal Worker 13:484-5 Ag
18 '22

How to make big metal roof sales. *F. K.*
Chew. Sheet Metal Worker 14:601-3 Ag 31
'23; Discussion. 14:723 O 12 '23

Petroleum asphalts in the roofing and water-
proofing industries. *D. Finley. il Chem &*
Met Eng 27:798-803 O 18 '22

Pushing the corrugated roof. *Sheet Metal*
Worker 13:893 Ja 19 '23

Pushing zinc standing seam roofing. *il Sheet*
Metal Worker 14:593-4 Ag 17 '23

Pyrobar roof tile for railroad buildings. *il*
Ry R 73:435 S 22 '23

Roofing problems. *C. E. Worthington. il Safety*
Eng 46:76-81 Ag '23

Schroder roofing patent invalid. *W. Gustin.*
Chem & Met Eng 28:496 Mr 14 '23

Strong corrugated roofing of asbestos and
cement. *il Pop Mech* 38:71 Jl '22

Wrong to price roofing by square foot. *il plan*
Sheet Metal Worker 13:243-4+, 492+ My 12,
Ag 18 '22

Zinc coming back into its own. *C. H. Winter.*
il Am Ind 22:27-9 Ap '22

Zinc vs. copper roofing. *F. Laist. Sci Am*
125A:134 D '21

See also Concrete tile; Shingles; Shingles,
Asbestos

Advertising

Johns-Manville tests out an appeal to women;
new roofing copy. *Ptr Ink* 124:57-8 S 20 '23

Testing

Fire tests of various roofings. *il Sheet Metal*
Worker 14:709-10, 711 O 12 '23

Proving metal roofing by fire test. *il Sheet*
Metal Worker 13:828-9+ Ja 5 '23

Underwriters' laboratories standard fire tests
of roof coverings. *C. H. Pierson. Safety Eng*
46:11-13 Jl '23

Roofing, Copper

Instructive criticism on copper roofing. *W:*
Neubecker. diag Sheet Metal Worker 14:
605-6 Ag 31 '23

Some observations on copper roofing. *J: F.*
Gowen. Sheet Metal Worker 14:575-8+ Ag
17 '23

Roofing, Tin

Drive on architects and builders to use tin
roofs. *D. B. Whittle. Sheet Metal Worker*
13:767-8 D 8 '22

Metal roofs save town from fire ravage. *il*
Sheet Metal Worker 14:485-7 Jl 20 '23

More roofers mean more tin roofing. *Sheet*
Metal Worker 13:764 D 8 '22

Nu-Dura tin roof protects historic church.
il Sheet Metal Worker 13:1-3 F 3 '22

Tin roof at seventy and going strong; old
National guards armory in Philadelphia. *il*
Sheet Metal Worker 13:507-8 S 1 '22

Tin roof on revolutionary mansion. *il Sheet*
Metal Worker 13:765 D 8 '22

Weather proofing with tin plate. *il plan Sheet*
Metal Worker 14:77-80 Mr 2 '23

Roofs

Design and construction features of steel
frame roof of large rink at Moncton, N.B.
il Eng & Contr 57:277 Mr 22 '22

Designing and estimating roof work. *I. P.*
Hicks. diags Bldg Age 44:62+ N '22

Directions on repairing of slate roofs. *diags*
Sheet Metal Worker 13:413-15 Jl 21 '22

Ferme en arc à tirant polygonal soutenu par
des aiguilles pendantes. *F. Chaudy. diags*
Génie Civil 81:440-1 N 11 '22

Fires caused by sparks and burning embers.
A. C. Carruthers. il Safety Eng 46:1-5 Jl '23

How asbestos-protected metal was developed
commercially. *J. H. Young. il Chem & Met*
Eng 28:244-7 F 7 '23; Abstract. *Iron Age*
111:1106 Ap 19 '23

How to develop hopper bevels. *R: M. Van*
Gaasbeek. il diags Bldg Age 44:45-6 Ja '22

How to find cuts for hips and valleys. *J:*
Parkhill. diags Bldg Age 44:60-1 Ap '22

How to frame a conic roof. *R: M. Van Gaas-*
beek. il diags plan Bldg Age 44:46-7+ F
'22

How to frame a curved rafter roof. *R: M.*
Van Gaasbeek. il diags plan Bldg Age 43:
38-40 D '21

How to frame a roof of unequal pitch. *R: M.*
Van Gaasbeek. il diags Bldg Age 44:58-9
My; 47-9 Je; 48-9+ Jl; 48-9 Ag; 56-8 S '22

Insulation of roof structures. *J. H. Bracken.*
Refrig Eng 9:373-5 Je '23

Laying copper roofing and gutters. *W. Neu-*
becker. diags Sheet Metal Worker 12:403-
4+, 465-6, 595-6, 665-6, 888-9 Jl 8, Ag 5, S
30, O 28 '21, Ja 20 '22

Making a Baptist church waterproof. *il Sheet*
Metal Worker 14:1-2 F 2 '23

Practical course in roof framing. *R: M. Van*
Gaasbeek. 2d ed., rev. & enl. 264p Drake '23

Preservation of decaying wood roofs. *W. S.*
Brown. il diag Paper Tr J 75:47-51 O 19
'22; Same. *Mech Eng* 44:709-12 N '22; Same.
Am Arch 122:571-6 D 20 '22; Same. *Eng &*
Contr (Bldgs) 58:152-6 D 27 '22; Same, with-

out table. *Textile World* 62:2167+ O 14 '22

Repairing a good 28-year-old tin roof. *il*
Sheet Metal Worker 13:33-5 F 17 '22

Restoration and preservation of Westminster
Hall roof. *F. Baines. il diags Engineer* 134:
494-6 N 10 '22; Abstracts. *Génie Civil* 82:
14-16 Ja 6 '23; *Eng N* 90:483 Mr 15 '23

Roof types and roof surfaces. *W. F. Bal-*
linger. il diags Arch Forum 39:109-14 S
'23; Same. *Eng & Contr (Bldgs)* 60:1331-8
D 26 '23

Shingle roof. *A. A. Kelly. Bldg Age* 44:56
Mr '22

Weather proofing with tin plate. *il plan Sheet*
Metal Worker 14:77-80 Mr 2 '23

Westminster Hall roof mediæval construc-
tional expedients. *W: Harvey. il diags En-*
gineer 132:697-9 D 30 '21

See also Arches; Architecture; Building;
Car roofs; Domes; Flashing; Girders; Gut-
ters (roof); Roofing; Shingles; Shingling;
Skylights; Strains and stresses; Thatch;
Trusses

Roofs, Concrete

Automatic roof tile machines. *il Concrete* 19:
203-4 N '21

Concrete roof tile in Europe. *il Concrete* 19:
234 D '21

Couverture en béton armé, avec porte à faux
de 40 mètres, pour grandes tribunes. *diags*
Génie Civil 82:182-3 F 24 '23; Abstract (Paris
stadium design has 131-ft. cantilever roof).
Eng N 90:787-8 My 3 '23

How to make concrete roof tile. *diags Con-*
crete 23:120-1 S '23

Reinforced concrete shingle roof. *il Concrete*
20:206 My '22

Roof flashing details. *Concrete* 21:51 Ag '22;
Same. *Eng & Contr (Bldgs)* 58:18 O 25 '22

Roof tile as made and laid in Birmingham,
Ala. *Concrete* 21:31 Jl '22

Small units in house building. *A. J. R. Curtis.*
il diags Concrete 20:217-19 My '22

Testing roof tile for higher quality. *il Concrete*
21:129 O '22

Rookwood pottery company

Rookwood pottery company. *S. G. Burt. Am*
Cer Soc J 6:232-4 Ja '23

Rooms. See Houses**Roosevelt, Theodore, 1858-1919**

Father of our modern navy; how Roosevelt
pulled the navy out of the rut and gave it
a fighting edge. *W: S. Sims. Sci Am* 129:
312 N '23

Rope

Ropes, chains and blocks for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:790-2; 28:43-6 D '22-Ja '23

Safe loads for ropes and chains. G. W. Childs. *Foundry* 50:332a Ap 15 '22

Something new in rope. *il Sci Am* 128:334 My '23

Use new method in making rope. W. L. Faust. *il Marine R* 53:184-6 My '23

Use of ropes and tackle. H. J. Dana and W. A. Pearl. (Eng. bul. no. 8) 68p State college of Washington, Pullman D '21

Will the rope sustain the weight? J. B. Dillon. *Am Gas J* 115:580; 116:350 D 31 '21, Ap 15 '22

See also Cables; Manila rope; Wire rope

Rope driving

Paper mill transmission machinery. G. N. Vanderhoof. *Paper* 31:12-14 S 13; 33 N 8 '22

Power transmission by ropes. *il Eng & Ind Management* 7:287-9 Mr 23 '22

Rope-drive precautions. *Power* 54:772 N 15 '21

Ropeways. See Cableways**Rosaniline sulfuric acid**

Die fuchsin-schweflige säure und ihre farbreaktion mit aldehyden. H: Wieland and G: Scheuing. *Deutsche Chem Gesell Ber* 54: 2527-55 N '21; Abstract. *Chem Soc J* 122 pt 1:58-9 Ja '22

Roscoelite

Extraction and recovery of vanadium from roscoelite. K. B. Thews and F. J. Meinle. *Chem Age* 31:465-6 O '23

Rose, Charles A.

General manager of technical activities for the British America nickel corporation. *por Chem & Met Eng* 28:888 My 21 '23

Rose polytechnic institute, Terre Haute

New Rose polytechnic institute building at Terre Haute. *il diags plan Eng N* 91:351-4 Ag 30 '23

Rosenberg, Louis C.

Six drawings by L. C. Rosenberg. *Am Inst Arch J* 10:37-41 F '22

Roses

Coloring matter of red roses. G. Currey. *Sci Am* 127:35 Jl '22

Rosewood

Rosewood, peer of decorative hardwoods. C. D. Mell. *il Sci Am* 126:254 Ap '22

Rosin

Changes in powdered rosin stored in closed containers. E. P. Veitch and W. F. Sterling. *Ind & Eng Chem* 15:576-7 Je '23

Degree of dissociation and unsaponifiable matter in rosin size. A. Haug. *Paper Tr J* 76:45-8 Je 28; 51-4 Jl 12 '23

Hardening rosin for varnish manufacture. *Chem Age* 30:516 N '22

New solvents for rosin extraction. H. K. Benson and A. L. Bennett. *J Ind & Eng Chem* 14:307-8 Ap '22

Sizing paper with rosin. R. Sieber. *Paper Tr J* 75:49-53 O 12; 43-6 O 19; 59-61 O 26; 50-3 N 16 '22

Turpentine and rosin. U S Bur Census 10p '22
L'utilisation de la résine dans la fabrication des savons. A. Gouin. *Chimie & Ind* 8:316-17 Ag '22

See also Naval stores; Paper sizing

Rotameter

Rotameter; abstract. *Mech Eng* 44:454 Jl '22

Rotary converters. See Converters, Synchronous**Rotary dispersion. See Dispersion****Rotary power. See Optical rotation****Rotating discs**

Rotating discs of conical profile. *diags Engineering* 115:1-3, 115-16 Ja 5, 26 '23; Discussion. 115:407, 630; 116:274-5, 417-19 Mr 30, My 18, Ag 31, O 5 '23

Rotating machines

High-speed rotating machines developed for testing the burning action of powder rings in shell fuses. H. M. Brayton. *il diags Am Mach* 57:298-301 Ag 24 '22

Rotating sector

Precision rotating sector; aperture variable and measurable while in motion. A. H. Pfund. *il diag J Fr Inst* 193:641-5 My '22

Rotating shaft

Relativity-contraction in a rotating shaft moving with uniform speed along its axis. F. E. Hackett. *Philos Mag* 6th ser 44:740-52 O '22

Rotation

Angular velocity explained. *diags Power* 55: 215 F 7 '22

Rotation of slightly elastic bodies. D. Wrinch. *Philos Mag* 6th ser 44:30-42 Jl '22

Whirling of an overhung eccentrically loaded shaft. S. Lees. *diags Philos Mag* 6th ser 45:689-708; Discussion. W. M. Orr. 708-14 Ap '23

See also Precession

Rotatory power. See Optical rotation**Roth, Charles Henry, 1870-**

Portrait. *Elec W* 82:640 S 29 '23

Rotogravure

Chicago Tribune's development of four-color rotogravure. *Inland Ptr* 69:696 Ag '22

Truth about rotogravure. J. V. Higgenbotham. *Ptg Art* 38:424-8 Ja '22

Rotors

Arc welding squirrel cage rotors of induction motors. *il Power El Eng* 26:732-3 Jl 15 '22

Methods of making press fits on shafts that insure a good job. N. L. Rea. *il diags Power* 57:392-4 Mr 13 '23

Rebuilding the end rings on a squirrel-cage rotor. M. Phillips. *diags Power* 54:941 D 13 '21

Simplified approximations of critical speeds. G. Arrowsmith. *Engineering* 112:717-20 N 25 '21

Soldering the end rings on squirrel-cage rotors. M. Phillips. *diags Power* 55:220-1 F 7 '22

Vibration and critical speeds of rotors. C. Rodgers. *diags Philos Mag* 6th ser 44:122-56 Jl '22

Wound rotor connections. A. C. Roe. *il diags Wnd Eng* 80:533-9+ N '22

Repair

Rotors of old-style induction motors welded by oxy-acetylene torch. *il Elec R* 80:304-5 Je '22

30,000-Kw. rotor rewound in 74 days. A. N. Simmons. *il Elec W* 81:225 Ja 27 '23

Welding squirrel-cage rotors with the electric arc. A. M. Candy. *il Ind Eng* 80:400 Ag '22

Rotostat

Device for studying moving parts. *il Iron Age* 112:550 Ag 30 '23; *Am Mach* 59:349 Ag 30 '23; *Automotive Ind* 49:521 S 13 '23; *Textile World* 64:1681 S 22 '23

Roundhouses

Advisability of heavy repairs in roundhouse. H. H. Stewart. *Ry R* 73:605-6 O 27 '23

Engine terminal for economical operation. G. W. Tutan. *il diag plan Ry Age* 72:463-7 F 25 '22

Erie builds new enginehouse at Jersey City. N.J. *il plan Ry Mech Eng* 96:719-22 D '22

Improvement in roundhouse repair facilities. *il diags Ry R* 73:453-5 S 29 '23

New engine house construction on the Southern Pacific. R. E. Kelly. *il diag plan Ry R* 71:405-7 S 23 '22

New roundhouse and shops for Central of Georgia. W. H. Fetner. *il diag plan Ry Mech Eng* 96:5-8 Ja '22

Novel engine facilities for a cold climate; Canadian National builds rectangular engine-house with radial tracks and enclosed turntable. *diags plan Ry Age* 71:1049-51 N 26 '21; Same. *Ry Mech Eng* 96:163-4 Mr '22

Rectangular enginehouse with interior turntable at Hornepayne, Ont. *diags plan Eng N* 87:1064-6 D 29 '21

Repair shop and enginehouse developments. E. L. Woodward. *il Ry Age* 72:63-5 Ja 7 '22

See also Locomotive shops; Locomotive terminals; Railroads—Shops

Roundhouses—Continued**Heating and ventilation**

Underground fan blast heating of railroad round-houses. diags Heat & Ven 18:45-6 N '21

Layout

General plan of the Erie enginehouse layout. Ry Age 73:878 N 11 '22

Roundhouses, Concrete

Concrete-unit roundhouses on the Pennsylvania RR. diags Eng N 89:110-12 J1 20 '22

Routine charts. See Charts, Routine**Routing systems**

Complete plan for simplifying routing of material in process. C. B. Tyson. Factory 31: 180-2+ Ag '23

Electric trains used in moving 300 tons of material daily into a large foundry and thru assembling departments. il Elec R 80:185-6 Ap '22

How to study the routing of work. E: H. Tingley. il chart diags plan Management Eng 2:209-14 Ap '22

How work goes through the shop. charts Am Mach 55:932-3 D 8 '21

Increased profits through control of costs. R. W. Darnell. Management & Adm 6:301-4 S '23

Influence of mobile batches on manufacturing capital. A. Whitehead. Engineer 134:518-20 N 17 '22

Modern automobile plant. P. L. Battey. il diags Management Eng 2:167-72 Mr '22

Production control in non-ferrous rolling-mills. W: R. Grunow. chart diags Management Eng 4:125-30 F '23

Racks facilitate the progress of work. il Management Eng 4:32 Ja '23

Routing plan for the small shop. R. Mawson. Management Eng 3:304 N '22

See also Machine shop management

Roxana petroleum corporation

Roxana lease. Oil Paint & Drug Rep 103:19+ Ap 16; 51 Ap 23; 43 My 21 '23

Royal Dutch company for the working of petroleum wells in Netherlands India

Report for 1922. Comm & Fin Chr 117:435-7 J1 28 '23

Royal society of London

Exhibition. Elec R (Lond) 90:725-6, 763-4 My 26-Je 2 '22; Electrician 88:629 My 26 '22; Engineer 123:559 My 19 '22; Engineering 113: 629-30, 658-60 My 19-26 '22

Rubber

Absorption of war gases by rubber and rubberized fabric. T: M. Rector. diag Ind & Eng Chem 15:1132-4 N '23

American dependence on British grown rubber. India Rubber W 68:619-21 J1 '23

America's rubber supply. Min & Sci P 123: 592-3 O 29 '21

Bud-grafting of Hevea brasiliensis. G. E. Perry. il diags India Rubber W 68:483-6 My '23

Budding and marcottage of Hevea. F. W. Donkersloot. il India Rubber W 64:543-4 My '22

Le caoutchouc. P. Bary. 255p Dunod, Paris '23

Contest draws 10,000 ideas to increase use of rubber. Pop Mech 37:234-5 F '22

Creating new uses for rubber. Chem Age 29: 500 D '21

Energy absorbing capacity of vulcanized rubber. H. P. Gurney and C. H. Taverner. J Ind & Eng Chem 14:134-9 F '22

Engineers and the rubber industry. Engineer 135:205 F 23 '23

Finding uses for raw rubber. Sci Am 128:101 F '23

Future crude rubber supply jeopardized. G. H. Carnahan. India Rubber W 66:486 Ap '22

Great industrial promise of rubber latex. C. C. Loomis and H. E. Stump. il Chem & Met Eng 29:184-7, 540-2, 623-5 J1 30, S 17, O 1 '23; Same. India Rubber W 68:703-6, 763-5; 69:13-14 Ag-O '23

Great rubber suggestion contest. il India Rubber W 65:181-4 D '21

Hard rubber and its application in the chemical industries. A. C. Buttfeld. Ind & Eng Chem 15:474-5 My '23

Longitudinal elasticity and Poisson's ratio of India-rubber. G. B. Deodhar. Philos Mag 6th ser 45:471-9 Mr '23

Measurement of temperature in rubber and insulating materials by means of thermocouples. E. B. Spear and J. F. Purdy. diags Ind & Eng Chem 15:842-5 Ag '23

Mechanical properties of calendered sheets. India Rubber W 66:349-50 F '22

Mold in plantation rubber. India Rubber W 66:664 J1 '22

Para rubber can be grown in Mexico. il India Rubber W 68:481-2 My '23

Philippine rubber planting possibilities. il India Rubber W 67:345-6 Mr '23

Plantation rubber, effect of different methods of preparation on its behaviour in the factory; abstracts. H: P. Stevens. Engineering 112:733 N 25 '21; India Rubber W 66: 420-1 Mr '22

Plantation rubber in the Netherlands East Indies and British Malaya. J: A. Fowler. U S Bur For & Dom Com Trade Information Bul 27:1-23 '22

Plantation rubber quality. O. de Vries. India Rubber W 68:567 Je '23

Poisson's ratio and related properties for compounded rubber. W. W. Vogt and R. D. Evans. Ind & Eng Chem 15:1015-18 O '23

Position of reclaimed rubber. Engineer 135: 253-4 Mr 9 '23

Possibilities in rubber latex. J. A. Hunter. Textile World 62:3014 N 25 '22

Preparation of plantation rubber. S. Morgan. 331p Constable & co., London '22

Recent development in the art of rubber microsectioning. H: Green. il diags J Ind & Eng Chem 13:1130-2 D '21

Reign of rubber. W: C. Geer. 344p Century co. '22

Relation between coefficient of vulcanization and mechanical properties of vulcanized rubber. O. de Vries. J Ind & Eng Chem 13: 1133-4 D '21; Excerpts. India Rubber W 66:492 Ap '22

Rubber as applied to aircraft; abstract. J. W. W. Dyer. Engineering 114:434-5 O 6 '22

Rubber as paper ingredient. F: Kaye. Paper 29:10 F 15 '22

Rubber growing in the Guianas and Trinidad. il India Rubber W 68:563-5 Je '23

Rubber latex in paper; effect of adding rubber latex to the beater in the experimental manufacture of book and wrapping papers. M. B. Shaw. Paper Tr J 75:53-5 D 28 '22

Rubber latex paper. F: Kaye. India Rubber W 67:73-4 N '22; Abstract. Engineering 114: 302 S 8 '22

Rubber manufacture; the cultivation, chemistry, testing and manufacture of rubber, with sections on reclamation of rubber and the manufacture of rubber substitutes, by H. E. Simmons. Review. Engineering 114:244-5 Ag 25 '22

Rubber paving block is developed in England. Chem & Met Eng 27:952 N 8 '22

Rubber restriction and American planting. B. G. Work. India Rubber W 68:186-7 My '23

Some physical properties of rubber compounded with light magnesium carbonate. H. W. Greider. J Ind & Eng Chem 14:385-95 My '22

Splinters in plantation rubber. India Rubber W 66:602-4 Je '22

Thermal properties of various pigments and of rubber. I. Williams. diags Ind & Eng Chem 15:154-7 F '23; Abstract. India Rubber W 68:568 Je '23

Use of latex in waterproofing. A. H. Hard. Textile World 63:3495+ My 26 '23

Use of rubber latex in making paper. I. Ginsberg. Paper 31:7-8 Ap 4 '23

Utilization of latex in paper making. F: Kaye. Paper Tr J 74:47-8 Ap 27 '22; Same. Paper 30:29-30+ Ap 19 '22; Same abr. India Rubber W 66:606-7 Je '22

Variability of crude rubber. J Ind & Eng Chem 13:1165-6 D '21

Rubber—Continued

- Volume increase of compounded rubber under strain. H. Green. *India Rubber W* 66:350-1 F '22
- Water dispersions from coagulated rubber, balata, and gutta percha. J. B. Tuttle. *India Rubber W* 67:213-15, 291-3; 68:488-90 Ja-F, My '23
- What rubber latex is. *il India Rubber W* 67:10-12 O '22

See also Celluloid rubber; Gutta percha; Tires, Automobile; Tires, Motor truck; Vulcanization; also headings beginning Rubber

Aging

- Accelerated aging tests on rubber goods. W. W. Evans. *il Am Soc T M Pro* 22 pt 2: 548-56 '22; Same, without diags. *Automotive Ind* 47:169-70 JI 27 '22
- Aging of rubber. A. H. King. *Chem & Met Eng* 25:1039-42 D 7 '21
- Aging of rubber latex paper. M. B. Shaw and F. T. Carson. *India Rubber W* 68:561-2 Je '23; Same. *Paper Tr J* 76:47-9 Je 21 '23

Analysis

- Analysis of rubber. J. B. Tuttle. 155p Chemical catalog co. '22
- Determination of total sulfur in rubber goods. S. Collier, M. Levin and R. T. Mease. *Ind & Eng Chem* 15:953-5 S '23
- Determination of true free sulphur and true coefficient of vulcanization in vulcanized rubber. W. J. Kelly. *J Ind & Eng Chem* 12: 375-8; 14:196-7 S '20, Mr '22; Same, cond. *India Rubber W* 63:175-6; 66:491-2 D '20, Ap '22
- Dosage direct de l'hydrocarbure caoutchouc à l'état de bromure. M. Pontio. *Chimie & Ind* 8:1211-12 D '22
- Joint rubber insulation committee procedure for the analysis of rubber compound. *Am Soc T M Pro* 21:762-72 '21
- Methods for the analysis of rubber goods. *J Ind & Eng Chem* 14:560-4 Je '22
- Methods of analysis; free sulphur in dry heater cured goods. S. G. Byam. *India Rubber W* 66:678 JI '22
- Methods of rubber analysis. *diag India Rubber W* 65:193-4 D '21
- Tentative methods for the analysis of rubber goods. *Ind & Eng Chem* 15:308-13 Mr '23
- Tetramolide method for estimating rubber hydrocarbon. H. L. Fisher, H. Gray and R. Merling. *India Rubber W* 66:355-6 F '22

Bibliography

- Physics of rubber, 1920-1921. W. B. Wiegand. *J Ind & Eng Chem* 14:854-5 S '22
- Recent articles relating to rubber. See monthly numbers of *India rubber world*

Chemistry

- Action of selenium oxychloride on pure rubber. C. E. Frick. *Am Chem Soc J* 45:1800-4 JI '23
- Acidity of raw rubber. G. S. Whitby and A. R. Winn. *Soc Chem Ind J* 42:336-9 Ag 10 '23; Excerpt. *India Rubber W* 69:25-6 O '23
- Antimony sulphide and iron oxide as rubber-compounding ingredients. E. Anderson and W. M. Ames. *Soc Chem Ind J* 42:136-9 Mr '23
- Chemistry in rubber manufacture. F. Jones. *Chem Age (Lond)* 9:145 Ag 11 '23
- Chemistry of rubber vulcanization and acceleration. C. W. Bedford. *J Ind & Eng Chem* 14:856-7 S '22
- Colloid chemistry and the rubber industry. W. Ostwald. *India Rubber W* 67:359-60 Mr '23
- Compounding properties of tetra-methylthiur-amdisulphide. *India Rubber W* 69:15-16 O '23
- Constitution of rubber. M. C. Boswell. *Can Chem & Met* 6:237-43 N '22
- Isoprene and caoutchouc; the hydrogenation of caoutchouc and its constitution. H. Staudinger and J. Fritsch. *Chem Soc J* 122 pt 1:1043-4 N '22
- Microscopic examination of rubber compounds containing antimony pigments. A. F. Hardman. *il India Rubber W* 68:711 Ag '23

- Practical recovery of rubber solvent. P. W. Gumaer. *il India Rubber W* 68:633-4 JI '23
- Recent developments in the chemistry of rubber. W. C. Geer. *J Ind & Eng Chem* 14: 369-75 My '22
- Recent important investigations in the chemistry of rubber and substantiation of the C₅H₈ ratio. H. L. Fisher. *Ind & Eng Chem* 15:860-2 Ag '23
- Recent progress in rubber chemistry and technology. P. Schidrowitz. 64p Benn bros., Ltd., London '22
- Rubber chemists hold successful meeting. *Chem & Met Eng* 28:727-8 Ap 23 '23
- Rubber from evaporated latex. O. De Vries. *India Rubber W* 69:92-3 N '23
- Rubber latex precipitates and dispersions; the Calvert process. *Chem Age (Lond)* 8:328-9 Mr 31 '23
- Rubber softeners. P. M. Aultman and C. O. North. *Ind & Eng Chem* 15:262-4 Mr '23; Same cond. *India Rubber W* 68:638-9 JI '23
- Solubility of gases in rubber and rubber stock and effect of solubility on penetrability. C. S. Venable and T. Fuwa. *diag J Ind & Eng Chem* 14:139-42 F '22; Excerpts. *India Rubber W* 66:547 My '22
- Substitution and addition of chlorine to the rubber molecule. J. McGavack. *diag Ind & Eng Chem* 15:961-2 S '23
- Über kautschuk. R. Pummerer and P. A. Burkard. *Deutsche Chem Gesell Ber* 55: 3458-72 N '23; Abstract. *Chem Soc J* 124 pt 1:49-50 Ja '23
- Utilization of waste slate as a filler. *India Rubber W* 65:275 Ja '22
- Utilization of waste slate as a filler. O. Bowles. *Chem Age* 30:37-8 Ja '22
- See also Rubber—Analysis; Rubber—Sulfur content; Rubber waste; Vulcanization

Manufacture

- Adding compounding ingredients to rubber latex. C. C. Loomis and H. E. Stump. *il Chem & Met Eng* 29:540-2 S 17 '23; Same. *India Rubber W* 68:763-5 S '23
- Far-reaching developments with rubber latex. *il India Rubber W* 67:207-9 Ja '23
- Manufacture of L.S. crude rubber. *il India Rubber W* 68:553-4 Je '23
- New rubber manufacturing processes discovered. *Automotive Ind* 48:164 Ja 25 '23
- Pigments in the rubber industry; abstract. *Soc Dyers & Col J* 39:191-2 Je '23
- Refrigeration in the manufacture of rubber. J. H. Vance. *A S R E J* 8:405-7 Mr '22
- Rubber milk made in the laboratory. G. Heinsohn. *India Rubber W* 67:137-8 D '22
- Scientific method in rubber compounding. C. O. North. *J Ind & Eng Chem* 14:851-3 S '22
- Selenium in rubber compounding. I. Williams. *Ind & Eng Chem* 15:1019-21 O '23
- Some mechanical problems in the rubber industry. H. C. Young. *il diags Engineering* 115:247-51, 281-4, 312-16 F 23-Mr 9 '23; Same cond. *Engineer* 135:196-7, 224-6 F 23-Mr 2 '23
- Sprayed rubber; a new Hopkinson process of making rubber. A. G. Ingalls. *il Sci Am* 129:156+ S '23
- Technology in the rubber industry. W. A. Williams. *Soc Chem Ind J (Chem & Ind)* 42:209-10 Mr 2 '23
- Use of hard rubber in chemical industry. *il Chem Age* 31:137-9 Mr '23
- Use of pigments in rubber. D. F. Twiss. *Chem Age (Lond)* 8:398-9 Ap 14 '23
- See also Rubber factories; Rubber machinery; Vulcanization

Patents

- Diphenylguanidine patent upheld. *India Rubber W* 67:300 F '23
- Importance of proper technical testimony in patent suits. H. O. Chute. *Chem & Met Eng* 28:197-8 Ja 31 '23
- National aniline wins appeal. *Chem & Met Eng* 29:192 JI 30 '23
- Recent patents relating to rubber. See monthly numbers of the *India rubber world*

Rubber—Patents—Continued

- Rubber paper from fiber pulp and rubber; comments upon the Kaye patents and others. G. Heinsohn. India Rubber W 66:795-6 S '22
- Standard of comparison for determining profit from infringement of alkaline process for reclaiming rubber. W. Gustin. Chem & Met Eng 28:124-6 Ja 17 '23
- Vultex process. India Rubber W 68:461 Ap '23

Specifications

- Report of committee D-11 of A.S.T.M. on rubber products. il Am Soc T M Pro 22 pt 1: 486-93 '22

Storage

- Alteration of rate of vulcanisation and deterioration of raw rubber during storage. B. J. Eaton and R. O. Bishop. Soc Chem Ind J 42:389-92 S 28 '23; Excerpt. India Rubber W 69:92 N '23

Sulfur content

- Crystallization of sulphur in rubber and the phenomenon of blooming. H. A. Endres. il India Rubber W 68:635-7 Jl '23
- Determination of total sulfur in rubber goods. S. Collier, M. Levin and R. T. Mease. Ind & Eng Chem 15:953-5 S '23
- Effect of variations in the sulfur and hexamethylenetetramine content on properties of compounded rubber. H. A. Depew. Ind & Eng Chem 15:512-13 Mv '23
- Methods of analysis; free sulfur in dry heater cured goods. G. S. Byam. India Rubber W 66:678 Jl '22
- Solubility of sulfur in rubber. C. S. Venable and C. D. Greene. J Ind & Eng Chem 14:319-21 Ap '22; Excerpt. India Rubber W 66:547-8 My '22

Terminology

- Glossary of words and terms used in the rubber industry. H: C Pearson. India Rubber W 63:235-6, 325-7, 404-5; 64:481-2, 561-2, 723-5, 882-7; 65:7-9, 93-5, 171-3, 263-5; 66: 412-14, 483-5, 605-6, 671-2, 739-40 Ja-My, Jl, S '21-Ja, Mr-Ap, Je-Ag '22

Testing

- Abrasion testing machine. il India Rubber W 67:357 Mr '23
- Accelerated aging tests on rubber goods. W. W. Evans. il Am Soc T M Pro 22 pt 2:548-56 '22; Same (without diag). Automotive Ind 47:169-70 Jl 27 '22
- Determining the resistance of rubber products to abrasion. W. W. Evans. il diag Engineering 116:192 Ag 10 '23
- Electrical records of rubber stress-strain data. C. J. Burkley. il chart diag India Rubber W 67:24-5 O '22
- Methods for conducting physical tests on rubber products. A. H. Nuckolls. Am Soc T M Pro 22 pt 2:541-7 '22; Same abr. India Rubber W 67:79-80 N '22
- New type stress-strain curve. W. W. Vogt. India Rubber W 66:421-2 Mr '22
- Physical testing graphs; proposed standardized form for illustrating physical tests on vulcanized rubber. W. B. Wiegand. Can Chem & Met 6:214-16 O '22; Same. India Rubber W 67:224-5 Ja '23
- Plastimeter for crude rubber. B. Marzetti. diag India Rubber W 68:776 S '23
- Practical testing of crude rubber. O. de Vries. India Rubber W 68:779-80 S '23
- Resilient energy and abrasion resistance of vulcanized rubber. H. W. Greider. Ind & Eng Chem 15:504-11 My '23; Discussion. 15: 755-6 Jl '23
- Resistance to tear. J: B. Tuttle. diag India Rubber W 67:150 D '22
- Tensile testing of rubber. G. S. Whitby. India Rubber W 67:362-4 Mr '23
- Testing of rubber goods. il diag U S Bur Stand Circ 38:1-127 '21
- Tests on plantation rubber with zinc oxide and litharge mixings. H. P. Stevens. India Rubber W 66:809 S '22
- Variability of rubber, effect of organic accelerators. G. Martin and W. S. Davey. Soc Chem Ind J 42:98-106 Mr 16 '23

- Vulcanization tests on hexamethylene tetramine. C. S. Williams. India Rubber W 66: 490 Ap '22

Rubber, Dental

- Dental rubbers. il India Rubber W 68:634 Jl '23

Rubber, Mineral

- Mineral rubber. C. O. North. Chem & Met Eng 26:253-60 F 8 '22; Abstract. India Rubber W 65:191-2 D '21

Rubber, Transparent

- Rubber glass—a new product of great interest. India Rubber W 66:538-9 My '22
- Transparent rubber. Sci Am 127:171 S '22

Rubber as fuel

- Rubber as fuel. India Rubber W 66:384 F '22

Rubber association of America

- Advertising helps tire industry change established practice. J. Henle. Ptr Ink 124:85+ Ag 30 '23
- 22d annual dinner and meeting, New York, Jan. 9. India Rubber W 66:329-37 F '22
- 23d annual meeting, New York, Jan. 8. India Rubber W 67:277-9 F '23

Rubber balls. See Balls, Rubber**Rubber dust**

- Making hard rubber goods from hard rubber dust. W: S. Cobb. il diag India Rubber W 66:409-11 Mr '22
- Manufacture of hard rubber dust. F: Karl. diag India Rubber W 65:169-70 D '21

Rubber erasers. See Erasers, Rubber**Rubber fabrics****Manufacture**

- Chemical engineering in the production of coated fabrics. S. D. Kirkpatrick. il diag plan Chem & Met Eng 28:1017-23 Je 11 '23
- Manufacture of rubber and pyroxylin coated fabrics differs widely. il diag Automotive Ind 49:794-7 O 18 '23
- Outline of British proofing methods. M. M. Heywood. diag plan India Rubber W 68: 491-4 My '23
- Solvent recovery from the fire hazard standpoint. W. D. Milne. Chem Age 31:201-5 My '23

Testing

- Fabric testing and index values. C. J. Burkley. il India Rubber W 68:645-6 Jl '23

Rubber factories

- Engineering problems in rubber footwear mill rooms. A. B. Lingley. plan India Rubber W 69:79-82, 149-50 N-D '23
- Liquified rubber fire wrecks concrete roof. A. B. MacMillan. il diag Eng N 88:158-61 Ja 26 '22

See also Tires, Automobile—Manufacture

Accounting

- Estimating cost of mechanical rubber goods. J. J. Dawson. India Rubber W 68:629-30, 698-9, 762 Jl-S '23

Equipment

- Automatic counters in the rubber industry. J. P. Blackiston. il India Rubber W 68:769-70 S '23
- Electric motor drive in the rubber industry. G. Fox. il diag Power Pl Eng 26:1105-8 N 15 '22
- Electric power and the rubber industry. B. T. Mottinger. il Elec J 19:4-10 Ja '22

Management

- Handling cloth wrappers in rubber factories. il India Rubber W 66:481-2 Ap '22
- Handling compounds in a rubber mill. il India Rubber W 66:352-4 F '22
- Handling stores and store records in rubber factories. India Rubber W 67:347-9 Mr '23
- Industrial management. A. T. Hopkins. India Rubber W 67:221-3 Ja '23
- Setting piece rates by formula, chart and slide rule. D. Ross-Ross. il charts Ind Management 65:301-5 My '23
- Some details in the application of a bonus on operation and maintenance. A. A. Frank. Ind Eng 81:4-10+ Ja '23

See also Rubber machinery

Rubber factories—Continued**Safety devices and measures**

- Accident prevention in the rubber industry.
H. S. Poole. Safety Eng 42:254-9 D '21
Development of safety in the rubber industry.
W. H. Larkin, jr. Safety Eng 43:44-9 F '22
Handling solvents safely. A. G. Smith. Chem
& Met Eng 29:714-16 O 15 '23
Safety first and efficiency. J. W. Thropp.
il India Rubber W 69:73-5 N '23

Rubber gloves. See Gloves, Rubber**Rubber goods**

- Hard molded plastic. il India Rubber W 66:
733-4 Ag '22
Machining soft rubber. E. Lytton-Brooks.
diags Am Mach 58:865-7 Je 14 '23
Making duplicate molds by hobbing. il diags
India Rubber W 68:557-8 Je '23
Manufacture of cut sheet rubber goods. il In-
dia Rubber W 65:186-7 D '21
Molds for hard plastics. il India Rubber W
67:145-7 D '22
New development in colored hard rubber.
India Rubber W 67:223 Ja '23
Non-sticking liners for tacky rubber stocks.
India Rubber W 67:307 F '23
Pouring and casting india rubber. diag plan
India Rubber W 68:494-5 My '23
Rubber business thirty years hence. India
Rubber W 66:476-7 Ag '22
Rubber creations in motion picture produc-
tion. il India Rubber W 66:487-8 Ap '22
Silvertown and the electrical industry. il
Electrician 87:604-5 N 11 '21
Unusual rubber product filled with gas. Pop
Mech 39:696 My '23

See also Elastic fabrics; Gloves, Rubber;
Hose; Rubber dust; Rubber heels; Shoes,
Rubber; Telephone receivers

Specifications

- Report of committee D-11 of A.S.T.M. on rub-
ber products. Am Soc T M Pro 21:412-20;
Discussion. 421-4 '21

Testing

See Rubber—Testing

Rubber goods, Mechanical

- Die casting rubber molds. il India Rubber W
68:767-8 S '23
Efficiencies of old reaction wheels improved
by rubber seal rings. Eng N 90:997 Je 7 '23;
Same. Power 57:933 Je 12 '23
Estimating cost of mechanical rubber goods.
J. J. Dawson. India Rubber W 68:629-30,
698-9, 762 Jl-S '23
Hard rubber in radio instruments. il India
Rubber W 68:419-20 Ap '23
Machining hard rubber parts for water meters.
F. H. Colvin. il Am Mach 58:621-3 Ap 26 '23
Planing vulcanized rubber. B. Crouse. diag
Am Mach 57:656-7 O 26 '22
Radio equipment and its dependence on rub-
ber. W. S. Cobb. il diags India Rubber W
66:599-601 Je '22
Rubber in radio sets. il India Rubber W 66:
535-6 My '22
Rubber materials in airplane construction. C.
J. Cleary. il diags India Rubber W 66:801-2
S '22
Rubber seal rings solve hydraulic turbine
problem. Eng N 89:789 N 9 '22
Soft rubber in radio equipment. il India Rub-
ber W 67:81-2 N '22
Suitable rubber seal rings for water turbines.
H. W. Dennis. il Elec W 81:288 Ag 11 '23
Superiority of hard rubber radio panels. il
India Rubber W 68:694-6 Ag '23
Turning hard rubber. diags Pop Mech 40:
624 O '23
Use of rubber products as dielectrics. W. S.
Flight. Elec R (Lond) 92:996-7 Je 22 '23

Rubber heels

- Manufacture of rubber heels. plan India Rub-
ber W 68:707-8 Ag '23

Rubber industry and trade

- Armament limitation and the rubber indus-
try. India Rubber W 65:256-9 Ja '22
British rubber restrictions delegation to visit
U.S. to confer regarding same. Comm &
Fin Chr 115:2750-2 D 23 '22

Can rubber be controlled? India Rubber W 67:
3-9, 69-71 O-N '22

Clean plantation rubber; a plea for better
packing. E. L. Bower. il India Rubber W
66:736 Ag '22

Forty-cent rubber necessary; survey of rub-
ber planting costs. H. E. Miller. India Rub-
ber W 68:689-90 Ag '23

Future of the rubber industry. W. C. Geer.
Chem Age 31:251-3 Je '23

Position of the world's rubber supplies. An-
nalist 21:571-2 Ap 23 '23

Proposal for an international plantation rubber
company. India Rubber W 66:806 S '22

Report of committee representing the Rubber
growers' association of London. Comm &
Fin Chr 116:1134-5 Mr 17 '23; Same cond.
India Rubber W 68:423-4 Ap '23

What has happened to rubber. C. H. Huston.
Nation's Business 11:30-1 Ap '23

Why crude rubber prices have advanced.
Comm & Fin Chr 115:2730-1 D 23 '22

World rubber situation; discussion by foreign
commerce group of the Chamber of com-
merce of the U.S. Nation's Business 11:52-4
Je 5 '23

See also Rubber goods; also Gates rubber
company; Goodyear tire and rubber com-
pany; United States rubber company

Statistics

- Review of the crude rubber market. See
monthly numbers of India rubber world
Rubber manufactures more than a billion.
India Rubber W 66:663-4 Jl '22

Austria

- Austrian trade in rubber products. C. H.
Foster. U S Bur For & Dom Com Trade
Information Bul 131:1-14 '23

Belgium

- Market for rubber goods in Belgium. P. L.
Palmerton. U S Bur For & Dom Com Trade
Information Bul 65:1-15 '22

Brazil

- Brazil an ideal rubber planting country. il
map India Rubber W 68:413-15 Ap '23
Brazilian rubber industry. India Rubber W
65:189-91 D '21

Far East

- Financing, producing and marketing planta-
tion rubber in Sumatra, Java, Malaya and
Ceylon. India Rubber W 68:551-2 Je '23
Rubber trade in the Far East. India Rubber
W 65:226-8; 66:383-4 D '21, F '22

Germany

- German rubber industry. India Rubber W
69:88-90 N '23

Great Britain

- British rubber export tax—Washington con-
ference. Comm & Fin Chr 116:892-5 Mr 3 '23
Market for rubber products in the United
Kingdom. P. L. Palmerton. U S Bur For
& Dom Com Trade Information Bul 60:1-26
'22
Outgrowth of rubber restriction. India Rubber
W 68:556 Je '23
Restriction of crude rubber exports. India
Rubber W 68:577-8 Je '23
Rubber situation in British colonies and pro-
tectorates. U S Bur For & Dom Com Trade
Information Bul 49:1-6 '22

Italy

- Rubber industry of Italy. India Rubber W
68:501-2 My '23

Japan

- Japanese rubber industry before the earth-
quake. il India Rubber W 69:10-12 O '23

Sumatra

- Native rubber estates of Sumatra. il India
Rubber W 68:809 S '23

Switzerland

- Switzerland's rubber trade. India Rubber W
65:225 D '21

Rubber industry and trade—Continued**United States**

- Exports of India rubber manufactures and insulated wire and cable from the United States by countries during the calendar year 1921. *India Rubber W* 66:650-3 *Je* '22
- Increasing demands of the United States on the supplies of wild rubber and the output of the rubber plantations. *Annalist* 21:249-50 *F* 12 '23
- New York crude rubber market during 1921. *India Rubber W* 66:389-91 *F* '22
- Rubber association of America, Inc., to aid department of commerce in rubber inquiry. *Comm & Fin Chr* 116:1135-6 *Mr* 17 '23
- Ruminations on rubber. *Chem Age* 31:69 *F* '23
- Rubber lining**
- Hard-rubber lined steel tanks for transporting hydrochloric acid. *F. C. Zeisberg, il diags Ind & Eng Chem* 15:157-8 *F* '23
- Rubber lined ball mills. *il India Rubber W* 68:697-8 *Ag* '23
- Rubber lining for tube and ball mills. *A. B. Parsons, il Eng & Min J* 116:489-90 *S* 22 '23
- Rubber possibilities in the mining industry. *India Rubber W* 69:87 *N* '23
- Tank cars for transportation of muriatic acid lined with unvulcanized rubber. *J. M. Rowland, il Chem Age* 30:299-301 *Jl* '22
- Rubber machinery**
- Care and repair of rubber machinery. *plan India Rubber W* 68:559-60 *Je* '23
- Internal mixers. *R. P. Dinsmore, il diags Chem & Met Eng* 27:890-3 *N* 1 '22; Same cond. *India Rubber W* 67:364-5 *Mr* '23
- Machinery for hard molded plastics. *il India Rubber W* 67:76-8 *N* '22
- Manufacture of rollers for rubber mangles. *A. Clegg, diag Am Mach* 57:789-94 *N* 23 '22
- Some mechanical problems in the rubber industry. *H. C. Young, il diags Engineering* 115:247-51, 281-4, 312-16 *F* 23-Mr 9 '23; Same cond. *Engineer* 135:196-7, 224-6 *F* 23-Mr 2 '23
- Tubing machine for small work. *il India Rubber W* 69:95 *N* '23
- Rubber manufacturers' association**
- 11 members assured new rubber society. *Automotive Ind* 48:1305+ *Je* 14 '23
- Rubber mixers.** See **Rubber machinery**
- Rubber money**
- Dollar bills of rubber paper. *India Rubber W* 68:631 *Jl* '23
- Rubber paper.** See **Rubber money**
- Rubber pavements.** See **Pavements, Rubber**
- Rubber pigments.** See **Pigments**
- Rubber plants**
- Crude rubber and paper pulp from an Asclepias. *il India Rubber W* 65:260-1 *Ja* '22
- Rubber research**
- Rubber research association. *Engineering* 114:115 *Jl* 28 '22
- Rubber scrap.** See **Rubber waste**
- Rubber shoes.** See **Shoes, Rubber**
- Rubber soles.** See **Soles, Rubber**
- Rubber stamps**
- Manufacture of rubber type. *il India Rubber W* 65:267-9 *Ja* '22
- Rubber tires.** See **Tires, Automobile; Tires, Motor truck**
- Rubber tubes.** See **Tubes, Rubber**
- Rubber type.** See **Rubber stamps**
- Rubber waste**
- Colloid process of reclaiming rubber. *diag India Rubber W* 67:144 *D* '22
- Huge rubber scrap surplus. *il India Rubber W* 68:774-5 *S* '23
- Standard of comparison for determining profit from infringement of alkaline process for reclaiming rubber. *W. Gustin, Chem & Met Eng* 28:124-6 *Ja* 17 '23
- Rubbe**
- Wall textures. *P. E. Nobbs, il Am Arch* 124:244-50 *S* 12 '23

Rubidium bromate

Preparation and study of the rarer alkali bromates; rubidium bromate. *H. D. Buell and C. R. McCrosky, Am Chem Soc J* 43:2031-4 *S* '21

Rubies

Ruby mining thrives in Burma. *E. W. Slater, Eng & Min J* 116:534 *S* 29 '23

Rudders

Current actuated or Flettner rudder. *A. Flettner, diags Marine Eng* 28:231-4 *Ap* '23

Flettner rudder on the motor ship Odenwald. *il diag Engineer* 135:667 *Je* 22 '23; *Mech Eng* 44:843 *D* '22

Rudder that turns itself. *E. Foerster, il diag Sci Am* 129:237 *O* '23

Unbalanced rudders of single-screw steamships. *G. S. Baker and G. H. Bottomley, Engineering* 113:364 *Mr* 24 '22

Rugs

My factory is located in 600 homes. *H. T. Pinkham, il Ptr Ink M* 6:34-5+ *Ja* '23

Reproducing hand woven arch rugs. *il Textile World* 62:1288 *S* 2 '22

Rugs and carpets. *Am Inst Arch J* 10:XVII+ *N* '22

South Sea savages wonderful craftsmen; made cloth and mats of finest texture. *F. Burnett, il Textile Col* 45:651-2 *O* '23

Weaving pictures for our floors. *il Pop Mech* 40:342-4 *S* '23

Ruhr valley

See also **Chemical industries—Ruhr valley**; **Coal miners—Ruhr valley**

Economic conditions

Ruhr transportation blocked. *B. Shapira, il map Iron Tr R* 72:808-9 *Mr* 15 '23

French occupation

An American watch on the Ruhr. *B. Miles, Nation's Business* 11:21-2 *Ap* '23

British views on the Ruhr situation. *A. C. Blackall, il Blast F & Steel Pl* 11:414-18 *Ag* '23

Development of Ruhr invasion by France. *Comm & Fin Chr* 116:128-30, 237-40, 360-3, 467-9, 565-6, 668-70, 1000-1, 1842-3; 117:32-3 *Ja* 13-F 17, *Mr* 10, *Ap* 28, *Jl* 7 '23

Discussion of Ruhr question in British Parliament. *Comm & Fin Chr* 116:667-8 *F* 7 '23

Estimate cost of Ruhr occupation. *Comm & Fin Chr* 116:1724 *Ap* 21 '23

False economics in the Ruhr. *R. Estcourt, Annalist* 22:207-8+ *Ag* 13 '23

German coke plants are seized. *il Iron Tr R* 73:803-4 *S* 20 '23

German government decides to abandon passive resistance. *Comm & Fin Chr* 117:1517-19 *O* 6 '23

Germany fears seizure of steel. *il map Iron Tr R* 72:1384-5 *My* 10 '23

How the Ruhr seizure affects Germany. *Annalist* 21:153-4 *Ja* 22 '23

Industrial results of the Ruhr occupancy. *Am Mach* 58:680e-f *My* 3 '23

Prices boosted by Ruhr conflict. *H. C. Estep, il Iron Tr R* 72:1305-8 *My* 3 '23

Report on Ruhr situation. *B. Miles, Comm & Fin Chr* 117:956-7 *S* 1 '23

Ruhr resistance peters out as the French plan full industrial control. *Oil Paint & Drug Rep* 103:19 *Je* 25 '23

Ruhr war boosts world's prices. *H. C. Estep, il diags map Iron Tr R* 72:1151-5 *Ap* 19 '23

Significance of the Ruhr invasion. *il Blast F & Steel Pl* 11:384-8 *Jl* '23

Tax collecting in the Ruhr. *Lacour-Gayet, Annalist* 21:732+ *My* 28 '23

Week's developments in the foreign situation. *Annalist* 21:127+, 159, 191, 222+, 252, 285+, 317+, 349-50, 381+, 413+, 445+, 477+, 509+, 541+ *Ja* 15-*Ap* 16 '23

What Ruhr's occupation may mean. *F. C. Chappell, Am Ind* 24:45-6 *S* '23

Why France is in the Ruhr. *R. U. Johnson, Administration* 5:257-61 *Mr* '23

Wrangle in Ruhr brings chaos. *H. C. Estep, il Iron Tr R* 73:451-4 *Ag* 16 '23

Zur besetzung des Ruhrgebietes. *Stahl & Eisen* 43:185-90 *F* 8 '23

Ruhr valley—Continued**Industries and resources**

- Ruhr valley a great industrial center, maps
Iron Age 111:214-15 Ja 18 '23
What is happening in the Ruhr. H. C. Estep.
il map Iron Tr R 72:727-33 Mr 8 '23
What is in the Ruhr? il map Chem & Met
Eng 28:339-42 F 21 '23

Rule of the road

- Changing from left to right hand operation in
British Columbia. W. G. Murrin. il Elec Ry
J 58:894-5; 59:871 N 19 '21, My 27 '22
Right-of-way law. J. J. Reynolds. Aera 10:896-
9 My '22

Rumania

- Status and possibilities of greater Rumania.
J. Moritz. Annalist 19:224+ F 13 '22
See also Petroleum—Rumania; Petroleum
industry and trade—Rumania

Rumsey, James

- Work of Rumsey and Fitch. E. C. Smith.
Engineer 136:418-19 O 19 '23

Run-off

- Effect of elevation upon run-off from catch-
ment areas. A. Hazen. map Eng N 89:62-4
Jl 13 '22
Flood discharge and the dimensions of spill-
ways in India. G. B. Williams. Engineer 134:
321-2 S 29 '22
Hydraulic design of bridge waterways. I. E.
Houk. Eng N 88:1071-5 Je 29 '22; Discus-
sion. G. Ribeiro. 89:534 S 28 '22
Maximum flood discharges in Hawaii. J. B.
Lippincott. Eng N 89:239 Ag 10 '22
Modification of the Vicari method of deter-
mining maximum runoff. K. Allen. diag
Munic Eng 63:13-14 Jl '22
Rainfall and run-off studies. C. E. Grunsky.
map Am Soc C E Pro 47:203-42, pl 5 S '21;
Discussion. 47:561-70, 775-90; 48:69-74, 963-
5 N '21-Ja, Ap '22
Rainfall and runoff studies in St Louis;
sprinkling experiments at Washington uni-
versity. W. W. Horner. Munic Eng 63:176-80
N '22
Relation of run-off to rainfall. Engineering
112:513-14 O 7 '21; Same. Eng & Contr 56:
504-5 N 30 '21
Report of the Committee on run-off in New
England. Boston Soc C E J 9:163-212 O '22
Run-off formulae. T. Walker. Can Eng 44:
346 Mr 20 '23
Run-off percentage used in sewer design. K.
Allen. Eng & Contr 58:32 Jl 12 '22
Safe yields of drainage areas in years of min-
imum rainfall. A. S. Burgess. Eng N 89:970-
1 D 7 '22
Snow survey and stream runoff forecast in
Nevada for 1923. J. E. Church, jr. Eng N
90:1001 Je 7 '23
Theoretical frequency curves and their ap-
plication to engineering problems. H. A.
Foster. Am Soc C E Pro 49:825-55 My '23
Water-power studies. W. T. Taylor. Elec
R (Lond) 93:524-6 O 12 '23

Runways

- Good practice in the design of crane runways.
R. Fleming. diags Eng N 90:918-20 My 24
'23
High stockpiles built up with heavy trucks.
H. B. Jay. il Eng N 89:139 Jl 27 '22

Rural credit. See Agricultural credit**Rural free delivery**

- Politics keeps the mare going. A. H. Ulm. il
Nation's Business 10:16-17 O '22
Politics prevents use of automotive equipment
for rural mail delivery. Automotive Ind 47:
178-9 Jl 27 '22

Rural schools

- Sanitation of rural schools. W. R. Conard.
Munic Eng 63:64-5 Ag '22

Rural sociology. See Sociology, Rural**Rushmore, David Barker, 1873-**

- Sketch. por Elec W 81:730 Mr 31 '23

Russell, Alexander, 1861-

- President of the Institution of electrical
engineers, 1923-24. por Elec R (Lond) 93:
539-40 O 12 '23

Russia

- Report on American measures for Russian
famine relief. H. Hoover. Comm & Fin Chr
115:380-1 Jl 22 '22
Russia and the American attitude. R. Bean.
Annalist 19:555-6 My 22 '22
See also Advertising—Russia; Electric
plants (central stations)—Russia; Railroads
—Russia; also Hague conference on Russian
affairs, 1922

Central institute of work

- Russian Central institute of work. il Manage-
ment Eng 4:241-4 Ap '23

Commerce

- Germans and trade with Russia; the possi-
bilities of the Rapallo treaty. Elec R (Lond)
90:927-8 Je 30 '22
Trade conditions in Russia. Am Mach 55:
1058a D 29 '21
Trade with soviet Russia. Nation's Business
10:46+ Ag '22
See also Advertising—Russia

Economic conditions

- American engineer's experiences in Russia.
R. R. Keely. Am Mach 55:787-8, 840-2, 879-
80, 919-21 N 17-D 8 '21
American engineer's impressions of indus-
trial Russia. R. R. Keely. Eng N 87:896-9
D 1 '21
Analysis of economic conditions in soviet Rus-
sia. Eng N 88:1000 Je 15 '22
Aus dem wirtschaftlichen leben Russlands vor
dem kriege. H. Klein. Stahl & Eisen 42:375-
81 Mr 9 '22
Business Russia; a gloomy practical view. R.
R. Keely. Brass W 17:323-4 N '21
Engineers work in Russia through the relief
administration. E. Rickard. Min & Met 191:
35-7 N '22
Extent of Russia's ruin and chances of re-
covery. Ry Age 72:1073-4 My 6 '22
Future of Bolshevik Russia. R. R. Keely. Am
Mach 55:947-9 D 15 '21
General situation in Russia to-day. Annalist
20:596 D 4 '22
Germany and Russia—a chapter of uncer-
tainties. B. M. Anderson. (Chase econ.
bul. v.2, no. 2) 40p Chase national bank,
New York '22
Has Russia passed the worst crisis? Annalist
21:444+ Mr 26 '23
Industrial revival in soviet Russia. A. A.
Heller. 24lp Thomas Seltzer, New York
'22
Industrial Russia today. Am Mach 56:121-4
Ja 26 '22
Industrial situation in Russia. Elec R (Lond)
90:548-50 Ap 21 '22
Lenin admits defeat of communism in Rus-
sia. Am Mach 55:906a-b D 1 '21
Poland, Russia and the soviet. F. De St
Phalle. Am Ind 22:39-40 F '22
Position in Russia; a slow but gradual re-
covery predicted. F. C. Chappell. Anna-
list 22:422-3+ O 1 '23
Private trade in soviet Russia. L. Pasvolsky.
Annalist 19:8-9 Ja 2 '22
Recent economic developments in Russia. K.
Leites. 240p Oxford '22
Reconstruction of Russia and the task of
labor. S. Hillman. 64p Amalgamated cloth-
ing workers of America, Education dept.,
New York '22
Russia—an economic vacuum. H. Hoover.
Nation's Business 10:14-16 Je 5 '22
Russian co-operatives under the soviets. L.
Pasvolsky. Annalist 18:607 D 26 '21
Russia's home trade reviving. E. M. Kay-
den. Annalist 22:275+ Ag 27 '23

- See also Banks and banking—Russia; Co-
operation—Russia; Finance—Russia; Labor
and laboring classes—Russia; Taxation—
Russia

Economic policy

- Commercial policy of the soviets. F. F. Legeu.
Annalist 21:507-8 Ap 9 '23
Our underlying economic difference with Rus-
sia. R. Estcourt. Annalist 19:557-8 My 22 '22

Russia—Economic policy—Continued

Possibilities of trade with soviet Russia. A. Sauzede. *Annalist* 21:287+ F 19 '23

Soviet Russia must abandon present policy before there can be international intercourse. C. E. Hughes. *Comm & Fin Chr* 116:1241-2 Mr 24 '23

Trend toward private ownership of land in Russia. *Comm & Fin Chr* 115:1671-2 O 14 '22

See also Labor laws and legislation—Russia; Land tenure—Russia; Taxation—Russia

Foreign relations

Letters of Secretary of state Hughes and Samuel Gompers respecting grounds for withholding Russian recognition. *Comm & Fin Chr* 117:513-15 Ag 4 '23

See also Great Britain—Foreign relations—Russia

Industries and resources

Approach to Russia's textile convalescence. R. Rutherford. *Textile World* 62:191-2 Jl 8 '22

Condition of industries in soviet Russia. U S Bur For & Dom Com Trade Information Bul 55:1-21 '22

Soviet plan to electrify Russia. C. P. Steinmetz. *map Elec W* 80:715-19 S 30 '22

See also Chemical industries—Russia; Coal mines and mining—Russia; Electric industries—Russia; Electric plants (central stations)—Russia; Gold mines and mining—Russia; Iron industry and trade—Russia; Metallurgical plants—Russia; Mines and mineral resources—Russia; Mining industry and finance—Russia; Paper industry and trade—Russia; Petroleum—Russia; Petroleum industry and trade—Russia; Textile industry—Russia; Water power—Russia

Bibliography

Bibliography of industrial and labour questions in soviet Russia. 174p 60c International labour office, Geneva '22

Politics and government

Picture trains advertise communism. *il Pop Mech* 40:350 S '23

Russian refugees

International census of Russian refugees. *Int Labour R* 5:965-6 Je '22

Russians in the United States

Russian immigrant. J. Davis. 219p [bibliog. p. 215-19] Macmillan '22

Russians and Ruthenians in America. J. Davis. 155p Doran '22

Russo-Asiatic consolidated company

Russo-Asiatic agreement. T. A. Rickard. *Eng & Min J* 114:840-1 N 11 '22

Rust. See Corrosion and anti-corrosives; Metal protection

Rustproofing. See Metal protection

Rusts (botany)

Aeroplanes used in experimental work in the study of rust spores. *Aerial Age* 15:227+ My 15 '22

Rutgers college**Ceramics building**

Dedication of state ceramic building at Rutgers—dean of ceramic industry honored. *il Chem & Met Eng* 26:1188-9 Je 21 '22

Ruth accumulator. See Steam accumulators

Ruthenium compounds

Über bromosalze des rutheniums. A. Guthrie and F. Krauss. *Deutsche Chem Gesell Ber* 54:2835-8 N '21

Rutherford, Sir Ernest, 1871-

Portrait. *Chem & Met Eng* 29:758 O 22 '23

Sketch. *por Elec R (Lond)* 90:741-2 My 26 '22

Rutherford, Forest

Metallurgists of note. *por Eng & Min J* 115: 633 Ap 7 '23

Rutile

Occurrence of rutile in the titaniferous magnetites of western North Carolina and eastern Tennessee. W. S. Bayley. *Econ Geol* 18:382-92, pl 11 Je '23

Ryan, Harris J.

President-elect of the A. I. E. E. *por Am Inst E E J* 42:669 Je '23

Ryerson, Joseph T., & son

80 years in business; celebrating establishment of firm in 1842. *il Iron Age* 110:1183-4 N 2 '22; *Iron Tr R* 71:1278+ N 9 '22; *Ry R* 71:640-2 N 4 '22; *Sheet Metal Worker* 13:688-9 N 10 '22

S**Saarinén, Eliel**

House of Parliament, railroad station, and other work of Eliel Saarinen, architect, Helsingfors, Finland; views. *Am Arch* 124: 288a-g, 304a-d S 26 '23

Sabinene

Oxidation of sabinene with chromyl chloride. G. G. Henderson, J. M. Robertson and D. C. Brown. *Chem Soc J* 121:2717-21 D '22

Oxidation of sabinene with hydrogen peroxide. G. G. Henderson and A. Robertson. *Chem Soc J* 123:1849-55 Ag '23

Sabinol

Conversion of sabinol into thujene. G. G. Henderson and A. Robertson. *Chem Soc J* 123:1713-17 Jl '23

Sabotage

Criminal syndicalism and sabotage. D. F. Callahan. *Monthly Labor R* 14:803-12 Ap '22

Saccharic acid

Abbau von d-zuckersäure zum dialdehyd der l-weinsäure. M. Bergmann. *Deutsche Chem Gesell Ber* 54:2651-8 N '21; *Abstract. Chem Soc J* 122 pt 1:7-8 Ja '22

Saccharin

Natural and artificial sweeteners. *Sci Am* 126: 124 F '22

La situation juridique de la saccharine. J. Appleton. *Chimie & Ind* 10:568-73 S '23

Saccharinic acids

C-saccharinic acids: the preparation and resolution of dl-1,3-dihydroxy-butyric acid; some derivatives of the optically-active acids. J. W. E. Glattfeld and F. V. Sander. *Am Chem Soc J* 43:2675-82 D '21

Saccoglottis

Saccoglottis, recent and fossil. E. W. Berry. *il Am J Sci* 5th ser 4:127-30 Ag '22

Sacramento, California

Experience with city manager government at Sacramento. C. L. Seavey. *Munic Eng* 64: 14-19 Ja '23

Sacramento river

Stream-flow measurements under tidal influence. E. A. Bailey. *il Eng N* 90:347-9 F '22

Sacramento ship canal

United States to have another big ship canal. R. Morgan. *il map Pop Mech* 38:387-90 S '22

Saddle pins

Speeding up the manufacture of saddle pins. *il diags Ry Mech Eng* 96:282-3 My '22

Safe deposits

Administrative methods of a safe deposit company. G. G. Bradford. *Administration* 5: 456-8 Ap '23

Discussion of safe deposit business by the A.B.A. *Comm & Fin Chr* 117:127 sec 2 O 13 '23

Growing hazards and liabilities of conducting a safe deposit business. W. H. Rand, jr. *Comm & Fin Chr* 115:187-9 sec 2 O 21 '22

Safes

Safe fire in Maiden Lane. A. C. Carruthers. *il Safety Eng* 45:189-91 Je '23

Safes and safe-breakers: everlasting struggle between the safe builder and the bank robber. E. H. Smith. *il Sci Am* 127: 222-3+, 300-1+ O-N '22

Science in safe-breaking: how modern technology works for and against the vegman. R. A. Giles. *il Sci Am* 125A:92-3 D '21

Safes—Continued**Testing**

Hoisting safes in the air and dropping them is one test for strength. G. T. Bunker. *il* Safety Eng 44:80-2 Ag '22
 How you can know exactly the resistance your safe will provide against fire. G. T. Bunker. *il* Safety Eng 44:18-21 Jl '22

Safes, Concrete

Les coffres-forts et meubles de sûreté en béton armé. *il* Génie Civil 82:136-7 F 10 '23
 Reinforced concrete safe. *il* Concrete 21:94 S '22
 Reinforced-concrete safes fireproof and portable. *diags* Pop Mech 39:71 Ja '23
 Sectional safes of concrete and iron. *il* Sci Am 128:315 My '23

Safety at sea

Deck cargoes of timber and safety at sea. *Int* Labour R 5:739-52 My '22
 International regulations for loadlines, deck cargoes and safety of life. W. S. Abell. *Engineering* 116:217-19 Ag 17 '23; Same cond. *Engineer* 136:174 Ag 17 '23
 Safety at dock and afloat. *il* Nat Safety N 7:13-15 Je '23
 Ships' life-saving appliances. E. W. Blockside. *Elec R* (Lond) 93:426 S 21 '23; Discussion. 93:458, 559 S 28, O 12 '23
 World safety standard is near. W. Abell. *il* Marine R 53:393-9 O '23

See also Fog signals; Lifeboats; Light ships; Lighthouses; Navigation; Pilots and pilotage; Ships—Fires and fire protection

Safety cars. See Street cars—One-man cars**Safety codes**

Development of the textile safety code presents many intricate problems. A. B. Cole. *Safety Eng* 44:165-71 O '22
 National safety code for the protection of the heads and eyes of industrial workers. U S Bur Stand handbook ser 2:1-66 '23
 Preparation of safety codes under the auspices of the American engineering standards committee. M. G. Lloyd. U S Bur Labor Statistics Bul 333:225-31 '23; Same. *Monthly Labor R* 15:481-8 S '22; Same cond. *Mech Eng* 45:356-7 Je '23
 Proposed code for unfired pressure vessels. *diags* Refrig Eng 9:196-205 D '22; Same. *Mech Eng* 44:743-51 N '22; Discussion. *Refriger Eng* 9:205 D '22
 Safety legislation. M. G. Lloyd. *Safety Eng* 46:14-19 Jl '23
 Safety organization code. *Safety Eng* 46:127-8 S '23
 Textile safety code. A. B. Cole. *Textile World* 63:3023+ My 5 '23
 To formulate walkway code. *Safety Eng* 45:63-4 Mr '23
 What and why of safety codes. S. J. Williams. *Ind Management* 64:223-4 O '22

Safety committees

Authority, duties and responsibilities of the safety chairman. N. W. Funk. *Elec Ry J* 61:213 F 3 '23
 Employees' representation with reference to safety. W. F. McClellan. *Monthly Labor R* 15:952-6 N '22
 Organizing for accident prevention. M. W. Bridges. *Aera* 11:650-2 Ja '23
 Proposed safety organization for Penn state industrial establishments. *Safety Eng* 44:148-9 S '22
 Safety committee at work. C. T. Fish. *Nat Safety N* 8:25-8 Ag '23

Safety congress. See National safety council**Safety contests**

Every man a jockey in the safety derby. *il* Nat Safety N 7:10+ F '23

Safety contest and its results. M. G. Hoyman. *Safety Eng* 43:66-7+ F '22

Safety devices and measures

Accident prevention at the Calumet & Arizona mines and smelter. A. W. Allen. *diags* Min & Sci P 124:227-31 F 18 '22
 Accident prevention in construction industry. R. C. Marshall, jr. *Eng & Contr* (Bldgs) 58:23-6 O 25 '22

Accident prevention in public utilities. C. E. Morrison. *Power Pl Eng* 26:1112-13 N 15 '22
 Accident prevention service by insurance companies. G. M. McAlinsh. *Safety Eng* 43:12-16 Ja '22

Baltimore no-accident-week safety rate would have cut 1921 loss of life by 75%; an interview with Charles W. Price. *il* Safety Eng 44:50-3+ Ag '22

Bureau of safety of Anaconda copper mining co.; abstract. C. W. Goodale and J. L. Boardman. *Min & Met* 182:38-9 F '22

Checking plans and specifications for safety. *Nat Safety N* 7:47 F '23

Le congrès technique de l'Association des industriels de France contre les accidents du travail. H. Mamy. *il* *diags* Génie Civil 83:130-2, 154-7 Ag 11-18 '23

Co-ordination to advance safety. J. H. Warnick. *Power Pl Eng* 26:917-18 S 15 '22

Dollar side of safety. C. R. Hook. *il* *Nation's Business* 10:15-17 Ja '22

Dollar side of safety. A. H. Young. *Safety Eng* 45:192-4 Je '23

Dollars and cents value of safety. J. A. Dickinson. *Am Mach* 56:25-6 Ja 5 '22

Electricity and safety first in factories. W. H. Seal. *il* *diag* *Electrician* 88:618-23 My 26 '22

Employees' magazine and its treatment of safety. *Safety Eng* 42:228 N '21

Experiences with a safety organization on a \$4,000,000 construction job. P. B. Easterbrooks. *Eng & Contr* 56:452-3 N 16 '21

Financial side of accident prevention. G. T. Seely. *Elec Ry J* 60:399-401 S 16 '22

Handling material. *il* *diags* *Nat Safety N* 7:41-51, 42-53 Ap, Je '23

Indiana Standard uses new poster plan to safeguard men and goods. W. K. Halbert. *il* *Nat Pet N* 14:49-50 O 18 '22

Industrial safety. *Int* Labour R 7:402-17 F '23; Abstract. *Monthly Labor R* 16:1082-6 My '23

International aspects of the safety problem. R. Meeker. *Am Mach* 59:645-6 N 1 '23

Keeping them safe in the storage battery plant. C. T. Fish. *il* *Nat Safety N* 8:13-15+ Jl '23

New invention eliminates accidental explosion in gas mixtures. H. C. P. Weber. *il* *diag* *Chem & Met Eng* 27:942-3 N 8 '22

Prevention of injuries in construction operations. J. A. P. Crisfield. *il* *Power Pl Eng* 27:1029-31 O 15 '23

Putting accidents to rout in the furniture plant. *il* *Nat Safety N* 7:9-11 Ap '23

Reducing accident risks. *Factory* 28:222+; 29:82+ F, Jl '22

Refinements of safety in Union Carbide plants. G. E. Wallis. *il* *Nat Safety N* 7:8-10 Ja '23

Relation of chief engineer to accident prevention. J. H. Eustace. *Power Pl Eng* 26:945-6 O 1 '22

Relation of safety to increased production efficiency. L. Resnick. *Chem & Met Eng* 27:413-14 Ag 30 '22

Rise and decline of the safety crusade. V. E. Burnett. *Ind Management* 63:302-3+ My '22

Safety and production in a large plant. H. G. Hensel. *Nat Safety N* 7:11-12 Mr '23

Safety bulletins and bulletin boards. *Am Gas J* 116:29-32+ Ja 14 '22

Safety crusade. M. A. Dow. *Blast F & Steel Pl* 11:533-4 O '23

Safety devices for circulating systems. *il* *diags* *Engineering* 115:584-5 My 11 '23

Safety engineering as applied to oxy-acetylene cutting and welding apparatus. F. J. Napolitan. *Safety Eng* 43:1-12 Ja '22

Safety first consideration in new Buffalo plant, American car and foundry company. *il* *Safety Eng* 46:144-8 S '23

Safety for the public as a state problem. L. E. MacBrayne. *Safety Eng* 43:153-4 Ap '22

Safety for the small plants. F. H. Rowe. *il* *Blast F & Steel Pl* 11:205-6 Mr '23

Safety from the superintendent's viewpoint. L. F. Knickerbocker. *Paper Tr J* 75:36+ Ag 31 '22; Same. *Paper* 31:7-9 S 13 '22

Safety devices and measures—Continued

Safety in compression of gases. A. D. Risteen. Iron Tr R 72:233-6 Ja 18 '23; Same. Mech Eng 45:242-5 Ap '23; Same abr. Chem Age 31:153-6 Ap '23; Same abr. Chem Age (Lond) 8:592-3 Je '23; Abstract. Chem & Met Eng 23:332 Ap 9 '23

Safety in the home. M. S. Walker. Aera 12: 220-3 S '23

Safety number. Elec Ry J 60:109-38 Jl 22 '22

Safety principles must govern every step in laying out an industrial plant. F. R. Ewart. Safety Eng 43:233-5 Je '22

Safety story of the rubber tire. C. T. Fish. il Nat Safety N 7:23-6 Je '23

Safety suggestions on the Atlantic Coast line. Ry Mech Eng 97:768 N '23

Safety work that pays dividends. A. H. Young. Nat Safety N 8:9-10 Ag '23

Saving lives and making money. G. A. Orth. il Nat Safety N 8:6-8 Ag '23

Successful safety week at Ford plant. il Iron Age 110:129-31 Jl 20 '22

Symposium on safety progress. Am Ind 24: 11-33 O '23

Tendencies in the development and use of safety equipment. Safety Eng 44:55 Ag '22

29 months without a lost-time accident. W. Woodams. il Ind Eng 81:37-40 Ja '23

Waging war on carelessness. E. S. Gillette. il Factory 29:250-1 S '22

Ways and means of maintaining safety interest. Nat Safety N 8:30 S '23

See also Acid handling; Air brakes; Boilers—Laws and regulations; Brakes; Car couplings; Electric protective apparatus; Exits; Eye—Protection; Factories—Lighting; First aid in illness and injury; Floors—Anti-slip surfaces; Gas masks; Guard rails; Lightning arresters; Mine rescue work; Motor truck driving; Railroads—Signals; Respiratory apparatus; Safety at sea; Safety codes; Safety lamps; Safety valves; Traffic regulations; Underwriters' laboratories; United States—Safety work; Workmen's compensation; *also* subdivision Safety devices and measures or Safety measures under special subjects, e.g. Automobile factories; Aviation; Blast furnaces; Blasting; Boiler plants; Building; Cement plants; Chemical plants; Coal mines and mining; Department stores; Electric engineering; Electric railroads; Electric signs; Elevated railroads; Elevators; Forge shops; Foundries; Gas companies; Gas manufacture and works; Grinding wheels; Hoisting; Hydroelectric plants; Ice industry; Ladders; Lumbering; Machine shops; Machinery; Mine hoisting; Mining engineering; Oil storage; Oxyacetylene welding; Paper mills; Petroleum engineering; Power plants; Punching machinery; Railroads; Refrigeration and refrigerating machinery; Rubber factories; Sewing machines; Electric; Sheet metal shops; Soap factories; Steam plants; Steel works; Street railroads; Textile machinery; Textile mills; Window cleaning; *also* National safety council

Bibliography

Analytical index to contents of safe practices pamphlets. 11p National safety council. 168 N. Michigan ave., Chicago '23 (typew)

Safety education

Accidents are reduced in direct proportion as safety education increases. J. P. Miller. Safety Eng 44:123-4 S '22

Am I a safety man? from a psychological standpoint. W. B. Strickland. Safety Eng 46:20-2 Jl '23

Bill Day, the boy athlete. L. G. Bentley. Nat Safety N 7:31-3 F '23

Carrying safety to the public. C. W. Price. il Elec Ry J 61:805-6, 847-9, 883-4, 928-9, 964-5, 999-1000, 1041-2, 1083-5; 62:11-13, 49-50 My 12-Jl 14 '23

Educating the construction worker in safety. M. A. Townsend. il Nat Safety N 7:19-20 Ap '23

Educating the workers in industrial safety. G. W. Ellis. Ind Management 64:105-8 Ag '22

Junior safety army. F. E. Redmond. il Nat Safety N 7:5-7 Ja '23

Making safety vital in the eyes of the younger generation at school. H. S. Gruver. Safety Eng 44:125 S '22

Parent's relation to safety teaching. J. R. Wilson. Nat Safety N 7:23-4 Mr '23

Portland school boys sign up for safety. G. L. Baker. il Nat Safety N 7:17-18 Je '23

Public safety in the city of New York. M. A. Dow. Am Ind 24:15-17 O '23

Safety education. 160p Board of education, Chicago, Ill. '23

Safety education in the schools. M. N. Arrowsmith. il Nat Safety N 7:13-14 Mr '23

Saving the Massachusetts child. L. E. MacBrayne. Nat Safety N 8:35-6 Jl '23

Six demonstrations of safety education. M. N. Arrowsmith. il Nat Safety N 8:21-4 Jl '23

Teaching safety in the continuation school. L. E. D'Armond. il Nat Safety N 7:29 F '23

Use of charts in safety activities. W. S. Wollner. Ry Age 75:310-11 Ag 18 '23

Where safety pays dividends in terms of trucks. A. W. Giersbach. il Nat Safety N 7:41-2 My '23

See also New Jersey—Industrial safety museum

Safety engineering (periodical)

Story of Safety engineering, 1901-1922. F. Webster. Safety Eng 45:9-11 Ja '23

Safety inspectors

How inspection reduces accidents. L. E. Prothers. Factory 31:694-+ N '23

Safety inspectors and inspections. J. A. Dickenson. Am Mach 55:867-9 D 1 '21

What the safety inspector must do and what he has done. J. G. Shaw. Safety Eng 42:260-2 D '21

Safety institute of America

Safety institute reinstates Seaman medal for health service. Am Mach 56:908b Je 15 '22

Safety islands

Combined red and white safety isle fixture. F. Brueggeman. il diags Elec W 81:48 Ja 6 '23

Safety lamps

Action of safety lamp flame in firedamp mixture. I. C. Parfitt. Coal Age 23:186-7 Ja 25 '23

Caag pillarless miners' lamp. il diag Illum Engr 15:302-3 N '22

Circulation in safety lamps. I. C. Parfitt. Coal Age 23:863 My 24 '23

German lamp which indicates the presence of methane by sounding a warning note. A. Gradenwitz. diag Coal Age 21:732 My 4 '22

Marsaut type of safety lamp. J. Ashworth. Coal Age 24:636-7 O 25 '23

Monel for flame safety lamp gauzes. A. B. Hooker and R. A. Kearns. Safety Eng 46: 23-4 Jl '23

Passing of the flame safety lamp. G. F. Libiez. Coal Age 20:847 N 24 '21

Port of entry for air and gas in mine safety lamps. F. Devlin. Coal Age 23:260 F 8 '23; Discussion. 23:569-70, 761; 24:146 Ap 5, My 10, Jl 26 '23

Relative safety of safety lamps under varying conditions in mines. W. H. Moore. Coal Age 23:184-5 Ja 25 '23; Discussion. 23:568-9, 606-7, 978 Ap 5-12, Je 14 '23

Some points relating to use of safety lamps. O. G. Sharrer. Coal Age 22:879-80 N 30 '22

Testing a safety lamp. Coal Age 22:60, 247-8, 454-5, 593-4, 1041-2 Jl 13, Ag 17, S 21, O 12, D 28 '22

Why not scrap the Davy safety lamp? J. W. Paul and A. B. Hooker. Coal Age 24: 134-5 Jl 26 '23

Safety lamps, Electric

Advantage of electric hand lamp, one type of which contains solid electrolyte. il Coal Age 22:94 Jl 20 '22

Cap lamp having a solid electrolyte. il Coal Age 23:822 My 17 '23

Electric cap-lamp for miners. il diag Engineer 133:338 Mr 24 '22

Electric cap lamp in firebossing. Coal Age 23:530, 902-3; 24:19-20, 217-18 Mr 29, My 31, Jl 5, Ag 9 '23

Safety lamps, Electric—Continued

Electric mine lamps require safety devices says Bureau of mines. Eng & Min J 114:551 S 23 '22

Gas given off by electric storage battery. Coal Age 21:742-3 My 4 '22

Lamp suitable for use in coal mines which burns without attention. il Coal Age 23:6 Ja 4 '23

Repair to an Edison mine lamp battery which can be made at the mines. O. E. Kenworthy, diags Coal Age 23:897 My 31 '23

Wheat electric cap lamp. L. C. Hsley and A. B. Hooker. Safety Eng 46:47-8 Jl '23

Safety movement

Analysis of the safety movement. E. G. Quesnel. Safety Eng 45:23-4 Ja '23

Benefits of community organization for safety. S. C. Mumford. Nat Safety N 7:39-40 Ap '23

Campaign for public safety in New York under Judge Gary to make history. L. V. Coleman. Safety Eng 44:48-9 Ag '22

Decade's work in retrospect. A. Williams. Safety Eng 45:104-5 Ap '23

East Bay safety council formed by public spirited citizens and employers in Oakland and Berkeley. Elec Ry J 59:1009 Je 24 '22

Economic importance of the safety movement. H. W. Mowery. il Ind Management 64:355-7 D '22

Economic value of organized safety. Safety Eng 44:162-3 O '22

Government and safety. E. Stewart. il Nat Safety N 7:27-8 Ja '23; Same. Monthly Labor R 16:446-9 F '23

How Spokane is solving its public accident problems. C. E. Frederick. Nat Safety N 7:27-8 Ap '23

Mothers and fathers as safety crusaders. J. H. Harvey. Nat Safety N 7:35 Ja '23

New York safety week a great success. Safety Eng 44:176 O '22

Officer McBride and the safety scouts of Trenton. il Nat Safety N 7:9-10 Mr '23

Organizing for safety in Marse Henry's home town. G. E. Wallis. Nat Safety N 7:13-15 Ap '23

Organizing for safety work. J. L. Thompson. Foundry 51:858-9 N 1 '23

Play safe! twice as many persons are killed in accidents as die from old age. il Pop Mech 40:870-7 D '23

Progress in national safety work. W. H. Cameron. Am Ind 24:25-7 O '23

Public safety in Buffalo. G. E. Wallis. Nat Safety N 7:11-12 My '23

Putting safety week across in Detroit. J. H. Goldie. il Nat Safety N 8:25-6 Jl '23

Safety first movement in England. H. E. Blain. Ind Management (Lond) 9:10 Ja 11 '23

Safety week in Louisville. N. W. Funk. il Elec Ry J 62:208-9 Ag 11 '23

Simplicity in accident prevention work. A. B. Love. Safety Eng 46:28-9 Jl '23

Source of accidents discovered; safety first movement starts in the home. W. W. Rodgers. il Safety Eng 46:121-4 S '23

Safety pins

Advertising

Safety pin starts on its way to greater sales volume. Ptr Ink 124:10+ Ag 23 '23

Safety pins (machinery)

Safety first on machinery up-keep. W. E. Irish. il diags Ind Management 66:121-5 Ag '23

Safety valves

Cockburn-MacNicol high-lift safety valve. diags Engineering 116:66 Jl 13 '23

Effects of large sudden steam discharges from boilers; report of research sub-committee of the American society of mechanical engineers on sudden initial pop lift of safety valves. diags Power Pl Eng 26:1201-4 D 15 '22; Abstracts. Power 56:921-2 D 12 '22; Elec W 81:47-8 Ja 6 '23

How and why of safety valves. diags Power 58:357-61 S 4 '23

Safety devices are essential. il Power Pl Eng 27:79-80 Ja 1 '23

Safety valves; their size, adjustment and installation. J. A. Snyder and W. D. Halsey. il diags Locomotive 34:227-38 O '23

Use two safety valves on boilers, though these devices have their dangers. W. Hill-eary. Coal Age 21:208-9 F 2 '22

Waste of steam at safety valves. R. A. Cultra. Power 55:149 Ja 24 '22

Safety zones. See Safety islands

Safranine

Safranine and methyl green as staining agents in microscopic work. H. J. Conn. Color Tr J 12:192-3 My '23

Sag paste

Salvaging of sag paste. C. B. Morey. Am Inst Chem Eng Trans v 13 pt 2:131-8 '20-'21

Sagger mixers

Reducing costs with a Kent mixer. il Brick & Clay Rec 60:61+ Ja 10 '22

Saggers

Coöperative research on sagger mixtures and manufacture. C. C. Treischel. Am Cer Soc J (Bul) 5:101-3; Discussion. 103-6 Jl '22

Discoloration of whiteware fired in carborundum saggars. H. Spurrier. Am Cer Soc J 4:923-6 N '21

Requirements of sagger bodies. M. F. Beecher. Am Cer Soc J (Bul) 6:251-3 Ag '23

Sagger colloquium. Am Cer Soc J (Bul) 6:253-63 Ag '23

Tests on some sagger clays and bodies. R. Twells, jr. Am Cer Soc J 6:949-57 S '23

Saginaw, Michigan**Rapid transit**

\$400,000 for improvements. Elec Ry J 59:837 My 20 '22

Great Saginaw failure. L. St Clair. Aera 12:141-6 S '23

Revised franchise. Elec Ry J 61:140, 702, 1103; 62:70-1 Ja 20, Ap 21, Je 30, Jl 14 '23

Saginaw votes for return of street cars. Elec Ry J 58:876 N 12 '21

Water supply

Misadventures in water supply at Saginaw. Mich. Munic Eng 63:24-7 Jl '22

Sahara desert

Blond race found in Sahara by Danish scientist. Pop Mech 40:404 S '23

Gasoline camels; Kégresse-Hinstin endless-belt automobile. F. P. Mann. il Sci Am 128:153+ Mr '23

Motor car fleet to cross Sahara. il map Automotive Ind 47:1186-8 D 14 '22; Engineer 135:414-15 Ap 20 '23; Engineering 115:13 Ja 5 '23

Motor cars cross Sahara desert. C. Gaines. il map Pop Mech 39:355-6 Mr '23

Le propulseur Kégresse à bande souple. G. Delanghe. il diags map Génie Civil 82:293-300 Mr 31 '23

Saigon, Indo-China

Le port de Saigon-Cholon (Cochinchine). Benabeng. il diags plans Génie Civil 81:481-6 N 25 '22

Sailing vessels

From steamer to sailing ship; plea for the two hundred wooden steamers built by the United States shipping board. il Sci Am 126:22 Ja '22

Limit of size for American schooners. il Sci Am 127:163 S '22

Model sailing boats. E. W. Hobbs. 311p Funk & Wagnalls co., New York '23

Stability of the sailing warship. A. W. Johns. il diags Engineer 134:94-5, 108-10, 133-4, 159-60, 183-4 Jl 28-Ag 25 '22

See also Fishing schooner races; Yachts

Sailplanes. See Gliders

St John, New Brunswick

See also Electricity supply—St John, New Brunswick

Rapid transit

Strike a political issue. Elec Ry J 59:908 Je 3 '22

- St John the Divine, Cathedral of, New York**
St Ambrose chapel; views. Arch Rec 54:233-7 S '23
- St Ansgarius chapel; Cathedral of St John the Divine, New York City; views.** Arch Rec 54:157-67 Ag '23
- St Joseph lead company**
Facts for the stockholder. Eng & Min J 115:209 Ja 27 '23
- St Lawrence river**
Another view of the St Lawrence project. S. W. Dempsey. Am Inst E E J 41:871-6 N '22
- Canada's share in development of the St Lawrence. Can Eng 45:435 O 23 '23
- Debate on deep waterways project. Can Eng 43:392-4 S 26 '22
- Doubtful and unwise project. C. L. Cadle. Nation's Business 10:22-3 Mr '22
- Great Lakes—St Lawrence ship channel. R. S. MacElwee. Administration 5:284-90 Mr '23
- Improvement of the St Lawrence from the viewpoint of private capital. H. L. Cooper. il diags maps plans Am Inst E E J 41:854-65 N '22
- Inevitability of the St Lawrence route to the sea. F. C. Shenehon. Munic Eng 63:208-11 D '22
- International joint commission recommendations for the construction of the St Lawrence ship channel and power development. Can Eng 42:173 Ja 24 '22; Same abr. Am Ind 22:33 Jl '22
- International joint commission reports on St Lawrence developments. Elec W 79:150 Ja 21 '22
- It can and must be done. H. J. Allen. Nation's Business 10:21-2 Mr '22
- Joint debate on the proposed St Lawrence river ship channel. National rivers and harbors congress, 17th convention, p. 42-79 S. A. Thompson, 824 Colorado bldg., Washington, D.C. '22 (also published separately)
- Joint debate on the St Lawrence ship canal; Governor Henry J. Allen and Governor N. L. Miller. Ry R 70:790-3 Je 3 '22
- Praises St Lawrence plan. H. I. Harriman. Power 55:281 F 14 '22
- Proposed Great Lakes-Atlantic canal. maps Engineer 133:259-61 Mr 10 '22
- Question raised as to cost and value of power available in projected St Lawrence canal. Munic Eng 65:129-31 S '23
- St Lawrence-Great Lakes ship canal. R. W. Wishart. Administration 4:429-36 O '22
- St Lawrence navigation and power investigation. Can Eng 42:139-45 Ja 17 '22
- St Lawrence project. H. I. Harriman. Am Inst E E J 41:866-70 N '22
- St Lawrence river and the Great Lakes. H. Holgate. Can Eng 45:208-11, 229-32 Ag 7-14 '23
- St Lawrence river ship canal. J. E. Johnsen, comp. Ref Shelf 1:1-74 no 3 '22
- St Lawrence seaway. W. L. Saunders. Am Inst E E J 41:379-82 My '22; Same cond. Can Eng 43:128-30 Jl 11 '22
- St Lawrence seaway project criticised at A.I.E.E. convention. Elec W 79:845-6 Ap 29 '22
- St Lawrence waterway is needed. A. F. Lindblad. map Marine R 52:327-9 Ag '22
- St Lawrence waterway; message from the President of the United States transmitting a letter from the Secretary of state submitting the Report of the International joint commission concerning the improvement of the St Lawrence river between Montreal and Lake Ontario for navigation and power. 184p International joint commission (U.S. and Canada), Washington '22
- St Lawrence waterway; report of the United States and Canadian government engineers. (U.S. 67th Cong., 2d sess. Senate. Doc. 179) 104p International joint comm. (U.S. & Canada), Washington '22
- Solving the problem of St Lawrence navigation. C. P. Loveland. Can Eng 42:189-91 Ja 31 '22
- Transportation routes. H. Holgate. Can Eng 45:250-3 Ag 21 '23
- U. S. Senate issues report approving St Lawrence waterway. Can Eng 42:257-8 F 21 '22
- Why the International joint commission favors the St Lawrence waterway. Eng N 88:200-1 F 2 '22
- Wootton-Bowden plan for St Lawrence recommended. Power 55:159 Ja 24 '22

Bibliography

- Bibliography of some of the principal articles and publications on waterways and harbors concerning Chicago and index of referenced waterway publications. W Soc E J 27:[current news] 110-11 Je '22
- St Lawrence river ship canal. J. E. Johnsen, comp. (Reference Shelf v. 1, no. 3) p. 8-17 H. W. Wilson co. '22

St Louis, Missouri

Bridges

- Municipal bridge of St Louis: a record of municipal effort. W: E. Rolfe and L. H. Cannon. 198p St Louis public library, St Louis '22

Public works

- St Louis public improvement program. Pub Works 54:89 Mr '23

Railroads

- Comprehensive report on St Louis terminals. maps Ry Age 73:63-8 Jl 8 '22
- Railroad freight terminal problem in St Louis. C. E. Smith. il diags maps Am Soc C E Pro 49:1464-1517, pl 4 S '23
- Recommend improvements for St Louis terminal. map Eng N 89:17 Jl 6 '22
- Report on improvement of railroad terminals in St Louis. maps Ry R 71:1-9, 37-49, 99-113 Jl 1-8, 22 '22

Rapid transit

- City wants \$27,474,767 cut from St Louis valuation. Elec Ry J 61:1102 Je 30 '23
- \$8,513,000 spent in St Louis in three years. Elec Ry J 60:987 D 23 '22
- Engineer wants system transformed. Elec Ry J 62:69 Jl 14 '23
- \$54,000,000 valuation for St Louis. Elec Ry J 61:980-1 Je 9 '23
- \$4,000,000 needed for improvements. Elec Ry J 61:899-900 My 26 '23
- Lifting of the receivership and a forced reorganization of the United railroads, an immediate prospect; foreclosure suits filed. Elec Ry J 62:577, 663 O 6-13 '23
- Reorganization progress made in St Louis. Elec Ry J 60:687-8 O 21 '22
- St Louis company does better; United Railways report. Elec Ry J 61:1061-2 Je 23 '23
- Union depot proposed. Elec Ry J 62:227 Ag 11 '23
- United railroads considers two routes. Bus Transportation 1:562, 564 O '22
- Valuation appealed. Elec Ry J 62:348 S 1 '23
- Valuation at \$70,000,000. Elec Ry J 60:892 D 2 '22

See also Motor bus lines—St Louis, Missouri

Streets

- St Louis plans wider streets to relieve traffic congestion. charts plan Eng N 90:1126-8 Je 28 '23

Water supply

- Auxiliary submerged intake alongside tower to prevent the entry of ice. C. M. Daily. diags plan Eng N 89:875-6 N 23 '22
- Cost of water purification at St Louis. Eng & Contr 53:144 Ag 9 '22
- St Louis water works operation. diags Pub Works 53:102-6 Ag '22
- Ten years of the St Louis water works. Pub Works 51:380-2 N 12 '21
- Water from Missouri river advised to increase St Louis supply. Eng N 88:437 Mr 16 '22
- Water to drink. O. S. Arata. il Sci Am 128:172 Mr '23
- St Louis-San Francisco railway**
Annual report—year ended December 31, 1921. Comm & Fin Chr 114:1906-8 Ap 29 '22; Same. Ry Age 72:1095-6 My 6 '22

St Louis-San Francisco railway—Continued

Annual report for the year ended December 31, 1922. *Comm & Fin Chr* 116:2149-51 My 12 '23; Same *abr.* *Ry Age* 74:1348-9 Je 2 '23
 Frisco buys International-Great Northern. *map Ry Age* 73:1191 D 23 '22
 Frisco improved financial and physical condition in 1921. *Ry Age* 72:1071-2 My 6 '22
 Frisco improved markedly since reorganization. *map Ry Age* 74:1325-7 Je 2 '23

St Louis Southwestern railway

Cotton Belt rapidly overcoming effects of strike. *Ry Age* 74:185-7 Ja 13 '23

St Mary river

International division of St Mary and Milk rivers. *Eng N* 87:1052-3 D 29 '21

St Mary's of the Lake University, Area, Illinois
 St Mary's of the Lake theological seminary, Area, Ill. *Arch & Bldg* 55:38-9, pl 87-9 Ap '23

St Maurice river

St Maurice river flow regulation. O. LeFebvre. *Am Soc C E Pro* 48:1425-8 Ag '22

St Paul, Minnesota

St Paul adopts zoning ordinance. G. H. Herrold. *Munic Eng* 63:sup29-30 Ag '22; Same. *Eng N* 89:192 Ag 3 '22

Railroads

St Paul union station work enters third stage. G. H. Wiley. *il diags plans Ry Age* 71:1200-4 D 17 '21

St Peter's cathedral, Rome

Comparative notes on the dome of St Peter's and the original model by Michelangelo. V. L. S. Hafner. *il Am Inst Arch J* 10:384-8 D '22; Discussion. E. Swartwout. *Am Arch* 123:29-31 Ja 3 '23; V. L. S. Hafner. *Am Inst Arch J* 11:155-8 Ap '23

St Petersburg, Florida**Architecture**

Home building development in St Petersburg, Florida. *il plans Bldg Age* 45:39-41 Mr '23

Bridges

Bridge with a thousand spans between Tampa and St Petersburg. F. W. Wilson. *il Pop Mech* 39:502-4 Ap '23

Saint Sophia, Mosque of

Church of Saint Sophia. C. H. Moore. *Arch Rec* 52:156-9 Ag '22

St Stanislas, Quebec**Bridges**

Steel highway bridge over the Batisacan river. F. B. Painchaud. *il diags Can Eng* 43:529-30 N 14 '22

St Thomas**Water supply**

Construction of Kettle Creek dam, St Thomas. W. C. Miller and G. H. Chalmers. *il diags Can Eng* 42:444-7 My 2 '22

St Venant, Principle of

Castigliano's theorem of least work, and the principle of St Venant. R. V. Southwell. *Philos Mag* 6th ser 45:193-212 Ja '23

Sakhalin (island)

Trade prospects in Sakhalin Island. H. A. Fleet. *il Elec R (Lond)* 93:604-5 O 26 '23
See also Petroleum—Sakhalin (island)

Salaries

Relative increase in salaries compared with wages, and their relation to per capita money. H. P. Gillette. *Eng & Contr* 57:433-4 My 10 '22

Rewards of management. C. M. Schwab. *Administration* 5:513-16 My '23

Salaries for executives. C. T. White. *Administration* 5:641-5 Je '23

See also Bank officials—Salaries; Chemists—Salaries; Engineers—Salaries; Government employees—Salaries; Highway engineers—Salaries; Municipal employees—Salaries; Railroads—Officials—Salaries; Salesmen—Salaries and commissions; Wages

Salem, Ohio**Water supply**

Typhoid fever epidemic at Salem, Ohio. W. H. Dittoe. *chart N E Water Works Assn*

J 35:335-52, pl 1-4 D '21; Same. *Dom Eng* 98:264-8+ F 11 '22; Discussion. *N E Water Works Assn J* 35:352-3 D '21

Sales

Accounting for contracts. H. M. Ingham. *J Account* 33:87-9 F '22

Breach of a contract to supply machinery. *Engineering* 114:181-3 Ag 11 '22

Breach of implied warranty. *Chem & Met Eng* 23:315-16 F 14 '23

Cancellation provision renders contract covering purchase and sale of iron and steel bars unenforceable. W. Gustin. *Chem & Met Eng* 28:175-6 Ja 21 '23

Committee on uniform sales contract for chemicals submits report. *Chem & Met Eng* 23:32 J1 2 '23

Concern asks refund for goods delivered to it but not exportable because of embargo. *Chem & Met Eng* 28:496-7 Mr 14 '23

Custom and usage vs. quality and content. L. Childs. *Am Mach* 59:10 J1 5 '23

Delay in shipping goods. W. Gustin. *Chem & Met Eng* 28:363 F 21 '23

Delivery f.o.b. construed. W. Gustin. *Chem & Met Eng* 26:637 Ap 5 '22

Failure to give notice of defects under provision of contract constitutes acceptance. W. Gustin. *Chem & Met Eng* 27:745 O 11 '22
 If performance of contract is impossible at time specified both parties are discharged. W. Gustin. *Chem & Met Eng* 26:1216 Je 23 '22

Insufficient memorandum of sale. W. Gustin. *Chem & Met Eng* 28:772-3 Ap 30 '23

Law of sales. J. B. Read. 229p Appleton '23

Law of sales. J. E. Waite. 385p Callaghan & co., Chicago '21

Liability of buyer when failure of buyer of machinery to give notice of defects may create liability for payment of price in full. L. Childs. *Am Mach* 59:372 S 6 '23

Liability of sales agents to principals. W. Gustin. *Chem & Met Eng* 29:669-70 O 8 '23

Marketing of pyrites; suggested form of contract. G. J. Young. *Eng & Min J* 113:573-5 Ap 8 '22

Menace of loosely drawn contracts. W. Gustin. *Chem & Met Eng* 28:70-2 Ja 10 '23

Palm Beach submits new licensee agreement. *Ptr Ink* 124:26-7 J1 12 '23

Reasonable time for delivery of goods imported with no time limit set. W. Gustin. *Chem & Met Eng* 27:204 Ag 2 '22

Remedies of seller on breach of contract. W. Gustin. *Chem & Met Eng* 27:20 J1 5 '22

Rule of implied warranties in sales enlarged by uniform sales act. W. Gustin. *Chem & Met Eng* 27:787-8 O 18 '22

Selling on approval. L. Childs. *Factory* 27:790+ D '21

Trade custom and written contract. W. Gustin. *Chem & Met Eng* 28:816-17 My 7 '23

Uniform sales act. J. O. Madden. 146p McMaster co., 37 W. 39th st., New York '23

Use after rejection constitutes acceptance by the buyer. L. Childs. *Am Mach* 56:914 Je 22 '22

See also Brokers; Coal contracts; Contracts; Future contracts; Sales, Conditional; Shipment of goods; Smelting contracts

Sales, Bargain. *See Bargain sales*

Sales, Conditional

Making conditional sales laws uniform. *Ptr Ink* 121:134+ O 19 '22

Summary of Uniform conditional sales law of the state of New York and forms. Conditional vendors' service burl., New York '23

Sales agencies

See Exclusive agencies

Sales and production. *See Production and sales, Coordination of*

Sales contests

Hot weather sales contests. *System* 44:153 Ag '23

How a contest can increase volume. J. C. Anderson. *System* 42:703-5+ D '22

Making dull months into busy ones. *System* 44:51 J1 '23

Sales contests—Continued

- Sales contest brought 6,142 new customers in two weeks. C. M. Harrison. *Ptr Ink* 118:25-6 Ja 26 '22
- Sales contest: its advantages and disadvantages. *Ptr Ink* 120:129 Ag 31 '22
- Sales contest that rewards both quality and quantity business; more substantial initial payments. *Ptr Ink* 125:173-4+ O 18 '23
- Sales contest that stabilized employment. C. E. Burnett. *Ptr Ink* M 7:84+ J1 '23
- Sales contest to make midsummer a time of prosperous selling. R. Dickinson. *Ptr Ink* 119:49-50+ Je 15 '22
- Sales contest with a vigorous follow-up. A. Lazarus. *Ptr Ink* M 7:48+ S '23
- Sales contests and intensive dealer drive that put Franklin through the slump. *Ptr Ink* 119:89-90+ Ap 20 '22
- Sales contests that make for better business. R. Cole. *Ptr Ink* M 6:26-8+ Ap '23
- Tested management plans. System 41:406-7+ Ap '22
- Welch's way of overcoming the after-contest sales slump. M. Hastings, jr. *Ptr Ink* 124:49-50+ J1 5 '23
- When the sales force goes out after a pennant. O. W. Bartlett. *Ptr Ink* 123:77-8+ Ap 19 '23

Bibliography

- What do salesmen's contests rate today? *Ptr Ink* 119:113-14+ Je 1 '22

Sales contests, Dealer

- Dealer contests that start all merchants at scratch. *Ptr Ink* 122:25-7+ Mr 15 '23
- Newspaper advertisements offered as prizes in dealers' sales contests. *Ptr Ink* 124:113-14 Ag 30 '23

Sales contracts. See Sales**Sales conventions**

- Bringing Belasco to the sales convention. *Ptr Ink* 120:61-2 J1 20 '22
- Cashing in on convention mistakes. *Ptr Ink* 122:57-8+ Ja 18 '23
- Demonstrating a new product at salesmen's convention. C. M. Harrison. *Ptr Ink* 120:89-90+ J1 20 '22
- Do sales conventions pay? System 41:33-5+ Ja '22
- How much good time pays at a convention? System 44:436-9+ O '23
- Is there a one best way to run a sales convention? System 43:777-80+ Je '23
- Sales convention conducted entirely through the mails. M. Hastings, jr. *Ptr Ink* M 6:44+ Mr '23
- Sales convention that lasts for twelve months. B. Berfield. *Ptr Ink* M 7:43-4+ J1 '23
- Starting the convention many months before it meets. System 43:187-9+ F '23
- Teaching salesmen to teach dealers how to sell. C. M. Harrison. *Ptr Ink* M 5:100+ S '22
- What makes the successful sales convention? D. G. Miller. *Ptr Ink* M 5:61-2 N '22
- Why we held our convention away from the city. M. S. Eylar. System 43:51-3+ Ja '23
- Winning kinks in sales conventions. *Ptr Ink* 122:115-16+ Mr 8 '23

See also Business conferences

Bibliography

- Sales conventions. *Ptr Ink* 124:138+ S 27 '23

Sales costs

- Adequate allowance for selling decreases selling cost. *Ptr Ink* 118:161 Mr 9 '22
- Fundamentals of a correct sales policy. W. R. Basset. *Ptr Ink* 119:3-4+ Je 15 '22
- How manufacturers are keeping sales costs within bounds. R. Giles. *Ptr Ink* M 7:17-18+ O '23
- How much do your salesmen's calls cost? R. Cole. *Ptr Ink* M 5:19-20 Je '22
- How we budget selling expense. map System 41:429-30+ Ap '22
- Indirect sales costs grow more rapidly than volume of business. H. Tipper. *Automotive Ind* 46:1340-1 Je 15 '22
- Service expense is a part of selling cost. H. Tipper. *Automotive Ind* 46:1440-1 Je 29 '22

- Vivisection the cost of selling. W. R. Basset. *Ptr Ink* 121:146-8+ N 16 '22
- What is being done to squeeze the war bulge out of the sales expense account. M. Hastings, jr. *Ptr Ink* 117:25-7+ N 10 '21
- When more volume may mean less profits. W. R. Basset. System 41:42-4+ Ja '22
- See also Marketing—Cost; Retail trade—Costs; Salesmen—Expenses

Sales departments

- Bigger breakfasts, less talk—more sales. M. Brasher. *Ptr Ink* M 4:62+ Mr '22
- Building a balanced sales organization. R. W. Porter. Administration 5:291-300 Mr '23
- Building sales by credit co-operation. *Ptr Ink* 121:3-4+ D 21 '22
- Business forecasting in the Edison industries. F. R. Blair. Administration 5:1-8 Ja '23
- Business side of chemical manufacturing. C. Wadsworth. Chem & Met Eng 26:967-71 My 24 '22
- Charting the work of the sales department. W. A. Kittredge. Inland Ptr 69:505-6 J1 '22
- Efficient salesmanship. F. W. Shrubbsall. 118p Pitman '22
- Getting the sales force and the factory workers acquainted. R. Dickinson. *Ptr Ink* 117:57-8+ N 10 '21
- How one manufacturer forestalled the slump; continued to hire and train good salesmen. L. G. Robbins. *Ptr Ink* 117:25-7 D 1 '21
- How Rice-Stix dry goods sales department is organized. J. H. Rabe. *Ptr Ink* 124:68 S 27 '23
- Interdepartmental aid brought this company success. W. F. Tuttle. *Ptr Ink* 125:117-18+ O 11 '23
- Is the high cost of distribution due to misfit salesmen? turnover in sales organization. H. G. Kenagy. *Ptr Ink* 121:3-4+ N 2 '22
- Maintaining the sales morale. R. Barstow. Administration 2:729-33 D '21
- Sales convention goes to the salesmen; the Calumet review. C. M. Harrison. *Ptr Ink* M 4:21 Mr '22
- Sales departments that start something they don't finish. S. C. Lambert. *Ptr Ink* 118:105-6+ Mr 16 '22
- Selling the sales department to the organization. C. Barnes. Elec W 80:938-9 O 23 '22
- System in gas sales promotion. B. A. Duvall. chart Gas Age 49:169-70 F 11 '22
- Three-in-one sales organization that cuts selling expense; the Holtzer-Cabot electric company. H. Burwen. *Ptr Ink* 123:129-32 Ap 19 '23
- Walk-over shoe combines sales and credit departments. E. A. Burrill. *Ptr Ink* 123:3-4+ Je 21 '23
- See also Sales management; Sales managers; Sales policies; Sales promotion departments

Sales engineer (term)

- What is a sales engineer? Eng N 89:1100-1, 1132; 90:86, 222, 272 D 28 '22, Ja 11, F 1-8 '23

Sales letters

- Adding the right kind of names to the mailing list. H. McJohnston. *Ptr Ink* 124:34+ Ag 9 '23
- Are your sales letters in tune with the times? L. D. Haugh. *Ptr Ink* M 5:96+ S '22
- Are your sales letters written in a high-pitched voice? M. Droke. *Ptr Ink* 118:10+ Mr 2 '22
- Beware of the trick sales letter. J. K. Novins. Sanitary & Heat Eng 100:241+ O 19 '23
- Cure for fidgety sales letters. M. Droke. *Ptr Ink* 120:25-6 J1 6 '22
- Dead sales accounts revitalized. A. J. Reiss. *Ptr Ink* 120:62+ J1 27 '22
- Dealers' interest maintained by easy-to-buy offers; the Rust craft publishers. H. Burwen. *Ptr Ink* 124:73-4+ J1 19 '23
- Failure-proof letter situation. J. T. Bartlett. *Ptr Ink* 120:117-18+ Ag 24 '22
- Getting on the human side of the professional man. R. M. Rhodes. *Ptr Ink* 118:33-4+ Mr 23 '22

Sales letters—Continued

How does color of paper influence pull of sales letters? B. Berfield. Ptr Ink M 4:64 My '22

How the illustrated letter is being used to get added sales. C. B. Larrabee. Ptr Ink M 6:21-2 Ap '23

Hundred point sales letters. C. McPherson. 42p Dartnell corp., Chicago '21

Illustrated letters that scout for uses for new product; Shepard electric crane and hoist co. J. A. Murphy. Ptr Ink M 6:21-2+ Mr '23

Impression analysis improves sales letters. H. McJohnston. Ptr Ink 121:25-8 N 23 '22

Letter that capitalizes the present and kills the future. C. W. Bent. Ptr Ink 119:155-6+ Je 15 '22

Letters as means of advertising. D. O. Morley. Sheet Metal Worker 14:681-2 S 28 '23

Letters of a company's only salesman. Ptr Ink 125:140 O 4 '23

Letters, periodical advertising and booklets. R. Ruxton. Ptg Art 40:57-62 S '22

Letters that bring us 75% of our customers. J. B. Thorsen. System 44:179-82+ Ag '23

Letters that keep us sold out. H. G. Creel. System 44:295-6 S '23

Letters that made the other fellow do it. A. W. Sawyer. System 43:599-600+ My '23

Letters that open doors for salesmen. S. R. Hall. Ptr Ink 123:165-6+ Ap 12 '23

Letters that paint the reader into the picture. J. D. Cunningham. Ptr Ink 124:34+ S 20 '23

Letters that read as a salesman talks. H. Burwen. Ptr Ink 123:145-8 Je 7 '23

Letters that sell me when others fail. W. S. Corsa. System 41:561-2+ My '22

Little twists that make our letters pull. System 42:36+ Jl '22

Making a letter worth its weight in gold. J. P. Garvey. Ptr Ink 123:49-50+ My 17 '23

More sales from each 2-cent stamp. System 43:55-6 Ja '23

Much-abused form letter. P. K. Marsh. Ptr Ink 122:49-50+ F 8 '23

N.C.R.'s informal letters get large returns. E. P. Corbett. Ptr Ink 121:97-8+ N 2 '22

Neglected points that make letters pull; address, color of ink, paper, signature. System 42:553-5+ N '22

Numbered paragraphs that make letters convincing. R. Cole. Ptr Ink M 4:35-6 Mr '22

One sales letter produces city-wide distribution in three days. Ptr Ink 118:126+ F 16 '22

Partnership letters that bring dealer response. W. B. Leach. Ptr Ink 124:73-4+ Ag 2 '23

Putting the specialized appeal in the form letter. R. Cole. Ptr Ink 122:109-10 Ja 11 '23

Quotations that sell. J. O. Knowles. Elec R (Lond) 93:275-6 Ag 24 '23

Sales correspondence between salesmen's visits. D. G. Miller. Ptr Ink M 6:96+ F '23

Sales letter construction. W. H. Matlack. Am Gas J 117:540-1 N 4 '22

Sales letters are real business getting mediums. J. T. Bartlett. J Elec 48:27 Ja 1 '22

Selling retailers by mail in competition with personal salesmanship. J. Henle. Ptr Ink 122:97-8+ Ja 11 '23

Selling the enclosure. J. True. Ptr Ink 122:113-14+ Ja 18 '23

Sing a dirge for "do it now." S. C. Lambert. Ptr Ink 124:53-4+ Ag 16 '23

Story-telling technique in letters. B. Trainer, Jr. Ptr Ink 120:77-8+ Ag 31 '22

Strategic first sentence in letters. J. T. Bartlett. Ptr Ink 120:111-12+ O 12 '22

Sugar coating for the too-positive sales letter. E. P. Corbett. Ptr Ink 120:154+ Ag 10 '22

Systematizing the personal touch; Knox gelatine. R. Cole. Ptr Ink 121:81-2+ N 23 '22

Talking the letter-reader's own language. J. T. Bartlett. Ptr Ink M 6:110+ Je '23

They write me only when they want an order. Ptr Ink 119:130+ Je 8 '22

This idea secured 451 live prospects; experience of United States fastener company. System 41:291-2 Mr '22

What I think about what you sent me this week. E. H. Plummer. Ptr Ink 120:116+ Jl 27 '22

What sort of sales letters meets today's requirements? S. C. Lambert. Ptr Ink 118:25-7+ Ja 12 '22

When a form letter is not a form letter. H. McJohnston. Ptr Ink 123:33-4+ Je 28 '23

When and how to use the mystery letter. M. Droke. Ptr Ink M 6:74+ Je '23

When you write letters, don't write ads. R. W. Johnson. Ptr Ink 118:114+ Mr 16 '22

Who started this short-snappy-paragraph mania? M. Droke. Ptr Ink 122:141-2 Mr 29 '23

Whose signature should circular letters bear? Ptr Ink 117:19-20 D 22 '21

Winnowing-out letter. A. L. Carlton. Ptr Ink 118:115-16+ F 2 '22

Your sales letters—are they everything they should be? E. P. Corbett. Ptr Ink 123:121-2+ Je 21 '23

See also Follow-up systems; Postscripts

Sales management

Adjusting the sales force to the business map. R. Barstow. Il map System 42:252-4 S '22

Analyzing the salesman's job. H. W. McIntire. Ptr Ink 121:177-8+ O 19 '22

L'application de la méthode Taylor au travail du vendeur. C. de Fréminville. Chimie & Ind 7:789-91 Ap '22

Are your high-priced salesmen doing low-priced work? C. C. Casey. Ptr Ink M 6:20+ Je '23

Bonus plan, plus teamwork, brings gain of 36 per cent in lub sales. A. S. Brown. Nat Pet N 14:35+ F 8 '22

Branch house collections from the sales angle. H. K. Sheridan. Ptr Ink 118:73-4+ F 2 '22

Bringing back the salesman who slips. D. Argyle. Ptr Ink M 5:35-6 S '22

Controlling salesmen in the small-town field. J. J. Witherspoon. Ptr Ink M 6:33-4+ Je '23

Cross-sectioning your sales force. H. K. Sheridan. Ptr Ink 121:53-4+ N 30 '22

Curing the fair-weather salesman. W. H. Heath. Ptr Ink 122:53-4+ Mr 15 '23

Efficient salesmanship. F. W. Shrubsall. 117p Pitman '22

Eversharp quota system that sells the entire line. A. G. Frost. Ptr Ink 123:3-4+ Je 28 '23

Field organization of the sales department. H. R. Tosdal. Ptr Ink 123:122+ My 31 '23

Financing that cuts selling costs. System 44:453+ O '23

First aid in a skidding market. W. K. Sheridan. Ptr Ink 120:142+ Ag 17 '22

Fitting the right salesman to the prospect. D. T. Wallace. Ptr Ink 120:126+ S 21 '22

Five better selling plans. System 42:566-7 N '22

Functions of sales management. J. H. Wilson. Administration 4:144-8 Ag '22

Gerrymandering a territory to promote sales. H. Chandler. Ptr Ink M 7:52+ N '23

Getting salesmen to work in small towns. J. J. Witherspoon. Ptr Ink M 6:25-6+ F '23

Getting their jobbers to pull with them. J. M. Schlachter. System 42:547-8+ N '22

Giving the minor product a fair chance. W. F. Tuttle. System 42:164-5+ Ag '22

High-priced household accessory overcomes unadvertised competitors; Brenlin window shades. B. F. Sexton. Ptr Ink 120:133-4+ Ag 24 '22

Hiring, training and directing 1,500 salesmen. G. A. Nichols. Ptr Ink M 7:23-4+ Jl '23

Holding the stop-watch on salesmen. H. G. Kenagy. charts Ptr Ink M 6:31-2+ My '23

How advertising reduces sales force turnover. C. C. Casey. Ptr Ink M 6:40+ Ja '23

How customers help me manage. M. Winkler. System 42:701-2+ D '22

How long should a new salesman be on trial? H. K. Sheridan. Ptr Ink 120:61-2+ S 28 '22

How much supervision do salesmen need? B. Ashbrook. Ptr Ink 120:3-4+ Ag 10 '22

How salesmen can be induced to tighten up on their slack time. W. B. Leach. Ptr Ink 124:73-4+ Ag 16 '23

Sales management—Continued

- How the National biscuit company controls 2,200 salesmen. C. B. Larrabee. *Ptr Ink* 118:3-4+ F 16 '22
- How to uncover sales force weaknesses by scientific methods. H. G. Kenagy. *Ptr Ink* M 7:56+ O '23
- How we find what is wrong with our business. T. E. Wilson. *Ptr Ink* M 5:24-5+ D '22
- How we use advertising to sell our representatives to the public. A. C. Fuller. *Ptr Ink* 119:61-2+ My 25 '22
- Inside or outside control for small-town salesmen? J. J. Witherspoon. *Ptr Ink* M 7:35-6+ J1 '23
- Is your salesman's information card a real record? *Ptr Ink* M 4:95+ Ja '22
- Joseph & Feiss company plans to save salesman's wasted time between seasons. R. Crothers. *Ptr Ink* 125:117-18 O 25 '23
- Keeping salesmen from slipping by getting them to maintain peak achievements. J. A. Murphy. *Ptr Ink* 125:73-4+ O 18 '23
- Keeping track of small unit sales in a national selling organization. C. E. Behr. *Ptr Ink* 124:41-2 J1 5 '23
- Letter which really introduces a new salesman. *Ptr Ink* M 7:78 Ag '23
- Letters that sell a salesman on his job and house. S. B. Sieg. *Ptr Ink* M 6:19-20+ Ja '23
- Making best use of salesmen's time on Saturdays. bibliog *Ptr Ink* 122:61-2+ Ja 11 '23
- Making room for new salesmen. S. C. Lambert. *Ptr Ink* 121:41-2 N 2 '22
- Making the salesman a part of the executive council. R. Dickinson. *Ptr Ink* M 7:41-2+ Ag '23
- Making up the calendar for small-town sales work. J. J. Witherspoon. *Ptr Ink* M 7:19-20+ S '23
- Management of the sales organization. F: A. Russell. 227p McGraw-Hill '22
- Mid-continent refinery sales managers curtailing telegraph item of selling cost. J. C. Chatfield. *Nat Pet* N 14:93+ O 4 '22
- Modern sales management in a modern printing organization. R. E. Ramsay. *Ptg Art* 41:27-30 Mr '23
- Nine methods of helping salesmen to work territories thoroughly. J. A. Murphy. *Ptr Ink* 125:3-4+ O 4; 137-8+ O 11 '23
- Nine ways to counteract high-spot selling. R. Giles. *Ptr Ink* 124:3-4+ Ag 23 '23
- Our salesmen work on Saturdays. E. F. Cullen. *il System* 41:672-4 Je '22
- Outstanding features of Dennison management. H. Feldman. *Ind Management* 64:145-50 S '22; Same. *Ptr Ink* 121:149-52 N 30; 154+ D 14 '22
- Overcoming the greatest fault of salesmen; loss of confidence in self and in the house. E. I. Hanson. *Ptr Ink* 120:25-7 S 28 '22
- Preparing the field for the export salesman. W. F. Wyman. *Ptr Ink* 120:139-40+ O 12 '22
- Preventing salesmen from becoming mummers. T. C. Sheehan. *Ptr Ink* M 6:70+ Mr '23
- Problem in management; overdrawn accounts. W. F. Wyman. *System* 43:605+ My '23
- Problem in management; shall salesmen give discounts at their own expense. H. M. Maxwell. *System* 44:45+ J1 '23
- Problem in sales management; specialty orders turned back to jobbers. W. F. Wyman. *System* 44:466+ O '23
- Problems in export sales management. H. B. Tosdal. 702p Shaw '22
- Putting the whole salesman to work. T. C. Sheehan. *Ptr Ink* 120:25-8+ S 14 '22
- Reducing turnover in the sales force. A. H. Deute. *Ptr Ink* 124:73-4+ Ag 30 '23
- Refining the sales territory. W: P. Tuttle. *Ptr Ink* 122:19-20+ Ja 25 '23
- Replacing salesmen who have gone stale. R. R. Klauke. *Ptr Ink* 124:78+ S 13 '23
- Sales convention that lasts for twelve months. B: Berfield. *Ptr Ink* M 7:43-4+ J1 '23
- Sales force made up of general practitioners and specialists. H: Burwen. *Ptr Ink* 122: 109-10+ Mr 1 '23
- Sales management ideals. N. A. Hawkins. *Iron Age* 109:1810 Je 29 '22
- Sales manager who was January. J. J. Witherspoon. *Ptr Ink* 125:3-4+ O 25 '23
- Sales manager's ten rules for letters to salesmen. R. Davis. *Ptr Ink* 124:41-2+ S 13 '23
- Sales plan for 1922. H. G. Kenagy. *Administration* 3:469-79 Ap '22; Excerpts. *Ptr Ink* 119:138+ Ap 13 '22
- Sales planning, 1922. H. R. Wellman. 22p John J. Morgan advertising agency, Boston '22
- Selling more—at less expense. *System* 43:189-90+ F '23
- Selling sales ideas to salesmen. V. E. Burnett. *Ptr Ink* M 7:80+ O '23
- Sick salesman—keep his territory alive. A. O'Neill. *il Ptr Ink* M 4:15-16 F '22
- Simple filing system in selling efforts. B. G. Priestley. *Administration* 4:64-70 J1 '22
- Smoothing out the salesman's temperamental kinks. C: A. Bates. *Ptr Ink* 123:33-4+ Ap 19 '23
- Systematized sales:—the vital need of the present-day printer. L. K. Davis. *Ptg Art* 39:317-23, 427-34, 509-13; 40:259-64 Je-Ag, N, '22
- Taking the old customer too much for granted. A. L. Townsend. *Ptr Ink* 120:154+ Ag 17 '22
- Taking the "squirrel in the wheel" habit out of salesmen. A. H. Deute. *Ptr Ink* 121:3-4+ O 26 '22
- That salesman's drawing account; needless overdrawals. J. C. Jenkins. *Ptr Ink* 125:3-4+ O 18 '23
- This idea and \$500 resulted in a profitable business. G: D. Gaw. *il System* 43:450-3+ Ap '23
- Time saved for buyer of supplies by organized sales methods. A. H. Rhett. *Eng N* 91:574-5 O 4 '23
- To invoice the salesman who almost makes good. H. E. Agnew. *Ptr Ink* 119:53-4+ Ap 27 '22
- Twelve ways to secure greater value from salesmen's expenses. J. J. Witherspoon. *Ptr Ink* M 7:21-2+ Ag '23
- Uniting footwork and system in laying out salesmen's day. C. M. Harrison. *Ptr Ink* 119:10+ Je 22 '22
- Use of automobiles in small-town sales work. J. J. Witherspoon. *il Ptr Ink* M 6:23-4+ Ap '23
- Value of cooperative salesmanship. A. W. Blackman. *Paper* 30:7-11+ My 10 '22
- Value of divisional sales units which include several branch houses. *Ptr Ink* 122:25-7 Mr 1 '23
- What is the motive power idea in sales management? R. Cole. *Ptr Ink* 118:120+ Ja 26 '22
- What is the sales manager's job? *Ptr Ink* 124: 3-4+ S 20 '23
- What should be the salesman's increase? S. C. Lambert. *Ptr Ink* 121:134+ O 26 '22
- What the other man does to increase volume. *System* 43:752-3 Je '23
- When man is superior to rules in the sales department. R. K. Sewell. *Ptr Ink* M 5:56+ D '22
- When salesmen travel by twos. F. L. Scott. *Ptr Ink* 119:10+ My 11 '22
- When the boss goes on the road. J. R. Sprague. *Ptr Ink* M 5:44+ O '22
- When the sales manager is too busy. D. G. Miller. *Ptr Ink* M 6:74 Mr '23
- When you bring the outside viewpoint to bear on the product. R. Barstow. *il System* 43:198-200+ F '23
- Why our salesmen have the management viewpoint. R. P. Smith. *Ptr Ink* M 5:19-20+ O '22
- Why our salesmen want to do more work. H. L. Simpson. *il System* 43:38-9+ Ja '23
- Will specialty selling work with a staple? Freihofer baking company. C. H. Behle. *il System* 43:480-2+ Ap '23
- Wilson brothers increase selling cost to make sales cost less. E. M. Skinner. *Ptr Ink* 119: 41-2+ My 11 '22

Sales management—Continued

Your Missouri pedler peps up salesmen. J. Henle. *Ptr Ink* 120:33-4+ Ag 3 '22

See also Dealer helps; Sales promotion departments; Sales quotas; Sales records; Salesmen; Salesmen, Training of

Bibliography

Keeping salesmen satisfied when territories are cut. *Ptr Ink* 123:20 Je 14 '23

Two hundred and fifty articles on topics of timely interest to sales executives. *Ptr Ink* 124:134+ S 27 '23

Standardized sales talk

Matter of a standardized sales talk. bibliog *Ptr Ink* 120:111-12 S 21 '22

Sales canvass that blocks the prospects' interruptions; makers of Peggy Paige dresses put over new idea by first selling their own salesmen. F: A. Fox. *Ptr Ink* M 6:33-4+ Mr '23

Sales managers

Dangers of becoming a desk executive. C. A. Howard. *Ptr Ink* 120:44+ Ag 10 '22

More letters from the sales manager to his salesmen. *Ptr Ink* 120:97-8+ JI 13 '22

Sales manager's letters to his men. *Ptr Ink* 119:33-4+ Ap 6; 58+ Ap 13; 97-8+ My 11 '22

What is a sales manager worth? C. C. Casey. *Ptr Ink* 122:3-4+ Mr 15 '23

When the sales manager goes stale. J. J. Witherspoon. *Ptr Ink* 121:33-4+ O 19 '22

Where my sales manager falls down. *Ptr Ink* M 5:23+ O '22

See also Branch managers

Sales manuals

Bigger sales for you; a sales manual, instructions to agents. 128p Hitchcock-Hill co., Chicago '23

How salesmen compile the Tide Water oil sales manual. *Ptr Ink* 124:65-6+ Ag 2 '23

How some companies are building effective sales manuals. H. Chandler. *il Ptr Ink* M 7:55-6+ JI '23

Matter of a standardized sales talk. bibliog *Ptr Ink* 120:111-12 S 21 '22

Sales manual that keeps the salesman sold. B. F. Berfeld. *Ptr Ink* M 5:94+ O '22

What shall we put in the salesmen's manual? *Ptr Ink* 121:61-2+; Bibliography. 68 N 30 '22

Sales policies

Advertising takes a product out of the free deal class; Romance chocolates. H: Burwen. *Ptr Ink* 123:57-8+ Je 28 '23

Astrid Rosing Sawyer; twelve factories are letting her sell their entire output. L. Anson. *System* 41:39 Ja '22

Balanced sales policy. H. A. McLean. *Administration* 5:439-44 Ap '23

Changing selling policies to meet changed business conditions. C. T. Cutting. *Ptr Ink* 121:109-12 D 7 '22

Chief's biggest job. J. L. Dalton. *il System* 43:463-5+ Ap '23

Combining over the sales territory. H. J. Meermans. *Ptr Ink* 117:177+ N 24 '21

Cut the price? Wait! Trouble may be in selling policy. G. A. Nichols. *Ptr Ink* 119:17-20 Ap 6 '22

Direct selling as a sales policy. S. E. Summerfield. *Administration* 4:169-72 Ag '22

Do you analyze your business from the right angle? A. J. Reiss. *Ptr Ink* 117:121+ D 29 '21

Durham-Duplex priceless sales invite the public to fix prices. T. C. Sheehan. *Ptr Ink* M 4:19-20 My '22

Expanding the local market; Cromar flooring. R. Dickinson. *Ptr Ink* 124:101-2+ JI 19 '23

Fit your merchandise to new needs. L. Peake. *Ptr Ink* M 4:54+ My '22

Full-line selling may be the way to beat last year's sales. F. L. Scott. *Ptr Ink* 123:3-4+ Ap 5 '23

Fundamentals of a correct sales policy. W: R. Basset. *Ptr Ink* 119:3-4+ Je 15 '22

Getting at the nub of selling clay ware. E: S. Jordan. *Brick & Clay Rec* 62:506-8 Mr 20 '23

How American radiator put over the Arcola heater. W. Bates. *Ptr Ink* M 7:33-4+ JI '23

How are manufacturers to sell their surplus? H. R. Wellman. *Ptr Ink* 118:95-6+ F 16 '22

How Calumet gained support of 2,600 wholesale grocers. G. A. Nichols. *Ptr Ink* 122:3-4+ F 8 '23

How important are store demonstrations and special commissions to clerks? W: Resor. *Ptr Ink* 122:149-50+ Mr 22 '23

How Sellers gets retailers to help sell other retailers. O. P. Perkins. *Ptr Ink* 122:17-19+ Mr 15 '23

How the Glidden co. was made to order; twelve localized markets merged. A. D. Joyce. *Ptr Ink* 119:117-20 Ap 27 '22

How 200 companies are building summer sales. *System* 44:29-32+ JI '23

How we build more sales for jobbers' salesmen. L. D. Ely. *Ptr Ink* M 4:40-2 Ap '22

How we plan to meet keener competition. T. R. Cook. *il System* 41:14-16 Ap '22

How we've made a specialty into a staple; distribution of the Eversharp pencil. A. G. Frost. *System* 42:541-3+ N '22

Intensive effort makes last six months of 1921 best in company's history. R. Cole. *Ptr Ink* 118:41-2+ Ja 19 '22

Is it possible to sell too much? *System* 43:465-6+ Ap '23

Is there a saturation point in selling? *System* 42:685-8+ D '22

Kelly-Springfield abandons retail branches to cut operating expenses. *Ptr Ink* 119:73-4 My 25 '22

Making customers salesmen. R. B. Woolley. *Ptr Ink* 124:3-4+ JI 19 '23

Making dull months into busy ones. *System* 44:51-3 JI '23

Making selling the keynote of business. J. Johnson. *Ptr Ink* M 4:13-15+ D '21

Making the retailer a part of your sales force. W. S. Ashby. *Ptr Ink* 117:101-2 N 10 '21

Methods that sell \$2,000,000 a year in a town of 3,300. H. T. Holman. *il System* 42:543-6+ N '22

Planning a sales policy. R. Barstow. *Administration* 5:41-8 Ja '23

Report of N.W.D.A. committee on salesmen and selling methods. *Oil Paint & Drug Rep* 104:31-5 O 17 '23

Revitalizing dead accounts and resuscitating accounts that are going dead. C. E. Behr. *Ptr Ink* M 7:70+ O '23

Sales policies that brought our business through the slump. S: M. Hastings. *Ptr Ink* 117:3-4+ D 15 '21

Seeing it the customer's way has kept our business climbing; Gates rubber company. C: C. Gates. *il System* 43:336-9+ Mr '23

Selecting tomorrow's markets. H. M. Maxwell. *il System* 43:590-2+ My '23

Selling a line as a department for the retailer. J. True. *Ptr Ink* 121:81-2 N 16 '22

Selling at a loss for profit. G. L. Cross. *Ind Management* 63:183-4 Mr '22

Selling policy that doubled sales in 1921. A. C. Fuller. *il System* 42:681-5 D '22

Selling push that reaches through the dealer. H. L. Simpson. *System* 42:720-2+ D '22

Selling telephone service and carbon paper to the same list. J. E. Bullard. *il map* *System* 44:182-3 Ag '23

Selling the smaller trade in big cities. R. J. Burtless. *Ptr Ink* 119:3-4+ Je 29 '22

Selling the uses instead of the product. W. P. Mills. *il System* 42:135-7 Ag '22

Seventeen ways of covering a territory without salesmen. J: A. Murphy. *Ptr Ink* 118:3-4+ F 23; 25-7+ Mr 2 '22

Six ideas that built up sales. *il System* 43:762-3+ Je '23

Speeding up the petty pace of tomorrow's sales. D. M. Hubbard. *il Ptr Ink* M 5:48+ D '22

Sticking the dealer vs. stocking him. S. C. Lambert. *Ptr Ink* 119:181+ Ap 6 '22

This sales plan made overstocked dealers order more goods. R. Cole. *Ptr Ink* 118:105-6+ Ja 12 '22

Tired products and new ways to sell them. R. Dickinson. *Ptr Ink* 123:3-4+ Ap 19 '23

Sales policies—Continued

- Tomorrow's sales policies. *Ptr Ink M* 4:20 Ja '22
- Trades try-out towns. R. Barstow. *Nation's Business* 10:42-3 Ag '22
- Two problems of sales policy. A. Sloan, jr. *Ptr Ink M* 4:36 My '22
- Two specialties, to round out season's sales. E. H. Rowe. *Ptr Ink* 120:141-2+ Ag 24 '22
- Unit of quantity idea may be profitably up-set. W. A. McGarry. *Ptr Ink* 124:109-10+ J1 12 '23
- The way to sell today. F. E. Hyatt. *il System* 41:164-7+ F '22
- What once-in-never-out advertising did for Kitchen Klenzer. G. A. Nichols. *Ptr Ink* 119:3-4+ Ap 27 '22
- What the Shipping board did to rid itself of surplus materials. J. F. Richter, jr. *Ptr Ink* 122:41-2+ Mr 22 '23
- Who is the man best qualified to sell farm lighting equipment? Sanitary & Heat Eng 100:135-7 S 7 '23
- Why our business has grown 20-fold since we adopted simplification. J. N. McLean. *il System* 41:144-7+ F '22
- With these five policies our volume grew. C. S. Pearce. *System* 42:50-1+ J1 '22
- Working the invisible market. J. P. Newell. *Ptr Ink M* 4:13-14+ F '22

See also Catalogs; Consignment selling; Dealer helps; Discount, Trade; Instalment plan; Marketing; Premiums (merchandizing); Price guarantees; Private brands; Retail stores, Manufacturers'; Returned goods; Sales promotion departments; Salesmen, Retail—Bonuses; Service (in industry); Summer business; Turnover

Sales promotion departments

- Real purpose of a sales promotion department. A. J. Reiss. *Ptr Ink* 119:117-18+ Je 8 '22

Sales quotas

- Establishing sales quotas for branded merchandise. J. J. Witherspoon. *Ptr Ink* 123:3-4+ My 17 '23
- Eversharp quota system that sells the entire line. A. G. Frost. *Ptr Ink* 123:3-4+ Je 28 '23
- How the Walworth company looks ahead. J. H. Barber. *Administration* 5:659-68 Je '23; [cont. as] *Management & Adm* 6:29-32, 191-6 J1-Ag '23
- How Walworth tunes its production to sales. H. Burwen. *Ptr Ink M* 6:31-2+ Je '23
- Quota plan for jobbers' salesmen. H. F. Thomas. *Elec W* 81:889-90 Ap 14 '23
- Sales quota problem. N. H. Seubert. *Nation's Business* 11:60 Ap '23
- Synchronizing sales and production. G. B. White. *Management & Adm* 6:172 Ag '23
- Unemployment and the sales machine. Chem & Met Eng 28:1070-1 Je 18 '23

Sales records

- Accounting simplified. G. W. Greenwood. *Brick & Clay Rec* 62:328-31 F 20 '23
- Figures that help our people sell more. R. Yarnell. *il System* 42:271-3 S '22
- Keeping track of sales and distributors. A. H. Tuechter. *Am Mach* 56:541-3 Ap 13 '22
- Our men don't miss many prospects. D. W. Saxe. *System* 41:158-60+ F '22
- Revealing hidden flaws in the selling plan. R. Cole. chart map *Ptr Ink M* 6:23-4+ Ja '23
- Taking bookkeeping out of the salesmen's day. *System* 42:277+ S '22
- Using the point system for keeping a record of salesmen's work. R. Cole. *Ptr Ink* 123:149-50+ Ap 5 '23
- We seldom lose on trade-ins. K. L. Mengert. *System* 44:169-70 Ag '23

See also Salesmen's reports

Sales tax

- Benefits that a sales tax would bring to business. J. S. Bache. *Ptr Ink* 118:33-4+ Ja 5 '22
- Current problems in taxation. L. T. Beman, comp. p.53-204 [biblog. p.59-66] H. W. Wilson co. '21
- Sales tax in Czechoslovakia. A. Comstock. *Annalist* 19:632 Je 12 '22

- Sales tax provides only feasible plan for soldier bonus. *Comm & Fin Chr* 114:686-7 F 18 '22
- University debaters' annual. E. M. Phelps. p 108-55 H. W. Wilson co. '22

Salesmanship

- Advertising as a tool for manufacturers' salesmen. C. C. Parlin. *Ptr Ink* 120:73-4+ J1 6 '22
- Aggressive machine tool salesmen. *Mach* 28:452-3 F '22
- Answering objections that are only excuses. *Ptr Ink* 117:25-6 D 8 '21
- Antidotes for luke-warm salesmanship. W. L. Larned. *Ptr Ink M* 7:80+ J1 '23
- Autosuggestion and salesmanship. F. L. Scott. 150p American library service, New York '23
- Bare-handed selling. 250p Reynolds pub. co., New York '22
- Bell-wethers that boost sales. F. L. Scott. *Ptr Ink M* 4:15 Mr '22
- Better salesmanship. (Special rep. no. 4) 54p Salesmen's assn. of the paper industry, New York '22
- Beware of the yes-sayers. M. Gross. *Inland* *Ptr* 71:671-2 Ag '23
- Building houses and selling clients farm equipment. F. H. Sweet. *Bldg Age* 45:82-3 Je '23
- Business of selling. H. Whitehead. 247p Am. book co., New York '23
- Can salesmen know too much about the product? G. A. Nichols. *Ptr Ink M* 5:23-4+ N '22
- Children's miniature model helped introduce Warner corsets in Canada. R. A. Gibney. *Ptr Ink* 125:162+ O 4 '23
- Closing the sale. J. C. Aspley. 125p Dartnell corp., Chicago, New York '22
- Constructive salesmanship, principles and practices. J. A. Stevenson. 361p Harper '23
- Creative salesmanship. H. W. Hess. 339p [biblog. p. 331-3] Lippincott '23
- Creative selling. C. H. Mackintosh. 183p Appleton '23
- Dangers of desperate selling. R. Dickinson. *Ptr Ink M* 4:19-20 D '21
- Diagramming the sales talk. R. Giles. *Ptr Ink M* 6:53-4 Je '23
- Doing tomorrow's selling on today's waste time. R. R. Updegraff. *Ptr Ink* 119:3-4+ Ap 6 '22
- Elements of retail salesmanship. P. W. Ivey. 275p Macmillan '23
- Engineering salesmanship. *Engineering* 114:273-5 S 1 '22; Excerpts. Eng & Contr (Ry) 58:35-7 O 18 '22
- Excited salesmanship. F. L. Scott. *Ptr Ink* 121:3-4+ N 30 '22
- Field tactics for salesmen. J. C. Aspley. Pocket ed., 3d ed., rev. & enl. 116p Dartnell corp., Chicago '22
- Finding the limp in lame excuses. F. L. Scott. *Ptr Ink* 119:25-6 Je 29 '22
- Footwork needed as well as fancy salesmanship. R. Dickinson. *Ptr Ink M* 5:27-8 S '22
- Getting back the lost account. F. L. Scott. *Ptr Ink* 121:17-20 O 5 '22
- Getting over the head of the prospect who hasn't authority to buy. H. Burwen. *Ptr Ink* 124:17-20 S 13 '23
- Getting the buyer's interest in the first 30 seconds. B. Ashbrook. *Ptr Ink* 119:3-4+ My 18 '22
- Has Coué a place in the sales programme? P. Sartorus. *Ptr Ink* 121:33-4+ D 14 '22
- Have you ever made your office a sales laboratory? C. L. Funnell. *Ptr Ink M* 4:57 Ap '22
- Hotel market for trade-marked products. F. C. Russell. *Ptr Ink* 124:141-2+ Ag 9 '23
- How about your prospect's health? *Ptr Ink M* 4:80+ F '22
- How can an engineering product be introduced? *Ptr Ink* 118:41-2+ Mr 16 '22
- How can salesmanship be applied in the street railway business? F. H. Warren. *Elec Ry* 58:985-7 D 3 '21
- How do your salesmen sell your campaign to dealers? T. W. McAllister. *Ptr Ink* 125:41-2+ N 1 '23

Salesmanship—Continued

- How the salesman can turn objections into reasons for buying. R. Surrey. *Ptr Ink M* 7:35-6 O '23
- How timeliness makes super-sales. L. Anson. *Ptr Ink* 117:145+ D 1 '21
- How to make a speech interesting. M. Hastings, jr. *il Ptr Ink M* 4:29-30 F '22
- How to make selling easy: recipe of F. Edson White. *Ptr Ink* 125:89-90 O 25 '23
- How to sell at retail. W. W. Charters. 326p Houghton '22
- How to sell quality. J. C. Aspley. 111p Dartnell corp., Chicago '21
- Ideals of real salesmanship. J. P. Wagner. *Sheet Metal Worker* 13:889-90 Ja 19 '23
- Imagination in selling. R. R. Updegraff. *Ptr Ink* 118:150+ Ja 12 '22
- Intimate selling. G. H. Wicker. *Ptr Ink* 118:125-6+ Mr 23 '22
- Judgment comes from footwork. A. Bradbury. *Ptr Ink M* 6:44 Je '23
- The ladder. R. Barstow. *Ptg Art* 39:522-8 Ag '22
- Letters from an old time salesman to his son. R. L. James. 128p Dartnell corp., Chicago, New York '22
- Little foxes that spoil the sales vine. R. Giles. *Ptr Ink M* 4:31-2 Mr '22
- Local pride—the hard prospect's vulnerable point. D. Gridley. *Ptr Ink M* 4:46+ Mr '22
- Make the customer sell himself. R. Falconer. *Inland Ptr* 71:54-5 Ap '23
- Make the hard calls first. A. Bradbury. *Ptr Ink M* 7:104+ S '23
- Making it easy to sell. E. N. Hurley. *il System* 41:17-21+ Ja '22
- Making more sales by getting past the buffer. F. L. Scott. *Ptr Ink M* 5:17-18+ JI '22
- Markets are no bigger than advertiser's imagination; the Harley-Davidson motor company's campaign. M. Hastings, jr. *Ptr Ink* 120:17-19 Ag 31 '22
- Merchant on wheels—teaching him how to sell; Borden policy. P. D. Fox. *Ptr Ink M* 4:25-6 Ap '22
- Modern methods in selling. L. J. Hoenig. 299p Bobbs '22
- Ocular athletics in selling. A. Belden. *Ptr Ink M* 7:102+ N '23
- 1+2=5 ou: comment augmenter le chiffre d'affaires? O.-J. Gérin. *Chimie & Ind* 8:690-2 S '22
- Over-insistent salesman. S. P. Oakley. *Ptr Ink* 117:116+ N 24 '21
- Overcoming difficulties in selling city governments. W. A. Cather. *Ptr Ink* 122:3-4+ Ja 25 '23
- Pacemaker for salesmen. W. L. Barnhart. *Ptr Ink* 124:165-6+ S 6 '23
- Paradox as an aid in selling. R. Surrey. *Ptr Ink* 124:3-4+ JI 5 '23
- Philosophy versus formulae in selling. C. F. Carter. *Administration* 3:181-8 F '22
- Price and the machine tool salesman. *Mach* 28:536-7 Mr '22
- Principles of salesmanship. H. Whitehead. 2d ed. 378p Ronald press '23
- Pushing a retail business. W. H. Richards. 384p Richards school of advertising, Chicago '21
- Questions—are they the salesman's best entering wedge? C. C. Casey. *Ptr Ink M* 7:29+ Ag '23
- Reason for being makes best selling argument. E. M. Wickes. *Ptr Ink* 121:132+ N 16 '22
- Sales and advertising. C. A. Gauss and L. I. Wightman. 2v Am. tech. soc., Chicago '22
- Sales canvass that blocks the prospects' interruptions; makers of Peggy Paige dresses put over new idea by first selling their own salesmen. F. A. Fox. *Ptr Ink M* 6:33-4+ Mr '23
- Sales making in advance of the call. J. R. Kathrens. *Ptr Ink* 118:138+ F 23 '22
- Salesman who does more than sell. A. L. Townsend. *Ptr Ink* 121:182+ N 16 '22
- Salesmanship. B. J. Munchweiler. 221p Penn pub. co., Philadelphia '22
- Salesmanship and business efficiency. J. S. Knox. 406p Knox business book co., Cleveland '22
- Salesmanship in engineering. *Can Eng* 44:374-5 Ap 3 '23
- Salesmanship in wiring and installation work. E. H. Freeman. *Elec R* (Lond) 89:730-1 N 25 '21
- Salesmen who call on me; by a buyer of advertising. *Ptr Ink* 119:107+ My 25 '22
- Scientific selling and advertising. A. Dunn. 159p Harper '22
- Self improvement in salesmanship. W. A. Russell. *J Elec* 48:21-2, 62-3, 111-12, 160-1, 199-200, 241-2, 277-8, 315-16, 354-5, 453-4, 509-10 Ja 1-My 1, Je 1-15 '22
- Selling a new use in an unusual way. M. Hastings, jr. *Ptr Ink M* 4:34+ Mr '22
- Selling engineering service. A. Dowel. *Am Mach* 56:601 Ap 20 '22
- Selling feats that brought in orders. R. Barstow. *il System* 44:581-2+ N '23
- Selling in difficult markets. H. M. Hitchcock. *Ptr Ink M* 7:17-18+ Ag '23
- Selling is the cure for any kind of a slump. J. Ewing. *Ptr Ink M* 7:17-18+ JI '23
- Selling merchants who are loaded to the guards. P. Richard. *Ptr Ink* 118:65-6+ Mr 23 '22
- Selling on quality. J. B. Doan. *Am Mach* 56:588-9 Ap 20 '22
- Selling service; the story of an advertising man and the reason for his preference in buying printing. T. Seideman. *Ptg Art* 42:123-6 O '23
- Selling slants. G. F. Abbott. 142p Scientific sales soc., Dayton, O '23
- Selling strategies that landed the order. H. Botsford. *il System* 44:277-8+ S '23
- Selling tactics that make me suspicious. *Ptr Ink M* 5:23+ D '22
- Selling that gets us more than our share. B. F. Affleck. *System* 43:153-7+ F '23; Same. *Concrete* 22:sup28-31 F '23
- Selling the \$800,000 prospect. D. M. Baker. *Ptr Ink M* 5:21-2+ Je '22
- Selling the man who is hard to see. R. S. Williams. *Ptr Ink M* 6:98 Ja '23
- Selling the senses. R. Barstow. *Administration* 3:541-4 My '22
- Selling to retail dealers. H. G. Kenagy. *Management & Adm* 6:55-8 JI '23
- Separate factory costs and salesmanship; how much should the salesman know about the cost of the goods he sells. P. G. Alexander. *Elec W* 80:1359-60 D 16 '22
- Service factor in selling. L. W. Rogers. *Paper* 31:40-1 Ap 18 '23
- Service-plus a valuable tool in the salesman's kit. H. Whitehead. *Ptr Ink* 123:169-70 Je 21 '23
- Seven hurdles of salesmanship. F. L. Scott. *Ptr Ink* 122:3-4+ Mr 1 '23
- Seven keys to salesmanship. *Dom Eng* 97:256-7 N 5 '21
- Short course in practical salesmanship. R. S. Philips. 137p Commercial advancement co., New York '21
- Sidelights on the salesman's art. L. H. Sloan. *Paper* 30:68-70 Ap 19 '22
- Soft-bodied salesmanship. D. Argyle. *Ptr Ink M* 6:25+ Ap '23
- Some things I have learned about selling. B. F. Affleck. *Ptr Ink* 120:94+ O 12 '22
- Stepping stones to sales success. 53p Direct advertising corp., Indianapolis '21
- Stick, smile, agree, be helpful. A. Bradbury. *Ptr Ink M* 7:132+ O '23
- Strategy in landing orders. *System* 42:55-6+ JI '22
- Successful salesmanship. H. Butt. *Administration* 3:539-40 My '22
- Tales of unusual sales. 210p National salesmen's training association, 53 W. Jackson blvd., Chicago '23
- Technical training not needed to sell Anchor post fences. J. True. *Ptr Ink* 120:97-8+ Ag 31 '22
- Telling weak points of advertised article aids sales. *Ptr Ink* 123:117-18 My 24 '23
- Ten commandments of selling. C. F. Abbott. *Ptr Ink* 119:119-20 Ap 6 '22
- Ten selling faults as seen by a purchasing agent. P. W. Stamps. *il System* 44:427-30 O '23

Salesmanship—Continued

Theory and practice of salesmanship. W. Attwood. Elec R (Lond) 91:783-4, 862, 957 N 24, D 8, 22 '22

To find a new selling point for Edgewear safety razor. E. Henn. System 44:600 N '23 Toledo scale co. sells its product by auditing the merchant's sales. H. L. King. Ptr Ink 119:156+ Je 8 '22

Tracing the lost sale. M. Hastings, jr. Ptr Ink M 5:30 N '22

Turning technicalities into the other fellow's language. Ptr Ink M 4:50 D '21

Twelve approaches that are selling goods. M. Hastings, jr. Ptr Ink M 5:27-8 Ag '22

Using motion studies to make more sales in less time. R. Barstow. System 44:167-9+ Ag '23

Visualize the buyer as a salesman! A. C. Monagle. Ptr Ink 120:133-4+ S 7 '22

What counts more than experience in selling. F. H. Bartlett. il System 42:283-6+ S '22

What 55 years in business taught me about managing. S. Crowther. il System 43:758-62+ Je '23

What I have learned in approaching farmers. C. W. Rumsey. System 42:56+ JI '22

What the sales manager learned about selling. C. Hill. System 42:430-2+ O '22

What's wrong with the salesman who under-sells? W. P. Anderson. Ptr Ink 124:137-8+ Ag 30 '23

When hunting for discounting purchaser means lost business. Ptr Ink 124:49-50+ Ag 9 '23

When it pays a salesman to talk quality; experience of a macaroni maker. G. A. Nichols. Ptr Ink 124:74+ JI 12 '23

When the big market is prejudiced against the product. J. True. Ptr Ink 123:153-6 Je 7 '23

When the successful salesman becomes a fallen idol. S. B. Sieg. Ptr Ink 124:141-2 Ag 23 '23

When you sell to farmers. W. S. Corsa. il System 41:273-5+ Mr '22

Where extra sales come from. B. Ashbrook. Ptr Ink M 4:17 Ja '22

Where the new business for 1922 lies. A. H. Deute. Ptr Ink 117:33-6+ D 29 '21

Why I don't buy there. E. S. Conners. il System 42:550-2 N '22

Why they didn't get my order. M. K. Powers. il System 42:269-70+ S '22

Why Vaucrain is president of the Baldwin locomotive works. C. F. Carter. Ptr Ink 118:108+ Mr 9 '22

Windmill selling and the Don Quixote salesman. R. Dickinson. Ptr Ink M 5:35-6 JI '22

Woman retailer tells how she makes sales. Ptr Ink 120:125-6 S 28 '22

See also Advertising; Advertising, Soliciting of; Advertising and salesmen; Auctions; Business; Buying habits; Canvassing; Consignment selling; Instalment plan; Mail order business; Marketing; Merchandizing; Obsolete commodities—Marketing; Order blanks; Package goods; Peddlers and peddling; Premiums (merchandizing); Price guarantees; Sales letters; Sales management; Sales managers; Salesmen; Salesmen, Training of; Saleswomen

Advance cards and letters

Getting the most out of salesmen's advance cards. Ptr Ink 121:153 D 14 '22

Letter which really introduces a new salesman. Ptr Ink M 7:78 Ag '23

Consignment selling

See Consignment selling

Demonstration work

Building a food products market through demonstrators. Ptr Ink 123:8+ Ap 5 '23

Can demonstrations pay where people buy mostly by phone? Ptr Ink 119:44+ Je 29 '22

Demonstration and advertising to revive dormant market. G. M. Walker. Ptr Ink 119:154+ Ap 6 '22

Franklin automobile company establishes a definite basis of comparison in competitive selling. Ptr Ink 123:121-3 Je 7 '23

How Welsbach helps gas companies maintain sales. M. MacDonald. Ptr Ink 124:25-8 Ag 9 '23

Personal demonstration advertising. W. L. Larned. Ptr Ink 118:105-6+ Ja 26 '22

Practical demonstrations appeal to farmers. J. Y. Beaty. il System 42:166+ Ag '22

Saturday demonstrations—how advertisers use them. J. A. Murphy. il Ptr Ink M 4:31-2+ My '22

When educating the consumer imperils the service of the local contractor. V. D. Clausen. Ptr Ink 118:53-4+ Ja 19 '22

Bibliography

Ins and outs of store demonstrations. Ptr Ink 119:41-2 My 25 '22

Store demonstrations. Ptr Ink 124:149+ S 27 '23

Guarantees

New product gets distribution in a single day. Ptr Ink 119:68 Ap 6 '22

Right marketing plan routs injurious competition; manufacturers of Neolin soles adopt policy that heads off imitations. H. E. Agnew. Ptr Ink 118:122+ F 9 '22

Strong campaign behind a guarantee makes it principal selling argument. Ptr Ink 120:93+ JI 27 '22

Things we learned from making over a business; Dutchess manufacturing company. F. L. Sweetser. il System 44:577-80+ N '23

Bibliography

Guarantee as sales factor. Ptr Ink 124:142 S 27 '23

Samples

Advertising that consolidates distributive gains; why and how Effecto auto finishes are advertised in the farm press. il Ptr Ink 125:117-18 N 1 '23

Débutantes of the flavoring extract family. C. B. Larrabee. Ptr Ink 121:73-4+ N 23 '22

Free goods and samples at expositions. A. Bradbury. Ptr Ink 122:105-6+ Mr 8 '23

Getting your goods on the counter. E. Falkner. Ptr Ink M 5:78+ Ag '22

How important is the salesman's sample case. J. J. Witherspoon. Ptr Ink M 6:25-6+ My '23

How Kyanize helps its dealers sell. H. Burwen. Ptr Ink 121:45-6+ N 16 '22

I take my exhibit with me. F. S. Bertsch. il System 43:754-5 Je '23

Mademoiselle sends for samples. Ptr Ink M 4:78+ D '21

Novel sampling to the manufacturer. il Ptr Ink M 5:38 Ag '22

Sample that starts sales impulses. il Ptr Ink M 7:122 Ag '23

Samples that sell. C. T. Hubbard. Inland Ptr 69:358-9 Je '22

Sampling the hard-to-sample product. Ptr Ink M 7:90+ Ag '23

Scotch brew, after larger markets, surrounds sampling campaign with advertising. C. B. Larrabee. Ptr Ink 123:57-8+ My 17 '23

Selling samples to gain distribution. J. True. Ptr Ink 122:33-4+ F 1 '23

Tank car load of lubricants moving by mail every year; sample distribution by the refining industry of the United States represents an expenditure of \$65,000 annually. W. K. Halbert. Nat Pet N 14:23-4 N 8 '22

This helps retailers put their stores on their backs. Ptr Ink M 4:94+ Ap '22

Trial assortments demonstrate salability of the goods. S. C. Lambert. Ptr Ink 120:25-6 JI 13 '22

Bibliography

Place of sampling in the merchandising plan. Ptr Ink 120:146+ Ag 3 '22

Study and teaching

Advertising selling course direct to the dealers' salesmen; Armstrong cork co. appeals directly to retailers' salespeople. G. H. Wicker. Ptr Ink M 5:64+ Je '22

Can salesmanship be taught? W. Maxwell. Administration 3:401-7 Ap '22

Salesmanship—Study and teaching—Continued

Course of study for bond salesmen. R. L. Smitley. 64p Dixie business book shop, 140 Greenwich st., New York '23
 Government helps teach retailers how to sell. Ptr Ink 122:107-8 Ja 18 '23

See also Salesmen, Training of

Trial orders

Danger of the trial order. S. C. Lambert. Ptr Ink 120:150+ Ag 24 '22
 I'll try a dozen. T. W. McAllister. Ptr Ink 124:81-2+ Ag 23 '23

Salesmen

Advertising to salesmen's wives. J. A. Murphy. Ptr Ink M 5:35-6+ Je '22
 Big four. A. J. Newman. Ptr Ink 120:169+ Ag 17 '22
 Building a balanced sales organization. R. W. Porter. Administration 5:291-300 Mr '23
 Choosing salesmen to pull down sales costs. R. Barstow. il System 42:400-1+ O '22
 Curing salesmen of the side-line habit. W. L. Larned. Ptr Ink 121:174+ N 9 '22
 Daring the salesman to take the job. J. J. Witherspoon. Ptr Ink M 5:19+ D '22
 Dealing with the salesman who wanders from the straight and narrow. H. Schwartz. Ptr Ink M 5:56+ Ag '22
 Determining factors in selection of salesmen. H. A. Richmond. Administration 5:49-58 Ja '23
 Developing sales personality. E. E. Ferris. 92p Prentice-Hall '23

Electrical dealers advertise their salesmen's ability to the consumer. B. A. Grimes. Ptr Ink 124:138+ Jl 5 '23

First step in the choice of salesmen. Ptr Ink 124:3-4+ Jl 12 '23

Have your salesmen the home town spirit? K. B. White. Ptr Ink M 5:62 O '22

How do star salesmen gain their ascendancy? A. L. Townsend. Ptr Ink 120:94+ Jl 20 '22

How Goodyear has reduced the turnover in its sales force; method of selecting candidates. R. W. Johnson. Ptr Ink 120:3-4+ S 7 '22

How long should a new salesman be on trial? H. K. Sheridan. Ptr Ink 120:61-2+ S 28 '22

How many calls should a salesman make in a day? R. W. Johnson. Ptr Ink 118:3-4+ F 9 '22

How much does experience count for in selling? R. K. Sewell. Ptr Ink M 6:41-2 My '23

Is too much selling artificially polite? D. Argyle. Ptr Ink M 6:33+ Ja '23

Keeping star salesmen in the fold. W. H. Heath. Ptr Ink 123:93-6 Je 21 '23

Making a fortune on four hours a day. G. W. Gether. Ptr Ink 118:89-90 Ja 19 '22

Manufacturers who use their dealers as emergency salesmen. J. A. Murphy. Ptr Ink M 4:31-2 F '22

More letters from the sales manager to his salesmen. Ptr Ink 120:97-8+ Jl 13 '22

One company's experience in the selection of salesmen. O. R. Johnson. Administration 5:646-58 Je '23

Practical hobbies for salesmen. D. Argyle. Ptr Ink M 5:64+ Jl '22

Requisites of a salesman. J. J. Gibson. Sibley J 35:165-6+ D '21

Sales force and the sales floor. J. H. Hartog. Gas Age 49:773-4 Je 24 '22

Sales manager's letters to his men. Ptr Ink 119:33-4+ Ap 6; 58+ Ap 13; 97-8+ My 11 '22

Sales plan for 1922. H. G. Kenagy. Administration 3:469-79 Ap '22; Excerpts. Ptr Ink 119:138+ Ap 13 '22

Salesman who is disloyal to his own line. L. Peake. Ptr Ink M 4:37-8 F '22

Salesman with a bank account. S. C. Lambert. Ptr Ink 118:57-8 F 2 '22

Salesmen who help the advertising department. L. Peake. Ptr Ink M 4:37-8 Ap '22

Salesmen who overplay personality. B. C. Andrews. Ptr Ink M 5:27-8 Jl '22

Salesmen's mental hazards. A. H. Deute. Ptr Ink 120:25-8 Ag 24 '22

Self improvement in salesmanship. W. A. Russell. J Elec 48:62-3, 111-12, 160-1, 277-8 Ja 15-F 15, Ap 1 '22

Some of the characteristics of successful salesmen. H. G. Kenagy. Ptr Ink 122:33-4+ Mr 29 '23

Star salesmen poor executives? not often! T. J. Young. Ptr Ink 120:61-2 S 21 '22

Stock selling by a permanent staff. P. H. Whiting. Elec W 80:419-22 Ag 26 '22

Successful operation of an engineering department. W. E. Irish. Ind Management 64:329-34 D '22

Wanted: better salesmanship abroad. J. Klein. Ptr Ink 120:109-10+ S 7 '22; Same cond. Iron Tr R 71:582 Ag 31 '22; Same cond. Elec W 80:633-4 S 16 '22; Same. Eng N 89:495-6 S 21 '22

Wanted—old-fashioned young men. E. S. Jordan. Ptr Ink 119:81-2+ My 4 '22

We make every salesman a credit man. S. C. Gunn. il System 41:554-6+ My '22

What induces men to become salesmen? F. Hansen. Ptr Ink 122:25-6 F 1 '23

When the salesman samples his own line. S. C. Lambert. Ptr Ink 118:113-15 Ja 19 '22

Who is the better salesman—college professor or rough-neck? F. B. McLeary. Ptr Ink M 6:37-8+ Ap '23

Why do first-class salesmen make second-class executives? R. Walsh. Ptr Ink 120:57-8+ Ag 31 '22

Why salesmen fail. D. E. Wheeler. Ptr Ink 121:3-4+ D 14 '22

Word to utility stock salesmen. W. R. Voorhis. Elec W 80:659-60 S 23 '22

See also Advertising, Soliciting of; Advertising and salesmen; Gas companies—Salesmen; Peddlers and peddling; Sales conventions

Bibliography

How sales executives pick their men. Ptr Ink 122:128 Mr 1 '23

Expenses

Budgeting the salesmen's expenses. J. J. Witherspoon. Ptr Ink M 7:41-2+ O '23

Van Raalte company's experience with a flat-rate salesman's expense plan. A. Belden. Ptr Ink 124:3-4+ Ag 9 '23

Rating

Determining the salesman's efficiency. H. G. Kenagy. Ptr Ink M 7:42-4+ N '23

Using the point system for keeping a record of salesmen's work. R. Cole. Ptr Ink 123:149-50+ Ap 5 '23

Salaries and commissions

Bringing the salesman's pay-envelope into line with real profits. T. Russell. Ptr Ink 124:57-8+ S 6 '23

Compensation plans that pay salesmen to carry out the firm's policies. J. J. Witherspoon. Ptr Ink M 7:19-20+ N '23

Gross profits as a basis of sales commissions. J. P. Goodwin. Administration 3:741-6 Je '22

How shall salesmen be paid? System 43:333+ Mr '23

How to pay appliance salesmen. H. A. Lewis. Elec W 81:1476-8 Je 23 '23

Methods of paying salesmen in the coffee roasting and grocery trades. 15p Prepared by N. Y. Univ. Bur. of business research for the Nat. coffee roasters assn. Jl '22; Excerpts. Ptr Ink 120:145-6+ S 21 '22

Problem in management; overdrawn accounts. W. F. Wyman. System 43:605+ My '23

Providing for the salesman in his old age. A. E. Haase. Ptr Ink 118:85-6+ Ja 12 '22

Reducing salesmen's commissions on mail orders. Ptr Ink 120:144+ O 12 '22

Report of N.W.D.A. committee on salesmen and selling methods. Oil Paint & Drug Rep 104:31-5 O 17 '23

That salesman's drawing account; needless overdrawals. J. C. Jenkins. Ptr Ink 125:3-4+ O 18 '23

Who gets the commission on unshipped orders when the salesman resigns? Ptr Ink 120:36-4 Ag 10 '22

Salesmen, Jobbers'**Bibliography**

Offering prizes to jobbers' salesmen. *Ptr Ink* 120:12 JI 6 '22

Salesmen, Negro

Methods found successful in selling brushes to colored population. *Ptr Ink* 120:130 JI 27 '22

Salesmen, Retail

Does improved distribution mean improved selling? W. S. Rugg. *Ptr Ink M* 7:37+ Ag '23

Educating the retailer by instructing his sales force. C. M. Harrison. *il Ptr Ink M* 4: 21-2+ My '22

Experience in schooling dealers. G. R. Purvis. *Elec W* 82:511-12 S 8 '23

Getting clerks to tell you how much they know; E. C. Atkins & company run an unusual contest. W. B. Edwards. *Ptr Ink* 124:126+ Ag 30 '23

How we get clerks to give preference to our product. G. A. Nichols. *Ptr Ink M* 6:46+ Ap '23

Increased business through instruction of retail sales people. J. True. *Ptr Ink M* 6: 25-6+ Ja '23

Manufacturer's work preliminary to the advertising; Fruhauf brothers, New York. W. P. Tuttle. *Ptr Ink* 123:65-6+ My 10 '23

Nine ways to get co-operation from dealers' clerks. C. B. Larrabee. *Ptr Ink M* 7:19-20+ JI '23

Questions to decide before starting to educate the clerk. H. Burwen. *Ptr Ink* 124:61-2+ Ag 16 '23

Retail merchant's biggest problem—his clerks. R. M. Rhodes. *Ptr Ink* 117:117-18 N 10 '21

Retail selling methods. L. Baer. 250p McGraw-Hill '23

Selling in the New York manner. *Ptr Ink* 125:10+ O 18 '23

Selling that makes the dealer's order a minor objective. D. Hubbard. *Ptr Ink* 123:101-2+ Je 28 '23

Three ways to interest the retail salesman. W. P. Tuttle. *Ptr Ink* 121:160+ N 16 '22

See also Saleswomen

Bibliography

Working with the retail clerk. *Ptr Ink* 122: 161+ Ja 4 '23

Bonuses

Selling plan may be legal and yet be bad merchandising; not unlawful to give spiffs. *Ptr Ink* 119:10+ Je 1 '22

Why manufacturers should discourage the spiff system. *Ptr Ink* 118:25-6 F 16 '22

Bibliography

Bonuses for dealer clerks. *Ptr Ink* 124:141 S 27 '23

Salaries and commissions

Retail problems that interest manufacturers: how to pay retail salesmen. *Ptr Ink* 121:129-30 D 21 '22

Salesmen, Training of

Are you developing your cub salesmen? A. H. Deute. *Ptr Ink M* 6:57-8 Ja '23

Coaching the small-town salesman in the field. J. J. Witherspoon. *Ptr Ink M* 6:29-30+ Mr '23

Correspondence course trains experienced salesmen on the road. C. B. Larrabee. *Ptr Ink M* 5:24-6 Je '22

Cubs or experienced men? R. Dickinson. *Ptr Ink* 118:85+ F 23 '22

Developing men to replace fading stars on the sales force. A. H. Deute. *Ptr Ink M* 7: 25-6 O '23

Development of the steel salesman. A. E. Crockett. *Eng Soc W* Pa 37:398-405; Discussion. 406-10 N '21

Does the salesman buy his job, or do you buy him? C. C. Casey. *Ptr Ink* 121:57-8+ D 23 '22

Finding and training men for foreign selling. J. True. *Ptr Ink M* 7:41-2+ S '23

Getting salesmen by a charted process of evolution. E. T. Trigg. *Ptr Ink* 122:145-6+ Ja 1 '23

Hiring and training of salesmen. J. A. Murphy. *Ptr Ink M* 6:25-6+ Je '23

How Armstrong linoleum built a sales organization from scratch. A. K. Barnes. *Ptr Ink* 124:10+ S 13 '23

How shall manufacturers train department managers for their distributors? *Ptr Ink* 117:33-4+ N 24 '21

How to make salesmen enthusiastic about the product; Bowker chemical company's experimental farm. J. A. Murphy. *Ptr Ink M* 7:33-4 N '23

How we teach window decorating to our salesmen. R. J. Shaw. *il Ptr Ink M* 7:29-30+ N '23

Making salesmen out of clerks. *Gas Age* 50: 241-2 Ag 19 '22

Old salesmen taught to sell new ways. H. Burwen. *Ptr Ink M* 6:35-6+ F '23

Ralston Purina company's plan for developing salesmen. H. W. Stallworth. *Ptr Ink* 124:116-17+ Ag 2 '23

Reducing sales force turnover from 96 per cent to 18 per cent. R. K. Sewell. *Ptr Ink M* 5:108+ N '22

Render a service and sells a product on the side; Oakley chemical company. A. Belden. *Ptr Ink* 124:98+ JI 26 '23

Sales manager's letters to new salesmen. *Ptr Ink* 122:26-8+ Mr 22 '23

Salesmen taught to discipline themselves. J. True. *Ptr Ink M* 6:70+ F '23

Selection and training of salesmen. E. T. Trigg. *Administration* 4:665-70 D '22

Selling policies that bring life-long customers. I. L. Wilson. *il System* 42:573-6+ N '22

Setting salesmen a good example. L. Peake. *Ptr Ink M* 5:68+ O '22

Simplifying the salesman's instruction. F. L. Scott. *Ptr Ink* 117:3-4+ D 22 '21

These specialty men trained to sell 5,000 different items. A. R. Brunner. *Ptr Ink M* 4: 27-8+ Ja '22

Tonic for the cub salesman. S. C. Lambert. *Ptr Ink* 122:57-8+ Mr 1 '23

Training of institutional salesmen. H. C. Link. *Administration* 4:389-93, 539-45 O-N '22

Truck marketing school develops better retail salesmen. *Automotive Ind* 48:1087 My 17 '23

Weekly sales meetings make these men sell. W. H. Britigan. *Ptr Ink M* 4:27-8+ Mr '22

What counts more than experience in selling? H. Bartlett. *il System* 42:283-6+ S '22

What 55 years in business taught me about merchandizing. S. Crowther. *System* 44:36-40+ JI '23

What's the best way to make salesmen? D. A. Day. *System* 41:148-50+ F '22

See also Sales conventions; Salesmanship—Study and teaching; also Retail shoe-men's institute of Boston, Massachusetts

Salesmen and advertising. See Advertising and salesmen

Salesmen's advance cards. See Salesmanship—Advance cards

Salesmen's reports

Is the salesman's daily report a nuisance? *Ptr Ink* 121:165-6 N 9 '22

Making the salesman's call reports productive. H. Burwen. *Ptr Ink M* 7:60+ Ag '23

Shall branch-house salesmen report to home office? *Ptr Ink* 118:10+ F 23 '22

Simplifying salesmen's reports under complicated sales system. A. Lazarus. *Ptr Ink M* 7:60+ N '23

When a letter from a salesman may become an alibi. G. A. Nichols. *Ptr Ink* 125:120-1+ O 18 '23

Saleswomen

Help for saleswomen in converting shoppers into satisfied customers. J. A. Israel. *Ptr Ink* 124:145-6+ S 6 '23

In the back of the customer's mind. O. R. Tyson. *il Nation's Business* 11:32-3 JI '23

Saleswomen—Continued

Training women in salesmanship. J. True. *Pttr Ink* 122:111-12 Mr 15 '23

Woman reaches women; proves sales magnet and business builder. *Dom Eng* 101:268-70 N 18 '22

Salicin

Über neue stickstoff-haltige derivate des salicins und über mehrkernige oxybenzylamine. G. Zemplan und A. Kunz. *Deutsche Chem Gesell Ber* 55:979-92 Ap '22; *Abstract. Chem Soc J* 122 pt 1:564-5 Je '22

Salicin thiocyanate

Über salichinrhodanid und disalicindisulfid. G. Zemplan und A. Hoffmann. *Deutsche Chem Gesell Ber* 55:992-7 Ap '22

Salicylaldehyde

Mercury derivatives of salicylaldehyde and the nitro-salicylaldehydes. F. C. Whitmore and E. B. Middleton. *Am Chem Soc J* 45:1330-4 My '23

Salicylatotetramminocobaltic salts

Researches on residual affinity and co-ordination; normal and acid salicylatotetramminocobaltic salts. G. T. Morgan and J. D. M. Smith. *Chem Soc J* 123:1096-1108 My '23

Researches on residual affinity and coordination; salicylatotetramminocobaltic salts and the constitution of oxonium compounds. G. T. Morgan and J. D. M. Smith. *Chem Soc J* 121:1956-71 S '22

Salicylic acid

Cider preservatives. R. D. Scott and E. G. Will. *J Ind & Eng Chem* 13:1141-3 D '21

Reduktion substituierter salicylsäuren. H. Weil und K. Brimmer. *Deutsche Chem Gesell Ber* 55:301-5 F '22

Substituted salicylic acids. H. P. Kaufmann. *Chem Soc J* 124 pt 1:795-6 Ag '23

Über die reduktion substituierter salicylsäuren. H. Weil, M. Traun und S. Marcel. *Deutsche Chem Gesell Ber* 55:2664-74 S '22; *Abstract. Chem Soc J* 122 pt 1:1023-4 N '22

Über substituierte salicylsäuren; physiologische wirkung. H. P. Kaufmann und W. Kaufmann. *Deutsche Chem Gesell Ber* 55:282-8 Ja '22

See also Aldehydosalicylic acids

Salicylidene

Salicylidene derivatives of d-glucosamine. J. C. Irvine and J. C. Earl. *Chem Soc J* 121:2376-81 N '22

Saligenin

Aryl 1,3-benzo-dioxanes (aryl methylene-saligenins). R. Adams, A. W. Sloan and B. S. Taylor. *Am Chem Soc J* 45:2417-20 O '23

Salt

Chemical efficiency and concentration of NaOH and NaCl from Townsend cells. A. H. Hooker. *charts Am Inst Chem Eng Trans* v 13 pt 1:61-75; *Discussion*. 76 '20

Determination of free chlorine and hypochlorous acid in concentrated salt solutions. M. C. Taylor and C. A. Gammal. *J Ind & Eng Chem* 14:632-5 JI '22

Influence of sodium chloride, sodium sulfate, and sucrose on the combination of chromic ion with hide substance. A. W. Thomas and S. B. Foster. *J Ind & Eng Chem* 14:132-3 F '22

Interaction of sodium chloride and silica. F. H. Clews and H. V. Thompson. *Chem Soc J* 121:1442-8 JI '22

Marketing of salt. W. C. Phalen. *Eng & Min J* 115:185-90 Ja 27 '23

Melting and freezing point of sodium chloride. J. B. Ferguson. *J Phys Chem* 26:626-30 O '22

Mixing salt with the stemming, in blasting. *Coal Age* 21:413, 455 Mr 9-16 '22

Les nouveaux électrolyseurs à diaphragmes employés dans l'industrie de la soude électrolytique. P. Fabre. *diags Chimie & Ind* 8:524-7 S '22

Properties of ammonium nitrate; the reciprocal salt-pair, ammonium nitrate and sodium chloride. E. P. Perman. *Chem Soc J* 121:2473-83 N '22

Properties of salt solutions. W. L. Badger. *Chem & Met Eng* 27:932-3 N 8 '22

Quaternary system ammonium chloride-sodium sulphate-ammonium sulphate-sodium chloride-water. A. C. D. Rivett. *Chem Soc J* 121:379-93 Mr '22

Rapid method for the determination of salt in oleomargarine and butter. F. F. Flanders. *Ind & Eng Chem* 15:181 F '23

Reactions of cellulose with sodium chloride and other neutral salt solutions; preliminary survey. H. Masters. *Chem Soc J* 121:2026-34 O '22

Salt, bromine, and calcium chloride in 1922. K. W. Cottrell. *U S Geol S Min Res of U S* 1922, pt 2:23-9 '23

See also Rock salt

Advertising

When advertising pressure on one item sells whole list; Morton salt company. G. A. Nichols. *Pttr Ink* 123:101-2+ Ap 12 '23

Analysis

Application of the vacuum tube to chemistry; titrating dilute solutions of salt with silver nitrate. D. F. Calhane and R. E. Cushing. *diag Ind & Eng Chem* 15:1118-20 N '23

Salt cake. See Sodium sulfate

Salt Creek oil field. See Petroleum—Wyoming

Salt domes

Brooks, Steen, and Grand Saline salt domes. Smith and Van Zandt counties, Texas. S. Powers and O. B. Hopkins. *diag map U S Geol S Bul* 736—G:179-239, pl 20-3 '22; *Excerpt. Nat Pet N* 15:67-8+ Ja 24 '23

New salt dome found by Gulf production co. *Eng & Min J* 116:463 S 15 '23

Origin of salt domes. A. G. Wolf. *Eng & Min J* 115:412-14 Mr 3 '23

Salt handling

Conveying in the chemical industry. G. F. Zimmer. *diags Eng & Ind Management* 7:404-5 My 4 '22

Salt Lake

World's longest bridge; the twenty-mile trestle over Salt Lake on the Southern Pacific cut-off. *il map Sci Am* 127:88-9 Ag '22

Salt mines and mining

Visit to a rock salt mine. D. H. Livingston. *il Pop Mech* 38:411-14 S '22

China

Chinese brine wells. *il (supp) Engineer* 133:319-21, 332 Mr 24 '22

Chinese drilling for salt. *il Sci Am* 128:378 Je '23

Salt pans

Salt pans; some standard proportions for vacuum pans used in the salt industry. W. F. Downing, jr. *diag Chem Age* 30:17-18 Ja '22

Salt peter. See Potassium nitrate

Salt peter, Chile. See Sodium nitrate

Salts

Salt baths for heat treating. S. Tour. *Ry Mech Eng* 97:43 Ja '23

See also Crystallization; Precipitation (chemistry); Salt; also names of salts and groups of salts, e.g. Chlorides, Halides, Nitrates, Phosphates, Sulfates

Salts, Double

Mixed crystals and double salts; a comparison of systems containing water, ammonium chloride, and a chloride of manganese, iron, cobalt, nickel or copper. A. C. D. Rivett and F. W. J. Clendinnen. *Chem Soc J* 123:1634-40 Je '23

Study of the factors influencing compound formation and solubility in fused salt mixtures. J. Kendall, E. D. Crittenden and H. K. Miller. *Am Chem Soc J* 45:963-96 Ap '23

See also Copper alkali sulfates

Salts, Quaternary

Formation of quaternary ammonium salts. E. de B. Barnett, J. W. Cook and E. P. Driscoll. *Chem Soc J* 123:503-18 Mr '23

Salts, Triple

- Alleged variable composition of triple chlorides containing silver and gold. H. L. Wells. *Am J Sci* 5th ser 3:476-82 D '22
- Chromophore grouping of atoms in inorganic triple salts, and a general theory for the cause of the colors of substances. H. L. Wells. *Am J Sci* 5th ser 3:417-22 Je '22
- Discussion of triple salts. H. L. Wells. *Am J Sci* 5th ser 4:27-30 Jl '22
- Some complex chlorides containing gold. H. L. Wells. *Am J Sci* 5th ser 3:315-26 My '22

Salunol

- Salunol ice for fish preservation. W. E. Gibbs. *Refrig W* 58:16+ Ag '23

Salvage

- Deep-sea salvaging caissons tested successfully on sunken Eagle boat. *il Pop Mech* 39: 832-3 Je '23
- Frame built on hull to right capsized ship. *il Pop Mech* 40:847 D '23
- Lusitania and the submarine salvor; schemes proposed for dealing with the war's most famous wreck. R. G. Skerrett. *il diags Sci* Am 127:234-5 O '22
- Moving of the Vindictive. D. E. J. Offord. *il diags plan Engineering* 115:573-7 My 11 '23
- New method of salvage by compressed air. *il Sci Am* 128:181+ Mr '23
- Remarkable feat accomplished in salvaging and docking the 12,000 ton Standard Oil tanker. F. D. Asche. *il Marine Eng* 27:70 Ja '22
- Righting a capsized ship. M. Probst. *il diag Sci Am* 129:322 N '23
- Salvage liner by unusual method. *il Marine R* 52:477-9 D '22
- Salvaging a U-boat to sink it. E: G. Maxwell. *il Pop Mech* 38:863-4 D '22
- Salvage the Avaré. *il (supp) diags plans Engineer* 135:312-13 Mr 23 '23
- Sea as a safe deposit vault; relics of the past being brought to light by a Swedish salvaging concern. L. Staekell. *il Sci Am* 127:178-9 S '22
- Ship salvage operations. D. E. J. Offord. *il Engineering* 115:532-3 Ap 27 '23
- Ship without a bottom; how the F. D. Asche was towed from Florida to New York. R. G. Skerrett. *il Sci Am* 126:256-7 Ap '22
- Sunken dredge raised by jacking from dry dock pontoons. J. H. Polhemus. *il diags Eng N* 87:1056-8 D 29 '21
- Vertical submerged pontoon system to salvage ships. *diags Marine Eng* 27:325-6 My '22
- Wrecked vessels salvaged without divers. *il Pop Mech* 37:341 Mr '22
- Wrecked wood ships on the James river yield big salvage. *il Marine R* 53:418-20 N '23

See also Shipwrecks

Salvage (waste, etc.)

- Putting rejected parts into process. W. C. Powers. *Factory* 31:33 Jl '23
- Salvaging of sag paste. C. B. Morey. *Am Inst Chem Eng Trans* v 13, pt 2:131-8 '20-21

See also Oil reclamation; Refuse, Utilization of; Scrap metal; Waste products

Salvage ships

- Fire and salvage boat for Rangoon. *il Engineer* 135:75 Ja 19 '23
- Powerful steam fire and salvage boat. *il Sci Am* 128:251 Ap '23

Salvarsan

- Arsenation of phenol. W. G. Christiansen and A. J. Norton. *Am Chem Soc J* 45:2188-92 S '23
- Condensation products of arspenamine with aldehydes. G: W. Raiziss and A. C. Blatt. *Am Chem Soc J* 44:2023-7 S '22
- Development of the American arspenamine industry. G: W. Raiziss. *bibliog Ind & Eng Chem* 15:413-15 Ap '23
- Observations on the properties of arspenamine. W. G. Christiansen. *Am Chem Soc J* 45:1807-11 Jl '23
- Relation between the mode of synthesis and toxicity of arspenamine and related compounds. W. G. Christiansen. *Am Chem Soc J* 43:2202-10 O '21

Salvarsan and neosalvarsan. *Sci Am* 126:393 Je '22

Some derivatives of arspenamine. W. G. Christiansen. *Am Chem Soc J* 45:2182-8 S '23

Sulfur content of arspenamine and its relation to the mode of synthesis and the toxicity. W. G. Christiansen. *Am Chem Soc J* 44:847-59, 2334-42; 45:1316-21 Ap, O '22, My '23

See also Arsenicals; Silver salvarsan

Samarium

Wave length measurements in the arc spectra of neodymium and samarium. C. C. Kiess. *U S Bur Stand Sci Pa* 442:201-19 '22

Samarските

Germanium; extraction from germanium-bearing zinc oxide; non-occurrence in samarskite. L. M. Dennis and J. Papish. *Am Chem Soc J* 43:2142-3 O '21

Sample books. *See Counter books***Samples.** *See Salesmanship—Samples***Samples, Shipment of**

- Shipment of samples and advertising matter to Europe. *U S Bur For & Dom Com Trade Information Bul* 145:1-30 '23
- Shipment of samples and advertising matter to the British empire. *U S Bur For & Dom Com Trade Information Bul* 122:1-16 '23

Sampling

- Sampling for test purposes. G: L. Diggles. *Gen Elec R* 25:379-90 Je '22
- See also Coal sampling; Cotton sampling; Gas sampling; Ore sampling; Salesmanship—Samples; Water sampling*

Sampling horns

Kellogg's sampling horn. J. W. Kellogg. *il J Ind & Eng Chem* 14:631 Jl '22

San Antonio, Texas

- Flood of September, 1921, at San Antonio. Texas. C. T. Bartlett. *il maps Am Soc C E Pro* 47:443-54 N '21; Discussion. 47:801-2; 48:707-9, 981-9 D '21, Mr-Apr '22
- Group of San Antonio cottages showing Spanish influence. I. T. Frary. *il Arch Rec* 51: 538-42 Je '22

San Antonio river

Flood of September, 1921, at San Antonio, Texas. C. E. Ellsworth and C. T. Bartlett. *Am Soc C E Pro* 48:981-9 Ap '22

Sanatoriums

- Engineering work at Prestwood sanatorium. *il Engineer* 135:204, 212 F 23 '23
- Steam for Battle Creek sanatorium. *il charts diags plan Power Pl Eng* 25:1131-8 D 1 '21
- See also Tuberculosis, Hospitals and sanatoriums for; also Chicago daily news sanatorium, Lincoln park, Chicago*

San Casciano, Italy

Poggio Torselli, San Casciano, Val Di Pesa. H. D. Eberlein. *il Arch Rec* 51:49-61, 101-14 Ja-F '22

Sand

- Bituminous sands of Alberta. R. A. Clark. *Can Chem & Met* 6:203-4 S '22
- Blower removes excess fine material from sand for road work. A. P. Child. *il Eng N* 88:1035 Je 22 '22
- Cleaning sand by blowing. C. H. Sweetser. *Concrete* 19:186 N '21
- Experimental study of the invasion of oil into a water-wet sand. O. W. Skirvin. *Econ Geol* 17:461-9 S '22; Abstract. *Eng & Min J* 114:686 O 14 '22
- Glass sands of Kentucky. C: H. Richardson. (Series 6, v.1) 149p [bibliog. 7p.] Kentucky geological survey, Frankfort
- Measured retaining-wall pressure from sand and surcharge. J. Feld. *diag Eng N* 88:106-8 Ja 19 '22
- Proposed tentative specifications for silica sand for glass-making. *Am Cer Soc J (Bul)* 6:182-4 Je '23
- Sand and gravel in 1921. L. M. Beach. *U S Geol S Min Res of U S* 1921, pt 2:147-54 '22

Sand—Continued

Sands for sheet asphalt paving mixtures. P. Hubbard. Eng & Contr 57:108-10 F 1 '22;
Same. Good Roads 62:219-23 Ap 19 '22
Separating platinum from sand. Eng & Min J 113:251 F 11 '22

See also Concrete—Aggregate; Sand blast;
Sand drying; Sand handling; Sand pumping;
Sanders

Cost

Cost of sand, gravel and crushed stone; tabulation from 700 cities. Pub Works 52:128-30, 392-3 F 18, My 27 '22

Grading

New method of rating water-bearing sands and gravels. W. G. Kirchoffer. charts Pub Works 53:64-6 J1 22 '22

Measurement

Inundated sand investigation. il Sci Am 128: 23 Ja '23

Inundation methods for measurements of sand in making concrete. G. A. Smith and W. A. Slater. il diags Am Concrete Inst Pro 19: 222-40 '23; Same. Eng & Contr (Bldgs) 59: 713-22 Mr 28 '23; Same. Can Eng 44:376-80 Ap 3 '23; Summary. Eng N 90:216 F 1 '23; Discussion. Am Concrete Inst Pro 19:241-8 '23

Method for measuring sands in an inundated condition. R. L. Bertin. diags plans Am Soc T M Pro 22 pt 2:404-7 '22

Testing

Colorimetric test for concrete sand studied. C. E. Proudley. Eng N 89:617-18 O 12 '22

Description of test on furnace sand. M. W. Mawhinney. diags Blast F & Steel Pl 10: 136-7 F '22

Simple test for determining shale content of sand. il Eng & Contr (R & S) 58:94 N 1 '22

Tentative method of test for organic impurities in sands for concrete. Am Soc T M Pro 21:585-7 '21

Sand, Foundry

American foundry equipment co. power sand-cutting machine. il Am Mach 56:649 Ap 27 '22

American foundry equipment co. sand-cutting machine. il Am Mach 55:779 N 10 '21

American molding sands. Iron Age 109:1067 Ap 20 '22

Changes in grain size studied. R. L. Doty. il chart Foundry 50:987-9+ D 15 '22

Characteristics of moulding sands and their graphical representation. J. E. Fletcher. Iron & Steel Inst J 107:139-57 no 1 '23; Same cond. Engineer 135:530-1 My 18 '23; Discussion. Iron & Steel Inst J 107:158-9 no 1 '23

Comparison of British and American foundry practice, with special reference to the use of refractory sands. P. G. H. Boswell and others. 106p University press of Liverpool, Liverpool; Hodder and Stoughton, London '22

Composition of molding sand. H. B. Hanley. Foundry 51:745-7 S 15 '23

Core sand in the foundry. G. Pouplin. Brass W 17:345-50 D '21

Develops hand propelled cutting machine. il Foundry 49:870 N 1 '21

Einfluss des aufbereitungsverfahrens auf bindekraft und durchlässigkeit des formsandes. C. Irresberger. diags Stahl & Eisen 43:297-301 Mr 1 '23

Foundry sands of Minnesota. G. N. Knapp. il diags map Minn U Bul 18:1-105 '23

Handling of foundry sand. diag plan Ind Management (Lond) 10:166-7 S 20 '23

Investigation on the factors influencing the grain and bond in moulding sands. C. W. H. Holmes. diags Engineering 114:443-6 O 6 '22; Same abr. Iron & Steel Inst J 106:61-82; Discussion. 83-7 no 2 '22

Light sand-cutting machine that is hand-propelled. il Pop Mech 37:534 Ap '22

New type power operated sifter. Foundry 50: 976 D 1 '22

Permeability of foundry sand. G. Paul-Carle. diags Brass W 19:177-9 Je '23

Preparation and analysis of silica sand. Foundry 50:884 N 1 '22

Preparing sand for auto castings. il Foundry 49:982-3 D 15 '21

Sand quality sought in bronze casting. Foundry 51:838 O 15 '23

Select sand for brasswork. C. Vickers. Foundry 51:152-4, 196-9 F 15-Mr 1 '23

Sessions on molding sand research at American foundrymen's convention. Foundry 51:394-5 My 15 '23; Iron Age 111:1423-5 My 17 '23; Iron Tr R 72:1395-6 My 10 '23

Solving sand problem in a steel foundry. E. F. Cone. il plan Iron Age 109:985-8 Ap 13 '22

Study of sands for foundry use pays. F. G. Shultz. Foundry 50:741 S 15 '22

Study properties of steel sands. il Iron Tr R 71:103-6 J1 13 '22

Technical session of A.F.A. on molding sand research. Iron Age 109:1733-4 Je 22 '22; Foundry 50:483+ Je 15 '22; Iron Tr R 70: 1734 Je 15 '22

Uses and abuses of molding sands; abstracts. E. W. Smith. Iron Age 109:860-1 Mr 30 '22; Foundry 50:264-5 Ap 1 '22

Wallace electric-driven portable sifter and strainer. il Am Mach 57:509 S 28 '22

Testing

Analyzes sand screen tests. H. A. Schwartz. diags Foundry 50:752-6 S 15 '22

Give details of bonding test. il Foundry 51: 545-7 J1 1 '23

New method of testing foundry sands. Iron Age 110:1725-6 D 28 '22

Plans test to define sands. R. J. Doty. il Foundry 51:15-18+, 53-7 Ja 1-15 '23

Simple test for sand. E. W. Smith. Foundry 51:34-5 Ja 1 '23

Test sand with Doty machine. R. F. Harrington, M. L. MacComb and M. A. Hosmer. Foundry 51:606-10 Ag 1 '23

Testing permeability of molding sand. diag Foundry 51:587-8 J1 15 '23

Testing the porosity of molding sand. il Foundry 50:224 Mr 15 '22

Sand blast

Cleaning steel castings. H. R. Simonds. il Foundry 51:582-7 J1 15 '23

Leistung von sandstrahlgebläsen. W. Kaempfer. diags Stahl & Eisen 43:425-30 Mr 29 '23

Making glass signs by sandblasting. J. Tate. diags Pop Mech 39:464-6 Mr '23

Pangborn complete barrel-type sandblasting unit. il Am Mach 58:889 Je 14 '23

Pangborn large barrel-type sandblasting machine. il Am Mach 57:821 N 23 '22

Pangborn sand-blasting machine. il Am Mach 55:778-9 N 10 '21; Brass W 17:371 D '21

Sandblast castings to be enameled. F. G. Jaeger. il Am Cer Soc J 6:976-9 S '23

Sandblast cuts ship's porthole lenses. il Pop Mech 40:94 J1 '23

Sand-blasting small parts. il Sci Am 126: 130 F '22

Costs

Cost of sand blast cleaning of bridge steel. Eng & Contr (Bldgs) 58:75 N 22 '22

Sand box

Design of sand box for Kern river hydro-electric plant. H. L. Doolittle. il plans Eng N 88:616-17 Ap 13 '22

Removing sand from water going to hydro-electric turbines. J. S. Carpenter. Power 57:207 F 6 '23

Sand drying

How relative drying time may be approximated. E. B. Atwater and R. A. Borkland. Chem & Met Eng 29:229-30 Ag 6 '23

Pacific type oil burning sand drier. il Eng & Contr (Equip R) 60:434-5 Ag 29 '23

Sand driers for mine locomotives. il diag Coal Age 22:993 D 21 '22

Sand handling

Handling materials. il Elec R 80:252-3 My '22

Moving river sand by hydraulic elevator. R. F. Mundorff. il diags Eng N 90:1131 Je 23 '23; Same. Eng & Contr (W W) 60:88-9 J1 11 '23

See also Sand pumping

Sand heaters

Portable sand heater for pavement repairs. il Pop Mech 39:676 My '23

Sand-lime brick association

19th annual convention, Grand Rapids, Mich., Feb. 8-9. Chem & Met Eng 28:416-17 F '23 '23

Sand pumping

Conveying sand by pumps. Ind Management (Lond) 9:86 F '23
Reclamation plant and its operation. G. Lumley. il diags Engineering 114:784-6 D '22 '22; Same. Eng & Contr 59:269-76 Ja '23 '23; Same cond. Engineer 134:659-60 D '22 '22; Discussion. Engineering 114:764-5 D '22 '22; Engineer 134:668-9 D '22 '22

Sanders

Pratte vacuum locomotive air sander. diags Ry Mech Eng 97:781 N '23
Sand valve and telescope pipe for sanding locomotives. diags Ry Mech Eng 97:126 F '23

San Diego, California**Rapid transit**

Confidence restored in San Diego. Elec Ry J 62:36-7 JI 7 '23
San Diego franchise refused. Elec Ry J 60:240 Ag 12 '22
San Diego railway pays one hundred dollars for privilege of building cross-town line. Elec Ry J 60:955 D 16 '22
Transportation commission reports. Elec Ry J 59:608 Ap 8 '22
\$2,500,000 on new development. map Elec Ry J 61:737-8 Ap 28 '23

Water supply

Building San Diego's new water works. A. H. Wright. il plan Pub Works 51:349-51 N 5 '21

Sanding machines

Oliver 15-in. disk sanding machine. il Am Mach 56:345 Mr 2 '22; Iron Age 109:584 Mr 2 '22
Oliver no. 127 variety belt sanding machine. il Am Mach 55:901 D 1 '21
Oliver self-contained belt sanding machine. il Ry Mech Eng 96:485 Ag '22
Syracuse portable 9-inch disk sander. il Am Mach 57:391 S 7 '22

Sandpaper

Sandpaper and its manufacture. S. Westlake. Sibley J 35:167-8 D '21

Sands, Howard Tuxbury, 1867-

Portrait. Elec W 80:806 O 14 '22

Sandstone

Cost of sandstone excavation on a road job. J. S. Walton. Eng & Contr (R & S) 59:972 My 2 '23
Foundation tests for Nebraska state capitol. il diags Eng N 89:606-9 O 12 '22
Occurrence of sandstone dikes and chalcodony veins in the White River Oligocene. T. B. Lawler. il Am J Sci 5th ser 5:160-72 F '23
Problem of the St Peter sandstone. C. L. Dake. il Mo U Sch Mines & Met Bul tech ser v 6:1-228 '21

San Francisco, California

Is Hetch Hetchy to be another municipal fiasco? J Elec 51:198-9 S 15 '23
Municipal ownership on the Pacific coast. J Elec 51:240-1 O 1 '23
Ocean Beach esplanade, San Francisco, California. M. M. O'Shaughnessy. il map Am Soc C E Pro 49:1846-59, pl 8-9 N '23
San Francisco adopts municipal ownership plan. J Elec 51:227 S 15 '23

See also Building trades—San Francisco

Bridges

Bridge across Golden Gate to be world's longest. il Pon Mech 39:336 Mr '23
Crossing San Francisco bay by bridge, fill and tunnel. il Sci Am 125A:120-1 D '21

Harbor

Ports of the nation—San Francisco. J. H. McCallum. il Am Ind 23:13-16 Mr '23

Rapid transit

Critical period ahead. Elec Ry J 61:823 My 12 '23

East Bay electric service of the Southern Pacific railroad. il Elec Ry J 61:633-7 Ap 14 '23

Key route discussed by W. R. Alberger. map Elec Ry J 59:569-70 Ap 1 '22
Reorganization of Key route before commission. Elec Ry J 62:424 S 15 '23
San Francisco loss \$190,866. Elec Ry J 61:384-6 Mr 3 '23
Talks on management and operation. Elec Ry J 61:415-16 Mr 10 '23

Streets

Cliff House drive in San Francisco now complete. il Good Roads 65:42 Ag 1 '23
Concreting plant for street elevation. il Concrete 23:82-3 Ag '23
Street details in San Francisco. C. W. Geiger. il Pub Works 53:230-1 N '22

Theaters

Special structural features of San Francisco theater. Z. Witkin. il diags Eng N 90:208-10 F 1 '23

Water supply

See Hetch Hetchy water supply project

Sanfranelines

Manufacture of the sanfranelines. R. Sansone. diags Color Tr J 10:141-3, 198-201 Ap-May '22

Sanitariums. See Sanatoriums**Sanitary chemistry**

Chemistry of sanitation. A. M. Buswell. bibliog J Ind & Eng Chem 14:840-2 S '22
See also Air pollution; Food—Analysis; Water—Analysis; Water purification

Sanitary districts

Organization of metropolitan districts. L. Pearce. Can Eng 42:227-30 F 14 '22; Excerpt. Pub Works 52:12-13 Ja 7 '22
Town and regional planning in relation to sanitation. R. O. Wynne-Roberts. Can Eng 43:371-4 S 19 '22

Sanitary engineering

Engineering and public health. M. N. Baker. Eng N 90:494-6 Mr 15 '23
Engineers' plans for state health boards. Pub Works 52:341-2, 375, 386, 425-7, 440-1; 53:6-7, 27-9, 46, 62-3 My 13-27, Je 10-17, JI 1-22 '22
Present status of sanitary engineering. H. P. Eddy. Eng & Contr (W W) 59:1053-8 My 9 '23; Same. Can Eng 45:387-9 O 9 '23
Sanitary engineering during the last 50 years. G. W. Fuller. Eng & Contr 56:543-5 D 14 '21; Excerpts. Eng N 87:904-5 D 1 '21
Sanitary engineering in 1921. Engineer 133:88-90 Ja 27 '22
Sanitary engineering section of A. P. H. A.; abstracts of papers. Eng N 87:907-8 D 1 '21
Transactions of the first annual Conference of state sanitary engineers, 1920. (U.S. Public health Bul. 120) U.S. Public health service, Washington '22
Water supply and sanitary engineering in 1922. Engineer 135:18-20 Ja 5 '23
See also Camp sanitation; Drainage; Dust removal; Filters and filtration; Heating; Municipal engineering; Plumbing; Public comfort stations; Refuse collection; Refuse disposal; Sanitation; Sewage disposal; Sewerage; Smoke prevention; Snow removal; Street cleaning; Trade waste; Ventilation; Water pollution; Water purification; Water supply; Water supply engineering

Study and teaching

Public health and sanitary engineering work at Harvard revised. Eng N 89:76-7 JI 13 '22

Sanitary engineering, Bureaus of

How a state bureau promotes the installation of waterworks and sewerage plants. R. B. More. Eng & Contr 57:559 Je 14 '22

Sanitary engineers

Co-operative relations between consulting and state sanitary engineers. C. M. Baker. W Soc E J 27:185-90 Je '22

Salaries

Salaries of state sanitary engineers. J. A. Tobey. Eng N 89:609 O 12 '22

Sanitary potters' association

Economics of the prosecution of the potters; effect of application of the Sherman law. H. A. Call. *Sanitary & Heat Eng* 99:277-80+ My 4 '23

Federal jury returns verdict of guilty against pottery firms indicted under Sherman law. *Comm & Fin Chr* 116:2211-12 My 19 '23

Open letter to United States senators and representatives—and why. H. A. Call. *Sanitary & Heat Eng* 99:349-50 Je 1 '23

Our legislators are receptive. *Sanitary & Heat Eng* 100:7-8 Jl 13 '23

Sanitary ware

Sanitary ware manufacture in America. R. H. Minton. *Am Cer Soc J* 6:319-21 Ja '23

Why government command is opposed to public demand for lower prices. H. A. Call. *chart Sanitary & Heat Eng* 99:313-17+ My 18 '23

Sanitation

Architectural hygiene. B. Fletcher and H. P. Fletcher. 284p Pitman '21

Greatest gamblers in the world; the demand for sanitation and the relation of outhouses to epidemics. J. Smith. *Dom Eng* 105:18-19 O 6 '23

Motorized laboratory for resort sanitation work in Michigan. W. C. Brockway and G. C. Stucky. *Eng N* 89:430-2 S 14 '23

Plumbing and community health. J. B. Cummings. *Sanitary & Heat Eng* 100:78-80, 112+ Ag 10-24 '23

Preventive medicine and sanitation in relation to human efficiency. C. A. Kofoed. *il W Soc E J* 28:195-212; Discussion. 212-13 My '23

Sanitation in India. *Engineering* 116:324-6 S 14 '23

U. S. A. health problem. C. M. Mayo. *Sanitary & Heat Eng* 97:151 Mr 24 '22

Unsanitary conditions cause disease. E. H. Sands. *Sanitary & Heat Eng* 100:215-17 O 5 '23

See also Air washing; Camp sanitation; Disinfection and disinfectants; Drainage; House; Dust removal; Factory sanitation; Health boards; Hygiene, Industrial; Mosquitoes; Plumbing; Public health; Refuse disposal; Sanitary engineering; School sanitation; Sewage disposal; Sewerage; Smoke prevention; Street cleaning; Trade waste; Ventilation; Water purification; Water supply; also subdivision Sanitary affairs under names of cities, e.g. New York (city)—Sanitary affairs; also Sanitary engineering, Bureau of

Sanitation, Household

Our homes. J. S. Kingston. 118p James S. Kingston, Ottawa '22

See also Privies

San Jose, California**Rapid transit**

Seeks franchise to haul freight—Increased revenue may meet paving expenses. *Elec Ry J* 60:610 O 7 '22

Santa Claus association

Santa Claus as a business man and advertiser. R. Dickinson. *Ptr Ink* 121:105-6+ D 28 '22

Santa Fé railroad. See Atchison, Topeka & Santa Fé railroad

Santa Sophia, Mosque of. See Saint Sophia, Mosque of

Santonin

New sources of santonin. A. Viehoever and R. G. Capen. *Am Chem Soc J* 45:1941-4 Ag '23

Sap

Heart and the heartbeat of the plant; the work of distributing moisture and sustenance, and the way in which it is done. E. Bade. *il diag Sci Am* 128:88 F '23

Sapiro, Aaron

City-bred Moses for the farmer. S. Bent. *il Nation's Business* 10:19-20 D '22

Saponification

Some problems connected with the saponification of fatty oils. H. M. Langton. *Soc Chem Ind J* 42:51-7 F 16 '23

Study of the rate of saponification of oils and fats by aqueous alkali under various conditions. M. H. Norris and J. W. McBain. *Chem Soc J* 121:1362-75 Jl '22

Tentative method of test for saponification number. *Am Soc T M Pro* 21:663-5 '21; Same. *Nat Pat N* 13:73-4 D 14 '21

Velocity of reaction in mixed solvents; the influence of temperature on the velocity of saponification of esters. H. McCombie, H. A. Scarborough and R. H. Settle. *Chem Soc J* 121:2308-18 O '22

Velocity of reaction in mixed solvents; the influence of the base on the velocity of saponification of esters. A. E. Cashmore, H. McCombie and H. A. Scarborough. *Chem Soc J* 123:197-207 Ja '23

Velocity of reaction in mixed solvents; the velocity of saponification of the ethyl esters of some monosubstituted benzoic acids. A. E. Cashmore, H. McCombie and H. A. Scarborough. *Chem Soc J* 121:243-53 F '22

Saponins

Untersuchungen über die saponine. A. W. van der Haar. *Deutsche Chem Gesell Ber* 55:1054-66 Ap '22

Untersuchungen über die saponine; die saponine aus den blättern von aralia montana. A. W. van der Haar. *Deutsche Chem Gesell Ber* 55:3041-69 O '22; Abstract. *Chem Soc J* 122 pt 1:1168-9 D '22

Untersuchungen über die saponine; weitere studien am α -hederin und an seinem hederagenin. A. W. van der Haar. *Deutsche Chem Gesell Ber* 54:3142-8 D '21

Untersuchungen über die saponine; weitere studien am hederagenin. A. W. van der Haar and A. Tamburello. *Deutsche Chem Gesell Ber* 54:3148-58 D '21; Abstract. *Chem Soc J* 122 pt 1:160-1 F '22

Sapwood. See Wood

Sardines

Viva Sardinha! *il Nation's Business* 11:38 O '23

Advertising

Beating price competition with an economy appeal; national campaign of the F. E. Booth co. R. Cole. *Ptr Ink* 121:53-4+ D 14 '22

Sardinia**Industries and resources**

Travaux publics; barrage à voûtes multiples, sur le Tirso, à San Chiara d'Ula (Sardaigne). P. Caufourier. *il diag map Génie Civil* 81:77-82, pl 4 Jl 22 '22

Sargent, John Singer

Sargent decorations in the Boston Museum of fine arts. C. H. Blackall. *il Am Arch* 121:241-4 Mr 29 '22

Sash balances

Sash balance improvement. *il Bldg Age* 44:52 F '22

Sash weights

New method of sash weight manufacture. *il diag Iron Age* 111:963-4 Ap 5 '23

Saskatchewan

See Mines and mineral resources—Saskatchewan; Roads—Saskatchewan

Sativic acid. See Tetrahydroxy-stearic acids

Saturday half holiday. See Hours of labor

Sauerkraut

Bacteriology of sauer kraut and pickles. E. Le Fevre. *Chem Age* 30:34 Ja '22

Influence of certain factors upon the chemical composition of sauerkraut. O. R. Brunkow, W. H. Peterson and E. B. Fred. *Am Chem Soc J* 43:2244-55 O '21

Sauer kraut as medicine is subject of co-operative advertising. *Ptr Ink* 119:112+ My 4 '22

Sauk City, Wisconsin**Bridges**

Ornamental memorial highway bridge over Wisconsin river at Sauk City, Wis. W. C. Buetow. *il Munic Eng* 65:107-9 S '23

Sausages**Advertising**

Uplifting the hot dog. J. Henle. *Ptr Ink* 117: 140+ D 8 '21

Manufacture

Air conditioning for sausage manufacturing plants. M. G. Harbula. *il Am Soc Heat & V E J* 28:683-92 S '22

Savings

See Australia—Native races

Savannah, Georgia**Harbor**

Great ports of the nation—Savannah. M. M. Stewart. *il Am Ind* 23:5-8 Ja '23

Saving

Advertise the savings pass book; exit the red flag. F. J. Wade. *Ptr Ink* 124:41-2+ JI 19 '23

Co-operation for employees' thrift. P: F. O'Shea. *Ind Management* 63:73 F '22

Employers' co-operation with savings banks in promotion of thrift. A. M. Sakolski. *Administration* 3:305-11 Mr '22

Financial incentives for employees and executives. D. Bloomfield. v 2, p 3-57 H. W. Wilson co. '23

Helping employees to save. *Iron Age* 112: 410 Ag 16 '23

Helping employees to save. *Mach* 28:887 JI '22

Helping workers to save. *Factory* 28:600+ My '22

Income building for the worker. E: E. Rice. *Management Eng* 2:202-4 Ap '22

Industrial savings banking. A. Smith. *Comm & Fin Chr* 117:130-3 sec 2 O 13 '23

Industrial savings plan that stood the test. J: F. Tinsley. *Textile World* 61:765 F 4 '22

Making it easy for employees to save. *Factory* 31:453-4 O '23

Merchandising save-at-shop banking to employers and employees. C. H. Handerson. *Ptr Ink* 125:97-8+ O 25 '23

New thrift. B. Hall. 247p Huebsch '23

Secret of wealth. F. Hobbs. 230p F. Hobbs & co., 7 S Dearborn st., Chicago '23

Showing employees how they can profit by helping each other; employees' savings and loan plan in the Eastman kodak organization. P: F. O'Shea. *Factory* 29:677-8 D '22

Six definite things that workers want. J. H. Collins. *Dom Eng* 99:62-3 Ap 8 '22

Thrift and thriftlessness. N. M. Butler. *Comm & Fin Chr* 115:168-70 sec 2 O 21 '22

Thrift as a gage of an employee's value. A. C. Fuller. *Factory* 31:301-2 S '23

Why some thrift plans fail. W: L. Stoddard. *Factory* 31:36-7 JI '23

Workable thrift plan without frills. S. Lord. *Factory* 30:296-7 Mr '23

See also Advertising—Thrift appeal; Building and loan associations; Cost of living; Credit unions; Insurance, Industrial; Old age pensions; Savings banks; Savings banks, Company; School savings banks

Bibliography

Books and thrift: a reading list. R. G. Nichols. 8p American library assn., Chicago

Savings banks

How a contest can increase volume. J. C. Anderson. *System* 42:703-5+ D '22

Industrial savings banking. J. Hicks. *Comm & Fin Chr* 115:170-2 sec 2 O 21 '22

Industrial savings banking. A. Smith. *Comm & Fin Chr* 117:130-3 sec 2 O 13 '23

Report of the savings bank division of the A.B.A. R. R. Frazier. *Comm & Fin Chr* 115: 120-1 sec 2 O 21 '22

Savings bank enterprise—important results on new lines. J. D. Coit. *Comm & Fin Chr* 115:1892 O 28 '22

Savings deposits in United States, June 30 1922, reach \$17,300,000. *Comm & Fin Chr* 117:291-2 JI 21 '23

See also School savings banks

Savings banks, Company

Factory banks: industrial welfare in practice. A. F. Ferguson. *Ind Management (Lond)* 8: 184-5 O 5 '22

Mill employees' savings bank. C: T. Towson. *Textile World* 63:2082 Mr 31 '23

Saw bench

Small power circular saw bench. *il diags Engineering* 116:205-6 Ag 17 '23

Saw grass

Making pulp from Florida's saw grass. J. F. Hobart. *Paper Tr J* 76:113-15 Ap 12 '23

Paper from Florida saw grass. *il Chem Age* 31:426 S '23

Sawdust

Ashes and sawdust the basis of a new box industry. C. M. Lewis. *il Sci Am* 126:396 Je '22

Burning sawdust. S. P. Morrison. *diags Power Pl Eng* 26:919 S 15 '22

Limitations of sawdust as a chemical raw material. *Chem Age* 30:176 Ap '22

New explosive made from sawdust. *il Pop Mech* 39:752 My '23

New process for utilization of sawdust as a fuel. *J Elec* 48:64 Ja 15 '22

Sawdust burned with aid of steam jets. *diags Power* 54:914-17 D 13 '21

See also Wood waste

Drying

How relative drying time may be approximated. E. B. Atwater and R. A. Borkland. *Chem & Met Eng* 29:228-9 Ag 6 '23

Sawdust precipitation of copper. See Copper metallurgy—Bardt process

Sawmills

Mill cuts 500,000 shingles daily. H: C. Copeland. *il Pop Mech* 37:734-5 My '22

L'organisation du travail dans les exploitations forestières et dans les scieries mécaniques. P. Razous. *il diags Génie Civil* 83:49-55, 80-5, 109-11, 133-6 JI 21-Ag 11 '23

Electric equipment

By-products saved in lumber plant pay power bills and show a profit. H. W. Derry. *Elec W* 79:241 F 4 '22

Employees

Labor efficiency and productiveness in sawmills. E. Stewart. *Monthly Labor R* 16:1-21 Ja '23

Wages and hours of labor in lumber manufacturing, 1921. U S Bur Labor Statistics *Bul* 317:1-55 '23

Wages and hours of labor in sawmills, 1907 to 1921. *Monthly Labor R* 14:490-2 Mr '22

Power

Determination of power required in the operation of sawmill machinery. F. G. Bonn. *Ind Eng* 81:162-3 Mr '23

See also Electric driving—Sawmills

Safety devices and measures

Safety regulations for saw mills. *Engineer* 134:693-4 D 29 '22; Discussion. G. Bellhouse. 135:154 F 9 '23

Saws

Atkins improved Kwik-Kut metal sawing machine no. 18. *il Am Mach* 53:959 Je 28 '23

Band re-sawing machine. *il diags Engineer* 134:44 JI 14 '22

Band-saw guide. *il diags Engineer* 133:219 F 24 '22

Cochrane-Bly new metal sawing machine. *il Iron Age* 112:203 JI 26 '23; *Mach* 29:998-9 Ag '23

Cutting speeds for power hacksaw machines —6-inch stroke. *Mach* 30:180a N '23

Diskey saw. *diags Engineering* 113:552-3 My 5 '22

Disston lumberman's handbook. 154p H. Disston & sons, Philadelphia, New York '21

Handling wood room equipment. F. J. Carroll. *Paper Tr J* 74:31-2 Je 8 '22; Same. *Paper* 30:20-1+ Ag 2 '22

Handy drag-saw for the farm. A. R. Furguson. *il diags Pop Mech* 38:621-3 O '22

Hard teeth on soft saws. *il diag Sci Am* 128: 315 My '23

Heavy-duty bench band saw. F. N. Coakley. *diags Pop Mech* 40:627-8 O '23

Saws—Continued

- Making a bench hacksaw. J. V. Romig. il diags Pop Mech 40:941-2 D '23
- Manufacture of saws, 1921. Am Mach 58:572 Ap '23
- Marvel no. 2 portable motor-driven draw-cut hacksawing machine. il Am Mach 57:899 D '22
- Motor-driven jig saw. J. V. Romig. il diags Pop Mech 38:950-2 D '22
- Oliver no. 192 portable band sawing machine. il Iron Age 111:604 Mr 1 '23
- Oliver no. 96 high-speed underswing cut-off saw. il Am Mach 58:968-9 Je '23
- One-man adjustable saw weighs but six pounds. il Pop Mech 40:534 O '23
- Peerless power hack saw. il Iron Age 112:1184-5 N 1 '23
- Peerless 13-inch universal shaping saw. il Am Mach 59:69-70 Jl 12 '23; Iron Age 112:156 Jl 19 '23
- Peerless universal shaping saw. il Am Mach 56:386 Mr 9 '22; Iron Age 109:646 Mr 9 '22; Mach 28:579-80 Mr '22
- Portable bench saw cuts miters at any angle. il Pop Mech 37:933 Je '22
- Portable saw bench for pattern-shop use. il Iron Age 109:921 Ap 6 '22
- Portable tree-felling and log saw plant. il Engineer 132:620 D 9 '21
- Power hacksaws and their efficiency. H. J. Swanson. Mach 30:121-4 O '23
- Racine portable duplex bandsawing machine for cutting both wood and metal. il Am Mach 57:938 D 14 '22; Iron Age 110:1349 N 23 '22; Mach 29:326 D '22
- Requirements in cutting off metal. M. E. Erskine. Mach 29:863-4 Jl '23
- Self-contained jig saw. il Iron Age 110:270 Ag 3 '22
- Self-contained motor-driven hack saw. il Ry Mech Eng 96:367 Je '22
- Unusual economies claimed for new metal sawing equipment known as the Rapidor way. il Iron Age 112:1238 N 8 '23
- Vertical log band mill and carriage. il Engineer 133:450 Ap 21 '22

Advertising

- Advertising to teach people to wear out your merchandise. R. Cole. Ptr Ink 119:3-4+ My 11 '22
- Competitive industrial market is opened by selling new principle of production. D. Kirkland. Ptr Ink 125:81-2+ O 25 '23
- Distance from markets doesn't handicap this industry. G. A. Nichols. Ptr Ink 119:57-8+ Je 29 '22
- Getting clerks to tell you how much they know. E. C. Atkins & company run an unusual contest. W. B. Edwards. Ptr Ink 124:126+ Ag 30 '23

Repair

- Salvaging cracked saws by welding. E. Sheldon. il Am Mach 57:734 N 9 '22

Sawyer, Astrid Rosing

- Sketch. L. Anson. por System 41:39 Ja '22

Scaffolding

- Knockdown scaffold for mounting equipment on ceilings. il diags Ind Eng 80:343 Jl '22
- Proper scaffolding. il Bldg Age 44:54-5 S '22
- Simple scaffold carries floor center on high tower. G. A. Davis. diag Eng N 87:953 D 8 '21

- Scale (architecture).** See Architecture—Composition, proportion, etc.

Scales

- Automatic direct reading laboratory scale for weighing briquettes. H. G. Schurecht. il diags Am Cer Soc J 6:491-5 Mr '23
- Bulk and high capacity industrial weighing. H. T. Wade. il diag Management Eng 2:227-32 Ap '22
- Device converts any scale to automatic machine. diags Pop Mech 38:610 O '22
- Magnetized scale weights. Sci Am 126:123 F '22

- Uses of indicating and automatic scales. H. T. Wade. il diag Management Eng 2:97-102 F '22

- Weighing accurately in the least time. il Factory 29:239-42+ S '22

See also Balances; Track scales

Advertising

- Finding a new market for scales in homes and schools. Ptr Ink 117:10+ D 1 '21
- Why sell scales in a wearing-apparel specialty shop? Ptr Ink 120:82+ Ag 24 '22

Testing

- Method for precision test of large capacity scales. C. A. Briggs and E. D. Gordon. il U S Bur Stand Tech Pa 199:1-16 '21
- Precision test of large capacity scales. Sci Am 125A:87 D '21
- Toledo scale co. sells its product by auditing the merchant's scales. H. L. King. Ptr Ink 119:156+ Je 8 '22

Scandinavia

- See Advertising—Scandinavia; Automobile industry and trade—Scandinavia; Labor and laboring classes—Scandinavia; Paper industry and trade—Scandinavia; Railroads—Scandinavia; Wages—Scandinavia

Antiquities

See Viking ships

Schedules

- Business forecasting in the Edison industries. L. W. McChesney. Administration 5:171-6 F '23
- How separate job time-limits make us ship when due. E. T. McEniry. Factory 30:34-5 Ja '23
- It pays us to tell department heads what jobs are coming. W. Davidson. Factory 28:534-5 My '22
- Keeping production quotas up to date. F. H. Zulauf. Factory 27:753-9 D '21
- Locomotive scheduling at the Silvis shops. L. C. Bowes, H. K. Robinson and G. F. Sandstrom. Ry Mech Eng 97:417-18, 579-81, 643-5, 699-700, 767 Jl-N '23
- Master schedule. P. M. Atkins. Administration 4:559-65 N '22
- Results of scheduling at Milwaukee coach shops. Ry Mech Eng 96:82-3 F '22
- Schedule assists in rapid shop reorganization. il Ry Age 73:973-6 N 25 '22; Same. Ry Mech Eng 97:44-7 Ja '23
- Scheduling in a terra cotta plant. P. Mawby. Am Cer Soc J 6:440-7 F '23
- Scheduling of car equipment through repair shops; report of A.R.A. committee. Ry R 70:965-70 Je 24 '22
- Simplified plan for job scheduling. E. H. Trick. il Factory 31:308-11 S '23
- Sliding scale for calculating production schedules. I. J. Beatty. Ind Management 63:350+ Je '22
- Why we buy and sell on promptness of delivery. L. J. Horowitz. System 41:139-41+ F '22

See also Control boards; Progress records

Schenectady, New York**Rapid transit**

- Official reports on strike. Elec Ry J 62:108-9 Jl 21 '23
- Service order issued. Elec Ry J 61:661 Ap 14 '23

Schiess werkzeugmaschinenfabrik aktiengesellschaft

- Schiess machine tool works of Düsseldorf. G. L. Carden. il diags Iron Age 111:1091-5 Ap 19 '23

Schists

- Stratigraphy of the crystalline schists of Pennsylvania and Maryland. E. B. Knopf and A. I. Jonas. map Am J Sci 5th ser 5:40-62 Ja '23

Schneider, Eugene, 1868-

- Eugene Schneider, Fritz medalist. por Chem & Met Eng 25:906 N 16 '21

Scholarships and fellowships

Distribution of graduate fellowships and scholarships between the arts and the sciences. C. Hull and C. J. West. (Reprint & Circ. Ser. 29) 5p '22 15c National Research Council, 1701 Massachusetts av, Washington, D.C.

New development in apprenticeship training worked out by the Associated tile manufacturers, the Tile and mantel contractors' association of America, and the Bricklayers', masons' and plasterers' international union of America. Eng & Contr (W W) 60:291 Ag 8 '23

Progress of a research fellowship experiment. W. E. Tisdale. Ind & Eng Chem 15:641-2 Je '23

Westinghouse scholarships. Am Mach 59:578 O 18 '23

Schönite

Quaternary system potassium sulphate—magnesium sulphate—ammonium sulphate—water. A. Weston. diags Chem Soc J 121: 1223-37 Jl '22

School banks. See School savings banks**School boards**

Architect's business relations with school boards. C. S. Taylor. Arch Forum 37:31-3 Ag '22

Organizing a public office to conduct a \$20,000, 000 building program. N. M. Perris. chart Management Eng 3:147-53 S '22

School children**Transportation**

Buses for Kansas schools. il Bus Transportation 1:613 N '22

School decoration

Interior finish and decoration of schools. C. M. Baker. il plans Arch Forum 37:73-6, pl 32-4 Ag '22

School laws and legislation

Can a state prevent teaching of a foreign language? Comm & Fin Chr 116:2573-4 Je 9 '23

School sanitation

Sanitation in school buildings. H. L. Patterson. Arch Forum 37:112-13 Ag '22

School savings banks

Ideals and dangers in school savings banking. T. F. Wallace. Comm & Fin Chr 117:129-30 sec 2 O 13 '23

School savings banking. 174p [bibliog. p. 165-9] Ronald press '23

School savings banking during school year of 1922-23. 15p American bankers' assn., New York '23

School savings banks. A. P. Howard. Comm & Fin Chr 115:173-4 sec 2 O 21 '22

Why banks install school savings systems. C. W. Laycock. Comm & Fin Chr 115:175-6 sec 2 O 21 '22

Schoolhouses

Architectural monograph on a three teacher rural school with teachers' cottage, to be built of white pine. 24p White pine bureau, St. Paul '21

Architecture of schools. W: C. Hays. il plans Arch Forum 37:69-72, pl 29-31 Ag '22

Building for future school needs. il plans Bldg Age 45:46-7 Ag '23

Columbus plans for obtaining well-rounded cooperation in designing school buildings. H. D. Smith. Arch Rec 51:462-4 My '22

Concrete vs. structural steel in New York city schools. E. E. Seelye. il Concrete 19: 218-19 D '21

Excessive floor loads specified for school buildings. N. M. Stineman. Am Arch 123:334-5 Ap 11 '23; Same abr. Eng & Contr (Bldgs) 60:158 Jl 25 '23

Fighting bad school buildings. Nation's Business 10:57+ Je '22

High-school buildings and grounds. U S Bur Educ Bul, 1922, no 23:1-49 '22

Junior-senior high school. Waterloo, Iowa; views. Am Arch 124:378a-c O 24 '23

North Woodward high school, Detroit, Michigan. Am Arch 121:60f-1 Ja 18 '21

Planning details of schools. W. H. Kilham. il diags plans Arch Forum 37:51-6, pl 19-23 Ag '22

Planning schools for educational purposes. E. Sibley. Am Arch 123:233-4 Mr 14 '23; Same abr. Eng & Contr (Bldgs) 59:1455-6 Je 27 '23

Pleasing exterior to this school; Kensington school, Great Neck, L. I. il plans Bldg Age 45:59 Je '23

Reinforced concrete most economical in school construction. diags plans Concrete 23:132, 135-6 O '23; Same. Eng & Contr (Bldgs) 60:1345-8 D 26 '23

School buildings, sites and school district bonds. 55p Univ. of state of New York press, Albany '23

School distribution and areas in the city plan. G. Burnap. il plans Arch Rec 52:371-85 N '22

School grounds, school buildings and their equipment. 78p Texas Dept. of educ., Austin '22

School plant in present-day education. W. B. Ittner. il plans Arch Forum 37:45-50, pl 17-18 Ag '22

Wasteful schoolhouse planning. Am Arch 123: 202-3 F '23

Auditoriums

Community features of the modern school. D. H. Perkins. il plans Arch Forum 37:65-8, pl 24-8 Ag '22

Bibliography

School buildings and school architecture. G. C. Gamble. p.32-3 Journal of the National education assn. '22

Cost

Cost of public school buildings. Eng & Contr (Bldgs) 58:134 D 27 '22

Economies in Cleveland school plans. G. M. Hopkinson. il plans Arch Forum 37:81-4, pl 36-8 Ag '22

School building construction costs. J. O. Betelle. il plans Arch Forum 37:77-9 Ag '22

Designs and plans

Artistic school design. il plans Bldg Age 44: 38-40 S '22; 45:39 F '23

Beecher school, Westville, Conn. il plans Am Arch 123:26-7 Ja 3 '23

Brick school of attractive design. il plan Bldg Age 44:42 O '22

Commercial high school, New Haven, Conn. Am Arch 122:318 l, 332 O 11 '22

Concrete in remodeling for Denver school. A. J. R. Curtis. il plan Concrete 22:194 My '23

Country school of colonial architecture. il plan Bldg Age 44:43 Ja '22

Davis street school, Westville, Conn. plans Bldg Age 45:44 Mr '23

Davis street school, Westville, Conn.; view and plans. Am Arch 122:106-8 Ag 2 '22

East high school, Cincinnati, Ohio. il diags plans Am Arch 121:340-5, 346a-j Ap 26 '22

East Side high school, Cincinnati, Ohio. il plans Arch Rec 51:329-37 Ap '22

Fourth dimension in schoolhouse design. W: R. Greeley. il plans Arch Forum 36:127-30 Ap '22

Hollow tile school; design suitable for a small city. il plan Bldg Age 43:30 D '21

Intermediate or junior high school in Detroit. H. W. Anderson. il diags plans Am Soc Heat & V E J 28:618-35 S '22; Same abr. Heat & Ven 19:38-43 Jl '22; Discussion. Am Soc Heat & V E J 28:635-6 S '22

Junior-senior high school, Roanoke Rapids, N.C. plans Am Arch 124:600-p, 61-2 Jl 18 '23

Kensington school, Great Neck, Long Island. H. D. Eberlein. il diags plans Arch Rec 52: 198-210 S '22

Missouri modern school. P. H. Patrick. il plans Bldg Age 44:38-9 Ag '22

Modern school. il plans Bldg Age 44:46-7 My '22

New development in school planning; the polygon. J. I. Bright. il plans Arch Forum 37:95-7 Ag '22

New junior and elementary schools of Niagara Falls, New York. W. B. Ittner. il plans Am Arch 123:185-90 F '23

Schoolhouses—Designs and plans—Continued

- New Washington Gladden high school of Columbus, Ohio. W; B. Ittner. il plans Am Arch 122:347-52 O 25 '22
- Planning our schools. il plans Bldg Age 45: 62-4 Ja '23
- Planning schools for educational purposes. E. Sibley. Am Arch 123:233-4, 236a-p Mr 14 '23
- Public school wardrobes. E. J. G. Phillips. il diags plans Bldg Age 44:30-2 Je '22
- Roosevelt group, Detroit, Mich. il plans Am Arch 123:401-4h My 9 '23
- Safety exits for school buildings. il plans Am Arch 123:128-31 Ja 31 '23
- St Lawrence school, West Haven, Conn., views and plans. Am Arch 121:512i, 518 Je 21 '22
- School building number. Arch Forum 37:44-114 Ag '22
- School of brick at Hamden, Conn. il plans Bldg Age 45:67 My '23
- School planned for future. il diags plans Bldg Age 44:28-9 Mr '22
- Senior high school, Bay City, Mich. il plans Am Arch 123:546f-j, 549-51 Je 20 '23
- Some buildings in a Dutch housing community. W. M. Dudok. il plans Arch Forum 38:235-8 My '23
- Southern school of hollow tile. il plans Bldg Age 44:56 F '22
- Strong school, New Haven, Conn. il plans Bldg Age 45:42 Jl '23
- Strong school, New Haven, Conn.; views and plans. Am Arch 121:512j, 519 Je 21 '22
- Winning design; competition for a proposed high school, Irvington, N.J. plans Am Arch 123:553-6 Je 20 '23

Electric equipment

- Electrical wiring layouts for schools. N. C. Ross. il plans Arch Forum 37:105-10, 141-4, 191-4, 227-30 Ag-N '22

Furniture, equipment, etc.

- Mechanical equipment for a large Mesaba iron range school; vocational high school. diags plans Heat & Ven 19:32-6 N; 43-50 D '22

Heating and ventilation

- Heating and ventilation of Chicago schools. J. Howatt. il plans Am Soc Heat & V E J 28:493-505 S '23; Same cond. Heat & Ven 20: 43-7 Jl '23; Discussion. Am Soc Heat & V E J 29:505-6 S '23
- Heating and ventilating system. J. J. Mahar. plans Arch Forum 37:100-4 Ag '22
- How to determine in advance the cost of a heating and ventilating system. J. J. Mahar. Heat & Ven 20:37-9 Jl '23
- Intermediate or junior high school in Detroit. H. W. Anderson. il diags plans Am Soc Heat & V E J 28:618-35 S '22; Same abr. Heat & Ven 19:38-43 Jl '22; Discussion. Am Soc Heat & V E J 28:635-6 S '22
- Mechanical equipment for a large Mesaba iron range school; vocational high school. diags plans Heat & Ven 19:32-6 N; 43-50 D '22
- New rulings for public school ventilation in Pennsylvania. Heat & Ven 19:45 Ja '22
- Notes on the report of the New York state commission on ventilation. D. D. Kimball. Heat & Ven 20:40-2 Jl '23
- Ozone in the St Louis schools. E. S. Hallett. Am Soc Heat & V E J 28:53-60 Ja '22; Discussion. 28:246-51, 723-32 Mr, O '22
- Portable unit ventilators. Heat & Ven 19:56 N '22
- Relation of temperature, humidity and circulation in air conditioning. J. Mackay. diags plan Dom Eng 101:523-7 D 23 '22
- Remodeling a school heating system. plans Sheet Metal Worker 13:721-2+ N 24 '22
- Report of the New York State commission on ventilation; summary. Heat & Ven 20:35-8 My '23
- River coal for heating school buildings. E. T. Selig. il Heat & Ven 20:43-4 Ap '23
- School room ventilation. W. L. Durand and G. Grill. diag Sanitary & Heat Eng 97:220 Ap 21 '22

- Temperature and humidity in our class-rooms. J. Howatt. Am Soc Heat & V E J 28:805-8 N '22; Excerpts. Heat & Ven 19:55 Je '22
- Ventilating system readily installed in old school building. J. K. Raymond. diags plan Dom Eng 99:456-8 Je 10 '22
- Ventilation; report of the New York state commission on ventilation. 620p Dutton '23; Excerpt. Am Soc Heat & V E J 29:346-54 My '23
- Ventilation with window inlets. S; R. Lewis. diags Heat & Ven 20:61-2 Jl '23
- Weak spots in direct-indirect heating; results of a test of air conditions in the Greentown (Ind.) high school. E. V. Hill. diags Heat & Ven 19:29-32 Ja '22
- Where we are at in present-day ventilating practice. N. S. Thompson. diags plans Heat & Ven 19:27-32 Ap '22; Discussion. 19:43-4 My; 61 Jl '22

Lighting

- Practical applications of the principles of school lighting. H. B. Dates. Illum Eng Soc 17:642-56 N '22; Same. Am Arch 123:41-5, 84-6 Ja 3-17 '23; Discussion. Illum Eng Soc 17:657-62 N '22

Toilet rooms

- Schoolhouse toilets. R. M. Starbuck. diags Dom Eng 104:328-30+ Ag 18 '23

Schools

- Handley school, Winchester, Va. il plans Arch Forum 37:80, pl 35 Ag '22
- Misses Masters' school, Dobbs Ferry, N.Y. il Arch Rec 53:354-61 Ap '23
- See also Aviation schools; Automobile schools; Colleges and universities; Corporation schools; Engineering colleges; Evening and continuation schools; High schools; Mining schools and education; Textile schools; Trade schools; also Hill school, Pottstown, Pennsylvania

- Schooner racing. See Fishing schooner races

Schrafft and sons corporation

- We found quality the shortest road to volume. F. G. Shattuck. il System 43:314-17+ Mr '23

- Schuchardt, Rudolph Frederick, 1875- Sketch. por Elec W 79:1256 Je 24 '22

Schweitzer's reagent

- Viscosity of cellulose in cuprammonium hydroxide solution; the determination of the viscosity. R. A. Joyner. diag Chem Soc J 121:1511-25 Ag '22

Science

- Aspects of science. J. W. N. Sullivan. 190p R. Cobden-Sanderson, London '23
- Contemporary science. B. Harrow. ed. 253p Boni & Liveright, New York '21
- Domain of natural science. E. W. Hobson. 510p Macmillan '23
- Elementary general science. D. R. Hodgdon. 559p Hinds, Hayden & Eldredge, New York, Philadelphia '22
- Foundations of science. H. Poincaré. 553p Science press, New York '21
- Fundamental principles of scientific inquiry. D. Wrinch and H. Jeffreys. Philos Mag 6th ser 45:368-74 F '23
- Humanizing of knowledge. J. H. Robinson. 119p Doran '23
- Influence of science on human life. A. R. Tankard. Chem Age (Lond) 8:390-1, 418-19 Ap 14-21 '23
- March of science for 1922. Sci Am 128:162 Mr '23
- Outline of science. J. A. Thomson. 4v. Putnam '22
- Problems of modern science. A. Dendy. 237p Holt '22
- Science and engineering. J. H. Hunt. Soc Auto Eng J 13:51-4+ Jl '23
- Science and human affairs. W. C. Curtis. 330p Harcourt, Brace & co., New York '22
- Science of common things. S; F. Tower and J. R. Lunt. 398p Heath '22
- Science remaking the world. O. W. Caldwell and E. E. Slosson. 292p Doubleday '23

Science—Continued

Scientific thought. C. D. Broad. 555p Harcourt '23

See also Astronomy; Bacteriology; Biological chemistry; Biological physics; Botanical chemistry; Botany; Chemistry; Crystallography; Geology; Mathematics; Metallography; Meteorology; Microscope and microscopy; Mineralogy; Optics; Physics; Scientific research; Technology

Bibliography

Catalogue of British scientific and technical books. 376p British science guild, London '21

Classified bibliography of science; reprinted from The outline of science. Lib J 48:33-8 Ja 1 '23

Cruikshank science library. 337p University press, Aberdeen '21

Doctorates conferred in the sciences by American universities in 1921. C. J. West and C. Hull. (Reprint & Circ. Ser. 26) 20p '22 20c National Research Council, 1701 Massachusetts av, Washington, D.C.

General science; a bibliography for general science teachers. H. W. Wood. 20p Indiana univ., Extension division, Bloomington '21

Popular books in science. 20p American library association, Chicago '23

Dictionaries

Etymologisches wörterbuch der naturwissenschaften und medizin. C. W. Schmidt. 138p W. de Gruyter & co., Berlin and Leipzig '23

History

Development of the sciences. L. L. Woodruff, ed. 327p Yale univ. press, New Haven '23

Discovery, or the spirit and service of science. R. Gregory. 347p Macmillan '23

History of magic and experimental science during the first thirteen centuries of our era. L. Thorndike. 2v Macmillan '23

History of science; a cultural course for engineering students. P. B. McDonald. Eng & Contr 56:481-2 N 23 '21

Gli scienziati italiani dall'inizio del medio evo al nostri giorni. v.1 A. Nardecchia, Roma '21

Methodology

Scientific method. A. D. Ritchie. 204p Harcourt '23

Philosophy

Substance and function and Einstein's theory of relativity. E. Cassirer. 465p Open Court pub. co., Chicago '23

Scientific apparatus and instruments

Dictionary of British scientific instruments, issued by the British optical instrument manufacturers' association. 335p Constable & co., London '21

Manufacture of professional and scientific instruments. 1921. Am Mach 58:653 My 3 '23

Physical instruments for biological purposes. Engineering 114:419-20 O 6 '22

Plea for tax-free scientific instruments. H. A. Holz. Chem Age 30:340 Ag '22

Scientific appliances, and their uses in industry. Il Eng & Ind Management 7:600-4; 8:32-6 J 13-27 '22

See also Chemical apparatus; Electric apparatus and appliances; Electric instruments; Medical instruments; Meteorological instruments; Physical instruments; Surgical instruments and apparatus; Surveying instruments; Volumetric apparatus

Design

Mechanical design of scientific instruments. A. F. C. Pollard. diags Engineering 113:729-30, 763-4, 794, 828-9 Je 9-30 '22; Discussion. W. H. Martin. 114:75 J 1 21 '22

Scientific education

Science as applied to industry at Yale. W. E. Ford. Chem & Met Eng 26:554 Mr 22 '22

See also Chemical education

Scientific instrument research association, British. *See* British scientific instrument research association

Scientific management. *See* Factory management; Industrial management; Motion study; Time study

Scientific research

A propos des laboratoires et de la recherche scientifique. A. Lumière. Chimie & Ind 10:161-2 J 1 '23

British organization of research. Engineering 116:499-500 O 19 '23

Création d'un Office national des recherches scientifiques et industrielles, et des inventions. Génie Civil 82:161-2 F 17 '23

Développements récents des institutions de recherches scientifiques et industrielles à l'étranger et en France. J. P. Lehalleur. Chimie & Ind 6:833-41 D '21

Emphasis in education shifted to research work. E. Davenport. Eng N 89:362 Ag 31 '22

Informational needs in science and technology. C. L. Reese. (Reprint & Circ. Ser. 33) 10p '22 20c National Research Council, 1701 Massachusetts av, Washington, D.C.

Interdependence of abstract science and engineering. R. T. Glazebrook. Engineering 115:599-602, 633-6 My 11-18 '23; Same cond. Engineer 135:502-4 My 11 '23

National bureau of scientific research for France. Sci Am 128:332 My '23

L'organisation des recherches. P. Petit. Chimie & Ind 9:1023-5 My '23

Organisation of research. J. C. Irvine. Engineer 134:238-9 S 8 '22

Place of scientific research in the programs of trade associations. E. R. Weidlein. Chem Age 30:241-3 Je '22; Same abr. Refrig W 57:19-20 Ag '22; Same abr. Concrete 21:sup94 D '22

Progress of research in Canada. Can Eng 43:218-21 Ag 1 '22

Report [seventh] of the proceedings of the committee of the Privy council for scientific and industrial research, August 1, 1921, to July 31, 1922. Engineer 134:268, 304, 330-1 S 15-29 '22; Elec R (Lond) 91:467-8 S 29 '22; Engineering 114:368-9 S 22 '22

Report of the committee of the Privy council for scientific and industrial research for the year 1922-23. Engineer 136:398-9 O 12 '23; Elec R (Lond) 93:554-5 O 12 '23

Research and technical library. F. E. Cady. Il Special Lib 13:123-8 O '22

Science—a world of partnership. W. R. Whitney. Sci Am 127:100 Ag '22

Science in public affairs; a study in utilitarianism; with discussion. H. H. Hodgson. Soc Dyers & Col J 39:143-8 My '23

Scientific research as a career. W. R. Whitney. Eng & Contr 57:345 Ap 5 '22

Some considerations concerning technique. E. Farmer. diags Engineer 135:606 Je 8 '23

Status of scientific research in Illinois by state agencies other than the University of Illinois. L. D. White. Nat Research Council Bul v 5, pt 4:1-83 Mr '23

Sur l'invention et la recherche scientifiques. G. Claude. diags Chimie & Ind 9:1009-22 My '23

Training of engineers. C. R. Richards. W Soc E J 27:191-9 J 1 '22; Excerpt. Eng N 89:320 Ag 24 '22

University researchers should patent discoveries in their own names. W. J. Hale. Chem & Met Eng 25:913-14 N 16 '21; Discussion. 26:293 F 15 '22

Visit to Europe. E. W. Rice, jr. Gen Elec R 26:724-30 N '23

See also Aeronautic research; Agricultural research; Ceramic research; Chemical research; Electric research; Foundry research; Government research; Industrial research; Laboratories; Metallurgical research; Microscope and microscopy; Mining research; Petroleum research; Textile research; *also* Canada—Advisory council for scientific and industrial research; National research council; United States—Standards, Bureau of

Scientists

Masters of science and invention. F. L. Darrow. 350p Harcourt '23

Mysticism among men of science. Chem & Met Eng 26:290 F 15 '22

See also Pupin, Michael

- Sciotoville, Ohio**
Bridges
 Continuous truss bridge over the Ohio river at Sciotoville, Ohio, of the Chesapeake and Ohio Northern railway. G. Lindenthal. *il* diags *Am Soc C E Pro* 48:409-52 Mr '22; Excerpt. *Eng & Contr* 57:405-7 Ap '22; Discussion. *Am Soc C E Pro* 48:1311-20 My '22
- Scissors. See Shears**
- Scoposcope**
 Inspection methods. E. Fairbrother. *Ind Management (Lond)* 8:159-61 S 21 '22
 New model scoposcope. *diag Chem & Met Eng* 28:316 F 14 '23
 Scoposcope hardness of steel balls. A. L. Collins. *diags Iron Age* 108:1391-3 D 1 '21
 Shore improved scoposcope. *il Mach* 28:340 D '21; *Chem & Met Eng* 25:1107-8 D 14 '21
 Shore model-D dial recording scoposcope. *il Am Mach* 58:169-70 Ja 25 '23; *Iron Age* 111:216 Ja 18 '23; *Brass W* 19:45 F '23; *Mach* 29:489 F '23
 Special test block for the scoposcope. A. F. Shore. *Am Mach* 57:72 Jl 13 '22
 Standardization of methods of applying the scoposcope. A. F. Shore. *il charts diags Soc Auto Eng J* 13:409-16 N '23; Abstract. *Automotive Ind* 49:898 N 1 '23; Discussion. *Soc Auto Eng J* 13:483-4 D '23
 Uses scoposcope on thin sections. F. S. Tritton. *il diag Foundry* 50:225-7 Mr 15 '22
- Scopolamine**
 Die konstitutionen des scopolamins und scopolins; der Hofmannsche abbau des scopolins. K. Hess and O. Wahl. *il Deutsche Chem Gesell Ber* 55:1979-2025 Jl '22; Abstract. *Chem Soc J* 122 pt 1:854-7 S '22
 Truth is sought by drug in twilight sleep. *il Pop Mech* 40:571 O '23
- Scopoline**
 Die konstitutionen des scopolamins und scopolins; der Hofmannsche abbau des scopolins. K. Hess and O. Wahl. *il Deutsche Chem Gesell Ber* 55:1979-2025 Jl '22; Abstract. *Chem Soc J* 122 pt 1:854-7 S '22
- Scoria**
 Scoria-surfaced highways in Montana. *Eng & Contr (R & S)* 58:127 D 6 '22
- Scotch tweed**
Advertising
 Scotch tweed invasion. J. H. Collins. *Ptr Ink* 118:69-70+ F 23 '22
- Scotland**
See Canals—Scotland; Hydroelectric plants—Scotland; Oil shales—Scotland; Steel works—Scotland; Water power—Scotland
- Scott, Sir Walter, 1689-1761**
 Sir Walter Scott, printer. H: L: Bullen. *por Inland Ptr* 69:883-4 S '22
- Scott paper company**
 Two thousand brands reduced to three; Scott paper company eliminates jobbers temporarily. J. G. Lamb. *Ptr Ink* 118:123-4+ F 2 '22
- Scouring compounds. See Cleaning powders**
- Scovill manufacturing company**
 Oldest brass company in America. *il Metal Ind* 21:309-17 Ag '23
- Scranton, Pennsylvania**
Rapid transit
 \$9,000,000 valuation upheld. *Elec Ry J* 61:782-3 My 5 '23
- Scranton gas and water company**
 New office building for Scranton. J. Jeffrey. *il Gas Age* 49:551-4 My 6 '22; Same. *Am Gas J* 116:441-4 My 13 '22
- Scrap material**
 Films reduce losses from scrap. W. G. Hall. *Iron Tr R* 70:681-2 Mr 9 '22
 How one industrial plant handles scrap economically. *il Elec R* 80:254 My '22
 Scrap and waste—their causes and remedies. J. L. Nicholson. *Management Eng* 4:124 F '23
- Turning obsolete material into cash. *Factory* 28:656 Je '22
See also Cotton waste; Electric railroads—Scrap material; Railroads—Scrap material; Refuse, Utilization of; Rubber waste; Scrap metal; Waste; Waste paper; Waste products
- Scrap metal**
 China a market for steel scrap. *Iron Tr R* 73:678-9 S 6 '23
 Economic basis of the scrap business. C. Dreifus. *Iron Age* 110:533-4 Ag 31 '22
 Electric-furnace melting of manganese scrap. *Chem & Met Eng* 29:241 Ag 6 '23
 Electric press for scrap metal. *il Sci Am* 127:93 Ag '22
 High-cost factor in the scrap trade. W. V. Phillips. *Iron Age* 110:1430 N 30 '22
 Iron and steel scrap prices. See weekly numbers of Iron trade review
 New way to recover tin from scrap tin plate. *Sci Am* 125A:99 D '21
 Philadelphia scrap prices, 1901 to 1921. *Iron Age* 109:65 Ja 5 '22
 Philadelphia scrap prices, 1902 to 1922. *Iron Age* 111:75 Ja 4 '23
 Preparing iron and steel scrap. E. C. Kreutzberg. *il Iron Tr R* 73:1019-23 O 11 '23
 Recovery of secondary metals in Russia. M. G. Korsunsky. *Metal Ind* 20:141 Ap '22
 Salvaging skulls with oxygen. *il Blast F & Steel Pl* 11:132-3 Ag '23
 Scrap market erratic in 1921. *Iron Tr R* 70:87-8 Ja 5 '22
 Scrap metal from discarded warships. *Iron Age* 112:497 Ag 23 '23
 Scrap movement is uncertain. *Iron Tr R* 72:99-100 Ja 4 '23
 Scrap prices at Chicago, 1905 to 1922. *Iron Age* 111:74 Ja 4 '23
 Use of scrap iron and steel by western industry. *il J Elec* 49:250 O 1 '22
 When does scrap come back into use? W: C. Hirsch. *Iron Age* 111:1775-9 Je 21 '23
See also Bundling machines, Scrap metal; Metal waste; Railroads—Scrap material; Rails, Used
- Scrapbooks**
 Scrapbooks that save time and money for advertising managers. R. R. Updegraff. *Ptr Ink M* 4:50+ Mr '22
- Scrapers**
 Mucking in mines with portable hoists. J. A. Noyes. *il diags Eng & Contr (Ry)* 60:822-7 O 17 '23
 Recent developments in underground mechanical loading. C: E. van Barneveld. *il diags Eng & Min J* 116:501-11 S 22 '23
 Scraper loading well adapted to thin seams where coal will not slide from face to mine car. D. G. Ashmead. *il plan Coal Age* 21:285-7 F 16 '22
 Scraping and loading in mines with small compressed-air hoists. W. Royce. *il diags plans Eng & Min J* 112:925-31, 973-7, 1014-19 D 10-24 '21
 Some recent developments in scraper loading methods. J. S. Housman. *il diag Coal Age* 23:51-7 Ja 11 '23
 Use of scrapers underground. L. Eaton. *il diags Min & Sci P* 123:703-7 N 19 '21; Discussion. 123:773, 917 D 3, 31 '21
 Use of slip scrapers in Carson Hill mines. F. S. Ferraris. *Eng & Min J* 113:728 Ap 29 '22
- Scraping (metal work)**
 Scraping and frosting flat surfaces. O. S. Marshall. *il diags Mach* 29:889-92 Jl '23
- Scraping machines (metal work)**
 Automatic hot billet scraper. R. C. Rohrbacher. *il diags Iron Age* 109:1126-8 Ap 27 '22
 Cleaning steel billets with a hot scraper. *il Sci Am* 127:336 N '22
 Oilstone fixture for flat scrapers. H. Moore. *il diags Am Mach* 58:196 F 1 '23
- Scrapping of warships. See Warships—Demolition**
- Screening**
 Fine screening equipment—its selection and operation. F. S. Curtis. *Chem & Met Eng* 29:759 O 22 '23

Screening—Continued

Value of screen analysis in ceramics. F. P. Nickerson. *il Am Cer Soc J* 6:563-78 Mr '23

See also Sewage disposal—Screening

Screens

Developments in power station design. *il diags plan Engineer* 133:574-8 My 26 '22

Oscillating coke screens. H. N. Lowenthal. *il Gas Age* 52:136 Ag 4 '23

Pulp screening—solids from solids separation in solution. R. B. Wolf. *Chem & Met Eng* 29:450-1 S 10 '23; *Abstract. Paper* 32:10+ S 19 '23

Revolving screens for low-lift pumping stations, Detroit filters. T. A. Leisen. *il Eng N* 91:14 J1 5 '23

Sewage screen and pump station at Pleasantville, N.J. W. D. Vosbury. *il plans Eng N* 88:242-3 F 9 '22

Traveling screens perform under severe conditions. F. C. Rutledge. *il diags Power* 56:87-8 J1 18 '22

Water intake protected against severe conditions. *il Eng N* 88:235-6 F 9 '22

See also Bank buildings—Screens; Sewage disposal—Screening; Sieves

Screens, Moving picture. *See* Moving picture screens

Screw machines

Cleveland motor-driven automatic screw machine. *il Am Mach* 59:638 O 25 '23

Detroit automatic screw machine. *il Am Mach* 59:469-70 S 27 '23

High-speed spindle for screw machine. *diags Mach* 29:709-10 My '23

High-speed spindles for screw machines. L. D. Burlingame. *il diags Mach* 30:29-31 S '23

Screw machine products made in less than three seconds. L. D. Burlingame. *il diags Mach* 29:507-11 Mr '23

Set-up instructions for Brown & Sharpe automatics. S. R. Gerber. *Mach* 28:607 Ap '22

2-in. automatic screw machine. *il diags Engineering* 113:286-90 Mr 10 '22

Using cast-iron bars in automatics. F. H. Colvin. *il Am Mach* 58:97-9 Ja 18 '23

See also Forming tools; Machine tools

Manufacture

Planing operations on parts of National Acme automatics. *il Mach* 28:379 Ja '22

Standard cams for Brown & Sharpe automatic screw machines. D. A. Nevin. *diags Am Mach* 56:839-41 Je 8 '22

Table for use in milling cams for B. & S. automatic screw machines. E. C. Allen. *Am Mach* 58:371-2 Mr 8 '23

Screw propellers. *See* Propellers

Screw threads

Catching the thread by the jump method—discussion. W. E. Butler. *diags Am Mach* 58:45-6 Ja 4 '23

Formula for finding crest radius of Whitworth threads. H. Burton. *diag Mach* 29:982 Ag '23

Formulas for cutting and measuring threads. J. Williams. *chart Am Mach* 57:925-7 D 14 '22

Graphic comparison of screw thread pitches. H. W. Bearce. (Misc. pub. no. 49) U. S. Bureau of standards, Washington '22

Importance of screw thread fits in assembling. H. G. Schwoeppe. *Am Mach* 57:418 S 14 '22

Interchangeable threaded work. *diags Engineering* 114:320-1, 352-4 S 15-22 '22

Measuring screw threads; data sheets. *Mach* 30:16a S '23

Milling of screws and other problems in the theory of screw-threads. H. H. Jeffcott. *Engineering* 113:441-2; *Discussion*, 412-14 Ap 7 '22; *Engineer* 133:392-3 Ap 7 '22

Production of accurate screw threads. *Engineering* 113:304, 370, 391-2; 114:13-14 Mr 10, 24-31, J1 7 '22

Strength of bolt threads as affected by inaccurate machinery. G. M. Deming. *il Mech Eng* 45:583-5 O '23

Tool for drawing screw threads. E. L. Brooks. *diags Am Mach* 58:232-3 F 8 '23

Worm-thread formulas. P. A. Fredericks. *diags Am Mach* 55:1043-4 D 29 '21

See also Pipe threads; Thread cutting

Standards

American standard screw threads. *Mach* 29: 943 Ag '23

New screw thread standard. R. E. Flanders. *diags Am Mach* 59:167-9, 327-8, 441-2, 501-6, 589-90, 939-42 Ag 2, 30, S 20, O 4, 18, D 27 '23

Screw thread bill passes House. *Am Mach* 56:200f F 2 '22

Screw thread tolerances as recommended by the B.E.S.A. A. H. Sturdee. *Engineering* 113:761 Je 16 '22

Screw threads; proposed extension of S.A.E. standard. *Soc Auto Eng J* 10:524-30 Je '22; *Same*. *Automotive Ind* 46:1333-5 Je 15 '22

Standard pipe thread; data sheets. *Mach* 30: 100a O '23

Standard screw threads for bolts, machine screws, nuts, and commercially tapped holes. *Mech Eng* 45:498-500 Ag '23

Tap drill sizes of Tap and die institute. *Mach* 29:617 Ap '23

Testing

Bausch & Lomb contour measuring projector. *il Am Mach* 57:743-4 N 9 '22

Gages and gaging for screw-threads. *Soc Auto Eng J* 10:530-2; 11:543-5 Je, D '22

Inspecting by optical projection. *il diags Mach* 28:984-8 Ag '22

Inspection methods. E. Fairbrother. *il diags Eng & Ind Management* 8:42-3 Ag 10 '22

Modern methods of thread measurement. C. L. Burns. *diags Am Mach* 59:217-19 Ag 9 '23

Sine-bar fixture for accurately checking thread angles. *il Mach* 28:722 My '22

Speeding up screw thread inspection by optical projection. R. E. Flanders. *il Automotive Ind* 46:1116-19 My 25 '22

Thread measuring devices. B. M. W. Hanson. *il diags Mach* 29:946-8 Ag '23

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 59:557-60 O 11 '23

Using wires for gaging screw threads. *il Iron Tr R* 70:1873 Je 29 '22

Screws

American (national) machine screws. *Mach* 30:180a N '23

Dimensions of cap-screws and collar screws; data sheets. *diags Mach* 29:612a Ap '23

Dimensions of cap-screws; data sheets. *Mach* 29:444a, 530a F-Mr '23

Dimensions of machine screws; data sheets. *Mach* 29:780a Je '23

Efficiency of screws. C. D. Albert. *Sibley J* 36:2-3 Ja '22

Electdrive screw and nut setting tools. *il Am Mach* 57:275 Ag 17 '22; *Iron Age* 110:146 J1 20 '22; *Automotive Ind* 47:78 J1 13 '22

Joining bars by thermit welding; making lead screws for rifling machines. L. I. Grinnell. *il Am Mach* 56:132-3 Ja 26 '22; *Discussion*. R. G. Hogg. 56:717 My 11 '22

Manufacture of screw machine products, 1921. *Am Mach* 58:658 My 3 '23

Methods of machine tool design. A. L. DeLeeuw. *diags Am Mach* 57:534-7 O 5 '22; *Discussion*. J. T. Towilson. 58:272 F 15 '23

Reducing screw machine product costs by substituting brass for steel. H. L. Burlingame. *diags Am Mach* 58:823-4 Je 7 '23

See also Screw machines; Screw threads; Thread cutting

Specifications

United States government specification for wood screws. *U S Bur Stand Circ* 140:1-6 '23; *Excerpt*. *Am Mach* 58:728 My 17 '23

Testing

Checking the accuracy of lead-screws. *il Mach* 28:903-4 J1 '22

See also Screw threads—Testing

Scribner, Charles Ezra, 1858-Sketch. *por Elec W* 79:316 F 18 '22

Scrub women. *See* Office cleaners

- Sculpture**
 Architectural sculpture. il Am Inst Arch J 11:278-82 J1 '23
 Architectural sculpture by Lee Lawrie. L. V. Solon. il Arch Rec 54:388-90 O '23
 Architectural sculpture by Paul Jennewein. L. V. Solon. il Arch Rec 54:292-5 S '23
 Camera turned sculptor. il Sci Am 125A:135 D '21
 New statue of Christ in the Terme Museum at Rome. S. Casson. il (front) Am Inst Arch J 11:282-4 J1 '23
 Sculpture by camera. Mech Eng 45:58 Ja '23
See also Memorials
- Exhibitions**
 Notable exhibition of American sculpture. il Am Arch 123:395-9 My 9 '23
- Sculpture, Primitive**
 Prehistoric sculpture; discovery of two bison sculptured in clay by the Cr6-Magnons of 25,000 years ago. H. F. Ostorn. il Sci Am 125A:86-7 D '21
- Sculpture, Spanish**
 El Doncel de Sigüenza, an anonymous statue. M. Stapley. il Arch Rec 51:77-83 Ja '22
- Sea food**
See Crown sea food company; Fish trade
- Sea power**
 Merchant shipping and world commerce in relation to sea-power. W. Abell. Engineer 133:396-8 Ap 7 '22; Same. Engineering 133:432-5 Ap 7 '22; Discussion. Engineer 133:381-2 Ap 7 '22; Engineering 133:427-8 Ap 7 '22
See also Disarmament; Navies; Warships
- Sea sleds**
 Hydrogliders with surface propellers. il Pop Mech 38:337 D '22
 Sea sleds for passenger service. il Sci Am 128:161 Mr '23
See also Hydrogliders
- Sea walls**
 Coast preservation works in British Guiana. H. L. Vahey. il diag Eng & Contr 57:516-18 My 31 '22
 Record of early guniting job; sea wall at Lynn, Mass., repaired in 1911. il Can Eng 45:135 J1 10 '23
See also Breakwaters; Dikes (engineering); Docks; Harbors; Jetties; Wharves
- Sea walls, Concrete**
 Concrete caissons sunk in place for wharf and seawall, San Francisco Bay. F. G. White. il diags Eng N 91:252-4 Ag 16 '23
 Novel dock construction at San Francisco. il Ry R 73:241-2 Ag 18 '23
 Novel methods of construction used in building San Francisco's seawall. il Pop Mech 39:596-7 Ap '23
 Ocean Beach esplanade, San Francisco, California. M. M. O'Shaughnessy. il map Am Soc C E Pro 49:1846-59, pl 8-9 N '23
 Precast piers and arches for shipping terminal, San Francisco. il Concrete 22:241-2 Je '23
- Sea water**
 Colour of the sea. K. R. Ramanathan. Philos Mag 6th ser 46:543-53 S '23
 Corrosion of ferrous metals; abstracts. R. A. Haddfield. Engineering 113:419 Ap 7 '22; Engineer 133:414 Ap 14 '22; Eng & Contr 57:530 My 31 '22; Iron Tr R 70:1481-3 My 25 '22; Mech Eng 44:734-5 N '22
 Deterioration of structures exposed to sea action. Engineer 136:91+ J1 27 '23
 Deterioration of structures in sea water. Eng & Contr (Bldgs) 60:859-62 O 24 '23; Same abr. Engineering 116:435-6 O 5 '23
 Deterioration of structures of timber, metal, and concrete exposed to the action of sea-water. P. M. Crosthwaite & G. R. Redgrave, eds. 57p H. M. Stationery off., London '22
 Determination of silica in filtered sea-water. R. C. Wells. Am Chem Soc J 44:2187-93 O '22
 Relation of sea water to ground water along coasts. J. S. Brown. il diags Am J Sci 5th ser 4:274-94 O '22
- Velocity of sound in sea water. E. B. Stephenson. diag map Phys R 21:181-5 F '23
See also Concrete, Effect of sea water on
- Seaboard air line railway**
 Annual report—fiscal year ended Dec. 31, 1922. Comm & Fin Chr 116:2511-12 Je 2 '23
 Seaboard net earnings improve in recent months. map Ry Age 74:431-2 F 17 '23
- Seaboard national bank.** *See* New York (city)—Banks
- Seaboard process.** *See* Gas purification
- Seadromes.** *See* Aviation landing stations—Seadromes
- Seafaring life**
 Superstitions of sea defy age of reason. il Pop Mech 40:850-2 D '23
- Sealing (glass and metals)**
 Art of sealing base metals through glass. W. G. Houskeeper. il diags Am Inst E E J 42:954-60 S '23; Discussion. 42:1350-1 D '23
- Sealite**
 Corn Products acquires sealite rights. Chem & Met Eng 28:325 F 14 '23
 Durable foam seal stops evaporation and reduces fire risk. P. Truesdell. diags Nat Pet N 14:43+ J1 12 '22
 Evaporation and fire loss problem—sealite. J. M. Jennings. Am Pet Inst Bul 3:122-8 D 30 '22; Same abr. Nat Pet N 14:40d D 13 '22
 Sealite. Chem Age 31:82 F '23
- Seals (animals)**
 Radio's control of sealing; U. S. navy station in the middle of the Bering sea protects the American fur seal herd. S. C. Hooper. il Wireless Age 10:36-8 Ag '23
- Seaman, Hallock W., 1860-**
 Newly elected president of the American mining congress. por Eng & Min J 116:592 O 6 '23
- Seaman, Harry J.**
 Sketch. por Chem & Met Eng 28:435-6 Mr 7 '23
- Seamanship.** *See* Navigation
- Seamen**
 American steamship owners' association; wage scales, etc. Monthly Labor R 14:521-3 Mr '22
 Equalizing seamen's wages. V. G. Iden. Analyst 19:296 Mr 6 '22
 Hours of labour in the mercantile marine. Int Labour R 5:321-8 F '22
 International seamen's union of America; a study of its history and problems. A. E. Albrecht. U S Bur Labor Statistics Bul 342: 1-120 '23
 Marine personnel—shipping board vessels. Monthly Labor R 17:426-7 Ag '23
 Merchant seamen; their diseases and their welfare needs. W. E. Home. 111p Dutton '22
 Monthly wages on American and British cargo steamers. Monthly Labor R 16:1269-70 Je '23
 Seamen's wages in Sweden and England. Monthly Labor R 17:668-70 S '23
 Shipping board increases pay of seamen. Comm & Fin Chr 116:2196-7 My 19 '23
 Shipping strike in Hongkong. Ta Chen. Monthly Labor R 14:863-9 My '22
 Wage agreements and working conditions in German merchant marine. Monthly Labor R 17:430-8 Ag '23
 Wage rates on American and foreign cargo steamships, 1922. Monthly Labor R 16:358-64 F '23
 Wages and working conditions of British seamen. Monthly Labor R 13:815-16 O '21
 Wages and working conditions of unlicensed men in trans-Atlantic, trans-Pacific, Atlantic, Pacific, and Gulf coast service. Monthly Labor R 14:520-1 Mr '22
See also Merchant marine; Ships—Manning
- Law**
 Danish seamen's law of May 1, 1923. Monthly Labor R 17:480-2 Ag '23
 Punishments of merchant seamen. W. P. Raine. Marine Eng 28:142-4+ Mr '23

Seaming machines

A-B-C of sheet metal working machinery application. L. Broemel. *il diags Sheet Metal Worker* 13:250-1+ My 12 '22
 Building special machines for can-seaming. A. Mumper. *il Mach* 28:899-900 J1 '22
 Niagara no. 42 compound seam-closing machine. *il Am Mach* 56:344 Mr 2 '22; *Mach* 28:592 Mr '22

Seaplanes

Besson commercial seaplanes. *il diags Engineer* 136:346-7 S 28 '23
 Boats that fly. D. C. M. Hume. *Aeronautical J* 26:108-14 Mr '22
 Characteristics of the aircraft entered in the Curtiss marine flying trophy race. *il Aviation* 13:413-15 O 2 '22
 Characteristics of the aircraft entered in the Pulitzer trophy race. *il Aviation* 13:416-20 O 2 '22
 Combination land and sea plane of original design. *il Pop Mech* 36:804 D '21
 Curtiss navy torpedo seaplane. *il diags Aerial Age* 14:586-7 F 27 '22; *Aviation* 12:141, 172 Ja 30-F 6 '22
 Dayton Wright model FP-2 seaplane. *il Aerial Age* 14:420-1 Ja 9 '22; *Aviation* 11:625-6 N 28 '21
 Foreign air transport by seaplane. L. d'Orcy. *il diags Aviation* 14:122-5 Ja 29 '23
 Lesson of the Schneider cup race. W. H. Sayers. *il Aviation* 15:577-80 N 5 '23
 Lessons of the Curtiss marine flying trophy race. W. A. Moffett. *Aviation* 13:559 O 23 '22
 Navy entries in the Detroit airplane races. *il Aviation* 13:346-8 S 18 '22
 Navy-Wright racer for the Schneider cup. *il Aviation* 15:365 S 24 '23
 New navy training plane. *Aviation* 13:291 S 4 '22
 Practical aspect of seaplanes. T. R. Cave-Browne-Cave. *Roy Aeronautical Soc J* 27:272-80; Discussion. 280-8 Je '23
 Seaplanes in overseas flights. *il Aviation* 12:545 My 8 '22
 Seaplanes—present status of the question. C. R. Faurey. *Aviation* 14:292-4 Mr 12 '23; Abstract. *Engineer* 135:174 F 16 '23; Abstract. *Génie Civil* 82:301-3 Mr 31 '23; Abstract, with discussion. *Engineering* 115:197-8 F 16 '23
 Seaplanes prevent drug smuggling. *Aviation* 11:606 N 21 '21
 Shipboard scout seaplane: the Martin-Navy. *il Aviation* 14:474 Ap 30 '23; Same. *Aerial Age* 16:263 Je '23
 Some new German seaplanes. E. Hildsheim. *il Aviation* 11:594-6 N 21 '21
 United States court decides Glenn H. Curtiss invented hydroairplane. *Aerial Age* 14:390-1 Ja 2 '22; Same. *Aviation* 12:19-20 Ja 2 '22
 Viking IV for naval aviation. *diags Aviation* 12:232 F 20 '22

See also Flying boats

Model testing

Ten years' testing of model seaplanes. G. S. Baker. *il diags Roy Aeronautical Soc J* 27:224-38; Discussion. 239-43 My '23

Testing

Full scale determination of the lift and drag of a seaplane. M. M. Munk. *diags Aerial Age* 15:130-1 Ap 17 '22; Same. *Aviation* 12:482-3 Ap 24 '22

Seaports. See Ports**Searchlights**

Developing equipment for night flying. *il Aviation* 14:578-81 My 28 '23

Étude sur les projecteurs. D. Schwertzer. *diags Soc Ing Civils Bul* 74:373-402, pl 12-13 J1 '21

Thermocouples and the measurement of searchlight mirror temperatures. F. A. Benford. *il Gen Elec R* 25:498-502 Ag '22

Searchlights, Military

Portable searchlight unit for military service. *il Pop Mech* 39:539 Ap '23

Procédé de pointage des projecteurs sur objectifs aériens. A. Bochet. *Soc Ing Civils Bul* 75:106-13, pl 22 Ja '22; Excerpt. *Génie Civil* 79:548 D 17 '21

Seasonal industries

Cast-iron pipe makers decry seasonal buying. *Eng N* 89:675-6, 721, 765+, 816, 861+, 908, 953+; 995 O 19-D 7 '22
 Efforts to regularize employment in seasonal trades. M. T. Waggaman. *Monthly Labor R* 14:157-68 Ja '22
 Getting customers to buy steadily; American radiator company. *System* 44:297-301 S '23
 Helping dealer get fast turnover on seasonal goods. *Ptr Ink* 123:111-12 Je 21 '23
 Management problem in seasonal industries. D. W. Rockey. *Ind Management* 63:77-9 F '22
 Old established house invades vacation market; Richardson & Robbins sell canned chicken. *Ptr Ink* 119:36 Je 15 '22
 Price of heating equipment to vary with cost of production during the year. *Heat & Ven* 20:53-4 My '23
 Reducing turnover in seasonal industries. H. S. Gilbertson. *Management Eng* 3:286-8 N '22
 Turning a dull-season business into profits; Beech-nut packing company. J. Gore. *il Factory* 30:276-8+ Mr '23
 Why I consider costs basic in shaping my policies; business of dyeing and bleaching straw braid. R. H. Comey. *Factory* 28:397-9 Ap '22
 Would premiums prompt people to buy seasonal product early? *Ptr Ink* 118:20 Mr 9 '22

See also Building trades; Summer business; also names of seasonal industries and products, e.g. Coal trade; Hats; Ice industry

Advertising

Advertising to get distribution on a seasonal specialty; ash barrel truck. R. F. Degan. *Ptr Ink* 117:10+ N 24 '21
 Coca-cola more than doubles advertising outlay. G. A. Nichols. *Ptr Ink* 117:3-4+ N 24 '21
 Good-will helps ice company sell by-products. *Ptr Ink* 120:113-14 J1 20 '22
 Ice cream freezers can be sold in December. *Ptr Ink* 123:52 Ap 26 '23
 Leveling the peaks of seasonal sales. C. B. Sweatt. *Ptr Ink* 120:3-4+ S 14 '22
 Overcoming the seasonal demand by creating more seasons; the Associated manufacturers of enameled ware show dealers how to advertise. J. Henle. *Ptr Ink* 120:81-2+ Ag 10 '22
 Paint industry looks to advertising to correct unsatisfactory labor situation. H. W. Rubins. *Ptr Ink* 124:93+ Ag 23 '23
 Smashing tradition in seasonal advertising. A. L. Townsend. *Ptr Ink* 119:134+ Je 29 '22
 Some fallacies concerning seasonal advertising. *Ptr Ink* 122:93-4+ F 8 '23
 Why a farm-tool manufacturer took to making children's sleds. W. A. McGarry. *Ptr Ink* 122:17-20 F 15 '23
 Wilted collar selling; how manufacturers are planning to prevent the summer slump. S. C. Lambert. *Ptr Ink* 119:3-4+ My 25 '22
 See also Christmas gifts—Advertising; Electric fans—Advertising; Ice cream—Advertising; Ice industry—Advertising; Toys—Advertising

Seasonal labor. See Unemployment**Seats, Car. See Car seats****Seattle, Washington**

See also Skagit river power project

Harbor

Great ports of the nation—Seattle. H. Crary. *il Am Ind* 23:19-23 N '22

Rapid transit

Annual report shows gain in Seattle. *Elec Ry J* 59:613 Ap 8 '22

Circuit court of appeals rules Seattle is not compelled to use general fund for railway operation. *Elec Ry J* 60:954 D 16 '22

City council of Seattle approves five-cent fare bill. *Elec Ry J* 60:1025 D 30 '22

Seattle, Washington—Rapid transit—*Continued*
Conference on rewriting of purchase contract for Seattle railway. Elec Ry J 61:697 Ap 21 '23
Council tables Mayor's request for lower fare. Elec Ry J 60:894 D 2 '22
Doubled income; still shows loss; Seattle's experiment in municipal ownership of street railway system. Gas Age 49:233-4 F 25 '22
Four years of municipal railway ownership in Seattle. P. M. Fogg. il Elec Ry J 62:175-7 Ag 4 '23
Mr Henderson answers the Witt report. Elec Ry J 59:289 F 18 '22
Seattle Municipal gross slightly less. Elec Ry J 61:861-2 My 19 '23
Seattle's fiasco in municipal ownership of traction lines. Eng & Contr 57:461-2 My 17 '22
Trolley buses recommended for Seattle municipal lines. Elec Ry J 58:1024-5 D 10 '21

Sanitary affairs

Garbage and refuse disposal at Seattle. R. H. Thomson. Eng N 90:761 Ap 26 '23
Seattle fills land with garbage, ashes and refuse. Eng N 89:876-7 N 23 '22

Seawalls. See Sea walls

Seaweed

See Algae; Kelp

Sebacaldehyde

Über die darstellung von aldehyden aus säurechloriden; Fr. Zetsche und Fl. Enderlin; Synthese des decandials. K. W. Rosenmund and F. Zetsche. Deutsche Chem Gesell Ber 55:609-12 Mr '22

Secret societies

Buildings

See Elks, Benevolent and protective order of—Memorial building, Chicago

Secretaries

How to become a company secretary. E. J. Hammond. 164p Pitman '22
Secretarial work and practice. A. Nixon and G. H. Richardson. 4th ed., rev. 215p Longmans '22
Training of a secretary. A. I. Church. 194p Lippincott '22

Secretaries, Private

Business practice up to date. S. Cody. 286p Business ability institute, Rochester, N.Y. '23
Commercial secretary; self-training functions and relations. W. G. Bruce. 180p Bruce pub. co., Milwaukee, Wis. '23
Course in secretarial correspondence. S. S. Center. 39p Columbia univ., New York '21
Manual for stenographers and secretaries. G. G. Munn. Administration 3:702-8 Je '22
Secretarial studies. R. P. Sorelle and J. R. Gregg. 401p Gregg pub. co., New York, Chicago '22
Training for secretarial practice. S. A. Taintor. 298p McGraw-Hill '23

Securities

American theory of security price movements. E. A. Bradford. Annalist 19:657 Je 19 '22
Art of investment. M. W. Gaines. Administration 2:623-40, 799-810 N-D '21
Course of study for brokerage, stock exchange, investment banking. R. L. Smitley. 253p Dixie business book shop, 140 Greenwich st., New York '23
Europe's great crop of securities. J. Oakwood. Annalist 19:606 Je 5 '22
Exchanging securities without taxable profits. M. Rolnik. Annalist 19:560-1 My 22 '22
First quarterly index of security offerings for the period July 1 to Sept. 30, 1923. Annalist 22:449-63 O 1 '23
Foreign securities in American markets. Annalist 21:155, 185-6 Ja 22-29 '23
General quotations of bonds and stocks. Published in monthly Bank and quotation section of Commercial and financial chronicle
Glossary of terms. C. Hodson. 42p C. Hodson & co., New York '22
How to choose among security offerings. See weekly numbers of the Annalist

Problem of issuing duplicates of securities lost. I. H. Meehan. Comm & Fin Chr 116:2954 Je 30 '23
Regulation of security issues. J Account 34:351-4 N '22
Report of industrial securities committee. Comm & Fin Chr 117:1946-7 N 3 '23
Rise in British gilt-edged securities. Annalist 21:859+ Je 25 '23
Some sales in Blue sky. Nation's Business 10:17-18 Ja '22
Stability in bonds reflex of careful buying. W. C. Johnston. Comm & Fin Chr 116:2575-6 Je 9 '23

See also Bonds; Electric railroads—Securities; Electric utilities—Securities; Gas companies—Securities; Investments; Loans, Foreign; Municipal bonds; Oil promoters; Public utilities—Securities; Railroads—Securities; Stock exchange; Stocks

Advertising

Making partners of customers. R. Dickinson. Ptr Ink 122:126+ F 15 '23

See also New York stock exchange—Advertising rules

Bibliography

Investment analysis. W. E. Lagerquist. p. 703-74 Macmillan '21

Law

Blue sky laws, analysis and text. R. R. Reed and L. H. Washburn. 267p Clark Boardman co., New York '21
Blue sky laws faulty. J. Nickerson, jr. Annalist 22:424-5 O 1 '23
Manual of securities laws of the United States. L. L. Cowan. 1171p Corporation maintenance & service co., Chicago '23
Proposed federal blue-sky law. R. W. Johnson. Ptr Ink 122:113-14+ F 8 '23
Texas law provides \$10,000 fines, 10-year terms to end stock frauds. Nat Pet N 15:97+ Jl 11 '23
Watered stock—commissions—Blue sky laws—stock without par value. W. W. Cook. 16p Michigan law review assn., Ann Arbor '21

Sedimentation (chemistry)

Fundamental properties of commercial limes. M. E. Holmes, G. J. Fink and F. C. Mathers. Chem & Met Eng 27:1212-16 D 20 '22

See also Particles

Sedimentation and deposition

Erosion and sedimentation in the Papago country, Arizona; with a sketch of the geology. K. Bryan. il diags maps (supp) U S Geol S Bul 730—B:19-90 '22
Sedimentation in Lake Louise, Alberta, Canada. W. A. Johnston. il Am J Sci 5th ser 4:376-86 N '22

See also Silt

Seed trade

An assortment always an easy unit to sell. Ptr Ink M 6:94+ My '23
We built our success on the neighborly spirit. H. Field. il System 42:138-40+ Ag '22

Advertising

British advertising that has built world business; what the Sutton family's 116 years' experience has taught about selling seeds. T. Russell. Ptr Ink 121:61-2 N 9 '22
Selling grass seed by the ton in a neglected market. R. W. Johnson. Ptr Ink M 5:29+ Jl '22
Using three appeals to get distribution for Dreer's Garden book. J. True. il Ptr Ink M 5:44+ S '22

Seeds

How tree seeds live through forest fires. W. I. Hutchinson. il Pop Mech 38:901-2 D '22
Oil and albumen content of seeds. Kleberger. Sci Am 125A:116 D '21
See also Germination

Government distribution

Millions in food from federal free seed. G. H. Dacy. il Sci Am 127:398-9 D '22

Seeds—Continued

Scarification

Making a clover-seed huller and scarifier. I. D. Mullinax. *il diags Pop Mech* 40:946-8 D '23

Seep, Joseph

Joe Seep, friend to Independent and Standard, active at 84. D. A. Dennison. *Nat Pet N* 14: 89 Ap 12 '22

Seepage

Return-flow water from irrigation developments. R. I. Meeker. *bibliog Eng N* 89:105-8 Jl 20 '22; Discussion. R. Follansbee. 89:670 O 19 '22

Seepage from earth canals in Texas. W. F. Heath. *Eng N* 89:1075 D 21 '22

Seepage losses from Mackay reservoir. L. Crandall. *Eng N* 90:745 Ap 26 '23

Segregation

Segregation as it applies to tanks as segregating or mixing devices. C. Catlett. *Concrete* 20:sup95-100 My '22

Seine river

Le tracé du chenal maritime, dans l'estuaire de la Seine. *map Génie Civil* 80:150-2 F 18 '22

Seismograph

Galitzin seismographs. *il diags Engineering* 115:474-7 Ap 13 '23

Seismographic system for exploration of underground formations. P. Wagner. *Nat Pet N* 15:87 Ap 11 '23

Seismologic stations

List of seismologic stations of the world. H. O. Wood. *Nat Research Council Bul* 2 pt 7: 397-538 Jl '21

Seismology. See Earthquakes; Microseismograms

Selden, George Baldwin

Sketch. *por Automotive Ind* 46:153+ Ja 19 '22

Selectors, Ground. See Ground selectors

Selenates

Complex selenates. J. Meyer. *Chem Soc J* 122 pt 2:70-3 Ja '22

Organische abkömmlinge der selensäure. J. Meyer and W. Wagner. *Deutsche Chem Gesell Ber* 55:1216-22 My '22

Selenic acid

Refractive indices of selenic and selenious acids. H. W. Stone. *Am Chem Soc J* 45: 29-36 Ja '23

Selenious acid

Refractive indices of selenic and selenious acids. H. W. Stone. *Am Chem Soc J* 45:29-36 Ja '23

Selenious acid and heteropolyselenites. A. Rosenheim and L. Krause. *Chem Soc J* 122 pt 2:47-8 Ja '22

Selenium

Bismuth, selenium, and tellurium in 1922. V. C. Heikes. *U S Geol S Min Res of U S* 1922, pt 1:15-25 '23

Electrometric titration of selenium in the presence of tellurium, iron and copper. H. H. Willard and F. Fenwick. *diag Am Chem Soc J* 45:933-9 Ap '23

Ionization potential of selenium vapor. A. D. Udden. *diag Phys R* 18:385-8 N '21

Marketing of selenium and tellurium. F. F. Colcord. *Eng & Min J* 115:887-8 My 19 '23

New uses for selenium and tellurium. *Eng & Min J* 114:505 S 16 '22

Selenium in rubber compounding. I. Williams. *Ind & Eng Chem* 15:1019-21 O '23

Utilization of selenium. S. Sugie. *Am Cer Soc J* 5 (Cer A 1):287-8 N '22

Zur kenntnis des kolloiden selens. A. Gutbier and R. Emslander. *Deutsche Chem Gesell Ber* 54:1974-8 S '21

Selenium cells

How to make a selenium cell. T. P. Benson. *diags Pop Mech* 38:793-5 N '22

Light gives the alarm. *Sci Am* 126:436 Je '22

Light speaks! little selenium cell provides voice for motion pictures. H. A. Lane. *il Pop Mech* 38:334-6 S '22

Selenium cells that are different. *il Sci Am* 126:135 F '22

Selenium eye observes stars while astronomer sleeps. B. G. Priestley. *il Pop Mech* 39: 497-8 Ap '23

Wonderful selenium eye sorts bad beans from good with more than human accuracy. R. C. Folger. *il Pop Mech* 39:839-41 Je '23

See also Amplifiers

Selenium compounds

Researches on selenium organic compounds; synthesis of diaryl thiophenes and diaryl selenophenes. M. T. Bogert and P. P. Herrera. *Am Chem Soc J* 45:238-43 Ja '23

Researches on selenium organic compounds; synthesis of 2-methyl-4-selenoquinazolone, 2-phenyl-benzoselenazole, and some derivatives of the latter. M. T. Bogert and Y. Chen. *Am Chem Soc J* 44:2352-7 O '22

Über äthyl- und allyl-selenharnstoff und ihre halogenalkylate. H. Schmidt. *Deutsche Chem Gesell Ber* 54:2067-70 S '21

Selenium dioxide

Darstellung von selendioxyd. J. Meyer. *Deutsche Chem Gesell Ber* 55:2082-4 Jl '22

Selenium monochloride

Action of selenium monochloride upon propylene, butylene and amylene. C. E. Boord and F. F. Cope. *Am Chem Soc J* 44:395-401 F '22

Selenium oxybromide

Selenium oxybromide. V. Lenher. *Am Chem Soc J* 44:1668-73 Ag '22

Selenium oxychloride

Action of selenium oxychloride on pure rubber. C. E. Frick. *Am Chem Soc J* 45:1800-4 Jl '23

Action of selenium oxychloride on various metals and metallic oxides. W. L. Ray. *Am Chem Soc J* 45:2090-4 S '23

Action of selenium oxychloride upon ethylene, propylene, butylene and amylene. C. E. Frick. *Am Chem Soc J* 45:1795-1800 Jl '23

New solvent removes paint and cleans cylinders. *Pop Mech* 40:53 Jl '23

Pure selenium oxychloride. *Chem Age* 31:236 My '23

Selenium oxychloride to activate charcoal. *Chem Age* 30:422 S '22

Separation of columbium and tantalum by means of selenium oxychloride. H. B. Merrill. *Am Chem Soc J* 43:2378-83 N '21

Separation of molybdenum and tungsten by means of selenium oxychloride. H. B. Merrill. *Am Chem Soc J* 43:2383-7 N '21

Solubilities of certain metallic chlorides in selenium oxychloride. C. R. Wise. *Am Chem Soc J* 45:1233-7 My '23

Some properties of selenium oxychloride. V. Lenher. *Am Chem Soc J* 43:29-35; 44:1664-7 Ja '21, Ag '22; Abstract. *Chem & Met Eng* 24:401-2 Mr 2 '21

Vapor pressure of selenium oxychloride. V. Lenher. G. B. L. Smith and G. G. Town. *J Phys Chem* 26:156-60 F '22

Selenium tetrachloride

Researches on residual affinity and coordination. G. T. Morgan and others. *Chem Soc J* 121:2432-73; 123:444-52 N '22, Mr '23

Selenophenes

Researches on selenium organic compounds; synthesis of diaryl thiophenes and diaryl selenophenes. M. T. Bogert and P. P. Herrera. *Am Chem Soc J* 45:238-43 Ja '23

Self inductance

Calculation of high-frequency inductances. F. B. Pidduck. *Philos Mag* 6th ser 45:783-6 Ap '23

Effective self-capacity, inductance, and resistance of coils. G. W. O. Howe. *diags Inst E E J* 60:67-72 D '21

Self-inductance of circular coils. H. B. Dwight. *Elec J* 19:268-70 Je '22

Self-service stores

The Eteria idea; self-service proves especially popular in the far West. J. M. Castle. *Ptr Ink* 117:113+ D 29 '21

Self-service in the retailing of food-products. F. E. Chaffee and M. Kerbey. *il U S Agric Bul* 1044:1-52 '22

See also Piggly-Wiggly stores

- Selfridge, Harry Gordon**
How they merchandize better abroad. *por*
System 42:249-51+ S '22
- Semicarbazides**
Action of amines on semicarbazones; preparation of an optically active semicarbazide. F. J. Wilson, I. V. Hopper and A. B. Crawford. *Chem Soc J* 121:866-70 My '22
Isomeric esters of benzoylacrylic acid. G. P. Rice. *Am Chem Soc J* 44:222-38 Ja '23
Isopropyl, menthyl and bornyl semicarbazides, reduction of phenylhydrazones. D. Neighbors and others. *Am Chem Soc J* 44:1557-64 Jl '22
- Semi-Diesel engines**
Automatic oil-engine light plant. C. K. Lee. *diags Power* 58:252-3 Ag 14 '23
Cooling of semi-Diesel engines. R. E. Dean. *Power* 58:20 Jl 3 '23
Features of a new Primm semi-Diesel engine. *diag Power Pl Eng* 27:702 Jl 1 '23
Flour making by oil. A. L. Copeland. *il diag plan Power Pl Eng* 26:611-12 Je 15 '22
Increasing the output of a semi-Diesel engine. S. M. Howe. *diag Power* 57:319 F 27 '23
Le moteur à huiles lourdes Peugeot-Tartrais. G. Delanghe. *il diags Génie Civil* 82:547-52 Je 9 '23
Les moteurs semi-Diesel. M. Bochet. *il diags Génie Civil* 80:197-202 Mr 4 '22
New British marine oil engines developed; semi-Diesel and modified Tosi. *il Marine Eng* 28:566-8 S '23
New type of oil pump for semi-Diesel engines. *diags Power* 56:692 O 31 '22
Oil-engine-driven ice plant. *il plan Power* 58:375-7 S 4 '23
Oil engine hints. *il diags Power Pl Eng* 26:565-9 Je 1 '22; *Discussion*. M. S. Howard. 26:709 Jl 15 '22
Operation of semi-Diesel engines. T. C. Now. *Power* 58:211 Ag 7 '23
Semi-Diesel engine operation. F. C. De Weese. *diags Power Pl Eng* 26:262-4 Mr 1 '22
Some experiences with a hot-bulb oil engine. C. K. Leed. *diag Power* 57:302 F 20 '23
- Water injection**
Use of water injection in semi-Diesel oil engines. R. B. White. *Power* 55:617-18 Ap 18 '22
Water in a semi-Diesel. *Power* 58:428, 543 S 11, O 2 '22
- Semioxamazones**
Derivatives of semioxamazide; ketonic semioxamazones. F. J. Wilson and E. C. Pickering. *Chem Soc J* 123:394-7 F '23
- Semi-steel**
Iron and steel classified for designers. W. J. Merten. *Blast F & Steel Pl* 10:233-4 Ap '22
Mechanical characteristics of castings. A. Portevin. *il Iron Age* 112:610-14 S 6 '23
Melted steel in the cupola. R. E. Masters. *Foundry* 50:1008 D 15 '22
Melting of cast iron in the Booth rotating electric furnace. H. M. Williams and T. B. Terry. *il Am Electrochem Soc Trans v* 41 (preprint 21):285-94 Ap '22; *Same*. *Foundry* 50:863-5 N 1 '22
Rôle of chemistry in semi-steel. J. E. Bock. *Iron Age* 112:397-8 Ag 16 '23
Semi-steel. J. Cameron. *Engineer* 134:149-51 Ag 11 '22; *Abstract*. *Engineering* 113:821-2 Je 30 '22; *Discussion*. *Engineering* 114:44 Jl 14 '22
Semisteel not low in total carbon contents. D. McLain. *Foundry* 50:98 F 1 '22
Steel scrap in cupola iron mixtures. E. J. Lowry. *Iron Age* 110:337-8 Ag 10 '22
Thermal treatment of molded pieces; imperfections in tempering semi-steel. *Iron Age* 112:743+ S 20 '23
Throws light on steel melting. G. Muntz. *Foundry* 51:77-9 Ja 15 '23; *Same*. *Iron Tr R* 72:880-1 Mr 22 '23
- Seneca copper corporation**
Facts for the stockholder. *Eng & Min J* 116:42 Jl 7 '23
- Senses and sensation**
Selling the senses. R. Barstow. *Administration* 3:541-4 My '22
- Sense-organs of lower animals. G. H. Parker. *Sci Am* 128:243 Ap '23
See also Color sense; Ear; Hearing; Sight; Smell
- Separation of gas mixtures. See Gas separation**
- Separators**
Centrifugal separation of solids from solids in air. R. M. Gay. *il Chem & Met Eng* 29:448-50 S 10 '23
Electrostatic separators; patent. *diags Chem & Met Eng* 26:36 Ja 4 '22
Is there a centrifugal solution for your production problem? L. H. Clark. *il Chem & Met Eng* 29:459-64 S 10 '23
Principles and practice for separation of solids from one another. C. E. Locke. *il Chem & Met Eng* 29:446-8 S 10 '23
Purification des liquides par l'action simultanée de la force centrifuge et du champ électrique. A. Marx and J. Rozières. *diags Chimie & Ind* 10:218-20 Ag '23
Separating liquids from liquids. *Chem & Met Eng* 29:198 Jl 30 '23
Separation of materials by mechanical means. C. Bentham. *diags Engineer* 135:181 F 16 '23
See also Centrifugal machines; Clarifiers; Coke separators; Gas separators; Gauze dish; Magnetic separation of ores; Magnetic separators; Oil separators; Steam separators; Tar extractor
- Septic tanks**
Best septic tank for a 100 pupil school house. *diags Dom Eng* 103:275 My 12 '23
Designing septic tanks for 4,000 persons. *diags Dom Eng* 97:443 D 3 '21
Making septic tanks of cement pipe. *diags plan Dom Eng* 102:220-1 F 3 '23
Plumbing contractor's ideas about septic tanks. *diags Dom Eng* 98:273-4 F 11 '22
Sanitating a small city; Leeds, Alabama. W. A. Hardenburgh. *il diags plan Pub Works* 53:148-50 S '22
Septic tank for eight-apartment buildings with two stores. *diags Dom Eng* 98:9-10 Ja 7 '22
Septic tank, its use and abuse. J. R. Walker. *diags Sanitary & Heat Eng* 100:242-4 O 19 '23
Septic tanks for sewage disposal in rural and suburban districts. C. M. Mayo. *Dom Eng* 100:16 Jl 1 '22
Sewage disposal for country homes; abstract. D. C. Miller. *Am Inst Arch J* 11:XVII+ My '23
Successful sewage disposal systems for farm and rural homes and schools. F. R. King. *diags plan Dom Eng* 97:533-6 D 17 '21
See also Imhoff tanks; Sewage tanks
- Septic tanks, Concrete**
How I built up a septic tank and burial vault business. R. C. Jarvis. *il diags Concrete* 21:7-8 Jl '22
Septic tanks. *il diags Concrete* 20:245-6; 21:159 Je, N '22
- Sericulture. See Silkworms**
- Servants**
See Employers' liability
- Service (in industry)**
Changing selling policies to meet changed business conditions. C. T. Cutting. *Ptr Ink* 121:109-12 D 7 '22
Jobber's advertising capitalizes on a manufacturer's suggestion; laying linoleum. *Ptr Ink* 117:34+ N 17 '21
Manufacturer who urges dealers to ask questions. P. Yount. *Ptr Ink* 124:118+ Jl 12 '23
Natural foundation laws of service. L. S. Wright. *Elec W* 78:1113-14 D 3 '21
Reducing service to a definite code; Marland refining company. R. Dickinson. *Ptr Ink* 125:73-4+ N 1 '23
Renders a service and sells a product on the side; Oakley chemical company. A. Belden. *Ptr Ink* 124:98+ Jl 26 '23
Selling and service problems in the distribution of specialties. D. Kirkland. *Ptr Ink* 122:150+ Ja 25 '23
- Service campaign that finds new uses and eliminates waste. G. H. Wicker. Ptr Ink** 118:89+ F 9 '22

Service (in industry)—Continued

- Service in a machine tool plant. *il Am Mach* 57:457 S 21 '22
- Service plan that builds good-will; Burroughs adding machine company. *C. D. Stevens. System* 43:165-7 F '23
- Soap and water as first aid to washing machine selling. *C. M. Harrison. Ptr Ink* 118:101-2+ *Ja* 19 '22
- Something extra that builds up sales volume; the Barta press. *H. A. Wheeler. il System* 44:308+ S '23
- Systematized sales:—vital need of the present-day printer. *L. K. Davis. Ptg Art* 40:37-41 S '22
- We make free service pay us in selling automobile tires. *E. Ramsdell. il System* 42:705-7+ D '22
- What do we mean by service? *J. K. Jones. Am Mach* 57:413-15 S 14 '22
- When the dealer fails to render an advertised service—what then? *R. Cole. Ptr Ink* 117:57-8+ N 17 '21
- When the manufacturer sells his product and the dealer's service to the consumer. *R. Cole. Ptr Ink* 119:3-4+ *Je* 22 '22
- Why many charging-for-service plans failed. *Ptr Ink* 117:72 N 17 '21

See also Automobile industry and trade—Service; Electric industries—Service; Gas companies—Service; Tractor industry and trade—Service

- Service at cost.** *See* Street railroads—Franchises
- Service charge.** *See* Gas rates
- Service letters.** *See* Recommendation, Letters of

Sesame oil
Hydrogenated oil for oil baths. *G. R. Robertson. Ind & Eng Chem* 15:701 *Jl* '23

Sesquiterpenes

Chemistry of the sesquiterpene group. *C. Hollins. Chem Age (Lond)* 9:452-4, 506-8 O 27, N 10 '23

See also Cadalene; Eudalene

Settlement houses. *See* Social settlements

Settling. *See* Sedimentation

Seville, Spain

See Iberian-American exhibition

Sewage**Analysis**

- Colorimetric method of analysis for sewage effluents. *R. C. S. Walters and V. G. Pickering. Engineer* 134:602 D 8 '22; *Same. Eng & Contr* 59:258-9 *Ja* 31 '23
- Standard methods for the examination of water and sewage. 5th ed., rev. 111p *American public health assn., New York* '23

Sewage disposal

- L'assainissement des agglomérations et des cités ouvrières. *C. Dantin. il diags plans Génie Civil* 81:229-33, pl 8 S 9 '22
- Characteristics of some Connecticut sludges. *J. F. Jackson and J. Doman. il diags plan Boston Soc C E J* 9:37-57 F '22; *Same. Eng & Contr* 57:35-9 *Ja* 11 '22
- Cleveland's westerly and easterly sewage-works in use. *G. B. Gascoigne. il Eng N* 89:528-9 S 28 '22
- Compact sewage-works for annexed district of Rochester. *J. F. Skinner. Eng N* 88:183-4 F 2 '22
- Complete sewage treatment for city of 3,000. *Delavan, Wis. W. A. Peirce. diags Munic Eng* 64:92-3 Mr '23
- Condensed manual of sewage works operation. *Munic Eng* 64:170-2 Ap '23
- Converting Columbia slough into sewage outlet. *W. P. Hardesty. il Eng N* 90:397-9 Mr 1 '23
- Curing a sick sewer system at Independence, Missouri. *L. B. Reynolds. Munic Eng* 64:93-5 Mr '23; *Same, with il. Eng & Contr (W W)* 59:631-4 Mr 14 '23; *Same. Pub Works* 54:160-2 My '23
- Developments in sewage disposal. *C. J. Mackenzie. Can Eng* 43:256-9 Ag 15 '22
- Elimination of odor in sewage gases by burning. *C. E. Leonard. il diags Eng N* 88:565-6 Ap 6 '22

- Evolution in sewage disposal, with special regard to South African experience in sludge treatment, particularly at Pretoria. *F. W. Jameson. Engineering* 115:215-16 F 16 '23
- Features of sewage disposal plant at Randolph, Neb. *K. C. Gaynor. il Munic Eng* 62:170-2 My '22
- German sewage-works for houses and public buildings. *K. Haller. diags plans Eng N* 88:450-1 Mr 16 '22
- Grease trap for sewage disposal plant. *C. E. Parry. il diags plan Concrete* 20:265-6 *Je* '22
- Methods of sewage disposal. *G. A. Johnson. Can Eng* 44:640-1 *Je* 26 '23
- New system of sewage disposal; the Aersed-con system. *diags plan Engineer* 132:481-2 N 4 '21; *Same. Eng & Contr* 56:509-11 N 30 '21
- New system of sewage treatment at Graham, Texas; the Sept-aer-sed system. *H. E. Elrod. il diags plan Eng N* 90:620-3 Ap 5 '23
- Operating sewage treatment plants. *Pub Works* 53:92-3 *Jl* 29 '22; *Same. Eng & Contr* 58:249 S 13 '22
- Operation of Gloversville sewage disposal plant; sewage analysis; cost data. *H. J. Hanmer. il Pub Works* 54:199-200 *Je* '23
- Operation of sewage treatment plants. *J. H. Dunlap. Eng & Contr* 56:436-7 N 9 '21; *Same. Can Eng* 42:170-2 *Ja* 24 '22; *Same cond. Pub Works* 51:450-3 D 10 '21; *Same cond. Eng N* 87:987-8 D 15 '21
- Physical aspect of sewage disposal. *F. R. O'Shaughnessy. Soc Chem Ind J* 42:359-68 S 7 '23; *Abstract. Chem Age (Lond)* 8:399-400 Ap 14 '23; *Discussion. Soc Chem Ind J* 42:368-70 S 7 '23
- Present status of sewage treatment in England. *G. W. Fuller. Eng N* 90:206-8, 252-4, 299-301 F 1-15 '23; *Excerpts. Engineer* 135:370-1 Ap 6 '23; *Abstract. Engineering* 115:240 F 23 '23
- Pumping and drainage systems. *Hamilton. maps Can Eng* 45:241-9 Ag 21 '23
- Recent developments in sanitary engineering. *G. W. Fuller. Can Eng* 45:447-50 O 30 '23; *Same abr. Eng & Contr (W W)* 60:769-75 O 10 '23
- Recent developments in sewage treatment. *G. W. Fuller. Munic Eng* 63:148-58 O '22; *Abstract. Pub Works* 54:18-19 *Ja* '23
- Recent experiments in sewage disposal. *J. W. H. Johnson. Eng & Contr* 58:22-5 N 29 '22; *Same. Can Eng* 43:367-9 S 19 '22
- Recent sewage treatment methods. *Engineer* 133:103 *Ja* 27 '22
- Report on sewage disposal at Hamilton, Ont. *Can Eng* 44:454-7 My 1 '23
- Revamped sewage disposal plant at Chicago Heights, Ill. *L. K. Sherman. il diag plan Eng N* 89:520-1 S 28 '22
- Revolving sprinklers feature new sewage disposal plant at Lebanon, Ind. *L. A. Geupel. il Munic Eng* 61:164-6 N '21
- Sanitary district of Chicago. *L. Pearse. il map W Soc E J* 28:179-94 My '23
- Sanitary engineering problems and progress; abstracts of papers, reports and discussions at the Am. Soc. C. E. sanitation conference, New York city, Nov. 14-18. *Eng N* 87:905-6 D 1 '21
- Sewage disposal and the Chicago problem. *H. P. Eddy. il diag maps W Soc E J* 28:165-78 My '23
- Sewage disposal and the prevention of contamination of water supply. *E. Cunningham. Dom Eng* 99:96-8, 144-5, 192-4 Ap 15-29 '22
- Sewage disposal for small municipalities. *J. F. Skinner. Eng N* 87:780-1 N 10 '21; *Same. Pub Works* 51:481-3 D 24 '21; *Same. Can Eng* 42:421-3 Ap 25 '22; *Excerpt. Eng & Contr* 56:556 D 14 '21
- Sewage disposal for suburban homes and for isolated institutions. *W. F. Allison. Washington U Eng Exp Sta Bul* 16:1-38 '22
- Sewage disposal in the tropics. *Eng & Contr* 57:312-13 Mr 29 '22
- Sewage; the price of civilization. *H. A. Mount. il diag Sci Am* 126:125-6 F '22

Sewage disposal—Continued

- Sewage treatment. 30p Iowa state college of agriculture and mechanic arts, Ames. '23
- Sewage treatment in Imhoff tanks. R. Riker. diags Pub Works 52:39-42, 59-62, 89-91, 106-7 Ja 21-F 11 '22; Discussion. 52:146 F 25 '22
- Sewage treatment in the United States. H. H. Wagenhals, E. J. Theriault and H. E. Hommon. 260p U.S. Public health service, Washington '23
- Sewage-treatment progress in Chicago sanitary district. L. Pearse. il map Eng N 89:1008-13 D 14 '22
- Sewage treatment system for institution with 800 people. diags plan Dom Eng 98:314-16 F 18 '22
- Sewerage and sewage disposal. L. Metcalf and H. P. Eddy. 598p McGraw-Hill '22
- Sewerage and sewage treatment. H. E. Bab-bitt. 531p Wiley '22
- Sludge digestion at Birmingham. L. H. Salter. il Pub Works 53:107-10 Ag '22
- Small industrial sewage treatment plant. G. L. Robinson. Munic Eng 63:29+ J1 '22
- Some conclusions drawn from a recent survey of sewage treatment plants. H. H. Wagenhals. W Soc E J 27:239-49 Ag '22; Same abr. Eng & Contr 58:127-9 Ag 9 '22; Abstract. Pub Works 53:155-7 S '22; Abstract. Can Eng 43:531-2 N 14 '22; Discussion. W Soc E J 27:249-52 Ag '22
- Stream pollution and sewage disposal; a symposium. G. T. Hammond and others. Am Soc C E Pro 47:617-4 D '21; Discussion. 47:645-52; 48:111-16, 717-21 D '21-Ja, Mr '22
- Le traitement de l'eau d'égout. L. Fabre. il diags plans Chimie & Ind 8:1180-1200 D '22
- Le traitement des ordures ménagères. P. Razouls. il diags Génie Civil 80:7-11, 30-4, 49-54 Ja 7-21 '22
- Treatment and disposal of sewage. H. B. Hommon. 33p Reprint no. 580 from Public health reports, v.35, no. 3 '22
- Treatment of sewage sludge; how forty-three of the larger cities dispose of their sludge. Pub Works 53:217-18 N '22
- Treatment of storm-water. J. F. Skinner. Am Soc C E Pro 47:625-7 D '21; Same. Eng & Contr 57:44 Ja 11 '22
- Trenton sewage disposal; abstracts. G. A. Johnson. Pub Works 54:57-8+ F '23; Can Eng 44:537-9 My 29 '23
- Two new sewage treatment processes; the McLachlan and the Selo process. L. L. Tribus. Munic Eng 63:120-2 O '22
- Unique sewage-works and pump-equipment bid plan. G. D. Holmes. Eng N 89:1121-4 D 28 '22
- Unusual sewage-works combination at Wye, Kent, England. Eng N 87:949 D 8 '21
- Water supply and sewage disposal around lakes. L. Pearse. Can Eng 44:150-3 Ja 16 '23
- See also Imhoff tanks; Plumbing; Refuse disposal; Septic tanks; Sewage flow; Sewage pumping; Sewage sludge; Sewage tanks; Sewer cleaning; Sewer pipes; Sewerage; Sewers, Concrete; Trade waste; Water pollution

Accounting

- Keeping records and accounts for a small sewage works. P. Lamb. Eng & Contr 57:294-5 Mr 29 '22

Activated sludge method

- Activated sludge. Can Eng 43:193-4 J1 25 '22
- Activated sludge. E: Bartow and G. C. Baker. J Ind & Eng Chem 14:842-3 S '22
- Activated sludge. J: Haworth. Engineering 112:86-7 J1 8 '21; Same. Eng & Contr 56:508 N 30 '21; Discussion. Engineering 112:115-17 J1 15 '21
- Activated sludge experiments at Glasgow. Eng & Contr 58:2-3 N 29 '22
- Activated-sludge experiments at Moscow, Russia. S. Stroganoff. Eng N 89:245-6 Ag 10 '22
- Activated sludge for packing house waste at Mason City. E: Bartow. Pub Works 53:262-3 D '22
- Activated sludge for Pasadena. Pub Works 54:52 F '23
- Activated sludge plant at Brampton, Ontario. W. M. Treadgold. diags Can Eng 42:459-61 My 9 '22
- Activated sludge plant operations at Manchester, England. Eng & Contr 57:304-5 Mr 29 '22
- Activated sludge process; principles and recent developments. E: Bartow. Pub Works 54:216-18 J1 '23
- Activated sludge process, Withington works. E: Arden and W: T. Lockett. Soc Chem Ind J 42:225-30 My 25 '23
- Activated sludge sewage disposal plant at Gastonia, N.C. F. W. Simonds. il diags plan Pub Works 52:153-6 Mr 4 '22
- Activated sludge studies, 1920-1922. 150p Illinois water survey, Urbana '23
- Aeration experiments at Bury. J. Bolton. Can Eng 43:282-3 Ag 22 '22
- Air-pressure losses in piping of activated-sludge plants. H. L. McMillan. Eng N 91:178-80 Ag 2 '23
- Bio-aeration method of sewage treatment. J: Haworth and F. W. Hodgkinson. Can Eng 44:103-7 Ja 2 '23
- British developments in activated sludge process. H. C. H. Shenton. Eng & Contr (W W) 60:79-81 J1 11 '23
- Clarification and activation for Indianapolis sewage. C. H. Hurd. diags plans Eng N 88:484-8 Mr 23 '22
- Construction of Milwaukee activated sludge sewage disposal plant. R. R. Lundahl. il plan Munic Eng 63:224-9 D '22
- Design features of the Indianapolis activated-sludge plant. C: H. Hurd. il diags plan Eng N 91:258-62 Ag 16 '23
- Design of aeration units and sedimentation tanks for the activated sludge sewage disposal plant at Milwaukee, Wisconsin. D. W. Townsend. diags plans Am Soc C E Pro 48:43-68 Ja '22; Same cond. Engineering 113:211-14, 244-6 F 17-24 '22; Discussion. Am Soc C E Pro 48:1297-1302 My '22
- Dewatering sewage sludge; value of sludge as a fertilizer. T. C. Hatton. Pub Works 51:374-6 N 12 '21
- De-watering sludge. Can Eng 43:350 S 12 '22
- De-watering sludge. J: D. Watson. Engineering 112:87 J1 8 '21; Same. Eng & Contr 56:512 N 30 '21; Discussion. Engineering 112:115-17 J1 15 '21
- Dorr-Peck activated-sludge process has been given up. Eng N 88:251 F 9 '22
- Economics of the activated-sludge process. C. L. Peck. Eng N 90:522-6 Mr 22 '23; Discussion. 91:29, 194 J1 5, Ag 2 '23
- L'épuration des eaux d'égout par les boues activées. Génie Civil 80:281 Mr 15 '22
- Experience with activated-sludge plant at Eldorado, Kan. A. H. Jewell. Eng N 90:1085 Je 21 '23
- Glasgow and the activated sludge process. F. W. Harris. Engineer 136:204-5 Ag 24 '23; Same. Can Eng 45:430-2 O 23 '23
- How grit chambers work at the Worcester sewage plant. R. S. Lamphear. Eng N 88:519-20 Mr 30 '22
- How Milwaukee solved its sewage and trade waste problem; modifying the activated sludge process. il Chem & Met Eng 29:572-4 S 24 '23
- Importance of oxygen and stirring for activated-sludge growth. il diags Eng N 90:835-7 My 10 '23; Discussion. 90:1136-7; 91:238 Je 28, Ag 9 '23
- Large activated-sludge plant for Chicago sanitary district. Eng N 89:324 Ag 24 '22
- Making separator and diffuser container blocks for aeration units of Milwaukee sewage works. R. R. Lundahl. il diags plans Eng N 89:785-8 N 9 '22
- Mechanics of activated sludge process. J. A. Coombs. il diags plan Can Eng 45:201-7 Ag 7 '23
- Microbiology and theory of activated sludge. A. M. Buswell and H. L. Long. Am Water Works Assn J 10:309-21 Mr '23; Excerpts. Eng N 90:119-21 Ja 18 '23; Discussion. 90:742 Ap 26 '23
- Milwaukee activated-sludge plant to use vacuum filters. T. C. Hatton. Eng N 90:203-4 F 1 '23

Sewage disposal—Activated sludge method**—Continued**

- Operating results of experimental activated sludge plant at Indianapolis. Eng & Contr 57:352 Ap 12 '22
- Operation and dewatering at largest activated-sludge plants at Houston, Texas. il plan Eng N 89:132-7 J1 27 '22
- Power requirements of activated sludge plants. Eng & Contr 59:242-3 Ja 31 '23
- Practical solution of the problem of dewatering activated sludge. J. A. Wilson, W. R. Copeland and H. M. Heisig. Ind & Eng Chem 15:956-9 S '23
- Preliminary study of the activated sludge process. J. A. Wilson, W. R. Copeland and H. M. Heisig. J Ind & Eng Chem 14:128-30 F '22
- Present status of sewage treatment in England. G. W. Fuller. Eng N 90:299-301 F 15 '23
- Present status of the activated sludge process of sewage treatment. L. Pearce. Munic Eng 63:184-9 N '22
- Progress in the purification of sewage. J. Garfield. Can Eng 44:145-6 Ja 16 '23; Same. Eng & Contr 59:290-2 Ja 31 '23; Abstract. Pub Works 54:134-5 Ap '23
- Recovery of nitrogen from sewage in the activated sludge process. E. Ardern, C. Jephson and P. Gaunt. Soc Chem Ind J 42:230-4 My 25 '23
- Relation between gas evolved and the digestion of sewage in activated sludge. G. H. W. Lucas. Can Chem & Met 6:148-51 J1 '22
- Relation of iron to activated sludge. G. H. W. Lucas. Can Chem & Met 6:131-4 Je '22
- Results of fine screening and sludge dewatering experiments at Milwaukee. Eng & Contr 57:130-2 F 8 '22
- Sewage disposal plant at Crystal Beach, Ont. E. H. Darling. il diags map Can Eng 44:407-11 Ap 17 '23
- Sewage purification processes analyzed. J. H. Garner. Can Eng 45:187-91 J1 31 '23
- Sewage treatment. R. O. Wynne-Roberts. Can Eng 43:321-3 S 5 '22
- Sewage treatment by mechanical agitation; description of bio-aeration units at Sheffield. J. Haworth. il Eng & Contr 58:34-7 N 29 '22
- Sewage treatment plant at Cochrane, Ont. diags plan Can Eng 45:321-3 S 18 '23
- Simplex sewage plants. il Eng & Contr 57:527 My 31 '22
- Sludge disposal at the Rochester sewage disposal plant. N. A. Brown. Eng N 87:781-2 N 10 '21; Same. Eng & Contr 56:444 N 9 '21; Same. Pub Works 51:355-6 N 5 '21; Same. Munic Eng 61:225-6 D '21
- Some aspects of the sewage purification problem. F. W. Harris. Can Eng 43:494-5 O 31 '22
- Treatment of sewage by aeration in the presence of activated sludge. E. Bartow. il Am Inst Chem Eng Trans v 13 pt 2:79-88 '20-'21

Bibliography

- Activated sludge process of sewage treatment. J. E. Porter. 117p General filtration co., Rochester, N.Y. '21

Chemical treatment

- Colloid chemistry and its relation to tank treatment of sewage. F. W. Mohlman and L. Pearce. Am Water Works Assn J 9:311-18 Mr '22
- Effect of certain chemicals upon the filtration of ripe Imhoff sludge. P. A. van der Meulen and R. O. Smith. Ind & Eng Chem 15:281-2 Mr '23
- Lime treatment of sewage compared with direct-oxidation. R. S. Lanphear. Eng N 89:276-8 Ag 17 '22

Cost

- Cost of operation and maintenance of Fitchburg, Mass., sewage disposal works 1916 to 1921. Eng & Contr (W W) 58:159 D 13 '22
- Imhoff tanks and sprinkling filters for Champaign and Urbana. Eng N 90:152 Ja 25 '23
- Operation and dewatering at largest activated-sludge plants at Houston, Texas. il plan Eng N 89:132-7 J1 27 '22

Dilution

- Dilution factor. L. Pearce. Am Soc C E Pro 47:638-41 D '21; Same abr. Eng & Contr 56:546 D 14 '21
- Dilution in the treatment of sewage. P. Gillespie. Can Eng 42:254-5 F 21 '22

Electrolytic treatment

- Direct oxidation process. P. Gillespie. Can Eng 45:437 O 23 '23
- Disapprove of direct-oxidation process for sewage of Trenton, N. J. Eng N 90:972 My 31 '23
- Electrolytic or direct oxidation and the Lima deadlock. G. W. Fuller. Eng N 89:658-9; Discussion. 660-2 O 19 '22
- Successful operation of direct oxidation process of sewage treatment at Allentown, Pa. H. F. Bascom. il Munic Eng 63:165-71 N '22; Same. Can Eng 45:261-4 Ag '23 '23; Same abr. Eng & Contr (W W) 58:32-6 O 11 '22; Abstract, with discussion. Eng N 89:659-62 O 19 '22; Excerpt. Pub Works 53:219-20 N '22

Filtration

- Design of sewage dosing tanks for trickling filters. E. B. Besselièvre. diags Eng N 89:652-4 O 19 '22
- Filter construction in Chicago's drainage system. il Concrete 22:230-1 Je '23
- Hydraulics of dosing tanks and trickling filters. E. E. Sands. Eng N 89:67-9 J1 13 '22
- Imhoff tank and sprinkling filter studies at Plainfield works. W. Rudolfs. Eng N 90:779-81 My 3 '23; Same. Can Eng 45:329-31 S 18 '23
- Machine washing of filtering media. W. G. Smith. Eng & Contr 58:11-13 N 29 '22
- Maintenance of clean filtering medium in sewage filters. H. D. Bell. Can Eng 42:150-1 Ja 17 '22
- Methods and cost of mechanical cleaning filtering media of sewage beds. J. H. Abbott. Eng & Contr 58:208-9 Ag 30 '22; Same. Can Eng 43:579-80 N 28 '22
- Milwaukee activated-sludge plant to use vacuum filters. T. C. Hutton. Eng N 90:203-4 F 1 '23
- Nitrogen loadings of sprinkling filters as aid in design. S. A. Greeley. Eng & Contr (W W) 59:123-4 Ja 10 '23
- Production of alkalinity by bacteria as registered by different indicators. J. A. Reddie. Soc Chem Ind J 42:326-32 Ag 3 '23
- Sewage distribution tests with butterfly-valve control. H. R. King. diags Eng N 91:590-1 O 11 '23
- Sewage filter beds and the achorutes viaticus. F. W. Harris. diags Engineer 133:162 F 10 '22
- Some aspects of the sewage purification problem. F. W. Harris. Can Eng 43:494-5 O 31 '22; Same abr. Eng & Contr 58:32-3 N 29 '22
- Straw filters for sewage purification. E. H. Richards and M. G. Weekes. Engineering 112:86 J1 8 '21; Same. Eng & Contr 56:500 N 30 '21; Discussion. Engineering 112:114-15 J1 15 '21
- Testing sprinkling filter stone by freezing and thawing. il Eng N 89:938-9 N 30 '22

Miles acid process

- Miles acid process of sewage treatment. F. W. Mohlman. bibliog Eng Soc W Pa 37:345-64 O '21; Same. Can Eng 43:477-81 O 24 '22; Abstract. Pub Works 52:400-2 Je 3 '22; Discussion. Eng Soc W Pa 37:365-74 O '21

Screening

- Clarification and activation for Indianapolis sewage. C. H. Hurd. diags plans Eng N 88:484-8 Mr 23 '22
- Disposal of sewage screenings. W. F. Morse. Munic Eng 62:200-1 Je '22
- Fine screening at activated sludge plant, Milwaukee. il Eng & Contr (W W) 60:576-7 S 12 '23
- New link-belt sewage screens. il Munic Eng 62:36 Ja '22
- Sewage screen and pump station at Pleasantville, N.J. W. D. Vosbury. il plans Eng N 88:242-3 F 9 '22

Sewage disposal—Screening—Continued

- Tark sewage screen. il Eng & Contr (Equip R) 60:925 O 31 '23
 Use of fine sewage screens in New York city. K. Allen. il Munic Eng 61:219-21 D '21; Same. Eng & Contr 56:434 N 9 '21

Standards

- Scoring water and sewage treatment works. F. E. Daniels. Pub Works 52:135-8 F 25 '22

Sewage disposal, Rural

- Problems of rural sanitation. G. C. Whipple. Sanitary & Heat Eng 100:25+ J1 13 '23
 Septic tanks. il diags Concrete 20:245-6 Je '22
 Sewage and sewerage of farm homes. G. M. Warren. il U S Agric Farmers' Bul 1227:1-55 '22
 Sewage disposal for rural homes; abstract. H. W. Riley and J. C. McCurdy. Am Inst Arch J 11:XV+ S '23
 Successful sewage disposal systems for farm and rural homes and schools. F. R. King. diags plans Dom Eng 97:533-6, 575-9, 627-8 D 17-31 '21

See also Privies; Septic tanks

Sewage ejectors

- Automatic pneumatic sewage ejectors. diags Engineering 115:618 My 13 '23
 Condensation and vacuum pumps for the heating plant. E. Cunningham. diags plans Dom Eng 102:79-81 Ja 13 '23
 Improvement in Shone sewage ejector system. il Eng & Contr (W W) 59:1086 My 9 '23

Sewage flow

- Hydraulics of dosing tanks and trickling filters. E. E. Sands. Eng N 89:67-9 J1 13 '22
 Proper value of Kutter's *n* for sewer computations. C. W. Sherman. il Eng N 88:948-50 Je 8 '22
 Sewage distribution tests with butterfly-valve control. H. R. King. diags Eng N 91:590-1 O 11 '23
 Studies of discharge of sanitary sewers at Phoenix. S. M. Cotten. Eng N 89:837-40 N 16 '22

Sewage pumping

- Backwater from Keokuk dam damages Fort Madison (Ia.) sewer system. L. B. Reynolds. il Munic Eng 63:119-20 O '22
 Comparative methods of lifting sewage. F. G. Lloyd. Can Eng 42:231-2 F 14 '22
 Condensation pump and receiver adapted to sewage disposal and other services. il Power 58:215-16 Ag 7 '23
 Electric controllers for sewage pumps. il Pub Works 54:237-9 J1 '23
 Handling sewage with a centrifugal pump. diags Engineer 135:235-6 Mr 16 '23
 New Orleans automatic sewage pumping stations. G. G. Earl. Eng N 88:100-2 Ja 19 '22
 New sewage pumping plant at Bognor. il diag Engineer 135:426 Ap 20 '23
 New sewage pumps at Richmond. diags plans Engineer 133:515-17 My 12 '22
 Pumping and drainage systems, Hamilton. maps Can Eng 45:241-9 Ag 21 '23
 Pumps for sewage disposal work. T. M. Jones. il Can Eng 44:230 F 13 '23
 Sewage pumping station for London, Ontario. H. S. Philips. il diag plan Can Eng 43:447-9 O 17 '22
 Sludge and sewage pumps at the Royal agricultural show at Cambridge. il diags Engineering 114:39 J1 14 '22
 Unique sewage-works and pump-equipment bid plan. G. D. Holmes. Eng N 89:1121-4 D 28 '22

Cost

- Cost of sewage pumping at Columbus, O. C. D. McQuire. Eng & Contr 57:578 Je 14 '22

Sewage sludge

- Centrifuges for dewatering sludge. T. C. Hatton. Pub Works 51:461-4 D 17 '21; Same abr. Eng N 88:312-13 F 23 '22
 Characteristics of some Connecticut sludges. J. F. Jackson and J. Doman. il diags plan Boston Soc C E J 9:37-58 F '22; Same. Eng & Contr 57:35-9 Ja 11 '22

- Deposition of sludges resulting from sewage disposal plants. T. C. Hatton. Am Soc C E Pro 47:635-7 D '21

- De-watering sludge. J. D. Watson. Engineering 112:87 J1 8 '21; Same. Eng & Contr 56:512 N 30 '21; Discussion. Engineering 112:115-17 J1 15 '21

- Disposal of activated sludge. R. H. Eagles. Pub Works 53:111-12 Ag '22; Same. Can Eng 43:459-60 O 17 '22

- Expediting drying of sewage sludge. il chart Pub Works 54:213-15 J1 '23

- Experiments with activated sludge. Can Eng 43:361 S 19 '22

- Fixation of atmospheric nitrogen by activated sludge. C. L. Peck. Eng N 90:487-9 Mr 15 '23; Discussion. 90:843-5 My 10 '23

- PH value of activated sludge. Eng & Contr 58:5-6 N 29 '22

- Plant for separate sludge digestion. G. L. Robinson. plan Pub Works 52:241-2 Ap 8 '22

- Power from sewage gas. diags plans Engineer 132:642-3, 669-71 D 16-23 '21

- Sewage gas for power purposes. T. J. Moss-Flower. Can Eng 45:394 O 9 '23

- Sewage treatment. R. O. Wynne-Roberts. Can Eng 43:321-3 S 5 '22

- Sewage treatment problem in the United States from the standpoint of sludge. Eng & Contr (W W) 53:83-9 N 8 '22

- Sludge dewatering with hot sulphur dioxide gas and live steam. Eng N 87:947 D 8 '21

- Sludge disposal at the Rochester sewage disposal plant. N. A. Brown. Eng N 87:781-2 N 10 '21; Same. Eng & Contr 56:444 N 9 '21; Same. Pub Works 51:355-6 N 5 '21; Same. Munic Eng 61:225-6 D '21

- Treatment of sewage sludge; how forty-three of the larger cities dispose of their sludge. Pub Works 53:217-18 N '22

- Utilization of methane gas from Imhoff tanks. K. Imhoff. il diags Eng N 91:512-14 S 27 '23

- Utilizing gas from sewage sludge as motive power. J. D. Watson. Eng N 87:1062-4 D 29 '21; Same. Can Eng 42:127-9 Ja 10 '22; Abstract. Eng & Contr 56:495 N 30 '21

See also Sewage disposal; Sewage disposal—Activated sludge method

Sewage sludge as fertilizer

- Application of liquid sludge to farm land. R. Eaton. Eng & Contr 58:207 Ag 30 '22
 British developments in activated sludge process. H. C. H. Shenton. Eng & Contr (W W) 60:79-81 J1 11 '23
 Dewatering sewage sludge; value of sludge as a fertilizer. T. C. Hatton. Pub Works 51:374-6 N 12 '21
 Fertilizer value of activated sludge. W. D. Hatfield. 53p Illinois state journal co., Springfield '21
 Fertilizing value of activated sludge. H. D. Brown. Can Eng 43:440-1 O 10 '22; Abstract. Eng N 89:885 N 23 '22
 Progress in solving the sewage sludge problem. Munic Eng 65:165-7 O '23
 Progress in the purification of sewage. J. Garfield. Can Eng 44:145-6 Ja 16 '23; Same. Eng & Contr 59:290-2 Ja 31 '23
 Sludge reduction at the Baltimore sewage treatment plant. C. E. Keefer. plan Pub Works 52:209-11 Mr 25 '22
 Tests of value of sludge as fertilizer. Eng & Contr (W W) 60:538 S 12 '23
 Use of liquid sludge for agricultural purposes. W. Clifford. Eng & Contr 56:498 N 30 '21

Sewage tanks

- Design of sewage dosing tanks for trickling filters. E. B. Bessellievre. diags Eng N 89:652-4 O 19 '22
 Hydraulics of dosing tanks and trickling filters. E. E. Sands. Eng N 89:67-9 J1 13 '22
 Plant for separate sludge digestion. G. L. Robinson. plan Pub Works 52:241-2 Ap 8 '22
 Present status of sewage treatment in England. G. W. Fuller. Eng N 90:252-4 F 8 '23
 Sewage disposal with digestion tank. J. G. Skeels. Pub Works 52:200 Mr 18 '22

Sewage tanks—Continued

Sludge digestion tanks at the Baltimore sewage works. C. E. Keefer. il diags plan Pub Works 53:97-101 Ag '22
 Tanks and fine screens for treating sewage. G. T. Hammond. Am Soc C E Pro 47:618-21 D '21; Same abr. Pub Works 52:373-4 My 20 '22

See also Imhoff tanks; Septic tanks

Sewer cleaning

Cleaning sewer mains. S. C. Corson; W. P. Cottingham and others. il diag Pub Works 54:254-7 Ag '23
 Labor-saving devices in constructing and cleaning sewers. Pub Works 54:244-5 Jl '23
 Sewer maintenance; experience with cleaning seven miles of 15 and 20-inch sewer. D. C. N. Collins. il Pub Works 53:220-2 N '22
 Sewer maintenance in Dayton. I. E. Houk. il diag Pub Works 54:291-4 S '23

Sewer design

Application of the drop-down curve in Chicago sewers. C. D. Hill. Eng N 90:707-9 Ap 19 '23
 Cost data for intercepting drain Fall River, Mass. diags Eng & Contr (W W) 58:22-3 O 11 '22
 Design of storm overflow sewers, Hamilton, Ont. H. S. Philips. il diags plans Can Eng 44:349-52 Mr 27 '23
 Design of storm sewer and flood gate, Wichita Falls, Tex. J. Montgomery. diags plans Eng N 89:980 D 7 '22
 Don'ts for sewerage and water works designers. Pub Works 52:457-60 Je 24 '22
 Methods of design and construction and results of operation of submerged pipe lines for outfall sewers. L. Perry. Boston Soc C E J 10:227-8 My '23
 Ocean out-fall sewer syphon under the Middle harbour, Sydney, N. S. W. diags plan Engineering 115:547-50, 556 My 4 '23
 Problems in sewer design and maintenance. M. J. Ruark. Can Eng 42:587-9 Je 6 '22
 Run-off percentage used in sewer design. K. Allen. Eng & Contr 58:32 Jl 12 '22
 Some features of sewer design. J. W. Raymond, Jr. Boston Soc C E J 10:9-29 Ja '23
 Tentative standard specifications for monolithic concrete sewers and recommended rules for concrete sewer design. Am Concrete Inst Pro 19:429-60; Bibliography. 461 '23
 Typical examples of concrete sewers. diags Can Eng 45:441-6 O 30 '23

Sewer gas

Asphyxiation by gas in a sewer manhole. R. A. MacGregor. Eng N 89:577 O 5 '22
 Gas protective measures in sewer inspection. H. C. Whitehead. Eng & Contr 57:302 Mr 29 '22
 Sewage filter gas a danger. A. J. Martin. diag Eng N 89:450 S 14 '22

Sewer pipes

Cost of sewer joints in wet trenches. M. H. Walser. Pub Works 53:261-2 D '22
 Vitrified pipe in plumbing systems. W. E. Morgan. diags Brick & Clay Rec 63:104-6 Jl 24 '23
 Water-tight joints for sewer pipes. Pub Works 53:165-6, 181-2 S-O '22

See also Sewer cleaning; Sewers, Concrete

Manufacture

Clay sewer pipe manufacture. H. G. Schurecht. il Am Cer Soc J 6:615-22, 717-29, 831-6 My-Jl '23

Testing

Clay sewers withstand severe test. il Brick and Clay Rec 63:33-4 Jl 10 '23

Sewerage

Abuse of sanitary sewer systems. J. A. Stewart. Munic Eng 62:154 Ap '22
 Abuse of separate sewers and storm drains. Pub Works 54:92-4, 132-4 Mr-Apr '23
 Automatic sewage-flow regulator for intercepting sewer. H. S. Philips. diags plan Eng N 91:442 S 13 '23

Backwater from Keokuk dam damages Fort Madison (Ia.) sewer system. L. B. Reynolds. il Munic Eng 63:119-20 O '22
 Basic principles of the public sewerage of municipalities. W. L. Stevenson. Am Soc C E Pro 48:228-33 F '22
 Cleaning out sewage ponds with portable power scraper outfit. P. T. Naylor. il Eng & Contr (W W) 59:634-5 Mr 14 '23
 Constructing the Turkey Creek sewer in Kansas City, Missouri. P. A. Hartung. il Munic Eng 62:125-8 Ap '22
 Constructing Wichita Falls sewers. il Pub Works 52:31-2 Ja 14 '22
 Crossed pine storm sewers at Lafayette, La. L. J. Voorhies. il diag Eng N 89:701 O 26 '22
 Curing a sick sewer system at Independence, Missouri. L. B. Reynolds. Munic Eng 64:93-5 Mr '23; Same, with il Eng & Contr (W W) 59:631-4 Mr 14 '23; Same. Pub Works 54:160-2 My '23
 Detroit's intensive sewer construction program. J. R. Hendry. il plans Eng N 89:745-8 N 2 '22; Discussion. D. W. Townsend. 89:1039 D 14 '22
 Extension of West End sewer, Hamilton, H. S. Philips. il diags Can Eng 45:141-4 Jl 17 '23
 Infiltration flow in sanitary sewers. A. Potter. Eng & Contr (W W) 59:409-12 F 14 '23
 Intercepting sewer in the Essex border district. M. E. Brian. diag Can Eng 42:321-2 Mr 21 '22
 Inverted siphons for sewers; final report of committee. diags Boston Soc C E J 8:231-82; Bibliography. 283-5 S '21; Excerpts. Eng & Contr 56:552-5 D 14 '21; Abstract. Pub Works 51:340-1, 357-8 O 29-N 5 '21
 Labor-saving devices in constructing and cleaning sewers. Pub Works 54:244-5 Jl '23
 Limit of roof connections to separate sewage systems. J. P. Wentworth. Eng N 88:904-5 Je 1 '22
 Long inverted sewer siphon operates successfully on flat grade. Munic Eng 61:214-15 D '21
 Making sewer joints with the pipe partly under water. L. B. Reynolds. il diags Eng N 90:342-3 F 22 '23
 Manchester's new outfall sewer. plan Engineer 133:38 Ja 13 '22
 Manual of operation for use in maintenance of Louisville sewers. R. Canavan. diags plans Munic Eng 63:15-18+ Jl '22
 Methods and cost of constructing sewers in swamp land. A. G. Dalzell. diags Eng & Contr 56:547 D 14 '21
 Methods of design and construction and results of operation of submerged pipe lines for outfall sewers. Boston Soc C E J 10:1-7 Ja '23; Same. Eng & Contr (W W) 59:371-3 F 14 '23
 Metropolitan sewerage works. R. W. Loud. bibliog il diags map plans Boston Soc C E J 10:325-74 O '23; Excerpt. Eng & Contr (W W) 60:1239-42 D 12 '23
 Miscellaneous problems in sewer design and maintenance. M. J. Ruark. Munic Eng 62:29-32+ Ja '22; Same. Can Eng 42:587-9 Je 6 '22; Abstract. Pub Works 51:394-5 N 19 '21
 Notes on Bluefield's sewer report. Pub Works 54:95 Mr '23
 Prevention of misuse of sewers. W. H. Dittoe. Am Soc C E Pro 47:642-4 D '21; Same. Pub Works 52:7-8 Ja 7 '22
 Rehabilitating old sewer systems; abstracts. W. E. Stanley. Munic Eng 64:146-53 Ap '23; Eng & Contr (W W) 59:843-6 Ap 11 '23
 Report on industrial wastes from the stockyards and Packingtown in Chicago. 2v. Chicago (Sanitary district) Board of trustees, Chicago 1914-21
 Separate or combined sewers; advantages of each and comparative cost. H. P. Eddy. Pub Works 54:20 Ja '23
 Separate versus combined sewers. R. O. Wynne-Roberts. Can Eng 43:349 S 12 '22
 Sewer maintenance in Dayton. I. E. Houk. il diag Pub Works 54:291-4 S '23
 Sewer trenching at Evanston, Ill., with dragline. il Eng & Contr (W W) 60:789 O 10 '23

Sewerage—Continued

- Sewer trenching in running sand. diags Pub Works 52:467-8 Je 24 '22
- Sewer trenching with dragline excavator in 25th St., Queens borough, New York city. il Eng & Contr (W W) 60:77-8 Jl 11 '23
- Sewerage and sewage disposal. L. Metcalf and H. P. Eddy. 598p McGraw-Hill '22
- Sewerage and sewage treatment. H. E. Babbitt. 531p Wiley '22
- Sewerage: the designing, construction and maintaining of sewerage systems and sewage treatment plants. 9th ed. A. P. Folwell. Wiley '23
- Sewers and rainfall. J. B. L. Meek. Engineer 134:488 N 10 '22
- Spokane intercepting sewer design, construction and assessment. A. D. Butler. il Eng N 89:890-1 N 23 '22
- Suspended structure carries sanitary sewer over stream. J. C. Keeley. il Eng N 91:148-9 Jl 26 '23
- Trunk sewer under construction at Portland, Oregon. W. P. Hardesty. Eng N 90:865 My 17 '23
- Tulsa to have largest storm sewer in Southwest. C. Schultz. Munic Eng 63:100 S '22
- Turkey Creek sewer one of the largest yet built; relation of sewer to flood control problem of Kansas City. A. D. Ludlow. diags map Eng N 87:815-17 N '21
- Unusual sewer construction at Fort Madison; reconstruction made necessary by raising of water level. L. B. Reynolds. il Pub Works 53:222-3 N '22
- Use and abuse of systems of separate sewers and storm drains. H. P. Eddy. Eng N 89:614 O 12 '22
- Water infiltration in sewer systems. H. V. Pedersen. Munic Eng 64:56-9 F '23
- York township sewerage schemes. Can Eng 43:309 Ag 29 '22
- See also Drainage, House; Plumbing; Sanitary districts; Sewage disposal; Sewer cleaning; Sewer design; Sewer pipes; Sewers, Concrete; Trade waste; Water pollution; also subdivision Sewerage under names of cities, e.g. Cape Town, South Africa—Sewerage; Chicago—Sewerage; Colombo, Ceylon—Sewerage

Contracts

- Arbitration in contract practice. Eng N 90:1030-1, 1136 Je 14, 28 '23
- Louisville sewer specifications modified for contractors. Eng N 89:268-9 Ag 17 '22; Discussion. B. L. Parker. 89:491 S 21 '22

Cost

- Cost of sewer construction at Louisville, Ky. Eng & Contr 57:230-1 Mr 8 '22
- Cost of sewer construction at Providence, R. I. Eng & Contr (W W) 58:90 N 8 '22
- See also Sewers, Concrete—Cost

Finance

- Revision of bad law stimulates municipal improvement work in Missouri. F. H. Frauens. Munic Eng 65:158-9 O '23

Laws and regulations

- Delaware river sewage treatment zones fixed by facing states. Eng N 89:243 Ag 10 '22
- Pennsylvania and New Jersey adopt uniform policy regulating discharge of sewage into the Delaware river. Munic Eng 63:63-4 Ag '22; Same. Eng & Contr 58:142-3 Ag 9 '22
- Policies of the Engineering division of the Pennsylvania department of health as to public sewerage. W. L. Stevenson. Am Soc C E Pro 47:628-31 D '21; Same. Pub Works 51:505-6 D 31 '21
- Rules and regulations for operating Iowa sewage-works. Eng N 89:613 O 12 '22

Specifications

- Tentative specifications for sewerage and drainage; outline. Am Arch 123:484+ My 23 '23

Statistics

- Sewerage statistics for 1922; tabulation. Pub Works 54:239-43 Jl '23

Tabulated sewerage data; large sewers built in 1921 and 1922. Pub Works 53:124-33, 205-6 Ag, O '22

Water works and sewer contracts awarded during the last 46 months. Eng & Contr (W W) 60:1225 D 12 '23

Sewers. See Sewerage**Sewers, Brick**

- Negley Run relief sewer. il Pub Works 53:39-40 Jl 15 '22
- Repairing a small brick sewer by cement gun method. R. A. Mac Gregor. Munic Eng 64:sup23-4 F '23
- Tentative specifications for clay sewer brick. diags Am Soc T M Pro 21:527-32 '21

Sewers, Concrete

- Building an outfall sewer of concrete at Syracuse. il Concrete 20:145-8 Ap '22
- Building intercepting sewers and siphon at Hammond, Ind. J. B. Murphy. il diag Eng N 91:58-9 Jl 12 '23
- Collapsible steel forms for gigantic sewer. Detroit. il Pop Mech 36:842-3 D '21
- Colorado Springs sewer follows new principle. il Concrete 22:183-4 My '23
- Concrete for sewers. Concrete 23:25-6 Jl '23
- Constructing Conners Creek sewer. il Pub Works 52:173-6 Mr 11 '22
- Construction of Conners Creek sewer. C. Ashley. il diags map Pub Works 54:219-22 Jl '23
- Construction systematized in soft ground tunnel. il diags Eng N 87:940-2 D 8 '21
- Driving a concrete-block sewer tunnel by shield: some troubles and their remedies. J. F. O'Rourke. il diags Eng N 89:174-6 Ag 3 '22
- Kansas City building world's largest sewer. G. F. Paul. il Pop Mech 38:377-8 S '22
- Los Angeles engineers approve concrete sewer pipe in sea water. Eng N 90:825 My 10 '23
- Los Angeles' outfall sewer. Pub Works 54:232-3 Jl '23
- Negley Run relief sewer. il diags Pub Works 53:39-40 Jl 15 '22
- Plain concrete sewer acts as beam after wash-out. O. E. Stanley. plan Eng N 88:683 Ap 27 '22
- Typical examples of concrete sewers. diags Can Eng 45:441-6 O 30 '23
- Use of concrete pipe for building storm and sanitary sewers. M. W. Loving. il Can Eng 42:285-6 Mr 7 '22

Cost

- Cost data for intercepting drain Fall River, Mass. diags Eng & Contr (W W) 58:22-3 O 11 '22

Specifications

- Tentative standard specifications for monolithic concrete sewers and recommended rules for concrete sewer design. Am Concrete Inst Pro 19:429-60; Bibliography. 461 '23

Sewers, Segment block

- Segment block sewer loaded to destruction. H. A. Pulliam. il diag Pub Works 54:224-5 Jl '23
- Test of segment block sewer. il Can Eng 44:623 Je 26 '23

Sewing

- Energy expenditure in sewing; abstract. C. F. Langworthy and H. G. Barott. J Ind Hygiene 4:sup94 O '22

Sewing machines

- Sewing machines. R. C. Cook. 146p Manual arts press '22
- Stop motion for sewing machines. il Textile World 61:2975+ My 20 '22

Advertising

- Advertising a seam to sell a sewing machine. Ptr Ink 122:81-2+ Mr 1 '23
- Sewing machines, Electric

Merchandizing

- Sales points on electric sewing machines and sewing machine motors. N E L A Bul 9:178-80 Mr '22

Sewing machines, Electric—Continued**Safety devices and measures**

Safety devices for power and manual sewing machines have been highly developed. S. V. Smith. *Safety Eng* 44:115-16+ S '22

Sex detector

Sex detector exposed. *Sci Am* 126:386 Je '22

Sextant

Les instruments de bord et de navigation pour aéronefs; le sextant Baker. *diags Génie Civil* 80:345 Ap 15 '22

Sextant and air navigation. *Aviation* 15:492-3 O 15 '23

Sgraffito. See Graffito decoration**Shackleton, Ernest, 1874-1922**

Sketch. *por Sci Am* 126:274 Ap '22

Shaft sinking

Best method of sinking a shaft. *Coal Age* 21:212, 783-4, 1009-10 F 2, My 11, Je 15 '22

Breaking the world's record in shaft-sinking.

W. Fitch, jr. *il Min & Sci P* 123:748-50 N 26 '21; Same. *Eng & Contr* 56:577 D 21 '21

Concrete caisson used to sink shaft through wet sand. R. F. Mundorff. *il diags plans Eng & Min J* 116:535-8 S 29 '23

Crosshead for shaft sinking. A. A. Richie. *diag Eng & Min J* 116:24 Jl 7 '23

Driving an upraise. J. W. Powell. *diags plans Coal Age* 21:740-2 My 4 '22

Fast shaft sinking at Oatman. W. F. Boerliche. *Eng & Min J* 114:14 Jl 1 '22

In sinking Spelterville shafts through wet sand sizes are increased to offset list of caisson. A. F. Brosky. *il plans Coal Age* 24:273-6 Ag 23 '23

Inspiration consolidated's Porphyry shaft. A. C. Stoddard. *il diags plans Eng & Min J* 115:265-71 F 10 '23

Methods used and other data relating to the sinking of the Water Lily shaft at Eureka, Utah. W. Fitch, jr. *Eng & Min J* 113:61 Ja 14 '22

Octagonal shaft at an American mine. *diags Engineer* 134:644 D 15 '22

Present practice in the design and sinking of mine shafts. R. G. Johnson. *diags plans Eng Soc W Pa* 39:134-53 My '23; Same. *Engineering* 116:250-2 Ag 24 '23; Same cond. *Coal Age* 24:397-400 S 13 '23; Excerpt. *Eng & Contr* (Ry) 60:315-16 Ag 15 '23; Discussion. *Eng Soc W Pa* 39:154-8 My '23

Safe mechanical equipment for use in shaft sinking. R. H. Kudlich. *diags U S Bur Mines Tech Pa* 276:1-12 '22; Excerpts. *Eng & Contr* (Ry) 58:64, 78-9 N 15 '22

Shaft sinking in a limestone quarry. J. H. Stovel. *il diags Eng & Min J* 113:576-7 Ap 8 '22

Shaft sinking methods, mine layout, trip handling and two-compartment skip hoist at Springdale. A. F. Brosky. *il diags plans Coal Age* 20:999-1008 D 22 '21

Sinking a shaft in Illinois through quicksand. D. P. Buchanan. *il diags Coal Age* 22:1032-4 D 28 '22

Sondages intérieurs sous pression, pour la congélation au fonçage du puits n° 3 de Perrecy (Saône-et-Loire). *diags plan Génie Civil* 81:598-9 D 23 '22

Upraising a shaft in England. W. Dickinson. *Coal Age* 21:885 My 25 '22

Waterworks tunnel shafts. *il diags Pub Works* 51:477-9 D 24 '21

Well-placed shots in upraise save timber. J. W. Powell. *diags Coal Age* 24:358-9 S 6 '23

See also Drilling and boring (earth and rocks); Mine shafts

Shafting

Lining up shafting under difficulties. A. G. Collins. *diag Power* 57:377 Mr 6 '23

Mechanical transmission of power. F. E. Cardullo and F. D. Jones. *il Mach* 29:85-9 O '22

Midwest box rails and steel stringers. *il Am Mach* 57:902 D 7 '22

Paper mill transmission machinery. G. N. Vanderhoef. *Paper* 31:7-12 S 6 '22

White motor-driven flexible-shaft outfits. *il Am Mach* 57:940 D 14 '22

See also Belting; Power transmission; Pulleys

Shafts

Bending moments in pins or shafts determined graphically. A. M. Winslow. *diags Eng N* 89:568-9 O 5 '22

Determining the strength of a hollow shaft and coupling. J. L. Bates and W. B. Newton. *Marine Eng* 28:242-3 Ap '23

Formula for finding root width of spline-ways. *Am Mach* 58:775; 59:486, 925 My 24, S 27, D 20 '23

Line shafts for marine internal combustion engines. J. Hecking. *diags Marine Eng* 27:711-19 N '22

Making shafts for hydraulic turbines. H. Campbell. *il Am Mach* 58:557-8 Ap 12 '23

Processing spline shafts by a new method. J. A. Ford. *il Soc Auto Eng J* 11:433-4 N '22; Same. *Am Mach* 57:850-1 N 30 '22; Same abr. *Automotive Ind* 47:866-7 N 2 '22

Serrated shaft fittings; proposed S.A.E. recommended practice. *diags Soc Auto Eng J* 10:486-8, 523 Je '22; Same. *Automotive Ind* 46:1333 Je 15 '22

Shafts weakened by grinding cracks. K. Heindlhofer. *il diag Am Mach* 56:523 Ap 6 '22

Shrink-fitting a heavy shaft assembly. A. T. Parsons. *il Am Mach* 59:810-11 N 29 '23; Same. *Mach* 30:281 D '23; Same. *Power Pl Eng W* 27:1172-3 D 1 '23; Same. *Eng & Contr* (W W) 60:1009-10 N 14 '23; Same. *Iron Tr R* 73:1679-80 D 20 '23; Same cond. *Power* 58:698 O 30 '23

Turning long shafts in a short lathe. E. Heller. *diag Am Mach* 57:983-4 D 28 '22

Whirling of an overhung eccentrically loaded shaft. S. Lees. *diags Philos Mag* 6th ser 45:689-708; Discussion. W. M. Orr. 708-14 Ap '23

Whirling speeds of a loaded shaft supported in three bearings. H. H. Jeffcott. *diags Philos Mag* 6th ser 42:635-68 N '21

See also Crankshafts; Power transmission; Shafting

Repair

Building up shafts by welding. H. J. Vander Eb. *il Locomotive* 34:143-6 Ja '23

Emergency repair of broken jackshaft. A. J. Dixon. *diags Ind Eng* 80:559-600 D '22

Shafts, Mine. See Mine shafts**Shale**

Mining operations at Flint brick co. *il Brick & Clay Rec* 59:979-80 D 27 '21

See also Cone-in-cone; Oil shales

Shale oil. See Oil shales**Shale planer**

New way to use the shale planer. *il diag Brick & Clay Rec* 62:788-9 My 1 '23

Shaves face of cliff fifty tons an hour. *il Pop Mech* 40:264 Ag '23

Simplifies operations—pit to pug mill. *il Brick & Clay Rec* 61:22-5 Jl 11 '22

Shanghai, China

See also Electricity supply—Shanghai

Harbor

Future of the port of Shanghai. *Engineer* 133:326 Mr 24 '22

Report plans for development of Shanghai harbor. *map Eng N* 89:441-2 S 14 '22

Shank, George H.

Portrait. *Elec R* 79:916 D 17 '21

Shantung, China

Economic development of Shantung province, China, 1912-1921. C. E. Gauss. *U S Bur For & Dom Com Trade Information Bul* 70:1-20 '22

Shantung treaty will be repudiated. *Ma Soo. Comm & Fin Chr* 114:579-80 F 11 '22

Treaty signed at armament conference embodying Shantung settlement—payment of fifty-three million gold marks to Japan. *Comm & Fin Chr* 114:577-9 F 11 '22

Shantung railway. See Railroads—China

Shapers

- Hendey 1922 model 24-inch crank shaper. il Am Mach 57:156 JI 27 '22; Iron Age 110:275 Ag 3 '22; Mach 28:1009-10 Ag '22
- Multiple shaper for internal gears brought out by the Stevenson gear co., Indianapolis. il Iron Age 109:592-3 Mr 2 '22; Iron Tr R 70:612-13 Mr 2 '22
- Planer and shaper attachments. E: K. Hammond. il diags Mach 29:531-5 Mr '23
- Production shaping. il Mach 28:89-93, 186-90, 272-6, 377-9 O '21-Ja '22
- Production work on vertical shapers. E: K. Hammond. il diags Mach 28:483-5 F '22
- Shaper as a manufacturing machine. il Mach 28:879-81 JI '22
- Shaper table supports. F: Horner. il diags Mach 29:178-83 N '22
- Unusual shaper job. il Ry Mech Eng 96:410 JI '22
- Vertical shaper work. J. M. Henry. il Mach 29:41-2 S '22

See also Machine tools

Sharks' teeth

- Some sharks' teeth from the California pliocene. D: S. Jordan. il Am J Sci 5th ser 3:338-42 My '22

Sharpening

- Barber-Colman automatic hob-sharpening machine. il Am Mach 56:41-2 Ja 5 '22; Mach 28:409-11 Ja '22
- Centralized cutter sharpening system. C: O. Herb. il Mach 30:205-7 N '23
- Drill steel sharpening. C. M. Haight. diags Eng & Contr 57:471 My 17 '22
- Harris automatic hob-sharpening machine. il Am Mach 56:190 F 2 '22
- Machine automatique universelle à affûter, système S.H.D. il Génie Civil 80:113-14 F 4 '22
- Scherr automatic saw-sharpening machine. il Ry Mech Eng 96:362 Je '22
- Semi-automatic machine for sharpening hobs and form cutters. il Iron Age 110:804 S 28 '22
- Simple sharpening machine for household cutlery. il Pop Mech 36:916 D '21

Shaughnessy, Edward H., 1882-1922

- Sketch. por Aviation 12:199 F 13 '22

Shaving cream**Advertising**

- Fitting the copy to the medium; Williams' shaving cream talks to college students. Ptr Ink 120:8+ S 7 '22

Shaving soap**Advertising**

- Colgate reaches the man through his wife. A. R. King. Ptr Ink 121:8+ D 14 '22

Shavings. See Wood as fuel**Shawinigan water and power company**

- 24th annual report for the year ending December 31, 1921. Comm & Fin Chr 114: 1079-80 Mr 11 '22
- 25th annual report, for the year ending Dec. 31, 1922. Comm & Fin Chr 116:955-6 Mr 3 '23

Shawsheen, Massachusetts

- Shawsheen: a model textile community. il Textile World 61:659+ F 4 '22

Shear legs. See Cranes, derricks, etc.**Shears**

- Grinding shears in New England plant. H. R. Simonds. il Iron Tr R 70:754-6 Mr 16 '22
- Sidelights on snip construction and uses. L. Broemel. Sheet Metal Worker 13:428-9 JI 21 '22
- Silicate bond wheels finish shears. B. K. Price. il Iron Tr R 71:452-3 Ag 17 '22

Shears (machines)

- A-B-C of sheet metal working machinery application. L. Broemel. il diags Sheet Metal Worker 12:702-5, 730-1, 803-4, 852-3 N 11-25, D 23 '21-Ja 6 '22
- Buffalo universal slitting shear and bar cutter. il Mach 28:921 JI '22
- Chambersburg punching and shearing machines. il Mach 29:151-2 O '22; Am Mach 57: 740 N 9 '22; Ry Mech Eng 96:732 D '22

Design of punching and shearing machines.

- A. L. Jenkins. il diags Mach 29:974-8; 30: 34-8, 113-18 Ag-O '23
- Hydraulic shearing machine and wheel press. il Engineering 115:330 Mr 16 '23
- Hydro-electric bloom shear. il diags Iron Age 109:1078-9 Ap 20 '22
- Machine for shearing steel, brass and aluminum pipe and tubing. il Iron Age 112:9 JI 5 '23
- New Burlington squaring shears. il Sheet Metal Worker 13:733 N 24 '22
- New machines for cutting metal sheets. il Pop Mech 38:911 D '22
- Oeking triple combination punching and shearing machine. il Am Mach 56:646 Ap 27 '22
- Pels triple combination punch and shear. il Ry Mech Eng 96:537 S '22
- Reading 48-inch plate shear. il Am Mach 57: 428 S 14 '22
- Streine gap shear. il Am Mach 56:188 F 2 '22; Mach 28:509-10 F '22
- Tube shear co. power driven tube-shearing machine. il Am Mach 58:953 Je 28 '23

Power

- Power required for shearing machines. J: S. Watts. diags Am Mach 57:1004-5 D 28 '22

Sheepskin

- Dressing Australian wool skins. Color Tr J 10:245 Je '22
- Preparation of meter leather and selection for long service. C. E. White. Gas Age 52:7-8 JI 7 '23

Sheet iron

- Charcoal iron sheets once more. il Sheet Metal Worker 13:845-8+ Ja 5 '23

Sheet metal

- American sheets largely used in Japan. il Iron Age 109:274-6 Ja 26 '22
- Annealing sheet-metal parts. A. Eyles. Mach 30:204 N '23
- Deep corrugated zinc sheets. R. P. Stranahan. Sheet Metal Worker 13:726 N 24 '22
- Only 11 states produce sheets. J. D. Knox. map Iron Tr R 71:302-6 Ag 3 '22

See also Tin plate

Testing

- Improved tester tells workability of metal. il Pop Mech 38:758 N '22

Sheet metal barrels. See Barrels, Sheet metal**Sheet metal shops**

- Engineer and the sheet metal shop. il Sheet Metal Worker 13:67-8+ Mr 3 '22
- George C. Meurer company's new plant, Brooklyn, N.Y. il Sheet Metal Worker 13: 655-6 O 27 '22
- How apprentices are handled in New York. H. Weinberger. Sheet Metal Worker 13:549-52 S 15 '22
- Job shop: its place. J. C. Gardner. Sheet Metal Worker 14:463-4 JI 6 '23
- Methods of a four man shop owner. P. A. Schmalz. Sheet Metal Worker 14:535+ Ag 3 '23
- Standardized costs for sheet metal workers. A. Baruch. Sheet Metal Worker 13:7-11, 423-7, 455-8, 487-91+, 512-16, 584-8 F 3, JI 7-S 1, 29 '22
- Well equipped Cleveland shop. il plan Sheet Metal Worker 14:413-16 Je 22 '23

Equipment

- Acetylene welding for sheet metal shops. il Sheet Metal Worker 14:244-5 Ap 27 '23
- Correcting a time killing evil by an overhead carrying system. L. Broemel. il Sheet Metal Worker 13:683-4 N 10 '22
- Electric drills growing in popularity in sheet metal shops. il Sheet Metal Worker 14: 745-6 O 26 '23
- Equipment for and teaching sheet metal working in schools. il diags plans Sheet Metal Worker 13:538-44 S 15 '22
- Official guide to the model shop. Sheet Metal Worker 13:262-3 My 12 '22
- Revolving carrier for a bench machine. il Sheet Metal Worker 13:349 Je 23 '22

Sheet metal shops—Equipment—Continued

Some ways in which shutdowns have been prevented in a metal-stamping plant. E. S. Lincoln. *il Ind Eng* 81:283-7+ Je '23
 William's visit to the model shop. L. Broemel. *il Sheet Metal Worker* 13:317-19+ Je 9 '22

Layout

Serve-the-customer sheet metal shop. *il plan Sheet Metal Worker* 12:875-7 Ja 20 '22

Safety devices and measures

Where the whistle tells of safety. G: E. Wallis. *il Nat Safety N* 8:5-8 S '23

Sheet metal trade

Buyers' dictated sheet prices. *Iron Tr R* 70: 84-5 Ja 5 '22

Distribution of sheet steel products. G: H. Charles. *Sheet Metal Worker* 14:568-70 Ag 17 '23

Four factors that make for success. P. F. Brandstedt. *Sheet Metal Worker* 14:531-2 Ag 3 '23

Page from the catechism of to-morrow; discussion of harmful competition. *Sheet Metal Worker* 13:857-8 Ja 5 '23

Report of trade relations and policy committee. *Sheet Metal Worker* 14:466-7 Jl 6 '23

Selling sheet metal supplies to anybody. *Sheet Metal Worker* 14:199-200 Ap 13 '23

Sheet activity a strong feature. *Iron Tr R* 72:96-7 Ja 4 '23

What is your city doing—how the sheet metal class of Troy high school are helping to advance the best interests of its city. L. Broemel. *il Sheet Metal Worker* 14:403+ Je 22 '23

Where ventilation spells more business for the sheet metal worker. C. A. Eddy. *il Sheet Metal Worker* 13:647-8+ O 27 '22

See also Osborn, J. M. & L. A., company

Accounting

Controlling sheet metal costs. C. Young. *Sheet Metal Worker* 14:120-4+ Mr 16 '23

Standard costs for sheet metal workers. A. Baruch. 298p U.P.C. book co. '23

Standardized cost methods for sheet metal work. A. Baruch. *Sheet Metal Worker* 12: 669-72, 706-9, 739-43, 775-9, 805-9, 844-8, 881-6; 13:7-11, 38-41, 76-80, 112-15+, 149-52, 176-9+, 210-12, 252-6, 286-9, 320-4, 357-61, 390-3, 423-7, 455-8, 487-91+, 512-16, 584-8, 613-14 O 28 '21-S 1, 29-O 13 '22

Advertising

Advertise sheet metal work now and always. W. Carter. *Sheet Metal Worker* 14:527 Ag 3 '23

Advertising for sheet metal men. D. O. Morley. *Sheet Metal Worker* 13:609, 653-4, 723-4, 761+, 837-8+; 14:14-15 O 13-27, N 24-D 8 '22, Ja 5, F 2 '23

Billboard advertising by sheet metal men. *il Sheet Metal Worker* 13:315-16 Je 9 '22

Buying years of progress. B. Chapple. *Sheet Metal Worker* 14:119+ Mr 16 '23

Good ways for sheet metal men to advertise. D. O. Morley and E. A. Scott. *il Sheet Metal Worker* 14:210-13 Ap 13 '23

Letters as means of advertising. D. O. Morley. *Sheet Metal Worker* 14:631-2 S 28 '23

Proven methods of getting more contracts. C. A. Eddy. *il Sheet Metal Worker* 12:727-9+ N 25 '21

Public exhibitions as business getters. *il Sheet Metal Worker* 12:849+ Ja 6 '22

Putting the biz in a sheet metal business. *il Sheet Metal Worker* 13:445-7 Ag 4 '22

Some business-getting ideas. W: A. Willis. *Sheet Metal Worker* 14:321-3+ My 25 '23

Three business promoting letters. *Sheet Metal Worker* 13:485 Ag 18 '22

Timely advertising. D. O. Morley. *Sheet Metal Worker* 14:315-16 My 25 '23

Who is going to lay metal shingles—the carpenter or sheet metal man? *il Sheet Metal Worker* 13:246-8 My 12 '22

Complaints

Soothing a ruffled customer by mail. *Sheet Metal Worker* 13:245+ My 12 '22

Sheet metal work

Adjustable curve for laying out sheet-metal work. G. A. Luers. *diags Mach* 30:11 S '23
 Combination dies for sheet-metal parts. C. E. Stevens. *diags Am Mach* 58:533-6 Ap 12 '23

Elbow making equipment and methods. *il Sheet Metal Worker* 12:710-12 N 11 '21

Elements of sheet metal work. R. L. Welch. 121p Bruce pub. co., Milwaukee, Wis. '23

Flasher signs made in a sheet metal shop. *il Sheet Metal Worker* 13:333+ Jl 7 '22

Home instruction for sheet metal workers. W. Neubecker. 407p U.P.C. book co. '22

How the blanking process is used to make a sheet metal sleeve. C. J. Dorer. *diags Am Mach* 58:609-12 Ap 26 '23

How to make the larger oil tanks. W. Scholl. *diags Sheet Metal Worker* 14:241-3+ Ap 27 '23

Lowering operating costs in the press department. C. E. Stevens. *diags Am Mach* 58:143-6 Ja 25 '23

Making a pressed-steel housing for a universal joint. H. Jay. *il diags Am Mach* 55: 805-6 N 17 '21

Making auto bumps pay the overhead. W. Scholl. *diags Sheet Metal Worker* 13:789-91+ D 22 '22

Making of steel pitch barrels. *il diags Sheet Metal Worker* 12:841-3 Ja 6 '22

Making one-piece corrugated elbows. *il Mach* 28:280-1 D '21

Manufacturing automobile body panels. G: J. Mercer. *il Mach* 28:803-6 Je '22

Possibility of improved methods of rolling sheet steel. S. B. Ely. *il diags plan Eng Soc W Pa* 37:296-308 Je '21; Same cond. *Mech Eng* 43:670-1 O '21; Same. *Iron Tr R* 69: 1076-8 O 27 '21; Same. *Iron Age* 108:1405-7 D 1 '21; Discussion. *Eng Soc W Pa* 37:309-10 Je '21

Press tools for a flanged cover. H. Schmid. *diags Am Mach* 56:399 Mr 16 '22

Press tools for aluminum ware. F. A. Stanley. *il Am Mach* 56:437-8 Mr 23 '22

Sheet and tin mill furnaces. T. J. Costello and J. H. Knapp. *diags Blast F & Steel Pl* 10:141-4 F '22

Sheet metal work for machine designers. J: L. Alden. *diags Am Mach* 55:937-8 D 8 '21

Simplification in making sheet metal pressings. *il Automotive Ind* 46:469 F 23 '22

Steps in stamping a draw-bolt tube. N. T. Thurston. *il diags Iron Age* 110:401-3 Ag 17 '22

Structural details of cafeteria equipment. J: Stephan. *diags Sheet Metal Worker* 13: 641-3+ O 27 '22

Three thousand gallon cooling tank. W. Scholl. *diags Sheet Metal Worker* 14:566-7 Ag 17 '23

See also Bulging (sheet metal work); Dies; Metal spinning; Pipe elbows; Punching; Rolling mills; Shells (metal work); Stamping; Steel, Pressed; Tanks; Tinsmithing; Tubes; Water tanks

Costs

Standard costs for sheet metal workers. A. Baruch. 298p U.P.C. book co. '23

Estimating

Estimating sheet metal work. A. Hopp and W: Neubecker. 417p U. P. C. book co. '21

Exhibitions

Great exhibit at National association of sheet metal contractors at Indianapolis. *Sheet Metal Worker* 13:301-3 My 26 '22

Pattern making

Automotive pattern drafting. W. Scholl. *diags Sheet Metal Worker* 13:840-4, 894-7; 14:6-7+, 46-7, 83-4+, 113-15, 158-9, 204-6, 283-5, 405-7, 490-1+ Ja 5-Apr 13, My 11, Je 22, Jl 20 '23

How to make and erect modillion cornices. *diags Sheet Metal Worker* 13:518-20, 582-3 S 1, 29 '22

Instruction course for the apprentice. I. C. Vanasdal. *diags Sheet Metal Worker* 12: 636-40, 700-1, 732-7, 766-71, 801-2+, 836-8;

Sheet metal work—Pattern making—Continued

- 13:4-6+, 180-4, 213-15, 240-2+, 280-4, 330-3, 350-1, 384-5, 420-1, 448-9, 482-3, 617, 644-5, 690+, 725+, 762-3 O 14, N 11 '21-Ja 6, F 3, Ap 14-My 26, Je 23-Ag 18, O 13-D 8 '22
- Laying out a pattern for a five-piece elbow. F. Webster. diags Mach 23:731 My '23
- Laying out collars and roof flanges. diags Sheet Metal Worker 12:797-8; 13:74-5, 137-8 D 23 '21, Mr 3, 31 '22
- Making five-pointed star from one piece. J. Troland. il diags Sheet Metal Worker 13:105 Mr 17 '22
- New metal worker pattern book. G. W. Kittredge and others. 514p U. P. C. book co. '23
- Outline of course in pattern drafting. F. M. Dannenfelser. Sheet Metal Worker 14:639-41 S 14 '23
- Pattern drawing for sheet-metal workers. T. Newton. 263p Cassell & co., London, New York '20
- Pattern for measure with a funnel. il diags Sheet Metal Worker 13:451+ Ag 4 '22
- Patterns for heavy sheet metal work by computation. W. Neubecker. diags Sheet Metal Worker 13:718-20, 752-3, 800-1, 839+; 14:12-13, 49-50, 86-7, 318-20, 360-1+, 450-1+, 608-9, 683+, 721-2, 752-3, 786-7, 822-4, 894-5, 950+, 999+ N 24 '22-Ja 5, F 2-Mr 2, My 25-Je 8, JI 6, Ag 31, S 28-N 23, D 21 '23-Ja 18 '24
- Sheet-metal pattern drafting and shop problems. J. S. Daugherty. 173p Manual arts press '22
- Solution to an elbow problem. diags Sheet Metal Worker 13:680-1 N 10 '22

Study and teaching

- Equipping for and teaching sheet metal working in schools. il diags plan Sheet Metal Worker 13:538-44 S 15 '22
- Progress in apprenticeship in Iowa. L. M. Cahill. Sheet Metal Worker 14:246-7 Ap 27 '23
- Progress of Landis award school. il Sheet Metal Worker 13:902 Ja 19 '23
- Putting it over; a nation-wide movement that has resulted in schools everywhere recognizing the value of sheet metal working. il Sheet Metal Worker 13:553-4+ S 15 '22
- Real practical sheet metal school. il Sheet Metal Worker 14:417-18 Je 22 '23
- School instruction for the apprentice. W. P. Doing. Sheet Metal Worker 13:546-8 S 15 '22
- Sheet metal course in Junior high school. J. Killius. il Sheet Metal Worker 13:555-6+ S 15 '22
- Sheet metal work at agricultural school. il Sheet Metal Worker 13:581 S 29 '22
- Vocational training for sheet metal trade. J. S. Daugherty. il Sheet Metal Worker 14:563-5+ Ag 17 '23
- Vocational training must be practical. E. E. Zideck. Sheet Metal Worker 14:715-16+ O 12 '23
- What simple projects teach. Sheet Metal Worker 13:545+ S 15 '22

Tables, calculations, etc.

- Charts giving sheet metal duct weights. Sheet Metal Worker 14:396-400+ Je 22 '23
- Short cuts in estimating the weights of sheet metal ducts. F. L. Moesel. charts Heat & Ven 20:44-9 Je '23; Same. Sheet Metal Worker 14:396-400+ Je 22 '23

Sheet metal work, Architectural

- Difficult metal ceiling installation. il Sheet Metal Worker 13:116 Mr 17 '22
- High wages favoring metal ceilings. il Sheet Metal Worker 14:286-7 My 11 '23
- How to make and erect modillion cornices. diags Sheet Metal Worker 13:518-20, 582-3, 610-11+ S 1, 29-O 13 '22
- Imposing construction of sheet metal; a gigantic marquise at Palace theatre at South Bend, Ind. il Sheet Metal Worker 14:355 Je 8 '23
- Pictures to help sell metal ceilings. il Sheet Metal Worker 14:448-9 JI 6 '23
- Sheet metal for shop exterior. il Sheet Metal Worker 13:713-14 N 24 '22
- Tons of sheets in factory building in Springfield, Ill. il Sheet Metal Worker 13:794 D 22 '22

See also Flashing; Gutters (roof)

Sheet metal workers

- Annual vocational educational number. Sheet Metal Worker 13:537-74 S 15 '22
- Partial survey of sheet metal training. H. A. Daniel. Sheet Metal Worker 14:500-1 JI 20 '23
- Status of vocational education. Sheet Metal Worker 14:453-5 JI 6 '23
- See also Sheet metal work—Study and teaching

Sheet metal working machinery

- A-B-C of sheet metal working machinery application. L. Broemel. il diags Sheet Metal Worker 12:702-5, 730-1, 763-4+, 803-4, 852-3, 890-2; 13:13-14, 42-4, 70-2, 108-10, 146-8, 174-5+, 216-18, 250-1+, 277-8, 328-9, 362-3+, 394-5 N 11 '21-JI 7 '22
- Machine for eliminating stretcher strains in sheets. il Iron Age 111:1480 My 24 '23
- Manufacturing pails and tubs. P. H. Lange. il diags Mach 29:214-17 N '22
- New Lyon-Conklin machine making two elbows a minute. il Sheet Metal Worker 12:854+ Ja 6 '22
- Tin plate doubling machine. diags Iron Age 111:488 F 15 '23

Sheet mills. See Rolling mills**Sheet piling**

- Core-wall construction in deep trench at Wanauque dam. A. H. Pratt. il diags Eng N 89:92-5 JI 20 '22; Same. Eng & Contr (W W) 58:9-15 O 11 '22; Same cond. N E Water Works Assn J 36:457-66 S '22
- Cutting steel piling below low-water level. J. Mitchell. il diags Engineering 116:103-4 JI 27 '23
- Ravir system of sheet piling. il diags Engineer 136:132-3 Ag 3 '23

Sheet steel executives convention

- 1st annual convention of sheet steel executives. Iron Age 111:1181-3+ Ap 26 '23; Iron Tr R 72:1245+ Ap 26 '23

Sheeting**Cost**

- Manufacturing cost of sheeting. Textile World 63:3939 Je 16 '23

Sheffield, England

- See Electric plants (central stations) —Sheffield

Shellac

- Gums, shellac, waxes; market review and record of prices. Oil Paint & Drug Rep 103: 84-5 Mr 29 '23
- Meter room shellac substitutes. J. H. Schalek. Gas Age 50:75-6 JI 15 '22
- Molded shellac compositions. il diags plan India Rubber W 67:16-18 O '22
- Shellac. P. H. Walker and L. L. Steele. U S Bur Stand Tech Pa 232:277-96 '23; Excerpt. Chem Age 31:157-8 Ap '23
- Shellac substitutes must be so labeled. Oil Paint & Drug Rep 104:66 JI 30 '23
- Untersuchungen über die natur des schellacks; über die schellolsäure. C. Harris and W. Nagel. Deutsche Chem Gesell Ber 55: 3833-48 D '22; Abstract. Chem Soc J 124 pt 1:120-2 F '23

Shells (metal work)

- Blank diameters for drawn shells. W. L. Tryon. il diags Mach 29:349-54a Ja '23
- Collapsing strength of shells. diag Power Pl Eng 27:648-9 Je 15 '23
- Drawing a deep wide-flanged shell. F. Lux. diags Mach 29:479-80 F '23
- Expanding light shells. L. M. Francis. diags Am Mach 59:423 S 13 '23
- Hydraulic bulging and bending. diags plans Mach 29:381-4 Ja '23
- Removing dents from metallic shells. A. Eyles. diags Mach 28:999-1000 Ag '22
- Rolling threads in screw shells. il Mach 29: 359-60 Ja '23

Shells (projectiles)**Manufacture**

- Manufacture of shells in Canada during the war 1914-1918. H. W. B. Swabey and R. Genders. diags Iron & Steel Inst J 104:229-45, pl 19-22 no 2 '21

Shells (projectiles)—Continued**Testing**

High-speed rotating machines developed for testing the burning action of powder rings in shell fuses. H. M. Brayton. *il* diags Am Mach 57:293-301 Ag 24 '22

Sherardizing. See Galvanizing

Sheringham daylight. See Daylight, Artificial

Sherman anti trust law, 1890

Federal antitrust laws with amendments.

158p Supt. of documents, Washington '22

Important injunction provisions in Sherman

act decision. Sanitary & Heat Eng 99:18+

Ja 12 '23; Same. Sheet Metal Worker 13:

905-6 Ja 19 '23

Indictments returned against members of

window glass blowers' union and manufactur-

ers' association. Comm & Fin Chr 116:

138 Ja 13 '23

See also Trade associations

Shidler, Oklahoma

Osage railway builds into Shidler. *il* Nat Pet

N 14:34-5 Mr 1 '22

Shift system. See Hours of labor

Shingles

Cities prohibiting wooden shingle roofs.

Safety Eng 46:118-20 S '23

Copper shingles interlock to form durable

roof. *il* Pop Mech 37:528 Ap '22

Fires caused by sparks and burning embers.

A. C. Carruthers. *il* Safety Eng 46:1-5 Jl '23

Indianapolis and the wooden-shingle roof

hazard. J. J. O'Brien. Safety Eng 46:101,

142-3 Ag-S '23

Lynn lesson shows, once more, the great

danger of flammable roofs. *il* Safety Eng

43:250-1 Je '22

Mill cuts 500,000 shingles daily. H. C. Cope-

land. *il* Pop Mech 37:734-5 My '22

Removal of collapse in western red cedar

shingles. Eng & Contr (Bldgs) 60:847 O 24

'23

Roofing problems. C. E. Worthington. *il*

Safety Eng 46:76-81 Ag '23

Shingles and conflagration hazard. *il* Eng N

88:1021; 89:201, 246-7, 854-5 Je 22, Ag 3-10,

N 16 '22

Shingles and radio. Eng N 88:812, 1051-2 My

18, Je 22 '22

See also Asphalt shingles; Roofs; Shingling

Shingles, Asbestos

Asbestos—the conservation product. A. C.

Carruthers. *il* Safety Eng 46:174-8 O '23

Shingles, Zinc**Advertising**

Professional market listens to raw material

advertiser. J. True. *Ptr Ink* 119:78+ Je

29 '22

Shingling

Who is going to lay metal shingles—the

carpenter or sheet metal man? *il* Sheet

Metal Worker 13:246-8 My 12 '22

See also Roofs; Shingles

Ship breaking. See Warships—Demolition

Ship-building. See Shipbuilding

Ship fires. See Ships—Fires and fire protection

Ship libraries

Plan library on each American ship. *Marine*

R 52:326 Ag '22

Story of the American merchant marine

library association. E. B. Tower. *Special*

Lib 14:69-72 My '23

Ship loading. See Loading and unloading

Ship models

Decorative ship models; drawings. J. M.

Rosé. *Arch Rec* 53:509-16 Je '23

Experiments on mercantile ship models in

waves. J. L. Kent. *diags Engineering* 113:

668-71, 700-2 My 26-Je 2 '22; Discussion.

Engineer 133:418-19 Ap 14 '22

Machinery and trials of the passenger ships—

American legion class. R. Warriner. *Marine*

Eng 27:778-9 D '22

Model screw propeller experiments with mercantile ship forms. G. S. Baker and W. C.

S. Wigley. *Engineering* 115:507-10 Ap 20 '23

Relative resistances of models and full size ships. *Marine Eng* 27:655 O '22

Ship propulsion

Cost of converting to Diesel power an 8000-

ton shipping board. L. R. Ford. *Mech*

Eng 45:660 N '23

Designing the marine power plant for effi-

ciency. W. B. Flanders. *il* diags *Marine Eng*

28:292-300 My '23

Diesel engine revolutions and propeller effi-

ciency. A. J. C. Robertson. *Marine Eng*

27:704-6 N '22

Dyson's method applied to merchant ship

propellers. E. A. Stevens, jr. *Marine Eng*

28:225-30 Ap '23

Ferryboats can be operated on more eco-

nomic basis. H. Schreck. *Marine Eng* 27:

191-2 Mr '22

Foettinger transformers on a liner. *diags*

(supp) *Engineer* 134:4-5, 84-5 Jl 7, 28 '22

How propeller position affects propulsive effi-

ciency. D. W. Taylor. *Marine Eng* 27:785-

7; Discussion. 775-6 D '22

Influence of form upon the stability and

propulsion of passenger ships. J. Anderson.

diags Engineering 115:444-5 Ap 6 '23; Discus-

sion. 115:422-3 Ap 6 '23; *Engineer* 135:397

Ap 13 '23

Marine power plant. L. B. Chapman. 320p

McGraw-Hill '22

Mechanical gearing and electrical transmis-

sion. *Engineer* 133:323-4 Mr 24 '22

Model experiments on destroyer propulsion.

H. E. Yarrow. *Engineering* 114:523-4 O 27

'22

Nodal arrangements of geared drives. J. H.

Smith. *Engineering* 113:438-40, 467-9 Ap 7-

14 '22; Discussion. *Engineer* 133:419-20 Ap

14 '22; Abstract. *Mech Eng* 44:455-6 Jl '22

On the magnitude of the forces of reso-

nance in a turbine-driven steamship. A.

Eagle. *Engineering* 114:290-1 S 8 '22; Discus-

sion. J. H. Smith. 114:500-1 O 20 '22

Powering of ships. J. B. Thomas. 320p

Van Nostrand '21

Progress in marine propulsion. *Engineering*

116:149-50 Ag 3 '23

Propelling machinery of the cargo carrier of

the future. J. Richardson. *Engineering* 114:

374-5 S 22 '22; Same. *Marine R* 52:463-6 N

'22; Abstract. *Engineer* 134:293 S 22 '22;

Discussion. *Engineering* 114:356-7 S 22 '22;

Engineer 134:293-4 S 22 '22

Propelling machinery of the new White Star

liner Doric. *Marine Eng* 28:216 Ap '23

Propulsion of submarines. *Engineer* 134:527-8

N 17 '22

Selection of the best kind of propelling ma-

chinery. J. L. Ackerson. *Marine Eng* 28:

167-9 Mr '23

Southern Pacific oil tanker Tamiahua. H.

Greger. *il* diags *Marine Eng* 27:308-12 My

'22

Vane wheel propulsion. M. E. Denny. *il* *Engi-*

neer 135:184 F 16 '23

Vane wheel propulsion of ships. *il* *Engineer-*

ing 113:822-3 Je 30 '22; *Marine Eng* 27:565-6

S '22; *Mech Eng* 44:668 O '22; *Sci Am* 127:321

N '22

Vane wheels versus twin screws for ships. *il*

Pop Mech 39:598 Ap '23

See also Boilers, Marine; Diesel engines,

Marine; Gas and oil engines, Marine; Ma-

rine engines; Motor ships; Propellers; Rud-

ders; Sailing vessels; Ship resistance; Steam

turbines, Marine; Steamboats

Ship propulsion, Electric

Analysis of claims of the electric drive over

the geared drive. J. C. Shaw. *Marine Eng*

28:417-19+ Jl '23

Control equipment for electrically propelled

Japanese fuel ship Kamoi. R. O. Dunham.

il *Gen Elec R* 25:755-9 D '22

Control equipments of the electrically pro-

pelled ferry boats for New York city. L. W.

Webb. *diags Gen Elec R* 26:90-3 F '23

Design of motors for ship propulsion. L. J.

Hunt. *Electrician* 89:92-4 Jl 28 '22

Diesel electric cargo vessel Fordonian given

trial. *il* *Marine Eng* 27:111-12 F '22

Diesel-electric freighter Fordonian in ser-

vice. *il* *Marine R* 52:114-15 Mr '22

Ship propulsion, Electric—Continued

- Diesel electric propulsion of ships. S. M. Robinson. diags Marine Eng 27:107-11 F '22
- Diesel electric schooner yacht Alcyone. H. C. Coleman. il diag Marine Eng 27:433-5 JI '22
- Diesel-electric ship La Playa. il Elec R (Lond) 93:621-3 O 26 '23; Engineer 136:420-2, 456-8 O 19-26 '23; Engineering 116:492 O 19 '23; Marine Eng 28:706-8 N '23
- Diesel engine electric ship propulsion. W. H. Wild. Marine Eng 28:169-70 Mr '23
- Electric drive adopted in a new field. W. H. Wild. il diags Marine Eng 27:626-9 O '22
- Electric drive applied to coast guard cutters. Q. B. Newman. il diags Marine Eng 27:15-22 Ja '22
- Electric drive for Leviathan. Marine R 52:41-2 F '22
- Electric drive in auxiliary naval vessels. il Engineer 135:110, 122 F 2 '23
- Electric ferryboat Poughkeepsie. W. H. Easton. il diags Marine Eng 28:159-62 Mr '23
- Electric power afloat; generation and distribution on the water for transportation and other purposes. W. T. Donnelly. il plans Gen Elec R 25:397-404 JI '22
- Electric propelling machinery of H. I. J. M. S. Kamoi. W. L. Wright. il diags plan Marine Eng 28:24-8 Ja '23
- Electric propelling machinery of the San Benito. diags Engineering 113:749-52, 754, pl 41 Je 16 '22
- Electric propulsion for the new San Francisco-Oakland terminal railway's ferryboats. L. Rask. il diags Gen Elec R 26:294-7 My '23
- Electric propulsion of ships. W. E. Thau. diag Marine Eng 26:925-9; 27:50-4 D '21-Ja '22; Discussion. 26:901-3 D '21
- Electric ship propulsion. J. Calderwood. Elec R (Lond) 91:633 N 3 '22
- Electric ship propulsion. F. H. Clough. Engineering 116:440-1 O 5 '23 Abstracts. Elec R (Lond) 93:442-3 S 21 '23; Engineer 136:334 S 28 '23; Discussion. Engineering 116:389 S 28 '23
- Electric ship propulsion. W. L. R. Emmet. diags Engineering 115:414-16 Mr 30 '23; Same abr. Elec R (Lond) 92:552-3 Ap 6 '23; Same cond. Engineer 135:376 Ap 6 '23; Discussion. Engineering 115:389-90; 116:267-8 Mr 30, Ag 31 '23; Elec R (Lond) 92:553-4 Ap 6 '23; Engineer 135:365 Ap 6 '23
- Electric ship propulsion. S. M. Robinson. 274p Simmons-Boardman pub. co., New York, Chicago '22
- Electric transmission of power for propelling machinery; abstracts. W. J. Belsey. diags Engineer 135:441-2 Ap 27 '23; Engineering 115:472 Ap 13 '23
- Electrical propulsion of merchant ships. A. Regnaud. Elec R (Lond) 91:171-2 Ag 4 '22
- Electrically driven ship. Am Inst E E J 42: 539 My '23
- Electrically operated coal barges in service on San Francisco bay. C. W. Geiger. il Marine Eng 27:428-30 JI '22
- Electrically propelled fuel ship Kamoi of the imperial Japanese navy. Gen Elec R 25: 650 N '22; Marine Eng 27:620-1 O '22
- Electricity in the propulsion of ships. H. M. Hobart. Elec R (Lond) 91:745-7 N 17 '22
- Electrification of merchant ships. E. D. Dickinson. il Gen Elec R 24:991-8 D '21; Discussion. 25:519 Ag '22
- 4760-mile speed record by the electrically propelled U. S. S. Maryland. il Gen Elec R 25:648-9 N '22
- Fruit ship San Benito propelled by electricity. il Marine R 51:541 D '21
- Guinevere, the largest fore-and-aft auxiliary schooner yacht with Diesel electric drive. il Marine Eng 27:23-5 Ja '22
- How to get a shaft horsepower hour for all purposes with steam on from 0.75 to 1.00 pound of oil. W. C. Watson and J. Thomas. il Marine Eng 28:273-6 My '23
- Maneuvering of electrically driven merchant ships. J. L. Booth. il Gen Elec R 25:301-4 My '22
- Marine electric progress. Electrician 89:89-91 JI 28 '22
- Mechanical gearing and electrical transmission. Engineer 133:323-4 Mr 24 '22
- Motor arrangements for electric ship drives. Engineering 112:765-6 D 2 '21
- New barges for Erie canal are electrically driven. il Pop Mech 39:430 Mr '23
- New turbo-electric ferryboats for New York city. diags plan Marine Eng 27:297-301 My '22
- New U.S. army dredges to be completely electrified. plan Marine Eng 27:781-2 D '22
- New York electrically driven municipal ferryboats. A. Kennedy, jr. Marine Eng 27:729 N '22
- Proposed Diesel-electric vessel. A. H. Jansson and T. A. Gamon. diags Marine R 53:188-91 My '23
- Starting and loading an electric-ship-propulsion turbo-alternator. A. M. Charlton. diags Power 58:256-8 Ag 14 '23
- Trials of m. s. Standard Service show advantages of Diesel electric drive. il Marine Eng 28:340-1 Je '23
- Turbine electric and geared turbine drive. W. C. Watson and J. Thomas. Marine Eng 28:557-8 S '23
- U. S. S. Colorado. il diag Marine Eng 28: 605-8+ O '23
- Ship resistance**
- Experiments on mercantile ship models in waves. J. L. Kent. diags Engineering 113: 668-71, 700-2 My 26-Je 2 '22; Discussion. Engineer 133:418-19 Ap 14 '22
- Influence of shape of transverse sections upon the resistance of vessels of moderate speed. H. C. Sadler and E. M. Bragg. Marine Eng 27:320-4 My '22; Discussion. 26: 909-10 D '21
- Influence of the bulbous bow on resistance. D. W. Taylor. Marine Eng 28:540-8 S '23
- Resistance of ships to propulsion. A. J. C. Robertson. Marine Eng 27:639-42 O '22
- See also Ship propulsion
- Ship subsidies**
- All nations have tried subsidy. V. G. Iden. il Marine R 52:144-7 Ap '22
- Chamber of commerce of the United States favors ship subsidy. Iron Age 110:1560 D 14 '22
- Discussion of ship subsidy at convention of Investment bankers' association. Comm & Fin Chr 115:1792-5 O 21 '22
- Do we need a ship subsidy—why; symposium. Am Ind 23:5-22+ D '22
- Farmers not opposed to subsidy. Marine R 52:142-3 Ap '22
- Is subsidy the real solution. R. E. Annin. Marine R 52:361-3, 453-5 S, N '22
- Let's have protection all along the line. W. L. Marvin. Marine Eng 27:281-2 My '22
- Message of President Harding on ship subsidy. Comm & Fin Chr 115:2334-6 N 25 '22
- President Harding agrees to delay on ship subsidy bill until after tariff bill is sent to conference. Comm & Fin Chr 114:2780-2 Je 24 '22
- Proposed status of the railways under ship subsidy plan. Ry R 70:404-5 Mr 13 '22
- Report on the history of shipping discriminations and on various forms of government aid to shipping. 44p U. S. Shipping board, Washington '22
- Ship subsidies. L. T. Beman. Ref Shelf 1:1-112; Bibliography. 12-18 Mr '23
- Ship subsidy bill. A. D. Lasker. Sci Am 127: 164 S '22
- Ship subsidy bill passed by House. Comm & Fin Chr 115:2437-8 D 2 '22
- Ship subsidy is a retaining fee for national defense. Marine Eng 27:602-3 O '22
- Ship subsidy is a trade subsidy. Marine Eng 27:347-8 Je '22
- Ship subsidy or the scrap heap? J. E. Ransdell. Am Ind 22:19-21 My '22
- Ship subsidy policies of foreign governments. S. G. Riggs. Annalist 20:323-4, 383-4, 416-17, 441, 468, 567, 631+ O 2, 16-N 6, 27, D 11 '22
- Shipping subsidies of Japan and France. W. L. Marvin. Marine Eng 27:155-6 Mr '22
- Ship's subsidy aids for upbuilding of merchant marine, proposed. W. G. Harding. Comm & Fin Chr 114:903-6 Mr 4 '22

Ship subsidies—Continued

- Some economic aspects of the ship subsidy. R. W. Wishart. Administration 4:71-80 JI '22
- Subsidy as a farmer sees it. H. J. Sconce. Nation's Business 10:24 My '22
- Subsidy—good business. F. C. Munson. Nation's Business 10:28-9 Je 5 '22
- Things seen. R. Dollar. il Nation's Business 10:30-1 Je '22
- What are the chances of a ship subsidy? S. G. Riggs. Annalist 19:176 Ja 30 '22
- Why an operator favors subsidy. F. C. Munson. Marine R 53:88-90 Mr '23
- Why not aid shipping, too? W. L. Marvin. il Nation's Business 10:22-3 My '22
- Why we should have a subsidy. Marine Eng 27:153-4 Mr '22

See also Merchant marine bill, 1922

Ship yards. See Shipyards**Shipbroking**

- Introduction to shipbroking. C. D. MacMurray and M. M. Cree. 108p Pitman '22

Shipbuilders**Directories**

- Directory of shipowners, shipbuilders and marine engineers. 728p Directory pub. co., London '23

Shipbuilding

- Calking materials for shipbuilding purposes. H. H. Thayer. il Marine Eng 27:55-7 Ja '22
- Canvas, bunting and felt for shipbuilding purposes. H. H. Thayer. plan Marine Eng 27:131-4 F '22
- Cement and concrete for shipbuilding purposes. H. H. Thayer. il Marine Eng 27:311-3+, 391-3, 456-8 My-JI '22
- Insulating materials for shipbuilding purposes. H. H. Thayer. Marine Eng 27:515-20, 579-83, 720-2 Ag-S, N '22
- Most interesting job in the yard; assembling and erecting the engine. C. J. Mason. Marine Eng 27:58-9 Ja '22
- Most interesting job in the yard; by a loftsmen. Marine Eng 27:329-30 My '22
- Most interesting job in the yard; by a ship joiner. J. T. Strahan. Marine Eng 27:190 Mr '22
- New rules of Lloyd's register. Engineering 114:113-14 JI 28 '22
- New rules of Lloyd's register of shipping. Engineer 134:86 JI 28 '22
- Practical methods for planning work; reconditioning the Leviathan. W. B. Ferguson. il Management Eng 4:293-300, 369-76 My-Je '23
- Protective coatings for shipbuilding purposes. H. H. Thayer. Marine Eng 28:369-71, 438-40, 498-501, 570-2, 631-5, 779-81 Je-O, D '23
- Ropes, chains and blocks for shipbuilding purposes. H. H. Thayer. Marine Eng 27:790-2; 28:43-6 D '22-Ja '23
- Ship joiner plans; inside doors. Marine Eng 27:180 Mr '22
- Ship joinery, the woodwork fittings of a modern steel vessel. S. G. Duckworth. 215p Routledge '23
- Shipbuilding industry. Engineering 114:465 O 13 '22
- Shipping. See weekly numbers of the Analyst
- Some notes on shipbuilding methods. J. McGovern. diags Eng & Ind Management 7: 198-9, 224-7, 252-5 F 16-23, Mr 9 '22; Abstract. Engineering 113:204 F 17 '22
- Steel turret track castings. S. W. Brinson. il Foundry 51:645-8+ Ag 15 '23
- Substitutes for natural wood for shipbuilding purposes. H. H. Thayer. Marine Eng 26:931-2 D '21
- Testing materials for shipbuilding. L. Guillet. diags Engineering 114:57-8 JI 14 '22; Same. Engineer 134:46-7 JI 14 '22; Discussion. Engineering 114:37 JI 14 '22
- Use of special steels in ships' hulls. Marine Eng 26:937-8 D '21
- Wood preservatives for shipbuilding purposes. H. H. Thayer. Marine Eng 28:175-6 Mr '23

- Zinc coatings for shipbuilding purposes; galvanizing and sherardizing. H. H. Thayer. diags Marine Eng 28:235-7 Ap '23

See also Barges; Bulkheads (naval architecture); Freight ships; House boats; Launching; Load line; Marine engines; Motor boats; Motor ships; Naval architecture; Propellers; Rudders; Sailing vessels; Ship models; Ship propulsion; Ship resistance; Ships; Ships—Reconstruction Ships—Repair; Ships, Concrete; Ships, Iron and steel; Ships, Wooden; Shipyards; Steam turbines, Marine; Steamboats; Submarine boats; Tank ships; Torpedo boat destroyers; Towboats; Warships

Accounting

- Cost accounting and estimating. H. H. Schulze. Marine Eng 27:253-7 Ap '22; Discussion. 26:907-8 D '21

Costs

- Applications of arc welding to ship construction; comparison of cost of welded and riveted joints. E. H. Ewertz. il diags plans Marine Eng 28:625-30 O '23
- Deflating shipbuilding costs. V. G. Iden. Analyst 19:175 Ja 30 '22

Deck coverings

- Deck coverings. H. H. Thayer. Marine Eng 27:193-7, 259-63 Mr-Apr '22
- Fiber flooring for ship decks. il Marine Eng 28:114 F '23

Estimates

- Estimating for repair work. B. C. Scott. Ind Management (Lond) 8:378-81 D 28 '22
- Shipbuilding estimates. Eng & Ind Management 6:446-8 O 20 '21

Exhibitions

- American marine week and the marine exposition arouse popular interest in merchant marine. il Marine Eng 27:756-70 D '22
- Directory of exhibits at the marine exposition held at New York city, Nov. 4-11. Marine Eng 27:691-5 N '22
- Marine and small craft exhibition. Engineering 114:622, 644-7 N 17-24 '22; Engineer 134:558-9 N 24 '22
- Third annual marine show, New York, Nov. 14-19. il Marine Eng 26:889-98 D '21; Marine R 51:523-30 D '21
- Who's who at the marine exposition held in New York city, Nov. 5-10. plans Marine Eng 28:685-8 N '23

Isherwood system

- Isherwood system of ship construction shows remarkable growth. Marine Eng 28:104 F '23

Standards

- Simplification—has it a place in shipbuilding? N. C. Wiley. Marine Eng 27:481-2 Ag '22
- Simplified practice as a service to American shipping. R. M. Hudson. Marine Eng 27:746-8 D '22
- Standardization as affecting American shipbuilding. E. H. Rigg. Marine Eng 27:749-52 D '22; Same. Marine R 53:67-70 F '23; Discussion. Marine Eng 27:779-80 D '22

Statistics

- Annual report of Lloyd's register of shipping concerning the twelve months ended June, 1921. Engineer 132:491-2 N 4 '21; Engineering 112:639 N 4 '21; Iron Age 109:334 F 2 '22
- Lloyd's register—annual report. Engineer 134: 436 O 27 '22; Engineering 114:529 O 27 '22
- Lloyd's register annual summary. Engineer 133:136+ F 3 '22
- Lloyd's register annual summary. Engineer 135:97 Ja 26 '23
- Lloyd's register shipbuilding returns for 1923. Engineer 135:402; 136:69-70, 401 Ap 13, JI 20, O 12 '23; Engineering 115:469-70; 116:52-3, 86-7, 469 Ap 13, JI 13-20, O 12 '23
- Merchant shipbuilding. Engineering 113:50-1 Ja 13 '22
- Shipbuilding industry. Engineering 113:460-1; 114:48 Ap 14, JI 14 '22

Shipbuilding—Statistics—Continued

- Shipbuilding shows decline. *Iron Age* 110:145
 JI 20 '22
 World's shipbuilding. *Engineering* 113:114-15
 Ja 27 '22
 World's shipbuilding. *Engineering* 115:116-17
 Ja 26 '23

Study and teaching

- American shipyard apprenticeships, evening schools and scholarships; abstract. C. F. Bailey. *Marine Eng* 26:911-12; Discussion. 912 D '21

Welding operations

- Applications of arc welding to ship construction. E. W. Ewertz. *il diags Marine Eng* 28:420-4+, 480-91, 549-56, 625-30, 774-8 JI-O, D '23
 Cyc-arc process of automatic electric welding in ship work. L. J. Steele and H. Martin. *il Electrician* 89:98-9 JI 28 '22
 Electric welder vs. riveter. *il diags Sci Am* 129:236+ O '23
 Electric welding applied to steel construction, with special reference to ships. A. T. Wall. *diags Engineering* 113:241-4 F 24 '22; Same. *Eng & Ind Management* 7:397-9, 469-72; 8:54-5 My 4, Je 1, Ag 10 '22; Excerpt. *Engineer* 133:218 F 24 '22; Discussion. *Engineering* 113:236-7, 257-9 F 24-Mr 3 '22; *Engineer* 133:246-7 F 24 '22

Germany

- German disarmament—effect on industry. *Engineer* 133:275-6 Mr 10 '22
 German shipbuilding and shipping. *Engineering* 113:210 F 17 '22
 How two German shipyards are getting through the peace. H. Obermeyer and A. L. Greene. *il Am Mach* 58:327-32 Mr 1 '23
 Present plight of German shipbuilding. G. L. Carden. *il Iron Age* 111:472-4 F 15 '23

Great Britain

- British shipbuilding outlook much brighter. W. H. Wendon. *Marine Eng* 28:145-6 Mr '23
 British shipping and shipbuilding in 1922. W. H. Wendon. *Marine Eng* 28:14-16 Ja '23
 British shipyards get string of new contracts. W. H. Wendon. *Marine Eng* 28:303-4 My '23
 Chamber of shipping discusses maritime situation. W. H. Wendon. *Marine Eng* 28:200-2 Ap '23
 Competition for ship repair contracts keen between British and continental shipyards. W. H. Wendon. *Marine Eng* 28:492-3 Ag '23
 Shipbuilding in 1921. *il (supp) Engineer* 133:23-4 Ja 6 '22
 Shipbuilding in 1922. *il (supp) Engineer* 135:20-1 Ja 5 '23
 Shipping and shipbuilding in Great Britain in 1921. W. H. Wendon. *Marine Eng* 27:28-30 Ja '22
 Working hours and production in British engineering and shipbuilding industries. *Monthly Labor R* 16:760-2 Ap '23

See also Warships—Great Britain

Japan

- Naval shipbuilding in Japan. *Engineer* 133:587 My 26 '22

Netherlands

- Netherlands shipping and shipbuilding. H. W. Adams. *U S Bur For & Dom Com Trade Information Bul* 69:1-9 '22

United States

- Agree on using taxes in shipbuilding. *Marine R* 52:330-1 Ag '22
 American shipbuilding returns for 1921. *Marine Eng* 27:26-7 Ja '22
 Big yards hard hit by navy cut. *Marine R* 52:1-2+ Ja '22
 Census of manufactures, 1921: shipbuilding including boat building. 26p *U S Bur Census* 23
 1921 construction record of U. S. yards; complete tabulation. *Marine R* 52:75-8 F '22
 1922 construction record of U. S. yards. *Marine R* 53:108-11 Mr '23

- Prospects for American shipbuilding. J. L. Ackerson. *Marine Eng* 27:352-3 Je '22; Same cond. *Nation's Business* 10:29 Je 5 '22
 Ratio of naval work to commercial is 1 to 2. *Marine R* 52:3 Ja '22
 Shipbuilding in the United States. W. L. Capps. *Engineer* 132:630 D 9 '21
 Shipbuilding in the United States in 1922. *Marine Eng* 28:12-13 Ja '23
 Shipbuilding to pick up in 1922. V. G. Iden. *Marine R* 52:54-6 F '22
 U. S. shipyard slump is magnified. *Marine R* 51:551-2 D '21

See also United States—Shipping board

Shipbuilding labor adjustment board

- History of the Shipbuilding labor adjustment board, 1917 to 1919. W. E. Hotchkiss and H. R. Seager. *U S Bur Labor Statistics Bul* 283:1-107 '21

Shipment of goods

- American business can save \$100,000,000 a year. J. C. Condon. *Ptr Ink M* 4:33-44+ Ja '22
 Chamber of shipping gives rules to prevent pilferage. *Marine Eng* 27:725-6 N '22
 Coming; slow shipments of merchandise. J. G. Condon. *Ptr Ink* 120:10+ S 14 '22
 Cooperative effort that lowered shipping costs 33%. D. G. Baird. *il Factory* 31:29-31 JI '23
 Duty of seller and shipper to ship at lowest freight rates—court reverses itself. W. Gustin. *Chem & Met Eng* 27:500 S 6 '22
 Editor of orders as a complaint reducer. P. F. O'Shea. *Ptr Ink M* 4:76+ Mr '22
 Effect of the despatch department upon manufacture. *Eng & Ind Management* 7:9-11 Ja 5 '22
 Efficiency and economy in traffic work. H. Sheridan. *Marine Eng* 28:525 S '23
 Expediting despatch. M. C. Nicholls. *Eng & Ind Management* 7:99-101 Ja 26 '22
 Getting the product on its way. *Factory* 28:466+, 592+; 29:634+ Ap-My, N '22
 Handling that keeps shipments straight. A. E. Westfall. *System* 44:322+ S '23
 How system eliminates red tape. O. A. Parmenter. *Ind Management* 65:110-13 F '23
 How we adapted train dispatcher's methods. J. H. Selz. *System* 44:325-6 S '23
 Loading the goods for shipment. M. C. Nicholls. *Eng & Ind Management* 7:42-4 Ja 12 '22
 Lost or damaged in transit. B. Rush. *Nation's Business* 10:33-4+ N '22
 Lowering the expense of handling, packing, and shipping. *System* 44:654-5+ N '23
 Marking U. S. merchandise for foreign shipment. *Ptr Ink* 122:85-6 F 8 '23
 Packing and shipping. *il Factory* 30:782+; 31:564+ Je, O '23
 Reducing railroad claims. N. Hutchings. *Administration* 4:311-16 S '22
 Reducing the exporter's transport costs. J. A. Dunnage. *Ind Management (Lond)* 9:230-1 Ap 19 '23
 Seven helps for better shipping. P. F. O'Shea. *il Factory* 28:296-9 Mr '22
 Shipper's hand book. J. L. Gibbons. 42p John L. Gibbons, 26 Broadway, New York '21
 Shipping speedily and safely. E. F. Ward. *il Factory* 28:53-6 Ja '22
 Teaching manufacturers how to prevent crating and boxing loss. *Ptr Ink* 125:17-19 O 25 '23
 Traffic management as a factor in profit building. J. W. Allender. *Ind Management* 63:348-50 Je '22
 We'll ship within six hours. S. H. Silverman. *System* 44:488-9 O '23
 When the traffic manager has a voice in sales and advertising policies. L. Anson. *Ptr Ink* 120:129-30+ Ag 17 '22

See also Barrels; Containers; Delivery of goods; Explosives—Transportation; Freight car service; Freight handling; Orders; Packing for shipment; Petroleum shipping terminals; Railroads—Claims; Transportation; also subdivision Transportation under various subjects, e.g. Coal—Transportation, Fruit—Transportation, Petroleum—Transportation

Shipping

- Allied shipping control. J. A. Salter. 372p Oxford '21
- Consular requirements for exporters and shippers to all parts of the world. 2d ed. J. S. Nowery. 157p Pitman '21
- Economical steamship operation and management. R. E. Annin. Marine Eng 27:83-5 F '22
- Growth of world's merchant shipping. Sci Am 128:400 Je '23
- International shipping position. F. C. Chapell. Annalist 20:385 O 16 '22
- Merchant shipping and world commerce in relation to sea power. W. Abell. Engineer 133:396-8 Ap 7 '22; Same. Engineering 113:432-5 Ap 7 '22; Discussion. Engineer 133:381-2 Ap 7 '22; Engineering 113:427-8 Ap 7 '22
- Notes on dead freight, detention and demurrage. R. E. Annin. Marine Eng 27:541-3 S '22
- Present indications regarding ship operation. R. E. Annin. Marine Eng 26:879-80 D '21
- Reparation problems: shipping. D. P. Myers. Annalist 19:533-4+ My 15 '22
- Shipping. See weekly numbers of the Annalist
- La vitesse des navires de commerce et l'état actuel des constructions navales. A. Poidloué. Génie Civil 80:474-7 My 27 '22
- Water transportation. R. H. M. Robinson. Am Soc C E Pro 48:266-9 F '22; Excerpt. Marine Eng 27:85-6 F '22
- Wharf management, stevedoring and storage. R. S. MacElwee and T. R. Taylor. 350p Appleton '21
- World's shipping dilemma. I. C. Waterbury. Annalist 19:7-8 Ja 2 '22
- World's shipping tonnage. Am Ind 24:41-2 S '23
- Zimmermann on ocean shipping. E. W. Zimmermann. 691p Prentice-Hall, New York '21
- See also Carriers; Coal handling; Coaling stations; Demurrage; Free harbors; Freight handling; Harbors; Insurance, Marine; Maritime law; Merchant marine; Ports; Priorities, Industrial; Salvage; Shipbuilding; Shipment of goods; Ships; Steamboats; Terminals; Tonnage; Transportation; Waterways; also International shipping conference

Accounting

- Shipping business methods. R. B. Paul. 96p Pitman '22

Costs

See Freight ships—Cost of operation

Directories

- Shipping trades index. 479p Anglo American pub co., N.Y. '22

Statistics

- Lloyd's register of shipping. Engineer 134:123-4 Ag 4 '22
- Lloyd's register of shipping. Engineer 136:69-70 Ji 20 '23; Engineering 116:86-7 Ji 20 '23
- World's merchant shipping. Engineering 114:82-3 Ji 21 '22

See also Shipbuilding—Statistics

Terminology

- Trade terms; definitions. 128p International chamber of commerce, Woolworth bldg., New York '23

Germany

- German shipbuilding and shipping. Engineering 113:210 F 17 '22

- German shipping in the new year. H. C. Estep. il chart Marine R 52:95-9 Mr '22

Great Britain

- British may lower costs in 1922. C. Maughan. Marine R 52:47-9 F '22

- British merchant shipping. C. Jones. 284p Longmans '22

- British reduce rates and costs. C. Maughan. il Marine R 52:195-8 My '22

- British shipowners face keen competition abroad. W. H. Wendon. Marine Eng 28:704-5 N '23

- British shipping and shipbuilding developments. W. H. Wendon. Marine Eng 28:371-4 Je '23

- British shipping and shipbuilding in 1922. W. H. Wendon. Marine Eng 28:14-16 Ja '23

- Depression leads British to urge government aid. Marine Eng 28:559-60 S '23

- Economies practiced by successful British shipowners. Marine Eng 28:351-2 Je '23

- More British shipping employed. C. Maughan. il Marine R 52:445-7 N '22

- Port of London authority; report for 1921. Engineering 114:369 S 22 '22

- Ruhr seizure revives U. K. fleet. C. Maughan. Marine R 53:174-7 My '23

- Shipping and shipbuilding in Great Britain. W. H. Wendon. Marine Eng 27:28-30, 91-2, 167-8, 223-4, 291-2 Ja-My '22

- Surplus tonnage problem confronts Great Britain. Marine Eng 28:621-2 O '23

- Why British ships are kept busy. il Marine R 53:166-9+ My '23

- World unrest retards U. K. ships. C. Maughan. Marine R 53:303-5, 411-13 Ag, N '23

See also Merchant marine—Great Britain

Philippine Islands

- Survey of Philippine shipping conditions. V. Villamin. Marine Eng 28:203-4 Ap '23

United States

- Nation needs ships and yards. R. Haig. Marine R 53:95-6 Mr '23

- No promising outlook for shipping. R. A. Lewis, jr. Annalist 21:63+ Ja 8 '23

- Our great ports—Philadelphia. G. F. Sproule. il Am Ind 23:13-16 O '22; Discussion. 23:27 Ja '23

- Pacific Coast ports handle large tonnage. J Elec 50:4-5 Ja 1 '23

- Plan proposed by the United States ship operators' association for operation of government tonnage. Marine Eng 28:660 N '23

- Record of traffic at principal American ports for past year. See monthly numbers of Marine review

- Shipping activities of the Department of commerce. W. Fawcett. Marine Eng 27:87-8 F '22

- Some plain facts on future of American shipping. R. E. Annin. Marine R 53:209-11 Je '23

- Traffic on Great Lakes in 1921. Marine R 52:80-1 F '22

- Water transportation; a symposium. Am Soc C E Pro 48:266-86 F '22; Discussion. 48:723-30 Mr '22

- Water transportation in its relation to the railways. S. O. Dunn. Am Soc C E Pro 48:281-6 F '22

- What is the remedy for the shipping situation? Marine Eng 28:585-6 O '23

See also Merchant marine—United States

Directories

- Directory of American shipping; addresses, operating officials, vessel tonnages, and domestic and foreign services of leading steamship companies. Marine R 52:294-9 Ji '22

- Shipping board. See United States—Shipping board

- Shipping departments. See Shipment of goods Ships

- Accommodation for ships at ports. Engineer 136:11 Ji 6 '23; Engineering 116:22-3 Ji 6 '23

- Catalogue of the watercraft collection in the United States National museum. C. W. Mitman. il U S Nat Museum Bul 127:1-298 '23

- Curious incidents in the careers of hoodoo ships. K. E. Annin. Marine Eng 28:74-5 F '23

- Phantom ships of the arctic. S. F. Corbett. il Pop Mech 38:346-8 S '22

- Story of the ship. W. Abell. Engineer 134:272 S 15 '22

Ships—Continued

Trend in Great Lakes ship construction. *il* Marine Eng 28:425-6 *Jl* '23

See also Airplane carriers; Clipper-ships; Coaling; Coast guard cutters; Fires at sea; Freight ships; Hospital ships; House boats; Ice boats; Launching; Light ships; Lighters; Load line; Maritime law; Merchant marine; Motor ships; Naval architecture; Navies; Navigation; Pilots and pilotage; Propellers; Radio telegraph—Installation on ships; Radio telephone—Installation on ships; Refrigeration on ships; Rudders; Safety at sea; Sailing vessels; Salvage; Salvage ships; Ship propulsion; Ship propulsion, Electric; Ship resistance; Shipbuilding; Shipwrecks; Shipyards; Steamboats; Steering gear; Submarine boats; Tank ships; Torpedo boat destroyers; Towboats; Viking ships; Warships; *also* names of ships, e.g. *Majestic* (steamship); *Victory* (ship)

Cargo

Cargo containers for ocean use. *il* Marine R 53:91-4 *Mr* '23

Deck cargoes of timber and safety at sea.

Int Labour R 5:739-52 *My* '22

International regulations for loadlines, deck cargoes and safety of life. W. S. Abell. *Engineering* 116:217-19 *Ag* 17 '23; Same cond. *Engineer* 136:174 *Ag* 17 '23

Scale for weighing cargo through a ship's draft. *il* *Pop Mech* 38:60 *Jl* '22

See also Freight ships

Classification

U.S. classification bureau grows. W. A. Dobson. *Marine R* 51:531-3 *D* '21; *Abstract*. *Marine Eng* 26:901 *D* '21

What ship classification means. A. K. Armstrong. *Marine R* 53:47-51 *F* '23

Doors

British device for locking open water-tight doors. *Sci Am* 127:155 *S* '22

Electric equipment

Application of electricity to deck and engine room auxiliaries. C. H. Giroux. *Marine Eng* 27:239 *Ap* '22

Electric auxiliaries an economic necessity. W. Thau. *il* *Marine Eng* 28:276-80 *My* '23

Electric auxiliaries on merchant ships. E. D. Dickinson. *il* *Marine Eng* 27:315-19 *My* '22; *Discussion*. 26:903-5 *D* '21

Electric auxiliaries on motor ship *Harper*. C. H. Giroux. *il* *Gen Elec R* 25:296-300 *My* '22

Electrical communication on board ship. *il* *diag Electrician* 89:102-3 *Jl* 28 '22

Electrification of merchant ships. E. D. Dickinson. *il* *Gen Elec R* 24:991-8 *D* '21

Progress of electric lighting and power transmission on board ship. J. F. Nielson. *Inst E E J* 61:280-3 *F* '23

S. S. *Leviathan's* electrical equipment. *il* *N E L A Bul* 10:209-11 *Ap* '23

Switchboard instruments for electric ship propulsion. C. S. Gillette. *diags Elec J* 20:239-300 *Ag* '23

See also Radio telegraph—Installation on ships; Radio telephone—Installation on ships; Ship propulsion, Electric

Equipment

Block and tackle need close attention. E. A. McCann. *Marine R* 52:433-5 *O* '22

British device for locking open water-tight doors. *Sci Am* 127:155 *S* '22

Ropes, chains and blocks for shipbuilding purposes. H. H. Thayer. *Marine Eng* 27:790-2; 28:43-6 *D* '22-Ja '23

Special requirements in design of marine machinery. C. S. Gillette. *Marine Eng* 27:723-5 *N* '22

See also Boilers, Marine; Davits; Logs (ships); Propellers; Speed indicators; Suction devices for ships

Fires and fire protection

Detecting fire at sea. *il* *diag Engineer* 135:242 *Mr* 2 '23

Fighting a fire in a cargo of sisal. C. McKay. *Marine R* 53:217-18 *Je* '23

Fire at sea; means of minimizing an ocean peril of increasing prevalence. R. G. Skerrett. *il* *diag Sci Am* 127:81-2 *Ag* '22

Fires in steamship bunker and cargo coal. H. H. Stoeck. *diags U S Bur Mines Tech Pa* 326:1-51 '23; *Abstract*. *Coal Age* 23:786 *My* 17 '23

Government studies marine fires. *il* *Safety Eng* 45:137-8 *My* '23

Radio triumphs over fire peril at sea. E. Ennis. *il* *Wireless Age* 10:35-8 *D* '22

Regulations for fire prevention aboard ship. *Marine Eng* 28:101-4 *F* '23

Floors

Fiber flooring for ship decks. *il* *Marine Eng* 28:114 *F* '23

Heating and ventilation

Heating and ventilating needs of modern ocean liners. J. T. Musgrave. *Heat & Ven* 20:44-5 *Mr* '23

See also Hospital ships—Heating and ventilation

Lighting

Economy in electric lighting on board ship. *Eng & Ind Management* 8:49-50+ *Ag* 10 '22

Ship-lighting in relation to safety, comfort and efficiency. W. J. Jones. *il* *Illum Engr* 14:116-31 *My* '21; Same cond. *Electrician* 87:142-5 *Jl* 29 '21; Same cond. *Elec R (Lond)* 89:865-6 *D* 23 '21; *Abstract*. *Eng & Ind Management* 5:636-7 *Je* 2 '21; *Discussion*. *Illum Engr* 14:131-8 *My* '21; *Elec R (Lond)* 89:866 *D* 23 '21

See also Ships' lights

Manning

Does it pay to have a satisfied crew? J. F. Milliken. *Marine Eng* 28:349-51 *Je* '23

Measurement

Rules for measuring ships at Panama. A. W. Hinds. *Marine R* 53:439 *N* '23

Uniform tonnage rules needed. *Marine R* 53:13-14 *Ja* '23

Why Americans pay greater Panama canal tolls. M. C. Davis. *il* *Marine Eng* 28:609-12 *O* '23

Oil burning

See Boilers, Marine—Oil firing

Painting

Color influences fouling of ships' bottoms. *Marine R* 53:269 *Jl* '23

Paint important item of ship expense. E. A. McCann. *Marine R* 52:505-6 *D* '22

Painting ships' bottoms on lakes. A. C. Holzappel. *Marine R* 53:146 *Ap* '23

Protective coverings for shipbuilding purposes. H. H. Thayer. *Marine Eng* 28:438-40, 498-501, 570-2, 631-5, 779-81 *Jl-O*, *D* '23

United States navy's research of ship bottom paint. N. E. Adamson. *Marine Eng* 27:511-13, 574-8 *Ag-S* '22

Varnish keeps ships looking bright. E. A. McCann. *Marine R* 53:144-5 *Ap* '23

Palm rooms

Light furnishings for amusing places. A. F. Wright. *il* *Arch Forum* 39:75-80 *Ag* '23

Performance

See Steamboats—Performance

Protection from submarines

See Submarine warfare—Protective devices

Reconstruction

Adapt ocean trawler to lakes. *diags plans Marine R* 52:193-4 *My* '22

Battle cruisers as ocean liners. *Sci Am* 126:99 *F* '22

Conversion of warships to mercantile use. *Engineer* 135:376 *Ap* 6 '23

Ships—Reconstruction—Continued

Our chance to secure the blue ribbon of the Atlantic; battle cruisers can be converted into 25-knot passenger liners. *Marine Eng* 26:873-4 D '21

Records

Efficiency depends on accurate performance records. C. J. Jefferson. *Marine Eng* 28:267-71 My '23

Keeping record of ship due dates. P. Aikens. *Marine R* 52:262-3 Je '22

Repair

Competition for ship repair contracts keen between British and continental shipyards. W. H. Wendon. *Marine Eng* 28:492-3 Ag '23

Cost of ship repairs. E. Johnson. *Marine Eng* 28:506-7 Ag '23

Difficult submerged repair job accomplished. A. C. Waters. *il diag Marine Eng* 27:257-8 Ap '22

Economy in ship repairs. R. W. Morrell. *Marine Eng* 28:343-7 Je '23

Efficient repair methods adopted by Shipping board; with cost table. R. D. Gatewood. *Marine Eng* 28:347-8 Je '23

Estimating for repair work. B. C. Scott. *Ind Management (Lond)* 8:378-81 D 28 '22

Plan to remake the Leviathan. *Marine R* 52:43-5 F '22

Refit big liner in fast time. *il Marine R* 53:85-6 Mr '23

Specifications for reconditioning the Leviathan set new high mark in American engineering accomplishment. *il Marine Eng* 26:941 D '21

Start work on Leviathan repairs. *il Marine R* 52:189-90 My '22

Ten-year trend in ship repair costs. *Marine R* 53:145-6 Ap '23

Two important repair jobs. *il Marine Eng* 28:702-4 N '23

Sanitation

Manual on ship sanitation and first-aid for merchant seaman. R. W. Hart. 2d ed. 188p Seamen's church institute of New York, New York '23

Passenger ship requirements from American, British, French, German, Italian, and Spanish emigration laws; also United States lines' practice. *Marine Eng* 27:506-7 Ag '22

Speed

Influence of speed on economy of motorships. L. B. Chapman. *Marine Eng* 28:435-6 Jl '23

Influence of the depth of water on the speed of warships. *Engineer* 134:416-17 O 20 '22

Speed records on the Atlantic. *Marine R* 53:405-7 N '23

La vitesse des navires de commerce et l'état actuel des constructions navales. A. Poidloué. *Génie Civil* 80:474-7 My 27 '22

Stability

Design new antirolling tanks for large liners. *diags Marine R* 53:225-6 Je '23

Device predetermines stability of ships. *il Pop Mech* 39:402 Mr '23

Experiments on mercantile ship models in waves. J. L. Kent. *Engineering* 113:700-2 Je 2 '22

General solution of the problem of finding the true vertical for all types of marine and aerial craft; abstract with discussion. A. Russell. *Engineering* 115:774 Je 22 '23

Gyro-stabilizer as cure for seasickness. *il Sci Am* 127:16 Jl '22

Influence of form upon the stability and propulsion of passenger ships. J. Anderson. *diags Engineering* 115:444-5 Ap 6 '23; Discussion. 115:422-3 Ap 6 '23; *Engineer* 135:397 Ap 13 '23

Instability. C. H. Peabody. *diags Marine Eng* 27:46-50 Ja '22

Les récentes applications du gyroscope à la stabilisation des navires. *il diag Génie Civil* 82:389-92 Ap 28 '23

Safety factors in lake ships. A. Lindblad. *diags Marine R* 53:370-3, 424-5, 462-4 O-D '23

Sperry gyroscopic ship stabiliser. *il Engineering* 115:140-1, pl 13 F 2 '23; *Engineer* 136:122-4 Ag 3 '23

Stability of large ships. J. H. Biles. *Engineering* 114:55-7 Jl 14 '22; Same. *Marine Eng* 28:111-14 F '23; Discussion. *Engineering* 114:36-7 Jl 14 '22

Stability of ships at large angles of inclination. P. Jankov. *diags Marine Eng* 27:561-4 S '22

Stability of the sailing warship. A. W. Johns. *il diags Engineer* 134:94-5, 108-10, 133-4, 159-60, 183-4 Jl 28-Ag 25 '22

See also Ships—Vibration

Strains and stresses

Behaviour of stiffened thin plating under water pressure. T. B. Abell. *Engineering* 115:445-7 Ap 6 '23; Discussion. 115:422 Ap 6 '23; *Engineer* 135:396-7 Ap 13 '23

Effect of variations in loading on longitudinal structural stresses in ships. W. Thomson. *Engineering* 115:567-70 My 4 '23; Discussion. 115:423 Ap 6 '23

Shearing stresses in ship structures. K. Suyehiro. *Engineering* 113:72 Ja 20 '22

Stresses on vessels of the Great Lakes due to waves. H. C. Sadler and A. Lindblad. *Marine Eng* 28:105-8 F '23

Strength

Lake ships stronger than ocean; study of effects of waves on freighters favors fresh water craft. H. C. Sadler and A. Lindblad. *Marine R* 52:494-5 D '22; Abstract. *Marine Eng* 27:774 D '22

Longitudinal strength of cargo vessels and its variation with fullness of form. E. L. Champness. *Engineering* 113:502-6; Discussion. 483 Ap 21 '22; *Engineer* 133:462 Ap 28 '22

Subdivision

See Bulkheads (naval architecture)

Testing

Dyson's method applied to merchant ship propellers. E. A. Stevens, Jr. *Marine Eng* 28:225-30 Ap '23

See also Ship models

Trim

Graphical trim calculation and a trim nomogram. E. V. Telfer. *il diags Engineering* 115:565-7 My 4 '23; Discussion. 115:423, 814 Ap 6, Je 29 '23

Ventilation

See Ships—Heating and ventilation

Vibration

Method of determining the natural periods of vibration of ships. T. C. Tobin. *Engineering* 113:476 Ap 14 '22; Same. *Marine Eng* 27:570-2 S '22; Discussion. *Engineering* 113:447-8 Ap 14 '22; *Engineer* 133:445-6 Ap 21 '22

Proposed remedy for vibrations caused by the propeller. H. Anderson. *diags Marine Eng* 28:51-2 Ja '23

Water supply

Public health service requirements for a sanitary system of drinking, cooking and ablutionary water supplies on vessels. A. W. Melloo. *Marine Eng* 27:719 N '22

Ships, Concrete

Concrete ship buried to save expense. *il Pop Mech* 37:747 My '22

Concrete ships. *Concrete* 23:75-6 Ag '23

Concrete ships constructed by U.S. Shipping board. W. R. Harper. *il Am Concrete Inst* Pro 18:83-114 '22

Report of special committee on concrete ships and barges. *Am Concrete Inst* Pro 17:285-91 '21

Status of the government concrete ships. *Eng N* 90:33 Ja 4 '23

Wreck of concrete ship shows great endurance. *il Pop Mech* 38:15-16 Jl '22

See also Barges, Concrete

Ships, Iron and steel

Rate of depreciation of steel ships. *Marine Eng* 28:637-8 O '23

Ships, Iron and steel—Continued

Revised rules for the construction and classification of steel ships. *Marine R* 53:143-4 Ap '23

Ships, Unsinkable

See Lifeboats, Unsinkable

Ships, Wooden

From steamer to sailing ship; plea for the two hundred wooden steamers built by the United States shipping board. *il Sci Am* 126:22 Ja '22

Scrapping the wooden fleet; sale prices of parts. H. R. Simonds. *il Marine R* 52:368-70 S '22

Wrecked wood ships on the James river yield big salvage. *il Marine R* 53:418-20 N '23

Ships' lights

Ship sidelights. *diags Engineering* 113:814 Je 30 '22

See also Ships—Lighting

Shipworms

Monograph of the American shipworms. P. Bartsch. (U.S. National museum Bul. 129) 51p Smithsonian institution, Washington '22

See also Teredos

Shipwrecks

Fighting icebergs and derelicts in battle to rob the sea of hidden perils. *il Pop Mech* 40:680-4 N '23

Late flashes on marine disasters; tabulation. See monthly numbers of *Marine review*

Shipwrecked crew fight shifting cargo. L. W. Pedrose. *il Pop Mech* 39:499-500 Ap '23

Wreck statistics for 1921. *Engineer* 134:192 Ag '25 '22

Wreck statistics for 1922. *Engineer* 136:131 Ag 3 '23

See also Life saving apparatus; Lifeboats; Safety at sea; Salvage

Shipyards

Engine building in a lake yard. F. B. Jacobs. *il Marine R* 52:105-8 Mr '22

Enlargement of Deptford dock, Sunderland. *il diags map Engineer* 133:656-8 Je 16 '22

Harfleur shipbuilding yard and Schneider Havre works. *il plan Engineering* 114:72-3, 80 Ji 21 '22

Idle shipyard adapted to undo own work. D. R. Lane. *il Pop Mech* 38:740-2 N '22

Netherlands shipbuilding company. *Engineer* 136:275-6, 282 S 14 '23

One-man shipyard. L. R. Perry. *il Pop Mech* 39:97-100 Ja '23

Todd corporation's model shipyard at Tacoma. *il plan Marine Eng* 26:921-4 D '21

See also Shipbuilding

Employees

See Shipbuilding labor adjustment board

Management

Shipyards repairing locomotives. H. R. Simonds. *il Iron Tr R* 72:1449-52 My 17 '23; Same. *Marine R* 53:283-6 Ji '23

System in shipbuilding. O. D. Treiber. *Marine Eng* 27:445-51 Ji '22

See also Launching

Shirley Institute, England

Shirley institute for co-operative research work in cotton. *Engineer* 133:447-8 Ap 21 '22

Shirt makers

Shirt industry—New York city. *Monthly Labor R* 15:784-7 O '22

Shirt-making industry—New York city. *Monthly Labor R* 16:1043-5 My '23

Shirts**Advertising**

How the sales force assists in formulating our advertising policy. I. Fleming. *Ptr Ink* 119:3-4+ Je 1 '22

Sells merchandising ideas and gets orders for the merchandise. J. True. *Ptr Ink* 120:36+ S 7 '22

Shock absorbers

Amortisseur à deux freins, système Eclipse pour véhicules automobiles. *il diags Génie Civil* 82:211 Mr 3 '23

Lomar shock absorber. *il Automotive Ind* 47:362 Ag 24 '22

Manzel hydraulic shock absorber. *il Automotive Ind* 47:823 O 26 '22

Shock absorber of air compression type. *il Bus Transportation* 1:440-1 Ag '22

See also Airplanes—Shock absorbers

Shoddy

Virgin wool and shoddy; what the microscope tells us about their make-up and identification. L. A. Hausman. *il Sci Am* 127:410-11 D '22

Shoe factories

Co-operation between architect and builder; A. M. Creighton building, Lynn, Mass. *il diags Arch Forum* 39:96-8, pl 33 S '23

Silica content of some factory dusts. T. A. Webster. *J Ind Hygiene* 4:305-6 N '22

Employees

Boot and shoe industry—Rochester, N.Y. *Monthly Labor R* 16:1317-18 Je '23

Shoe workers—Chicago. *Monthly Labor R* 14:524-9 Mr '22

Wages and hours of labor in boot and shoe industry: 1907 to 1920. *U S Bur Labor Statistics Bul* 278:1-177 '21

Wages and hours of labor in the boot and shoe industry: 1907 to 1922. *U S Bur Labor Statistics Bul* 324:1-118 '23

Wages and hours of labor in the boot and shoe industry, 1913 to 1922. *Monthly Labor R* 15:576-84 S '22

Management

Production planning in the shoe industry. C. A. Rooker. *Ind Management* 66:144-8 S '23

Scientific allowance and cost system for upper leather cutting in shoe factories. W. W. Russ and F. L. Small. 129p *Shoe trades pub. co., Boston* '22

Shoe industry and trade

Boot and shoe industry and trade in South Africa. P. J. Stevenson. *U S Bur For & Dom Com Trade Information Bul* 108:1-3 '23

Five years' growth with a one-style line. W. A. Edmonds. *il System* 44:156-8+ Ag '23

How our profits come from narrow margins. F. C. Rand. *il System* 42:129-33+ Ag '22

How swapping customers adds to distribution cost. P. M. Fahrendorf. *Ptr Ink M* 6:104+ Mr '23

How W. L. Douglas is adding a hundred new dealers a week; styles are cut in five. W. L. Douglas. *Ptr Ink* 125:3-4+ N 1 '23

Insuring the future of a business with a sideline. *Ptr Ink* 124:121-2 Ji 19 '23

Keeping the factory going during slack seasons. F. C. Rand. *Ptr Ink* 118:137-8 Ja 26 '22

Miller sells shoes and something else. M. Price. *il Ptr Ink M* 4:40 F '22

"More specialties? Not much!" says the shoe manufacturer. J. T. Egbert. *Ptr Ink* 120:93-4 Ag 3 '22

Regal scraps experience to adopt new sales policy. E. J. Bliss. *Ptr Ink* 122:3-4+ F 15 '23

Report of the Federal trade commission on shoe and leather costs and prices. 212p U.S. Federal trade commission, Washington '21

Shoe industry. F. J. Allen. 415p [Shoe and leather bibliog.: p. 397-400; Shoe and leather journals: p. 401.] Holt '22

Something extra that makes for steady volume. J. E. Wall. *System* 43:63-6+ Ja '23

Success built upon dealer co-operation—the Walk-over shoe. G. H. Leach. *Ptr Ink M* 4:23-4 D '21

35% lower prices; 25% smaller inventory; doubled sales—through simplification. E. J. Bliss. *il chart System* 44:594-7+ N '23

Twenty times the volume since simplification. H. J. Bostock. *il System* 44:40-2+ Ji '23

Shoe industry and trade—Continued

Year-round advertising made one specialty the leader; how the Morse & Burt co. is standardizing its product. R. Dickinson. *Ptr Ink* 120:81-2+ *Jl* 13 '22

See also Douglas, William L.; Florsheim shoe company; Retail shoemen's institute of Boston, Massachusetts; Shoe machinery trust

Advertising

Advertising overcomes a false impression; Ground gripper shoe. D. Kirkland. *Ptr Ink* 122:133-4 *Mr* 15 '23

Arousing the professional man's interest with a friendly appeal; campaign for the A. E. Little shoe. *Ptr Ink* 121:93-4+ *D* 14 '22

Direct advertising builds big sales for unknown product. K. B. White. *Ptr Ink* *M* 5:29-30 *D* '22

Getting into advertising via the route of the novelty product; Camco radio boot. *Ptr Ink* 122:25-6 *Ja* 18 '23

How the family idea works in shoe advertising. R. K. Sewell. *Ptr Ink* 118:53-4+ *Ja* 26 '22

Increased turnover is Rice & Hutchins message to retailers. H. Burwen. *Ptr Ink* 120:85-6 *S* 14 '22

Letters that give special help to the dealer in his own town. R. Crothers. *Ptr Ink* 124:145-6+ *Jl* 12 '23

Rice & Hutchins get teachers' help in advertising Educator shoes. J. F. Cameron. *Ptr Ink* *M* 4:32 *Mr* '22

See also Shoe repairing industry—Advertising

Exhibitions

Taking the convention exhibit out of the rut. S. C. Lambert. *Ptr Ink* 122:101-3 *F* 15 '23

Shoe lacing hooks**Advertising**

Advertising brings back a lost style; lacing hooks. D. Kirkland. *il Ptr Ink* *M* 7:55-6 *Ag* '23

Shoe machinery trust

Disciplined shoe machinery trust. E. A. Bradford. *Annalist* 19:486+ *My* 1 '22

Supreme court decides on "tying" clauses. *Ptr Ink* 119:162+ *Ap* 20 '22

U. S. Supreme court holds lease contracts of United shoe machinery corporation in violation of Clayton act. *Comm & Fin Chr* 114:1729-30 *Ap* 22 '22

Shoe polish**Advertising**

A firm that helps bootblacks to succeed. U. V. Wilcox. *il Ptr Ink* 120:124-6+ *Ag* 24 '22

Shoe repairing industry**Advertising**

Advertising confessions and observations of a cobbler. A. E. Haase. *Ptr Ink* 121:37-8 *N* 16 '22

How advertising is rebuilding a business on a thrift basis; shoe repairs. D. M. Hubbard. *Ptr Ink* 124:109-10+ *S* 13 '23

Shoe shining**Advertising**

Making a big city want to have its shoes shined. U. V. Wilcox. *Ptr Ink* 118:33-4+ *Mr* 30 '22

Shoes

Indian moccasin advertising creates sportocasin business. M. Hastings, jr. *Ptr Ink* 125:10+ *O* 25 '23

Salvation army writes editorial in regard to women's shoes. *Ptr Ink* 123:206-7 *Je* 7 '23

See also Leather; Overshoes; Rubber heels; Shoe industry and trade; Soles, Rubber

History

Romance of the shoe. T. Wright. 323p C. J. Farncombe & sons, 30 Imperial Bldgs., New Bridge st., E. C. 4, London '22

Manufacture

Shoe and leather fair. *il Engineer* 134:382-4, 418-19 *O* 13-20 '22

What chemical technology has done in the shoe-manufacturing industry. S. P. Lovell. *il Chem & Met Eng* 28:715-17 *Ap* 23 '23

See also Shoe factories

Repair

Blind taught to fix shoes on machines. *il Pop Mech* 40:370 *S* '23

How to repair shoes. F. L. West. Rev. ed. 95p Tuskegee normal and industrial institute, Tuskegee, Ala. '23

See also Shoe repairing industry

Shoes, Rubber

Engineering problems in rubber footwear mill rooms. A. B. Lingley. plan India Rubber W 69:79-82, 149-50 *N-D* '23

Inspection in rubber shoe making. *il India Rubber* W 66:338-9 *F* '22

Planning rubber footwear production. *il India Rubber* W 65:253-5 *Ja* '22

See also Soles, Rubber

Shop clerks

Relieving foremen of desk work. T. W. Howard. *Factory* 30:292-3 *Mr* '23

Shop committees

Demand of metal workers in Germany for greater rights for works councils. *Monthly Labor* R 14:641-2 *Ap* '22

Education in fundamental economics. C. F. Dietz. *Sanitary & Heat Eng* 100:105-9+ *Ag* 24 '23

Factory inspectors' reports on operation of German works councils. *Monthly Labor* R 14:241-52 *F* '22

German works councils. E. Frankel. *Administration* 4:37-40 *Jl* '22

How shop committees function under depression. L. D. Edie. *Ind Management* 63:92-5 *F* '22

Industrial representation and the fair deal. G. H. Shepard. *Ind Management* 63:81-5, 185-8 *F-Mr* '22

Operation of German works councils, 1921. *Monthly Labor* R 16:511-14 *Mr* '23

Representation of Works councils on boards of directors of German corporations. *Monthly Labor* R 15:30-2 *Jl* '22

Shop committee in the United States. C. E. French. 109p Johns Hopkins press, Baltimore '23

Shop committees as a suggested means of improving industrial relations on railroads. H. T. Hunt. *Monthly Labor* R 17:46-7 *Jl* '23

Workmen's councils in factories. A. de Tarle. *Annalist* 21:540+ *Ap* 16 '23

Works councils act in Austria. E. Adler. *Int Labour* R 5:411-36 *Mr* '22

Works councils and their possibilities. E. N. Simons. *Ind Management* (Lond) 9:264-6; 10:351-3 *My* 3, *D* 27 '23

Works councils gain in favor. *Iron Tr* R 70:1426 *My* 18 '22

See also Employees' representation in management; Industrial relations

Shop management

See Automobile service stations—Management; Employment management; Engineering colleges—Shop management; Factory management; Foundry management; Garages—Management; Industrial management; Machine shop management; Mechanical handling; Organization in industry; Railroads—Shops; Routing systems; Schedules; Shop committees

Shop paper. See Employees' magazines

Shop windows. See Show windows

Shope brick. See Concrete brick

Shopping

Why I don't buy there. E. S. Connors. *il System* 42:550-2 *N* '22

Shops

See Electric railroads—Shops; Electric shops; Locomotive shops; Machine shops; Plumbing shops; Railroads—Shops; Woodworking shops

Shops, Locomotive. See Locomotive shops
Shops, Machine. See Machine shops
Shops, Railroad. See Electric railroads—Shops;
 Railroads—Shops

Shore protection

Building reinforced-concrete boardwalk at Coney Island. *il diags plan Eng N 89:229-31 Ag 10 '22*
 Coast preservation works in British Guiana. H. L. Vahey. *il diag Eng & Contr 57:516-18 My 31 '22*
 Designing concrete shore walls. A. W. Consoer. *Munic Eng 63:44-5 Ag '22*
 Shore protection and harbor development work on the New England coast. F. W. Hodgdon. *Am Soc C E Pro 48:1429-34; Discussion. 1439-49 Ag '22*
See also Bulkheads; Flood control; Levees; Rivers—Bank protection; Sea walls

Shoring and underpinning

Adjustable shoring—an economy. *diags Eng & Contr (Equip R) 60:934-5 O 31 '23*
 Foundations for the new First national bank of Boston. H. K. Alden. *il diags plan Boston Soc C E J 10:31-45 Ja '23; Same, without tables. Eng & Contr (Bldgs) 59:481-6 F 28 '23; Abstract. Eng N 90:577-8 Mr 29 '23*
 New Standard oil building. R. W. Chambers. *il diags plans Am Arch 122:282-92 S 27 '22*
 Shoring, needling and bracing. O. B. Maginnis. *il diags Bldg Age 44:27-9 O '22*
 Shoring, needling and underpinning; how to use them in altering and remodelling work. O. B. Maginnis. *il diags Bldg Age 44:40-2 D '22*
 Underpinning a church foundation with slab footings. L. White. *diags Eng N 91:66 Jl 12 '23*
 Underpinning Lincoln memorial, terrace and approaches. D. L. Weart. *il diags Eng N 89:146-8 Jl 27 '22*
 Underpinning New York public library without shores. C. S. Rindsfoos. *il diag plan Eng N 91:510-11 S 27 '23; Discussion. J. F. Sanborn. 91:692 O 25 '23*
 Underpinning the Washington monument; enlarging the foundations to carry the 552 foot shaft. *il diag Sci Am 129:32+ J '23*
 Undiscovered substratum of peat complicates foundation job. *il diags plan Eng N 91:192-3 Ag 2 '23*
 Using divers and compressed air in underpinning. *il diag plan Eng N 90:629-30 Ap 5 '23*
See also Building; Foundations

Short circuits

Equalizer caused short-circuit on armature. E. C. Parham. *diag Power 55:111 Ja 17 '22*
 Experimental determination of short-circuit currents in electric power networks. O. R. Schurig. *bibliog diags Am Inst E E J 42: 605-17; Discussion. 652-4 Je '23*
 Locating faults in direct-current armatures—repairing short-circuits. B. A. Briggs. *diags Power 55:94-7 Ja 17 '22*
 Locating faults in direct-current armatures—short-circuits in groups of coils. B. A. Briggs. *diags Power 56:50-2 Jl 11 '22*
 Locating faults in direct-current armatures—short-circuits in parallel windings. B. A. Briggs. *diags Power 55:303-5 F 21 '22*
 Practical calculating table. E. W. Dillard. *il plans map Elec W 81:797-800 Ap 7 '23*
 Rapid and practical method of testing field coils for short circuits. A. C. Roe. *il Ind Eng 80:549-50 N '22*
 Result of short-circuit tests on outdoor type reactance coils. A. F. Bang. *il diag Elec W 79:425-8 Mr 4 '22*
 Sectional short circuit caused burn-out of entire coil in series transformer. H. Mulford. *Ind Eng 81:270 My '23*
 Short-circuit current calculating table. L. J. Corbett. *maps Elec W 80:985-8 N 4 '22*
 Short-circuit forces on reactor supports. R. E. Doherty and F. H. Kierstead. *bibliog Am Inst E E J 42:832-41 Ag '23; Discussion. 42:1334-8 D '23*
 Short-circuit test on a 40,000-kVA turbo-alternator. *diag Elec R (Lond) 92:686-7 My 4 '23*

Simplified method of analyzing short-circuit problems. R. E. Doherty. *il diags Am Inst E E J 42:1021-8 O '23; Discussion. 42:1349 D '23*

Temperature stresses under short-circuit currents. H. S. Holbrook. *Elec R (Lond) 90:512-13 Ap 14 '22*

Short line railroads. See Railroads, Short line

Shortening (cookery)

Action of shortening in the light of the newer theories of surface phenomena. W. Platt and R. S. Fleming. *Ind & Eng Chem 15:390-4 Ap '23*
 Pulverulent shortening agent. *Chem Age 30: 558 D '22*
 Shortening—its definition and measurement. *Ind & Eng Chem 15:1089 O '23*

Shorthand

Basic principles of Gregg shorthand. J. R. Gregg. 240p Gregg '23
 Bissell shorthand. H. W. Bissell. 140p Bissell shorthand co., New York '22
 Caton scientific shorthand, specially adapted to professional reporting. T. J. Caton. 192p Scientific pub. co., Minneapolis, Minn. '22
 How long-hand memories can make shorthand writers. C. Stolberg. *Office Management 8:52-3 O '22*
 Shorthand championship tests. W. H. Mechler. 309p Gregg pub. co., New York, Boston '22

See also Stenographers

Exercises for dictation

Secretarial dictation, typewriting speed practice. W. Hall. 362p Hall pub. co., Chicago '23
 Standard dictation, amanuensis and secretarial. W. L. Musick. 239p Universal text book co., Chicago '23

Study and teaching

Pitman's shorthand and English. W. F. Dingwall and J. Hynes. 96p Pitman '22

Shorthand, Spanish

Taquigrafia Gregg. J. R. Gregg. 116p Gregg '23

Shorthand reporting

Gregg reporting shortcuts. J. R. Gregg. 248p Gregg pub. co., New York, Chicago '22
 Stenographic expert for writers of Gregg shorthand. W. B. Bottome and J. R. Gregg. 263p Gregg '22

Shot (ammunition)

Mathematically perfect balls of lead called shot. *il plan Sci Am 129:21 Jl '23*

Shot-firing.

See Blasting

Shotguns.

See Guns

Shoveling machines

Automatic air shovel, plan *Ind Management (Lond) 9:122 F 22 '23*
 Bucyrus gasoline shovel demonstration at South Milwaukee. *il Eng & Contr 56:579-80 D 21 '21; Ry R 69:916-17 D 31 '21*

Clère mechanical shovel. *il diag plan Ind Management (Lond) 9:49-51, 85-6 Ja 25-F 8 '23*

Costs of operation of shoveling machines in mines. *il Coal Age 21:833-9 My 18 '22; Same cond. Eng & Contr 57:585-9 Je 21 '22*

Laying out mine for coal-loading shovel operations. W. Whaley. *diags plans Coal Age 22:87-8 Jl 20 '22*

Methods and costs of Myers-Whaley shovel operation in waterworks tunnels. *il diags Eng & Contr (W W) 58:132-6 D 13 '22*

New gasoline dipper shovel by the Orton & Steinbrenner co. *il Iron Age 112:396 Ag 16 '23; Iron Tr R 73:467 Ag 16 '23; Coal Age 24:436 S 20 '23*

New mining shovel of the St Joseph lead company. A. K. Mitchell. *il Ind Management (Lond) 10:22-4 Jl 12 '23*

One gasoline engine drives novel power shovel. *il diag Pop Mech 37:832 Je '22*

Recent developments in underground mechanical loading. C. E. Van Barneveld. *il diags Eng & Min J 116:501-11 S 22 '23*

Shoveling machines—Continued

Underground loading devices in metal mines. C. L. Colburn. *il Min & Sci P* 124:119-28 Ja '22; Discussion. A. E. Ring. 124:355-6 Mr 18 '22

Underground shovel cuts mining costs. *il Pop Mech* 40:613 O '23

See also Electric shovels; Pneumatic shovels; Steam shovels

Shovels

Modern methods of making shovels of molybdenum steel. F. H. Colvin. *il Am Mach* 58:365-9 Mr 8 '23.

Standardizing shovels. *Pub Works* 54:83 Mr '23

Shovels, Electric. See Electric shovels

Shovels, Pneumatic. See Pneumatic shovels

Show cards

Art of show card writing. L. J. Strong and C. J. Strong. Rev. ed. 237p Drake '22

Daily's showcard writing system, complete in thirty-four lessons. 96p B. L. Daily. Dayton, Ohio '21

Getting dealers to use permanent window signs. E. H. Falkner. *Ptr Ink M* 4:110+ Ap '22

How to write show cards. J. H. De Wild. 50p Northwest commercial bulletin and hardware trade, Minneapolis '21

Modern show card writing. J. B. Jowitt. 191p National drug clerk, Chicago '22

Practical phrases of show card writing. 98p St. Louis show card school, St. Louis '22

Principles and practice of show-card writing. L. E. Blair. 236p McGraw-Hill '22

Vel Vet show cards. H. L. Gage. 7th ed. 24p Carter's ink co., Boston; New York '22

Show windows

Another view of cooperative selling. J. E. Bullard. *il J Elec* 50:56-7 Ja 15 '23

Art of draping. J. A. Koerber. 126p Display pub. co., Cincinnati '23

Bank windows that advertise soap and slicing machines. D. M. Hubbard. *Ptr Ink M* 4:90+ Ap '22

Better holiday windows this year than ever. *il Elec R* 79:800 N 26 '21

Better window displays will sell more appliances. F. H. Williams. *Am Gas J* 117:324+ O 7 '22

Branch houses of steel products manufacturers utilizing window space. *il Iron Age* 109:1715 Je 15 '22

Chevrolet plan lends flavor of realism to dealer's windows. *il Ptr Ink M* 5:94+ D '22

Draping. H. Frankenthal. 148p Merchants' record & show window, 5707 W. Lake st., Chicago '23

Getting window-display advertising by helpful suggestions. A. L. Townsend. *il Ptr Ink* 121:119-20 O 19 '22

Getting window display material back of the plate glass. *Ptr Ink* 119:124-5+; Bibliography. 128-9 Je 22 '22

How Armour gets exclusive use of 25,000 retail windows. C. M. Harrison. *Ptr Ink M* 5:44 Je '22

How Goodrich uses photographs to get illustrative interest in window displays. L. H. Butler. *Ptr Ink M* 7:108+ N '23

How we teach window decorating to our salesmen. R. J. Shaw. *il Ptr Ink M* 7:29-30+ N '23

Increasing sales twenty-seven per cent by use of window displays. J. W. Otterson. *il J Elec* 50:136-9 F 15 '23

Individuality in displaying hard-to-display product. *il Ptr Ink M* 7:70+ J1 '23

Installing the display in the shallow show window. *il J Elec* 50:497 Je 15 '23

Is dignity more valuable than window displays? J. F. Cameron. *Ptr Ink M* 4:54+ Ja '22

Keeping dealers' windows and national advertising in step. *il Ptr Ink M* 5:52+ Je '22

Keying window advertising to count the returns. D. A. Morey. *il System* 43:621-3+ My '23

Make your windows more attractive. F. H. Williams. *Am Gas J* 116:109-10 F 4 '22

Making a salesman of the dealer's display window. *il J Elec* 51:259 O 1 '23

Les méthodes commerciales modernes. H. Glévéo. 243p G. et M. Ravisse, Paris '22

Putting novelty into the dealer's window display. *J Elec* 51:141 Ag 15 '23

Selling by means of window displays. O. F. Schully. *Am Gas J* 117:535-7 N 4 '22

Set of primary rules for good window displays. *il J Elec* 48:203 Mr 1 '22

Special Easter window displays pay dividends. E. A. Dench. *Am Gas J* 118:94-5 F 3 '23

Store converted into big night window display. *il Elec R* 79:951-2 D 24 '21

What about your window displays? J. M. Schlachter. *Am Gas J* 117:216-17 S 2 '22

Window advertising for utilities. F. E. Schornstein. *il Gas Age* 49:627-8 My 20 '22

Window dressing. G. L. Timmins. 70p Pitman '22

Yale & Towne window campaign shows the profitableness of unselfishness. M. Hastings, jr. *il Ptr Ink M* 7:84+ S '23

Bibliography

Getting window space gratis. *Ptr Ink* 124:142 S 27 '23

Directories

Merchants' record and show window display men's year book and buyers' guide; containing statistics and facts pertaining to the International association of display men. Merchants' record co., Chicago & New York '23

Lighting

Effect of light on the drawing power of the show window. W. Sturrock and J. M. Shute. *il Illum Eng Soc* 17:683-94 D '22; Abstract. *Am Inst E E J* 42:271, 545 Mr, My '23; Discussion. *Illum Eng Soc* 17:694-702 D '22

Floodlights overcome daylight window reflections. *il J Elec* 51:224-5 S 15 '23

Higher levels of illumination increase attractiveness of show windows. *il Am Inst E E J* 41:771 O '22

Offering the merchant better window lighting. *il J Elec* 50:186-7 Mr 1 '23

Overcoming daylight reflections in show windows. W. Harrison and H. T. Spaulding. *il diags Illum Eng Soc* 17:677-82; Discussion. 694-702 D '22

Results of demonstrating show-window lighting at Hartford. W. D. Gorman and D. H. Tuck. *il Elec W* 82:871-2 O 27 '23

Show window illumination with special equipment. C. E. Johnson. *il Elec R* 79:727-30 N 12 '21

Value of better show window lighting. C. Baker. *J Elec* 50:411-12 Je 1 '23

Price display

Retail problems that interest manufacturers: how to pay retail salesmen; whether or not to quote prices in the window. *Ptr Ink* 121:129-30 D 21 '22

Showrooms

How the Lightolier company gives help to its advertising. J. True. *Ptr Ink* 120:85-6+ Ag 17 '22

Organization of selling effort. W. Gaskin. *Gas J (Lond)* sup 2:85-8 My 30 '23

Showroom and advertising join to help dealers. B. Berfield. *il Ptr Ink M* 5:37-8 N '22

Shredded wheat**Advertising**

How shredded wheat uses school chart to build future sales. M. H. Watrous. *Ptr Ink M* 6:112+ My '23

Shuttle box

Loom castings tax molder's skill. H. R. Simmonds. *il Foundry* 50:223-4 Mr 15 '22

Siam**Commerce**

Import trade of Siam. *Elec R (Lond)* 93:195 Ag 3 '23

Industries and resources

See Automobile industry and trade—Siam; Tin mines and mining—Siam

Siamese legation. See Washington, D.C.—Siamese legation

- Siberia**
 Alleged treaty between Japan and Russia
 anent Siberia. *Comm & Fin Chr* 114:28-9 Ja
 7 '22
 East Siberian littoral. C. W. Purington. map
Min & Sci P 124:79-82 Ja 21 '22
See also Geology—Siberia; Gold mines and
 mining—Siberia; Mines and mineral re-
 sources—Siberia; Petroleum—Siberia
- Sicily**
See Mines and mineral resources—Sicily
- Sidewalk sheds**
 Side walk sheds. *Il Bldg Age* 44:68 My '22
- Sidewalks**
 Les chaussées et trottoirs des rues de Paris.
 L. Biette. *Il Génie Civil* 82:461-6 My 19 '23
 Features of street and sidewalk design in
 various cities. *Munic Eng* 63:131-5 O '22;
 Same. *Eng & Contr (R & S)* 58:83-7 N 1
 '22; Same. *Can Eng* 44:147-9 Ja 16 '23
 Report of committee of American society for
 municipal improvements upon street and
 sidewalk design. E. R. Conant, G. A. Cray-
 ton and S. Q. Cannon. *Eng N* 89:615 O 12
 '22
See also Pavements
- Sidewalks, Concrete**
 Avoiding concrete failures. D. Van Horn. *Il*
Bldg Age 44:48-9 Mr '22
 Elevated sidewalks of reinforced concrete for
 New York city. M. Hirschthal. *plan Eng N*
 90:974 My 31 '23
 Essais de dalles en aggloméré de ciment pour
 trottoirs. A. Grebel. *Il diag plan Génie Civil*
 80:339-42 Ap 15 '22
 Faults in concrete-sidewalk construction. A.
 J. R. Curtis. *Il Pop Mech* 37:778-80 My '22
 Safe walking places. H. W. Mowery. *Con-
 crete* 19:195-6 N '21
- Sidings.** *See* Railroads—Side tracks
- Sielcken, Hermann, 1847-1917**
 Kaiser of the coffee trade. W. H. Ukers. *por*
Nation's Business 11:62+ Je '23
- Siemens, Sir William, 1832-1883**
 Centenary of Sir William Siemens. *Engineer-
 ing* 115:385 Mr 30 '23
 Zum 100. geburtstag von Wilhelm Siemens. V.
 Engelhardt. *Stahl & Eisen* 43:457-8 Ap 5 '23
- Siemens brothers and company, Ltd.**
 Sixty years of Siemens. *Il Electrician* 87:610
 N 11 '21
- Siemens furnace**
 British Siemens furnace practice. F. Clements.
diags Iron & Steel Inst J 105:429-47 no 1
 '22; Same. *Engineering* 113:579-83 My 12
 '22; Excerpt. *Engineer* 133:518 My 12
 '22; Discussion. *Iron & Steel Inst J* 105:
 448-90 no 1 '22; *Engineering* 113:593-4, 758-
 60 My 12, Je 16 '22; *Engineer* 133:518 My
 12 '22
- Sierra Madre**
 Sierra Madre of northwestern Mexico. H. H.
 Taft. *Eng & Min J* 113:48-50 Ja 14 '22
- Sieves**
 Tentative standard scale for testing sieve.
Am Cer Soc J 5 pt 2:63-5 Ap '22
- Manufacture**
- Bronze wire finer than silk is essential in in-
 dustry. G. S. Eaton. *Il Brass W* 19:88 Mr
 '23
- Sight**
 Effect of variation of visual angle, intensity,
 and composition of light on important ocu-
 lar functions. C. E. Ferree and G. Rand.
Illum Eng Soc 17:69-86; Discussion. 87-102
 F '22
 Flicker photometry. C. E. Ferree and G.
 Rand. *Il plan Illum Eng Soc* 18:174-99; Dis-
 cussion. 200-7 F '23
 How long does it take to see a thing? Joly and
 Poole. *diag Pop Mech* 38:614 O '22
 How more light speeds up vision. F. Barnes.
Il Sci Am 125A:131 D '21
 Influence of illumination levels upon speed
 of vision investigated. P. W. Cobb. *Am*
Inst E E J 41:149-50 F '22
- Presidential address delivered at the annual
 meeting of the Illuminating engineering
 society. J. H. Parsons. *Illum Engr* 15:194-7
 J1 '22
 Report of committee on progress for 1921.
Illum Eng Soc 16:232-6 no 7 '21
 Spectral distribution of energy required to
 evoke the gray sensation. I. G. Priest. *diags*
U S Bur Stand Sci Pa 417:231-64; Bibli-
 ography. 264-5 '21
See also Blind; Color blindness; Color
 sense; Eye; Optics, Physiological
- Sights for firearms.** *See* Firearms—Sights
- Sigma Xi**
 Sigma Xi; a society for the promotion of
 scientific research. *Chem Age* 30:33-4 Ja
 '22
- Sign painting**
 Expert sign painter. A. A. Kelly. 2d ed., rev.
 & enl. 213p A. A. Kelly, New York '22
- Sign posts, Municipal**
 Sign posts for the city of New Rochelle, N. Y.;
 views. *Arch Rec* 54:253-63, 295 S '23
- Signals, Electric.** *See* Electric signals
- Signals, Railroad.** *See* Railroads—Signals
- Signals and signaling**
 Principal advances made in coast lighting
 and signalling. *Engineer* 136:67 J1 20 '23;
Engineering 116:76-8 J1 20 '23
See also Electric railroads—Signals; Elec-
 tric signals; Fire alarms; Fog signals;
 Light signals; Mine signals; Radio signals;
 Radio telegraph; Railroads—Signals; Tele-
 graph; Traffic signals
- Signs**
 Luminor signs. *Illum Engr* 14:204, 244-5 O, D
 '21
 Putting life into the still sign. I. I. Sperling.
Ptr Ink M 5:86+ N '22
See also Electric signs; Road signs;
 Street signs
- Signs, Sheet metal**
 Metal signs. *Il Sheet Metal Worker* 13:855-6
 Ja 5 '23
- Sigüenza, Spain**
 El Doncel de Sigüenza, an anonymous statue.
 M. Stapley. *Il Arch Rec* 51:77-83 Ja '22
- Silage**
 Conserving fodder by electricity. *Il Elec W* 80:
 417 Ag 26 '22
 Electro-farming. R. B. Matthews. *diag Elec*
R (Lond) 92:566 Ap 13 '23
See also Silos
 Consult the Agricultural Index for addi-
 tional material
- Silane**
 Über den reaktionsmechanismus der silanbild-
 ung aus magnesiumsilicid. R. Schwarz and
 E. Konrad. *diags Deutsche Chem Gesell Ber*
 55:3242-52 O '22
- Silencers (exhaust)**
 Conquering the noise. H. P. Maxim. *Il diags*
Power 57:630-3 Ap 24 '23
 Maxim silencer in the power plant. *diags*
Power 55:91 Ja 17 '22
 Silencer on unaflow steam engines. P. H.
 Maxim. *Power* 55:1024 Je 27 '22
- Silesia**
See also Labor and laboring classes—
 Silesia; Mines and mineral resources—
 Silesia; Railroads—Silesia
- Industries and resources**
- Industrial conditions in Polish Upper Silesia.
Chem & Met Eng 26:260 F 8 '22
 Oberschlesien. map *Stahl & Eisen* 41:1557-9
 O 27 '21
 Poor prospects of Upper Silesian industry. C.
 E. Herring. *Iron Age* 111:287-8 Ja 25 '23
- Silhouettes.** *See* Advertisements, Pictorial—
 Silhouettes
- Silica**
 Action of silica on electrolytes. A. F. Joseph
 and J. S. Hancock. *Chem Soc J* 123:2022-5
 Ag '23

Silica—Continued

- Determination of silica in filtered sea-water. R. C. Wells. *Am Chem Soc J* 44:2187-93 O '22
- Dusted lung with special reference to the inhalation of silica dust (SiO_2) and its relation to pulmonary tuberculosis. B. S. Nicholson. *Il J Ind Hygiene* 5:220-41; Bibliography. 241-2 O '23
- Industrial uses of silica. L. H. Cole. *Chem Age (Lond)* 9:344-5 S 29 '23
- Influence of heat on the microscopic properties of silica in its different mineral forms. J. T. Robson. *Am Cer Soc J* 5:670-4 O '22; Discussion. (Bul) 5:348-50 D '22
- Interaction of sodium chloride and silica. F. H. Clews and H. V. Thompson. *Chem Soc J* 121:1442-8 JI '22
- Leaching of iron protoses: solution and precipitation of silica in cold water. T. S. Lovering. *Econ Geol* 18:523-40 S '23
- Poisonous properties of colloidal silica; abstract. W. E. Gye and W. J. Purdy. *J Ind Hygiene* 4:sup88-9 O '22
- Production and industrial uses of silica. R. B. Ladoo. *Chem Age* 30:77-8 F '22
- Reversible thermal expansion of silica. H. S. Houldsworth and J. W. Cobb. *Am Cer Soc J* 5 (Cer A 1):307-8 D '22
- Silica and alumina. J. Scott. *Il Chem Age (Lond)* 9:sup10-11+ S 15 '23
- Silica content of some factory dusts. T. A. Webster. *J Ind Hygiene* 4:305-6 N '22
- Theory of the structure and polymorphism of silica. R. B. Sosman. *diags plans J Fr Inst* 194:741-64 D '22
- Uses of finely ground silica. *Eng & Min J* 113: 171, 452 Ja 28, Mr 18 '22
- See also Flint; Quartz; Tripoli
- Silica, Fused**
- Fused silica in radium production. C. H. Viol. *Chem & Met Eng* 28:692 Ap 16 '23
- Gas-light globe that will not crack. *Sci Am* 126:119 F '22
- Silica glass or fused quartz. E. Thomson. *Il Gen Elec R* 26:68-74 F '23
- Vitreous in acid manufacture. S. L. Tyler. *Chem & Met Eng* 28:692 Ap 16 '23
- Silica brick**
- Breakage factors in silica brick manufacture. P. H. Jung. *Chem & Met Eng* 26:214-17 F 1 '22
- Bricks for coke ovens; abstract with discussion. A. H. Middleton. *Engineering* 114:455-6 O 13 '22
- Chart giving production, shipments, stocks and unfilled orders of silica brick from Jan. 1, 1919, to Sept. 30, 1921. *Iron Age* 108:1593 D 22 '21
- Comparative study of American and German quartzites as raw materials for the silica brick industry. K. Endell. *Am Cer Soc J* 4:953-60 D '21
- Comparison of hot and cold modulus of rupture for silica brick. E. N. McGee. *Il diags Am Cer Soc J* 5:888-900 D '22
- How good silica brick are made. E. E. Ayars. *Il chart diag Brick & Clay Rec* 63:550-5, 628-33, 698-703, 772-5, 847-52 O 16-D 11 '23
- Influence of grind and burn on the characteristics of silica brick. R. M. Howe and W. R. Kerr. *Am Cer Soc J* 5 pt 1:164-9 Ap '22; Discussion. (Bul) 5:184-7 S '22
- Moulds for magnesite, chrome and silica brick. E. E. Ayars. *Il Am Cer Soc J* 5:67-84 F '22
- Quarrying material for silica brick. E. E. Ayars. *Il Brick & Clay Rec* 63:476-81 O 2 '23
- Smelting silica bricks with reverberatory slags in a copper blast furnace. R. F. Wood. *flow sheet Il Eng & Min J* 115:404-7 Mr 3 '23
- Technical development in the field of silica refractories during the past twenty-five years. E. N. McGee. *Am Cer Soc J* 6:285-90 Ja '23
- Testing of silica brick. K. H. Endell. *Il Am Cer Soc J* 5 pt 1:209-18; Discussion. 218-19 Ap; (Bul) 180-4 S '22
- Variation in heat treatment of a silica brick in the crown of a tunnel kiln. A. A. Klein and L. S. Ramsdell. *Am Cer Soc J* 4:805-11 O '21
- La voûte suspendue SAFA pour foyers. H. Le Chatelier and B. Bogitch. *diags Génie Civil* 83:137-8 Ag 11 '23
- Where refractory bricks go. *Iron Age* 112:402 Ag 16 '23
- See also Fire brick
- Silica cement**
- Silica cement. E. N. McGee. *Il Am Cer Soc J* 6:896-903 Ag '23
- Silica gel**
- Adsorption by silica gel theory and applications. E. B. Miller. *diags Am Inst Chem Eng Trans v* 13 pt 1:379-411 '20
- Adsorption of ammonia by silica gel. L. Y. Davidheiser and W. A. Patrick. *Am Chem Soc J* 44:1-8 Ja '22
- Heat of wetting of silicic gel. W. A. Patrick and F. V. Grimm. *diag Am Chem Soc J* 43:2144-50 O '21
- Liesegang rings; the effect of light and hydrogen-ion concentration on the formation of colloidal gold in silicic acid gel; rhythmic bands of purple Cassius. E. C. Davies. *Am Chem Soc J* 45:2261-8 O '23
- Making sulphur free gasoline and lubricants, possibilities of the silica gel process. *Automotive Ind* 47:566 S 21 '22
- Organogels of silicic acid. B. S. Neuhausen and W. A. Patrick. *Am Chem Soc J* 43:1844-6 Ag '21
- What is the life of silica gel? *Chem & Met Eng* 28:805 My 7 '23
- Silicates**
- Metasomatic processes in silicate rocks. V. M. Goldschmidt. *Econ Geol* 17:105-22; Bibliography. 123 Mr '22
- Silica and the silicates. J. A. Audley. 374p Van Nostrand '21
- See also Augite; Kaolin; Melilitite; Sodium silicate; Talc
- Analysis**
- Rapid determination of potash in acid-insoluble silicates. M. M. Green. *Ind & Eng Chem* 15:163 F '23
- Rapid method for preparing a silicate rock flux for dehydration. G. W. Burke. *Il Am Cer Soc J* 6:761-2 Je '23
- Silicic acid**
- Centrifugal method for preparing colloidal ferric hydroxide, aluminum hydroxide and silicic acid. R. Bradfield. *Am Chem Soc J* 44:965-74 My '22
- Recent developments in the sulphuric-acid industry. A. M. Fairlie. *Chem & Met Eng* 25:1007-8 N 30 '21
- Silicic acid, Colloidal.** See Silica gel
- Silicon**
- Control of silicon in the blast furnace. S. L. Goodale. *Blast F & Steel Pl* 10:274-8, 367-70 My, JI '22
- Facts about one phase of chemistry. A. Gradenwitz. *Brass W* 17:314 N '21; Same. *Sci Am* 125:A:10 N '21
- The form of silicon: solubility of silicon in hydrofluoric acid. W. Manchot and H. Funk. *Am Cer Soc J* 5 (Cer A 1):206-7 Ag '22
- Über die in flussssäure lösliche modifikation des siliciums. W. Manchot. *Deutsche Chem Gesell Ber* 54:3107-11 D '21
- Vacuum spark spectrum of silicon. R. A. Sawyer and R. F. Paton. *Phys R* 19:256-7 Mr '22
- See also Carborundum
- Silicon alloys**
- Alloys of aluminum with silicon. *Foundry* 50: 30-1 Ja 1 '22
- Aluminum-silicon alloys. Z. Jeffries. *Il Chem & Met Eng* 26:750-4 Ap 19 '22
- Copper-silicon-aluminum alloys. E. H. Dix, Jr. and A. J. Lyon. *Il Foundry* 51:331-6 Ap 15 '23
- Modification of aluminum-silicon alloys. J. J. Curran. *Il Chem & Met Eng* 27:360-1 Ag 23 '22

Silicon alloys—Continued

Properties and manufacture of aluminum-silicon alloys. J. D. Edwards. *il Chem & Met Eng* 27:654-5 S 27 '22

Silico-thermy and its practical application. C. A. Heise. *il Iron Age* 109:337-8 F 2 '22
Structural constitution of iron-carbon-silicon alloys. K. Honda and T. Murakami. *Iron & Steel Inst J* 107:545-83, pl 21-2 no 1 '23

See also Duriron

Silicon carbide. See Carborundum

Silicon dioxide. See Silica

Silicon hydrides

Silicon hydrides; trichloro- and tetrachloro-monosilanes, SiHCl_3 and SiCl_4 . A. Stock and F. Zeidler. *Chem Soc J* 124 pt 2:412-13 Je '23

Silicon steel

Heating affects silicon steel. N. B. Pilling. *il Iron Tr R* 73:107-10 J1 12 '23

Magnetic change A_2 in silicon and chromium steels. H. Scott. *Chem & Met Eng* 28:212-15 Ja 31 '23

Shearing properties of silicon steel sheets. N. B. Pilling. *il Elec J* 19:469-70 N '22

Silk

Decorative silks. O. von Falke. 47p W. Helburn, New York '22

New method of degumming waste silk with oropon. *Color Tr J* 11:267 D '22

Raw silk properties, classification of raw silk and silk throwing. W. P. Seem. 350p Silk pub. co., New York

Reeling and sizing raw silk. W. A. Spafford. *Textile World* 61:1683+ Mr 18 '22

Silk. E. B. Thompson. 232p Ronald press '22

Style highlights at silk show. D. MacDougal. *Textile World* 63:1276+ F 17 '23

Wide variety in silk patterns for spring. *il Textile World* 63:343-4 Ja 20 '23

See also Bleaching—Silk; Crepe de chine;

Dyes and dyeing—Silk; Silkworms

Analysis

Tin weighting in silk. A. A. Cook. *Textile World* 61:2219+, 3185+ Ap 15, My 27 '22

Definition

Definition of silk. *Textile World* 63:3967 Je 16 '23

Specifications

Buying raw silk on specification. W. P. Seem. *Textile World* 63:1301+ F 17 '23

Purchase of raw silk by specification. W. T. Edwards. *Textile World* 62:463+ J1 22 '22

Testing

Analysis of silk fabrics. *Textile World* 64:1807 S 29 '23

Examination of raw silk. W. F. Edwards. *Textile World* 61:329+, 1153+ Ja 21, F 18 '22

Silk testing. L. C. Lewis. *Textile World* 62:2923+ N 18 '22

Value of the serigraph test. W. F. Edwards. *il Textile World* 62:3569+, 3681+ D 23-30 '22

Why silk dyers should insist on a report on the quality of raw silk. L. C. Lewis. *Am Dyestuff Rep* 12:12-13 Ja 1 '23

Silk, Artificial

Artificial silk. *Color Tr J* 12:242 Je '23

Artificial silk and hosiery. S. A. Salvage. *Textile World* 63:2279+ Ap 7 '23

Artificial silk in cotton mills. B. R. Clarke. *Textile World* 64:2707+ N 3 '23

Artificial silk industry. E. A. Chapman. *Soc Dyers & Col J* 39:192-3 Je '23

Artificial silk industry. H. Schlatter. *Chem & Met Eng* 27:533-7 S 13 '22

Artificial silk preparation and winding. A. L. Wykes. *Textile World* 64:973 Ag 18 '23

Artificial silk production doubled in 1921. *Textile World* 61:661+ F 4 '22

Artificial silk; with special reference to Canada as a field for its manufacture. *Can Chem & Met* 7:177-8 J1 '23

Belgian artificial silk industry approaching pre-war condition. *Chem & Met Eng* 27:746 O 11 '22

British artificial silk industry. P. E. King. *Chem Age (Lond)* 9:454-6 O 27 '23

British artificial silk trade. H. D. Butler. *Textile World* 63:2458 Ap 14 '23

British cellulose and chemical manufacturing co.; celanese products. *Chem Age (Lond)* 9:366-7 O 6 '23

Cellulose silk. W. O. Mitscherling. *Am Dyestuff Rep* 12:383-7 My 21 '23; Same. *Ind & Eng Chem* 15:460-1 My '23

Development of the production of artificial silk; abstract. C. F. Cross. *Soc Dyers & Col J* 39:55-7 F '23

Gains continue in artificial silk production. *Textile World* 63:889+ F 3 '23

German artificial silk trade. *Color Tr J* 12:92 F '23

Handling artificial silk in cotton mills. W. F. Cooper. *Textile World* 64:2705+ N 3 '23

Researches in artificial silk industry. E. Cagliostro. *diags Color Tr J* 13:135-8, 205-8 O, D '23

Status of Italian artificial silk industry. *Chem & Met Eng* 27:871 N 1 '22

Viscose silks. *Color Tr J* 11:104 S '22

See also Dyes and dyeing—Silk, Artificial; Silk manufacture and trade

Manufacture

Artificial silk; a description of the viscose process. A. Fath. *il Chem Age* 31:245-8, 300-2 Je-J1 '23

Artificial silk; patent. *Chem & Met Eng* 28:317 F 14 '23

Building new art silk plant; Cupra, inc., at Clifton, N.J. *il Textile World* 62:1672 S 23 '22

Manufacture of artificial silk; British patent. *Color Tr J* 11:86 Ag '22

Manufacture of artificial silk; patent. *diag Color Tr J* 12:270 Je '23

La viscose sa préparation—ses propriétés. A. Graire. *Chimie & Ind* 9:454-62 Mr '23

Weaving artificial silk yarns. J. W. Pennington. *Textile World* 62:2323+ O 21 '22

Silk association of America

50th annual dinner. *Textile World* 61:1034 F 11 '22

51st anniversary. *Textile World* 63:1160-1 F 10 '23

Silk exchange (proposed)

Future market for raw silks similar to that for cotton. J. Chittick. *Textile World* 64:2267+ O 20 '23

Silk finishing

Machine for rubbing silk fabrics in finishing. *diag Color Tr J* 12:181 Ap '23

Silk manufacture and trade

Action on raw silk quotations; agreement of holders in Yokohama. W. A. Spafford. *Textile World* 61:2654-5 My 6 '22

Analyzing crepe twist yarns. J. Chittick. *Textile World* 63:1965+ Mr 24 '23

Chinese silk situation. J. A. Goldsmith. *Textile World* 64:76 J1 7 '23

Demand for silk good during greater part of year. W. A. Spafford. *Textile World* 63:891+ F 3 '23

Humidity in silk mills. A. W. Thompson. *Textile World* 63:2299+, 3171 Ap 7, My 12 '23

Is sericulture in Europe and Near East doomed? E. A. Chapman. *Textile World* 64:1383 S 8 '23

Japanese disaster paralyzes American silk trade. *il map Textile World* 64:1379-80+ S 8 '23

Last year a successful one in broad silks. *Textile World* 63:885+ F 3 '23

Mystery of "woven wind" has echo in silkworm culture in U.S. *il Pop Mech* 40:906-9 D '23

Possibilities of raw silk. W. A. Spafford. *Textile World* 60:2636-8 N 5 '21

Present position of raw silk. W. A. Spafford. *Textile World* 60:3712-13 D 31 '21

Raw silk. L. Duran. 2d ed. rev. 216p Silk pub. co., New York '21

Raw silk approaches peak levels. W. A. Spafford. *Textile World* 62:63 J1 1 '22

Raw silk properties. W. P. Seem. 367p Silk pub. co., New York '22

Reports of the Raw silk classification committee on standard tests for raw silk. 72p Silk assn. of America, New York '22

Silk manufacture and trade—Continued

- Sidelights on raw silk decline. W: A. Spafford. Textile World 61:1394-5+ Mr 4 '22
- Silk association presents annual trade review. Textile World 64:2105-6 O 13 '23
- Silk industry—a survey and a forecast. F. G. Barry. Annalist 19:65 Ja 9 '22
- Silk industry of the United Kingdom. F. Warner. 664p Drane's, London '21
- Silk piece goods have active spring, but quiet fall. Textile World 61:827+ F 4 '22
- Silk—the greatest individual field of textile advertising. L. H. Allen. Ptr Ink 122:53-4+ F 22 '23
- Silk, the queen of fabrics. W: D. Darby. 71p Dry goods economist, New York '22
- Steady improvement anticipated in silk industry. Textile World 62:1673+ S 23 '22
- Suggestions for purchasers of silk. J. Chittick. Textile World 64:379+ JI 21 '23
- Tremendous growth of silk industry in the United States. Am Dyestuff Rep 12:183-4 F 26 '23
- Troublesome defect in silk goods. J. Chittick. Textile World 62:2921+ N 18 '22
- Wage scales in the silk industry in Leek, England. Monthly Labor R 13:1047-9 N '21
- Will raw silk repeat its advance of last fall? W: A. Spafford. Textile World 62:1420-1 S 9 '22
- Year in silk. Annalist 21:121-2 Ja 15 '23

See also Silk exchange (proposed); Silk spinning; Silk weighting

Exhibitions

- Second silk exposition repeats success of first. il Textile World 63:1275-6 F 17 '23

Silk mills

- Improved drives for silk spinning frames. C. T. Guildford. il Textile World 61:1681+ Mr 18 '22

See also Silk manufacture and trade

Accounting

- Cost finding in knitting mills. S. R. Gordon. Textile World 62:1789+ S 30 '22

Employees

- Diagnosing ills of Paterson's silk industry. Textile World 63:3151-2 My 12 '23
- First conference held in Paterson on condition in the silk industry. Comm & Fin Chr 116:356-7 Ja 27 '23

Lighting

- Lighting the silk industry. C. F. Strebig. Textile World 64:683+ Ag 4 '23
- Lighting the silk industry with incandescent lamps. H. W. Desaix. il Illum Eng Soc 18:679-86 S '23; Same abr. Textile World 64:93-4+ JI 7 '23

Management

- Weave room production in silk mills. J. A. Hunter. Textile World 61:3689+ Je 17 '22

Safety devices and measures

- Cheney brothers' safety methods and appliances. E: L. Bernays. il Safety Eng 46:71-3 Ag '23
- Safety in relation to power operation in silk spinning and weaving mills. A. Kidd, jr. Safety Eng 44:112-14+ S '22

Silk printing

- Use of zinc dust in silk printing. B. De-Puyster. Color Tr J 12:133-4 Mr '23

Silk research

- Industrial silk researches. W. F. Edwards. Textile World 63:4075+ Je '23

Silk spinning

- Manufacture of spun silk yarn. A. D. Kelly. Textile World 63:4065+ Je 23 '23

Silk weavers

See Ribbon weavers

Silk weighting

- Character of water to be used in silk weighting. E. Cagliostro. Color Tr J 11:85 Ag '22
- Determination of tin weighting in silk. Am Dyestuff Rep 12:498-9 JI 2 '23
- Materials used in the weighting of silk. E. Cagliostro. Color Tr J 11:78-80, 125-7 Ag-S '22 [cont. from Bleacher, finisher and textile chemist]

- Method of weighting silk. Color Tr J 13:34-5 JI '23
- Process of weighting silk for black dyed goods. Color Tr J 11:270 D '22
- Process of weighting silk yarn previous to throwing operation. G. W. Cole. Color Tr J 12:264-5 Je '23
- Weighting of silk. W. Keiper. Color Tr J 11:89-90 Ag '22
- Weighting of silks. J. Woodman. Textile Col 45:30-4, 95-7, 298-301, 366-70, 447-9, 491-4, 577-81; 46:26-8 Ja-F, My-S '23, Ja '24

Silkworms

- Is sericulture in Europe and Near East doomed? E. A. Chapman. Textile World 64:1353 S 8 '23
- Mystery of "woven wind" has echo in silkworm culture in U.S. il Pop Mech 40:906-9 D '23
- Sericulture in Japan. G: N. Berlet. Textile World 60:3625+ D 24 '21

Silliman, Benjamin, sr.

- Pioneer Yale chemist. por Ind & Eng Chem 15:204-5 F '23

Sillimanite

- Sillimanite, an aluminum silicate, is a promising new refractory. Eng & Min J 113:536 Ap 1 '22

Silo storage tanks, Concrete. See Cement storage**Silos**

- Beet-top silage in the ground. il Sci Am 127:340 N '22
- Silo moved from one farm to another on a wagon. il Pop Mech 38:332-3 S '22

See also Silage

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Advertising

- Making it easy for the farmer to buy silos. W. Brindley. Ptr Ink M 5:48+ S '22

Silos, Concrete

- Concrete grain silo in Denmark. E. L. Heidenreich. il diags Concrete 19:233-4 D '21
- Cost accounting in stave silo erection. M. Hanson. Concrete 22:211-14 Je '23
- Kelham beet sugar factory; beet silos. diags plans Engineer 134:184 Ag 25 '22
- Standard blocks simplify silo construction. il Pop Mech 39:777 My '23

See also National concrete stave silo association

Silt

- Influence of silt on the velocity of water flowing in open channels. A. B. Buckley. Engineering 115:311 Mr 9 '23; Same. Can Eng 45:374 O 2 '23

- Reservoir loses 84% of storage capacity in nine years. T. U. Taylor. Eng N 91:380-2 S 6 '23

Silver, Arthur Elmer, 1879-

- Portrait. Elec W 82:418 S 1 '23

Silver

- America and silver valorization. Eng & Min J 116:656 O 13 '23
- L'argent-métal; la hausse, des cours de 1914 à 1920, by A. Pailhas. Review by J. E. Spurr. Eng & Min J 114:775 O 28 '22
- Control of the silver market. F. E. Wormser. Eng & Min J 115:624-7 Ap 7 '23
- Diffusion of oxygen through silver. L. Spencer. diags Chem Soc J 123:2124-8 S '23
- Encouragement for the silver miner. A. B. Parsons. Eng & Min J 115:1123-4 Je 23 '23
- English gold and silver markets. See weekly numbers of Commercial & financial chronicle
- Few sound thoughts from a noted economist. G: E. Roberts. Eng & Min J 116:270 Ag 18 '23
- Future of silver. Brass W 18:167 Je '22
- Future of the price of silver. C. C. Latour. Annalist 21:55-6 Ja 8 '23
- Mineral industry of the British Empire and foreign countries. 215p Imperial mineral resources bureau, London '23
- New process recovers silver from fixing baths. Pop Mech 37:230 F '22
- New silver which does not stain. Sci Am 129:241 O '23
- Outlook for the price of silver. C. C. Latour. Annalist 19:47-8 Ja 9 '22

Silver—Continued

- Properties of some silver organosols. J. K. Giles and C. S. Salmon. *Chem Soc J* 123: 1597-1608 Je '23
- Purity of atomic weight silver; gases in pure silver and iodine. G. P. Baxter and L. W. Parsons. *diag Am Chem Soc J* 44:577-91 Mr '22
- Purity of atomic weight silver; solid impurities. G. P. Baxter. *Am Chem Soc J* 44:591-4 Mr '22
- Reaction between persulphates and silver. G. I. Higson. *Chem Soc J* 119:2048-55 D '21
- Recovering silver from movie laboratory waste. C. A. Byers. *il Eng & Min J* 114:373-4 Ag '22
- Refinery production of gold and silver in the United States in 1922. *Comm & Fin Chr* 117:1079 S 8 '23
- Silver. F. E. Wormser. *Eng & Min J* 115:152 Ja '20 '23
- Silver export association. F. H. Brownell. *Eng & Min* 116:17-20 Jl 7 '23; Same. *Comm & Fin Chr* 117:270-2 Jl 21 '23; Discussion. C. L. Breger. *Eng & Min J* 116:312-14 Ag '25 '23
- Silver in 1921. Brass W 18:32-3 Ja '22
- Silver men hold conference at Reno. G. J. Young. *Eng & Min J* 116:467-8 S 15 '23
- Silver mining in 1922. S. J. Jennings. *Eng & Min J* 115:95 Ja '20 '23
- Silver mining; review of the market. F. E. Wormser. *Eng & Min J* 113:85-6 Ja '21 '22
- Silver recovery from movie waste develops as an industry. G. F. Paul. *il Metal Ind* 21: 364-5 S '23
- Tons of silver from waste hypo; by-product of the motion-picture industry. C. A. Byers. *il Sci Am* 126:258 Ap '22
- Treasury officials state attitude on revocation of silver allotments. *Eng & Min J* 115:949-50 My '26 '23
- Zur analytischen chemie kolloid-disperser systeme. A. Gutbier, J. Huber and O. Kupfing. *Deutsche Chem Gesell Ber* 55:748-52 Mr '22
- See also* Argento-jarosite; Jewelry; Silver metallurgy; Silver mines and mining; Silver ores; Silver plating; Silverware

Analysis

- Determination of silver in bismuth metal. W. H. Jacobson. *Eng & Min J* 114:636 O 7 '22
- Modified method of testing for silver in barren solutions. F. C. Bond. *Eng & Min J* 115: 1117 Je '23 '23

Cost

- Nipissing's silver costs. *Eng & Min J* 115:1157 Je '20 '23
- Silver mining and milling costs of the McKinley-Darragh-Savage mines. *Eng & Min J* 115:978 Je 2 '23
- Silver mining and milling costs of Tonopah Belmont. *Eng & Min J* 115:937 My '26 '23

Pittman act

- Government suspension of silver purchases under Pittman act. *Comm & Fin Chr* 116: 2715 Je 16 '23
- Metallurgical losses and Pittman act silver. *Eng & Min J* 115:1093-4 Je '23 '23
- Mint director confuses miners with Pittman act statement—says 20,000,000 oz. will complete repurchases. A. B. Parsons. *Eng & Min J* 115:636-7 Ap 7 '23
- Mint records adjusted to lend color to silver revocations. *Eng & Min J* 116:78-80 Jl 14 '23
- Pittman act silver; text of decision on which is based deduction of 10,000,000 oz. *Eng & Min J* 115:683-4 Ap 14 '23
- Senator Key Pittman's protest against Director of mint Scobey regarding proposal to discontinue silver purchases. *Comm & Fin Chr* 116:2073-4 My 12 '23
- Senator Pittman appeals to Comptroller general; petitions for a reconsideration of silver allocation decision. K. Pittman. *Eng & Min J* 116:165-6 Jl 28 '23

- Senator Pittman speaks for independent silver producers. *Eng & Min J* 115:771 Ap 28 '23
- Silver legislation. K. Pittman. *Comm & Fin Chr* 115:1156-7 S 9 '22
- Silver market. *Metal Ind* 21:242 Je '23
- Smelters should get \$1 for only 95 per cent of silver in ore. *Eng & Min J* 115:1082 Je 16 '23
- Suggestion to the independent silver producer. *Eng & Min J* 115:788-9 My 5 '23
- Suspension of silver purchases by government—Under Secretary Gilbert asked to testify before Senate committee. *Comm & Fin Chr* 116:2941-2 Je 30 '23
- Suspension of silver purchases by United States treasury. *Comm & Fin Chr* 116:2463 Je 2 '23
- Treasury department's policy regarding silver allocations. S. P. Gilbert, jr. *Comm & Fin Chr* 117:1419-21 S 29 '23
- Treasury refuses to resubmit silver question to Comptroller general. *Eng & Min J* 116: 121-3 Jl 21 '23
- Under-secretary Gilbert's letter to Senator Pittman regarding suspension of silver purchases. *Comm & Fin Chr* 116:2589 Je 9 '23
- U.S. treasury's Far Eastern exchange transactions in 1919-1920. C. L. Breger. *Eng & Min J* 116:683-5 O 20 '23

Silver alloys

- Crystal structure of silver-palladium and silver-gold alloys. L. W. McKeehan. *Phys R* 20:424-32 N '22
- Tarnish resisting silver. *Metal Ind* 21:275 Jl '23

Silver antimony sulfide. *See* Pyrargyrite

Silver as money

- Activities of the United States Senate commission of gold and silver inquiry. *Comm & Fin Chr* 117:1190 S 15 '23
- Changes in the monetary use of silver since 1914. L. R. Robinson. *U S Bur For & Dom Com Trade Information Bul* 140:1-66 '23
- Decrease in the fineness of British silver coinage. *Eng & Min J* 114:1163; 115:23 D 30 '22-Ja 6 '23
- Marketing of silver bullion. P. D. Handy. *Eng & Min J* 113:772-3 My 6 '22
- Monetization of silver. S. A. Knapp. *Min & Sci P* 123:664-5 N 12 '21
- Puzzling market for silver. J. F. Gallbreath. *il Nation's Business* 11:48-9 Je '23

See also Silver—Pittman act

Silver bromide

- Action of light on silver bromide. E. J. Hartung. *Chem Soc J* 121:682-91 Ap '22
- Spectral sensitiveness of silver bromide and the influence of adsorbed substances on the sensitiveness. W. Frankenburger. *Chem Soc J* 124 pt 2:599-600 S '23
- Über die photochemische zersetzung des bromsilbers. R. Schwarz and H. Stock. *diags Deutsche Chem Gesell Ber* 54:2111-22 S '21; Abstract. *Chem Soc J* 120 pt 2: 614-15 N '21

Silver chloride

- Equilibrium of the reaction between metallic silver, cupric chloride in aqueous solution, and solid cuprous and silver chlorides. G. Edgar and L. S. Cannon. *Am Chem Soc J* 44:2842-9 D '22
- Solubility of silver chloride in dilute chloride solutions and the existence of complex argentichloride ions. G. S. Forbes and H. I. Cole. *Am Chem Soc J* 43:2492-7 D '21

Silver chromate

- Liesegang rings; silver chromate in gelatin and colloidal gold in silicic acid gel. E. C. H. Davies. *Am Chem Soc J* 44:2698-2704 D '22

Silver compounds

- Alleged variable composition of triple chlorides containing silver and gold. H. L. Wells. *Am J Sci* 5th ser 4:476-82 D '22
- Über eine silberverbindung der saccharase. H. v. Euler and K. Josephson. *Deutsche Chem Gesell Ber* 55:2416-20 S '22
- See also* Alkali silver thiosulfates

Silver halides

Size-frequency distribution of particles of silver halide in photographic emulsions and its relation to sensitometric characteristics. E. P. Wightman, S. E. Sheppard and A. P. H. Trivelli. *diags J Phys Chem* 25:181-95, 561-94; 27:1-51, 141-66, 466-80 Mr, O '21, Ja-F, My '23

Spectrophoto-electrical sensitivity of some halide salts of thallium, lead and silver. W. W. Coblenz and J. F. Eckford. *U S Bur Stand Sci Pa* 456:489-98 '22

See also Silver bromide; Silver chloride; Silver iodide

Silver iodide

Adsorption of iodine by silver iodide. F. E. E. Germann and R. N. Traxler. *Am Chem Soc J* 44:460-4 Mr '22

Crystalline structures of silver iodide. R. B. Wilsey. *diag Philos Mag* 6th ser 46:487-96 S '23

Heat of formation of silver iodide. H. S. Taylor and W. T. Anderson, Jr. *Am Chem Soc J* 43:2014-17 S '21

Photographic sensitiveness of silver iodide. F. E. E. Germann and M. C. Hyman. *Am Chem Soc J* 45:2486-93 N '23

Silver metallurgy

Cyanidation of flotation concentrate. P. T. Bruhl. *Min & Sci P* 124:193-6 F 11 '22

Electric silver melting. H. A. DeFries. *diag Metal Ind* 19:473-5 D '21

Evolution of mechanical roasting in silver-lead smelting. L. S. Austin. *Min & Met* 188:27-9 Ag '22

Improvement in electrolytic silver refining. A. H. W. Cleave. *il Eng & Min J* 116:21-2 Jl 7 '23

Ore dressing, fluxes, and fuels at Namtu. R. G. Hall. *Eng & Min J* 115:712-15, 757-63 Ap 21-23 '23

Reclaiming 6-oz. silver tailing at the Conia-gas mines. H. E. Cawley. *il Eng & Min J* 112:890-1 D 3 '21

Rejuvenation of Candelaria; famous Nevada silver mines of forty years ago again producing. E. H. Robie. *flowsheet Eng & Min J* 115:61-2 Ja 13 '23

Silver King Coalition's new mill. R. S. Lewis. *flow sheet il Eng & Min J* 116:369-73 S 1 '23

Treatment of concentrate. *Min & Sci P* 124:219, 358 F 18, Mr 18 '22

See also Cyanide process

Bibliography

Abstracts from the literature on treatment of manganese silver ores. G. H. Clevenger and A. Cornejo. 14p Rep. of Investigations U S Bur Mines 2458 '23 (typew)

Silver mines and mining**Cost**

See Silver—Cost

British Columbia

Silver-Smith mines, Ltd., has opened new ore and is producing profitably. F. H. Mason. *il Eng & Min J* 115:32 Ja 6 '23

Burma

Bawdwin mine, in Burma. A. B. Calhoun. *il diags map plan Eng & Min J* 113:1084-92 Je 24 '22

California

California Rand silver mine. A. B. Parsons. *il maps Min & Sci P* 123:667-75, 855-9; 124:11-17 N 12, D 17 '21, Ja 7 '22

Chile

Geology of the Huantajaya silver district. H. G. Officer. *diags plan Eng & Min J* 113:568-72 Ap 8 '22

Colorado

Silver enrichment in the San Juan mountains, Colorado. E. S. Bastin. *diags U S Geol S Bul* 735—D:65-129 '22

Idaho

Silver mining and milling at Talache, Idaho. F. E. Wormser. *flow sheet il Eng & Min J* 114:581-5 S 30 '22

Massachusetts

Vicissitudes of silver mining at Newburyport, Mass. F. E. Green. *Eng & Min J* 115:483-4 Mr 17 '23

Mexico

Mexican silver production. P. X. Stoffel. *Eng & Min J* 114:622 O 7 '22

Mining camps of North America; Huan-tla, State of Morelos, Mexico. R. B. Brinsmade. *il Eng & Min J* 114:1028-31 D 9 '22

Nevada

Candelaria silver district. A. Knopf. *diag map U S Geol S Bul* 735—A:1-22 '22

Rejuvenation of Candelaria; famous Nevada silver mines of forty years ago again producing. E. H. Robie. *flowsheet Eng & Min J* 115:61-2 Ja 13 '23

Status of Nevada mining. *Eng & Min J* 116:672 O 20 '23

Ontario

Cobalt—its past and future. C. W. Knight. *il diags Eng & Min J* 113:761-8 My 6 '22

Deep-seated oxidation and secondary enrichment at the Keeley silver mine. J. M. Bell. *Econ Geol* 18:684-94 O '23

Keeley mine, South Lorrain. *flow sheet il Eng & Min J* 116:381-2 S 1 '23

Nature of the silver veins at Cobalt. J. E. Spurr. *il diag Eng & Min J* 116:709-12 O 27 '23

United States

Largest gold and silver producers in the United States. *Eng & Min J* 115:720 Ap 21 '23

Yukon

Mayo district in Yukon territory. C. F. Williams. *il map Eng & Min J* 113:1039-46 Je 17 '22

Silver molybdate

Crystal structure of silver molybdate. R. W. G. Wyckoff. *Am Chem Soc J* 44:1994-8 S '22

Silver nitrate

Experiments on the isolation of the anti-neuritic vitamine. A. Seidell. *J Ind & Eng Chem* 13:1111-15 D '21

Studies in hypophosphorous acid; its reaction with silver nitrate. A. D. Mitchell. *Chem Soc J* 123:629-35 Mr '23

Silver ores

Chemistry of enrichment of silver deposits. R. T. Sill. *Min & Met* 189:21-3 S '22

Primary native-silver ores near Wickenburg, Arizona. E. S. Bastin. *diags U S Geol S Bul* 735—E:131-55 '22

Silver enrichment in the San Juan mountains, Colorado. E. S. Bastin. *diags U S Geol S Bul* 735—D:65-129 '22

Silver ores. H. B. Cronshaw. 152p J: Murray, London '21

Silver oxide

Catalytic influence of foreign oxides on the decomposition of silver oxide, mercuric oxide and barium peroxide. J. Kendall and F. J. Fuchs. *diag Am Chem Soc J* 43:2017-31 S '21

Crystal structure of silver oxide. R. W. G. Wyckoff. *Am J Sci* 5th ser 3:184-8 Mr '22

Pressure of oxygen in equilibrium with silver oxide. F. G. Keyes and H. Hara. *diags Am Chem Soc J* 44:479-85 Mr '22

Silver perchlorate

Reaction between silver perchlorate and iodine; chlorine tetra-oxide. M. Gomberg. *diag Am Chem Soc J* 45:398-421 F '23

System, silver perchlorate—water—benzene. A. E. Hill. *diags Am Chem Soc J* 44:1163-93 Je '22

Silver plating

Black silver anodes. R. J. Marsh. *Metal Ind* 21:154 Ap '23

Bright silver on reflectors. *Metal Ind* 20:147 Ap '22

Silver plating—Continued

- Cause of red stains on silver-plated work. A. Jefferson. Metal Ind 20:390-1 O '22
 Replating old Britannia ware. C. H. Proctor. Metal Ind 20:187 My '22
 Silver plating cutters. C. H. Proctor. Metal Ind 20:353 S '22; Discussion. 21:21, 156, 194, 237 Ja, Ap-Je '23

See also Electroplating; Plating; Silvering

Silver purchasing. See Silver—Pittman act**Silver salvasan**

- Silver salvasan. W. H. Gray. Chem Soc J 123:635-42 Mr '23
 Über isomere silber-salvarsane. A. Binz and W. H. Ludwig. Deutsche Chem Gesell Ber 55:3826-31 D '22

Silver sulfide

- Spectrophotoelectrical sensitivity of argentine (Ag₂S). W. W. Coblenz. diags U S Bur Stand Sci Pa 446:265-80 '22

Silver thiosulfate

- Über alkali-silber-thiosulfate und ihr ammoniak-additionsvermögen. E. Jonsson. Deutsche Chem Gesell Ber 54:2556-64 N '21; Abstract. Chem Soc J 122 pt 2:57-8 Ja '22

Silvering

- Re-silvering mirrors. C. H. Proctor. Metal Ind 21:193 My '23

Silverware

- Jewelry and silverware in Argentina, Uruguay and Brazil. S. W. Rosenthal. il U S Bur For & Dom Com 214:1-114 '22

See also Plate; also International silver company

Advertising

- Advertising that brought new youth to an old industry. R. R. Updegraff. Ptr Ink M 4:15-17 My '22
 Alvin silver company cashes in on ephemeral fashions; links up with King Tut-anth-Amen vogue. C. B. Larrabee. Ptr Ink 123:53-4+ My '24
 Finding a new idea uncovers a new market within the present one. R. Cole. Ptr Ink 123:53-4+ Ap 19 '23
 What has a base metal for silverware to advertise? J. Henle. Ptr Ink 120:33-4+ JI 27 '22

Manufacture

- All other fuels tried first; silver product manufacturing turns to gas fuel. il Gas Age 52: 569 N 3 '23

Silvore

- What has a base metal for silverware to advertise? J. Henle. Ptr Ink 120:33-4+ JI 27 '22

Simplification in industry

- Alice in modernland. W. A. Durgin. Nation's Business 11:13-15 Je '23
 American engineering standards committee reports one thousand simplification opportunities. Am Mach 58:805-6 My 31 '23
 Bettering an entire industry's methods with simplification; work of National association of hosiery and underwear manufacturers. J. N. McCullaugh. il System 43:466-9, 623-6+ Ap-My '23
 Design and style in their relation to simplified manufacture. R. M. Hudson. Management Eng 2:305-7 My '22
 Du Pont advertises simplified paint line. R. Dickinson. Ptr Ink 122:41-2+ Mr 15 '23
 Economic hindrances to standardization. W. J. Matherly. Am Mach 58:937-9 Je 28 '23
 Financial economies of simplified industrial practice. W. J. Matherly. Annalist 20:382 O 16 '22
 Five years' growth with a one-style line. W. A. Edmonds. il System 44:156-8+ Ag '23
 How a production manager, single-handed, promotes simplification. T. W. Howard. Factory 29:519-22+ N '22
 How fewer varieties changed losses into profits. C. W. Giller. il Factory 29:666-8 D '22
 How I would double the volume of a business. T. A. Edison. il System 44:265-8+ S '23

- How industry can get rid of its excess baggage. E. E. Parsonage. Ptr Ink 119:44+ Je 1 '22

- How limited sellers were swept out of the Osborn brush line. W. B. Edwards. Ptr Ink 125:25-8 O 25 '23

- How simplification affected Champion spark plug advertising. C. B. Larrabee. Ptr Ink 124:8+ JI 12 '23

- How simplification made it profitable for us to reduce our line 80%. W. Drake. il Factory 30:688-9 Je '23

- How simplification of product widened our market. F. H. Payne. Am Mach 56:8-10 Ja 5 '22

- How simplification profited us, our workers, and an entire industry. J. S. Gilbert. Factory 28:36-7 Ja '22

- How we applied simplification in a retail store. F. Altergott, Jr. il System 43:35-7+ Ja '23

- How we fitted Ford's principles to our business. L. M. Boomer. System 44:421-4+ O '23

- How we got both quality and volume production. A. G. Gulbransen. System 43:57-9+ Ja '23

- How we sell twice as much on half the stock. G. M. Gales. il System 43:583-7+ My '23

- How W. L. Douglas is adding a hundred new dealers a week; styles are cut in five. W. L. Douglas. Ptr Ink 125:3-4+ N 1 '23

- Increasing the business on two brands with one; Cushman grade A bread. J. True. Ptr Ink 123:74+ Ap 5 '23

- Larger volume, lower costs, with 6 items instead of 1,600; Davidson rubber company. il System 44:292-4+ S '23

- Lost motion in explosive making due to needless variety of products. G. M. Norman. Chem & Met Eng 27:458 Ag 30 '22

- Meaning of simplification. Elec W 80:907-8 O 21 '22

- New conservation. R. M. Hudson. Sci Am 128: 28+ 98+ Ja-F '23

- New Remington labels reduce line from 12,000 items to 24. B. F. Berfield. il Ptr Ink M 5: 33-4 Ag '22

- Our five gains from simplification. J. P. Fogarty. il Factory 31:295-3+ S '23

- Pruning the wiring-device line. E. E. White-horne. il Elec W 81:1004-5 Ap 28 '23

- Putting advertising to work to eliminate waste in industry. F. M. Feiker. Ptr Ink 123:57-8+ Je 14 '23

- Real profit in the elimination of an excess variety of products. Elec W 79:792 Ap 22 '22

- Reduction of varieties in manufactured products. E. W. McCullough. Am Cer Soc J 5: 221-7 My '22

- Regal scraps experience to adopt new sales policy. E. J. Bliss. Ptr Ink 122:3-4+ F 15 '23

- Sentiment for simplification spreading among electrical manufacturers and jobbers. Elec W 81:1438-9 Je 16 '23

- Shortening the line to reduce price. R. Dickinson. Ptr Ink 121:109-10 N 23 '22

- Simplification cut our costs 12%; increased production 50%; reduced seconds 91%. C. B. Potter. Factory 31:445-7+ O '23

- Simplification does pay; United brass manufacturing company. E. M. Rogert. il Factory 31:598-601 N '23

- Simplification in a 65-man plant. P. S. Tonk. il System 41:293-5+ Mr '22

- Simplification in industry—its relation to advertising. R. Dickinson. bibliog Ptr Ink 120: 170+ S 21 '22

- Simplification is saving millions. R. M. Hudson. il Am Ind 23:15-19 My '23

- Simplification of lines gives Knox hat advertising opportunity. A. Belden. Ptr Ink 124:97-100+ S 27 '23

- Simplification of methods and the value of cooperation and coordination by industries—a message from Herbert Hoover. W. A. Durgin. Am Pet Inst Bul 3:59-63 D 30 '22

- Simplification of paint and varnish—an augury of good for other industries. Ptr Ink 123: 153-4 My 10 '23

- Simplification of products. Management Eng 3:56-7 JI '22

Simplification in industry—Continued

- Simplification put our sales in the \$1,000,000 class; Nemo hat company. L: L. Smith. *il* System 43:478-80+ Ap '23
- Simplification—the new fundamental in business. R. M. Hudson. Ry R 72:962-3 Je 9 '23
- Simplification—what does it offer in the machine industry? W: A. Durgin. *Am Mach* 56:689-91 My 11 '22
- Simplified practice as a service to American shipping. R. M. Hudson. *Marine Eng* 27:746-8 D '22
- Small-town merchant's views on simplification and cost reduction. A. H. Van Voris. *Ptr Ink* 120:41-2+ Ag 17 '22
- Standardization and simplification. S. L. Willson. *Paper Tr J* 75:23-5 O 26 '22; Same. *Paper* 31:10-13 N 15 '22
- Standardization as a creator of new advertising. J. H. Barnes. *Ptr Ink M* 6:23-4 Mr '23
- Standardization prepares the ground for a new national advertiser; the Duban shade corporation. W. B. Edwards. *Ptr Ink* 122:17-18 Mr 29 '23
- Steps in simplification. *Factory* 28:657; 29:37, 146, 411; 30:514 Je-Ag, O '22, My '23
- Sticking to one idea made Campbell's the national soup. J: T. Dorrance. *Ptr Ink M* 4:23-4+ Ja '22
- 35% lower prices; 25% smaller inventory; doubled sales—through simplification. E. J. Bliss. *il* chart System 44:594-7+ N '23
- Tomorrow's profits from today's wastes. P. E. Holden. *Am Mach* 58:401-2 Mr 15 '23
- Trend of simplification. F. M. Feiker. *Factory* 28:156-8 F '22
- Trend toward simplification. *bibliog* *Ptr Ink* 119:41-2+ My 4 '22
- Twenty times the volume since simplification. H: J. Bostock. *il* System 44:40-2+ Jl '23
- U. S. Chamber of commerce aids distribution. *Chem & Met Eng* 28:420 F 28 '23
- Voluntary adoption of standards of quality. J. H. Barnes. *Mech Eng* 45:325 My '23
- We are getting 25% more this year from our pay-roll; Wahl company. *il* *Factory* 31:159-62 Ag '23
- We cut factory overhead despite smaller volume. G: G. Powers. *Factory* 28:275-9+ Mr '22
- We increased volume when we cut our line 60%. E. T. Trigg. *il* System 42:425-7+ O '22
- We turn stocks seven times as fast through simplification. F. H. Montgomery. *il* System 43:745-50+ Je '23
- What simplification has done for us. J. T. Dorrance. *il* System 41:27-9+ Ja '22
- What simplification saves us—John Deere wagon works. E: E. Parsonage. *System* 40:709-12+ D '21
- Why our business has grown 20-fold since we adopted simplification. J: N. McLean. *il* System 41:144-7+ F '22
- Why we invested \$7,000,000 in simplification. H. S. Firestone. *il* *Factory* 27:739-43 D '21
- Working for standard sizes of food containers. *Ptr Ink* 122:166+ Ja 25 '23
- See also Paper sizes; Private brands

Simultaneity

- Definition of simultaneity and the æther. E. H. Synge. *Philos Mag* 6th ser 43:528-31 Mr '22

Sine bar

- Sine-bar fixture for accurately checking thread angles. *il* *Mach* 28:722 My '22

Singapore**Water supply**

- Suggested new water supply for Singapore. *map Engineer* 135:57-8, 63 Ja 19 '23

Singeing of textiles

- Fire hazard of yarn singeing. *Textile World* 62:1301+ S 2 '22
- Singeing machine for fabrics; patent. *diag* *Color Tr J* 12:271 Je '23
- Singeing of textile fabrics and yarns. J. M. Matthews. *il* *diags* *Color Tr J* 11:167-70, 262-4 O, D '22

Singing tube

- Physical explanation of the action of the new singing tube. C: T. Knipp and J. Kunz. *Phys R* 19:400-1 Ap '22

Single tax

- Unemployment and our revenue problem. J: S. Codman. 64p Huebsch '23

Sinking funds

- Sinking-fund method for amortizing franchises. J: R. Wildman. *J Account* 35:16-21 Ja '23; Discussion. 35:232-5 Mr '23
- Sinking funds, reserve funds, and depreciation. J. H. Burton. 91p Pitman '22
- To obtain sinking-fund payments from compound-interest tables. E: Fraser. *J Account* 35:321-34 My '23
- Treatment of redemption funds. J. H. Jackson. *J Account* 33:417-30 Je '22

Sintering

- Interesting sintering plant at Birdsboro, Pa. B. G. Klugh. *il* *diags* plan Blast F & Steel Pl 10:24-8 Ja '22
- Sintering iron-bearing materials. R. L. Lloyd. *Min & Met* 190:17-19 O '22
- Sintering; its nature and cause. R. C. Smith. *Chem Soc J* 123:2088-94 Ag '23
- Sintering to increase returns to ore shippers. H. J. Stehli. *Eng & Min J* 115:1110-14 Je 23 '23
- Zur erforschung des sintervorganges, besonders von eisenerzen; abstract. K. Endell. *Stahl & Eisen* 42:976-8 Je 22 '22

Siphons

- Building a 9-ft. siphon on the Hetch Hetchy aqueduct. N. A. Eckart. *il* *diag* *Eng N* 91:100-1 Jl 19 '23
- Building additional siphons of Catskill aqueduct. T. Merriman. *il* *diags* *Eng N* 90:866-9 My 17 '23
- Inverted siphon for sewer on exceptionally flat grade. B. Harmon. *Eng & Contr* 56:556 D 14 '21
- Inverted siphons for sewers; final report of committee. *diags* Boston Soc C E J 8:231-82; Bibliography. 283-5 S '21; Excerpts. *Eng & Contr* 56:552-5 D 14 '21; Abstract. *Pub Works* 51:340-1, 357-8 O 29-N 5 '21
- Manual of operation for use in maintenance of Louisville sewers. R. Canavan. *diags* plans *Munic Eng* 63:sup15-18+ Jl '22
- Ocean out-fall sewer syphon under the Middle harbour, Sydney. N.S.W. *diags* plan *Engineering* 115:547-50, 556 My 4 '23
- Practical limitations in the action of siphons. *Coal Age* 24:521-2 O 4 '23
- Siphon spillways. G. F. Stickney. *il* *diags* *Am Soc C E Pro* 48:175-94 F '22; Discussion. 48:1015-30, 1303-4 Ap-My '22
- Twin tunnels for sewer siphon under Calumet river. *diags* *Eng N* 91:59-60 Jl 12 '23

Sirups

- Freezing process for making fruit syrups. *il* *Refrig W* 58:25 Ag '23
- How chemical engineering helps the maker of cane sirup improve his production. H. S. Faine and R. S. McBride. *il* *diag* plan *Chem & Met Eng* 29:702-5 O 15 '23
- Precipitate formed in sugarhouse syrups. J. F. Brewster and W. G. Raines, Jr. *J Ind & Eng Chem* 14:946-7 O '22
- Recent progress in the chemistry of sirups and molasses. F. W. Zerban. *Ind & Eng Chem* 15:7-9 Ja '23
- Use of invertase in cane sirup manufacture. *Chem Age* 30:156 Ap '22
- See also Sorghum sirup; Sweet potato sirup

Sisal hemp

- Inherent fire hazard of sisal. *Safety Eng* 46:135-7 S '23

Sizing (textiles)

- Measuring stiffness of sized cloth. A. H. Grimshaw. *Textile World* 61:2965+ My 20 '22
- See also Cotton sizing; Desizing (textiles); Novigant

Bibliography

- Sizing; a review of the literature. F: D. Farrow. *Textile Inst J* 14:T262-3 Ag '23; Same. *Color Tr J* 13:146-51 O '23

Sizing of paper. See Paper sizing**Skagit river power project**

- Progress on the Skagit river power project. *il* *diags* *Eng N* 87:948-9 D 8 '21

Skagit river power project—Continued

- Skagit river hydroelectric development. W. A. Scott. *il Elec R* 79:840-1 D 3 '21
 Skagit river plant to be in operation by end of year. *il Elec W* 82:147 J1 21 '23

Skating rinks

- Iceland skating rink, New York. *Arch & Bldg* 55:7-8, pl 12-13 Ja '23

Skimit manufacturing company

- How changing an appeal boosted our sales; a broader market found for Skimit. M. B. Olinger. *Ptr Ink* 121:84- O 5 '22

Skimmed milk. See Milk, Skimmed**Skin****Diseases**

- Le bouton d'huile, and forms of occupational acneiform folliculitis; abstract. P. Blum. *J Ind Hygiene* 4:106-7 N '22
 Dermatitis following the use of cutting oils and lubricating compounds. W. J. McConnell. 22p bibliog. U.S. Pub. health serv., Washington, D.C. '22; Abstracts. *Monthly Labor R* 15:1355-7 D '22; *Iron Age* 111:225 Ja 18 '23
 Industrial dermatoses. H. N. Cole and J. R. Driver. bibliog *J Ind Hygiene* 4:425-32 F '23
 Infection from cutting oil. A. L. De Leeuw. *Am Mach* 57:915-16 D 14 '22
 Occupation dermatoses of the paraffin workers of the Scottish shale oil industry; abstract. A. Scott. *J Ind Hygiene* 4:sup191-4 Mr '23
 Occupational affections of the skin and special senses. *J Ind Hygiene* 4:sup211-14 Ap '23
 Occupational dermatitis; abstract. F. Gardiner. *J Ind Hygiene* 4:sup190-1 Mr '23
 Preventing infections from cutting oils and compounds. A. C. Hall. *Nat Safety* N 8:33-4 Ag '23
 Skin diseases commonly seen by the industrial physician. E. L. Oliver. bibliog *J Ind Hygiene* 4:21-9 My '22

Skin effect

- Alternating-current resistance and inductance of single-layer coils. C. N. Hickman. *diags U S Bur Stand Sci Pa* 472:73-104 '23
 Bessel function for calculating skin effect. H. B. Dwight. *Elec W* 79:964 My 13 '22
 Calculation of the skin effect in electrical conductors. F. F. P. Bisacre. *diags Philos Mag* 6th ser 45:1026-49 My '23
 Precise method of calculation of skin effect in isolated tubes. H. B. Dwight. *Am Inst E E J* 42:827-31 Ag '23
 Proximity effect in wires and thin tubes. H. B. Dwight. bibliog *diags Am Inst E E J* 42:961-70 S '23
 Skin effect and proximity effect in tubular conductors. H. B. Dwight. *Am Inst E E J* 41:203-9 Mr '22; Discussion. 41:671-4 S '22

See also Electric conductors; Electric resistance; Electromotive force

Skinner, Le Grand, 1845-1922

- Sketch. *por Power* 55:837 May 23 '22

Skins. See Hides and skins**Skoda, Czechoslovakia**

- Skoda and the revolution of Pilsen. H. Obermeyer and A. L. Greene. *il Am Mach* 59:519-24 O 4 '23

Sky brightness

- Daylight illumination on horizontal, vertical and sloping surfaces. *diags Illum Eng Soc* 18:434-74 My '23
 Sky brightness. *diag Am Arch* 121:112-13 F 1 '22
 Sky brightness and daylight illumination measurements. *il Illum Eng Soc* 16:255-75; Discussion. 275-83 no 7 '21
 Skyliht; report of committee on progress for 1921. *Illum Eng Soc* 16:237-8 no 7 '21

Skylights

- Glass roof on depot like futurist painting. *il Pop Mech* 40:912 D '23
 Skyliht ventilator opened by gravity. *il Pop Mech* 36:911 D '21
 Twenty-one by sixty skylight roof. *il diag plan Sheet Metal Worker* 14:155-6 Mr 30 '23

Skyscrapers. See High buildings**Skywriting**

- Clever airman traces huge writings in sky. *il Pop Mech* 39:181 F '23
 Handwriting on the sky—the most recent and compelling method of advertising. A. Klein. *il Sci Am* 128:323 My '23
 Skywriting for advertising purposes. *il Aviation* 14:152-3 F 5 '23

Slabs, Concrete. See Concrete slabs**Slack adjusters.** See Brake rigging**Slag**

- Action of slag upon silica, magnesite, chrome, diaspore and fire-clay refractories. R. M. Howe, S. M. Phelps and R. F. Ferguson. *Am Cer Soc J* 6:589-95 Ap '23; Discussion. (Bul) 6:307-8 S '23
 Analysis of cupola slags. J. W. Bolton. *Foundry* 51:662a, 702a Ag 15-S 1 '23
 Basic slags and rock phosphates. G. S. Robertson. (Cambridge agricultural monographs) 120p Macmillan '22
 Blast-furnace slag as an aggregate in concrete. R. Harsch. *Eng N* 91:146-7 J1 26 '23; Summary. *Iron Age* 112:480 Ag '23
 Buckshot, its cause and remedy. W. G. Imhoff. *il Iron Tr R* 73:1304-8 N 8 '23
 Centrifugal force in metallurgy. W. M. Johnson. *Eng & Min J* 116:92-3 J1 21 '23
 Constitution and manurial value of low grade basic slag. D. N. McArthur. *Soc Chem Ind J* 42:213-16 My 18 '23
 Constitution of basic slags; its relation to furnace reactions. T. P. Colclough. *Iron & Steel Inst J* 107:267-86 no 1 '23; Same. *Iron Tr R* 73:103-6+ J1 12 '23; Abstracts. *Engineer* 135:547-8 My 25 '23; *Engineering* 115:614 My 18 '23; Discussion. *Iron & Steel Inst J* 107:287-99 no 1 '23
 Disposal of blast-furnace slag. *Min & Met* 189:24 S '22
 Fusibility of open-hearth slag containing titanium dioxide. G. F. Comstock. *Chem & Met Eng* 26:165-6 Ja 25 '22
 How to combat formation of slag on boiler tubes. H. H. Bates. *Am Gas J* 117:370, 372-5 O 21 '22; Same. *Power Pl Eng* 26:1094-8 N 15 '22; Same. *Blast F & Steel Pl* 10:642-6 D '22; Same cond. *Gas Age* 51:103-5 Ja 27 '23; Excerpt. *Mech Eng* 45:53-4 Ja '23; Abstracts. *Engineering* 114:521 O 27 '22; *Engineer* 134:504 N 10 '22; *Iron Tr R* 71:1127-8 O 26 '22
 Investigation of losses in copper blast-furnace slag. D. F. Stedman. *Eng & Min J* 114:1023-7, 1072-6 D 9-16 '22
 Lead losses in smelting low-grade material. C. Offerhaus. *il Eng & Min J* 113:580-2 Ap 8 '22
 Magnetic separation of coal from slag. F. A. Brackmann. *il diag Iron Age* 111:828-9 Mr 22 '23; Same cond. *Power* 57:322-3 F 27 '23
 Mittelbare berechnung der hochofen-schlackenmenge aus dem kalksteinzuschlag. G. Braubach. *Stahl & Eisen* 42:1750-2 N 23 '22
 Schaumsteine; neues verfahren zur herstellung von leichtsteinen aus hochofen- oder anderen schlacken. A. Frisak. *il diags Stahl & Eisen* 43:1219-23 S 20 '23
 Slag-concrete roads—their construction and wear. C. S. Hill. *Eng N* 89:439-40 S 14 '22
 Slag disposal at Anaconda. *Eng & Min J* 114:672 O 14 '22
 Smelting silica bricks with reverberatory slags in a copper blast furnace. R. F. Wood. *flow sheet il Eng & Min J* 115:404-7 Mr 3 '23
 Study of the composition of blast-furnace slags suitable for concrete aggregate. L. G. Carmick. *Am Soc T M Pro* 21:976-81 '21; Same. *Eng & Contr* 56:82-3 J1 27 '21; Discussion. *Am Soc T M Pro* 21:982 '21
 Study of the slag test. R. M. Howe. *Am Cer Soc J* 6:466-73 F '23
 Sulfur obtained from blast furnace slag; the Diehl process and apparatus developed in Germany. *diags Iron Age* 109:335-6 F 2 '22
 Die umschmelzung saurer hochofenschlacken in basische schlacken und zement. R. Grün. *il diag Stahl & Eisen* 42:1158-67 J1 27 '22; Discussion. 42:1874-6 D 21 '22
 Using slag in construction work. C. L. McKenzie. *Iron Tr R* 73:1237-9 N 1 '23; Abstract. *Iron Age* 112:1173-4 N 1 '23

Slag—Continued

Utilization of waste material. A. W. Allen.
Eng & Min J 115:492-3 Mr 17 '23

See also Blast furnaces

Granulation

Die bedeutung der luftgranulation der hoch-
ofenschlacke nach dem verfahren der
Buderus'schen eisenwerke. D. G. Jantzen.
Stahl & Eisen 43:809-12 Je 21 '23

Slag concrete. See Concrete—Aggregate

Slag wool. See Mineral wool

Slate

Color of slate. Am Arch 124:176-7 Ag 15 '23
Dielectric strength of slate. D. F. Miner. il
diags Elec J 19:106-11 Mr '22

How output was increased; successful slate
factory organisation. W. Attwood. chart Ind
Management (Lond) 10:128+, 186-7 S 6, O
4 '23

Marketing of slate. O. Bowles. Eng & Min J
114:854-5 N 11 '22

Production of slate in 1922. Eng & Contr
(Bldgs) 59:938 Ap 25 '23; Same. Can Eng 45:
170 Jl 24 '23

Revival of the slate industry. Eng & Min J
113:898 My 27 '22

Romances of industry—slate. W. S. Hays. il
Am Ind 23:30-3 D '22

Roofing and structural slates. O. Bowles. Eng
& Contr (Bldgs) 60:165-8 Jl 25 '23

Standardization of structural slate products
effects economy. Eng & Min J 114:238 Ag 5
'22

Technology of slate. O. Bowles. flowsheets
diags plans U S Bur Mines Bul 218:1-132,
pl 1-6 '22; Abstract. Am Inst Arch J 11:
XIII+ Je '23

Tests of physical and electrical properties of
slate. M. O. Fuller. 34p Fritz eng. labora-
tory, Lehigh univ., Bethlehem, Pa. '21

Tests prove ribboned slate to be as strong as
any. Eng & Min J 116:20 Jl 7 '23

Utilization of waste slate as a filler. India
Rubber W 65:275 Ja '22

Utilization of waste slate as a filler. O. Bow-
les. Chem Age 30:37-8 Ja '22

See also National slate association

Slate, Crushed

Schroder roofing patent invalid. W. Gustin.
Chem & Met Eng 28:496 Mr 14 '23

Slaughtering and slaughter houses

Les nouveaux abattoirs de Casablanca
(Maroc). L. Benoist. il plan Génie Civil 82:
97-100 F 3 '23

Sleepers (track). See Railroad ties, Concrete**Sleeping cars**

British sleeping cars for the continent. il
diag plan Engineer 134:671 D 22 '22

First Pullman car featured in movies. il Pop
Mech 39:829 Je '23

First sleeping cars in America were on Cum-
berland Valley R. R. M. C. Kennedy. Ry
R 71:905 D 23 '22

Latest word in continental sleeping car con-
struction. W. Redpath. il diags plan Ry
R 72:62-7 Ja 6 '23; Abstract. Mech Eng 45:
191 Mr '23

New cars for International sleeping car com-
pany. il Ry Age 73:1136-9 D 16 '22; Same.
Ry Mech Eng 97:34-8 Ja '23

New sleeping and compartment cars for the
C. P. R. il diags plan Ry R 70:77-81 Ja 21
'22

New sleeping cars for the Canadian Pacific.
il plans Ry Mech Eng 95:691-4 N '21; Same.
Ry Age 71:1301-4 D 31 '21

Les nouveaux wagons-lits du Canadian Pa-
cific. plans Génie Civil 81:92-3 Jl 22 '22

Les nouvelles voitures-lits de la Compagnie
internationale des wagons-lits. il diags plan
Génie Civil 81:249-53 S 16 '22

Permanent headboards between sections of
Pullman sleepers. il Ry Age 75:126 Jl 21
'23; Same. Ry Mech Eng 97:572 Ag '23

Third class sleeping cars for German state
railways. il Ry Mech Eng 96:336-7 Je '22

Les voitures à couchettes de 2^e et 3^e classes
des chemins de fer de l'Etat. il Génie Civil
81:373 O 21 '22

Why should sleeping and parlor cars be adver-
tised? J. G. Condon. Ptr Ink 120:119-20+
O 12 '22

See also Railroads—Fares

Safety devices and measures

Pullman company's contribution to railroad
safety. E. F. Carry. Ry Mech Eng 97:756-7
N '23

Sleet

Keeping sleet off trolley wires. H. H. Sener.
il diag Elec Ry J 59:963-5 Je 17 '22

New transmission line tested by frozen fog.
W: D. Shannon. il Eng N 91:19 Jl 5 '23

Slide rule

Boiler-room slide rule. Power 55:543 Ap 4 '22
Circular slide-rule. il Sci Am 129:335 N '23

Computer mounted on clamp for attachment
to desk. il Pop Mech 38:895 D '22

Figures employees' pay on novel slide rule. il
Iron Tr R 69:1692-3 D 29 '21; Same. Foun-
dry 50:86 Ja 15 '22

Fourth scale for log log slide rule. C. S.
Jarvis. Eng N 91:316-17 Ag 23 '23

Gilson midget circular slide rule. Am Mach
57:551-2 O 5 '22; Mach 29:161 O '22

Improved belt slide rule. C. G. Barth. Man-
agement Eng 2:351-4 Je '22

New power-factor slide rule. P. L. Alger and
H. W. Samson. Gen Elec R 25:455-7 Jl '22

Otis King cylindrical slide-rule calculator.
Mech Eng 45:594 O '23

Position line slide rule. il diags Engineer 133:
250 Mr 3 '22

Setting piece rates by formula, chart and
slide rule. D. Ross-Ross. il charts Ind Man-
agement 65:301-5 My '23

Shortcutting earthworks computations by slide
rule. K. H. Gideon. Eng N 89:508 S 28 '22

Simple slide rule solution of vertical curve
formula. R. E. Royall. Pub Roads 4:26 N
'21; Same. Eng & Contr 56:525 D 7 '21

Slide rule. il Power 57:774-5, 812-13 My 15-22
'23

Slide rule applied to commercial calculations.
R. M. Shireby. 66p Pitman '22

Slide rule for calculating alloy additions.
diags Blast F & Steel Pl 10:628 D '22

Slide rule for open-hearth calculations. B. B.
Russell, jr. Iron Age 111:224-5 Ja 18 '23

Slide rule for solving Manning formula. T.
Kiang. Eng N 89:806 N 9 '22

Slide rule for solving Manning's formula. H.
B. Muckleston. Eng N 90:1052-3 Je 14 '23

Slide rule for standard parts. diag Manage-
ment & Adm 6:640 N '23

Slide rule for the power plant engineer. Eng
& Contr 58:44 Jl 12 '22

Special slide rule designed to calculate boiler
efficiency. C. H. S. Tupholme. il Power Pl
Eng 27:165-6 F 1 '23

Special slide rule for machine work. W. E.
Splain. diags Am Mach 58:343-4 Mr 1 '23

Utilisation de la règle à calcul ordinaire
(types Mannheim et similaires) pour le cal-
cul rapide des pièces minces en béton armé.
R. Deguillaume. Génie Civil 79:541-2 D 17
'21

Slide rule, Chemical

Early type of chemical slide rule. J. A. Gun-
ton. Ind & Eng Chem 15:747 Jl '23

Slide valves

Action of the D slide valve. diags Power 57:
296-8 F 20 '23

Bilgram slide-valve diagram. R. Grimshaw.
diags Power 56:854 N 28 '22

Quick method of finding required lap on slide
valve. R. Grimshaw. Power 55:733-4 My 9
'22

Slings and hitches

Ring hitch. G. J. Young. diags Eng & Min J
116:679 O 20 '23

Slip (gases)

Coefficient of viscosity of helium and the co-
efficients of slip of helium and oxygen by
the constant deflection method. M. N. States.
Phys R 21:662-9; Discussion. 669-71 Je '23

Coefficients of slip in gases and the law of re-
flection of molecules from the surfaces of
solids and liquids. R. A. Millikan. Phys R
21:217-38 Mr '23

Slip (gases)—Continued

Coeficients of viscosity and slip of carbon dioxide by the oil drop method and the law of motion of an oil drop in carbon dioxide, oxygen, and helium, at low pressures. J. M. Eglin. *diags Phys R* 22:161-70 Ag '23

Slip interference theory. See **Hardening**

Slip meters

Stroboscopic method of speed measurement. V. A. Fynn. *il Am Inst E E J* 41:764-70 O '22

Slipping. See **Floors—Anti-slip surfaces**

Slips (ceramics)

Data on viscosity of Indiana clay slip with electrolytes in regard to the casting of terra cotta. H. E. Davis. *Am Cer Soc J* 5:702-9; Discussion. 709-12 O '22

Effect of dissolved substances on the deposition of colloidal particles from a solution by means of an electric current. R. D. Kleeman. *Phys R* 20:272-9 S '22

Slogans

Catch-phrases that have real sales significance. W. H. Heath. *Ptr Ink* 121:149-50 D 14 '22

Give it a good name—then sell it. E. M. Walker. *Aera* 10:947+ Je '22

List of 1,500 slogans. *Ptr Ink* 121:142 N 30 '22

Securing slogan priority rights. *Ptr Ink* 118:119 Ja 5 '22

Seven-word campaign for La Touraine coffee. H. Burwen. *Ptr Ink* 125:33-4+ O 18 '23

Slogans no longer registerable. *Ptr Ink* 121:53-5 O 26 '22

Turning typographical hand-springs with slogans. *Ptr Ink* 123:48+ Ap 26 '23

What constitutes a slogan? *Ptr Ink* 122:119-20 F 1 '23

Slots

Calculations for dovetail slots. E. Heller. *diags Mach* 29:547 Mr '23

Cutting slots in knitting machine parts with gear-cutting machines. F. R. Daniels. *il diags Mach* 30:44-6 S '23

Slotting

Slotting tool steel cylinders without a cutting tool. I. B. Rich. *diags Am Mach* 57:115-16 Ji 20 '22

Variable stops for a slotting die. D. E. Smith. *diags Am Mach* 56:970 Je 29 '22

Slotting machines

Bossert vertical die slotting machine. *il Ry Mech Eng* 97:378 Je '23

Commutator slotter operated on lathe bed. *il Elec Ry J* 62:416 S 15 '23

Commutator slotter with chain drive. *il Elec Ry J* 62:184 Ag 4 '23

Davenport slotting attachment. *diags Mach* 28:588-9 Mr '22

Heavy locomotive frame slotting machine built by Betts machine company. *il Ry Mech Eng* 96:348 Je '22

Liberty combination planer and slotter for locomotive frames. *il Am Mach* 57:155-6 Ji 27 '22; *Iron Age* 110:73-4 Ji 13 '22; *Mach* 28:1007-8 Ag '22; *Ry Mech Eng* 96:483-4 Ag '22

Making a four-inch bench slotter. J. V. Romig. *il diags Pop Mech* 39:786-9 My '23

Motor-driven hand tool for undercutting commutator mica. *il Power* 57:753 My 15 '23

Niles-Bement-Pond locomotive frame slotter. *il Am Mach* 58:818 My 31 '23; *Iron Age* 111:1565 My 31 '23; *Iron Tr R* 72:1616 My 31 '23; *Mech Eng* 97:370 Je '23

Peters-Bossert die slotting machine. *il Am Mach* 56:153-4 Ja 26 '22

Slotting fixture for commutator segments. J. E. Unger. *diags Mach* 28:909 Ji '22

Slotting machine for undercutting mica on commutators. R. H. N. Lockyer. *il diags Elec R* 80:201 Ap '22

Steptoe die slotter. *il Am Mach* 58:713 My 10 '23

Traveling-head slotter of new design. *il Ry Mech Eng* 96:541-2 S '22

Unusual machine work in Seattle. F. H. Colvin. *il Am Mach* 59:497-9 O 4 '23

Waterbury-Farrel screw slotting machines. *il Mach* 29:994 Ag '23

Sludge treatment. See **Sewage disposal—Activated sludge method**

Sluicing

Handling ashes by sluicing. C. C. Lance. *diag Power* 56:503-4 Mr 28 '22; Same abr. *Eng & Ind Management* 7:481-2 Je 1 '22

Small loans. See **Loans, Small**

Small space advertising. See **Advertising, Small space**

Smell

Sense of smell in birds. J. H. Gurney. *Sci Am* 128:17 Ja '23

Une théorie chimique de l'olfaction. Tschirch. *Chimie & Ind* 9:125-6 Ja '23

Smelter fumes

Doubling height of smelter stack causes fume damage. W. Gustin. *Chem & Met Eng* 27:1220 D 20 '22

Electrical precipitation of solids from smelter gases. R. B. Rathbun. *il Am Inst E E J* 41:676-87 S '22; Abstract. *Chem & Met Eng* 27:753 O 11 '22; Discussion. *Am Inst E E J* 41:1011-14 D '22

Feld scrubber for cleaning metallurgical smoke. W. F. Lamoreaux. *il diag Eng & Min J* 113:198-206 F 4 '22

See also **Flue dust**

Smelting

Bawdwin mine, in Burma. A. B. Calhoun. *il diags map plan Eng & Min J* 113:1084-92 Je 24 '22

Evolution of mechanical roasting in silver-lead smelting. L. S. Austin. *Min & Met* 188:27-9 Ag '22

Historical sketch of ore treatment in Colorado. H. F. Lunt. *Min & Sci P* 123:891-4 D 24 '21

Lead losses in smelting low grade material. C. Offerhaus. *il Eng & Min J* 113:580-2 Ap 8 '22

Notes on iron ore smelting in California. R. C. Gosrow. *Chem & Met Eng* 27:490-3 S 6 '22

Sintered concentrates now smelted in Mount Lyell blast furnaces. *Eng & Min J* 114:461 S 9 '22

Smelting practice at Namtu. R. G. Hall. *il Eng & Min J* 115:757-63 Ap 28 '23

Smelting silica bricks with reverberatory slags in a copper blast furnace. R. F. Wood. *flow sheet il Eng & Min J* 115:404-7 Mr 3 '23

Something better in enamel smelters. H. E. Davis. *Chem & Met Eng* 27:1210-11 D 20 '22

Trail smelter. G. J. Young. *flow sheets il Eng & Min J* 116:139-49 Ji 28 '23

Will pulverized coal be substituted for fuel oil in smelting operations? T. H. O'Brien. *Coal Age* 23:1013-14 Je 21 '23

Wood-burning furnace for smelting cyanide precipitate. M. B. Evans. *diags Eng & Min J* 114:1078 D 16 '22

See also **Blast furnaces; Flux; Furnaces, Metallurgical; Metallurgy; Ore treatment; Slag; Smelter fumes; Smelting works**

Smelting, Electric

Electric smelting of pig iron in Sweden. *diags Engineer* 134:5-6 Ji 7 '22

Experiment in electric smelting glass enamel. E. E. Geisinger. *il diags Am Cer Soc J* 5:248-53 My '22

Iron ore smelting by electricity. A. Stansfield. *Chem & Met Eng* 27:941 N 8 '22

Prophesies electric smelting iron ores. F. Hodson. *Foundry* 49:887-8 N 15 '21; Same. *Iron Tr R* 69:1492-3 D 8 '21

Ueber die entwicklung der italienischen eisen-industrie durch weitgehende anwendung elektrischer energie im schmelzbetrieb. K. Dornhecker. *il diags Stahl & Eisen* 42:845-8 Je 1 '22

Westly electric furnace for copper smelting. C. S. Witherell and H. E. Skougor. *il diags Eng & Min J* 113:356-61 Mr 4 '22

See also **Electric furnaces, Metallurgical; Electrometallurgy**

Smelting, Pyritic

Proposed pyritic smelting in a reverberatory. E. C. King. *diags plan Eng & Min J* 114:633-4 O 7 '22; Discussion. 114:1062-3; 115:702 D 16 '22, Ap 21 '23

Smelting, Pyritic—Continued

Pyritic smelting and basic converting at the Kosaka copper smelter, Japan. K. Ikeda. Eng & Min J 115:409 Mr 3 '23

Pyritic smelting at the Siemens-Kwarzchana copper works, in the Caucasus. C. Offerhaus. il diags plans Eng & Min J 114:589-96 S 30 '22

Smelting contracts

A. S. & R. denies that it has not welfare of ore producers at heart. Eng & Min J 114:555 S 23 '22

Marketing of metalliferous ores and concentrates. A. B. Parsons. Eng & Min J 114:1109-14, 1155-62 D 23-30 '22

Sintering to increase returns to ore shippers. H. J. Stehli. Eng & Min J 115:1110-14 Je 23 '23

Smelting works

Nevada consolidated copper company; the smelter. A. B. Parsons. il diags plan Min & Sci P 123:393-402 S 17 '21; Discussion. A. J. Bone. 123:629 N 5 '21

Pulverized coal at the Bunker Hill & Sullivan smelter. H. M. Payne. il diags plan Eng & Min J 114:149-51 Jl 22 '22

Pyritic smelting at the Siemens-Kwarzchana copper works, in the Caucasus. C. Offerhaus. il diags plans Eng & Min J 114:589-96 S 30 '22

See also Metallurgical plants; Smelter fumes

Smith, Alexander, 1865-1922

Sketch. J. Kendall. por Am Chem Soc J 44:sup113-17 D '22

Smith, Edgar Fahs

Sketch. por J Ind & Eng Chem 14:1158 D '22

Smith, Francis Marion

Builders of the West. J Elec 49:8 Jl 1 '22

Smith, Grant, 1864-1923

Sketch. por Eng N 91:571 O 4 '23

Smith, Ross

Late Sir Ross Smith. Aerial Age 15:172 My 1 '22

Smith brothers, inc., Poughkeepsie, New York

Enlarging a market and creating a new one by adding a new product; Smith brothers put out new cough drop. R. Cole. Ptr Ink 120:101-2+ S 28 '22

Smith college

Recent dormitories at Smith college. il plan Arch Forum 38:183-6, pl 33-6 Ap '23

Smith-Hughes law. See Industrial education—Federal aid**Smoke**

Effect of smoke on building materials. S. I. Kehler. Eng & Contr (Bldgs) 59:1459-60 Je 27 '23

In the grip of the smoke fiend. C. Brereton. Gas Age 52:501 O 20 '23

See also Chimneys; Combustion; Flues; Fuel; Mechanical draft; Smelter fumes; Smoke prevention

Smoke prevention

Abating a smoke nuisance. R. R. Hillman. il diags Power Pl Eng 26:463-5 My 1 '22

Abstracts of addresses on smoke abatement. W Soc E J 23:253-9 Je '23

Atmospheric pollution and fog prevention; Abstracts. Engineer 135:561 My 25 '23; Gas J (Lond) 162:496-7 My 23 '23

Cinder-separating induced draft fan. il Ry Age 72:428 F 18 '22

Domestic smoke nuisance. Engineering 114:653 N 24 '22

Legislative and departmental interference with industry and the common wealth. H. E. Armstrong. Soc Chem Ind J (Chem & Ind) 42:23-5 Ja 12 '23

Methods for smoke detection. chart Power Pl Eng 27:33 Ja 1 '23

Ordinance relating to smoke abatement passed in Cleveland. Sanitary & Heat Eng 98:81 Ag 11 '22

Recent progress in smoke abatement and fuel technology in England. R. J. McKay. 62p Mellon inst. of ind. research, Pittsburgh, Pa. '22

Report of ministry of Health committee. Elec R (Lond) 90:80-1 Ja 20 '22

Smoke abatement and air pollution. W. H. Casmey. Eng & Ind Management 7:538-9, 576 Je 29-Jl 13 '22

Smoke abatement and the new bill. J. B. C. Kershaw. Elec R (Lond) 93:553 O 12 '23

Smoke evils and the remedy. F. W. Parsons. Gas Age 49:253-5 Mr 4 '22

Smoke pollution—a plea for legislation. Gas J (Lond) 161:688-9 Mr 14 '23

Smoke prevention in Chicago union station. R. H. Moulton. il Pop Mech 39:423-4 Mr '23

Smokeless boiler situation in Cleveland and Cincinnati. Heat & Ven 19:49-50 S '22; Discussion. H. B. Meller. 19:46 N '22

Smokeless city. E. D. Simon and M. Fitzgerald. 82p Longmans '22

Smokeless fuel. H. P. Hird. Soc Dyers & Col J 39:165-8 Je '23

See also Chimneys; Combustion; Electric precipitation; Firing; Mechanical draft; Smelter fumes; Stokers, Mechanical

Smokeless powder

Communitised smokeless powder for blasting. Chem & Met Eng 27:848 O 25 '22; Eng & Min J 114:502 S 16 '22

Smoking

Smoking and matches cost America \$90,271,334 in 5-year period. P: E. Walsh. Safety Eng 43:195-6 My '22

See also Tobacco pipes

Smuggling

Seaplanes prevent drug smuggling. Aviation 11:606 N 21 '21

Smugglers use clever dumping device. L. W. Pedrose. il Pop Mech 37:391 Mr '22

Snake river

Snake river as a source of power. W. G. Hoyt. il map Elec W 80:811-13 O 14 '22

Snakes

Commercial snake breeding in California. A. M. Dunning. il Pop Mech 39:929-31 Je '23

Recent studies of the venomous snakes; new light on their behavior and on the chemistry of their venom. J. Beyer. Sci Am 125A:119 D '21

See also Rattlesnakes

Snips. See Shears**Snow**

Columbia river highway icebound. H. E. Thomas. il Pop Mech 37:216-17 F '22

Disastrous Maine floods due to heavy snow storage. G. C. Danforth. il Eng N 90:891-2 My 17 '23

Photographing snowflakes. W. A. Bently. il Pop Mech 37:309-12 F '22

Seasonal snowfall is irregular. Elec Ry J 62:360 S 8 '23

See also Thawing

Snow melters

Flame-throwing machine melts snow. il Pop Mech 37:325 Mr '22

Hauck oil burner for melting snow and ice on track work. il diags Ry R 72:467-70 Mr 10 '23

Home made snow melter for use in railroad yards. L. Coffel. Eng & Contr 56:569 D 21 '21

Snow melters, Electric

Electric heater for melting snow. il diag Ry R 72:198 Ja 27 '23

Snow motor

Winter haulage and the Armstead snow motor. F. E. Wormser. il Eng & Min J 116:449-50 S 15 '23

Snow plows

Champion V-type snow plow. il Eng & Contr (R & S) 58:59 O 4 '22

Demountable nose for snow removal. il Elec Ry J 61:217 F 3 '23

Fighting 145 inches of snow. il Elec Ry J 62:359 S 8 '23

Four-wheel drive vehicle clears New York streets. Bus Transportation 1:187-8, 189 Mr '22

Snow plows—Continued

- In the snow country bus lines keep their routes open in the winter. *il* diag Bus Transportation 2:363-8 Ag '23
- New-type snowplow built for small tractors. *il* Pop Mech 39:273 F '23
- Plows for light and heavy snowfalls. *il* Bus Transportation 2:539 N '23
- Snowplow that is pushed by tractor. *il* Pop Mech 36:870 D '21
- Tractor truck snowplow clears roads quickly. *il* Pop Mech 39:537 Ap '23

Snow removal

- Clearing snow from highways again an imminent problem. *il* Eng N 89:904 N 23 '22
- Fighting snow on suburban routes. *il* Bus Transportation 1:103-4 F '22
- Mechanical methods for the removal of snow. *diags* Eng & Ind Management 7:52-3 Ja 12 '22
- Mechanical snow shoveler keeps highways open. *il* Pop Mech 37:585 Ap '22
- Not a trip lost in two years on Appleton-Menasha-Neenah bus line. *il* Bus Transportation 1:422-4 Ag '22
- Railway company's snow loader helps dig out Boston streets. *il* Elec Ry J 61:216-17 F 3 '23
- Recommended snow removal methods for Minneapolis. *Minneapolis, Minn. Eng & Contr* 56:413 N 2 '21
- Record snow removal from North Carolina highways. *Pub Works* 52:194-5 Mr 18 '22
- Rotary apparatus to fight snow. *il* Bus Transportation 2:393 Ag '23
- Snow broom attachment for truck mounting. *il* Elec Ry J 61:690 Ap 21 '23
- Snow removal by steam shovel in Snoqualmie Pass. *il* Eng & Contr (R & S) 59:1287 Je 6 '23
- Snow removal on country highways. C. J. Bennett. *Good Roads* 62:172-5 Mr 22 '22; Same. *Eng & Contr* 58:223-5 S 6 '22
- Snow removal program will make winter driveways possible. *map* Automotive Ind 47:1034-5 N 23 '22
- See also* Motor bus lines—Snow removal; Railroads—Snow protection and removal; Snow melters; Snow plows; Street railroads—Snow protection and removal

Cost

- Steam shovel cuts snow removal cost. C. C. Kilby. *il* Eng N 90:264 F 8 '23

Snow surveys

- Snow survey and stream runoff forecast in Nevada for 1923. J. E. Church, jr. *Eng N* 90:1001 Je 7 '23

Soaking pits

- Progress shown in soaking pit design. *diags* Iron Age 112:409-10 Ag 16 '23; *Iron Tr R* 73:393-4 Ag 9 '23

Soap

- La chimie colloïdale des savons. J. W. McBain. *Chimie & Ind* 8:867-71 O '22
- Constitution of soap solutions; hexadecanesulphonic (cetylsulphonic) acid and other sulphonates. M. H. Norris. *Chem Soc J* 121:2161-8 O '22
- Effect of an electrolyte on solutions of pure soap; phase-rule equilibria in the system sodium laurate-sodium chloride-water. J. W. McBain and A. J. Burnett. *diags* Chem Soc J 121:1320-33 Jl '22
- Effect of electrolytes on the constitution of soap solutions, as deduced from electromotive force. C. S. Salmon. *Chem Soc J* 121:711-15 Ap '22
- Emulsions of mineral oil with soap and water: the interfacial film. E. L. Griffin. *Am Chem Soc J* 45:1648-57 Jl '23
- Microscopic structure of soap. K. MacLennan. *il* Soc Chem Ind J 42:393-401 O 5 '23; Abstract. *Soc Dyers & Col J* 39:379 D '23
- Modern theories of detergent action. T. H. Barry. *Chem Age (Lond)* 8:446-8 Ap 28 '23
- Propriétés des sels de sodium des acides gras moyens. C. F. Müller. *Chimie & Ind* 9:129-31 Ja '23
- Romans made soap in Pompeii. *Sci Am* 127:111 Ag '22

- Scientific washing. M. N. Conklin. *Color Tr J* 12:165-7 Ap '23
- Scientific washing. F. H. Guernsey. *diags* Am Dyestuff Rep 12:176-81 F 26 '23
- Soap solutions and its bearing upon colloid chemistry. J. W. McBain. *Am Dyestuff Rep* 12:822-5; *Bibliography*. 825-6 N 5 '23
- Studies of the constitution of soap solutions: sodium behenate and sodium nonoate. O. J. Flecker and M. Taylor. *Chem Soc J* 121:1101-9 Je '22
- Studies of the constitution of soap solutions; solutions of sodium palmitate, and the effect of excess of palmitic acid or sodium hydroxide. J. W. McBain, M. Taylor and M. E. Laing. *Chem Soc J* 121:621-33 Ap '22
- Study of soap solutions and its bearing upon colloid chemistry. J. W. McBain. *Soc Chem Ind J (Chem & Ind)* 42:615-16 Je 22 '23
- Surface tension of alkaline soap solutions. E. B. Millard. *diag* Ind & Eng Chem 15:810-11 Ag '23
- Surface tension of soap solutions for different concentrations. A. L. Narayan and G. Subrahmanyam. *Philos Mag* 6th ser 43:663-71, pl 15 Ap '22
- Ultra-filtration of soap solutions; sodium oleate and potassium laurate. J. W. McBain and W. J. Jenkins. *diags* Chem Soc J 121:2325-44 O '22
- Value of silicate of soda ($\text{Na}_2\text{O} \cdot 3.3\text{SiO}_2$) as a detergent. W. Stericker. *Ind & Eng Chem* 15:244-8 Mr '23
- Water-proofing efficiency of some bi- and trivalent salts of higher fatty acids and their adsorption by the fibres of paper. S. S. Bhatnagar. *J Phys Chem* 26:61-71 Ja '22
- See also* Saponification

Analysis

- Determination of glycerol in the presence of sugars. L. F. Hoyt and H. V. Pemberton. *J Ind & Eng Chem* 14:54-6 Ja '22
- Standard methods for the sampling and analysis of commercial soaps and soap products. *J Ind & Eng Chem* 14:1159-63 D '22

Specifications

- Soap. U S Bur Stand Circ 62:1-24 '23; Abstract. *J Fr Inst* 195:693-7 My '23
- United States government specification for automobile soap. U S Bur Stand Circ 127:1-4 '22
- United States government specification for chip soap. U S Bur Stand Circ 128:1-5 '22
- United States government specification for grit cake soap. U S Bur Stand Circ 130:1-5 '22
- United States government specification for hand grit soap. U S Bur Stand Circ 132:1-4 '22
- United States government specification for ordinary laundry soap. U S Bur Stand Circ 129:1-4 '22
- United States government specification for salt water soap. U S Bur Stand Circ 126:1-5 '22
- U. S. government specifications for soaps. *Color Tr J* 11:265 D '22
- United States government specification for white floating soap. U S Bur Stand Circ 123:1-5 '22

Testing

- Method of determining the detergent action of soaps. J. W. McBain, R. S. Harborne and A. M. King. *Soc Chem Ind J* 42:373-8 S 14 '23; Same. *Am Dyestuff Rep* 12:725-9+ O 8 '23

Soap, Liquid

- Liquid soaps from coconut oil. M. Doniger. *Chem & Met Eng* 26:1132-3 Je 14 '22
- Sales opportunities for liquid soap systems. *il* Sanitary & Heat Eng 99:407-8 Je 15 '23

Specifications

- United States government specification for liquid soap. U S Bur Stand Circ 124:1-4 '22

Soap, Metallic

- Industrial importance of the metallic soaps. H. I. Jones. *Chem & Met Eng* 28:489-91 Mr 14 '23

Soap, Textile

- Fulling oils vs. soap. A. S. Mann. *Am Dye-stuff Rep* 12:325-7 Ap '23 '23
 Sorption of neutral soap by wool and its bearing on scouring and milling processes. *Color Tr J* 11:131-8 S '22
 Textile soaps. E. C. Bertolet. *Am Dyestuff Rep* 12:759-62 O '22 '23

Soap bubbles and films

- Soap bubbles used to study explosion of gases. *il Pop Mech* 37:910 Je '22
 Soap films and molecular forces. J. Dewar. *Engineering* 113:142 F '22
 Soap films as detectors of stream-lines, vortex motion and sound. J. Dewar. *Engineering* 115:113-14 Ja '23 '23
 Studies on liquid films. J. Dewar. *il diags J Fr Inst* 193:145-88 F '22

Soap dyes

- New method for producing a soap dye. *Color Tr J* 11:64-5 Ag '22

Soap factories**Employees**

- Piece work wage payment in the soap industry. N. Shapiro. *Ind Management* 66:223-9 O '23

Safety devices and measures

- What a spirit 99 and 44/100 percent pure has done for safety at the Ivorydale plant of Procter & Gamble. G. E. Wallis. *il Nat Safety N* 7:5-8 Mr '23

Soap industry and trade

- Census of manufactures, 1921. 11p U S Bur Census '23
 Manufacture of soap in 1921. *Chem & Met Eng* 28:34-6 F '22
 New package that is quadrupling sales of Packer tar soap. *Ptr Ink* 122:25-7+ F '22 '23

Accounting

- Cost accounting in the soap industry, by W. C. Koch. *Review. Administration* 3:260-1 F '22

Advertising

- Advertising carries the sales load of Packer's tar soap. J. True. *Ptr Ink M* 5:27-8+ Je '22
 Sell advertising, soap sales then automatic, says Peet. G. A. Nichols. *Ptr Ink* 120:3-4+ J '22
 Soap and water as first aid to washing machine selling. C. M. Harrison. *Ptr Ink* 118:101-2+ Ja '22

Soap manufacture

- Action of sodium silicate when used in soaps. A. S. Richardson. *Ind & Eng Chem* 15:241-3 Mr '23
 Dyeing of soap and perfumery. J. R. Wilson. *Textile Col* 45:440-2, 501-3, 656-8, 727-30; 46:103-5 J1-Ag, O-N '23, F '24
 Formulae for potassium-free soft soaps. F. C. Vilbrandt and E. V. Kyser. *Chem Age* 31:381-2 Ag '23
 Further improvements in the soap industry must come from chemist and chemical engineer. M. H. Ittner. *Chem & Met Eng* 27:467 Ag '22
 Handling the finished products of industry. G. L. Montgomery. *il plans Chem & Met Eng* 26:1114-18 Je '22
 Production up 60%; costs down 60%. E. S. Allen. *il Factory* 29:525-6+ N '22
 Die seifenfabrikation. F. Wiltner. 375p A. Hartleben, Wien, Leipzig '21
 Silicate of soda in soap manufacture. *Chem Age (Lond)* 9:424-5 O '20 '23
 Soap. U S Bur Stand Circ 62:1-24 '23
 Soap-making manual. E. G. Thomssen. 243p Van Nostrand '22
 Soaps; a practical manual on the manufacture of domestic, toilet and other soaps. G. H. Hurst. 3d ed., rev. & enl. 432p Scott, Greenwood & son, London '22
 Solving the evaporation problems of the soap industry. W. E. Sanger. *diags Chem & Met Eng* 29:473-81 S '22
 L'utilisation de la résine dans la fabrication des savons. A. Gouin. *Chimie & Ind* 8:316-17 Ag '22

By-products

- Recovery of glycerine from spent soap lyes. W. E. Sanger. *diag Chem & Met Eng* 26:1211-16 Je '23 '22

Soap-nut tree

- A tree that needs advertising. *Ptr Ink* 117:174+ D '15 '21

Soap powder

- United States government specification for soap powder. U S Bur Stand Circ 125:1-3 '22

Soapstone

- Marketing of soapstone. R. B. Ladoo. *Eng & Min J* 113:1049-50 Je '22
 New source of soapstone in Ontario. H. S. Spence. *Can Chem & Met* 6:205-6 S '22
 Soapstone. Brass W 18:338-9 N '22
 Talc and soapstone in 1921. E. Sampson. U S Geol S Min Res of U S 1921, pt 2:97-103 '22
 Talc and soapstone; their mining, milling, products and uses. R. B. Ladoo. *flow sheets il diags U S Bur Mines Bul* 213:1-133, pl 1-12 '23

Soaring flight. See Flight; Gliders**Soaring machines. See Gliders****Social centers**

- Brooklyn Jewish center. *Arch & Bldg* 55:27, pl 73-6 Mr '23
See also Parish houses

Social ethics

- Elements of social justice. L. T. Hobhouse. 247p Holt '22
 Public conscience. G. C. Cox. 371p Holt '22

Social insurance. See Insurance, Social**Social legislation**

- Work of the Ministry of social policy in the Kingdom of the Serbs, Croats, and Slovenes. *Int Labour R* 8:485-502 O '23

Social problems

- An American looks at his world. G. Frank. 364p Univ. of Delaware press, Newark '23
 American problems. F. M. I. Morehouse and S. F. Graham. 567p Ginn '23

- Social change with respect to culture and original nature. W. F. Ogburn. 365p Huebsch '22

- Social problems and social policy. J. Ford. 1027p Ginn '23

- Social science for teachers. C. E. Martz and J. A. Kinneman. 340p Houghton '23

- Social trend. E. A. Ross. 235p Century co. '22

- See also* Child labor; Community centers; Cost of living; Housing; Insurance, Industrial; Middle classes; Old age pensions; Pensions, Industrial; Public health; Unemployment; Woman—Employment

Social psychology

- Control of the social mind. A. D. Weeks. 263p Appleton '23
 Mind in the making. J. H. Robinson. 235p Harper '21
 Psychology of society. M. Ginsberg. 174p Dutton '22

Social service. See Social work**Social settlements**

- New York settlement house; Bethlehem chapel and memorial house. *il Arch Forum* 38:67-8, pl 32 F '23

- Settlements and their outlook. 192p P. S. King & son, Ltd., London '22

See also Community centers**Social wages. See Family allowances****Social work**

- Business man and his employees. E. A. Filene. *Ptr Ink* 119:169-70 My '22

- Education and training for social work. J. H. Tufts. 240p Russell Sage foundation, New York '23

- Social work. E. T. Devine. 352p Macmillan '22

- Social work in the light of history. S. A. Queen. 327p Lippincott '22

Advertising**See Money raising campaigns**

Social work—Continued

Directories

Social service directory, Chicago 1923. 317p
Chicago council of social agencies, 308 N.
Michigan av., Chicago '23

Socialism

Marxism versus socialism. V. G. Simkhovitch.
3d ed. 298p Columbia University press, New
York '23

Prospects of industrial civilization. B. Rus-
sell and D. Russell. 287p Century co. '23

Socialism and character. H. Sturt. 214p Dut-
ton '22

Socialism and co-operation. L. S. Woolf. 129p
L. Parsons, London '21

Socialism and personal liberty. R. E. Dell.
160p L. Parsons, London '21

Socialism: critical and constructive. J. R.
Macdonald. 287p Cassell & co., London.
New York '21

Violence and the labor movement. R. Hunter.
388p Macmillan '22

Die wissenschaftliche ueberwindung des
Marxismus. O. Spann. Stahl & Eisen 42:816-
22 My 25 '22

See also Gild socialism; Government own-
ership; Industry and state; Syndicalism;
Trade unions

Socialism, Christian

Christian social movement and international
labour legislation. M. Turmann. Int Labour
R 6:3-10 Jl '22

Société de chimie industrielle

Le deuxième congrès de la chimie industrielle.
Chimie & Ind 8:217-68 Ag '22

Société des ingénieurs civils de France

Célébration du 75^e anniversaire. diags maps
Soc Ing Civils Bul 76:625-874 Je '23

Societies

See Benefit societies; Commercial as-
sociations; Engineering societies; Mining
engineering societies; Professional associa-
tions; Trade associations; Trade unions;
also names of societies, e.g. American cera-
mic society; American chemical society

Buildings

See Peterborough historical society

Society for electrical development

Directors of Society for electrical develop-
ment discuss more efficient and economical
basis for work of multiple associations.
Elec R 79:855-7 D 3 '21

How the S. E. D. educates the public. map
Elec W 82:623 S 22 '23

S.E.D. reviews year's work and discusses
plans. Elec W 80:1287 D 9 '22

Society for the promotion of engineering educa-
tion

Annual meeting, Ithaca, N. Y., June 20-23.
Eng N 90:1140 Je 28 '23; Eng & Min J 115:
1163-4 Je 30 '23; Elec W 81:1483, 1543-4 Je
23-30 '23; Power 58:36 Jl 3 '23

List of members. Eng Educ 13:373-496 Mr '23

New project for the Society for the promotion
of engineering education. C. F. Scott. Am
Soc C E Pro 49:492-7 Mr '23

Propose development plan for S.P.E.E. Eng
N 89:537 S 28 '22

S. P. E. E. joins A. S. M. E. at annual meet-
ing to consider engineering education. Mech
Eng 44:1-7+ Ja '22

Year book. Eng Educ 12:1-116 Mr '22

Society of automotive engineers

19th annual meeting, New York, Jan. 10-13.
Am Mach 56:120c-d Ja 19 '22; Automotive
Ind 46:109-33 Ja 19 '22; Soc Auto Eng J 10:
77-96 F '22

20th annual meeting, New York, Jan. 9-12. Soc
Auto Eng J 12:231-43 F '23; Automotive Ind
48:109-10 Ja 18 '23; Summary. Am Mach 58:
131 Ja 18 '23

Chicago and Minneapolis meetings. Soc Auto
Eng J 10:163-70+ Mr '22

Convention, White Sulphur Springs, W. Va.,
June, 1922. D: Beecroft. Automotive Ind 46:
1409-30 Je 29 '22

Joint fuel sessions of the National automo-
bile chamber of commerce and other auto-
motive interests, with the American petro-
leum institute, Chicago, Dec. 6-7. diags Soc
Auto Eng J 10:1-6, 17-24 Ja '22

Meeting, Cleveland, April 26-28. Bus Transpor-
tation 2:237-8 My '23

New plan for sections support outlined at
S.A.E. business session. Automotive Ind
48:133 Ja 18 '23

Officers for 1922. pors Soc Auto Eng J 10:102-8
F '22

Officers of the society for 1923. Soc Auto Eng
J 12:160-6 F '23

Production meeting, Detroit, Oct. 26-27. Soc
Auto Eng J 11:387-412 N '22; Am Mach 57:
712a N 2 '22; Automotive Ind 47:852-73 N 2
'22; Iron Age 110:1147-8 N 2 '22

2d production meeting, Cleveland, Oct. 25-26.
Soc Auto Eng J 13:429-37 N '23; Am Mach
59:678c N 1 '23; Automotive Ind 49:872-900
N 1 '23; Iron Age 112:1181+ N 1 '23; Iron
Tr R 73:1246 N 1 '23

Semi-annual meeting, White Sulphur Springs,
W. Va., June 20-24. Am Mach 56:965-6 Je
29 '22; Automotive Ind 46:1359-79 Je 22 '22;
Bus Transportation 1:369-78 Jl '22; Soc Auto
Eng J 11:1-32+ Jl '22

Service keynote of Chicago S.A.E. meeting.
Automotive Ind 46:262-4 F 9 '22; Soc Auto
Eng J 10:163-70+ Mr '22

Service meeting, Chicago, Jan. 31. Soc Auto
Eng J 12:307-9 Mr '23

Summer meeting, Spring Lake, N.J., June
19-23. Automotive Ind 48:1349+, 1417-35 Je
21-28 '23; Soc Auto Eng J 13:63-85 Jl '23;
Bus Transportation 2:348-9 Jl '23

Research department

Connection of the research committee with
fuel research. H. M. Crane. Soc Auto Eng
J 12:207-9 F '23

Progress of the research department. H. C.
Dickinson. Soc Auto Eng J 11:249-52; Dis-
cussion. 253-5 S '22

Purpose, aims and possibilities of the S. A. E.
research department. H. C. Dickinson. Au-
tomotive Ind 45:832-3 O 27 '21

Standards committee

1921 standards committee. pors Soc Auto Eng
J 9:364-9 D 21

Personnel of 1923 Standards committee. Soc
Auto Eng J 12:189-92 F '23

Recent standardization work. diags Automo-
tive Ind 46:768-70 Ap 6 '22

Reports of divisions to standards committee
of the S.A.E. charts diags Soc Auto Eng J
9:383-435; 10:121-30 D '21, F '22

S. A. E. standardization. G: W. Dunham. Soc
Auto Eng J 9:371-4 D '21

S.A.E. standards exhibit at the Minneapolis
tractor show. Soc Auto Eng J 10:225 Mr '22

Work of the 1922 Standards committee. Soc
Auto Eng J 11:555-6 D '22

Society of chemical industry

41st annual meeting, Glasgow, July 4-11. En-
gineering 114:49-51, 63-4, 101-2 Jl 14-28 '22;
Engineer 134:33 Jl 14 '22

42d annual meeting, Cambridge, England, June
20-23. Oil Paint & Drug Rep 104:20+ Jl 23
'23

Meeting, Glasgow, July 4-11. E. Hendrick.
Chem & Met Eng 27:155-6 Jl 26 '22

Society of dyers and colourists

Annual meeting, Bradford, March 16. Soc
Dyers & Col J 39:133-43 My '23

Society of economic geologists

Geological organizations meet at Amherst,
Mass., Dec. 28-30. Eng & Min J 113:21-2
Ja 7 '22

Society of economic geologists: its sphere
and its future. R. A. F. Penrose, jr. Econ
Geol 17:124-7 Mr '22

Technical meeting, New York city, May 18-19.
Eng & Min J 115:942-4 My 26 '23

3d annual meeting, Ann Arbor, Mich., Dec.
27-30. Eng & Min J 115:27-8 Ja 8 '23

Society of industrial engineers

8th national convention, Detroit, April 26-28.
Am Mach 56:688b My 4 '22; Iron Age 109:
1211-12 My 4 '22; Iron Tr R 70:1270-2 My 4
'22; Management Eng 2:376-7 Je '22

Society of industrial engineers—Continued

- 8th national convention, Detroit, Mich., April 26-28, F. E. Gooding. Elec R 80:260-1 My '22
 9th annual convention, New York, Oct. 18-20, Am Mach 57:675 O 26 '22; Elec W 80:954 O 28 '22; Iron Age 110:1086-9 O 26 '22; Iron Tr R 71:1139-41 O 26 '22; Chem & Met Eng 27:869-71 N 1 '22
 10th annual convention, Cincinnati, April 18-20, Am Mach 58:644d-e Ap 26 '23; Iron Age 111:1193-4 Ap 26 '23

Society of naval architects and marine engineers

- 29th annual meeting, New York, Marine Eng 26:899-912 D '21; Marine R 52:25-6 Ja '22
 30th annual convention, New York, Dec. 8-9, Marine Eng 27:762-6, 771-80 D '22; Marine R 52:483-4 D '22

Sociology

- Elements of social science. R. M. Maciver. 186p Dutton '21
 Outlines of sociology. F. W. Blackmar and J. L. Gillin. Rev. ed. 636p Macmillan '23
 Outlines of sociology. E. A. Ross. 474p Century co. '23
 Principles of sociology. F. A. Bushee. 577p Holt '23

Sociology, Rural

- Rural conditions as a problem of national prosperity; Rural sociology, by Prof. John M. Gillette. Review. Comm & Fin Chr 115:1375-6 S 23 '22

Sockets. See Wire rope fastenings**Soda ash**

- Causticization of soda ash. J. Harrop and H. O. Forrest. Ind & Eng Chem 15:362-3 Ap '23

Soda crystals. See Sodium carbonate**Soda fountains**

- Automatic fountain serves self-mixed drinks. il Pop Mech 37:743 My '22
 Selling that makes the dealer's order a minor objective. D. Hubbard. Ptr Ink 123:101-2+ Je 28 '23

Soda lime

- Removal of small amounts of carbon monoxide from gases by passage through heated granular soda lime. R. E. Wilson, C. A. Hasslacher and E. Masterson. Ind & Eng Chem 15:698-701 Jl '23

Sodium

- Absorption of light by sodium vapour. F. H. Newman. Philos Mag 6th ser 46:420-5, pl 8 S '23
 Absorption produced by electrically luminescent sodium vapour. F. H. Newman. diag Philos Mag 6th ser 46:22-8, pl 1 Jl '23
 Charged wire used for welding exposed to washing of tide forms metallic sodium from crust of sea salt. E. Roedel. il J Elec 48:104 F 1 '22
 Composition of the liquid phases in a monovariant system, liquid-liquid-vapor, for mixtures of sodium and ammonia. C. A. Kraus and W. W. Lucasse. Am Chem Soc J 44:1949-53 S '22
 Conditions of formation of rings attached to the *o*-, *m*-, and *p*-positions of the benzene nucleus; the action of sodium on *o*-phenylenediacetic ester. W. H. Perkin, jr. and A. F. Titley. Chem Soc J 121:1562-71 Ag '22
 Conductance of concentrated solutions of sodium and potassium in liquid ammonia. C. A. Kraus and W. W. Lucasse. diag Am Chem Soc J 43:2529-39 D '21
 Distribution of electrons around the nucleus in the sodium and chlorine atoms. W. L. Bragg, R. W. James and C. H. Bosanquet. Philos Mag 6th ser 44:433-49 S '22
 Electrochemical behavior of liquid sodium amalgams. T. W. Richards and J. B. Conant. diags Am Chem Soc J 44:601-11 Mr '22
 Meditations of a sodium atom. Soc Chem Ind J (Chem & Ind) 42:27-9 Ja 12 '23
 Metallic sodium. H. E. Batsford. diags Chem & Met Eng 26:888-94, 932-5 My 10-17 '22
 Nature of the complexes formed between sodium and tellurium in liquid ammonia. C. A. Kraus and C. Y. Chiu. il Am Chem Soc J 44:1999-2008 S '22

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution. C. A. Kraus and G. F. White. Am Chem Soc J 45:768-78 Mr '23

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the action of sodium on phenyl halides in liquid ammonia. G. F. White. diag Am Chem Soc J 45:779-84 Mr '23

Reactions of strongly electropositive metals with organic substances in liquid ammonia solution; the reduction of nitrobenzene by sodium in liquid ammonia. G. F. White and K. H. Knight. Am Chem Soc J 45:1780-7 Jl '23

Reduction of some rarer metal chlorides by sodium. M. A. Hunter and A. Jones. Am Electrochem Soc Trans v 44 (preprint 4):35-41 S '23

Resistance-temperature coefficient of concentrated solutions of sodium in liquid ammonia. C. A. Kraus and W. W. Lucasse. Am Chem Soc J 44:1941-9 S '22

Separation and determination of sodium and lithium by precipitation from alcoholic perchlorate solution. H. H. Willard and G. F. Smith. Am Chem Soc J 44:2816-24 D '22

Study of the conduction process in ordinary soda-lime glass. C. A. Kraus and E. H. Darby. Am Chem Soc J 44:2783-97 D '22

Transference numbers of sodium and potassium in mixed chloride solution. R. F. Schneider and S. A. Braley. Am Chem Soc J 45:1121-34 My '23

See also Lead-sodium alloys

Analysis

Separation and determination of potassium and sodium; a perchlorate precipitation process using normal butyl alcohol. G. F. Smith. Am Chem Soc J 45:2072-80 S '23

Bibliography

Metallic sodium. H. E. Batsford. Chem & Met Eng 26:933-5 My 17 '22

Sodium alkyls

Über den mechanismus der Wurtz-Fittigschen synthese. H. H. Schlubach and E. C. Goes. Deutsche Chem Gesell Ber 55:2889-2902 S '22; Abstract. Chem Soc J 122 pt 1:1204-6 D '22

Sodium aluminum silicates

Deformation studies of silicates and aluminum silicates of the alkalies. B. A. Rice. Am Cer Soc J 6:525-47 Mr '23

Sodium amide

Phase relations in the system, sodium amide potassium amide, as determined from melting point curves. C. A. Kraus and E. J. Cuy. Am Chem Soc J 45:712-15 Mr '23

Sodium antimonate

Antimonic acid and the use of sodium antimonate in analysis. E. S. Tomula. Chem Soc J 122 pt 2:74-5 Ja '22

Sodium arsenite

Soluble arsenic compound. Chem Age 31:141 Mr '23

Studies on thallium compounds; the reduction of thallic compounds with ferrous sulphate and with sodium arsenite. A. J. Berry. Chem Soc J 123:1109-14 My '23

Titration of solutions of permanganate and sodium arsenite. W. T. Hall and C. E. Carlson. Am Chem Soc J 45:1615-20 Jl '23

Über die einwirkung von stickoxyd- und hydroxylamin-verbindungen auf tert. natriumarsenit. A. Gutmann. Deutsche Chem Gesell Ber 55:3007-12 O '22

Sodium arylsulfoniodoamide

Preparation of potassium and sodium arylsulfoniodoamides. E. Roberts. Chem Soc J 123:849-53 Ap '23

Sodium azide

Über die umsetzung von benzal-benzhydrazidchlorid und dibenzhydrazidchlorid mit natriumazid. R. Stollé and A. Netz. Deutsche Chem Gesell Ber 55:1297-1305 My '22

Sodium behenate

Studies of the constitution of soap solutions; sodium behenate and sodium nonoate. O. J. Flecker and M. Taylor. *Chem Soc J* 121: 1101-9 Je '22

Sodium benzyloxide

Reactivity of alkyl iodides with sodium benzyloxide and the effect of temperature on such reactions. P. C. Haywood. *Chem Soc J* 121:1904-21 S '22

Sodium bicarbonate

La fabrication de la soude à l'ammoniaque et la préparation du bicarbonate de sodium. *diag Génie Civil* 80:345-6 Ap 15 '22

Leavens: their action and measurement. C. E. Davis and D. J. Maveety. *J Ind & Eng Chem* 14:210-12 Mr '22

Sodium bichromate. See Sodium dichromate

Sodium bisulfate. See Niter cake

Sodium borate. See Borax

Sodium bromate

Crystal structures of sodium chlorate and sodium bromate. R. G. Dickinson and E. A. Goodhue. *Am Chem Soc J* 43:2045-55 S '21

Sodium carbonate

Alkali centenary. *Soc Chem Ind J (Chem & Ind)* 42:383-6 Ap 20 '23

Bicarbonate equilibrium. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:321-6 Ag 3 '23

Le Blanc and after. J. T. Conroy. *Chem Age* 31:353-5 Ag '23

Effect of adding various chemicals to wood previous to distillation. L. F. Hawley. *J Ind & Eng Chem* 14:43-4 Ja '22

Heterogeneous equilibria: the ternary system sodium sulphate-sodium carbonate-water. A. E. Dawkins. *diags Chem Soc J* 121:776-81 My '22

Manufacture of washing soda or soda crystals. B. De Puyster. *Color Tr J* 13:107-10 S '23

Les moyens d'éviter les inconvénients dus à la soude dans l'eau d'alimentation des chaudières. G. Paris. *il Génie Civil* 82:392-4 Ap 28 '23

Purifying sodium carbonate from salines. *Chem Age* 30:367 Ag '22

Reversibility of the reaction between nitrogen, carbon and sodium carbonate. C. K. Ingold and D. Wilson. *Chem Soc J* 121:2278-86 O '22

See also Soda ash; Sodium bicarbonate; United alkali company

Sodium chlorate

Crystal structures of sodium chlorate and sodium bromate. R. G. Dickinson and E. A. Goodhue. *Am Chem Soc J* 43:2045-55 S '21

Sodium chloride. See Salt

Sodium chromite

Mercerization by the use of alkaline chrome mordant. J. Pokorny. *Color Tr J* 12:36-8 Ja '23; Same. *Am Dyestuff Rep* 12:152-5 F 12 '23

Sodium compounds

Molecular weight of the sodium-tellurium complex in liquid ammonia as derived from vapor-pressure measurements. C. A. Kraus and E. H. Zeitfuchs. *diag Am Chem Soc J* 44:2714-23 D '22

Production statistics of the alkali industry. *Chem & Met Eng* 28:593 Mr 28 '23

Propriétés des sels de sodium des acides gras moyens. C. F. Müller. *Chimie & Ind* 9:129-31 Ja '23

Sodium salts of phenolphthalein. H. Bassett and F. Halton. *Chem Soc J* 123:1291-1304 My '23

Sodium cyanide

Bucher process for the fixation of nitrogen. M. deK. Thompson. *diags Chem & Met Eng* 26:124-7 Ja 18 '22

Form of the vapour pressure curve at high temperatures; the curve for sodium cyanide. C. K. Ingold. *Chem Soc J* 123:885-91 Ap '23

Nitrogen fixation by the cyanide process. F. E. Bartell. *il diag J Ind & Eng Chem* 14: 699-704 Ag '22

Production of ammonia by the sodium cyanide method. F. E. Bartell. *J Ind & Eng Chem* 14:516-21 Je '22

Recovery and utilization of cyanide from by-product coke ovens. E. V. Espenhahn. *flow sheet Chem & Met Eng* 26:938-41 My 17 '22

Sodium dichromate

Manufacture of bichromates, then and now. *Oil Paint & Drug Rep* 101:31 Mr 28 '22

Sodium ethoxide

Mechanism of the formation of benzoylbenzoin by treatment of benzoylmandelonitrile with an alcoholic solution of sodium ethoxide. H. Greene and R. Robinson. *Chem Soc J* 121: 2182-96 O '22

Sodium formaldehydesulfoxalate

Titration of sodium formaldehydesulfoxalate. B. Salkin. *Ind & Eng Chem* 15:848-9 Ag '23; Same. *Am Dyestuff Rep* 12:595-7 Ag 13 '23

Sodium fructoseborate

Constitution and rotatory powers of mannitol and fructose complexes formed in solutions containing boric acid and sodium hydroxide. G. Van B. Gilmour. *Chem Soc J* 121:1333-40 Jl '22

Sodium hydrogen acetate

Symmetry and crystal structure of sodium hydrogen acetate. W. G. Wyckoff. *il Am J Sci* 5th ser 4:193-8 S '22

Sodium hydrogen sulfate. See Niter cake

Sodium hydrogen sulfite

Über die einwirkung von bisulfit auf nitroaniline. H. Weil and P. Wassermann. *Deutsche Chem Gesell Ber* 55:2533-42 S '22; Abstract. *Chem Soc J* 122 pt 1:1006-7 N '22

Sodium hydrosulfite. See Sodium hyposulfite

Sodium hydroxide

Absorption of caustic soda solutions by cotton. H. F. Coward and L. Spencer. *Textile Inst J* 14:T32-45 Ja '23

Abweichendes Verhalten des Lithiumhydroxyds gegenüber Natrium- und Kaliumhydroxyd bei der Hydratisierung der polymeren Aryl-stilbinsäuren. H. Schmidt. *Deutsche Chem Gesell Ber* 55:697-701 Mr '22

Apparatus for dispensing concentrated sulfuric acid and sodium hydroxide solutions. R. C. Abbott. *diag Ind & Eng Chem* 15:493 My '23

Behaviour of bast fibres under the influence of caustic alkalies. C. R. Nodder and R. W. Kinlead. *il Textile Inst J* 14:T133-56, pl 1-2 Je '23

Behaviour of the stannic acids towards solutions of alkaline hydroxides. G. E. Collins and J. K. Wood. *Chem Soc J* 121:2760-5 D '22

Caustic embrittlement of boiler metals. R. E. Gleason. *Power* 57:452-3 Mr 20 '23

Causticization of soda ash. J. Harrop and H. O. Forrest. *Ind & Eng Chem* 15:362-3 Ap '23

Chemical efficiency and concentration of NaOH and NaCl from Townsend cells. A. H. Hooker. *charts Am Inst Chem Eng Trans v* 13 pt 1:61-75; Discussion. 76 '20

Comparison of the volatile products derived from cotton by the action of water, and of sodium hydroxide, at 40 lbs. pressure. P. H. Clifford and R. G. Fargher. *bibliog Textile Inst J* 14:T117-24 My '23

Simple method for the preparation of sodium hydroxide free from carbon dioxide. J. Cornog. *Am Chem Soc J* 43:2573-4 D '21

Some properties of fused sodium hydroxide. T. Wallace and A. Fleck. *il diags Chem Soc J* 119:1839-60 N '21

Story of caustic soda. *Color Tr J* 12:217-19 My '23

Studies of the constitution of soap solutions: solutions of sodium palmitate, and the effect of excess of palmitic acid or sodium hydroxide. J. W. McBain, M. Taylor and M. E. Laing. *Chem Soc J* 121:621-33 Ap '22

Studies on the swelling of cotton cellulose-cotton hairs in solutions of sodium hydroxide. G. E. Collins and A. M. Williams. *diag Textile Inst J* 14:T287-95 S '23; Same. *Color Tr J* 13:182-5 N '23; Same. *Soc Dyers & Col J* 39:368-71 D '23

Über das Verhalten von allyl- und benzylaminooxyden gegen Natronlauge. J. Meisenheimer, H. Greeske and A. Willmersdorf. *Deutsche Chem Gesell Ber* 55:513-22 F '22

Sodium hydroxide—Continued

Viscosity of cellulose; the lowering of the viscosity of cellulose by various reagents. R. A. Joyner. *Chem Soc J* 121:2395-2404 N '22

Sodium hypobromite

Investigation of the hypobromite method for determining bleach requirement of pulps. T. M. Andrews and M. W. Bray. *Paper Tr J* 77:47-50 S 27 '23

Sodium hypochlorite

Bleaching by means of sodium hypochlorite. W. M. Inman. *Soc Dyers & Col J* 39:78-81 Mr '23; Same. *Am Dyestuff Rep* 12:690-3 S 24 '23

Purification of methyl alcohol by means of sodium hypochlorite. R. C. Menzies. *Chem Soc J* 121:2787-93 D '22

Sodium hypochlorite. H. F. Zoller. *Ind & Eng Chem* 15:845-7 Ag '23

Sodium hypochlorite or javel water. B. De Puyster. *Color Tr J* 13:172-5 N '23

Sodium hyposulfite

Action of sodium hyposulphite on cupric chloride in aqueous solution. J. B. Firth and J. Higson. *Chem Soc J* 123:1515-19 Je '23

Control of hydrosulfite vats. A. Lauterbach. *Color Tr J* 12:53-4 F '23

Estimation of hydros (sodium hydrosulphite); abstract. *Soc Dyers & Col J* 39:122 Ap '23

Estimation of sodium hydrosulphite. R. W. Merriman. *Soc Chem Ind J (Chem & Ind)* 42:290-2 Mr 23 '23

Hydrosulphites in dyeing silk and cotton with sulphur and vat dyes. F. Remlein. *Am Dyestuff Rep* 12:112 Ja 29 '23

Iodine method of analyzing hydrosulfites. *Color Tr J* 12:222-3 My '23

New method of analysing sodium hydrosulphite. *Soc Chem Ind J* 42:356-7 Ag 31 '23

Purifying sodium hydrosulfite; a modification of Jellinek's method. W. G. Christiansen and A. J. Norton. *diag J Ind & Eng Chem* 14:1126-8 D '22

Reduction of an indanthrene dye by means of sodium hydrosulfite. J. H. Yoe and G. Edgar. *diag J Phys Chem* 27:65-73 Ja '23

Some properties of commercial hydrosulphites and sulphonylates. C. S. Hollander. *Am Dyestuff Rep* 12:9-12 Ja 1 '23

See also Sodium thiosulfate

Sodium iodide

Conductance of sodium iodide in amyl alcohol at very low concentrations. C. A. Kraus and J. E. Bishop. *Am Chem Soc J* 44:2206-12 O '22

Sodium ion

Study of the sodium amalgam electrode for the determination of sodium ion. B. S. Neuhäusen. *Am Chem Soc J* 44:1411-16 Jl '22

Sodium laurate

Effect of an electrolyte on solutions of pure soap; phase-rule equilibria in the system sodium laurate—sodium chloride—water. J. W. McBain and A. J. Burnett. *diags Chem Soc J* 121:1320-33 Jl '22

Sodium mannitolborate

Constitution and rotatory powers of mannitol and fructose complexes formed in solutions containing boric acid and sodium hydroxide. G. Van B. Gilmour. *Chem Soc J* 121:1333-40 Jl '22

Sodium methoxide

Action of sodium methoxide and its homologues on benzophenone chloride and benzylidene chloride. J. E. Mackenzie. *Chem Soc J* 121:1695-9 S '22

Sodium nitrate

Atmospheric nitrogen fixation. E. A. Lof. *il Gas Age* 50:649-51, 697-8, 737-40+ N 11-25 '22; Same abr. *Gen Elec R* 26:136-42 Mr '23

Butters nitrate process. *diag Chem Age (Lond)* 8:90-1 Ja 27 '23

Chilean nitrate and its competitors. F. Benitez. *Min & Sci P* 123:700-2 N 19 '21

Chilean nitrate trade. *Chem Age* 31:303-4 Jl '23

Complex formation in lead nitrate solutions; the ternary systems lead nitrate—sodium nitrate—water, and lead nitrate—potassium nitrate—water. S. Glasstone and H. N. Saunders. *Chem Soc J* 123:2134-40 S '23

Discovery of new nitrate lands in Chile; news note. *Chem & Met Eng* 25:1185 D 23 '21

Domestic and foreign supply of nitrate. *Eng & Min J* 114:926-7 N 25 '22

Donnan program of investigation for the Chilean nitrate industry. A. W. Allen. *il Chem & Met Eng* 27:1121-8 D 6 '22

Efficient recovery of nitrates from caliche. J. W. Turrentine. *Ind & Eng Chem* 15:853-5 Ag '23

Exports of Chilean nitrate have improved. *Eng & Min J* 114:549 S 23 '22

Freezing-point curve for mixtures of potassium nitrate and sodium nitrate. H. V. A. Briscoe and W. M. Madgin. *diag Chem Soc J* 123:1608-18 Je '23

Improved technology on the Chilean nitrate pampa. *Chem & Met Eng* 26:916-17 My 17 '22

Junquera process of nitrate recovery. *Chem & Met Eng* 27:865 N 1 '22

Nitrate. H. Adams. *Eng & Min J* 115:101 Ja 20 '23

Nitrate deposits in the Amargosa region, southeastern California. L. F. Noble and others. *il diags maps U S Geol S Bul* 724: 1-99 '22; Review by J. E. Spurr. *Eng & Min J* 114:955; Editorial. 969 D 2 '22

Nitric acid from saltpeter or synthetic ammonia. G. B. Taylor. *Chem Age* 30:244-6 Je '22; Same. *Chem & Met Eng* 26:1217-19 Je 28 '22

Our nitrogen problem. H. A. Curtis. *Chem Age* 31:388-91 S '23

Properties of ammonium nitrate; ammonium nitrate and sodium nitrate. R. G. Early and T. M. Lowry. *Chem Soc J* 121:963-9 Je '22

The supply of nitrate. A. W. Allen. *il Eng & Min J* 114:15-16 Jl 1 '22

25°-isotherms of the systems magnesium nitrate—sodium nitrate—water and magnesium sulphate—magnesium nitrate—water. D. N. Jackman and A. Browne. *diag Chem Soc J* 121:694-7 Ap '22

See also Chilean nitrate producers' association

Sodium nitrite

Canadian experiments with nitrite fertilizer. *Chem & Met Eng* 28:310 F 14 '23

Low production costs for nitrite of soda in Norway. *Chem & Met Eng* 29:593 S 24 '23

Sodium nitrite manufacturer presents arguments for increase in tariff rate. *Oil Paint & Drug Rep* 104:19 sec 1 S 17 '23

Sodium nonoate

Studies of the constitution of soap solutions; sodium behenate and sodium nonoate. C. J. Flecker and M. Taylor. *Chem Soc J* 121: 1101-9 Je '22

Sodium oleate

Ultra-filtration of soap solutions; sodium oleate and potassium laurate. J. W. McBain and W. J. Jenkins. *diags Chem Soc J* 121: 2325-44 O '22

Sodium oxalate

Stability of an 0.01N sodium oxalate solution. E. S. Hopkins. *Ind & Eng Chem* 15:149 F '23

Sodium *p*-hydroxyphenylarsonate

Arsonation of phenol. W. G. Christiansen and A. J. Norton. *Am Chem Soc J* 45:2188-92 S '23

Sodium palmitate

Studies of the constitution of soap solutions; solutions of sodium palmitate, and the effect of excess of palmitic acid or sodium hydroxide. J. W. McBain, M. Taylor and M. E. Laing. *Chem Soc J* 121:621-33 Ap '22

Sodium perborate

Electrolytic preparation of sodium perborate; abstract. K. Arndt and E. Hantge. *Chem Soc J* 122 pt 2:569 Ag '22

Electrolytic production of sodium perborate. P. C. Aisgaard. *J Phys Chem* 26:137-55 F '22

Sodium permanganate

Permanganate of soda as a bleaching agent. W. B. Nanson. *Am Dyestuff Rep* 12:556-60 J1 30 '23

Sodium peroxide

Bleaching heavy goods with sodium peroxide. F. P. Seddon. *Color Tr J* 11:226-7 N '22

Essai rapide de l'oxylithe. A. Desgrez and A. Labat. *diag Chimie & Ind* 6:539 O '21

Sodium peroxide in cotton bleaching. *Color Tr J* 13:185-6 N '23

Use of sodium peroxide in cyanidation at the Teck-Hughes gold mine. D. L. H. Forbes. *il diags Eng & Min J* 115:440-1 Mr 10 '23

Sodium persulfate

Reaction between persulphates and silver. G. I. Higson. *Chem Soc J* 119:2048-55 D '21

Sodium phosphate

Materials used in the weighting of silk. E. Cagliostro. *Color Tr J* 11:78-80 Ag '22 (cont from Bleacher, finisher and textile chemist)

Sodium phthalimide

Preparation of sodium and potassium phthalimide. D. L. Hammick and G. H. Locket. *Chem Soc J* 121:2362-3 N '22

Sodium potassium alloys

Optical constants of sodium-potassium alloys. R. Morgan. *diags Phys R* 20:203-13 S '22

Sodium press

Natriumpresse fürs laboratorium. E. Beckmann. *il Deutsche Chem Gesell Ber* 55:766-8 Mr '22

Sodium silicate

Action of sodium silicate when used in soaps. A. S. Richardson. *Ind & Eng Chem* 15:241-3 Mr '23

Silicate of soda in flakes. *diags Chem Age* 30:58 F '22; Discussion. D. M. Goetschius. 30:102 Mr '22

Silicate of soda in soap manufacture. *Chem Age (Lond)* 9:424-5 O 20 '23

Silicate of soda in the ceramic industries. J. G. Vail. *Chem & Met Eng* 28:636-7 Ap 9 '23; Same. *Am Cer Soc J* 6:610-13 Ap '23

Silicate of soda in the paper mill. J. G. Vail. *Paper Tr J* 77:46-7 S 20 '23; Same. *Oil Paint & Drug Rep* 104:xv-xvi sec 2 S 24 '23; Same. *Chem & Met Eng* 29:621-2 O 1 '23; Same. *Paper* 32:7-8 O 11 '23

Silicate of soda; its function in the cleansing process; expansion of its use as a detergent. J. G. Vail. *Chem Age* 30:19-20 Ja '22

Value of silicate of soda ($\text{Na}_2\text{O} \cdot 3.3\text{SiO}_2$) as a detergent. W. Stericker. *Ind & Eng Chem* 15:244-8 Mr '23

Waterglass as adhesive for paperboard. *Paper* 31:7-9+ D 27 '22

Bibliography

Water-glass; a bibliography. M. Schrero. 87p Carnegie library, Pittsburgh '22

Sodium-silico-fluoride

Howard patent. *Chem Age* 31:284 Je '23

New laundry preparation containing sodium-silico-fluoride. *Color Tr J* 12:183-4 Ap '23

Sodium silver salvarsan

Silver salvarsan. W. H. Gray. *Chem Soc J* 123:635-42 Mr '23

Sodium sulfate

Electrolytic production of acid and alkali from sodium sulfate solutions. H. V. Atwell and T. Fuwa. *diags Ind & Eng Chem* 15:617-20 Je '23

Estimation of sulfate in neocarsphenamine. E. Elvove. *J Ind & Eng Chem* 14:624-5 J1 '22

Heat of coagulation of ferric oxide hydrosol with sodium sulfate. F. L. Browne. *Am Chem Soc J* 45:311-21 F '23

Heterogeneous equilibria: the ternary system sodium sulphate-sodium carbonate-water. A. E. Dawkins. *diags Chem Soc J* 121:776-81 My '22

Influence of sodium chloride, sodium sulfate, and sucrose on the combination of chromic ion with hide substance. A. W. Thomas and S. B. Foster. *J Ind & Eng Chem* 14:132-3 F '22

Mechanical salt cake furnace. *Chem & Met Eng* 29:764-5 O 22 '23

Production of sulphuric acid and caustic soda by electrolysis of sodium sulphate. E. R. Watson. *Soc Chem Ind J* 42:251-2 Je 8 '23

Sodium sulphate: its sources and uses. R. C. Wells. *U S Geol S Bul* 717:1-43 '23

See also Niter cake

Sodium sulfide

Problems in the production of sodium sulphide. *Chem & Met Eng* 28:49, 199, 290-1, 333 Ja 10, 31, F 14-21 '23

Sodium sulfide as a differential flotation reagent. J. B. Parker. *Eng & Min J* 114:629 O 7 '22

Sodium sulfide manufacture. *Chem Age* 31:174 Ap '23

Sodium sulfites

Sulphate-free sulphites for standard sulphur dioxide solutions. S. L. Shenefield, F. C. Vilbrandt and J. R. Withrow. *Chem & Met Eng* 25:953-5 N 23 '21

Über den abbau des methyl-kakothelins und seine violette farbreaktion mit natriumsulfid; über strychnos-alkaloide. H. Leuchs, E. Winkler and W. R. Leuchs. *Deutsche Chem Gesell Ber* 55:3936-50 D '22; Abstract. *Chem Soc J* 124 pt 1:133-5 F '23

Über die einwirkung von natriumsulfid auf nitroverbindungen der benzol-reihe. H. Weil and E. Moser. *Deutsche Chem Gesell Ber* 55:732-7 Mr '22

Sodium thiosulfate

Action of thiosulphates on cupric salts. H. Bassett and R. G. Durrant. *Chem Soc J* 123:1279-91 My '23

Estimation of iodine by sodium thiosulfate. F. O. Rice, M. Kilpatrick, jr. and W. Lemkin. *Am Chem Soc J* 45:1361-5 Je '23

Die fähung des aluminiums durch thiosulfat und seine trennung vom eisen (G. Leimbach); Das altern massanalytischer thiosulfat-lösungen (H. Windisch). *Deutsche Chem Gesell Ber* 55:3161-5 O '22

Induction periods in reactions between thiosulfate and arsenite or arsenate: a useful clock reaction. G. S. Forbes, H. W. Estill and O. J. Walker. *Am Chem Soc J* 44:97-102 Ja '22

Manufacture of sodium thiosulphate. L. Hargreaves and A. C. Dunningham. *diags Soc Chem Ind J* 42:147-52 Ap 13 '23

New use for our old friend hypo. F. B. Howe. *il Sci Am* 126:124 F '22

Sodium thiosulfate. *diag Chem & Met Eng* 26:300 Ap 26 '22

Stability of sodium thiosulfate solutions. M. Kilpatrick, jr. and M. L. Kilpatrick. *Am Chem Soc J* 45:2132-5 S '23

Sodium trinitride

Absorption of carbon disulfide vapor by aqueous solutions of sodium trinitride. A. J. Currier and A. W. Browne. *Am Chem Soc J* 44:2849-54 D '22

Sodium tungstate

Precipitation of proteins from cereal extracts by sodium tungstate. L. A. Rumsey. *Ind & Eng Chem* 15:270-2 Mr '23

Sodium tungstates. E. F. Smith. *Am Chem Soc J* 44:2027-36 S '22

Soft-drink workers

Soft-drink workers—Portland. *Monthly Labor R* 16:399-402 F '23

Soil absorption

Absorption of water by soil colloids. W. O. Robinson. *J Phys Chem* 26:647-53 O '22

Soil acidity

Limits of hydrogen ion concentration as determined by electrometric titrations in water solutions of carbon dioxide, calcium sulphate, and calcium carbonate. J. W. Shipley and I. R. McHaffie. *Soc Chem Ind J* 42:311-19 J1 27 '23

Manganese, aluminum, and iron ratio as related to soil toxicity. R. H. Carr and P. H. Brewer. *Ind & Eng Chem* 15:634-7 Je '23

Nature of the acidity of the colloidal clay of acid soils. R. Bradfield. *Am Chem Soc J* 45:2669-78 N '23

Soil acidity preferences of some eastern conifers. E. T. Wherry. *Sci Am* 128:33 Ja '23

Soil analysis

Automatic method for mechanical soil and clay analysis and ways of recording it; abstract. S. Oden. *Am Cer Soc J* 4:860-1 O '21

Determination of total sulfur in soils and silicate rocks. W. M. Shaw and W. H. MacIntire. *bibliog Ind & Eng Chem* 15:1183-6 N '23

Manganese, aluminum, and iron ratio as related to soil toxicity. R. H. Carr and P. H. Brewer. *Ind & Eng Chem* 15:634-7 Je '23

Soil solution. J. E. Greaves and C. T. Hirst. *bibliog J Ind & Eng Chem* 14:224-6 Mr '22

Tyndallmeter reading of soil dispersoids. F. M. Scales and F. W. Marsh. *il J Ind & Eng Chem* 14:52-4 Ja '22

Soil exhaustion

Soil exhaustion in relation to the federal income tax laws. P. Chandler. *Administration* 4:461-5 O '22

Soil fertility

Nature of soil fertility. *Sci Am* 127:107 Ag '22

Soil moisture

Drainage expert discusses highway as compared with agricultural drainage. E. A. Rossiter. *Munic Eng* 62:83-3 S '22

Effect of soil moisture on highway design. J. L. Harrison. *Munic Eng* 62:122-5 Ap '22

Effects of moisture on the thermal conductivity of soils. G. B. Shanklin. *il diags Am Inst E E J* 41:92-7 F '22; *Abstract, Elec W* 79:383 F '25 '22; *Discussion, Am Inst E E J* 41:599-600 Ag '22

Moisture capacity of soil increased by organic matter. *Sci Am* 128:18 Ja '23

Soil pipes

Pressures in vent and soil pipes. H. E. Bab-bitt. *Dom Eng* 100:371+ Ag '26 '22

Special rigging required by soil pipe parts. *Foundry* 51:800-1 O 1 '23

Why England uses external soil pipe in housing. J. Y. Dunlop. *il diags Dom Eng* 98:350-2 F '25 '22

Soil temperature

Soil temperatures and cable rating. A. Smir-noff. *il diags Elec W* 82:438-9 S 1 '23

Soils

Factors affecting soil reaction; the soilwater ratio. R. M. Salter and M. F. Morgan. *J Phys Chem* 27:117-40 F '23

Physico-chemical problems relating to the soil. J. Alexander. *Chem & Met Eng* 27:128 JI 19 '22

See also *Agricultural chemistry; Agriculture; Clay; Drainage; Fertilizers; Foundation soils; Humus; Irrigation; Reclamation of land; Roads—Subgrades; Sand; Soil analysis and other headings beginning Soil*

Bacteriology

See *Bacteria, Nitrifying*

Testing

Illinois to make extensive investigation in subgrades. H. F. Clemmer. *il Munic Eng* 65:49-51 Ag '23

Physical properties of subgrade materials. J. R. Boyd. *Can Eng* 43:362-4 S 19 '22; *Same, Eng & Contr (R & S)* 58:27-31 O 4 '22

Tentative methods of mechanical analysis of subgrade soil. *Can Eng* 43:206 Ag 1 '22

Tests for soils with relation to their use in the subgrade of highways. A. T. Goldbeck and F. H. Jackson. *il diags plans Am Soc T M Pro* 21:1057-72 '21

Soils, Heating of

Utilisation of waste heat. H. M. Sayers. *Elec R (Lond)* 90:115 Ja 27 '22

Solar heaters

Details of a solar heater. J. D. Hoffman. *diags Sheet Metal Worker* 13:612 O 13 '22

Solar cooking with the aid of oil. *il Sci Am* 127:185 S '22

Solar stove of tin plate. *il Sci Am* 126:341 My '22

Utilizing sun's heat to heat range boiler. *diags Dom Eng* 102:613-14 Mr 31 '23

Solar power

Harnessing heat from the sun. *Sci Am* 127:324 N '22

L'utilisation de la chaleur solaire par l'emploi d'appareils auto-évaporateurs. P. Caufourier. *diags Génie Civil* 82:327-9 Ap 7 '23; *Same abr. (Berland-Caufourier solar power plant). Mech Eng* 45:364-5 Je '23

Solar radiation

Solar radiation and terrestrial phenomena. C. G. Abbot. *Nat Research Council Bul* 3 pt 2: 27-31 Mr '22

Ultraviolet in sunlight; industrial uses and limitations of this portion of the solar radiation. M. Luckiesh. *Sci Am* 127:258 O '22

Solar system

Latest light on the eternal problem of the origin of the solar system. H. N. Russell. *il Sci Am* 127:268+ O '22

Solder and soldering

Causes of certain solder difficulties. *Sheet Metal Worker* 13:802 D 22 '22

Correct use of the soldering iron. J. A. Kim-mey. *Wireless Age* 10:82-3 D '22

High melting point solder for carbon brushes. J. D. Alley. *Elec J* 19:456 N '22

How mine-motor armatures should be soldered. H. H. Johnston. *il Coal Age* 21:10-11 Ja 5 '22

Just what happens in soldering. *diag Sheet Metal Worker* 13:682 N 10 '22

Preparation necessary when soldering electrical equipment. J. Dixon. *Ind Eng* 80:551 N '22

Soldering flux in stick offers advantages. *il Pop Mech* 38:858 D '22

Soldering fluxes. A. A. Ladon. *Chem & Met Eng* 24:981 Je 1 '21; *Same, Brass W* 18:13 Ja '22

Soldering railway armature coils to commutator. H. L. Signor. *il diag Elec Ry J* 61: 815-16 My 12 '23

Soldering with the electric arc. M. Wright. *il Am Mach* 59:485 S 27 '23

Soldering without an iron. *diag Sheet Metal Worker* 14:402 Je 22 '23; *Sci Am* 129:339 N '23

Solders for aluminum. *il U S Bur Stand Circ* 78:1-14 '23

Tests of aluminum solders. *Automotive Ind* 47:168 JI 27 '22

Trade brands and practices. M. L. Liss-berger. *Metal Ind* 20:316 Ag '22

See also *Brazing; Soldering apparatus*

Soldering apparatus

Blowtorches on turntable solder buttons. *il Pop Mech* 40:678 N '23

Chapman Allatonce commutator soldering machine. *il Am Mach* 58:128 Ja 18 '23

Cutting costs in the machine shop. *il Factory* 23:706+ Je '22

Gas-heated soldering iron. J. J. Borkenhagen. *diag Mach* 29:728 My '23

Low-tension electric soldering outfit. H. H. Parker. *diags Pop Mech* 36:940-1 D '21

Self-contained soldering iron. *il Sci Am* 128: 43 Ja '23

Soldering iron chemically heated. *il Pop Mech* 38:862 D '22

Soldiers, Disabled

Looking after our wards of war. E. N. Smith. *Nation's Business* 10:42-3+ O '22

Obligations of \$75,000,000,000 on tax-payers for care of disabled. *Comm & Fin Chr* 114: 799-800 F 25 '22

Rehabilitation

Placing the war veteran in industry. F. T. Hines. *Nation's Business* 11:32+ Je 5 '23

Rehabilitation as it really is. R. T. Harte. *Sanitary & Heat Eng* 97:305-7 Je 2 '22

Rehabilitation of ex-service men. F. T. A. McLeod. *Textile World* 61:2701 My 6 '22

Rehabilitation of world-war veterans in sanitary and heating trade. *Sanitary & Heat Eng* 97:301-4+ Je 2 '22

Soldiers' bonuses

Business stand on the bonus. M. Thorpe. *Nation's Business* 10:20 Ap '22

Chamber of commerce against certificate bonus. *Am Mach* 56:428a Mr 16 '22

House passes soldier bonus bill. *Comm & Fin Chr* 114:1241-2 Mr 25 '22

Soldiers' bonuses—Continued

- Inflation of currency and credit in soldier bonus proposals—estimated cost of plans. A. W. Mellon. *Comm & Fin Chr* 114:1129-31 Mr 18 '22
- Let up on taxation burdens carried in bonus and other measures urged. W. E. Borah. *Comm & Fin Chr* 115:373-5 Jl 22 '22
- Maryland court of appeals holds soldier bonus law invalid because of referendum provision. *Comm & Fin Chr* 115:402 Jl 22 '22
- New plans respecting soldier bonus measure—adjusted service certificate plan. *Comm & Fin Chr* 114:908 Mr 4 '22
- President Harding's veto of the soldier bonus; editorial. *Comm & Fin Chr* 115:1372-3; *Text*. 1384-7 S 23 '22
- Sales tax provides only feasible plan for soldier bonus. *Comm & Fin Chr* 114:686-7 F 18 '22
- Secretary Mellon opposes soldiers' bonus—country's financial position. *Comm & Fin Chr* 114:470-1 F 4 '22
- Soldier bonus again being agitated—would cost four billion dollars, says National industrial conference board. *Comm & Fin Chr* 117:1619-20 O 13 '23
- Soldier bonus and the courage to oppose it. *Comm & Fin Chr* 114:454-5 F 4 '22
- Soldier bonus bill favorably reported by House committee. *Comm & Fin Chr* 114:1128-9 Mr 18 '22
- Soldier bonus bill introduced in Congress. *Comm & Fin Chr* 114:1016-18 Mr 11 '22
- Soldier bonus bill to follow tariff. *Comm & Fin Chr* 114:2779-80 Je 24 '22
- Soldier bonus in popular legislative program. R. Bean. *Annalist* 19:123-4 Ja 16 '22
- Taation and the bonus. *Annalist* 22:295 S 3 '23
- Text of soldier bonus bill as vetoed by the president. *Comm & Fin Chr* 115:1486-9 S 30 '22
- Views in Congress regarding soldier bonus and President Harding's proposals. *Comm & Fin Chr* 114:687-9 F 18 '22

Solenoids

- Alternating-current resistance and inductance of single-layer coils. C. N. Hickman. *diags U S Bur Stand Sci Pa* 472:73-104 '23
- Designing solenoids. C. Ralston. *diags Pop Mech* 39:621-4 Ap '23
- Stationary waves on open-ended solenoids. A. Press. *Inst E E J* 61:405-6 Mr '23

Soles, Rubber

- How to revive the fiber sole business. C. C. Burnham. *India Rubber W* 67:219-20 Ja '23
- Past, present, and future of fiber soles. C. C. Burnham. *il India Rubber W* 67:139-43 D '22
- What is wanted in rubber soles. C. C. Burnham. *il diags India Rubber W* 66:665-7 Jl '22

See also Rubber heels

Solid solutions. *See* Solutions, Solid

Soliditit. *See* Concrete—Aggregate

Solids

- Aggregation and flow of solids. G. T. Beilby. 256p Macmillan '21
- Application of the electron theory of chemistry to solids. J. J. Thomson. *Philos Mag* 6th ser 43:721-57 Ap '22
- Beilby's amorphous theory. C. Benedicks. *diags Chem & Met Eng* 28:733 Ap 23 '23
- Determination of solids (or moisture) by means of a gauze dish. A. Seidenberg. *Ind & Eng Chem* 15:737-41 Jl '23
- Electron theory of solids. J. J. Thomson. *J Fr Inst* 194:281-9 S '22
- Further studies on the electron theory of solids: the compressibilities of a divalent metal and of the diamond; electric and thermal conductivities of metals. J. J. Thomson. *Philos Mag* 6th ser 44:657-79 O '22

Solids, Kinetic theory of

- Kinetic theory of solids (metals) and the partition of thermal energy. B. M. Sen. *Philos Mag* 6th ser 43:672-87 Ap '22

Solite. *See* Gasoline

Sols. *See* Colloids

Solubility

- Equilibrium in the system lithium chloride: quinoline. J. H. Walton and C. R. Wise. *Am Chem Soc J* 44:103-4 Ja '22
- Influence of electrolytes on the solubility of non-electrolytes. A. McKeown. *Am Chem Soc J* 44:1203-9 Je '22
- Measurement of solubility by floating equilibrium; the solubility of lead acetate. M. L. Dundon and W. E. Henderson. *Am Chem Soc J* 44:1196-1203 Je '22
- Melting point, latent heat of fusion and solubility. F. S. Mortimer. *Am Chem Soc J* 44:1416-29 Jl '22
- Mutual solubility of liquids: the mutual solubility of ethyl ether and water; the solubility of water in benzene. A. E. Hill. *Am Chem Soc J* 45:1143-55 My '23
- Naphthalenesulfonic acids; solubilities of some amino salts of naphthalenesulfonic acids. H. Wales. *J Ind & Eng Chem* 14:317-18 Ap '22
- Relation between alcohol-water solubility and spontaneous ignition temperatures. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 7:325-34 O '21
- Solubilities and cooling curves of the mononitrophenols. L. L. Carrick. *J Phys Chem* 25:628-59 N '21
- Solubilities in mixtures of two solvents. G. Pucher and W. M. Dehn. *Am Chem Soc J* 43:1753-8 Ag '21
- Solubilities of certain metallic chlorides in selenium oxychloride. C. R. Wise. *Am Chem Soc J* 45:1233-7 My '23
- Solubilities of the alkali formates and acetates in water. N. V. Sidgwick and J. A. H. R. Gentle. *Chem Soc J* 121:1837-43 S '22
- Solubility and surface energy of calcium sulfate. M. L. Dundon and E. Mack, jr. *Am Chem Soc J* 45:2479-85 N '23
- Solubility and volatility of the nitrobenzaldehydes. N. V. Sidgwick and W. M. Dash. *Chem Soc J* 121:2536-92 N '22
- Solubility of CO₂ and N₂O in certain solvents. W. Kuerth. *diags Phys R* 19:512-24 My '22
- Solubility of dextrose in water. R. F. Jackson and C. G. Silsbee. *diags U S Bur Stand Sci Pa* 437:715-24 '22
- Solubility of gases in liquids. B. S. Neuhausen. *J Phys Chem* 26:553-7 Je '22
- Solubility of helium in water. H. P. Cady, H. M. Elsey and E. V. Berger. *diags Am Chem Soc J* 44:1456-61 Jl '22
- Solubility of mannite in mixtures of ethyl alcohol and water. H. J. M. Creighton and D. S. Klauder, jr. *J Fr Inst* 195:687-91 My '23
- Solubility of nickel sulfate by floating equilibrium method. F. C. Vilbrandt and J. A. Bender. *Ind & Eng Chem* 15:967-9 S '23
- Solubility of phenanthrene in various organic solvents. H. Henstock. *Chem Soc J* 121:2124-8 O '22
- Solubility of potassium perchlorate in salt solutions and the corresponding activity relations. R. M. Bozorth. *Am Chem Soc J* 45:2653-7 N '23
- Solubility of potassium permanganate in solutions of potassium sulfate and of sodium sulfate. H. M. Trimble. *Am Chem Soc J* 44:451-60 Mr '22
- Solubility of silver chloride in dilute chloride solutions and the existence of complex argentichloride ions. G. S. Forbes and H. I. Cole. *Am Chem Soc J* 43:2492-7 D '21
- Solubility of sulfur dioxide in suspensions of calcium and magnesium hydroxides. W. T. Smith and R. B. Parkhurst. *Am Chem Soc J* 44:1918-27 S '22
- Solubility of sulfur in rubber. C. S. Venable and C. D. Greene. *J Ind & Eng Chem* 14:319-21 Ap '22; *Excerpt. India Rubber W* 66:547-8 My '22
- Solubility of tetranitro-aniline in organic solvents. C. A. Taylor and W. H. Rinkenbach. *Am Chem Soc J* 45:1218-20 My '23
- Solubility of the aldehydobenzoic acids. N. V. Sidgwick and H. Clayton. *Chem Soc J* 121:2263-7 O '22
- Solubility of the alkali salts of benzoic and the hydroxybenzoic acids in water. N. V. Sidgwick and E. K. Ewbank. *Chem Soc J* 121:1844-53 S '22

Solubility—Continued

- Solubility of the chlorophenols. N. V. Sidgwick and S. L. Turner. *Chem Soc J* 121:2256-63 O '22
- Solubility of trinitro-phenylmethyl-nitramine (tetryl) in organic solvents. C. A. Taylor and W. H. Rinkenbach. *Am Chem Soc J* 45:104-7 Ja '23
- Solubility of trinitrotoluene in organic solvents. C. A. Taylor and W. H. Rinkenbach. *diag Am Chem Soc J* 45:44-59 Ja '23
- Solubility relations in mixtures containing polar components. F. S. Mortimer. *Am Chem Soc J* 45:633-41 Mr '23
- Solubility relations of certain gases. N. W. Taylor and J. H. Hildebrand. *Am Chem Soc J* 45:682-94 Mr '23
- Solubility: solubility relations of rhombic sulfur. J. H. Hildebrand and C. A. Jenks. *Am Chem Soc J* 43:2172-7 O '21
- Studies in mutual solubility; introductory—the mutual solubility; the glycerol and aliphatic and aromatic ketones. B. C. McEwen. *Chem Soc J* 123:2279-84 S '23
- Studies in mutual solubility; the mutual solubility of glycerol and alcohols, aldehydes, phenols, and their derivatives. B. C. McEwen. *Chem Soc J* 123:2284-8 S '23
- Studies on solubility; the principle of the specific interaction of ions. J. N. Brønsted. *Am Chem Soc J* 44:877-98 My '22
- Studies on solubility; the solubility of metal ammonia salts in salt solutions. J. N. Brønsted and A. Petersen. *Am Chem Soc J* 43:2265-92 N '21
- Study of the factors influencing compound formation and solubility in fused salt mixtures. J. Kendall, E. D. Crittenden and H. K. Miller. *Am Chem Soc J* 45:963-96 Ap '23
- Study of the ternary system, toluene-acetone-water. J. H. Walton and J. D. Jenkins. *diags Am Chem Soc J* 45:2555-9 N '23
- Theory of solubility. J. H. Hildebrand. *Phys R* 21:46-52 Ja '23
- Über die löslichkeit von ammoniakaten; beiträg zur kenntnis der löslichkeit. F. Ephraim and F. Mosmann. *Deutsche Chem Gesell Ber* 55:1698-19 Je '22; *Abstract. Chem Soc J* 122 pt 2:574-5 Ag '22
- Über die löslichkeit von salzen aromatischer säuren. F. Ephraim. *Deutsche Chem Gesell Ber* 55:3472-86 N '22; *Abstract. Chem Soc J* 124 pt 1:32-4 Ja '23

See also Critical solution temperature; Solution (chemistry)

Soluble glass. See Sodium silicate

Solution (chemistry)

- Calculation of the osmotic and activity functions in solutions of uni-univalent salts. J. N. Brønsted. *Am Chem Soc J* 44:938-48 My '22
- Complex formation in lead nitrate solutions; the ternary systems lead nitrate-sodium nitrate-water, and lead nitrate-potassium nitrate-water. S. Glasstone and H. N. Saunders. *Chem Soc J* 123:2134-40 S '23
- Compound formation and conductivity in systems of the types formic acid:metal formate and sulfuric acid:metal sulfate. J. Kendall, H. Adler and A. W. Davidson. *Am Chem Soc J* 43:1846-53 Ag '21
- Compound formation and viscosity in solutions of the types acid:ester, acid:ketone, and acid:acid. J. Kendall and E. Brakeley. *Am Chem Soc J* 43:1826-34 Ag '21
- Densities of dilute solutions of potassium salts and the volume changes occurring on solution. H. Hartley and W. H. Barrett. *Chem Soc J* 123:398-401 F '23
- Distribution of certain drugs between immiscible solvents. W. O. Emery and C. D. Wright. *Am Chem Soc J* 43:2323-35 N '21
- Effect of agitation on the rate of solution of crystals. E. V. Murphree. *Ind & Eng Chem* 15:148-9 F '23
- Factors determining the hygroscopic properties of soluble substances; the vapor pressures of saturated solutions. G. Edgar and W. O. Swan. *Am Chem Soc J* 44:570-7 Mr '22

- Molecular weight of the sodium-tellurium complex in liquid ammonia as derived from vapor-pressure measurements. C. A. Kraus and E. H. Zeitfuchs. *diag Am Chem Soc J* 44:2714-23 D '22
- Nature of secondary valence; partition coefficients. H. W. Smith. *J Phys Chem* 25:204-63 Mr '21
- Nature of secondary valence; partition coefficients in the system glycerine:acetone. H. W. Smith. *J Phys Chem* 25:721-34 D '21
- Nature of secondary valence; partition coefficients in the system water:ether. H. W. Smith. *J Phys Chem* 25:605-15 N '21
- Negative viscosity. A. I. Rabinovich. *Am Chem Soc J* 44:954-64 My '22
- On the molecular theory of solution. S. C. Bradford. *Philos Mag* 6th ser 44:897-904 N '22
- Rate of solution of iron in dilute sulphuric acid both when stationary and under rotation. J. A. N. Friend and J. H. Dennett. *Chem Soc J* 121:41-4 Ja '22
- Reactions in fused salt media; studies in solvolysis. J. F. G. Hicks and W. A. Craig. *J Phys Chem* 26:563-76 Je '22
- Selective solvent action by the constituents of aqueous alcohol. R. Wright. *Chem Soc J* 121:2251-6 O '22
- Solubility of liquids in liquids; the partition of the lower acids, particularly formic, between water and various organic solvents. N. E. Gordon and E. E. Reid. *J Phys Chem* 26:773-89 N '22
- Speed of reaction in concentrated solutions and the mechanism of the inversion of sucrose. G. Scatchard. *Am Chem Soc J* 43:2387-2406; 45:1580-92 N '21, J '23
- Study of the system ammonia:magnesium:mercury; the formation of magnesium hexammoniate. A. G. Loomis. *diags Am Chem Soc J* 44:8-19 Ja '22
- Study of the system ammonia-water as a basis for a theory of the solution of gases in liquids. B. S. Neuhausen. 32p Johns Hopkins univ., Baltimore '22
- Study of the system ammonia-water as a basis for a theory of the solution of gases in liquids. B. S. Neuhausen and W. A. Patrick. *diags J Phys Chem* 25:693-720 D '21
- Sur les équilibres de double décomposition entre sels solubles et sur quelquesunes de leurs applications. E. Rengade. *Chimie & Ind* 7:835-50, 1090-8 My-Je '22
- System furfural-water. G. H. Mains. *Chem & Met Eng* 26:779-84, 841-3 Ap 26-My 3 '22
- System potassium sulphate-aluminium sulphate-water at 25°. H. T. S. Britton. *Chem Soc J* 121:982-6 Je '22
- Systems ethyl alcohol-water-paraffins from +30° C. to -30° C. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 8:181-93 Ap '22
- Transference numbers of sodium and potassium in mixed chloride solution. R. F. Schneider and S. A. Braley. *Am Chem Soc J* 45:1121-34 My '23

See also Boiling points; Colloids; Crystallization; Diffusion; Electrolysis; Electrolytes; Henry's law; Ions; Osmosis; Precipitation (chemistry); Solubility; Solvents

Solution, Heat of

- Equilibria in the systems carbon disulfide: methyl alcohol, and carbon disulfide:ethyl alcohol. E. C. McKelvy and D. H. Simpson. *Am Chem Soc J* 44:105-15 Ja '22
- Heat of solution of cadmium in hydrochloric acid. T. W. Richards and S. Tamaru. *Am Chem Soc J* 44:1060-6 My '22
- Heat of solution of thallium in dilute thallium amalgams. T. W. Richards and C. P. Smyth. *Am Chem Soc J* 45:1455-60 Je '23
- Heat of solution of zinc in hydrochloric acid. T. W. Richards and T. Thorvaldson. *diag Am Chem Soc J* 44:1051-60 My '22
- Heats of solution and of transformation of the acido and aquo cobalt pentammines. A. B. Lamb and J. P. Simmons. *Am Chem Soc J* 43:2188-99 O '21

Solutions, Solid

- Atomic arrangement in solid solutions. W. Rosenhain. *diags Chem & Met Eng* 28:442-6 Mr 7 '23; *Abstract. Brass W* 19:71 Mr '23; *Same. Foundry* 51:275 Ap 1 '23

Solutions, Solid—Continued

- Atomic speculation. *Chem & Met Eng* 28:433 Mr 7 '23
- Cored crystals and metallic compounds. E. C. Bain. *diags Chem & Met Eng* 28:65-9 Ja 10 '23
- Critical solution temperature for solids in the binary system ammonium chloride-manganous chloride dihydrate. F. W. J. Clendinnen and A. C. D. Rivett. *Chem Soc J* 123: 1344-51 Je '23
- Crystal structure of solid solutions; abstracts. E. C. Bain. *Min & Met* 182:61-2 F '22; *Chem & Met Eng* 26:655 Ap 5 '22
- Die diffusion der begleitelemente des technischen eisens in festes Eisen. A. Fry. *il Stahl & Eisen* 43:1039-44 Ag 9 '23
- Diffusion in solid solutions; discussion. *Chem & Met Eng* 28:391-2 F 23 '23
- Equilibrium diagram of the system CuS-FeS. C. B. Carpenter and C. R. Hayward. *il diags Eng & Min J* 115:1055-61 Je 16 '23
- Hardness of solid solutions. A. St John. *Chem & Met Eng* 26:868 My 10 '22
- Mixed crystal formation in ternary systems containing water, ammonium chloride, and ferrous, cobaltous, or nickel chloride. F. W. J. Clendinnen. *diags Chem Soc J* 121: 801-5 My '22
- Mixed crystals and double salts: a comparison of systems containing water, ammonium chloride, and a chloride of manganese, iron, cobalt, nickel or copper. A. C. D. Rivett and F. W. J. Clendinnen. *Chem Soc J* 123:1634-40 Je '23
- Nature of solid solutions. E. C. Bain. *diags Chem & Met Eng* 28:21-4 Ja 3 '23; *Discussion*. 28:576 Mr 28 '23
- Study of the system ammonia:magnesium:mercury; the formation of magnesium hexammoniate. A. G. Loomis. *diags Am Chem Soc J* 44:8-19 Ja '22
- Ternary system ammonium chloride—ferric chloride—water. F. W. J. Clendinnen. *Chem Soc J* 123:1338-44 Je '23

Solutions, Standard

- Calibration of cells for conductance measurements. C. A. Kraus and H. C. Parker. *Am Chem Soc J* 44:2422-8 N '22
- Electrometric standardizing of titanous solutions. W. S. Hendrixson and L. M. Verbeck. *Am Chem Soc J* 44:2382-6 N '22
- Hydrated oxalic acid as an oxidimetric standard. A. E. Hill and T. M. Smith. *Am Chem Soc J* 44:546-57 Mr '22
- Precision measurement of the composition of the constant-boiling mixture of hydrogen chloride and water. C. W. Foulk and M. Hollingsworth. *diags Am Chem Soc J* 45: 1220-8 My '23
- Standardization of solutions used in iodimetry. S. Popoff and F. L. Chambers. *Am Chem Soc J* 45:1358-60 Je '23

Solvay, Ernest, 1838-1922

- Ernest Solvay—an appreciation. W. H. Nichols. *por J Ind & Eng Chem* 14:1156-8 D '22
- Sketch. P. Kestner. *Chimie & Ind* 7:833-4 My '22; Same cond. *Chem & Met Eng* 26:1202 Je 28 '22

Solvents

- Commercial solvent extraction applied to cotton and linen fabrics. M. Fort. *Soc Dyers & Col J* 39:42-6 F '23
- Correlation of solvent power and the viscosity of cellulose ester solutions. E. W. J. Mardles. *Soc Chem Ind J* 42:207-11 My 11 '23
- Explosion-proof process of solvent recovery. E. F. Dodge. *flow sheet il diags Chem & Met Eng* 26:416-19 Mr 1 '22
- Handling solvents safely. A. G. Smith. *Chem & Met Eng* 29:714-16 O 15 '23
- Influence of solvents on the velocity of formation of quaternary ammonium salts. J. A. Hawkins. *Chem Soc J* 121:1170-6 Je '22
- New solvents for rosin extraction. H. K. Benson and A. L. Bennett. *J Ind & Eng Chem* 14:307-8 Ap '22
- Non-flammable mixtures of organic solvents for vegetable-oil extraction. A. F. Sievers and J. D. McIntyre. *Chem & Met Eng* 26:603-6 Mr 29 '22

Recovery of solvents. T. W. Wild. *Chem Age (Lond)* 8:207 F 24 '23

- Solvent extraction in the production of oils and fats. L. A. Thiele. *Chem Age* 30:65-6 F '22; *Discussion*. 30:329-30 Jl '22
- Solvent properties of acetone. R. F. Remler. *Ind & Eng Chem* 15:717-20 Jl '23
- Solvent recovery from the fire hazard standpoint. W. D. Milne. *Chem Age* 31:201-5 My '23
- Solvents for cellulose esters. H. F. Willkie. *Chem & Met Eng* 25:1186-8 D 23 '21
- Study of the solvents of some cellulose esters. E. W. J. Mardles. *Soc Chem Ind J* 42:127-36 Mr 29 '23
- Suitability of various solvents for extracting vanilla beans. J. B. Wilson and J. W. Sale. *Ind & Eng Chem* 15:782-4 Ag '23
- Synthetische versuche in der indolgruppe; über den einfluss von lösungsmitteln auf die Grignardsche reaktion. R. Majima and M. Kotake. *Deutsche Chem Gesell Ber* 55:3865-72 D '22
- Vapor pressure of volatile solvents. R. E. Wilson and E. P. Wyld. *diag Ind & Eng Chem* 15:801-9 Ag '23
- Velocity of reaction in mixed solvents; the influence of temperature on the velocity of saponification of esters. H. McCombie, H. A. Scarborough and R. H. Settle. *Chem Soc J* 121:2308-18 O '22
- Velocity of reaction in mixed solvents; the influence of the base on the velocity of saponification of esters. A. E. Cashmore, H. McCombie and H. A. Scarborough. *Chem Soc J* 123:197-207 Ja '23
- Velocity of reaction in mixed solvents; the velocity of formation of quaternary ammonium salts; the study of an intramolecular change. J. Dexter, H. McCombie and H. A. Scarborough. *Chem Soc J* 123:1229-41 My '23
- Velocity of reaction in mixed solvents; the velocity of saponification of the ethyl esters of some monosubstituted benzoic acids. A. E. Cashmore, H. McCombie and H. A. Scarborough. *Chem Soc J* 121:243-53 F '22
- See also Acetone; Calcium thiocyanate; Isopropyl alcohol; Quinoline; Solution (chemistry); Sulfite liquor
- Sonic waves**
- Transmitting power in fluid waves. *il diags Sci Am* 126:320+ My '22
- Wave transmission of power. *Power Pl Eng* 26:1216 D 15 '22
- Wave transmission of power. *diag Engineer* 134:444-5, 466-8 O 27-N 3 '22; *Abstract. Mech Eng* 45:55 Ja '23
- Wave transmission of power. *diag Soc Auto Eng J* 12:484-5 My '23
- Soot blowers**
- American flue cleaner. *il diag Power* 54:715 N 8 '21
- Bayer revolving-element soot blower. *il Power* 58:128 Jl 24 '23; *Elec Ry J* 61:379 Mr 3 '23; *Ry Mech Eng* 97:307-8 Mr '23
- Cutting fuel costs. G. F. Swetnam. *Power* 57: 98-9 Ja 16 '23
- Economies of mechanical soot blowers. R. June. *il Power Pl Eng* 27:1070-3 N 1 '23
- Locomotive soot blower of new design. *il diag Ry R* 73:472 S 29 '23
- Operation and effectiveness of flue blowers. *diag Power* 58:693-4 O 30 '23
- Parry boiler tube cleaning blower. *diags Engineer* 136:350 S 28 '23
- Saving steam with soot blowers. R. June. *il Blast F & Steel Pl* 10:243-4 Ap '22; Same. *Textile World* 61:1949+ Ap 1 '22; Same. *Power Pl Eng* 26:414-15 Ap 15 '22
- Soot blower cleans tubes with sand blast. *il Pop Mech* 39:120 Ja '23
- Steam used by soot blowers. *Power Pl Eng* 26:284, 536-7 Mr 1, My 15 '22
- Superior locomotive flue blower. *il Ry Age* 74:1215-16 My 19 '23; *Ry R* 72:848-50 My 19 '23
- Types and arrangement of soot blowers. *il diags Power Pl Eng* 27:20-4 Ja 1 '23

Soot blowers—Continued

Vulcan ratchet operating head revolutionizes operation of soot cleaners. *il Blast F & Steel Pl* 10:357 Je '22; *Coal Age* 21:964-5 Je 8 '22; *Power Pl Eng* 26:634 Je 15 '22

See also Boiler cleaning

Sorghum

Starch in sorghum juice. S. F. Sherwood. *Ind & Eng Chem* 15:727-8 Jl '23

Sorghum sirup

Jellying of sorghum sirup. S. F. Sherwood. *Ind & Eng Chem* 15:780-2 Ag '23

Sound

Acoustical power of certain sound sources in absolute units. P. E. Sabine. *Phys R* 22: 303-12 S '23

Binaural location of pure tones. R. V. L. Hartley and T. C. Fry. *Phys R* 18:431-42 D '21

Displacement interferometry applied to acoustics and to gravitation. C. Barus. 149p Carnegie institution of Washington, Washington '21

Fog signalling by means of polarised sound. A. Bull. *il diags Engineer* 132:505-6 N 11 '21; *Same. Sci Am* 127:406-7 D '22

Minimum sound energy for audition for tones of high frequency. C. E. Lane. *Phys R* 19: 492-7 My '22

Perception of the direction of sounds and some technical applications. W. Kunze. *J Fr Inst* 194:249-50 Ag '22

Photographic study of sound pulses between curved walls and sound amplification by horns. A. L. Foley. *il diags Phys R* 20:505-12 D '22

Small private laboratory; some general impressions of the Riverbank laboratories. A. C. Lescarboua. *il Sci Am* 129:154-5+ S '23

Sounds of splashes. A. L. Narayan. *Philos Mag* 6th ser 42:773-5, pl 23 N '21

World of sound; six lectures delivered before a juvenile auditory at the Royal institution. W. Bragg. 196p Dutton '22

See also Acoustics, Architectural; Amplifiers; Hearing; Lissajous' whistling flame; Noise; Overtones; Phonetics; Phonograph; Photography of sound; Sound-proofing; Sound waves

Apparatus

Accurate methods of aligning steam turbines—using sound to increase sensitivity to measurements. E. G. Barker, sr. *il diags Power* 58:526-7 O '23

Effect of conical horns on the intensity of sound emitted by an organ pipe. J. H. Cloud. *Phys R* 22:73-7 Jl '23

New tone generator. C. W. Hewlett. *diags Phys R* 17:257-8; 19:52-60 F '21, Ja '22

Public address systems. I. W. Green and J. P. Maxfield. *il diags Am Inst E E J* 42:347-58 Ap '23; *Discussion. 42:654-7 Je '23*

Recherches relatives à l'établissement d'appareils d'écoute sous-marins. H. Brillié. *diags Génie Civil* 80:378-80, 397-401, 427-30 Ap 29-My 13 '22

Uses sound to find sea depths. H. C. Hayes. *diags Marine R* 52:411-14 O '22

See also Deafness, Instruments for; Hydrophone; Microphone; Telephone; Thermophone

Sound absorption

Diffraction effects in sound absorption measurements. P. E. Sabine. *Phys R* 19:402 Ap '22

Sound measurement

Evaluation of noise. *il diags Automobile Eng* 13:109-12 Ap '23

Hot wire microphone and its applications to the problems of sound. W. S. Tucker. *diags Engineer* 134:600-1 D 8 '22; *Abstracts. Engineering* 114:749-50 D 15 '22; *Elec R (Lond)* 92:151-2 Ja 26 '23

Method for the measurement of sound intensity. J. C. Karcher. *diag U S Bur Stand Sci Pa* 473:105-11 '23

Sensitivity and precision of the electrostatic transmitter for measuring sound intensities. E. C. Wente. *diags Phys R* 19:498-503 My '22

See also Photography of sound; Tectophone

Sound-proofing

Heating and ventilating system and sound-proofing for the Eastman theatre and school of music. A. S. Crocker. *Am Arch* 123:200-2 F 28 '23

How sound proof rooms may be constructed. *Bldg Age* 45:75 O '23

Insulation of sound in building. *Eng & Contr* 57:401 Ap 26 '22

Prevention of sound travel in hospitals. C. Butler. *plan Arch Forum* 37:287-8 D '22

Reduction of noise in banks and offices. C. M. Swan. *Arch Forum* 38:309-10 Je '23

Sound-proof partitions. F. R. Watson. *bibliog il diags plan Ill U Eng Exp Sta Bul* 127:1-73 '22; *Abstract. Am Inst Arch J* 10:171-4 My '22

Sound proof partitions feature this modern apartment. *il plan Bldg Age* 44:44-5 D '22

Sound transmission through partitions. *diags Engineering* 114:196-7 Ag 18 '22

Soundproof rooms. *Am Arch* 123:119 Ja 31 '23

Soundproofing a building; study of results at Smith Memorial Hall, University of Illinois. F. R. Watson. *plans Arch Forum* 35:178-82 N '21

Transmission of sound by masonry partitions. P. E. Sabine. *Am Arch* 124:23-7 Jl 4 '23; *Same. Eng & Contr (Bldgs)* 60:368-73 Ag 22 '23

Transmission of sound by standard masonry partitions. P. E. Sabine. *Ind & Eng Chem* 15:498-9 My '23

Sound ranging devices

See Hydrophone; Submarine detectors

Sound transmission. *See* Radio telephone; Submarine detectors; Telephone

Sound waves

Acoustic wave filters. G. W. Stewart. *diags Phys R* 20:528-51 D '22

Analysis of sound waves by the cochlea. H. E. Roaf. *diags Philos Mag* 6th ser 43:349-53 F '22

Beating tones of overblown organ pipes. V. Lough. *Philos Mag* 6th ser 43:72-7, pl 1 Ja '22

Nature of speech and its interpretation. H. Fletcher. *diags J Fr Inst* 193:729-47 Je '22

New method for the generation of sound-waves. J. Hartmann. *il diags Phys R* 20:719-27 D '22

Overblown pipes. S. Bhargava and R. N. Ghosh. *il Phys R* 20:452-5 N '22

Recherches relatives à l'établissement d'appareils d'écoute sous-marins. H. Brillié. *diags Génie Civil* 80:378-80 Ap 29 '22

Sensibility of the ear to small differences of intensity and frequency. V. O. Knudsen. *diag Phys R* 21:84-102 Ja '23

Theory of acoustic wave filters; the limiting frequencies of transmission. G. W. Stewart. *Phys R* 19:401 Ap '22

Velocity of sound in liquids contained in circular cylinders with slightly elastic walls. H. G. Green. *diags Philos Mag* 6th ser 45: 907-18 My '23

Velocity of sound in sea water. E. B. Stephenson. *diag map Phys R* 21:181-5 F '23

Soundings

Employ echo for measuring the depth of the ocean. *diag Pop Mech* 37:689 My '22

Intervals that should obtain between deep-sea soundings to disclose the orography of the ocean basins. G. W. Littlehales. *Nat Research Council Bul* 3 pt 2:90-3 Mr '22

Make first contour map of ocean bed. *Marine R* 53:218-19 Je '23

Marine sounding by sound: the sonic depth finder. *Eng & Contr (W W)* 59:592 Mr 14 '23; *Sci Am* 128:330 My '23

Simplifying the taking of soundings under adverse conditions. E. B. Fauntleroy. *diag Eng N* 91:771 N 8 '23

Sounding—Continued

Uses sound to find sea depths. H. C. Hayes. diags Marine R 52:411-14 O '22
Wire drag sounding line. W. B. Harrison. Eng & Contr 58:32 JI 12 '22

Sounding machine

Autographic sounding machine for profiling river beds. diag plan Eng & Contr 58:149-51 Ag 16 '22
Deep-sea sounding machine that is motor-driven. il Pop Mech 38:761 N '22
Rotary brake sounding machine for depths up to 100 fathoms. il Marine Eng 27:179 Mr '22

Soup industry

See Campbell soup company, Camden, N.J.

South

See also Electric plants (central stations)
—Southern states; Gasoline industry—
—Southern states; Labor and laboring classes
—Southern states

Economic conditions

Good fall business in South seems certain. R. H. Bethea. Automotive Ind 49:459-61 S 6 '23
How fares the South? A. W. Douglas. Administration 5:251-3 F '23
Prospective prosperity in South makes good automotive market. J. Dalton. Automotive Ind 47:606-8 S 28 '22

South Africa

See Aeronautics, Commercial—South Africa; Cotton trade—South Africa; Electricity supply—South Africa; Irrigation—South Africa; Motor bus lines—South Africa; Railroads—South Africa

Economic conditions

See Labor and laboring classes—South Africa; Wages—South Africa

Industries and resources

See Automobile industry and trade—South Africa; Diamond mines and mining—South Africa; Electricity supply—South Africa; Machinery industry—South Africa; Steel industry and trade—South Africa; Tractor industry and trade—South Africa

South America

Silent envoys win South America; American motion pictures and press associations. F. E. Ackerman. Am Ind 22:41-3+ My '22

See also Advertising—South America; Aeronautics—South America; Electric industries—South America; Latin America; Lumber trade—South America; Railroads—South America

Commerce

Our relations with South America. F. Lavis. Prof Eng 8:11-12 Ja '23
Protesting drafts in Latin America; South American countries. U S Eur For & Dom Com Trade Information Bul 113:1-31 '23
Trade interest centering on South America. R. Bean. Annalist 19:414 Ap 10 '22

Economic conditions

Investment value of South American securities. W. E. Lagerquist. Administration 5:470-4. 576-86 Ap-My '23
South American conditions. M. Gonzalez. Am Ind 22:37 Mr '22

See also Finance—South America; Labor and laboring classes—South America

Industries and resources

Industrial and commercial South America. A. S. Peck. 509p Dutton '22
See also Automobile industry and trade—South America; Electric industries—South America

South Carolina

See Roads—South Carolina

South Dakota

See Gold mines and mining—South Dakota; Mines and mineral resources—South Dakota; Petroleum—South Dakota

South Jacksonville, Florida**Rapid transit**

Town wants railway. Elec Ry J 61:859 My 19 '23

South Kensington royal school of naval architecture, 1864-1873

South Kensington royal school of naval architecture—1864-1873. Engineering 116:101-3 JI 27 '23

Southern Appalachian water power conference

Hydraulic conference in South results in permanent body. Eng N 89:81 JI 13 '22
2d annual meeting, Asheville, N.C., June 25-27. Elec W 81:1538 Je 30 '23; Eng N 91:32 JI 5 '23

Southern California Edison company

Annual report to the stockholders—for the year 1921. Comm & Fin Chr 114:1549-52 Ap 8 '22

Annual report to the stockholders—for the year 1922. Comm & Fin Chr 116:1662-5 Ap 14 '23

Public utility with 48,000 partners. A. N. Kemp. Elec W 80:1112-14 N 18 '22

Southern California Edison company system, and some 220-kv. researches. R. J. C. Wood. il diags Am Inst E E J 41:471-88 JI '22; Abstract. Elec W 80:423-5 Ag 26 '22; Discussion. Am Inst E E J 41:1022-5 D '22

Southern gas association

14th annual meeting, Greensboro, N.C. Gas Age 49:617 My 20 '22

15th annual convention, St Petersburg, Fla., April 16-18. Gas Age 51:501-2 Ap 21 '23

Southern ice exchange

Joint convention with Louisiana ice manufacturers' association and the Mississippi ice manufacturers' association, New Orleans, Nov. 27-29. Refrig W 57:31-2 D '22

Southern newspaper publishers' association

Annual convention, White Sulphur Springs, July 8-11. Ptr Ink 124:113-14 JI 19 '23

Southern Pacific railway

Chapters on the history of the Southern Pacific. S. Daggett. 470p Ronald press '22

Controversy over Central Pacific settled. Ry Age 74:279-80 Ja 27 '23

Government drops S. P.-C. P. litigation. Ry Age 75:299-300 Ag 18 '23

Hearing on disposition of Central Pacific. Ry Age 73:891-2 N 11 '22

I.C.C. approves Southern Pacific control of C. P. Comm & Fin Chr 116:685-7 F 17 '23; Same cond. Ry Age 74:427-30 F 17 '23; Excerpt. Ry R 72:295-6 F 17 '23

Legal questions in S.P. and Nickel Plate cases. Ry Age 74:1382-4 Je 9 '23

Separation of Southern Pacific and Central Pacific ordered. Ry Age 72:1296 Je 3 '22

S.P. and W.P. arrange for joint rates and double track. Ry Age 74:471-2 F 24 '23

Southern Pacific asks authority to build Natron cut-off. map Ry Age 74:1004 Ap 21 '23

Southern Pacific asks authority to keep Central Pacific. Ry Age 73:758-9, 987-90, 1059-60, 1087-9, 1151-6 O 21, N 25-D 16 '22

Southern Pacific builds more second track. il map Ry Age 75:851-4 N 10 '23

Southern Pacific issues interesting report. il Ry Age 72:1481-3 Je 17 '22

Southern Pacific protests against separation of C. P. Ry Age 72:1495-6 Je 17 '22

38th annual report for the year ended December 31, 1921. Ry Age 72:1360-6 Je 10 '22; Same. Comm & Fin Chr 114:2589-95 Je 10 '22

39th annual report, 1922. Ry Age 74:1239-44 My 19 '23; Same. Comm & Fin Chr 116:2268-73 My 19 '23

Union Pacific opposes Southern Pacific application to keep Central Pacific. Ry Age 73:797-8 O 28 '22

Southern railway

Resurvey of the Southern railway after improvement. G. W. White. Eng N 87:764-5 N 10 '21

28th annual report for year ended Dec. 31, 1921. Ry Age 73:727-8 O 14 '22; Same. Comm & Fin Chr 115:1743-4 O 14 '22

Southern railway—Continued

29th annual report for 1922. Comm & Fin
Chr 117:167-5 O 13 '23; Same. Ry Age 75:
696-7 O 13 '23

Southern supply and machinery dealers' association

Convention, Cincinnati, May 16-19. Am Mach
58:782d My 24 '23; Iron Age 111:1491-2+ My
24 '23; Iron Tr R 72:1545-6 My 24 '23

Southern textile association

Fall convention, Greenville, S.C. Textile World
62:2441+ O 28 '22

14th annual meeting, June 2-3. Textile

World 61:3503+ Je 10 '22

Semi-annual meeting, Augusta, Ga., Oct. 12-

13. Textile World 64:2239-40 O 20 '23

Summer session, Asheville, N.C., June 22-23.

Textile World 63:4169-70+ Je 30 '23

Southwest water works association

Annual meeting, Wichita Falls, Tex., June
18-21. Eng N 91:31 JI 5 '23

Southwestern electrical and gas association

Convention in San Antonio, Tex., May 3-6.
Elec Ry J 59:799 My 13 '22

Soviets

See Gild socialism; Socialism; Syndi-
calism

Soy bean oil

Chemical composition of soya bean oil. W. F.
Baughman and G. S. Jamieson. Am Chem
Soc J 44:2947-52 D '22

Composition of soy-bean oil. W. B. Smith. J
Ind & Eng Chem 14:530-1 Je '22

Soya bean oil: production and uses. L. P.
Nemzek. Oil Paint & Drug Rep 102:33+ N 6
'22

Soy beans

Soy bean industry in Illinois. Chem Age 30:
308 JI '22

Space

See Ether (of space); Relativity (physics)

Space-saving (in business)

Making every foot of space pay its way.
W. H. Leffingwell. System 42:710-12 D '22

Seven space-saving plans that earned profits.
W. H. Leffingwell. Il System 42:409-11 O '22

Spacing indicator

Frick spacing indicator. Il Am Mach 59:73
Jl 12 '23

Spain

Spanish gardens—old and new. F. Howard.
Il Am Arch 121:287-94, 300m-p Ap 12 '22

See also Advertising—Spain; Architecture
—Spain; Hydroelectric plants—Spain

Commerce

Germany outshining United States in Span-
ish electric market. Elec W 79:156 Ja 21 '22

Spain—imports of machinery for working
metal, wood or stone. Am Mach 58:82 Ja
11 '23

See also Automobile industry and trade—
Spain

Economic conditions

Industrial situation of Spain. Am Mach 55:
820 N 17 '21

Modern industrial Spain. 64p R. G. Dun &
co., New York '22

See also Cost of living—Spain; Housing
laws—Spain

Industries and resources

Industry in Spain in 1921. Electrician 88:570
My 12 '22

See also Automobile industry and trade—
Spain; Chemical industries—Spain; Copper
mines and mining—Spain; Electric indus-
tries—Spain; Iron ores—Spain; Lead mines
and mining—Spain; Petroleum industry and
trade—Spain

Sparagmite

Tillite-like conglomerate in the "Eocambrian"
sparagmite of southern Norway. O. Holte-
dahl. diag map Am J Sci 5th ser 4:165-73
Ag '22

Spare parts

Pros and cons of buying spare parts. C. E.

Harrison. Elec W 81:245-6 Ja 27 '23

Taking the friction out of the spare parts
business. J. A. Murphy. Ptr Ink M 5:27-8+
D '22

Spark, Electric. See Electric spark**Spark-advance.** See Gas and oil engines—Ignition**Spark arresters**

Spark arresters for smokeboxes of wood-
burning locomotives. H. Da Costa. diag
Ry Mech Eng 96:257 My '22

Spark gap

Joint comparative tests of spark gaps for
testing transformer oils. Am Soc T M Pro
21:397-408 '21

Research on insulating oils; the selection of
the best form of spark gap for dielectric
strength (breakdown voltage) tests. E. B.
Wedmore. Il Elec R (Lond) 89:687-9 N 18
'21; Same. Electrician 87:702-4 D 2 '21

Same wet and dry sparkover obtained with
compensated impulse gap. C. E. Bennett. Il
Elec W 79:1065-7 My 27 '22

Spark plugs

Multiple spark plugs and the suppression of
knocking. C. A. Norman. Il Automotive Ind
47:316-18 Ag 17 '22

Sparkplug plugs. diag Automobile Eng 12:105-
6 Ap '22

Sparkplug plugs. A. P. Young and H. War-
ren. 106p Pitman '22

Advertising

How simplification has affected Champion
spark plug advertising. C. B. Larrabee. Ptr
Ink 124:8+ JI 12 '23

Manufacture

Data on the operation of a continuous tun-
nel kiln at the plant of the A. C. spark plug
company. S. J. McDowell and P. D. Helsler.
Il Am Cer Soc J 5:267-73; Discussion. 273-5
Je; (Bul) 187-91 S '22

Manufacture of spark plug porcelain. A. G.
Wikoff. Il Chem & Met Eng 28:150-7 Ja 24
'23; Excerpt. Gas Age 51:369-71 Mr 24 '23

Story of spark plug progress. T. G. McDougal.
Am Cer Soc J 6:316-19 Ja '23

Standards

Proposed dimensions for spark-plugs. Soc
Auto Eng J 11:452-3 N '22

Spark plugs; proposed revision of S.A.E.
standard. Soc Auto Eng J 11:537-8 D '22

Sparks, Locomotive. See Locomotive sparks**Spartanburg, South Carolina****Rapid transit**

Must explain why service cannot be restored
in Spartanburg. Elec Ry J 62:229 Ag 11 '23
South Carolina gas & electric company to
cease operation of street railways on July
21. Elec Ry J 61:1096 Je 30 '23

Special libraries association

13th annual convention. Detroit. June 26-
July 1. Special Lib 13:99-120 S '22

Special sale catalogs. See Catalogs, Special sale**Specialties (merchandizing)**

Finds a neglected market and makes a special
drive to win it. Ptr Ink 122:69-70 Ja 18 '23
Radical methods that quickly introduced a
specialty; Tork company. J. True. Ptr Ink
123:77-8+ Je 28 '23

Wanted: more specialties. R. Giles. Ptr Ink
120:3-4+ JI 27 '22; Discussion. 120:93-4, 123-
4 Ag 3-10 '22

Specific gravity

Change of density of iron due to overstrain.
J. W. London. Iron & Steel Inst J 107:
455-63 no 1 '23

Continuous specific gravity recorder. P. W.
Codwise. Il diag Paper Tr J 75:54-6 N 16
'22

Densities of important industrial gases. M. S.
Blanchard. Chem & Met Eng 29:399-400 S 3
'23

Specific gravity—Continued

- Determination of the specific gravity of coke. W. A. Selvig and W. L. Parker. *Chem & Met Eng* 28:547-50 Mr 21 '23
- Determination of the true specific gravity of coke. H. J. Rose. *J Ind & Eng Chem* 14: 1047-9 N '22
- Effect of variation in weight of the riders and plummets of the Westphal balance upon the accuracy of specific-gravity determinations. E. A. Tschudy. *Am Chem Soc J* 44:2130-5 O '22
- Get specific gravity by effusion. D. Wilson. *diags Gas Age* 50:321-2 S 9 '22
- Lubrication—specific gravity of petroleum. W. F. Osborne. *il Power* 55:138 Ja 24 '22
- Modified specific gravity tester of gas. R. B. Wailes. *il diag Gas Age* 51:732 Je 9 '23
- New specific-gravity apparatus for natural gas. T. R. Weymouth, R. P. Anderson and J. R. Fay. *Ind & Eng Chem* 15:358-9 Ap '23
- Simple method of determining apparent densities. K. K. Dodds. *Chem & Met Eng* 29: 324-5 Ag 20 '23
- Specific gravity of anhydrous nickelous chloride; the determination of specific gravity by displacement of air. G. P. Baxter and F. A. Hilton, jr. *Am Chem Soc J* 45:700-2 Mr '23
- Specific gravity of gas. *Coal Age* 22:456 S 21 '22

See also Gravity

Specific heat

- Atomic heats of cadmium and tin at low temperatures. W. H. Rodebush. *Am Chem Soc J* 45:1413-16 Je '23
- Effect of variable specific heat on the discharge of gases through orifices or nozzles. W. J. Walker. *Philos Mag* 6th ser 43:389-93 Mr '22
- Entropy of diatomic gases and rotational specific heat. R. C. Tolman and R. M. Badger. *Am Chem Soc J* 45:2277-85 O '23
- Heat-temperature curves of metals. J. F. Shadgen. *Iron Age* 110:218-22 Jl 27 '22
- Measurement of specific heat of superheated ammonia. E. F. Mueller. *Refrig Eng* 9:1-2; Discussion. 2-3 Jl '22
- Note on the theory of the specific heat of liquids. F. A. Lindemann. *Philos Mag* 6th ser 45:1119-20 Je '23
- Oscillations of temperature of an incandescent filament, and the specific heat of tungsten. K. K. Smith and P. W. Bigler. *Phys R* 19:268-70 Mr '22
- Relation between entropy and probability; the integration of the entropy equation. G. A. Linhart. *Am Chem Soc J* 44:140-2 Ja '22
- Simple formula for the calculation of the specific heats of solids. *Am Chem Soc J* 44:784-6 Ap '22
- Specific heat. *Eng & Contr* 57:574 Je 14 '22
- Specific heat of calcium chloride and magnesium chloride brines as used in refrigeration. W. Koch. *Refrig Eng* 9:19-20 Jl '22
- Specific heat of tungsten. P. F. Gaehr. *Phys R* 20:375-6 O '22
- Specific heats of ammonia, sulphur dioxide, and carbon dioxide. J. R. Partington and H. J. Cant. *diags Philos Mag* 6th ser 43: 369-80 F '22
- Specific heats of gases and vapors. A. Witz. *Mech Eng* 45:663 N '23
- Specific heats of gases with special reference to hydrogen. C. K. Ingold and E. H. Usherwood. *Chem Soc J* 121:2286-91 O '22
- Specific heats of nitrous and nitric oxides. J. R. Partington and W. G. Shilling. *diag Philos Mag* 6th ser 45:416-30 Mr '23
- Specific heats of polyatomic gases at low temperatures. R. W. Millar. *Am Chem Soc J* 45:874-81 Ap '23
- Tables and diagrams for water vapor computed on the basis of its specific heat. O. Knoblauch, E. Raisch and H. Hausen. *diags Mech Eng* 45:538-40 S '23
- Theory of the specific heat of liquids. K. Honda. *Philos Mag* 6th ser 45:189-92 Ja '23

Theory of the temperature variation of the specific heat of hydrogen. E. C. Kemble and J. H. Van Vleck. *Phys R* 21:653-61 Je '23

Thermo-electric force, the entropy of electrons, and the specific heat of metals at high temperatures. W. M. Latimer. *Am Chem Soc J* 44:2136-48 O '22

Third law of thermodynamics; evidence from the specific heats of glycerol that the entropy of the glass exceeds that of a crystal at the absolute zero. G. E. Gibson and W. F. Giaque. *diag Am Chem Soc J* 45:93-104 Ja '23

Vapor pressures, densities and some derived quantities for ether at low temperatures. R. S. Taylor and L. B. Smith. *diags Am Chem Soc J* 44:2450-63 N '22; Same. *Refrig Eng* 9:335-40 My '23

La variation de la chaleur spécifique des gaz avec la température d'après les travaux les plus récents. H. Muraur. *bibliog Chimie & Ind* 10:23-9 Jl '23; Abstract. *Mech Eng* 45: 712 D '23

Variation of the specific heat of air with temperature. J. R. Partington. *diags Engineering* 115:82-3 Ja 19 '23

Specific volume

Specific volume of liquid ammonia. C. S. Cragoe and D. R. Harper. *diags U S Bur Stand Sci Pa* 420:287-315 '21

Specific volume of saturated ammonia vapor. C. S. Cragoe, E. C. McKelvy and G. F. O'Connor. *U S Bur Stand Sci Pa* 467:707-35 '23; Same. *Refrig Eng* 9:239-48+ F '23; Abstract. *Mech Eng* 45:313 My '23

Specification institute, American. *See American specification institute*

Specifications

Writing the specification. L. R. Holske. *Eng & Contr* 56:472 N 23 '21

See also Standards, Engineering; also subdivision Specifications under various subjects, e.g. Bridges—Specifications; Building—Specifications; Roads—Specifications; Steel—Specifications; also American specification institute

Spectacles

Research and spectacles; the lensometer, for measuring the true power of ophthalmic lenses. C. Sheard. *il diags Sci Am* 128:21 Ja '23

Spectacles and eyeglasses. R. J. Phillips. 5th ed. rev. 89p Blakiston '23

See also Glass, Optical; Lenses

Advertising

Far-visioned advertiser creates fashions in glasses. E. Hungerford. *il Ptr Ink* 122:3-4+ Mr 22 '23

Spectra. *See Spectrum*

Spectrograph

Notes on standard wave lengths, spectrographs, and spectrum tubes. W. F. Meggers and K. Burns. *il diags plan U S Bur Stand Sci Pa* 441:185-99 '22

Some problems of the mass-spectrograph. F. W. Aston and R. H. Fowler. *diags Philos Mag* 6th ser 43:514-28 Mr '22

Spectrographie. A. Kling and A. Lassieur. *il diag Chimie & Ind* 6:754-64 D '21

See also Spectrophotometer

Spectrometer

Hilger chemical spectrometer. *diags Engineering* 114:77 Jl 21 '22

Production of coloured flames for use with spectrometers and polarimeters. J. J. Manley. *diag Philos Mag* 6th ser 45:336-7 F '23

Spectrophotometer

Modified form of double slit spectrophotometer. A. L. Narayan. *Philos Mag* 6th ser 43:662-3, pl 14 Ap '22

Practical uses for the spectroscopie: the Fery spectrograph. *il Sci Am* 127:259 O '22

Spectroscope and spectrophotometer and their application to the identification and analysis of dyes. H. Wales. *il Am Dyestuff Rep* 12:751-5, 791-3, 855-7, 863-6 O 22-D 3 '23

Spectrophotometry

Plotting of spectrophotometric data. F. A. Benford. *Illum Eng Soc* 18:67-85 Ja '23;
Same cond. *Am Inst E E J* 42:269-71 Mr '23; Discussion. *Illum Eng Soc* 18:85-92 Ja '23

Spectrophotometric identification of dyes. W. C. Holmes. *Ind & Eng Chem* 15:833-6 Ag '23

Spectroscope and spectroscopy

Illumination of the spectroscopy with end-on vacuum tubes. T. R. Merton and R. C. Johnson. *Philos Mag* 6th ser 46:448-9, pl 9 S '23

Eine neue methode zur absorptions-spektro-graphie. W. Gerlach and E. Koch. *diags Deutsche Chem Gesell Ber* 55:695-7 Mr '22

Spectroscope and spectrophotometer and their application to the identification and analysis of dyes. H. Wales. *il Am Dye-stuff Rep* 12:751-5, 791-3, 855-7, 863-6 O 22-D '23

Spectroscopy of dyes. W. C. Holmes. *Color Tr J* 13:6-9 Jl '23

Spectrum

Appearance of unsymmetrical components in the Stark effect. A. M. Mosharrafa. *Philos Mag* 6th ser 43:943-52 My '22

Atomic hydrogen and the Balmer series spectrum. R. W. Wood. *Philos Mag* 6th ser 44:538-46 S '22

Atomic structure and spectral lines; tr. from 3d German ed. A. Sommerfeld. 626p Dutton '22

Auroral spectrum and the upper strata of the atmosphere. L. Vegard. *Philos Mag* 6th ser 46:193-211 Jl '23

Certain assumptions in the quantum-orbit theory of spectra. W. M. Hicks. *Philos Mag* 6th ser 44:346-51 Ag '22

Constitution of the upper strata of the atmosphere. L. Vegard. *diags Philos Mag* 6th ser 46:577-604, pl 10 O '23

Correlation of atomic structure and spectra. H. S. King. *Am Chem Soc J* 44:323-8 F '22

Critical electron energies in helium, and the extreme ultra-violet spectrum. A. C. Davies. *Philos Mag* 6th ser 45:786-98 Ap '23

Critical potentials of the thorium M series lines. P. A. Ross. *il diags Phys R* 22:221-5 S '23

Disappearing gap in the spectrum. O. W. Richardson. *Engineering* 113:691 Je 2 '22

Distribution of energy in the lines of the Balmer series of hydrogen. R. T. Beatty. *Philos Mag* 6th ser 45:1080-1 My '23

Distribution of intensity in the broadened Balmer lines of hydrogen. E. O. Hulburt. *il diags Phys R* 22:24-36 Jl '23

Emission spectrum of monatomic iodine vapour. St Landau-Ziemecki. *diags Philos Mag* 6th ser 44:651-6 S '22

Evaluation of the colours of the spectrum in terms of the three primary colours. R. A. Houston and E. Dow. *diags Philos Mag* 6th ser 45:169-76 Ja '23

Excitation of the enhanced spectrum of magnesium in a low voltage arc. P. D. Foote, W. F. Meggers and F. L. Mohler. *diag Philos Mag* 6th ser 42:1002-15 D '21

Fluorescence spectrum of benzene vapour. W. H. McVicker and J. K. Marsh. *Chem Soc J* 123:820-2 Ap '23

Grouping of the lines of the secondary spectrum of hydrogen. K. Basu. *Philos Mag* 6th ser 46:417-20 S '23

Hydrogen spectra from long vacuum tubes. R. W. Wood. *diag Philos Mag* 6th ser 42:729-45, pls 21-2 N '21

Influence of foreign gases on the secondary spectrum of hydrogen. S. Barratt. *Philos Mag* 6th ser 46:627-9 O '23

Intensities in the hydrogen spectrum. A. L. Hughes and P. Lowe. *Phys R* 21:292-300 Mr '23

Interference measurements in the spectra of argon, krypton, and xenon. W. F. Meggers. *U S Bur Stand Sci Pa* 414:193-202 '21

Ionization and resonance phenomena. C. B. Bazzoni. *diags J Fr Inst* 196:627-51 N '23

Low voltage arcs in diatomic gases. O. S. Duffendack. *diags Phys R* 20:665-87 D '22

Mass-spectra of chemical elements. F. W. Aston. *Philos Mag* 6th ser 45:934-45, pl 13 My '23

Modern electrical theory; series spectra. N. R. Campbell. 109p Macmillan '21

Notes on standard wave lengths, spectrographs, and spectrum tubes. W. F. Meggers and K. Burns. *il diags plan U S Bur Stand Sci Pa* 441:185-99 '22

Observations and experiments on the occurrence of spark lines (enhanced lines) in the arc. G. A. Hemsalech and A. de Gramont. *Philos Mag* 6th ser 43:287-306, 834-71, pl 3-5, 17-21 F, My '22

On the scope of spectroscopy; some problems and results. E. Karrer. *Gen Elec R* 25:513-18 Ag '22

Origin of spectra. P. D. Foote and F. L. Mohler. 250p Chemical catalog co. '22

Origin of spectra. J. C. McLennan. *Engineering* 116:422-3 O 5 '23

Phenomenon of the radiant spectrum observed by Sir David Brewster. C. V. Raman. *Philos Mag* 6th ser 43:357-8 F '22

Relative intensities of Stark effect components in the helium spectrum. J. S. Foster. *Phys R* 20:214-20, pl 5 S '22

Relative visibility of spectra when an electric discharge is passed through the vapours of alkali amalgams. F. H. Newman. *diag Philos Mag* 6th ser 45:181-9, pl 1 Ja '23

Series in the arc spectrum of molybdenum. C. C. Kiess. *U S Bur Stand Sci Pa* 474:113-29 '23

Simple method of extending the Balmer series of hydrogen in a vacuum tube. R. Whiddington. *Philos Mag* 6th ser 46:605-7 O '23

Spectra of hydrogen, nitrogen and oxygen in the extreme ultraviolet. J. J. Hopfield. *diag pl Phys R* 20:573-88 D '22

Spectra of the lighter elements; discussion. *Engineering* 116:423-5, 452 O 5-12 '23

Spectroscopic investigation of internal combustion. T. Midgley, Jr., and W. K. Gilkey. *il diags Soc Auto Eng J* 10:218-19+ Mr '22; Discussion. 10:333-4 My '22

Spectrum of aurora. *Am J Sci* 5th ser 4:324-5 O '22

Spectrum of the semi-circular helium model. H. O. Newbould. *Philos Mag* 6th ser 45:1085-7 My '23

Stark effect for strong electric fields. A. M. Mosharrafa. *Philos Mag* 6th ser 44:371-3 Ag '22; Discussion. H. O. Newbould. 45:1081-5 My '23

Talbot's bands and the theory of the Lummer-Gehrcke interferometer. N. K. Sethi. *Phys R* 18:389-95, pl 1 N '21

Temperature ionization of elements of the higher groups in the periodic classification. M. N. Saha. *Philos Mag* 6th ser 44:1128-39 D '22

Tesla-luminescence spectra; some mono-substitution products of benzene. W. H. McVicker, J. K. Marsh and A. W. Stewart. *il Chem Soc J* 123:2147-63, pl 1 S '23

Tesla-luminescence spectra; the effect of varying temperature and pressure on the benzene spectrum. W. H. McVicker and J. K. Marsh. *Chem Soc J* 123:817-20 Ap '23

Tesla-luminescence spectra; the form of apparatus and the spectrum of benzene. W. H. McVicker, J. K. Marsh and A. W. Stewart. *il diags Chem Soc J* 123:642-54 Mr '23

Theoretical aspects of the neon spectrum. L. St. C. Broughall. *diag Philos Mag* 6th ser 44:204-14 Jl '22

Theory of generalized quanta and the Balmer lines. S. C. Kar. *Philos Mag* 6th ser 45:610-21 Mr '23

Theory of spectra and atomic constitution. N. H. D. Bohr. 126p Macmillan '22

Theory of spectra and atomic constitution; Bohr's theory. W. L. Bragg. *Soc Chem Ind J (Chem & Ind)* 42:690-2 Jl 13 '23

Two new lines in the aluminum spectrum and their possible series relations. G. D. Shallenberger. *Phys R* 19:398-9 Ap '22

Vacuum spark spectrum of silicon. R. A. Sawyer and R. F. Paton. *Phys R* 19:256-7 Mr '22

Variability of spectra. T. R. Merton. *il Engineering* 113:332-4 Mr 17 '22

Spectrum—Continued

Visibility of individual spectra. F. H. Newman. *Philos Mag* 6th ser 45:293-9, pl 3 F '23

Wave-length measurements in arc spectra photographed in the yellow, red, and infra-red. F. M. Walters, jr. *U S Bur Stand Sci Pa* 411:161-77 '21

Wave length measurements in the arc spectra of gadolinium and dysprosium. C. C. Kiess. *U S Bur Stand Sci Pa* 466:695-706 '23

Wave length measurements in the arc spectra of neodymium and samarium. C. C. Kiess. *U S Bur Stand Sci Pa* 442:201-19 '22

Wave-lengths longer than 5500 Å in the arc spectra of yttrium, lanthanum, and cerium and the preparation of pure rare earth elements. C. C. Kiess, B. S. Hopkins and K. C. Kremers. *U S Bur Stand Sci Pa* 421:317-51 '21; Abstract. *J Fr Inst* 192:802-5 D '21

See also Infra-red rays; Light; Spectrum analysis; Ultra-violet rays

Absorption spectra

Absorption of potassium vapour. A. L. Narayan and D. Gunnayya. *Philos Mag* 6th ser 45:831-4, pl 12 My '23

Absorption produced by electrically luminescent sodium vapour. F. H. Newman. *diag Philos Mag* 6th ser 46:22-8, pl 1 JI '23

Absorption spectra of nitrosylsulfuric acid and of the complex compounds of copper sulfite and of ferrous sulfate with nitric oxide. H. I. Schlesinger and A. Salathe. *Am Chem Soc J* 45:1863-78 Ag '23

Absorption spectra of phenylazophenol and its derivatives. A. W. Smith and C. E. Boord. *diags Am Chem Soc J* 44:1449-55 JI '22

Absorption spectra of the vapours of various quinones. J. E. Purvis. *il Chem Soc J* 123:1841-9 Ag '23

Absorption spectrum and its relationship to color. H. Wales. *Am Chem Soc J* 45:2420-30 O '23

Effect of certain dissolved substances on the infra-red absorption of water. J. R. Collins. *diag Phys R* 19:395-8; 20:486-98 Ap, N '22

Emission and absorption of halogens in the visible and ultra-violet regions. A. L. Narayan and D. Gunnayya. *Philos Mag* 6th ser 45:827-30, pl 11 My '23

Infra-red absorption spectra of alkali hydroxides. G. E. Grantham. *diags plan Phys R* 18:339-49 N '21

Labile nature of the halogen atom in organic compounds; absorption spectra of the halogen derivatives of some cyclic compounds, and their bearing on the question of an oxygen-halogen linking. H. Graham and A. K. Macbeth. *Chem Soc J* 121:2601-8 N '22

Labile nature of the halogen atom in organic compounds; the absorption spectra of bromomalonate derivatives and nitroparaffins, and their bearing on the question of an oxygen-halogen linking. H. Graham and A. K. Macbeth. *Chem Soc J* 121:1109-15 Je '22

Observations on the rare earths; studies in the absorption spectra. L. F. Yntema. *Am Chem Soc J* 45:907-15 Ap '23

Rotatory and refractive dispersions and the absorption spectrum of d-γ-nonyl nitrite. R. H. Pickard and H. Hunter. *Chem Soc J* 123:434-44 Mr '23

Source of light giving a continuous spectrum in the ultra-violet. W. H. Fulweiler and J. Barnes. *il diags J Fr Inst* 194:83-6 JI '22

Spectral transmissive properties of dyes; seven permitted food dyes, in the visible, ultra-violet, and near infra-red. K. S. Gibson and others. *il diags U S Bur Stand Sci Pa* 440:121-84 '22; Abstract. *Color Tr J* 11:239-41 D '22

Spectrophotometric study of solutions of cupric chloride. F. H. Getman. *J Phys Chem* 26:217-46 Mr '22

Studies in catalysis; absorption spectra of triethylsulphonium bromide in various solvents, in the short infra-red region. H. A. Taylor and W. C. M. Lewis. *Chem Soc J* 121:665-75 Ap '22

Studies in organic compounds containing sulphur; the effect on general absorption due to the valency and mode of linkage of the sulphur atom. D. T. Gibson, H. Graham and J. Reid. *Chem Soc J* 123:874-81 Ap '23

Ultra-violet absorption spectra of eugenol and isoeugenol. G. Thompson. *Chem Soc J* 123:1594-7 Je '23

Spectrum, X-ray

Absolute scale of X-ray wave-lengths. O. B. Overn. *Phys R* 18:350-5 N '21

Continuous spectral energy distribution within the X-ray tube. P. Kirkpatrick. *Phys R* 22:37-47 JI '23

Effect of damping on the width of X-ray spectrum lines. G. E. M. Jauncey. *Phys R* 19:64-7 Ja '22

Extension of the X-ray spectrum to the ultraviolet. E. H. Kurth. *diag Phys R* 18:461-76 D '21

Principle of combination and Stokes' law in the X-ray series. D. Coster. *Phys R* 19:20-3 Ja '22

Relative intensity of X-ray lines. F. C. Hoyt. *Philos Mag* 6th ser 46:135-45 JI '23

Relativistic Röntgen L-doublets and the screening constant. J. B. Green. *Phys R* 21:397-401 Ap '23

Spectra of X-rays and the theory of atomic structure. D. Coster. *Philos Mag* 6th ser 43:1070-1107, pl 23; 44:546-73 Je, S '22

Width of X-ray spectrum lines. A. H. Compton. *Phys R* 19:68-72 Ja '22

Spectrum analysis

Positive ray analysis of lithium magnesium. A. J. Dempster. *diags Phys R* 18:415-22 D '21

Practical spectrographic analysis. W. F. Meggers, C. C. Kiess and F. J. Stimson. *il diags U S Bur Stand Sci Pa* 444:235-55 '22

Report on series in line spectra. A. Fowler. 182p Fleetway press, London '22

Spectrographie. A. Kling and A. Lassieur. *il diag Chimie & Ind* 6:754-64 D '21

Spectrum analysis in an industrial laboratory: with discussion. W. H. Bassett and C. H. Davis. *Metal Ind* 20:94-5 Mr '22

Same. *Min & Met* 182:62-3 F '22

Treatise on the analysis of spectra. W. M. Hicks. 326p Macmillan '22

Wavelength tables for spectrum analysis. F. Twyman. [Ref. p.100-6.] 106p A. Hilger, London '23

See also Infra-red rays; Light; Spectrophotometer; Ultra-violet rays

Speculation

La nouvelle loi sur la spéculation illicite. A. Laine. *Génie Civil* 81:444-5 N 11 '22

Restraining order in proceedings to test validity of Grain futures act. *Comm & Fin Chr* 115:2117-18 N 11 '22

Speculation, its sound principles and rules for its practice. T. T. Hoyne. 279p Economic feature service, Chicago '22

See also Investments; Risk bearing; Securities; Stock exchange

Speech

Analysis of the energy distribution in speech. I. B. Crandall and D. MacKenzie. *diags Phys R* 19:221-32 Mr '22

Nature of speech and its interpretation. H. Fletcher. *diags J Fr Inst* 193:729-47 Je '22

See also Phonetics

Speed

Simplified approximations of critical speeds. G. Arrowsmith. *Engineering* 112:717-20 N 25 '21

See also Airplanes—Speed; Automobiles—Speed; Railroads—Train speed; Ships—Speed

Speed indicators

Ship's log and speed indicator. *il Elec R (Lond)* 91:28 JI 7 '22

See also Accelerometer; Stroboscopic instruments; Tachograph; Tachoscope

Speed variation

Adjustable speed main roll drives. A. K. Bushman. *il Gen Elec R* 26:681-7 O '23

Close regulation. H. W. Phillips. *diags Power* 58:495-8 S 25 '23

Speed variation—Continued

Differential mechanism for large speed reduction. E. E. Lakso. *il diags Mach* 29:559-60 Mr '23

Electrical control for a hot strip mill at the West Leechburg steel company. M. J. Wohlgemuth. *il diags Elec J* 20:322-5 S '23

Oilgear variable-speed power transmission and feed-control system. *diag Power* 54:1018 D 27 '21

Some methods of obtaining adjustable speed with electrically driven rolling mills. K. A. Pauly. *il diags Eng Soc W Pa* 37:158-78 Ap '21; Same. *Gen Elec R* 24:422-32 My '21; Same cond. *Iron Age* 108:1595-8 D 22 '21; Abstract. *Sci Am M* 4:87 J1 '21; Discussion. *Eng Soc W Pa* 37:179-88 Ap '21; *Iron Age* 108:1598-1600 D 22 '21

Speed-changing mechanism. R. E. Bates. *diags Mach* 29:137 O '22

Speed reduction by differential gearing. F. C. Penny. *diags Mach* 28:828-9 Je '22

Speed regulator for individual-motor reel drive. J. H. Ashbaugh. *il diag Elec J* 20:317-19 S '23

Speedometers

Electric speedometer for safe ship navigation; the new electric submerged log. *il Sci Am* 128:377 Je '23

New model of speedometer. *diags Automotive Ind* 45:1053 D 1 '21

Something new in speedometers. *il Sci Am* 129:117 Ag '23

See also Odometer

Speedways

Auto speedway built under difficulties. *il diag Pop Mech* 38:730-1 N '22

Grunewald automobile race-course, Berlin. A. Gradenwitz. *il Sci Am* 126:48 Ja '22

World's fastest speedway stages first event. *il Pop Mech* 38:910-11 D '22

Spelling

English orthography. F. H. Teall. *Inland Ptr* 68:370 D '21

Our capricious spelling. F. H. Teall. *Inland Ptr* 69:88 Ap '22

Spelling reform

Simplified spelling as an inquiry puller. D. M. Hubbard. *Ptr Ink* 118:113-14+ F 9 '22

Spencer, Christopher Miner, 1833-1922

Abraham Lincoln and the repeating rifle; other inventions of C. M. Spencer. *il Sci Am* 125A:102-3 D '21

Sketch. *por Am Mach* 56:160a Ja 26 '22

Spent oxide. See Iron oxides**Speyer, Edgar**

Revocation of British naturalization of Sir Edgar Speyer. *Comm & Fin Chr* 114:129-30 Ja 14 '22

Spices

Spices give evidence of coming advertising activity. *Ptr Ink* 123:57-8 Je 21 '23

Spiegeleisen

Prices of spiegeleisen, 1914 to 1922. *Iron Age* 111:73 Ja 4 '23

Spillways

Experiments with models of the Gilboa dam and spillway. R. W. Gausmann and C. M. Madden. *il diags plans Am Soc C E Pro* 48:1503-28 S '22

Flood discharge and the dimensions of spillways in India. G. B. Williams. *Engineer* 134:321-2 S 23 '22

New Orleans engineers recommend spillways near city. *map Eng N* 90:21-4 Ja 4 '23

Repairing the spillway to the Gibraltar dam. R. A. Hill. *il diags plan Eng N* 89:798-801 N 9 '22

Reservoir spillway discharge studies. F. H. Macy. *Eng N* 90:361 F 22 '23

Siphon spillway in the O'Shaughnessy dam. G. F. Stickney. *diag Eng & Contr (W W)* 60:574 S 12 '23

Siphon spillways. G. F. Stickney. *il diags Am Soc C E Pro* 48:175-94 F '22; Discussion. 48:1015-30, 1303-4 Ap-May '22

Spillway of Elephant Butte dam completed. *Eng N* 89:567 O 5 '22

Surge tank and spillway combined on Pit river plant no. 1. *il diags plan Eng N* 91:630-2 O 18 '23

Sweetwater dam siphon spillways function for first time. *il Eng N* 89:195-6 Ag 3 '22

Les vannes automatiques à secteurs du barrage de San Chiara d'Ula, sur le Tirso (Sardaigne). *diags plan Génie Civil* 81:326-7 O 7 '22

Why the spillway will not solve the Mississippi problem. C. M. Townsend. *Eng N* 90:24-7 Ja 4 '23; Discussion. 90:362-4 F 22 '23

See also* Dams*Spinacene**

Spinacene; its oxidation and decomposition. A. C. Chapman. *Chem Soc J* 123:769-79 Ap '23

Spindles

High-speed spindle for screw machine. *diags Mach* 29:709-10 My '23

High-speed spindles for screw machines. L. D. Burlingame. *il diags Mach* 30:29-31 S '23

Spinel

Electronic structures of the spinels. M. L. Huggins. *diags Phys R* 21:509-16 My '23

Spinning

Hand spinning and weaving. J. A. Hunter. *Textile World* 64:1809+ S 29 '23

Report of spinners' division at Southern textile association meeting. C. R. Harris. *Textile World* 63:4177-8 Je 30 '23

See also Carding machines; Cotton spinning; Textile fabrics; Textile industry

Bibliography

Hand-spinning and hand-weaving. W. B. Gamble. 41p New York public library '22

Spinning, Metal. See Metal spinning**Spinning machinery**

Combination of flyer and ring spinning—solid wood bobbin. *diag Textile World* 60:3389+ D 10 '21

Long-drafting of roving. *Textile World* 62:3439+ D 16 '22

Mechanical doffer for cap spinning frames with any type of cap or bobbin. *diags Textile World* 62:2663 N 4 '22

Mechanical drive for ring spinning frames. *diags Textile World* 64:837+ Ag 11 '23

New French-system machinery. *il Textile World* 61:2444 Ap 29 '22

Ring mule frame. *diag Textile World* 62:891 Ag 12 '22

Roller bearings on spinning frames. C. W. Nugent, jr. *Textile World* 61:2455+ Ap 29 '22

Saco-Lowell ring roving frame for worsted mills. *il Textile World* 63:4201 Je 30 '23

See also Creels; Textile machinery

Cleaning

Scouring of spinning rolls. *Textile World* 62:2769+ N 11 '22

Manufacture

Machining the roll stand for a worsted spinning frame. M. H. Ames. *il Am Mach* 59:359-61 S 6 '23

Spiral gearing. *See* Gearing, Spiral

Spirans. *See* Spiro compounds

Spirit photography. *See* Photography, Spirit

Spiro compounds

Formation and stability of spiro-compounds; spiro-compounds derived from cycloheptane. J. W. Baker and C. K. Ingold. *Chem Soc J* 123:122-33 Ja '23

Formation and stability of spiro-compounds; the application of the Dieckmann reaction to esters of the glutaric series. G. A. R. Kon. *Chem Soc J* 121:513-26 Mr '22

Formation and stability of spiro-compounds; the Dieckmann-Kompa reaction. F. Dickens, G. A. R. Kon and J. F. Thorpe. *Chem Soc J* 121:1496-1506 Ag '22

Formation and stability of spiro-compounds; the influence on stability of groups of high molecular weight. S. F. Birch and J. F. Thorpe. *Chem Soc J* 121:1821-37 S '22

Spiro compounds—Continued

Über den nachweis der besonderen spiran-
asymmetrie durch darstellung eines optisch-
aktiven spirans. H. Leuchs, E. Conrad und
H. v. Katinsky. Deutsche Chem Gesell Ber
55:2131-9 J1 '22; Abstract. Chem Soc J 122 pt
1:873-4 S '22

Über die darstellung des bis-hydrocarbo-
styrill-3,3-spirans und seine nebenprodukte.
H. Leuchs und H. v. Katinsky. Deutsche
Chem Gesell Ber 55:710-23 Mr '22; Abstract.
Chem Soc J 122 pt 1:471-2 My '22

Spirulirostra

American spirulirostra. E: W. Berry. il Am
J Sci 5th ser 3:327-34 My '22

Spitsbergen

Spitsbergen. T. A. Rickard. Eng & Min J
115:304 F 17 '23

Splashes

On sounds of splashes. A. L. Narayan. Philos
Mag 6th ser 42:773-5, pl 23 N '21

Splicing. See Keys and keyways (machinery)**Split infinitives.** See Infinitives**Spokane, Washington****Architecture**

Most notable examples of architecture of a
city—what are they? C: H. Cheney. il plans
Arch Forum 36:61-6, pl 23-4 F '22

Rapid transit

Agreement in Spokane; railway wins over
jitney. Elec Ry J 59:658 Ap 15 '22

Sewerage

Spokane intercepting sewer design, construc-
tion and assessment. A. D. Butler. il Eng
N 89:890-1 N 23 '22

Spondylitis deformans

Unusual form of pliocene pathology. R. L.
Moodie. il Am J Sci 5th ser 5:334-6 Ap '23

Sponges

Sponges. E. J. J. Cresswell. 126p Pitman

Spontaneous combustion

Causes of fires that are hard to trace and
how to avoid them. W. L. Wedger. Safety
Eng 44:128-30+ S '22

Factors in the spontaneous combustion of
coal. O. P. Hood. U S Bur Mines Tech Pa
311:1-9 '22; Abstracts. Am Gas J 117:92-3 J1
29 '22; Power 56:392-3 S 5 '22; Am Soc Heat
& V E J 28:654 S '22

1st report of the Departmental committee on
spontaneous combustion of coal in mines.
5v Gt. Brit. Mines dept., London '14-'21

Inherent fire hazard of sisal. Safety Eng 46:
135-7 S '23

Saving the coal pile. il Locomotive 34:67-73
J1 '22

Spontaneous combustion of stored coal and
the conditions that favor it. Coal Age 23:
528 Mr 29 '23

See also Coal storage

Spooling machines

Evolution of spooler tension device. R: E.
Naumburg. il Textile World 60:2682+ N 5
'21

Spools, Metal

Dies for producing metal spools. S. A. Mc-
Donald. diags Mach 29:782-3 Je '23

Sporting goods**Advertising**

By-product plus advertising equals world-
wide business for Thos. E. Wilson & co.
G. A. Nichols. Ptr Ink M 6:21-2+ My '23

Spraying and dusting

How to make a potato-plant sprayer. G: G.
McVicker. diags Pop Mech 37:795-6 My '22

Potato-plant sprayer mounted on motor-cycle.
il Pop Mech 38:226 Ag '22

Spraying trees from the air. il Sci Am 126:
333 My '22

Wheelbarrow spraying outfit. L. B. Robbins.
il diags Pop Mech 38:143-4 J1 '22

Spraying materials

Expression of quantity of water-soluble
arsenic present in commercial lead arsen-
ates. C. A. Klein and W. Hulme. Ind &
Eng Chem 15:745-6 J1 '23

See also Bordeaux mixture; Insecticides

Spreading coefficient

Films; the spreading of liquids and the
spreading coefficient. W: D. Harkins and
A. Feldman. Am Chem Soc J 44:2665-85 D
'22

Springer, Alfred

Sketch. E: Hart. por Ind & Eng Chem 15:863
Ag '23

Springfield, Illinois**Streets**

Complete reconstruction of down town
streets of Springfield, Ill. W. D. Seeley.
Munic Eng 65:141-3 O '23

Springfield, Massachusetts**Bridges**

Piers and abutments of the Springfield
bridge. il Pub Works 52:417-19 Je 10 '22
Springfield-West Springfield bridge. il diags
plan Pub Works 52:365-8, 384-6 My 20-27
'22

Steel rib reinforcement used for concrete
arch centers in bridge across Connecticut
river at Springfield, Mass. il diags plans
Eng N 88:514-19 Mr 30 '22

Springfield, Massachusetts, vocational school

Industrial schools in Springfield, Mass. il Am
Mach 56:561 Ap 13 '22

Springs

Beiträge zur untersuchung und kenntnis von
natürlich vorkommenden gasen. F. Henrich
und G. Prell. diags Deutsche Chem Gesell
Ber 55:3021-5 O '22

See also Hot springs

Springs (mechanism)

Calculation of elliptic springs. W. H. Arm-
strong. Ry Mech Eng 96:438-40 Ag '22

Common fallacy in the calculation of exten-
sion springs. J. W. Rockefeller, jr. Mach
29:558 Mr '23

Form of pump-valve springs. Power 57:731,
909 My 8, Je 5 '23

General method for spring design. J. K.
Wood. chart diags Am Mach 55:757-62 N
10 '21; Discussion. A. J. Strong. 56:722 My
11 '22

Graphic representation of absorption of im-
pact by springs. L. H. Mann. Mach 28:554-5
Mr '22

Marquette even-pressure spring cushion for
punch presses. il Am Mach 56:463 Mr 23
'22

Nested steel compression springs. T. F.
Stacy. charts Am Mach 55:795-6 N 17 '21

Oscillations and fatigue of springs. J. K.
Wood. diags Am Mach 58:67-70, 113-17, 155-
8, 185-7 Ja 11-F 1 '23

Practical helical spring calculation. A. Taub.
Am Mach 56:179-83 F 2 '22

Removing and replacing valve springs. H. H.
Parker. diags Pop Mech 39:813 My '23

Springs for electrical instruments. B. W. St
Clair. il Gen Elec R 25:562-4 S '22

Volute journal box springs. il diag Ry Mech
Eng 96:561 O '22

See also Automobiles—Springs; Car
springs; Motor buses—Springs; Motor trucks
—Springs

Manufacture

Designing and making of wire springs. J. H.
Sullivan. Iron Age 112:413-14 Ag 16 '23

Die for cutting short lengths of coil spring.
H. M. Fay. diags Am Mach 57:116 J1 20 '22

Die for slotting sides of coil spring. diags
Mach 29:392-3 Ja '23

Grinding in the manufacture of leaf springs.
Mach 29:272-3 D '22

Grinding the eyes of leaf springs. il Mach 30:
119 O '23

Spring winding by hand. C. J. Dorer. diags
Am Mach 57:810 N 23 '22

Springs (mechanism)—Continued**Testing**

- Magnetic testing of springs. T. Spooner and I. F. Kinnard. *il diag Am Soc T M Pro* 21: 883-90 '21
- Spring testing machine. C. L. Burns. *il Am Mach* 59:564 O 11 '23
- Test gage for flat springs. E. W. LaRue. *diags Am Mach* 56:383 Mr 9 '22

Sprinklers

- Novel sprinkler for golf greens. G. H. Dacy. *il Sci Am* 126:48 Ja '22
- Portable sprinklers with power-driven pumps. *il Pop Mech* 38:705 N '22

Sprinkling systems

- Automatic sprinkler protection: supplement three. G. Dana. 42p Wiley '23
- Control of fire by automatic sprinklers. I. G. Hoagland. *il Safety Eng* 46:25-7 J1 '23
- Dispositifs automatiques de protection des édifices contre l'incendie. J. Michaut. *il diags Génie Civil* 80:295-9 Ap 1 '22
- Extinguishing textile mill fires. J. A. Collins, Jr. *il Textile World* 61:1407+ Mr 4 '22
- Safeguarding life by automatic fire control. H. A. Fiske. *Am Ind* 24:22-4 O '23
- Sprinkler heads in automatic fire protection systems need care. C. C. Brown. *Eng N* 90:869 My 17 '23; Discussion. 90:1097 Je 21 '23

See also Fire protection

Advertising

- Advertising campaign arranged in acts like a play. R. Cole. *Ptr Ink M* 6:59-60 My '23

Sprocket wheels**Standards**

- Roller chains and roller-chain sprockets; proposed revision of S.A.E. standards. *Soc Auto Eng J* 12:219 F '23
- Roller chains and sprockets; report of the joint committee. *Mech Eng* 45:500-3+ Ag '23

Spruce

- Contribution to the knowledge of the constitution of spruce wood lignin. P. Klason. *Paper Tr J* 74:283+ Ap 13 '22; Same. *Tech Assn Pa* ser 5:52-5 Je '22
- Contributions to a more exact knowledge of the chemical composition of spruce wood. P. Klason and O. Fagerlind. *Paper Tr J* 74: 45-51 My 4; 51-4 My 11 '22; Same. *Tech Assn Pa* ser 5:58-67 Je '22
- Elastic constants of spruce. H. Carrington. *Philos Mag* 6th ser 45:1055-7 My '23
- Elastic constants of spruce as influenced by moisture. H. Carrington. *il diags Aeronautical J* 26:462-71 D '22
- Lignin-like resins and tannins of spruce needles. A. C. von Euler. *Chem Soc J* 122 pt 1:233-4 Mr '22
- Northwest firm solves problem of transmission; belt slippage and friction losses with laminated and compressed spruce products. *il J Elec* 48:318 Ap 15 '22
- Paper from Southern spruce-pine. *il Chem & Met Eng* 27:249 Ag '22
- Partial hydrolysis of white spruce cellulose. E. C. Sherrard and G. W. Blanco. *Ind & Eng Chem* 15:1166-7 N '23
- Some of the products obtained in the hydrolysis of white spruce wood with dilute sulfuric acid under steam pressure. E. C. Sherrard and G. W. Blanco. *diag Ind & Eng Chem* 15:611-16 Je '23
- Young's modulus and Poisson's ratio for spruce. H. Carrington. *Philos Mag* 6th ser 43:871-8, pl 22 My '22

Diseases and pests

- Spruce bud worms in northern Idaho. J. C. Evenden. *il Paper Tr J* 76:47-8 Mr 15 '23

Squares (cities)

- European town squares. G. Benoit-Levy. *il plans Arch Forum* 39:43-50, 179-84 Ag. O '23

Squares, Tables of

- Increasing the scope of tables of squares. S. Kauffmann. *Mach* 30:108 O '23; Discussion. 30:278 D '23

Stability

- Kinetic stability. T. J. I. Bromwich. *Philos Mag* 6th ser 43:70-2 Ja '22

See also Airplane stability and stabilizers; Equilibrium; Ships—Stability

Stability, Chemical. See Chemical equilibrium**Stabilizers. See Airplane stability and stabilizers; Ships—Stability****Stacks. See Chimneys****Stadia**

- All-steel grandstand. *il Sci Am* 128:18 Ja '23
- All-steel grand stand at Iowa State university. B. J. Lambert. *il Eng N* 90:353 F 22 '23
- All-steel stadium at the University of Iowa. *il diag Am Arch* 123:331-3 Ap 11 '23
- Building Ohio state stadium. C. W. Dair. *il diags plans Concrete* 20:210-12 My '22
- Chicago building huge public stadium on lake front. *il diags plan Eng N* 90:288-91 F 15 '23
- Concrete bowl for tennis stadium. *il diags Concrete* 23:94-6 S '23
- Construction plant and methods on Ohio stadium. W. S. Hindman. *il diag Eng N* 89:882-3 N 23 '22
- Couverture en béton armé, avec porte à faux de 40 mètres, pour grandes tribunes. *diags Génie Civil* 82:182-3 F 24 '23; Abstract (Paris stadium design has 131-ft. cantilever roof). *Eng N* 90:787-8 My 3 '23
- Design and construction of stadiums. C. T. Morris. *il diags Am Concrete Inst Pro* 19: 198-214 '23; Abstract. *Concrete* 22:106 Mr '23
- Design features of the University of Kansas stadium. C. C. Williams. *il diags plan Eng N* 89:790-3 N 9 '22
- Expansion joints in stadium construction. A. M. Korsmo. *diags Eng & Contr (Bldgs)* 59: 706-8 Mr 28 '23; Same. *W Soc E J* 28:88-90 Mr '23
- Franklin Field stadium of the University of Pennsylvania. H. T. Campion. *Am Concrete Inst Pro* 19:215-17 '23
- Franklin Field stadium, University of Pennsylvania. *il diags plans Am Arch* 124:366-73 O 24 '23
- Franklin Field stadium, University of Pennsylvania. *il plans Arch Forum* 39:73-4, pl 28-9 Ag '23
- Great Los Angeles stadium to seat 75,000. F. B. Howe. *il Pop Mech* 39:757-8 My '23
- Gunite stadium seats tested. *il diags Concrete* 21:147 N '22
- Illinois stadium; a double-deck steel-frame structure. *diags plan Eng N* 90:102-5 Ja 18 '23
- Ohio stadium, a double-deck steel and concrete horseshoe. *il diags plans Eng N* 89: 640-4 O 19 '22
- Reconstruction of grandstand at Chicago ball park. *il diags plan Eng N* 91:172-4 Ag 2 '23
- Seats for 125,000; Oakland's giant stadium. *il Sci Am* 125A:99 D '21
- Le stade athlétique de Wembley park près de Londres. *il diags plan Génie Civil* 82:468-71 My 19 '23
- Stadia sight lines. B. M. Thorud. *diags W Soc E J* 28:91-6 Mr '23; Abstract. *Eng N* 90:171-2 Ja 25 '23
- Stadium design. H. J. Burt. *il diags plans W Soc E J* 28:69-83 Mr '23
- Stadium for 1924 Olympic games. *diags Concrete* 22:244 Je '23
- Stadium in Wembley park. *il diags plan Engineer* 135:358-62, 368 Ap 6 '23
- Standford stadium built of timber on earth fill. E. E. Carpenter. *il diags Eng N* 88: 724-6 My 4 '22
- Structural features of Grant Park stadium. J. C. Sansberry. *W Soc E J* 28:84-5 Mr '23
- Temple of music and water colosseum, Memorial park, Waikiki beach, Honolulu. G. Burnap. *il plans Arch Rec* 53:562-8 Je '23
- Terre Haute memorial stadium. G. J. Stoner. *Munic Eng* 65:127-9 S '23
- Traveling forms cut expense in pouring concrete stadium. *il diags Eng N* 87:977-8 D 15 '21
- University of Kansas stadium. C. C. Williams. *Am Concrete Inst Pro* 19:218-21 '23

Stadia—Continued

Wembley park stadium, London; largest sports arena to date, with a capacity of 125,200 people. P. J. Risdon. *il Sci Am* 129: 248 O '23

World's largest single-deck grandstand. H. S. White. *il diag Pop Mech* 39:722-4 My '23

Yankee stadium, New York. *diag Arch & Bldg* 55:49, pl 114-15 My '23

See also Amphitheaters

Cost

Cost figures for reinforced concrete stadiums. Eng & Contr (Ry) 59:1095 My 16 '23

Staff committees. See Industrial management—Staff committees**Staffordshire pottery**

Asbury, Whieldon, and Ralph Wood figures, and Toby jugs, collected by Captain R. K. Price. R. K. Price. 140p John Lane, London '22

Stage lighting

Lighting effects on the stage. L. Hartmann. *illum Eng Soc* 18:419-26; Discussion. 426-33 My '23

Modern stage lighting. *il Elec R (Lond)* 92: 406-9, 447-9 Mr 16-23 '23

Stage scenes changed by colored lights. *il Pop Mech* 36:851 D '21

Stage setting and scenery. See Theaters—Stage setting and scenery**Stages**

Stages in college auditoriums. G. Linnell. *diags Arch Forum* 38:59-62 F '23

Stained glass

Illumination of stained-glass church windows. D. S. Myers. *il diag Elec R* 79:881-3 D 10 '21

Stained glass. J. G. Reynolds, jr. *il Am Arch* 121:427-31, 464-8, 520-3; 122:50-3, 115-18 My 24-Je 21, J1 19-Ag 2 '22

Stained glass. A. Werck. 167p N. L. Brown, New York '22

Stained glass in the Warrior's Aisle of the nave of Salisbury cathedral. *Arch Rec* 51: 356-9 Ap '22

Stainless iron. See Iron, Stainless**Stainless steel.** See Chromium steel; Steel, Stainless**Stains**

See also Cleaning; Cotton fabrics—Stains; Iron stains

Removal

Improved stain remover for laundries. *Color Tr J* 12:137-8 Mr '23

Stains and staining (microscopy)

Certified methylene blue for biochemical stains. *Color Tr J* 13:86-7 S '23

Safranin and methyl green as staining agents in microscopic work. H. J. Conn. *Color Tr J* 12:192-3 My '23

Stains and staining (woodwork)

Stains for interior finish. A. B. Pattou. *Arch Forum* 39:69-71 Ag '23

See also Varnish and varnishing; Wood finishing

Stairways

Buildings from the manager's viewpoint. G. L. H. Arnold. *diags Management Eng* 4:229-34 Ap '23

Constructing the curved stairway. M. B. Schmidt. *il diags Arch Forum* 39:37-40 J1 '23

Curved stairway. M. B. Schmidt. *il plans Arch Forum* 38:221-6 My '23

Early architecture of Pennsylvania; stairways. A. L. Kocher. *il diags plan Arch Rec* 50:398-406 N '21

Easement for stair rail. C. A. King. *diags Bldg Age* 45:68-9 Ja '23

Public stairways. *Pub Works* 53:256-7 D '22

Stair-building and the steel square. F. T. Hodgson. 27p American technical society, Chicago '23

Stairway of Mission, San José. I. T. Frary. *il Arch Rec* 53:87-8 Ja '23

Stairways, Concrete

Concrete stairways in park, Dubuque, Ia. *il Concrete* 21:93 S '22

How to make forms for concrete buildings—stairs. W. F. Lockhardt. *diags Concrete* 22: 89-91 Mr '23

Reinforced-concrete steps made in units. *il Pop Mech* 38:896 D '22

Stalactites

Fantastic rock formation in the vaulted chambers of a mammoth cavern in Mexico. *il Pop Mech* 38:854-5 D '22

Stamp mills

Applying the cementation process to a stamp-battery foundation. B. Schlesinger. *Eng & Min J* 113:491 Mr 25 '22

Friction lifters for drop stamps. W. H. Snow. *diags Engineer* 133:34-6, 60-2 Ja 13-20 '22

Preparing two stamp battery foundations. B. MacDonald. *Eng & Min J* 113:823 My 13 '22

Stamping

Annealing of sheet metal for stamping. F. G. White. *diags Blast F & Steel Pl* 11:542-4, 637-42 O, D '23

Lowering operating costs in the press department. C. E. Stevens. *diags Am Mach* 58:143-6 Ja 25 '23

Steps in stamping a draw-bolt tube. N. T. Thurston. *il diags Iron Age* 110:401-3 Ag 17 '22

Stamps. See Postage stamps**Stand-by plants.** See Hydroelectric plants—Auxiliary plants**Standard buildings.** See Buildings, Standard**Standard gas and electric company**

Report for year ended December 31, 1921. *Comm & Fin Chr* 114:1909-12 Ap 29 '22

Standard hour plan. See Wage payment plans**Standard of living**

American standard of living and world co-operation. R. Jones. 329p Cornhill pub. co., Boston, New York '23

America's increasing standard of living. J. H. Barnes. *Management Eng* 4:145-7 Mr '23

Small families—their significance to advertisers. S. C. Lambert. *Ptr Ink* 118:83+ Mr 23 '22

Standard of living. N. H. Comish. 340p Macmillan '23

Wage-earners' family budgets. *Textile World* 61:227 Ja 14 '22

Why the standard of living is high in the United States. J. H. Barnes. *Ptr Ink* 122: 134+ F 8 '23

See also Cost of living

Standard oil building, New York

New Standard oil building. R. W. Chambers. *il diags plans Am Arch* 122:2740, 275-92 S 27 '22

Standard oil company of California

Building for Standard oil co. of California, San Francisco; views and plan. *Am Arch* 124:pl 152a-i Ag 15 '23

Courtesy phase of Standard spirit that pays California company. *Nat Pet N* 15:55+ Ag 1 '23

Standard oil company of Indiana

Court exonerates Standard of Indiana on charge of rebating. W. K. Halbert. *Nat Pet N* 14:26 D 27 '22

Fairness aim of Standard (Indiana). R. W. Stewart. *Nat Pet N* 15:23-6 My 16 '23

How Standard oil company of Indiana got 40,000 new stockholders; interview with Robert W. Stewart. C. M. Harrison. *Ptr Ink M* 7:21-2+ S '23

When Standard of Indiana came out of its shell. D. M. Hubbard. *Ptr Ink* 120:125-6+ Ag 3 '22

Standard oil company of New Jersey

400% dividend of Standard oil of New Jersey; contentions of representative Fearar and Secretary Mellon. *Comm & Fin Chr* 115: 1895-6 O 28 '22

Glimpse into the works of the Standard oil company. *il Ind Eng* 81:280-2 Je '23

Statement by President Teagle before Senate investigating committee. *Comm & Fin Chr* 115:2790-1 D 23 '22

Standard oil company of New Jersey—Continued
Teagle denies monopolistic practices on part of Standard of New Jersey. Oil Paint & Drug Rep 102:20 D 18 '22

Standard oil company of New York

Resumption of the oil hearings before the Senate committee on manufactures. Oil Paint & Drug Rep 103:19-20 Ja 8 '23

Standard solutions. See Solutions, Standard

Standard time. See Time, Standard

Standardization

Agencies promoting standardization. C. E. Skinner. Elec W 81:1241-3 My 26 '23

Decreasing production costs through standardization. W. D. Pardoe. Soc Auto Eng J 9:379-80 D '21

Development and importance of preferred number series. H. Törnebohm. diags Mech Eng 45:587-8+ O '23

Economic aspects of standardization. E. F. DuBrul. Am Mach 56:660-2 My 4 '22

Economic hindrances to standardization. W. J. Matherly. Am Mach 58:937-9 Je 28 '23

Effect of German standardization on exports. O. R. Wikander. Am Mach 57:373 S 7 '22;

Abstract. Mach 29:63 S '22; Discussion. Am Mach 57:494 S 28 '22

Encouraging work of standardization. A. W. Whitney. Iron Tr R 72:376-7 F 1 '23

Engineering standardization. R. J. Durley. Can Eng 42:124-6 Ja 10 '22

How far can you standardize? J. M. Gries. Il Nation's Business 10:14-15 Ap '22

Industrial standardization in Germany. Am Mach 55:906d-e D 1 '21; Same. Elec W 78:1023-4 N 19 '21; Same. Mech Eng 44:136-7 F '22; Same cond. Automotive Ind 45:1127 D 8 '21; Same cond. Am Soc Heat & V E J 27:794-6 N '21; Abstracts. Power 54:783 N 15 '21; Mach 28:362 Ja '22

Industrial standardization urged. P. G. Agnew. Elec Ry J 62:599-600 O 13 '23

Industrial standards in Germany. H. O. Herzog. Am Mach 57:683-5 N 2 '22

International standardization. P. G. Agnew. Il Am Mach 57:633-8 O 26 '22

Limitations of standardization. A. W. Whitney. Chem Age 31:387-8 S '23

My rule for making steady profits. H. Ford. Il System 41:259-63 Mr '22

Need for industrial standardization. A. W. Whitney. Elec Ry J 61:607-8 Ap 7 '23; Same. Heat & Ven 20:56 Mr '23

New plan for financing industrial standardization is approved. Mech Eng 45:268 Ap '23

New tool for standardizers. F. J. Schlink. Am Mach 59:45-8 Jl 12 '23

Precision, standardization and production. E. Buckingham. Mech Eng 44:730+ N '22

Problems of interest to purchasing agents discussed at National association of purchasing agents convention. Iron Age 111:1495-7 My 24 '23

Progress in engineering standardization. C. W. Ham. Am Mach 56:465-6 Mr 30 '22

Le projet de normalisation des dimensions dans l'industrie, de la Commission permanente de standardisation. Génie Civil 80:455-6 My 20 '22

Quantity increase and cost decrease from applied standardization. D. S. Kimball. Il Management & Adm 6:437-43 O '23

Railroads' interest in standardization. A. W. Whitney. Ry Age 74:1121-3 My 5 '23

Rational works management in factories. J. A. Davenport and J. I. Emery. Ind Management (Lond) 10:37-40 Jl 26 '23

Recent domestic and European standardization movements. Automotive Ind 46:912-13 Ap 27 '22

Recent progress in standardization of particular interest to mechanical engineers. Mech Eng 45:394-5 Je '23

Reducing the cost of standardization. W. O. Lichtner. Management Eng 3:25-8 Jl '22

Reports of divisions to standards committee of the S. A. E. charts diags Soc Auto Eng J 9:333-435 D '21

Review of industrial standardization for the year 1922. A. W. Whitney. Am Mach 58:81 Ja 11 '23; Same. Am Inst E E J 42:72 Ja '23; Same. Iron Tr R 72:162-3 Ja 11 '23

Significance of standardization to American industry and the Federal government; abstracts. A. A. Stevenson. Mech Eng 44:185-6+ Mr '22; Am Mach 56:138-9 Ja 26 '22; Min & Met 184:43 Ap '22

Size standardization by preferred numbers. C. F. Hirshfeld and C. H. Berry. Mech Eng 44:791-800 D '22

Standardisation and assimilation. H. Varley. Eng & Ind Management 6:554-6, 650-2; 7:3-5 N 17, D 8 '21, Ja 5 '22

Standardization and cheaper goods. C. le Maistre. Chem Age 30:327-8 Jl '22

Standardization from the consumer's point of view. N. F. Harriman. Chem Age 30:461-2 O '22; Same. Am Mach 57:540-1 O 5 '22; Same cond. Ry Age 73:1194-5 D 23 '22

Standardization in Austria. J. A. G. Pennington. Am Mach 58:283 F 22 '23

Standardization in industrial and social life. A. W. Whitney. Eng N 88:651-2 Ap 20 '22

Standardization in the industries. C. J. Oxford. diags Mach 29:611-12 Ap '23

Standardization in the oil industry from the engineer's point of view. A. B. Steen. Am Pet Inst Bul 3:63-6 D 30 '22

Standardization is the salvation of American industry. F. B. Gilbreth. Chem Age 31:385-6 S '23

Standardization makes progress in 1921. Iron Tr R 70:1187 Ap 27 '22

Standardizing the control of manufacturing. C. M. Bigelow. diags plans Management Eng 2:287-92 My '22

Standards committee issues report. Iron Tr R 72:1018-19 Ap 5 '23

Standards in German industry. G. E. Hagemann. chart diags Management Eng 4:183-8 Mr '23

Super-standards. F. B. Gilbreth and L. M. Gilbreth. Am Mach 56:877 Je 15 '22

To promote standardization in American industry. Chem Age 30:482 N '22

Traces trend of standardization. G. K. Burgess. Iron Tr R 73:180-1+ Jl 19 '23

Unification of purchase specifications in American industry. Monthly Labor R 17:256-8 Jl '23

Value of standardization. P. G. Agnew. Mach 29:365 Ja '23

Waste elimination through standardization. H. Campbell and A. Taub. Am Mach 56:363-4 Mr 9 '22

See also Electric standards; Simplification in industry; Standards, Engineering; also subdivision Standards and Standardization under special subjects, e.g. Alloys—Standards; Automobiles—Standards; Building—Standards; Ceramics—Standards; Electric lamps—Standards; Gearing—Standards; Machine tools—Standards; Metals—Standards; Mining engineering—Standards; Screw threads—Standards; Street cars—Standards; Tools—Standards; also American engineering standards committee

Standardized sales talk. See Sales management—Standardized sales talk

Standards, Bureau of. See United States—Standards, Bureau of

Standards, Engineering

American engineering standards. Refrig Eng 9:139-41 O '22

American engineering standards committee reports one thousand simplification opportunities. Am Mach 58:805-6 My 31 '23

A. S. T. M. standards adopted in 1922. Am Soc T M Standards 54p '22

British and international engineering standards. Am Mach 56:178 F 2 '22

Four new American standards. Mech Eng 44:620 S '22

Industrial standards in the United States. Management & Adm 6:113+ , 249+ Jl-Ag '23

National service to industrial managers. G. K. Burgess. chart Management & Adm 6:433-6 O '23

Recent progress in standardization of particular interest to mechanical engineers. Mech Eng 45:566 S '23

See also Electric standards; Standardization; Weights and measures; also subdivision Standards and Standardization under

Standards, Engineering—Continued

special subjects, e.g. Automobiles—Standards, Building—Standards, Gas—Standards, Gearing—Standards, Metals—Standards; Mining machinery—Standards; Railroads—Standards; Screw threads—Standards; also American engineering standards committee; United States—Standards, Bureau of

Standards of length

Normalisation nationale et normalisation universelle. F. Bayle. Génie Civil 81:461-4 N 18 '22

Standardizing length measures. W. C. Way. *il Can Eng* 45:233-5 Ag 14 '23

Testing of length measures. *Can Eng* 44:384 Ap 3 '23

Standards of living. See Standard of living**Standing waves. See Rivers—Standing waves****Standpipes**

Design and construction of the Gloversville standpipe. F. A. Marston. *il diags plan N E Water Works Assn J* 36:288-304; Discussion. 304-6 Je '22

Steel standpipe cleaned and reinforced by cement gun. *il Eng N* 88:314 F 23 '22

See also Surge tanks; Water storage; Waterworks

Failures

Ice action and corrosion destroy old standpipe. *il Eng N* 90:1135 Je 28 '23

Repair

Repairs to the standpipe at Bath, Me. C. E. Carter and W. F. Abbott. *il N E Water Works Assn J* 35:318-21 D '21; Excerpt. *Eng & Contr* 57:42 Ja 11 '22

Standpipes, Concrete

Waterproofing concrete stand-pipe at Waltham. G. C. Brehm. *il Pub Works* 54:167-9 My '23; Same. *Eng & Contr (W W)* 60:523-5 S 12 '23

Standpipes (gas works)

Thin metal standpipes. N. G. Caputi. *Am Gas J* 116:570-1 Je 24 '22

Torch saves gas company \$8,000. R. C. Rohrbacher. *il Gas Age* 51:7-8 Ja 6 '23

Stanford university**Food research institute**

Food research institute of Stanford university. *Chem Age* 30:199-200 My '22

Stanneries. See Tin mines and mining**Stannic acids. See Tin acids****Stannic hydroxide. See Tin hydroxide****Staple cotton cooperative association**

Cotton production and cooperatives. A. H. Stone. *il Textile World* 63:2843+ Ap 28 '23

President Bledsoe of staple cooperatives replies. *Textile World* 62:3430-1 D 16 '22

Staple cotton association denies holding. *Textile World* 62:2896-7 N 18 '22

Starch

Les acétates d'amidon. S. Halen. *Chimie & Ind* 7:548 Mr '22

Adhesives from starch. *Chem Age* 30:323-4 JI '22

Beiträge zur chemie der stärke. H. Pringsheim and others. *Deutsche Chem Gesell Ber* 55:1425-49 My '22; Abstract. *Chem Soc J* 122 pt 1:632-4 JI '22

Comparison of the various corn products starches as shown by the Bingham-Greene plastometer. C. E. G. Porst and M. Moskowitz. *J Ind & Eng Chem* 14:49-52 Ja '22

Estimation of starch in barley and wheat. A. R. Ling. *Soc Chem Ind J* 42:48-50 F 9 '23

Fermasol; a new product for removing starch from goods. *Textile World* 62:1801 S 30 '22; Same. *Color Tr J* 11:173 O '22

Influence of certain amino acids upon the enzymic hydrolysis of starch. H. C. Sherman and F. Walker. *Am Chem Soc J* 43:2461-9 N '21

Influence of lysine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 44:2926-30 D '22

Influence of starch on strength of wheat flour.

J. H. Buchanan and G. G. Naudain. *Ind & Eng Chem* 15:1050-1 O '23

Microscopy of foods; a study of starch, the world's premier alimental substance. L. A. Hausman. *il diags Sci Am* 127:256-7 O '22

New micro-photographs of the more common starches. C. B. Fall. *il Chem Age* 31:37-9 Ja '23

Papermakers' uses of starch. W. A. Nivling. *Paper* 31:7-9 D 20 '22

Plastometer tests on alkaline thin-boiling cornstarches. C. E. G. Porst and M. Moskowitz. *Ind & Eng Chem* 15:166-70 F '23

Polysaccharides; starch and the amyloses. P. Karrer and others. *Chem Soc J* 120 pt 1:768-9 N '21

Recent advances in our knowledge of the chemistry of starch. A. R. Ling. *Soc Chem Ind J (Chem & Ind)* 42:1036-7 O 26 '23

Starch and starch products. H. A. Auden. 121p Pitman '22

Starch in sorghum juice. S. F. Sherwood. *Ind & Eng Chem* 15:727-8 JI '23

Starch products and malt extracts used in textile treatment. A. J. Hall. *Textile Col* 45:29-30 Ja '23

Study of the influence of arginine, histidine, tryptophane and cystine upon the hydrolysis of starch by purified pancreatic amylase. H. C. Sherman and M. L. Caldwell. *Am Chem Soc J* 43:2469-76 N '21

Textile application of corn starch and derivatives. W. R. Cathcart. *Am Dyestuff Rep* 12:21-4 Ja 1 '23; Same. *Textile Col* 45:24-6 Ja '23; Discussion. *Am Dyestuff Rep* 12:24-8 Ja 1 '23

über die methylierung der poly-amylosen (beiträge zur chemie der stärke). H. Pringsheim and W. Persch. *Deutsche Chem Gesell Ber* 54:3162-8 D '21

Use of corn starch in paper making. H. Wrede. *Paper* 31:11-14 Ja 10 '23

Use of starch in paper manufacture. W. A. Nivling. *il Paper Tr J* 75:32+ JI 13 '22

Starch, Laundry

Improved laundry starch. *Chem Age* 30:142 Mr '22

Linit, starch for fine fabrics, on trail of soap chips. *il Ptr Ink* 119:25-6 Je 22 '22

Stark effect

Appearance of unsymmetrical components in the Stark effect. A. M. Mosharrafa. *Philos Mag* 6th ser 43:943-52 My '22

Relative intensities of Stark effect components in the helium spectrum. J. S. Foster. *Phys R* 20:214-20, pl 5 S '22

Stark effect for strong electric fields. A. M. Mosharrafa. *Philos Mag* 6th ser 44:371-3 Ag '22; Discussion. 45:1081-5; 46:751-3 My, N '23

Starrett, Laroy S., 1836-1922

Sketch. *por Ry Mech Eng* 96:376 Je '22

Stars

Census of the stars; how the astronomer takes count of their number, and identifies them individually. H. N. Russell. *il Sci Am* 128:78-9+ F '23

Life history of a star. *Sci Am* 129:179 S '23

Measuring the heat from the stars. *il Sci Am* 127:33 JI '22

Radiation

Further tests of stellar radiometers and some measurements of planetary radiation. W. W. Coblentz. *U S Bur Stand Sci Pa* 460:535-58 '23

Selenium eye observes stars while astronomer sleeps. B. G. Priestley. *il Pop Mech* 39:497-8 Ap '23

Spectra

Tests of stellar radiometers and measurements of the energy distribution in the spectra of 16 stars. W. W. Coblentz. *il U S Bur Stand Sci Pa* 438:725-50 '22

Starting devices. See Automobiles—Starting devices**State advertising**

Advertising governor tells how he sold his state. *Ptr Ink* 119:121-2 My 4 '22

Chain-store man acts as state's advertising solicitor. *Ptr Ink* 122:143+ F 1 '23

State advertising—Continued

How Maryland is using advertising to sell idle lands. J. True. *Ptr Ink* 124:129-30 Ag '23

National advertising campaign for one of the best-advertised states. *Ptr Ink* 122:17-19 Ja '23

Wisconsin's novel method of attracting settlers. *chart Pop Mech* 37:878 Je '22

State buildings

See Capitol buildings

State debts. See Debts, Public; State finance**State finance**

Cost of state governments doubled since 1919 and quadrupled since 1913. *Comm & Fin Chr* 117:1620 O 13 '23

Financial statistics of states, 1921. 41p U.S. Bur. of the census, Washington '22

Growing debts of the states and their significance. E. C. Delafield. *Annalist* 20:271-2 S 18 '22

State and city section of the Commercial and financial chronicle; New England, middle and central states. *Comm & Fin Chr* 114:3-176 sec 2 Je 24 '22

State and city section of the Commercial & financial chronicle; New England, Middle and Central states. *Comm & Fin Chr* 116:3-137 sec 2 Je 30 '23

State and city section of the Commercial and financial chronicle; Western, Pacific and Southern states and island possessions. *Comm & Fin Chr* 113:3-200 sec 2 D 31 '21

State and city section of the Commercial & financial chronicle; Western, Pacific and Southern states and island possessions. *Comm & Fin Chr* 115:1-220 sec 2 D 30 '22

See also Pennsylvania—Appropriations and expenditures

State geologists. See Geologists, State**State governments**

New developments in the business administration of state governments—the administrative code. *Comm & Fin Chr* 114:2644-5 Je 17 '22

See also Sanitary engineering, Bureaus of

State highway officials, American association of. See American association of state highway officials**State institutions.** See Institutions, Public**State ownership.** See Government ownership**State police.** See Police, State**State regulation of industry.** See Government regulation of industry**State roads.** See Roads, State**Staten Island**

More trolley buses are installed on Staten Island. *il map Bus Transportation* 1:587-90 N '22; *Abstract. Elec Ry J* 60:793 N 11 '22

Staten Island, New York City; its industrial resources and possibilities. 53p Merchants' association of New York, 233 Broadway, New York '22

Staten Island receivership to be lifted and railway and light properties separated. *Elec Ry J* 62:155-6 JI 28 '23

329 per cent overload; municipally operated line on Staten Island has frightful service record. *Elec Ry J* 60:100 JI 15 '22

Static, Elimination of. See Radio communication—Interference elimination**Static electricity.** See Electricity, Static; Electrostatics**Statics**

See Dynamics; Elasticity; Electrostatics; Equilibrium; Graphic statics; Hydrostatics; Strains and stresses

Stationery

Commercial stationery that printers can sell. R. F. Salade. *Inland Ptr* 70:367-8 D '22

Paper and stationery. H. M. Lehmann and B. E. Kennard. 195p Ronald press '22

Schwabacher-Frey stationery company's new plant. C. W. Geiger. *il Inland Ptr* 69:244-6 My '22

See also Railroads—Stationery

Advertising

Manufacturers join in advertising fine box stationery. *Ptr Ink* 119:73-4 Ap 20 '22

Color

How does color of paper influence pull of sales letters? B. Berfield. *Ptr Ink M* 4:64 My '22

Statistical departments

We cut our expenses by adding a department. M. T. Fleisher. *il System* 41:281-2+ Mr '22

Statisticians

Statistical work. 154p Bur. of vocational information, New York '21

Statistics

Fallacies in averages. G. W. Greenwood. *Management Eng* 2:284-5 My '22

First course in statistics. D. C. Jones. 286p G. Bell and sons, London; Open Court, Chicago '21

Introduction to economic statistics. G. R. Davies. 163p Century co. '22

Introduction to the theory of statistics. G. U. Yule, 6th ed., enl. 415p C. Griffin & co., London '22

Methods of determining the cost of living. *Management Eng* 2:257-60 Ap '22; Same. *Monthly Labor R* 14:939-47 My '22

Statistical method. T. L. Kelley. [bibliog. p.357-69]. 390p Macmillan '23

Statistical work, United States government. 405p U.S. Bur. of efficiency, Washington '22

Use of statistical publications of the government in working out problems of commercial investigation. O. P. Austin. *Administration* 3:433-6 Ap '22

See also Business charts; Business statistics; Commercial statistics; Graphic methods; Index numbers (economics); Industrial statistics; United States—Census, Bureau of; also subdivision Statistics under various subjects, e.g. Coal trade—Statistics, Great Britain—Statistics, Labor and laboring classes—Statistics, Railroads—Statistics

Bibliography

Guide to original sources for the major statistical activities of the United States government. 17p U. S. Bur. of efficiency, Washington '22

How to get the statistics you need from the government. *Ptr Ink* 124:8+ Ag 9 '23

Statistics, Industrial. See Industrial statistics**Statler, E. M.**

Where Statler looks for advertisable ideas. R. Cole. *por Ptr Ink M* 6:21-2+ Je '23

Statoscope

Homemade statoscope. *il Pop Mech* 39:982 Je '23

Statoscopes and rate-of-climb indicators. A. H. Mears. *il diags U S Nat Advisory Com for Aeronautics* 1921:534-49 '23

Statues

Animals for the ages. H. H. Dunn. *il Pop Mech* 40:101-3 JI '23

See also Sculpture

Staves

Stave trade in foreign countries. U S Bur For & Dom Com misc ser 118:1-99 '23

Staves, Concrete. See Concrete staves**Staybolts**

Burning out staybolts with gas cutting torch. *il Ry Mech Eng* 97:42-3 Ja '23

Development of welded flexible staybolts. *diags Ry Age* 72:1291-3 Je 3 '22

Hammer testing staybolts. *Ry Mech Eng* 97:566-7 Ag '23

Lassiter-Millholland staybolt machines. *il Am Mach* 56:647-8 Ap 27 '22; *Iron Age* 109:1147 Ap 27 '22; *Mach* 28:754-5 My '22

Locomotive copper stays. *il diags Engineering* 116:300, 393, 461-2 S 7, 28, O 12 '23

Machine for cutting accurate staybolts. *il Ry Mech Eng* 96:285-6 My '22

New plant to make drilled staybolts. *Iron Tr R* 72:1165-6 Ap 19 '23

Story of two staybolts. *il Power* 55:169-70 Ja 31 '22; Same. *Locomotive* 34:47-51 Ap '22

Staybolts—Continued

Specifications

- A.S.M.E. specifications for steel staybolts. Mech Eng 45:381 Je '23
Tentative specifications for hollow staybolt iron. Am Soc T M Pro 21:478-80 '21

Steam

- Catalysis in the interaction of carbon with steam and with carbon dioxide. H. S. Taylor and H. A. Neville. diag Am Chem Soc J 43:2055-71 S '21
Combined use of steam for power and other purposes. T. Petrie. il Engineer 136:220-2 Ag 31 '23
Control of power production. C. L. Hubbard. diags Factory 31:451-2+ O '23
Dirty steam no longer necessary. L. F. Kuhlman. Blast F & Steel Pl 11:340-1+ Je '23
Dye house steam. G. H. Rome. Textile World 63:3491+ My 26 '23
Entropy of saturated steam; its relation to specific volume. H. E. Longwell. Mech Eng 45:136-7 F '23
Fundamental properties of water vapor. M. Strauven. Mech Eng 45:314 My '23
Properties of steam at high pressures. G. Eichelberg. Mech Eng 44:447-9 Jl '22
Raindrops and engineering; water drops in wet steam. G. B. Upton. Sibley J 37:5-7+ Ja '23
Steam consumption of tire press vulcanizers. C. F. Rett. diags India Rubber W 67:294-5 F '23
Steam economy in paper and pulp mills. E. P. Gleason. charts Paper Tr J 76:199+ Ap 12 '23; Same. Tech Assn Pa ser 6:49-53 Je '23
Steam for power and process in the chemical and allied industries. H. B. Reynolds. Chem & Met Eng 27:407-9 Ag 30 '22
Steam per ton for drying paper. B. T. McBain. Paper Tr J 76:26 F 15 '23
Steam waste in dyeing and finishing. Textile World 62:2161+ O 14 '22
Tempering tools by steam at high pressure. E. Sheldon. il Am Mach 59:705-6 N 8 '23
Tests of steam consumption in dyeing. V. Wichum. diags Textile World 60:3101+ N 26 '21
Undigested water makes steam vicious; causes, effects and remedies for priming and condensation. diags Power Pl Eng 27:64-71 Ja 1 '23
Use of steam at extremely high pressures. Engineering 115:777-8, 814 Je 22-29 '23
Use of steam with the kitchen and laundry equipment. C. A. Fuller. diags Sanitary & Heat Eng 99:82-3+, 146-8, 212-14+, 289-90+, 352-3 F 9, Mr 9, Ap 6, My 4, Je 1 '23
L'utilisation de la vapeur d'eau des chaudières pour la force motrice ou les usages divers. Génie Civil 80:34-7 Ja 14 '22
Utilization of steam. M. Kammerer. Engineer 133:311 Mr 17 '22

See also Boilers; Condensers (steam); Evaporators; Exhaust steam; Feed water purification; Gas retorts—Steaming; Steam engines; Steam flow; Steam heating; Steam pipes; Steam turbines; Superheated steam; Superpressure steam; Supersaturated steam; Thermodynamics

Coke gasification

See Coke—Gasification in steam

Cost

- Executive control over steam costs. S. H. Childs. Paper Tr J 76:55-7 Mr 29 '23
Finding steam losses from steam costs. S. H. Childs. Paper Tr J 76:52-4+ My 17 '23
Profit and loss meters for steam plants. S. H. Childs. Paper Tr J 76:57-62 Je 14 '23

Tables, calculations, etc.

- Back pressure process steam problem. G. J. Wells. Engineer 134:674 D 22 '22
La chute de température dans les conduites de vapeur surchauffée. C. Pasquay. Génie Civil 79:377 O 29 '21; Same. Power Pl Eng 26:166-7 F 1 '22
Determining heat content of steam. diags Power 57:651 Ap 24 '23

- Effect of back pressure on steam consumption. Power Pl Eng 27:196 F 1 '23
Figuring the total heat of exhaust steam. A. G. Christie. Power 58:685-6 O 30 '23
Finding the comparative efficiencies of steam engines. diag Power 56:285-8 Ag 22 '22
Fraction of total steam supply chargeable to pipe line. Power 58:192 Jl 31 '23
Graphic determination of steam data and factors of evaporation. H. C. Linderman. chart Blast F & Steel Pl 11:291-3 My '23; Same. Am Gas J 119:472-5 O 20 '23
Heat balance and steam distribution in a large service plant. S. D. Kutner. diag Power 55:488-91 Mr 28 '22
High pressure and temperature steam lines; abstracts. B. N. Broido. Power Pl Eng 27:221-4 F 15 '23; Power 56:913-14 D 12 '22; Mech Eng 45:289-93; Discussion. 293-4 My '23
How to use the steam tables. Power 58:194-5, 230-1 Jl 31-Ag 7 '23
How to use the Willans line. Power 55:532 Ap 4 '22
Meaning of steam-consumption curves. Power 57:732 My 8 '23
Method of reducing and recording consumption of steam-jet ash conveyor. E. A. Curtis. chart diag Power 57:146 Ja 23 '23
Possibilities of high pressure and superheat for steam turbines. J. A. Polson. Power Pl Eng 26:893-6 S 15 '22
Saving steam with soot blowers. R. June. il Blast F & Steel Pl 10:243-4 Ap '22; Same. Textile World 61:1949+ Ap 1 '22; Same. Power Pl Eng 26:414-15 Ap 15 '22
Simple method of finding steam consumption of small turbines. diag Power 54:895-6 D 6 '21
Simplifying the heat balance. A. W. Binns. charts Power Pl Eng 26:795-800 Ag 15 '22; Discussion. 26:1162-5 D 1 '22
Steam consumption accounted for by indicator diagram. diags Power 55:935-7 Je 13 '22
Steam consumption of kitchen equipment. Heat & Ven 19:47-8 O '22
Steam flow in pipes. F. M. Van Deventer. chart Power Pl Eng 25:1096-8 N 15 '21
Steam required in a blower line in a railroad roundhouse. Heat & Ven 19:48-9 Ja '22
Steam required to operate sterilizing and cooking apparatus. Heat & Ven 19:47 Ja '22
Steam requirements at a gas works. A. D. Whittaker. Am Gas J 118:399-404 My 12 '23; Same. Gas Age 51:817-20 Je 30 '23
Steam requirements of radiators. Power Pl Eng 27:985 O 1 '23
Steam tables. Power 56:918 D 12 '22
Steam used by soot blowers. Power Pl Eng 26:284, 536-7 Mr 1, My 15 '22
Steam utilization in a modern newsprint mill. S. W. Slater and J. E. A. Warner. Mech Eng 44:587-92 S '22; Same. Paper Tr J 75:54-9 S 28 '22; Same cond. Am Soc Heat & V E J 28:741-8 O '22
Systems for building heating and domestic hot water supply; steam required for restaurant, laundry or manufacturing purposes. J. A. McHollan. plan Arch Forum 36:9-10 Ja '22
Tables and diagrams for water vapor computed on the basis of its specific heat. O. Knoblauch, E. Raisch and H. Hausen. diags Mech Eng 45:538-40 S '23
Transformation of the indicator diagram into the T-N diagram. diags Power 56:244-6 Ag 15 '22
Use of steam with the kitchen and laundry equipment. C. A. Fuller. il Sanitary & Heat Eng 99:82-3+, 146-8, 212-14+, 289-90+ F 9, Mr 9, Ap 6, My 4 '23
What is the matter with the steam table? Power 54:537, 818 O 4, N 22 '21
See also Boilers—Tables, calculations, etc.; Steam flow; Steam heating—Tables, calculations, etc.

Steam, Natural

- Geyser harnessed to furnish power. H. H. Dunn. il Pop Mech 39:705-6 My '23

Steam, Natural—Continued

- Natural steam plant proposed in California. il Power 54:1004 D 27 '21; Same cond. J Elec 48:193 Mr 1 '22
- Power and boric acid from natural steam in Tuscany. il Soc Chem Ind J (Chem & Ind) 42:1022-4 O 26 '23
- Power plant using natural steam. W. Wieder. Elec W 81:761 Mr 31 '23
- Some unusual steam plants in Tuscany. E. Hahn. il diag map plan Power 57:882-5 Je 5 '23

Steam, Superheated. See Superheated steam

Steam, Supersaturated. See Supersaturated steam

Steam accumulators

- L'accumulateur de vapeur Ruths. diags Génie Civil 81:95 Jl 22 '22
- L'accumulateur de vapeur Ruths. E.-G. Constatam-Gull. il diags Génie Civil 79:453-7 N 26 '21; Abstract. Power Pl Eng 26:268-70 Mr 1 '22
- Der erste Ruths-dampfspeicher in Deutschland. T. Stein. diags plan Stahl & Eisen 42:924-33 Je 15 '22
- First installation of a Ruths accumulator in Germany. J. H. Blakey. Power Pl Eng 27:410 Ap 15 '23
- Ruth heat accumulator. F. Englert. il diags Paper Tr J 75:50-7 D 21 '22
- Der Ruthssche dampfspeicher. G. Schulz. il diags Stahl & Eisen 42:165-71 F 2 '22; Abstract (Ruths steam accumulator). Mech Eng 44:323-4 My '22
- Das speicherproblem in der dampfwirtschaft. C. Kieselbach. Stahl & Eisen 43:265-73 F 22 '23
- Steam accumulator. I. Ginsberg. diags Chem & Met Eng 28:809-10 My 7 '23
- Steam accumulator; abstract. P. Müller. diags Elec W 80:1059 N 11 '22
- Steam accumulator and its applications. il diags Power 58:322-6 Ag 28 '23 Discussion. 58:820-1 N 20 '23
- Steam accumulators. M. Emanaud. diags Chem & Met Eng 29:149-52 Jl 23 '23; Same cond. Paper Tr J 77:47-50 Ag 9 '23

Steam automobiles. See Automobiles, Steam

Steam cars. See Motor cars (railroad)—Steam

Steam cooking

- Steam required to operate sterilizing and cooking apparatus. Heat & Ven 19:47 Ja '22

Steam desaturators

- Steam desaturators applied to Hungarian motive power. D. L. Kiss. il diags Ry R 71:475-9 O 7 '22; Excerpts. Mech Eng 44:841-2 D '22

Steam engineering

- Audels engineers and mechanics guide. F. D. Graham. 8v 4400p T. Audel & co., New York '21
- Bailey's handbook of universal formulas and mathematical problems on steam engineering. A. R. Bailey. 290p Alex. R. Bailey, Seattle, Wash., New York '22
- Elementary steam power engineering. E. MacNaughton. 590p Wiley '23
- Operating engineer's catechism of steam engineering. M. H. Gornston. 428p Van Nostrand '22
- Sectionalization and remote control of high-pressure steam lines. P. P. Dean. diags Mech Eng 45:483-7 Ag '23; Same. Engineering 116:219-22 Ag 17 '23; Abstract. Textile World 64:1271+ S 1 '23; Discussion. Mech Eng 45:487 Ag '23
- Steam engineering practice in modern central stations. T. E. Keating. Elec J 19:490-6 D '22
- Steam power. C. F. Hirshfeld and T. C. Ulbricht. 2d ed., rev. & enl. 474p Wiley '22
- Twentieth century handbook for steam engineers and electricians. C. F. Swingle. 1483p Drake '22

See also Boiler plants; Evaporators; Marine engineering; Power; Steam engines; Steam heating; Steam plants; Steam turbines; Steamboats; Superheated steam

Steam engines

- Atlas one-cylinder type pass-out engine. il diags Engineer 133:604-6 Je 2 '22; Mech Eng 44:670 O '22
- Building a small horizontal steam engine. H. E. Benson. il diags Pop Mech 39:951-5 Je '23
- Compounding of a triple expansion engine. diags Engineering 114:203-6 Ag 18 '22
- Control of power production. C. L. Hubbard. il diags Factory 31:602-5+ N '23
- Cylinder efficiency of an engine reveals avoidable losses. W. Turnwald. Power 57:678-9 My 1 '23
- Early Corliss engine. il Power 58:545 O 2 '23
- Efficiency of steam engines. R. Grimshaw. Textile World 62:2651 N 4 '22
- L'emploi de très hautes pressions de vapeur dans les moteurs. Génie Civil 80:528 Je 10 '22
- Engine operated totally submerged. A. C. Pain. Power 56:62 Jl 11 '22
- Engines and boilers. T. T. Eyre. 234p Macmillan '22
- Fitting of keys in crossheads and flywheels. diags Locomotive 34:36-40 Ap '22
- Hackensack water company's high-head pumping engines. il diags Power 56:1006-8 D 26 '22
- Handbuch des dampfkomotivbaues. M. Igel. 606p M. Krayn, Berlin '23
- High-speed crankless steam engine. Sci Am 126:119 F '22
- Johnson rotary steam engine. diags Power 55:382-3 Mr 7 '22
- Load on main-bearing caps of horizontal engines. Power 55:427, 790, 1027 Mr 17, My 16, Je 27 '22
- Locating knocks in a steam engine. T. W. Airey. diags Power 56:381-2 S 5 '22
- Mossend steel works and rolling mills. il Engineering 114:704, 712, pl 43 D 8 '22
- Most powerful reciprocating steam engine ever built. il Sci Am 128:89 F '23
- Power plant machinery; mechanism of steam engines. W. H. James and M. W. Dole. 2d ed., rev. and enl. v 1. 277p Wiley '23
- Progress toward the solution of certain unsolved problems of engineering. W. H. Maw. Engineering 114:601-2 N 10 '22; Excerpts. Engineer 134:500-1 N 10 '22
- Reversed heat engine as a means of heating buildings. T. B. Morley. diags Engineer 133:145-6 F 10 '22
- Schmidt steam engine more efficient than largest turbine. O. H. Hartman. diags Power 55:217-19 F 7 '22
- Selection of prime movers. Power 56:394-5 S 5 '22
- Selection of steam engines. P. F. Walker. Power 57:96-8 Ja 16 '23
- Setting the eccentrics of steam engines. T. W. Airey. Power 56:573-4 O 10 '22
- Several efficiencies of the steam engine. F. R. Low. diags Power 54:799-803 N 22 '21
- Several methods of finding the clearance volume of an engine. diags Power 55:856-7 My 30 '22
- Steam and heavy oil combustion engines for municipal service. J. W. Hill. Munic Eng 63:211-14 D '22
- Steam economy in drying and driving: economical operation of steam prime movers; with discussion. R. W. Leeper. Tech Assn Pa ser 4:8-12 Je '21
- Steam engine developments. il Power 57:9-10 Ja 2 '23
- Steam-engine principles and practice. T. Croft and others. 513p McGraw-Hill '22
- Steam engines; details helpful to operators. diags Power Pl Eng 26:46-55 Ja 1 '22
- Steam engines show renewed activity. il Power 55:9-10 Ja 3 '22
- Study of air-steam mixtures. L. A. Wilson and C. R. Richards. il charts Ill U Eng Exp Sta Bul 131:1-96 '22; Abstract. Power 56:348-9 N 28 '22; Excerpts. Engineer 134:662-4, 684-5 D 22-29 '22; Excerpts. Power Pl Eng 27:368-71 Ap 1 '23
- Tandem extraction engine for combined power production and exhaust steam heating. il diags Engineering 114:584-5, 588 N 10 '22
- 25,000 hp. engine built in England. il Power 56:491-2 S 26 '22

Steam engines—Continued

- Twin-cylinder oscillating engine. J. V. Romig. il diags Pop Mech 37:639-41 Ap '22
- Ueber schwungrad-walzenzugmaschinen. K. Möbus. il diags Stahl & Eisen 41:1649-53 N 17 '21
- Using exhaust velocity to reduce back pressure in steam engine. diags Power 55:542 Ap 4 '22
- Vertical triple-expansion pumping engine. L. A. Quale and E. H. Brown. il Mech Eng 44:155-61; Discussion. 161+ Mr '22
- Veteran engines give way to modern turbines. G. W. Atkinson. il Power 55:368-71 Mr 7 '22
- Veteran steam engine. W. H. Wakeman. Power 55:428 S 11 '23
- What expansion without loss of heat means. diags Power 56:169-72 Ag 1 '22
- Why engines are compounded. il diags Power 56:17-19 Jl 4 '22
- Wrecking compound engines. W. H. Wakeman. diags Power 54:342-3 N 29 '21; Discussion. 55:73-4, 113, 276-7 Ja 10-17, F 14 '22

See also Automobiles, Steam; Blowers; Boilers; Condensers (steam); Exhaust steam; Flywheels; Governors (machinery); Indicator diagrams; Injectors; Locomotives; Marine engines; Motor buses, Steam; Motor cars (railroad)—Steam; Motor trucks, Steam; Safety valves; Steam; Steam plants; Steam shovels; Steam turbines; Steamboats; Still engine; Superheated steam; Tractors, Steam

Alignment

- Alignment of steam engines. T: W. Airey. diags Power 56:207-8 Ag 8 '22
- Quick and accurate way to align a steam engine. G. Grow. diags Power 57:26-7 Ja 2 '23
- Quick and ready methods of aligning an engine. T: Airey. diags Power 57:1015-16 Je 26 '23

Binary vapor engines

- Binary vapor engine using sulfur dioxide. R. Grimshaw. Power Pl Eng 27:585 Je 1 '23

Control

- Automatic engine-stop specifications approved. Power 58:628 O 16 '23
- Governing devices of British steam-extraction engines. il Power 57:173-4 Ja 30 '23

Design

- Using exhaust energy in reciprocating engines. J. Stumpf and C. C. Trump. diags Mech Eng 44:369-72 Je '22; Same cond. Power 55:1033 Je 27 '22

Exhaust

- Auxiliary exhaust valves on unaflow engines. il diags Power 56:718-19 N 7 '22
- Silencer on unaflow steam engines. P. H. Maxim. Power 55:1024 Je 27 '22

Failures

- Breaking of crosshead gib caused engine accident. il Locomotive 34:2-3 Ja '22
- Engine accident at Yale, Michigan. J. P. Morrison. il Locomotive 34:239-41 O '23
- Importance of filets in engine shafts and crankpins. E. M. Parry. il diags Locomotive 34:163-9 Ap '23

Foundations

See Machinery—Foundations

Lubrication

- Cylinder lubrication. Power Pl Eng 26:1224-5 D 15 '22
- Effect of superheated steam on cylinder lubrication. W. F. Osborne. Power 56:352-3 S 5 '22
- High-speed engine cylinder lubrication. J. P. Greenwood. diag Power 55:579-80 O 9 '23
- How to select steam-cylinder oil. W. F. Osborne. Power 56:421-2 S 12 '22
- Keeping an oil film on the cylinder walls. W. F. Osborne. Power 56:288-9 Ag 22 '22

- Lubricating the steam engine cylinder. R. A. Cultra. diags Power Pl Eng 26:1159-61 D 1 '22
- Lubrication of the uniflow engine. Power Pl Eng 26:477-9 My 1 '22
- Problem of lubricating steam-engine bearings. W. F. Osborne. diag Power 56:53-4 Jl 11 '22
- Steam cylinder lubrication. il Power Pl Eng 27:677-9, 729-31, 791-3 Jl 1-Ag 1 '23
- Steam cylinder lubrication. Power Pl Eng 27:746-7, 952-3 Jl 15, S 15 '23

Manufacture

- Another Corliss engine firm building unaflow engines; the Murray iron works co. il diags Power 56:600-1 O 17 '22
- Visit to Carels' factory at Ghent. il (supp) diag Engineer 133:488-90, 550-2, 554 My 5, 19 '22

Rating

- Finding the comparative efficiencies of steam engines. diag Power 56:285-8 Ag 22 '22
- Indicated horsepower of a compound engine. Power Pl Eng 26:825, 970-1 Ag 15, O 1 '22

Repair

- Refitting a crosshead and guide. F. Ervin. diags Am Mach 58:490-1 Mr 29 '23
- Repair of mammoth vertical compressor engine cast iron cylinder. A. M. Candy. il Power 58:242-4 Ag 14 '23
- Repairing an engine under difficulties. H. Hicks. Am Mach 57:835-6 N 30 '22
- Repairs to loose piston on a 2500-hp. engine. C. N. Shaw. Power Pl Eng 26:1122-3 N 15 '22

Safety devices

- Engine safety improved by closed circuit stop. diags Power Pl Eng 27:375 Ap 1 '23
- Standardization of engine stops; proposed specifications drawn up by the A.I. & S.E.E. W. Greenwood. Power Pl Eng 27:1126-9 N 15 '23; Same abr. Power 58:709 O 30 '23

Speed

- Speed as a factor of horsepower. il Sci Am 126:337 My '22

Tables, calculations, etc.

- Figuring engine efficiencies. Power 58:310 Ag 21 '23
- Finding the mean effective pressure from the indicator diagram. diags Power 55:658-9 Ap 25 '22
- Finding the mean effective pressure of an engine by computation. diags Power 55:896-8 Je 6 '22

Uniflow engines

- Correct adjustment of unaflow engine valve gear. il diags Power 56:942-3 D 12 '22
- Davidson 300-l.h.p. uniflow steam engine. il diags Engineering 113:136, 137 F 3 '22
- Developments in use of unaflow steam engines. C. C. Trump. Power Pl Eng 26:331-3 Mr 15 '22
- Efficiency of unaflow engines. A. D. Skinner. diags Power 56:327-9 Ag 29 '22; Discussion. 56:427-8, 992-3, 1031 S 12, D 19-26 '22
- Field of unaflow engine. J. Stumpf. Power Pl Eng 26:916 S 15 '22
- Ice-making with the unaflow engine. S. H. Bunnell. il Power 55:505-6 Mr 28 '22
- Non-condensing unaflow engines. H. G. Cooke. Power 57:525 Ap 3 '23
- Recent developments in the unaflow locomotive. il diags Ry Mech Eng 96:247-50 My '22; Same. Ry Age 72:1727-30 Je 24 '22
- Relieving the back pressure in reversing unaflow engines. diags Power 55:726 My 9 '22
- Setting valves on the Nordberg unaflow engine. il diags Power 56:800-1 N 21 '22
- Throttling in the steam valve of a unaflow engine and its effect on steam consumption. M. L. Barker. diags Power 56:326 Ag 29 '22
- Unaflow-engine guarantees and tests. L. A. Quayle. Power 55:98-9 Ja 17 '22
- Unaflow engine with an unusual valve gear. il diags Power 56:343-4 N 28 '22
- Unaflow engine with single-beat poppet valves. diags Power 56:766-7 N 14 '22

Steam engines—Uniflow engines—Continued

Unaflo engine without auxiliary exhaust valves. *il* diags Power 56:1024-5 D 26 '22; Discussion. 58:108-9, 307, 509, 699 J1 17, Ag 21, S 25, O 30 '23

Unaflo engines for compressor drive. *il* diag Power 56:978-9 D 19 '22

Unaflo engines pump water economically. *il* diag plan Power 57:584-7 Ap 17 '23

Unaflo steam engine industry. *il* diags Power 55:960-4 Je 20 '22

Unaflo valve gear of American design. *il* diags Power 56:880-1 D 5 '22

Uniflow engine principle and design. F. W. Bosch. *il* diags Power Pl Eng 26:1144-6, 1197-9; 27:124-6 D 1-15 '22, Ja 15 '23

Watson vertical uniflow steam engine. *il* diags Engineering 115:742, 743 Je 15 '23; Discussion. C. R. King. 115:771 Je 22 '23

See also Steam engines—Exhaust

Steam fitting. See Steam pipes**Steam flow**

Capacities of steam heating mains as affected by critical velocities of steam and condensate mixtures. F. C. Houghten and L. Ebin. *il* diag Am Soc Heat & V E J 28:643-8; Discussion. 649-53 S '22; Abstract. Heat & Ven 19:56-7 J1 '22

Critical velocity of steam in one-pipe systems. F. E. Giesecke. diags Am Soc Heat & V E J 28:637-42 S '22; Same cond. Power Pl Eng 26:914-15 S 15 '22; Discussion. Am Soc Heat & V E J 28:649-53 S '22

Critical velocity of steam with counterflowing condensate. W. A. Pearl and E. B. Parker. diags Heat & Ven 20:46-9 O '23; Abstract. Power 58:514 S 25 '23

Data from flow-meter charts. J. A. Maguire. charts Power 55:1026-7 Je 27 '22

Easy way to figure steam-pipe sizes. M. W. Ward. Power 56:808-9 N 21 '22

First and second reports of the steam-nozzles research committee. diags Engineering 115:377-83 Mr 23 '23; Abstract. Engineer 135:319-20 Mr 23 '23; Discussion. Engineering 115:356-8, 501-2 Mr 23, Ap 20 '23; Engineer 135:320-1, 415-16 Mr 23, Ap 20 '23

Flow of air and steam in nozzles. G. Stoney and N. Elce. Engineering 112:750-1 D 2 '21; Abstract. Mech Eng 44:119 F '22

Flow of steam in pipes; high pressure distribution systems; chart. Heat & Ven 19:67 Ja '22

High velocity steam mains. C. Hurst. diags Power Pl Eng 26:117-18 Ja 15 '22; Discussion. H. D. Fisher. 26:238-9 F 15 '22

Investigative work at the A.S.H.-V.E. research laboratory. F. P. Anderson. *il* Am Soc Heat & V E J 28:773-87 N '22

Losses in nozzles of rectangular section. D. S. Anderson. diags Engineering 113:764-7 Je 16 '22

Methods of measuring steam flow. *il* diags Power Pl Eng 27:72-5 Ja 1 '23

Reaction consequent upon the evaporation of a liquid and upon the emission of vapours from small orifices. W. G. Duffield. diags Philos Mag 6th ser 45:641-88 Ap '23

Steam flow in pipes. F. M. Van Deventer. chart Power Pl Eng 25:1096-8 N 15 '21

Supersaturated condition as shown by nozzle flow. A. L. Mellanby and W. Kerr. Engineering 113:832-5 Je 30 '22; Excerpts. Engineer 133:714-15 Je 30 '22

Table of steam flow in pipes. Power 55:698 My 2 '22

See also Steam meters

Steam generators, Electric. See Boilers—Electric heating**Steam hammers**

Chambersburg single frame guided ram steam hammer. *il* Ry Mech Eng 97:592 Ag '23

Condition of power hammers important. R. E. Waldron. Ry Mech Eng 97:125-6 F '23

Hammer rigged to follow pile down under water. *il* diags Eng N 91:225-6 Ag 9 '23

History indicates forging was ancient art. F. Somers. diags Iron Tr R 73:389-91+ Ag 9 '23

Inverted steam hammer drives piling upward. *il* Pop Mech 37:560 Ap '22

Piston rods for steam drop-hammers. A. A. Blue. diags Iron Age 112:415-17 Ag 16 '23

Steam heaters

Portable unit fan blast heaters. *il* diags Heat & Ven 19:68-9 J1; 50-1 Ag '22

Solving heating and ventilating problems by means of unit heaters. J. Mackay. *il* diags Dom Eng 102:215-18 F 3 '23

Steam in four minutes. *il* Sci Am 126:339-40 My '22

Steam heaters, Industrial

Allen heater for high-density solution. diags Chem & Met Eng 29:194 J1 30 '23

Steam heaters for fuel oil. See Oil heaters

Steam heating

Capacities of steam heating mains as affected by critical velocities of steam and condensate mixtures. F. C. Houghten and L. Ebin. *il* diag Am Soc Heat & V E J 28:643-8; Discussion. 649-53 S '22; Abstract. Heat & Ven 19:56-7 J1 '22

Centralized control of steam-heating system based on outside temperature. diags Power 58:528-30 O 2 '23

Constructive advancement in heating methods. A. G. King. Dom Eng 98:11-13 Ja 7 '22

Critical velocity of steam in one-pipe systems. F. E. Giesecke. diags Am Soc Heat & V E J 28:637-42 S '22; Same cond. Power Pl Eng 26:914-15 S 15 '22; Discussion. Am Soc Heat & V E J 28:649-53 S '22

Data on air-line vacuum heating system. T. W. Reynolds. diags Heat & Ven 19:52-4 Je '22

Eliminating noise in heating systems. H. A. Jahnke. diags Power Pl Eng 26:666-8 J1 1 '22; Discussion. M. W. Ehrlich. 26:963 O 1 '22

Experience with steam heating installation. M. H. Brown. diag Power 57:303 F 20 '23

Heating a modern hospital. C. L. Hubbard. *il* diags Dom Eng 100:572-6+ S 30 '22

Heating and its relation to isolated-plant operation. E. L. Wilder. Power 54:758-61 N 15 '21; Discussion. D. F. Grahame. 54:987 D 20 '21

Heating and ventilating system and sound-proofing for the Eastman theatre and school of music. A. S. Crocker. Am Arch 123:200-2 F 23 '23

Heating and ventilating the Bureau of engraving and printing. N. S. Thompson. *il* diags plans Am Soc Heat & V E J 29:1-8 Ja '23

Heating industrial plants by direct steam radiation. C. L. Hubbard. diags Sanitary & Heat Eng 100:144-6, 175-7 S 7-21 '23

Heating of medium-sized buildings. C. L. Hubbard. diags Dom Eng 103:487-90 Je 9 '23

Heating system of the General fire extinguisher co. C. L. Hubbard. *il* chart diags plan Power Pl Eng 26:591-5 Je 15 '22

Heating systems for cottages and bungalows. A. G. King. diags plans Dom Eng 105:8-12, 110-14 O 6, 20 '23

High-pressure steam-heating lines. E. Buckingham. Mech Eng 44:641-2 O '22; Same. Am Soc Heat & V E J 28:877-82 D '22

How a heating contractor heats his own house. L. M. Emmet. plans Dom Eng 101:221-2 N 11 '22

How a steam heating problem was solved in a building which had no cellar. J. K. Raymond. Dom Eng 98:528 Mr 25 '22

Illinois heat retainer. *il* diags Heat & Ven 20:60-1 My '23

Importance of proper condensation control. M. C. W. Tomlinson. Heat & Ven 19:35 Mr '22

Improvements reduce waste. H. A. Jahnke. diags Power Pl Eng 27:638-9 Je 15 '23

Improving steam distribution. A. J. Dixon. diag Power 55:71 Ja 10 '22

Is there any saving in vacuum heating? A. L. Browne; C. A. Fuller; E. R. Pierce. charts Heat & Ven 20:37-43, 68-9 F '23; Discussion. 20:47 Ap '23

Kinks for steam fitters. diags Dom Eng 94:334-6; 97:153-4, 249-50, 350-1, 436-8, 526-7, 625-6; 98:167-8, 213-14, 353-4, 491-2; 99:233-4 F 12, O 22, N 5, 19, D 3, 17, 31 '21, Ja 28-F 4, 25, Mr 18, My 6 '22

Steam heating—Continued

- Low and high pressure steam piping. L. M. Emmet. Dom Eng 104:173-5+, 231-2+ JI 28-Ag 4 '23
- Modern heating for the home. M. G. Hook. diags Sanitary & Heat Eng 100:212-14+, 274-5+ O 5, N 2 '23
- Municipal steam heating system at Cleveland, Ohio. H. W. Kaiser. il diags map Am Water Works Assn J 8:559-70 N '21
- Novel application of indirect heating. C. H. Thomas. il diags Power Pl Eng 27:1026-8 O 15 '23
- One-pipe vapor heating system. il Sanitary & Heat Eng 96:391-2+ D 30 '21
- Plant improvement of the International motor co. shows large saving. il diags Power 56:790-4 N 21 '22; Discussion. 57:111, 149 Ja 16-23 '23
- Practical manual of steam, vapor and hot water heating. E. R. Pierce. 2d ed., rev. & enl. 316p Domestic engineering co., Chicago '22
- Progress of railway car heating. E. E. Gold. il diags Heat & Ven 20:57-60 JI '23
- Small steam heating system, located below the boiler. L. M. Emmet. diags plans Dom Eng 98:488-9 Mr 18 '22
- Standard piping details; piping for a low-pressure boiler on one pipe gravity steam heating system, with two circuits. diags Dom Eng 101:382-3 D 2 '22
- Steam heating. 367p Warren Webster & co., Camden, N.J. '22
- Steam heating system for a fourteen-room house. C. L. Hubbard. plans Dom Eng 99:11-13, 53-4 Ap 1-8 '22
- Steam requirements of buildings and cars. T. W. Reynolds. Heat & Ven 20:56-7 S '23
- Steam waste in heating railroad coaches. T. W. Reynolds. diags Heat & Ven 19:36-9, 41-5 My-Je '22
- Temperature control by fractional distribution of steam in large one and two-pipe systems. J. A. Donnelly. diags Am Soc Heat & V E J 28:404-6 My '22
- Three different methods of heating a large machine shop. J. Mackay. diags plans Dom Eng 102:557-60 Mr 24 '23
- Trouble with water-logged pipe coils. diags Heat & Ven 19:47-8 Ap '22
- Unusual heating job; changes in the heating system of Garden pier at Atlantic City. il plans Dom Eng 102:272-3 F 10 '23
- Vacuum heating. J. E. Seiter. Power 58:437-8 S 11 '23; Same. Textile World 64:2875+ N 10 '23; Abstract. Heat & Ven 20:52-4 JI '23
- Vacuum system with steam operated vacuum pump. J. Mackay. diag Dom Eng 103:584-5 Je 23 '23; Discussion. J. J. Hayes. Dom Eng 104:124-5 JI 21 '23
- Value and method of steam generating plant interconnection. J. C. Butler. diags Heat & Ven 19:35-9 Ag '22
- Vapor heating systems. E. R. Pierce. diag Dom Eng 101:173-5, 273-5, 365-7+, 475-7, 573-6; 102:32-4, 171-4 N 4, 18, D 2, 16, 30 '22-Ja 5, 27 '23
- Vapor heating; the Donnelly fractional distribution system. diags Heat & Ven 18:64-5 D '21; 19:64-6 Ja '22
- Vapor heating; the dual system. il diag Heat & Ven 20:79-81 O '23
- Vapor heating; the Illinois system. diags Heat & Ven 19:74-5 JI '22
- Vapor heating; the O-E perfect system. diags Heat & Ven 20:72-3 Mr '23
- Vapor heating; the Richardson system. il diags Heat & Ven 18:64-5 N '21
- Vapor heating; the Simplex system. Heat & Ven 20:75-7 JI '23
- Vapor system of heating in a seven-story apartment building. L. M. Emmet. diag plans Dom Eng 98:395-8 Mr 4 '22
- Why the radiators would not heat. diags Power 55:151-2, 554-5 Ja 24, Ap 4 '22
- World's largest gas heating plant; gas fired steam boilers at Los Angeles. S. S. Fyfe. il Gas Age 49:765-8 Je 24 '22

Young motor-pump set holds vacuum automatically. il Power 55:536 Ap 4 '22

See also Heating from central stations; Hot water heating; Radiators; Steam flow; Steam heaters; Steam pipe coverings; Steam pipes; Steam traps

Estimates

Example of unprofitable heating work. F. C. Clements. Dom Eng 102:82-3 Ja 13 '23

Return systems

- Checkless method of returning condensation to a low pressure boiler. diags Dom Eng 100:317-19 Ag 19 '22
- Practice endorsed of connecting returns at water level of boiler. diag Heat & Ven 19:53 Ag '22
- Returning condensation to boiler. M. W. Ehrlich. chart diags Sanitary & Heat Eng 100:9-12 JI 13 '23
- Theory for the flow of condensation in return pipes, with discussion. R. V. Frost. Am Soc Heat & V E J 28:655-63 S '22
- Water returns to steam heating boilers. diag Am Soc Heat & V E J 28:338-42 Ap '22; Same. Power 55:746-7 My 9 '22; Same cond. Power Pl Eng 26:380-1 Ap 1 '22

Tables, calculations, etc.

- Capacities of steam heating risers as effected by critical velocity of steam and condensate mixtures. F. C. Houghton and L. Ebin. il diag Am Soc Heat & V E J 29:115-30 Mr '23
- Checking steam waste in large buildings. charts Heat & Ven 19:38-40 S '22
- Estimating heat losses and figuring radiation. plan Dom Eng 101:581-2+ D 30 '22
- How much steam is required to heat a building? Heat & Ven 19:26 Mr '22
- New data on intermittent heating. Heat & Ven 19:48 My '22
- Radiation computing; charts. Heat & Ven 19:68-9 Je '22
- Ready-to-serve charge in steam heating. M. C. W. Tomlinson. Heat & Ven 19:31-2 F '22
- Recent data on exhaust steam for heating. Heat & Ven 19:35-8 JI '22
- Steam consumption for car heating. Heat & Ven 18:43-4 D '21
- Steam consumption in various types of buildings in Detroit. Power 58:361-2 S 4 '23
- Steam heating system for a fourteen-room house. C. L. Hubbard. plans Dom Eng 99:11-13, 53-4 Ap 1-8 '22
- Theory for the flow of condensation in return pipes. R. V. Frost. Am Soc Heat & V E J 28:655-9 S '22; Abstract. Power Pl Eng 26:863-4 S 1 '22; Discussion. Am Soc Heat & V E J 28:659-63 S '22
- Unusual steam consumption formula. T. W. Reynolds. Heat & Ven 20:49-50 Mr '23
- Up-to-date vapor heating plant. M. W. Ehrlich. diags plan Sanitary & Heat Eng 100:81-3 Ag 10 '23
- What it pays to know about heating. M. W. Ehrlich. Sanitary & Heat Eng 97:272-4; 98:33-5, 352-4+ My 19, JI 28, D 15 '22

Testing

Comparative heat losses from saturated and superheated steam lines. Heat & Ven 20:54-5 Ag '23

Steam hose. See Hose

Steam-jet-furnace. See Furnaces, Boiler—Turbine furnace

Steam jets

- Determining the consumption of steam jets. Power 57:728, 1032-3 My 8, Je 26 '23
- Measuring steam used by jet blower. diag Power 57:113 Ja 16 '23
- Steam jet ash conveyor; its history and latest developments. G. F. Zimmer. il Eng & Ind Management 7:262-4 Mr 9 '22

Steam measurement

Oil-burner steam-consumption measurement. A. F. Brewer. diag Power 55:689 My 2 '22

Steam meters

- Cadillac condensation meter. *il* diags Power Pl Eng 26:928 S 15 '22
- Data from flow-meter charts. J. A. Maguire. charts Power 55:1026-7 Je 27 '22
- Help of flowmeters in the sulphite cooking process. H. Lundberg. Paper Tr J 76:165-6 Ap 12 '23; Same. Tech Assn Pa ser 6:24-5 Je '23
- Kent-Hodgson steam meters; abstract. J. L. Hodgson. *diag* Mech Eng 44:196-7 Mr '22
- Metering of steam; abstract with discussion. J. L. Hodgson. Engineering 113:449 Ap 14 '22; Engineer 133:420 Ap 14 '22
- Profit and loss meters for steam plants. S. H. Childs. Paper Tr J 76:57-62 Je 14 '23
- Recording and integrating steam flowmeters in a sulphite mill. W. H. Kraske. charts Paper Tr J 76:162-5 Ap 12 '23; Same. Tech Assn Pa ser 6:21-4 Je '23; Same. without charts. Paper 31:51-2+ Ap 13 '23; Discussion. Tech Assn Pa ser 6:172-3 Je '23
- Special means of calibrating steam-flow meter. L. E. Brown. Power 56:139-40 Jl 25 '22
- What the steam-flow meter told C. G. Weber. *diag* Power 55:341-2 F 28 '22

See also Steam flow

Steam motor buses. See Motor buses, Steam

Steam motor cars. See Motor cars (railroad)—Steam

Steam motor trucks. See Motor trucks, Steam

Steam pipe coverings

- Boiler and pipe covering tests. Power 55:747 My 9 '22
- Conservation of heat in power and heating systems. E. R. Weidlein. flowsheet *il* Am Inst Chem Eng Trans v 13 pt 2:25-40; Discussion. 40-2 '20-'21
- Efficiency of steam pipe coverings at high temperatures. *diags* Engineering 114:155 Ag 4 '22
- Fuel economy by the adoption of scientific management in steam generation and utilization. D. Brownlie. *il* Eng & Ind Management 6:720-2; 7:39-41 D 22 '21. Ja 12 '22
- Heat losses from steam line pipes. R. H. Heilman. *il* Blast F & Steel Pl 10:261-5 My '22; Same cond. Mech Eng 44:435-7 Jl '22; Same. Chem & Met Eng 27:63-5 Jl 12 '22; Abstracts. Power 55:783 My 16 '22; Textile World 62:73 Jl 1 '22
- How to apply heat insulation. P. W. Swain. *diags* Power 56:354-7 S 5 '22
- Importance of insulation of steam lines in train yards. T. W. Reynolds. Heat & Ven 19:45 Mr '22
- Insulation in power plants. L. B. McMillan. *diags* Blast F & Steel Pl 11:447-9+ Ag '23
- See also* Magnesia, Insulating

Steam pipes

- Cause of vibration in steam pipes. A. J. Dixon. *diags* Power 55:472 Mr 21 '22
- Changes made necessary by reduction of steam pressure. W. H. Wakeman. *diags* Dom Eng 102:124-6 Ja 20 '23
- Chart for selecting steam pipe. W. F. Schaphorst. Power Pl Eng 27:332 Mr 15 '23; Same. Textile World 63:2609+ Ap 21 '23
- Critical velocity of steam with counterflowing condensate. W. A. Pearl and E. B. Parker. *diags* Heat & Ven 20:46-9 O '23
- Desirable sleeve for steam risers. *diag* Dom Eng 104:285-6 Ag 11 '23
- Draining the heating system. H. A. Jahnke. *diags* Power Pl Eng 26:475-7 My 1 '22
- Easy way to figure steam-pipe sizes. M. W. Ward. Power 56:308-9 N 21 '22
- Flow of steam in pipes; high-pressure distribution systems; chart. Heat & Ven 19:67 Ja '22
- High pressure and temperature steam lines; abstracts. B. N. Broido. Power Pl Eng 27:221-4 F 15 '23; Power 56:913-14 D 12 '22; Mech Eng 45:289-93; Discussion. 293-4 My '23
- High-pressure steam requires special care. W. S. Finlay, Jr. *il* *diag* Power Pl Eng 27:61-4 Ja 1 '23
- High velocity steam mains. C. Hurst. *diags* Power Pl Eng 26:117-13 Ja 15 '22; Discussion. H. D. Fisher. 26:238-9 F 15 '22

- Holly steam loop. E. C. Wells. *diag* Power Pl Eng 26:1218 D 15 '21
- How the leaks were stopped. W. F. Schaphorst. *diags* Power Pl Eng 27:639 Je 15 '23
- Improvised pipe hangers and supports for heavy steam mains. W. H. Wakeman. *diags* Dom Eng 101:10-12 O 7 '22
- Joint articulé pour conduites de vapeur, système Andrews et Cameron. *diags* Génie Civil 80:366 Ap 22 '22
- Kinks for steam fitters. *diags* Dom Eng 94:334-6; 97:153-4, 249-50, 350-1, 436-8, 526-7, 625-6; 98:167-8, 213-14, 353-4, 491-2; 99:233-4 F 12, O 22, N 5, 19, D 3, 17, 31 '21, Ja 28-F 4, 25, Mr 18, My 6 '22
- Low and high pressure steam piping. L. M. Emmet. Dom Eng 104:231-2+ Ag 4 '23
- Oxy-acetylene used on high pressure steam line. *il* *diag* Sanitary & Heat Eng 100:205-7 O 5 '23
- Pipe welding in steam heating work. G. B. Nichols. *il* Heat & Ven 20:41-2 Mr '23
- Piping equipment for a hotel building. E. Cunningham. *diags* Dom Eng 99:410-12 Je 3 '22
- Piping for power and steam pumps. W. H. Wakeman. *diags* Dom Eng 103:214-15 My 5 '23
- Pressure drop methods of figuring pipe sizes. Heat & Ven 19:49 Ja '22
- Problem in unequal expansion of pipe lines. *diags* Heat & Ven 19:42-3 Mr '22
- Report of committee on steam and return main sizes; discussion. Am Soc Heat & V E J 28:577-8 Jl '22
- Return pipe sizes for vapor and vacuum heating system. M. G. Hook. Heat & Ven 20:62-3 Jl '23
- Standard piping details. *diags* Dom Eng 102:322-3 F 17 '23
- Steampipe arrangements. E. Ingham. Elec R (Lond) 91:224-5 Ag 18 '22
- Steam pipe explosion from water hammer action. Engineering 112:839 D 16 '21
- Stop valves and header connections. W. H. Wakeman. *diags* Power 56:486-8 S 26 '22
- Test to determine the pressure caused by expansion of a U-pipe bend. A. E. Walden. *diags* Mech Eng 44:612-13 S '22
- Underground steam main construction; experiments in state institution with hot water heating through direct injection of high pressure steam. J. K. Raymond. *diags* plan Dom Eng 104:384-6 Ag 25 '23
- Valves and piping for high pressure steam lines. D. H. Skcen. *diags* Power Pl Eng 27:565-6 Je 1 '23
- What it pays to know about heating. M. W. Ehrlich. *diags* Sanitary & Heat Eng 98:221-3 O 20 '22

See also Heating from central stations; Pipe fittings; Piping (power plants); Steam flow; Steam heating; Steam pipe coverings; Steam traps

Repair

- Difficult pipe job. R. D. DeWolf. *il* Power 56:322-3 Ag 29 '22
- Leaking steam line repaired by welding. *il* Power Pl Eng 27:879 S 1 '23
- Welding underground steam mains. Power 56:49 Jl 11 '22

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- Proposed A.S.M.E. rules for piping and fittings. Power 56:702-4 O 31 '22

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- Pressures adopted for standardizing high-pressure pipe fittings. Power 58:750 N 6 '23

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- Abstract of prime movers committee report. Power 57:947-50 Je 12 '23; Elec W 81:1353-6 Je 9 '23
- American printing co.'s plant at Fall River. *il* *diags* plan Power Pl Eng 26:1037-42 N 1 '22
- American 300,000-Kw. power station at a coal mine; the Colfax plant. *diags* plan Engineer 133:231-4 Mr 3 '22

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- Auxiliary system and heat balance at the Delaware station of the Philadelphia electric company. E. L. Hopping. *diags Mech Eng* 43:790-3 D '21; Excerpts. *Power* 54:957-8 D 20 '21; Excerpts. *Power Pl Eng* 26:114-15 Ja 15 '22; Discussion. *Power* 54:960 D 20 '21; *Mech Eng* 44:25-6+ Ja '22
- Barbadoes Island plant illustrates modern central station design. *il diags Power Pl Eng* 27:965-73 O 1 '23
- Battle Creek steam plant of Consumers power company. W. W. Tefft. *il diags plan Power* 55:580-5 Je 6 '22
- Benson super-pressure plant. P. W. Swain. *il diags plan Power* 57:796-801, 842-6 My 22-29 '23; Abstract. *Elec R (Lond)* 92:955-6 Je 15 '23; Discussion. *Power* 58:190-1 J1 31 '23
- Calumet station, Commonwealth Edison co. *il diags plan Power* 55:842-51 My 30 '22; Excerpts. *Elec Ry J* 59:897-901 Je 3 '22; *Elec W* 79:1110-14 Je 3 '22
- Calumet station; details of construction of the latest addition to Chicago's vast electrical system. *il diags plans Power Pl Eng* 26:497-508 My 15 '22
- Centralized control of a medium size power plant. L. M. Emmet. *diag Dom Eng* 103:112-13 Ap 21 '23
- Choice of steam conditions in modern power stations. L. C. Kemp. *Electrician* 88:774-7 Je 30 '22
- Le choix de la pression et de la température dans les centrales modernes. *Génie Civil* 81:163 Ag 12 '22
- Coal economy with small steam power plants. J. J. Brennan. *Elec R* 79:761-3 N 19 '21
- Commercial economy of high pressures and temperatures. G. A. Orrok. *diags Power* 56:684-7 O 31 '22; Same. *Mech Eng* 44:706-8 N '22; Same cond. *Elec W* 80:1205-7 D 2 '22; Same cond. *Power Pl Eng* 26:1150-2 D 1 '22; Discussion. *Mech Eng* 45:64-5 Ja '23; *Power* 56:914 D 12 '22; *Elec W* 81:104 Ja 13 '23
- Consumers' power 100,000-kw. plant at Zilwaukee. *Elec W* 81:1108-9 My 12 '23; *Power* 57:758-9 My 15 '23; *Power Pl Eng* 27:546-8 My 15 '23
- Control of power production. C. L. Hubbard. *diags Factory* 31:451-2+, 602-5+ O-N '23
- Cost cutting for industrial power plants. D. M. Myers. 77p *Engineering magazine* co. New York '22
- Data covering fuel consumption per unit of output in an industrial plant. C. B. Hudson. *Power* 57:727-8 My 8 '23
- Design features of Cahokia station. *diag plan Elec W* 80:1461-3 D 30 '22
- Development at the Colfax station of the Duquesne light company. J. M. Graves. *il plan Elec J* 20:198-201 Je '23
- Development of high pressure steam boilers. D. S. Jacobus. *diags Power Pl Eng* 27:1047-50 O 15 '23; Same. *Engineer* 136:400-1 O 12 '23; Same cond. *Power* 58:587-8 O 9 '23; Excerpt. *Elec W* 82:699-701 O 6 '23; Discussion. *Elec W* 82:817-18 O 20 '23
- Driving power-house auxiliaries. W. H. Smith. *il Power* 55:166-9 Ja 31 '22
- Economic generation of power. L. L. Bowen. *Power Pl Eng* 27:767-9 Ag 1 '23
- Economical steam plant. W. H. Wakeman. *diags Power* 56:464-5 S 19 '22
- Economical use of steam in a sugar refinery. C. C. Brown. *il chart Power Pl Eng* 27:923-7 S 15 '23
- Effect of feedwater heating on plant economy. G. G. Bell. *Mech Eng* 45:417-20+ J1 '23; Same cond. *Power Pl Eng* 27:777-81 Ag 1 '23
- Exhaust steam turned to profit. *il diags Power Pl Eng* 27:911-17 S 15 '23
- Furniture plant uses wood refuse as fuel. *il diags plans Power Pl Eng* 27:303-8 Mr 15 '23
- Gennevilliers electric power station. *diag Engineer* 134:242-3, 267, 270-2, 294 S 8-22 '22
- Gennevilliers steam power station; abstract. G. Mercier. *Elec W* 80:85 J1 8 '22
- Gennevilliers super-power station of the city of Paris. R. H. Andrews. *il diag (supp) Power* 56:156-62, 232-6, 296-7 Ag 1-22 '22; Excerpts. *Mech Eng* 44:829-31 D '22
- Good engineering characterizes new steam plant of the Abilene gas and electric co. Abilene, Tex. *il Power Pl Eng* 27:316-17 Mr 15 '23
- Grand Tower high-pressure steam station. *Power* 56:886 D 5 '22
- Hartford electric light company's South Meadow station. *il diags plan Power* 54:872-82 D 6 '21
- Heat balance at Colfax station. C. W. E. Clarke. *diags Mech Eng* 43:795-6+ D '21; Same cond. with table. *Power* 54:959-60 D 20 '21; Excerpt. *Power Pl Eng* 26:116-17 Ja 15 '22; Discussion. *Power* 54:960 D 20 '21; *Mech Eng* 44:25-6+ Ja '22
- Heat balance of the Conners Creek plant of the Detroit Edison company. C. H. Berry and F. E. Moreton. *diags Mech Eng* 44:22-5 Ja '22; Same cond. *Power* 54:958 D 20 '21; Discussion. *Mech Eng* 44:25-6+ Ja '22; *Power* 54:960 D 20 '21
- Heat-balance system for Hell Gate station. J. H. Lawrence and W. M. Keenan. *diags plan Mech Eng* 43:793-5 D '21; Same cond. *Power* 54:956 D 20 '21; Excerpt. *Power Pl Eng* 26:115-16 Ja 15 '22; Discussion. *Power* 54:960 D 20 '21; *Mech Eng* 44:25-6+ Ja '22
- Hell Gate—a station of many features. *il diags Elec W* 79:820-7 Ap 29 '22
- Hell Gate station of the United electric light & power company. H. W. Leitch. *il diags plans Elec J* 19:214-20 My '22
- High pressure steam in small power plants. C. L. Hubbard. *il diags Sanitary & Heat Eng* 96:105-7, 136-8+, 199-201, 251-3+, 339-41, 403-6; 97:33-5 Ag 12, 26, S 23, O 21, D 2, 30 '21, Ja 27 '22
- High-pressure steam requires special care. W. S. Finlay, jr. *il diag Power Pl Eng* 27:61-4 Ja 1 '23
- Higher steam pressures and improvement in station economy. F. H. Bushnel. N E L A Bul 10:475-6 Ag '23; Same. *Eng & Contr (W W)* 60:292-3 Ag 8 '23; Same cond. *Power* 57:950 Je 12 '23; Abstract. *Elec W* 81:1329 Je 9 '23
- Hospital plant at Middleton. R. E. Dockam. *il plan Power Pl Eng* 26:935-8 O 1 '22
- How operating conditions of plant were improved. R. J. West. *diags Power* 57:530 Ap 3 '23
- Huge savings possible by the use of by-product power. L. J. Sforzini. *diags Power* 57:624-8 Ap 24 '23
- Improved station design shown at South Meadows. C. H. Reeder. *il diags plan Elec R* 79:905-10 D 17 '21
- Industrial power plant of H. O. Wilbur & sons, inc. Philadelphia, Pa. J. H. Wilkers. *il Power* 58:204-8 Ag 7 '23
- Lakeside power station at Milwaukee; mechanical, electrical and construction features of world's largest pulverized fuel burning power plant. *il diags plans Power Pl Eng* 26:397-406 Ap 15 '22; *Coal Age* 21:878-9 My 25 '22; *Elec Ry J* 59:633-40 Ap 15 '22; *Elec W* 79:720-4 Ap 15 '22; *Power* 55:604-10 Ap 18 '22; *Engineer* 135:353-6, 409-11, 422 Ap 13-20 '23
- Large Canadian paper mill and its steam plant. *il Engineer* 136:206-7 Ag 24 '23
- Making steam for a large state institution; new power plant at the Central Islip state hospital. *il diags plans Power Pl Eng* 26:1085-9 N 15 '22
- Manufacture of steam. W. E. Highfield. *Elec R (Lond)* 93:427 S 21 '23
- Meeting abnormal calls for steam. Z. Kogan. *diag Power Pl Eng* 26:896-7 S 15 '22
- Mersey power co., ltd.; new Runcorn power station. *il Elec R (Lond)* 90:235-6, 271-2. 292-4 F 17-Mr 3 '22
- Modern European tendencies in power-plant design. A. W. H. Grieve. *Power* 55:54-6 Ja 10 '22
- Modern industrial plant in Milwaukee burns pulverized coal. *il diags Power* 56:868-74 D 5 '22
- Modern power plant in the rubber-tire industry. *il diag Power* 55:448-54 Mr 21 '22
- Municipal power plant, Lansing, Michigan. O. E. Bulkeley. *il diags plans Power* 57:968-76 Je 19 '23

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- New Hell Gate power station of the United electric light and power company. il diags (supp) plans Power 55:678-86, 760-3 My 2, 16 '22
- New Johns-Manville power plant designed by staff engineers. il diags plans Power Pl Eng 27:609-18 Je 15 '23
- New Marysville plant, Detroit Edison co. C. H. Berry. il diags plan Power 57:824-30 My 29 '23
- New Marysville plant handles increasing demand. P. W. Thompson. il diags plan Power Pl Eng 27:573-80 Je 1 '23
- New plant for Pueblo, Colorado. il diags plan Power 57:922-6 Je 12 '23
- New plant of the Badger state tanning co. il diags plans Power Pl Eng 26:547-53 Je 1 '22
- New plant of the Fisher body Ohio co. il diags plan Power Pl Eng 26:201-9 F 15 '22
- New steam plant at Amsterdam. il diags plans Power Pl Eng 26:639-45 JI 1 '22
- Notable steam-power plants placed in operation or being built. Power 57:11-12 Ja 2 '23
- Notes from report of prime movers committee of N.E.L.A. il diags Power Pl Eng 26:697-703 JI 15 '22
- Notes on the generation of steam. C. A. Joerger. Power 57:251-2 F 13 '23
- Operating features of the Montville power station. il diags Power Pl Eng 26:1187-92 D 15 '22
- Operation of oil-burning steam plants. C. H. Delany. Iron Age 109:525-7 F 23 '22
- Over-all plant efficiency. Power 58:434 S 11 '23
- Parke, Davis & co. remodel Detroit power plant. il diags Power 58:406-12 S 11 '23
- Plant improvement of the International motor co. shows large saving. il diags Power 56:790-4 N 21 '22; Discussion. 57:111, 149 Ja 16-23 '23
- Plant of the Field museum of natural history. il diags plans Power Pl Eng 26:349-56 Ap 1 '22
- Points in modern power-plant design. G. T. Shoemaker. diags Elec W 82:433-6 S 1 '23
- Power and heating plant of Utica state hospital. il diags plans Power Pl Eng 26:449-56 My 1 '22
- Power plant machinery. W. H. James and M. W. Dole. 2d ed., rev. & enl. Wiley '23
- Power plant of the Durant motors, Elizabeth, N.J. il diags Power 58:638-43 O 23 '23
- Power plant troubles; suggestions for avoiding unnecessary expense in making repairs. H. A. Jahnke. diags Power Pl Eng 26:137-8 Ja 15 '22
- Power plants of the Amoskeag mills. W. D. Diman. Power 58:393-4 S 4 '23
- Power provision and steam plant design. A. Hubbard. il diags plan Arch Forum 39:137-43 S '23
- Power-station design. C. W. E. Clarke. Eng Soc W Pa 38:109-27 My '22; Abstract. Mech Eng 45:52-3 Ja '23; Discussion. Eng Soc W Pa 38:128-67 My '22
- Present and future of power-station efficiency. W. M. Selvey. Elec R (Lond) 91:727-9 N 17 '22
- Problems in steam plant operation. E. A. Quinn. J Elec 50:370-7 My 15 '23
- Problems in the steam generation of power in the West. R. C. Powell. J Elec 48:397-400 My 15 '22
- Profit and loss meters for steam plants. S. H. Childs. Paper Tr J 76:57-62 Je 14 '23
- Recent developments in power production. D. L. S. Bigge. Electrician 88:715-17 Je 16 '22
- Relation of auxiliary drives to heat balance. J. R. McDermet. diag Power 54:888-90 D 6 '21
- Remodeled Naval proving grounds power plant. P. J. Searles. diags plan Power 55:133-4 Ja 24 '22
- Salvaging a war contract; the Gorgas steam station. R. D. Coombs. il Elec W 81:327-9 F 10 '23
- 75,000 h.p. natural gas-fired power plant; the Midway station, California. F. A. Talbot. il Elec R (Lond) 91:222-4 Ag 18 '22
- Signposts of steam plant economy. E. F. English. Elec W 81:982-3 Ap 28 '23
- Some engineering features of the Weymouth station of the Edison electric illuminating co. of Boston. I. E. Moulthrop and J. Pope. diags plan Am Inst E E J 42:799-808 Ag '23; Same cond. Power 58:42-6 JI 10 '23; Same cond. Elec W 82:9-13 JI 7 '23; Excerpts. Power Pl Eng 27:726-9 JI 15 '23; Abstract. Mech Eng 45:598 O '23; Discussion. Am Inst E E J 42:1211-16 N '23
- Some factors in the design of railway power plants; report of the committee on modernization of stationary boiler plants of the A. R. A. Ry R 70:991-5 Je 24 '22
- Some unusual steam plants in Tuscany. E. Hahn. il diag map plan Power 57:882-5 Je 5 '23
- South Meadow station. il diags plans Power Pl Eng 25:1177-84, 1210-17 D 15 '21
- Steam-electric central stations retained for the superpower system. A. R. Wellwood. Power 54:969-72 D 20 '21
- Steam engineering practice in modern central stations. T. E. Keating. Elec J 19:490-6 D '22
- Steam for Battle Creek sanitarium. il charts diags plan Power Pl Eng 25:1131-8 D 1 '21
- Steam plant auxiliaries. C. D. Gray and M. M. Samuels. il diags Elec W 82:749-53 O 13 '23
- Steam plants of Amoskeag mills. W. G. Diman. Textile World 64:1981+ O 6 '23
- Steam power from blast-furnace gas. G. Fox and F. H. Willcox. il diag Power 54:706-9 N 8 '21
- Steam power station at Comines. J. Reyval. Elec W 80:619 S 16 '22
- Tamarack power plant. il diag plans Power Pl Eng 26:837-43 S 1 '22
- La technique actuelle des centrales à vapeur. Génie Civil 79:433-7 N 19 '21
- Unafow engine shows low steam consumption in the plant of the Acme wire co. il Power Pl Eng 25:1144-5 D 1 '21
- Undigested water makes steam vicious; causes, effects and remedies for priming and condensation. diags Power Pl Eng 27:64-71 Ja 1 '23
- Unedda bakers start up new Buffalo plant. il diags plan Power Pl Eng 27:857-66 S 1 '23
- Using excess power to save coal. E. H. Horstkotte. il Ind & Eng Chem 15:913-14 S '23; Same. Paper Tr J 77:105-6 O 18 '23
- Wabash river station of the Indiana electric corporation. F. S. Clark. il diag plan Power 57:1008-13 Je 26 '23
- Word about steam plants. M. M. Brown. diags Power 58:25-6 JI 3 '23
- Work on Cahokia station under way. il diag Power Pl Eng 27:135-6 Ja 15 '23
- Wrong way to design a steam plant. W. H. Wakeman. Power 58:339 Ag 28 '23
- Year of progress in the power-plant field. il diags Power 57:2-19 Ja 2 '23
- Year's progress in the power plant field. il Power 55:2-10 Ja 3 '22
- See also Boiler plants; Boilers; Electric plants; Exhaust plants; Feed water heating; Hydroelectric plants—Auxiliary plants; Piping (power plants); Power plants; Steam; Steam engineering; Steam engines; Steam turbines

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- Heat balance and steam distribution in a large service plant. S. D. Kutner. diag Power 55:488-91 Mr 28 '22

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- Comparing value of power plant fuels. G. M. Levy. charts Power Pl Eng 26:1147-8 D 1 '22
- Fuel economy problems; the small generating station's aspect. C. F. Wade. Elec R (Lond) 91:404-5 S 22 '22
- Fuel oil engines vs. steam engines for small combined electric and water plants. G. T. Prince. Am Water Works Assn J 10:192-8 Mr '23; Excerpt. Can Eng 43:668-9 D 26 '22; Abstract. Eng N 90:199 F 1 '23
- Higher steam pressures or pulverized coal? F. A. Scheffer. diag Am Inst E E J 41:346-50 My '22; Same abr. Power 56:628-9 O 17 '22; Abstract. Elec R (Lond) 91:331 S 8 '22

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- Oil engine vs steam power. C: E. Lucke. Power 56:80-3 J1 18 '22
 What charge should be made for steam? W. A. Miller. Power 55:33-4 Ja 3 '22; Discussion. M. E. Guile. 55:474-5 Mr 21 '22

Equipment

- Backwoods engineering; reminiscences of the early struggles of an old timer with make-shift equipment. A. G. Collins. por Power 57:60-1 Ja 9 '23
 Barbadoes Island plant illustrates modern central station design. il diags Power Pl Eng 27:965-73 O 1 '23
 Distinctive European power plant equipment. J. H. Blakey. diag Power Pl Eng 26:959-61 O 1 '22
 Electric drive for steam generating station auxiliaries; abstracts. H. C. Albrecht. Power 55:400 Mr 7 '22; Elec Ry J 59:413 Mr 11 '22; Elec W 79:687 Ap 8 '22
 Electric drive for turbine auxiliaries. J: M. Drabelle. il Gen Elec R 26:52-4 Ja '23
 Heat balance and electric equipment in the Gennevilliers station. R. H. Andrews. il diags Power 56:232-6, 296-7 Ag 15-22 '22
 Steam power plant auxiliaries and accessories. T. Croft. 447p McGraw-Hill '22
 Veteran engines give way to modern turbines. G. W. Atkinson. il Power 55:368-71 Mr 7 '22

Hydroelectric auxiliaries

- Supplementing steam plants with hydro. Elec W 82:712-13 O 6 '23

Safety devices and measures

- Remote control of high-pressure steam lines; abstracts. P: P. Dean. Power 57:999-1000 Je 19 '23; Power Pl Eng 27:667-70 J1 1 '23

Tables, calculations, etc.

- Coal consumption per kilowatt-hour. Power Pl Eng 27:338-9 Mr 15 '23
 Fewer pounds of coal per kilowatt-hour. A. H. Horton. Elec W 81:624 Mr 17 '23
 Heat balance of a power plant. diag Power 58:704 O 30 '23

Testing

- Curing a sick plant. F. C. Vogan. il diags Power Pl Eng 26:153-9 F 1 '22
 Preparation necessary for tests on steam equipment. F. H. Broome. Elec W 79:236-7 F 4 '22

Steam receivers

- SC drainage control adapted from boiler-feed device. il Power 56:207 Ag 8 '22

Steam research

- Progress in steam research. diags Mech Eng 45:165-8 Mr '23

Steam rollers. See Road rollers**Steam separators**

- Fuel economy by the adoption of scientific management in steam generation and utilization. D: Brownlie. il diags Eng & Ind Management 7:238-40 F 23 '22
 Young motor-pump set holds vacuum automatically. il Power 55:536 Ap 4 '22

Steam shovels

- Bucyrus $\frac{3}{4}$ yard universal shovel. il Ry R 70:1031-2 Je 24 '22; Eng & Min J 114:175 J1 22 '22; Pub Works 53:38 J1 8 '22
 Caterpillars for railroad-type steam shovels. il Ry R 70:767-9 My 27 '22
 Changing stone quarry from hand to steam shovel methods. I. Warner. Munic Eng 61:sup24, 26, 28-9 S '21; Same. Eng & Contr 56:578-9 D 21 '21
 Crawler mountings for railroad-type power shovels. B. Van Brunt. il Eng N 90:370 F 22 '23
 Device that was new 85 years ago. il Ry R 70:1029-30 Je 24 '22
 Endless-tread traction rig for standard shovels. il Pop Mech 38:764 N '22
 Fuel economy and firing with coal or wood in steam shovel or dragline operation. Eng & Contr (Ry) 59:436-8 F 21 '23
 New features on Marion $\frac{3}{4}$ -yd. revolving shovel. il Eng & Contr (Ry) 58:109-10 N 15 '22

- Les pelles à vapeur de 2^m 700, du port de Takoradi, Côte d'Or (Afrique équatoriale). il diags Génie Civil 82:589-91, pl 6 Je 23 '23

- Quarry and steam shovel work for highway construction. il Pub Works 52:194 Mr 18 '22
 Recent developments in British excavating machines. F. H. Livens and W. Barnes. il diag Eng & Contr 58:199-201 Ag 30 '22
 Steam shovel cuts snow removal cost. C. C. Kilby. il Eng N 90:264 F 8 '23
 Steam shovels and cableways. A. B. McDaniel. diag Can Eng 45:451-2 O 30 '23
 Steam shovels operated by compressed air. R. T. Stone. il Eng & Contr (Ry) 60:608-9 S 19 '23
 $3\frac{1}{2}$ -cubic yard steam shovel. Engineering 115:300-2, 304, pl 21 Mr 9 '23
 Traction-wheel mounting for railroad-type steam shovels. H. J. Barnhart. il Can Eng 45:237 Ag 14 '23; Same. Eng & Contr (Ry) 60:127-8 J1 18 '23; Same cond. Coal Age 24:316 Ag 30 '23

Cost of operation

- Cost of steam shovel work in building logging railroads. Eng N 87:995 D 15 '21
 Steam-shovel operation by Phelps Dodge corporation; abstract. H. M. Ziesemer and G: Mieyr. Min & Met 182:44-5 F '22; Same. Eng & Contr 57:254 Mr 15 '22

Manufacture

- Operations in making steam shovels. F: H. Colvin. il diags Am Mach 58:396-8, 485-7 Mr 15, 29 '23

Standards

- Steam shovel standardization. R. E. Tally. Eng & Min J 116:512 S 22 '23

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- Structural details of cafeteria equipment. J: Stephan. diags Sheet Metal Worker 13:641-3+ O 27 '22

Steam traps

- Advantages of the water-seal trap for draining low-pressure steam lines. H. M. Phillips. diag Power 58:188-9 J1 31 '23
 Ellis packless tilting steam trap. il Power Pl Eng 26:1028 O 15 '22
 Fuel economy by the adoption of scientific management in steam generation and utilization. D: Brownlie. il diags Eng & Ind Management 7:117-20, 131-2 Ja 26-F 2 '22
 Hoffman blast trap. il Heat & Ven 20:72 O '23
 Improved Ellis packless trap. diags Power 57:629 Ap 24 '23
 Improving trap operation. H. A. Jahnke. diags Power Pl Eng 26:820-1 Ag 15 '22
 Improvised expansion trap. A. J. Dixon. diag Power 56:696 O 31 '22
 Influence of valves and steam traps on the economic steam velocity for superheated-steam turbines. O. Denecke. diags Mech Eng 45:594-6 O '23
 Overcoming tilting trap troubles. H. A. Jahnke. diags Power Pl Eng 27:840-1 Ag 15 '23
 Power plant troubles. H. A. Jahnke. diags Power Pl Eng 25:1161-2 D 1 '21
 Safety devices are essential. il Power Pl Eng 27:81-3 Ja 1 '23
 Simple return trap for steam heating systems. il Power 57:323 F 27 '23
 Squire's all-steel steam trap. diag Power 58:656 O 23 '23
 Steam trap installation and operation. R. N. Robertson. diags Power 58:573-6 O 9 '23
 Steam traps—their selection, installation and upkeep. E. Smiley. diag Power 56:45-8 J1 11 '22; Discussion. 56:105, 219 J1 18, Ag 8 '22
 Trap installation. Power Pl Eng 26:924 S 15 '22
 Traps for boiler feeding. H. A. Jahnke. diags Power Pl Eng 26:1059-62 N 1 '22
 Two Armstrong inverted bucket steam traps. diags Power 55:534 Ap 4 '22
 Where and how to use return traps. R. H. Anderegg. diags Dom Eng 102:72-4+ Ja 13 '23
 Wilmon vacuum trap. il Power 55:99 Ja 17 '22

See also Steam pipes

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Testing

Performance data on nineteen radiator traps. *il* diags Heat & Ven 20:33-9 Ag '23

Tests of radiator traps. W. F. Stutz. *diag* Am Soc Heat & V E J 29:79-84; Discussion. 84-6 Mr '23; Same, without discussion. Heat & Ven 20:41-2 Ap '23

Steam trucks. See Motor trucks, Steam

Steam turbine locomotives. See Electric locomotives, Steam turbine; Locomotives, Steam turbine

Steam turbines

Accurate methods of aligning steam turbines. E. G. Barker. *il* diags Power 58:378-80, 526-7 S 4, O 2 '23

Aligning turbines by position of coupling flanges. *diags* Power 56:779 N 14 '22

Balancing machine utilized in the field for quickly correcting turbine operation. H. D. Fisher. *il* diags Power 57:480-1 Mr 27 '23

Belliss and Morcom steam turbine. *il* diags Engineering 113:773-6, 803-5, pl 43-5 Je 23-30 '22

Bleeder turbine as a coal conservator; abstracts. J. L. Moore. *il* diags Ind Management 64:360-3 D '22; Am Soc Heat & V E J 28:789-94 N '22; Power Pl Eng 27:126-8 Ja 15 '23

British steam-turbine drive for textile mills; abstract. Mech Eng 44:455 Jl '22

Calumet & Hecla large mixed pressure turbines. *il* diag Power 58:10-12 Jl 3 '23

Compound turbines and reheating for Crawford Avenue plant, Chicago. *diag* Power 57:874 My 29 '23

Dampf- und gasturbinen. A. Stodola. 111p J. Springer, Berlin '22

Developments in power station design. *diags* Engineer 133:201-4, 406-9 F 24, Ap 14 '22; Excerpts. Mech Eng 44:449-51 Jl '22; Excerpt. Power 55:932-3 Je 13 '22

Developments of steam turbo-generators, water turbines and transformers during the last ten years. A. Rossow, H. Baudisch and K. Thien. *Elec* W 81:643 Mr 17 '23

Devices to reduce leaving losses in steam turbines. I. R. Cox. Power 58:825-6 N 20 '23; Abstract. Mech Eng 45:661-2 N '23

Discussion of vapor-refrigerating condensers for steam turbines. F. C. Evans. *diags* Sibley J 36:175-7+ D '22; Abstract. Power 57:74 Ja 9 '23

Experiences in the operation of large turbines. Power 55:910-12 Je 6 '22

5,000-kilowatt Brush-Ljungström steam turbine. *il* diags Engineering 115:542-5, 577-8, 588, pl 34-5 My 4-11 '23; Abstracts. Mech Eng 45:431-2 Jl '23; Power Pl Eng 27:742-3 Jl 15 '23

Generator station development. D. B. Rushmore and E. Pragst. Power 56:668 O 24 '22

Heat balance obtained by special turbine. *il* diag Power Pl Eng 27:411-12 Ap 15 '23

House turbine operates only in emergencies. *diag* Power Pl Eng 27:1112-13 N 1 '23

Huge turbine casting sets record for size. *il* Pop Mech 40:234 Ag '23

Influence of valves and steam traps on the economic steam velocity for superheated-steam turbines. O. Denecke. *diags* Mech Eng 45:594-6 O '23

Largest single-cylinder, single-flow reaction turbine yet built at the Springdale station of the West Penn power company. *diags* Power 57:746-52 My 15 '23; Abstract. Mech Eng 45:430-1 Jl '23

Making turbines noiseless. H. H. Lupinski. *il* Power Pl Eng 26:1115-16 N 15 '22

Miscellaneous apparatus in turbine room. *Elec* W 82:869 O 27 '23

Necessary feature in adapting small turbines to higher temperatures. G. W. Penhenty. Power 57:869 My 29 '23

New line of small steam turbines developed by Allis-Chalmers mfg. co. *diag* Power 57:598 Ap 17 '23

New turbine instruments. *il* Power Pl Eng 25:1227-8 D 15 '21

New turbine placed on the market by the Standard turbine corporation. *diag* Power Pl Eng 26:1076-7 N 1 '22; Power 56:422 S 12 '22

New type of bleeder turbine produced by the Moore steam turbine corporation. *il* diags Power 56:134-5 Jl 25 '22; Power Pl Eng 26:831 Ag 15 '22; Blast F & Steel Pl 10:536 O '22; Paper Tr J 75:28+ O 19 '22

Nozzle losses in compound turbines. Engineering 113:607-8 My 19 '22; Abstract. Mech Eng 44:537-8 Ag '22; Discussion. Engineering 113:664 My 26 '22

Operation and maintenance of steam turbines. P. W. Thompson. Power Pl Eng 26:40-1 Ja 1 '22

Points in modern power-plant design. G. T. Shoemaker. *diags* Elec W 82:433-6 S 1 '23

Possibilities of high pressure and superheat for steam turbines. J. A. Polson. Power Pl Eng 26:893-6 S 15 '22

Possibilities of the turbine. P. F. Coffin. Power 55:136-7 Ja 24 '22

Powder company installs small condensing turbine. *il* Power Pl Eng 26:426 Ap 15 '22

Progress toward the solution of certain unsolved problems of engineering. W. H. Maw. Engineering 114:601-2 N 10 '22

Putting steam turbines in service. *il* diags Power 55:756-9 My 16 '22; Discussion. J. A. Drogue. 56:63 Jl 11 '22

Reaction turbine uses axial clearance in high-pressure blading. *il* diags Power 57:839-41 My 29 '23

Réchauffage de l'eau d'alimentation par prélèvement de vapeur aux turbines. R. de Kergaradec. *diag* Génie Civil 80:380-3 Ap 29 '22

Selection of prime movers. Power 56:394-5 S 5 '22

Size factor in steam turbines. Engineering 113:395-6 Mr 31 '22

Small extraction-turbine unit now available. *il* Pop Mech 39:612 Ap '23

Small steam turbine for high-temperature and high-pressure steam. *il* diag Coal Age 22:489-90 S 23 '22

Some results of turbine practice in England. Power 56:147 Jl 25 '22

Steam turbine. *diags* Power Pl Eng 26:42-5 Ja 1 '22

Steam turbine operation. L. W. Heller. Power 56:548-50 O 3 '22

Steam-turbine principles and practice. T. Croft. 347p McGraw-Hill '23

Steam turbine theory and practice. W. J. Kearton. 456p Pitman '22

Steam turbines. W. J. Goudie. 2d ed., enl. 804p Longmans '22; Review. Engineer 133:726 Je 30 '22

Steam turbines and electrical drives for vital auxiliaries. L. Helander. *il* Blast F & Steel Pl 10:418-20 Ag '22

Steam turbines and valves for paper mill power plants. W. F. Schaphorst. *il* Paper Tr J 75:30+ S 21 '22

Steam turbines for small outputs. *diags* Elec R (Lond) 90:119 Ja 27 '22

Steam turbines for works power. R. June. *il* diags Gas Age 50:103-5 Jl 22 '22

Steam-turbines have not increased in size. *il* Power 55:7-8 Ja 3 '22

Summary of report of prime movers committee. C. F. Hirschfeld. *Elec* J 20:191-3 Je '23

Turbine drive for Lancashire cotton mills. Power 55:795 My 16 '22

Turbine for steel mill service. *diag* Iron Age 110:477 Ag 24 '22; Iron Tr R 71:796 S 21 '22

Turbine improvements. *il* diags Power 57:7-9 Ja 2 '23

Turbines at the Hell Gate station. *il* diags Power 56:194-9 Ag 8 '22

12,500 kw. turbo-generator for the Liverpool corporation electricity works. *il* diags Engineering 112:873-6, pl 46 D 30 '21; Abstracts. Power 55:240 F 7 '22; Power Pl Eng 26:218-19 F 15 '22; Discussion. Engineering 113:46 Ja 13 '22

20,000-kw. steam turbine for Shanghai. *il* diags Engineering 116:38-42, pl 4 Jl 13 '23

Under what conditions are steam turbines preferable to electrical units for driving auxiliaries? *il* Coal Age 21:875-6 My 25 '22

Usefulness of steam turbines. R. June. Gas Age 49:565-7 My 6 '22

Steam turbines—Continued

Using shims instead of wedges for leveling bases of steam turbines. E. C. Barker, sr. il diags Power 57:58-60 Ja 9 '23; Discussion. 57:262-3, 455 F 13, Mr 20 '23

Variable speed steam turbine stoker drive. L. S. Forde. il Blast F & Steel Pl 11:342-4 Je '23

Where the energy goes in the steam supplied to a turbine. chart Power 55:330 F 28 '22

Why use a steam turbine in the boiler room? R. E. S. Geare. il Ind Management 65:202-4 Ap '23

See also Electric locomotives, Steam turbine; Locomotives, Steam turbine

Control

Air turbine adjusts the synchronizing spring of a steam-turbine governor. C. E. Colborn. diags Power 58:20 Jl 3 '23

Governor-controlled turbine for stoker drive. il Power 56:567 O 10 '22

Greater reliability required in steam turbine governors. H. M. Phillips. diag Power 55:740-1 My 9 '22

One valve gear automatically changes a turbine into a high-, low-, mixed-pressure or extraction type. il diag Power 58:12-13 Jl 3 '23

Pneumatic steam turbine governor. D. L. Barbour. diags Sibley J 36:7-8 Ja '22

Putting the turbo-generator on the line; starting and stopping a steam turbine. H. G. Roberts. il Power Pl Eng 27:408-10 Ap 15 '23

Steam-turbine emergency governors and trip valves. A. D. Palmer. diags Power 56:324-6 Ag 29 '22

Steam turbine governors and valve gears. E. H. Thompson. diags Power 57:675-8, 710-15, 790-5, 898-901, 931-3, 984-6, 1018-20 My 1-8, 22, Je 5-26 '23

Valve gears on small Westinghouse direct-driven turbines. diags Power 58:730-1 N 6 '23

Design

Major turbine troubles diminished. Elec W 79:77-80 Ja 14 '22

Proportioning of steam turbine blading. H. M. Martin. Engineering 113:1-3, 33-4, 66-70, 96-8, 128-31 Ja 6-F 3 '22

Steam turbine reliability and design. il Engineer 133:486-7, 514-15 My 5-12 '22

Expansion joints

Phillips rubber-tube turbine expansion joint. il diags Power 57:556-7 Ap 10 '23

Failures

Blocking an emergency governor out of service results in turbine wreck. il diag Power 57:175-6 Ja 30 '23

Details of Indianapolis turbine wreck. il diag Power 57:760-1 My 15 '23

Equipment failures in England. Elec W 82:487 S 8 '23

Failure of labyrinth packing shuts down turbine. diag Power 55:211 F 7 '22

Investigation of breakdown of 30,000-kw. turbine at Philadelphia. il diags Power 54:788-93 N 22 '21; Same cond. Elec R (Lond) 90:29-31 Ja 6 '22; Abstract. Engineering 112:829 D 16 '21; Discussion. Power 54:905; 55:316-17, 511 D 6 '21. F 21, Mr 28 '22

Power plant pathology. Engineering 115:717-18 Je 8 '23

Turbine accident at Edison's plant, West Orange, N.J. il Power 55:387 Mr 7 '22; Discussion. R. M. Coffey. 55:474 Mr 21 '22

Gearing

See Steam turbines, Marine—Gearing

History

Parsons steam turbine. H. C. Bywater. il Sci Am 127:237-9 O '22

Inspection

Pointers on the inspection of steam turbines. J. T. Willison. diags Power Pl Eng 27:271-4. 309-11 Mr 1-15 '23

Some turbine disorders revealed by inspection. G. S. Warden. il Power Pl Eng 27:571 Je 1 '23

Lubrication

Automatic lubricating auxiliary pump for safe turbine operation. J. F. Usener. il Elec W 79:837 Ap 29 '22

Behavior of lubricating oil in steam turbines. W. F. Osborne. diag Power 56:94-5 Jl 18 '22

Decreasing temperature of circulating oil. C. Brown. diag Power Pl Eng 26:189 F 1 '22

Deterioration of turbine oils in use. A. Duckham and S. E. Bowrey. Engineering 116:353 S 21 '23; Same. Power 58:707-8 O 30 '23

Essential qualities of oil for steam turbine lubrication. J. Y. Dahlstrand. il diags Elec R 79:770-2 N 19 '21

Lubrication of steam turbines. A. F. Brewster. Ind Management 63:206-8 Ap '22

Maintaining the efficiency of turbine lubricating oil. C. H. Hapgood and F. R. C. Boyd. il diags Gen Elec R 25:548-54 S '22

Oiling steam turbines. Power Pl Eng 26:646-7 Jl 1 '22

Steam turbine lubrication and operation. T. A. Brown. il diag Power Pl Eng 26:897-9, 943-5 S 15-O 1 '22

Viscosity of steam-turbine oils; factors controlling friction in bearings. V. M. Hatch. Power 54:1011-12 D 27 '21

Manufacture

Construction of a steam-turbine wheel. J. K. Cochran. il Sci Am 128:113 F '23

Machining blades for steam turbines. F. H. Colvin. il diags Am Mach 58:547-9 Ap 12 '23

Making engineering product on a factory basis. L. S. Love. il Iron Age 111:333-6 F 1 '23

Stainless steel for turbines. il Electrician 87:540-1 O 28 '21; Elec R (Lond) 89:560-2 O 28 '21; Engineer 132:447-50 O 28 '21; Engineering 112:592-4 O 28 '21; Eng & Ind Management 6:466-7 O 27 '21; Eng & Contr 56:502 N 30 '21; Power 54:990-1 D 20 '21

Performance

Check on steam-turbine performance. H. M. Phillips. diag Power 56:1012-14 D 26 '22

Turbine generating unit performance. Power Pl Eng 26:747-9 Ag 1 '22

Repair

Air hammer saves time in reblading steam turbines. P. D. O'Connor. Power 58:385 S 4 '23

Repair to 3,500-kw. horizontal turbine shaft. A. C. Danks. diags Power 58:386-7 S 4 '23

Tables, calculations, etc.

Check on steam-turbine performance. H. M. Phillips. diag Power 56:1012-14 D 26 '22

Contribution toward a precise method of computing steam-turbine-blade wheels of variable thickness; abstract. A. Fischer. Mech Eng 44:325 My '22

Some economic phases of engineering. G. F. Marsteller. chart Elec W 81:217-19, 559-62 Ja 27, Mr 10 '23

Testing

Effect of superheat on steam and fuel consumption. R. A. Holme. Power 58:286 Ag 21 '23

Efficiency tests of a 60,000-kw. turbine. H. B. Reynolds and W. F. Hovey. il Power 55:411-13 Mr 14 '22

Simple method of finding steam consumption of small turbines. diag Power 54:895-6 D 6 '21

Tests of a 60,000-kw. cross-compound triple-cylinder steam turbine. H. B. Reynolds and W. F. Hovey. diags plan Engineering 114:247-8, 281-3 Ag 25-S 1 '22; Same cond. Power 55:411-13 Mr 14 '22

Tests of an Erste Brunner back-pressure steam turbine. Engineering 116:152 Ag 3 '23; Discussion. 116:333-4 S 14 '23

Tests of the 15,000-KW. multiple exhaust turbine at Dalmarock. Engineering 116:273-4 Ag 31 '23

Steam turbines—Testing—Continued

Water rate of 11 lb. per kilowatt-hour developed by 60,000-kw. turbine. Elec W 79: 486-7 Mr 11 '22

Vibration

Analyzing turbine vibration with the aid of the vibrograph. diags Power 56:510-11 S 26 '22

Causes and remedies of lateral vibration in turbine wheels. C. H. Smoot. diags Power 54:1028-9 D 27 '21

Correcting vibration in reaction type turbines. L. Long. diags Power 58:609-12 O 16 '23; Discussion. J. E. Richardson. 58:860 N 27 '23

Investigation of oscillatory phenomena in turbo-generators by means of a vibrograph. J. Geiger. diags Mech Eng 44:528-30 Ag '22

See also Steam turbines, Marine—Vibration

Steam turbines, Marine

Canadian Pacific liner Empress of Canada. Engineering 114:385, pl 28-31 S 29 '22

Cunard twin-screw geared turbine-steamer Franconia. Engineering 115:680, pl 40 Je 1 '23

Designs geared turbine for marine use. il Marine R 52:387-8 S '22

Effect of vacuum upon economy in marine practice. F. V. Smith. Marine Eng 27:187 Mr '22

Metropolitan-Vickers Rateau marine turbines. H. L. Guy and P. L. Jones. il diags Engineering 115:186-90, 219-22. 284-6 F 9-16. Mr 2 '23

Parsons steam turbine. H. C. Bywater. il Sci Am 127:237-9 O '22

Steam turbines for marine propulsion in Holland. D. Dresden. il diags Engineering 116:344-7, 348 S 14 '23; Abstract. Engineer 136:274 S 14 '23; Discussion. Engineering 116:322-3 S 14 '23; Engineer 136:274-5 S 14 '23

Two recent single reduction turbine installations; cruisers Gustav V and Drottning Victoria of Swedish navy. J. D. Schmidt. il chart diags Marine Eng 28:561-5 S '23

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Bearings

Twin-screw steamship Gouverneur-general Chanzy first to be equipped with Michell type combined journal and thrust bearings. il diags Engineering 114:105, 108-10 Jl 28 '22; Excerpt. Power 56:375 S 5 '22

Gearing

Design of pinions for geared turbines. R. Gardner. Engineering 115:512-13 Ap 27 '23

Double-reduction geared turbines. Engineer 134:243-4 S 8 '22

Double-reduction gears for marine use: United States practice. J. L. Booth. Engineering 114:516-17 O 27 '22

Double reduction gears in the SS. Melmore Head. J. Wilkie. diags Engineer 133:423-4 Ap 14 '22; Same. Engineering 113:469-71 Ap 14 '22; Same. Marine Eng 27:452-6 Jl '22

Epicyclic reversing gear for Ljungström marine turbines. il diags Engineering 114:699-703 D 8 '22; Abstract. Mech Eng 45:124 F '23; Abstract. Génie Civil 82:558-9 Je 9 '23

Foettinger transformers on a liner. diags (supp) Engineer 134:4-5 Jl 7 '22

General electric company's contribution to the new merchant marine. J. L. Booth. il Gen Elec R 25:151-7 Mr '22

Magnitude of the forces of resonance in a turbine-driven steamship. A. Eagle. Engineering 114:290-1 S 8 '22; Discussion. 114: 500-1, 673-5 O 20, D 1 '22

Mechanical gearing. C. A. Parsons. S. S. Cook and H. M. Duncan. il diags Engineering 115:408-11 Mr 30 '23; Same cond. Engineer 135:349-50 Mr 30 '23; Discussion. Engineering 115:388-9 Mr 30 '23; Engineer 135: 335-6 Mr 30 '23

Nodal arrangements of geared drives. J. H. Smith. Engineering 113:438-40, 467-9 Ap 7-14 '22; Abstract. Mech Eng 44:455-6 Jl '22; Discussion. Engineer 133:419-20 Ap 14 '22

Notes on torsional oscillations with special reference to marine reduction gearing. A. T. Thorne and J. Calderwood. il diags Engineering 114:815-18 D 29 '22; Same cond. Engineer 134:547-8 N 24 '22

Partial discussion of the vibrations of marine geared turbines. J. H. Macalpine. diags Engineering 115:59-62 Ja 12 '23

Questions regarding the design and action of reduction gears. J. H. Macalpine. Engineering 114:58-62 Jl 14 '22

Reduction gear problem. Engineering 114:179-80 Ag 11 '22; Discussion. 114:276, 306, 364, 468-9, 532-3, 586, 738-9 S 1-8, 22, O 13, 27, N 10, D 15 '22

Reduction gearing. Engineering 114:453-4 O 13 '22

Repairs to double-reduction marine gearing. il Engineering 114:798 D 29 '22

Some remarks on turbine gearing. S. B. Freeman. Electrician 89:101 Jl 28 '22

Turbine reduction gearing and its production. J. H. Melloy. il diags Engineer 133:494-6, 498; Discussion. 496 My 5 '22

Wear of the teeth of marine turbine reduction gears. N. G. Near. Marine Eng 27: 204 Mr '22

Testing

Metropolitan-Vickers Rateau marine turbine. H. L. Guy and P. L. Jones. il diags Engineering 115:219-22 F 16 '23

Vibration

Notes on torsional oscillations with special reference to marine reduction gearing. A. T. Thorne and J. Calderwood. il diags Engineering 114:815-18 D 29 '22; Same cond. Engineer 134:547-8 N 24 '22

Partial discussion of the vibrations of marine geared turbines. J. H. Macalpine. diags Engineering 115:59-62 Ja 12 '23

Vibration of steam-turbine disks. il Engineering 115:220-2 F 16 '23; Abstract. Power 57: 1000-1 Je 19 '23

Steamboat lines

America develops new Atlantic passenger service. il diags Marine Eng 27:303-4 My '22

American passenger ships setting a high standard. J. Swan. il Marine Eng 28:654-6 N '23

Australian liner of the future. J. Harvard. Engineering 116:532-3 O 26 '23

Frisco lines, sales and charters active. H. H. Dunn. Marine R 52:366-7 S '22

New vessels for Savannah line. diags Marine R 53:77-9 F '23

Steamship services from United States ports. W. R. Long. U S Bur For & Dom Com mise ser 116:1-107 '22

U.S. line to improve European service. il Marine R 52:109 Mr '22

Advertising

Analyzing the high cost out of ocean travel. J. True. Ptr Ink 123:17-20 Ap 12 '23

Copy based on historical atmosphere sells steamship tickets. R. W. Johnson. Ptr Ink 118:65-6+ Mr 30 '22

How the Cunard company tells a story of size with a camera. W. L. Larned. il Ptr Ink 124:65-6+ Ag 9 '23

In comes advertising and out goes the ticket clerk. W. Brindley. il Ptr Ink 119:33-4+ Je 1 '22

Meeting merchandising problems in the steamboat business. Ptr Ink 117:44+ N 10 '21

Old Man Specific gets direct sales with institutional advertising. K. B. White. il Ptr Ink M 4:31-2 Ja '22

When the leader competes with the rest of the line. C. B. Larrabee. Ptr Ink 123:25-8 Je 7 '23

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Steamboat lines—Continued**Fares**

Ship fares reduced. Am Ind 22:46+ My '22
Shipping board orders passenger rates to
South American ports cut to meet British
competition. Comm & Fin Chr 114:1854-6 Ap
29 '22

Management

Duties of a marine superintendent. Marine
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Records

Charts show daily location of steamers. Pop
Mech 39:277 F '23
Graph shows ships' operations. P: Aikens.
Marine R 52:364-5 S '22

Steamboat ticket agents**Accounting**

Steamship-ticket and money-forwarding
agents' accounts. L: H. Ruden. J Account
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Steamboats

Another luxurious liner for the Italian Lloyd
Sabauda fleet; the Conte Verde. il Marine
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Atlantic liner Montclare increases Canadian
service. il Marine Eng 27:700-2 N '22

Big and fast liners of the future. E. Foerster.
il diags plan Sci Am 128:221-3 Ap '23

Build big Mississippi car ferry. il plan Marine
R 53:222-3 Je '23

Build French liner for Central American
route; the Cuba. il Marine R 53:263-4 JI '23

Canadian Pacific coastwise steamer Princess
Louise. R. Allan and A. F. Menzies. il diags
plans Marine Eng 27:483-93 Ag '22

Canadian-Pacific liner Empress of Australia.
il plan Engineer 133:689 Je 23 '22

Canadian-Pacific liner Empress of Canada.
il diags Engineering 114:255-8, 317-20, 333,
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Commonwealth government liner Jervis Bay.
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Cunard liner Franconia. Engineering 114:528-
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Cunard steamer Samaria. il Engineering 133:
410 Ap 14 '22

Cunard twin-screw geared turbine steamer
Franconia. Engineering 115:651-2, 680, pl 39-
40 My 25-Je 1 '23

Curves and formulae for regulating the water-
tight sub-division of passenger ships. A.
Denny. Engineering 116:314-17, 366 S 7, 21
'23; Discussion. 116:308 S 7 '23; Engineer
136:257 S 7 '23

Deliver big liner for Far Eastern trade; twin
screw steamer Sarpedon. il diag Marine R
53:261-3 JI '23

Design and construction of U.S. passenger
steamers. E. H. Rigg. Engineering 112:836-
9, 847-51 D 16-23 '21; Same cond. Marine
Eng 27:40-5 Ja '22; Discussion. 26:908-9 D
'21

Design of shallow-draught river steamers.
Engineering 114:223-4 Ag 25 '22

Designing the marine power plant for effi-
ciency. W: B. Flanders. il diags Marine
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Development of machine tools in New Eng-
land; early experiments with steamboats. G.
Hubbard. il diags Am Mach 59:241-4 Ag 16
'23

Express passenger and freight steamship
Haleakala. il plans Marine Eng 28:149-56 Mr
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Express steamers ordered for Eastern steam-
ship line. plans Marine Eng 28:156-8 Mr '23

Fit out liner for world trade cruise. il Ma-
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Great Eastern railway steamer Malines. diags
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Hamburg-American liner Albert Ballin. il
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Harwich-Antwerp passenger steamship Ma-
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Italian Atlantic liner Conte Rosso. il diag
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Largest Great Lakes passenger steamer
Greater Detroit launched. il Marine Eng 28:
623-4 O '23

Launch two passenger day ships on Delaware
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Liner City of Nagpur. il Engineer 134:378-9
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Machinery of the four-screw geared tur-
bine S. S. Giulio Cesare. il diags Engineer-
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Machinery of the T.S.S. Cuba; Compagnie
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New Atlantic liner Minnewaska. il Engineer
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New Belgian mail ships for service to Africa;
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New coastwise steamships Alleghany and
Berkshire. il plans Marine Eng 28:328-37 Je
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New Italian liner Conte Rosso. il Marine Eng
27:365-9 Je '22

New Munson liner Munargo goes into ser-
vice; fifteen-knot geared turbine passenger
steamer, built by New York shipbuilding
corporation, added to Munson fleet. il
Marine Eng 27:181-2 Mr '22

New Savannah liner, City of Chattanooga,
added to Atlantic coastwise fleet. il diags
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New 17,200-ton anchor liner Tuscania. diags
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New White Star liner Homeric. il Marine
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P. and O. liner Moldavia. Engineer 134:350
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Passenger liners Resolute and Reliance. il
Marine Eng 27:293-6 My '22

Peninsular and Oriental liner Mongolia. il
diags Engineering 116:231-4, pl 15-17 Ag 24
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Peninsular and Oriental liner Mooltan. il En-
gineer 136:349 S 28 '23

Power plant of the new French liner Paris.
il diags plan Power Pl Eng 26:265-7 Mr 1 '22

Proportions and block coefficient of merchant
steamers. W. J. Lovett. Engineering 114:
94-5; Discussion. 71-2 JI 21 '22; Same. Ma-
rine Eng 28:115-17 F '23

Reconditioning of the President Buchanan.
diags plans Marine Eng 28:217-21 Ap '23

Reconditioning of the steamship Leviathan.
il plans Marine Eng 27:673-85 N '22

Reconstructed Leviathan. il Sci Am 129:108-
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Scotch yard builds Australian liner. il Marine
R 52:487-8 D '22

Some ocean liners of 1922. Engineer 135:supp
Ja 5 '23

Some recent developments in cross-channel
steamer design. Engineer 134:513-15, 541-2
N 17-24 '22

Steamship America becomes largest cabin ship
afloat. il Marine Eng 28:471-4 Ag '23

Steamship coefficients, speeds and powers. C:
F. A. Fyfe. 2d ed. 399p Spon '21

S. S. Leviathan. il Marine Eng 28:394-410 JI
'23

Sternwheelers. J. Irving. Engineering 115:
64-6, 98-9. Ja 19-26 '23

Subdivision of large passenger steamers. A. C.
F. Henderson. diags Engineer 136:261-3 S 7
'23; Same. Engineering 116:317-18 S 7 '23;
Discussion. Engineer 136:257 S 7 '23; Same.
Engineering 116:308 S 7 '23

Trial trips of shallow draught river steamers.
Engineering 114:665 D 1 '22

Trials and maiden voyage of SS. Conte Verde.
Engineering 115:620 My 18 '23

Trials of the Fezara. il Engineer 135:172-3
F 16 '23

Tuning up the engine and boiler room. W: L.
Bunker. il Marine Eng 28:281-5, 365-8 My-Je
'23

Steamboats—Continued

- Twin-screw geared turbine Cunard steamer Samaria. *il* Engineering 115:8-9, 16, 40, pl 1-4 Ja 5-12 '23
- Twin-screw oil burning turbine liner Albert Ballin. *il* diags Marine Eng 28:48-9 Ja '23
- Twin-screw steamer Sarpedon. Engineer 136:374-5 O 5 '23
- Twin-screw steamships Aconcagua and Teno. *il* plans Engineering 115:487-90, 496, pl 32 Ap 20 '23
- Twin-screw turbine channel steamer Kei-fuku-Maru. *il* Marine Eng 27:499-501 Ag '22
- Twin screw turbine steamer Albert Ballin. I. E. Foerster. *il* diags plan Marine Eng 28:457-70 Ag '23
- Two excursion steamers built for the Wilson line. *il* diags plans Marine Eng 28:526-35+ S '23
- Two new Atlantic liners; the Cunard liner Antonia and the White Star liner Pittsburgh. Engineer 133:640, 643 Je 9 '22
- Two recent Clyde launches. *il* Engineer 134:552 N 24 '22
- Two recent single reduction turbine installations; cruisers Gustav V and Drottning Victoria of Swedish navy. J. D. Schmidt. *il* chart diags Marine Eng 28:561-5 S '23
- What shall be done with the ex-German transatlantic passenger liners Agamemnon and Mount Vernon? *il* diags Marine Eng 28:591-3 O '23
- White Star liner Homeric. Engineering 113:209 F 17 '22
- White Star liner Pittsburgh has distinctive features. *il* Marine Eng 27:553-5 S '22
- Work of Rumsey and Fitch. E. C. Smith. Engineer 136:418-19 O 19 '23
- See also* Boilers, Marine; Freight ships; Marine engines; Ship propulsion; Shipbuilding; Shipping; Ships; Steam turbines, Marine; Steamboat lines; Towboats; Warships; *also* names of steamboats, e.g. Leviathan (steamship); Majestic (steamship)

Conversion to motorships

See Motor ships—Steamboat conversion

Cost of operation

- Comparison of steamships and converted motorships. L. B. Chapman. Marine Eng 28:137-41 Mr '23
- Economics of operating reconditioned liners. C. E. Petersen. Marine Eng 27:7-8 Ja '22
- Economy in steamship operation and management. R. F. Hand. Marine Eng 28:261-2 My '23
- Efficiency in the operation of steamships. D. A. J. Sullivan. Marine Eng 28:19-21 Ja '23; Same. Marine R 53:8-10 Ja '23; Discussion. Marine Eng 27:776-7 D '22
- Meeting competition by using superheated steam. H. B. Oatley. Marine Eng 28:287-9 My '23
- Relative economy of steam and motor vessels. L. B. Chapman. Marine Eng 28:38-41 Ja '23

Lighting

See Ships—Lighting

Oil burning

See Boilers, Marine—Oil firing

Performance

- Leviathan on trial trip breaks world records. H. F. Lane. *il* Marine Eng 28:390-3+ Jl '23
- Performance standards established by Shipping board for 535-foot passenger and Hog Island cargo vessels. *il* Marine Eng 28:213-15 Ap '23; Marine R 53:124-8 Ap '23
- Shipping board establishes standard for efficient performance of its 502-foot passenger vessels. *il* Marine Eng 27:733-4 D '22; Marine R 53:1-3 Ja '23

Steamed ground wood. *See* Wood pulp

Steamers. *See* Steamboats

Steamship companies. *See* Shipping—United States—Directories

Stearic acid

See Tetrahydroxy-stearic acids

Steatite. *See* Otalite; Soapstone; Talc

Steel

- American society for testing materials session on steel and research. Iron Age 112:14-15 Jl 5 '23
- Beitrag zur kenntnis des schieferbruches und der fluckenbildung im stahle. F. Sommer and F. Rapatz. *il* Stahl & Eisen 42:1708-12 N 16 '22
- Changes in iron and steel below 400° C. A. Goffey and F. C. Thompson. bibliog diags Iron & Steel Inst J 107:465-90 no 1 '23
- Characteristics of rail-carbon steel. J. B. Carswell. Can Eng 42:281-4 Mr 7 '22
- Clean steel. F. P. Flagg. *il* Chem & Met Eng 28:906 My 21 '23
- Colloidal state in metals and alloys; iron and steel. J. Alexander. *il* diags Chem & Met Eng 26:201-7 F 1 '22
- Contributions to the study of coalescence in steels and its commercial results. A. Portevin and V. Bernard. Iron & Steel Inst J 104:145-79, pl 14-16 no 2 '21
- Correlation of the chemical constitutions of true steels with their micrographic structures. J. O. Arnold. Iron & Steel Inst J 107:213-20 no 1 '23; Same. Engineering 115:699-700 Je 1 '23; Discussion. Iron & Steel Inst J 107:221-4 no 1 '23
- Damascene steel. N. T. Belaiew. Iron & Steel Inst J 104:181-4, pl 17-18 no 2 '21; Same. Engineering 112:395 S 9 '21; Same. Blast F & Steel Pl 9:621-2 O '21
- Dirt in steel. Chem & Met Eng 28:51 Ja 10 '23
- Dirt in steel. S. Epstein. *il* Chem & Met Eng 28:482-3 Mr 14 '23
- Dirt in steel. M. Seyt. *il* Chem & Met Eng 28:149 Ja 24 '23
- Dirt in steel. R. H. Sherry. Chem & Met Eng 28:199 Ja 31 '23
- Does the critical point depend on the strength of the magnetising field? K. Honda. Iron & Steel Inst J 104:186-90 no 2 '21
- Effect of small quantities of tin in steel. J. H. Whiteley and A. Braithwaite. Iron & Steel Inst J 107:161-9, pl 3-4 no 1 '23; Same. Iron Tr R 72:1823-5 Je 21 '23; Discussion. Iron & Steel Inst J 107:170-4 no 1 '23
- Effects of zirconium in steel. F. M. Becket. Iron Age 111:1321-3 My 10 '23
- Engineering steels. L. Aitchison. 396p [Bibliography of original papers on the hardness of metals p. 326-31] Van Nostrand '21
- Grinding cracks. *il* diags Chem & Met Eng 27:607-8 S 20 '22
- Illinois coal meets Missouri iron. F. J. Crollus. *il* map Blast F & Steel Pl 11:535-41, 575-80, 620-3 O-D '23
- Influence of dissolved oxides on carburizing and hardening qualities of steel. E. W. Ehn. Iron & Steel Inst J 105:157-96, pl 10-16 no 1 '22; Excerpt. Engineer 133:519 My 12 '22; Excerpt. Iron Age 109:1807-8 Je 29 '22; Discussion. Iron & Steel Inst J 105:197-200 no 1; 106:223-5 no 2 '22; Engineering 113:595 My 12 '22
- Inherent effect of alloying elements in steel. B. D. Saklatwalla. Am Electrochem Soc Trans v 43 (preprint 14):137-45 My '23; Same. Iron Tr R 72:1883-4+ Je 28 '23
- Investigation of hot drawing on the mandril. E. Schneider. diags Iron & Steel Inst J 104:191-227 no 2 '21
- Investigation of steel for precision gages. Chem & Met Eng 27:754 O 11 '22
- Let steel user and steel maker cooperate; experiences with steel in cement plant machinery. W. R. Shimer. Iron Age 110:347-8+ Ag 10 '22
- Lowered transformation in quenched steel. *il* diags Chem & Met Eng 27:558-9 S 13 '22
- Manufacture and properties of steel plates containing zirconium and other elements. G. K. Burgess and R. W. Woodward. *il* diags U S Bur Stand Tech Pa 207:123-71 '22
- Mining and metallurgical engineers discuss steel and blast furnace subjects. Iron Age 111:609-12 Mr 1 '23
- Ein neues glühverfahren für unterperlitische stähle. B. Kjerrman. Stahl & Eisen 42:697-700 My 4 '22
- Non-residual steel as applied to a simplified ammeter. R. T. Pierce and T. D. Yensen. *il* diags Elec J 20:160-1 My '23

Steel—Continued

- Observations on the surface of liquid steel. C. Johns. *Iron Age* 109:719-20 Mr 16 '22
- Physical and chemical properties of iron and steel; abstracts. *Iron & Steel Inst J* 107: 693-742 no 1 '23
- Principles of oxyacetylene fusion welding. A. S. Kinsey. *il Ry Mech Eng* 97:49-51 Ja '23
- Producing steel free from dirt. H. W. Gillett. *Iron Tr R* 72:1826-7 Je 21 '23
- Simple device for determining critical point in steel known as the Nilson kritiskope. *il Iron Age* 110:806 S 28 '22
- Some causes of blistering of sheet steel metal enamels. G. F. Comstock. *il Am Cer Soc J* 6:873-85 Ag '23
- Some effects of zirconium in steel. A. L. Feild. *Iron Age* 112:607-8 S 6 '23
- Steel alloys; some notes on the influence of the various elements. *Automobile Eng* 13: 273-4 S '23
- Steel and research. E. G. Grace. *Chem Age* 31: 425 S '23
- Steel for forge welding. F. N. Speller. *Mech Eng* 44:443-4 Jl '22; Same. *Blast F & Steel Pl* 10:259-61 My '22; Same. *Am Mach* 57:411-12 S 14 '22; Discussion. *Mech Eng* 44:523 Ag '22
- Steel foundry. J. H. Hall. 2d ed. 334p McGraw-Hill '22
- Strain line in low carbon steel; new German etching method revealing effects on metal which has been stressed. *il Iron Age* 108:1401-3 D 1 '21
- Strip requirements are exacting. R. H. Ingraham. *Iron Tr R* 73:1103-5 O 18 '23
- Surface of liquid steel. *Sci Am* 128:115 F '23
- Tempering colors. *Brass W* 17:210 Jl '22
- Thermal expansion of a few steels. W. Souder and P. Hidnert. *U S Bur Stand Sci Pa* 433: 611-26 '22
- Treatment of carbon steels. D. Harvey. *Am Mach* 57:378-9 S 7 '22
- Ueber fehlstellen in blöcken von siliziertem Siemens-Martin-stahl und deren vermeidung. F. Pacher. *il diags Stahl & Eisen* 42: 485-92, 533-40, 573-7 Mr 30-Apr 13 '22
- Untersuchungen über das abschrecken der kohlenstoffstähle. T. Matsushita. *Stahl & Eisen* 43:1230-2 S 20 '23
- What is steel? *Chem & Met Eng* 27:913, 1156-7 N 8, D 13 '22
- Working of steel, annealing, heat treating and hardening of carbon and alloy steel. F. H. Colvin and K. A. Juthe. 2d ed. 245p McGraw-Hill '22

Analysis

- Amount of gases in steel. *Iron Age* 110:534 Ag 31 '22
- Analysis of chrome-vanadium steel. G. E. F. Lundell, J. I. Hoffman and H. A. Bright. *Ind & Eng Chem* 15:1064-9 O '23
- Analytical methods for iron and steel. P. V. Kline. *Foundry* 50:725 S 1 '22; Same. *Iron Tr R* 71:1124 O 26 '22
- Beiträge zur analytischen chemie des vanadins mit berücksichtigung der untersuchung eisenhüttentechnischer stoffe. H. Briefs. *Stahl & Eisen* 42:775-8 My 18 '22
- Beiträge zur gewichtsanalytischen und kolorimetrischen karbid- und härtungskohlebestimmung. H. Cramer. *il Stahl & Eisen* 43:342-3 Mr 8 '23

- Bestimmung der gase in eisen und stahl. A. Vita; E. Maurer. *diags Stahl & Eisen* 42: 445-52; Discussion. 452-6 Mr 23 '22
- Chemical and metallographic examination of iron, steel and brass. W. T. Hall and R. S. Williams. 501p McGraw-Hill '21
- Determination of nitrogen in steel. F. Hurum and H. Fay. *diag Chem & Met Eng* 26:218-22 F 1 '22
- Determination of zirconium in steel. G. E. F. Lundell and H. B. Knowles. *U S Bur Stand Tech Pa* 207:172-6 '22
- Gases in metals: the determination of combined nitrogen in iron and steel and the change in form of nitrogen by heat treatment. L. Jordan and F. E. Swindells. *diag U S Bur Stand Sci Pa* 457:499-511 '22; Same. *Chem & Met Eng* 27:1135-6, 1170-1 D 6-13 '22
- Measures tungsten in tool steel. A. S. Townsend. *Iron Tr R* 69:1551-3 D 15 '21
- Les méthodes de dosage du carbone dans les fers, fontes et aciers. A. Travers. *il diag Chimie & Ind* 7:3-12, 442-51 Ja, Mr '22
- Technical analysis of steel and steel works materials. F. T. Sisco. 543p McGraw-Hill '23
- Tin affects behavior of steel. J. H. Whiteley and A. Braithwaite. *il Iron Tr R* 72:1825 Je 21 '23
- Titration of solutions of permanganate and sodium arsenite. W. T. Hall and C. E. Carlson. *Am Chem Soc J* 45:1615-20 Jl '23
- Ueber ein stickstoffbestimmungsverfahren in stahl und roheisen und über den stickstoff bei den hüttenprozessen. F. Wüst and J. Duhr. *Stahl & Eisen* 42:1290-6 Ag 17 '22; Abstract (Nitrogen in iron and steel). *Chem & Met Eng* 27:944 N 8 '22

Bibliography

- Determination of sulfur in iron and steel. H. B. Pulsifer. 160p [Bibliog. p.53-155] Chemical pub. co. '22
- Review of iron and steel literature for 1921. E. H. McClelland. *Blast F & Steel Pl* 10: 4-8 Ja '22
- Review of iron and steel literature for 1922. E. H. McClelland. *Blast F & Steel Pl* 11:7-11 Ja '23

Case hardening

See Case hardening

Corrosion

See Corrosion and anti-corrosives

Decarburisation

- Hydrogen decarburisation of carbon steels with considerations on related phenomena. C. R. Austin. *Iron & Steel Inst J* 105:93-140, pl 4-9a; Bibliography. 141-2; Discussion. 143-55 no 1 '22

Failures

- Failures in steel parts. *il diags Automobile Eng* 13:298-9 O '23

Inspection

- Inspection of ferrous materials. E. A. Allcut. *Can Eng* 43:594-7 D 5 '22

Metallography

- Ac1 range in alloy steels. J. A. Jones. *Iron & Steel Inst J* 107:439-51, pl 16-18; Discussion. 452-4 no 1 '23
- Black fractures in carbon tool steels. A. W. F. Green. *il Chem & Met Eng* 27:265-7 Ag 9 '22; Discussion. 27:484-5, 914-15 S 6, N 8 '22
- Chromium steels and irons. L. Aitchison. *Automobile Eng* 11:453-8 D '21; Same. *Engineering* 112:771-2, 805-7 D 2-9 '21
- Coarse crystallisation in mild steel sheets. C. A. Edwards and L. B. Pfeil. *Engineering* 116:416 S 28 '23
- Cored structure in quenched manganese steel. S. S. Beliaeff. *il Chem & Met Eng* 27:1086 N 29 '22
- Defects in automobile steel sheets. G. F. Comstock. *il Iron Age* 111:1475-80 My 24 '23

Steel—Metallography—Continued

- Delayed crystallisation in the carbon steels: the formation of pearlite, troostite, and martensite. A. F. Halli-mond. *Iron & Steel Inst J* 105:359-77 no 1 '22; Same, without summary. *Engineering* 113:767-9 Je 16 '22; Bibliography. *Iron & Steel Inst J* 105:377-8; Discussion. 379 no 1 '22
- Diminution of lag at Ar¹ through deformation. J. H. Whiteley. *il diag Engineering* 114:416 S 29 '22; Same. *Iron & Steel Inst J* 106:89-93; Discussion. 94 no 2 '22
- Experimental investigation of the mechanical properties of steels at high temperatures. E. L. Dupuy. *diags Iron & Steel Inst J* 104:91-112, pl 1-10 no 2 '21; Same. *Engineering* 112:391-4, 427-8 S 9-16 '21; Abstracts. *Engineer* 122:257-8 S 9 '21; *Mech Eng* 43:681 O '21; Discussion. *Iron & Steel Inst J* 104:113-16 no 2 '21; *Engineering* 112:384 S 9 '21
- Experiments on grain growth in iron and steel. L. E. Benson and F. C. Thompson. *Iron & Steel Inst J* 107:525-43, pl 20 no 1 '23
- Formation of globular pearlite. J. H. Whiteley. *Iron & Steel Inst J* 105:339-53, pl 49-51 no 1 '22; Same, without summary. *Engineering* 113:733-6 Je 9 '22; Discussion. *Iron & Steel Inst J* 105:354-7 no 1 '22
- Gefügeerscheinungen im angelassenen stahl. H. Hanemann. *il Stahl & Eisen* 43:880-2, pl 3-4 Ji 5 '23
- Graphitization in a carbon tool steel. H: S. Rawdon and S: Epstein. *il Chem & Met Eng* 27:650-1 S 27 '22
- Heat treating—its principles and applications. C: H. Fulton, H. M. Henton, and J. H. Knapp. *il Iron Tr R* 73:1369-72, 1483-6+, 1603-7, 1728-31 N 15, 29, D 13, 27 '23
- Influence of dissolved oxides on carburising and hardening qualities of steel. E. W. Ehn. *il Engineering* 114:125-9 Ji 28 '22
- Inner structure of the pearlite grain. N. T. Belaeiw. *il diags Iron & Steel Inst J* 105:201-27, pl 17-27a no 1 '22; Same. *Engineering* 113:634-8, pl 26-8 My 19 '22; Discussion. *Iron & Steel Inst J* 105:228-39 no 1 '22; *Engineering* 113:627-8 My 19 '22
- Manufacture of high-speed and tungsten steels. J. W. Weitzenkorn. *il Chem & Met Eng* 26:504-8 Mr 15 '22
- Metallographic standards of the Bureau of engineering for steel forgings. 22p U.S. Bur. of engineering, Washington '23
- Microscope aids steel selection. E. C. Smith. *il Iron Tr R* 73:673-7+ S 6 '22
- Ein neues aetzmittel für chrom- und wolframstähle. K. Daeyes. *il Stahl & Eisen* 41:1262-4 S 8 '21; Abstract. *Iron Age* 109:790 Mr 23 '22
- Nickel chrome forgings. T. H: Turner. *il Iron Tr R* 71:1695-1700 D 21 '22; Same abr. *Engineering* 114:662-4 N 24 '22
- Non-metallic enclosures in steel. *Engineer* 134:528 N 17 '22
- Non-metallic inclusions and ferrite segregation in steel. E. G. Mahin and H. W. Botts. *il Chem & Met Eng* 27:980-5 N 15 '22
- Nonmetallic inclusions in hypereutectoid steel. E. G. Mahin and G. B. Wilson. *il Ind & Eng Chem* 15:829-32 Ag '23
- Permanent magnets, and the relation of their properties to the constitution of magnet steels. E. A. Watson. *il diags Inst E E J* 61:641-60 Je '23
- Preparation and properties of pure iron alloys; effect of manganese on the structure of the alloys of the iron-carbon system. H: S. Rawdon and F: Sillers, jr. *il U S Bur Stand Sci Pa* 464:637-53 '23; Same. *Iron Age* 110:1357-61 N 23 '22
- Röntgenstruktur-untersuchungen an blöcken und knüppeln. F. Heinrich. *il Stahl & Eisen* 42:540-2 Ap 6 '22
- Die rückfetzung (regenerierung) des kernes von eingesetztem flusseisen. W. Oertel. *il Stahl & Eisen* 43:494-502 Ap 12 '23
- Schleiferbruch und flockenbildung. F. Rapatz. *bibliog il Stahl & Eisen* 43:1199-1202 S 13 '23
- Secondary structures in steel. N. T. Belaeiw. *il Chem & Met Eng* 28:637-40 Mr 21 '23
- Some causes for file steel failures. A. W. F. Green. *il Iron Age* 112:811-15 S 27 '23

- Steel castings viewed through the microscope. M. G. Dumas. *il diags Ry R* 73:456-62 S 29 '23
- Structure of chromium-nickel steel. H. B. Pulsifer and O. V. Greene. *il Chem & Met Eng* 28:354-6 F 21 '23
- Structure of hardened high-carbon steel. H. Scott. *diag Chem & Met Eng* 28:344 F 21 '23
- Structure of martensitic carbon steels and changes in microstructure which occur upon tempering. H: S. Rawdon and S: Epstein. *il U S Bur Stand Sci Pa* 452:373-409 '22; Abstract. *J Fr Inst* 195:241-3 F '23
- Study of coalescence in steels, and its commercial results. A. Portevin and V: Bernard. *il Engineering* 113:28-31, 59-62 Ja 6-13 '22
- Die umwandlung des zementits bei 210°; with discussion. G. Tammann. *Stahl & Eisen* 42:772-5 My 18 '22
- X-ray data on martensite formed spontaneously from austenite. E. C. Bain. *il Chem & Met Eng* 26:543-5 Mr 22 '22; Discussion. 26:1154 Je 21 '22
- X-ray studies on the crystal structure of steel. A. Westgren and G. Phragmén. *diags Iron & Steel Inst J* 105:241-62, pl 28-33 no 1 '22; Same. *Engineering* 113:630-4, pl 25 My 19 '22; Discussion. *Iron & Steel Inst J* 105:263-73 no 1 '22; *Engineering* 113:626-7 My 19 '22
- X-rays in the steel industry. A. St John. *il diags Iron Age* 112:820-2, 908-10 S 27-O 4 '23
- Zerstörbarkeit des primärgefüges in technischen eisensorten. P. Oberhoffer and A. Heger. *bibliog il Stahl & Eisen* 43:1151-5 S 6 '23

Nitrogen content

- Determination of nitrogen in steel. F: Humrum and H: Fay. *diag Chem & Met Eng* 26:218-22 F 1 '22
- Gases in metals: the determination of combined nitrogen in iron and steel and the change in form of nitrogen by heat treatment. L: Jordan and F. E. Swindells. *diags U S Bur Stand Sci Pa* 457:499-511 '22; Same. *Chem & Met Eng* 27:1135-6, 1170-1 D 6-13 '22
- Nitrogen in steel. C. B. Sawyer. *Iron Age* 112:537 Ag 30 '23
- Nitrogenisation of iron and steel by sodium nitrate. L. E. Benson. *il Engineering* 114:412-13 S 29 '22; Same. *Iron & Steel Inst J* 106:95-100, pl 3 no 2 '22; Discussion. *Engineer* 134:240 S 8 '22; *Iron & Steel Inst J* 106:101-2 no 2 '22
- Stickstoff in eisen, stahl und sonderstahl; ein neues oberflächenhärtungsverfahren. A. Frv. *il Stahl & Eisen* 43:1271-9 O 4 '23
- Ueber ein stickstoffbestimmungsverfahren in stahl und roheisen und über den stickstoff bei den hüttenprozessen. F. Wüst and J. Duhr. *Stahl & Eisen* 42:1290-6 Ag 17 '22; Abstract (Nitrogen in iron and steel). *Chem & Met Eng* 27:944 N 8 '22

Numbering system

- Favor uniform marking system. L. H. Fry. *Iron Tr R* 71:1641-2 D 14 '22
- Movement to designate steel by numbers. *Iron Age* 110:1569-70 D 14 '22
- Numbering of steel. *Chem & Met Eng* 27:1251; 28:196-7, 243 D 27 '22, Ja 31-F 7 '23
- Numbering of steels to be developed by A.E.S.C. *Am Mach* 57:1016 D 28 '22
- Standard numbers for steel. *Am Mach* 57:988 D 28 '22
- Swiss use system for numbering steel. *Iron Tr R* 72:665-6 Mr 1 '23

Prices

- Aims of counsel in basing point controversy. *Iron Age* 111:1576-7 My 31 '23
- Average monthly iron and steel prices in 1921. *Iron Tr R* 70:68 Ja 5 '22
- Average monthly prices of semifinished steel, 1913-1922. *Iron Tr R* 72:86-7 Ja 4 '23
- Billets and finished steel. *Iron Age* 109:61 Ja 5 '22
- Chicago opens base price attack. *Iron Tr R* 70:910+ Mr 30 '22

Steel—Prices—Continued

- Corporation offers to quote f.o.b. mill. G. L. Lacher. Iron Age 111:975-6 Ap 5 '23
- Current iron and steel prices of Europe. See weekly numbers of the Iron trade review
- Domestic iron and steel prices in 1922. Iron Tr R 72:80 Ja 4 '23
- E. J. Buffington explains Pittsburgh base. Iron Age 110:1559 D 14 '22
- European iron and steel prices in 1921. Iron Tr R 70:90 Ja 5 '22
- European iron and steel prices in 1922. Iron Tr R 72:102 Ja 4 '23
- Fluctuations in prices of pig iron and finished steel since 1904; chart. Iron Age 111:67-8 Ja 4 '23
- Government rests in basing case. Iron Tr R 71:1396-7 N 23 '22
- Hearing on Pittsburgh basing point case. Iron Age 109:361-2, 421-2; 111:1719-20, 1771-2; 112: 83-4, 209-10 F 2-9 '22, Je 14-21, Jl 12, 26 '23; Iron Tr R 72:1585, 1805 My 31, Je 21 '23
- Iron and steel costs and competition. Engineering 114:140 Ag 4 '22
- Iron and steel prices for twenty-one years, period of 1901-1921. Iron Age 109:59 Ja 5 '22
- Iron and steel prices for twenty-one years. Iron Age 111:69-71 Ja 4 '23
- Jobbers uphold Pittsburgh basing plan. Iron Age 111:1493-4+ My 24 '23
- Judge Gary and Mr Schwab give testimony. L. W. Moffett. Iron Age 110:1366-7 N 23 '22
- Judge Gary defends Pittsburgh basing plan. L. W. Moffett. Iron Age 110:1228-30 N 9 '22
- Liquidation of iron and steel prices. Iron Age 109:589-90 Mr 2 '22
- List prices and discounts on steel castings. Iron Age 109:348-50 F 2 '22
- Many conditions affect price quotations. Iron Age 111:1481 My 24 '23
- Mr Baackes gives interesting testimony. Iron Age 111:531-2 F 22 '23
- Mode of quoting on steel not the issue. G. L. Lacher. Iron Age 111:1107-8 Ap 19 '23
- Monthly fluctuations of iron and steel prices for a period of twenty-eight years; chart. Iron Tr R 72:90a Ja 4 '23
- Pittsburgh plus is economic law. L. E. Block. Iron Tr R 72:1033 Ap 5 '23
- Position of steel; chart. Blast F & Steel Pl 11:223 Ap '23
- Preparing to fight Pittsburgh basing plan. L. W. Moffett. Iron Age 112:1117 O 25 '23
- Quarter century of fluctuations in prices of pig iron and semi-finished and finished steel and of steel rails; chart. Iron Age 111:41-2 Ja 4 '23
- Steel corporation contends economic forces rule prices. Iron Age 111:479-81 F 15 '23
- Tracing the history of Pittsburgh basing. Iron Age 110:1287-9 N 16 '22
- Unify British iron, steel extras. J. Horton. Iron Tr R 70:1798-1800+ Je 22 '22

See also Steel castings—Prices

Specifications

- Changes in iron and steel specifications proposed. Iron Tr R 71:46-8 Jl 6 '22; Iron Age 110:13-14 Jl 6 '22
- Forged or rolled steel for gears. Am Mach 56:485 Mr 30 '22
- Iron and steel division report; proposed revision of S. A. E. standards. charts diags Soc Auto Eng J 9:392-422 D '21
- Report of committee A-1 of A.S.T.M. on steel. Am Soc T M Pro 21:66-89 '21
- Revision of steel standards is proposed by S. A. E. Automotive Ind 45:1214-15 D 22 '21
- Suggested specification for permanent magnet steels. E. H. Crapper. Engineering 115:129 F 2 '23; Same. Iron Age 112:614 S 6 '23; Discussion. Engineering 115:246, 277-8, 329, 429 F 23-Mr 2, 16, Ap 6 '23

See also Steel, Automobile—Specifications; Steel, Structural—Specifications; Steel castings—Specifications

Standards

- Report of committee A-1 on steel. Am Soc T M Pro 22 pt 1:71-80 '22

Sulfur and phosphorus content

- Beitrag zur kenntnis des temperprozesses. P. Oberhoffer and J. Welter. il diags Stahl & Eisen 43:105-10, 301-6 Ja 25, Mr 1 '23
- Case of phosphorus segregation in low carbon Bessemer steel. V. H. Schnee and H. Diedrichs. Sibley J 37:8 Ja '23
- Control of sulphur in the basic open hearth process. S. V. Williams. Blast F & Steel Pl 11:51-4 Ja '23
- Determine sulphur by evolution method. V. E. Hillman. il Foundry 50:837-8 O 15 '22; Same. Iron Tr R 71:1489-90 N 30 '22
- Effect of sulphur on rivet steel. E. E. Thum. Chem & Met Eng 26:1019-24 My 31 '22
- Effect of sulphur on rivet steel. J. S. Unger. Iron Age 110:14-15 Jl 6 '22; Same. Blast F & Steel Pl 10:413-15 Ag '22
- Effect of sulfur on rivet steel; preliminary report. diags Am Soc T M Pro 22 pt 1:94-126; Discussion 127-30 '22
- Fluorspar in open-hearth practice. Iron Age 109:783-4 Mr 23 '22
- Influence of phosphorus upon the microstructure and hardness of low-carbon, open-hearth steels. E. C. Groesbeck. il diags U S Bur Stand Tech Pa 203:1-33 '21
- Investigation of effect of sulphur in steel progressing. Chem & Met Eng 26:306 F 15 '22
- Investigation on sulphur in rivet steel. Iron Age 109:1745-8 Je 22 '22
- Sulphur and oxides in ordnance steel. W. J. Priestley. il Iron Age 108:1658-61 D 29 '21; Same. Blast F & Steel Pl 10:96-100 Ja '22; Same cond. Min & Met 180:34-5 D '21; Abstract. Chem & Met Eng 26:393 Mr 1 '22
- Summarizes work on sulphur in steel. Iron Tr R 73:1023-4 O 11 '23; Abstract. Am Mach 59: 598 O 18 '23

Terminology

- Investigation of the fatigue of metals. H. F. Moore and J. B. Kommers. Ill U Eng Exp Sta Bul 124:160-7 '21

Testing

- Alternating-stress fatigue restricted to high stresses. Eng N 88:76-8 Ja 12 '22
- Analysis of isotropic solidity. J. Innes. Engineering 114:259-60 S 1 '22
- Art of determining grade of steel by spark observation now brought down to practical working basis; abstracts. S. P. Rockwell. Automotive Ind 48:936 Ap 26 '23; Mach 29: 779-80 Je '23
- Beitrag zur metallurgie des basischen Siemens-Martin-verfahrens und zur frage des einflusses des sauerstoffgehaltes auf die mechanischen eigenschaften des flusseisens, insbesondere des rotruches. H. Monden. il Stahl & Eisen 43:745-52, 782-8 Je 7-14 '23
- Best metal for pedestal wearing faces. il diag Ry Mech Eng 96:582-3 O '22
- Bureau of standards program for the laboratory investigation of gage steels. Am Mach 57:653-4 O 26 '22
- Caractéristiques principales et applications des barres d'acier doux préalablement rompues par traction. Seigle. Génie Civil 81: 371-2 O 21 '22
- La cause de la formation du palier dans l'essai de traction des aciers doux. C. Fremont. il diag Génie Civil 82:176-8 F 24 '23
- Chrome-molybdenum-steel applications from the consumer's viewpoint. C. N. Dawe. Soc Auto Eng J 10:47-50+ Ja '22; Same cond. Iron Age 109:725-8 Mr 16 '22; Abstracts. Automotive Ind 46:120-1 Ja 19 '22; Chem & Met Eng 26:369-70 F 22 '22; Discussion. Soc Auto Eng J 10:384-7 My '22
- Cold-working of steel with reference to the tensile test. J. Stead. Iron & Steel Inst J 107:377-415; Discussion. 416-18 no 1 '23
- Comparative tests of steels at high temperatures. R. S. MacPherran. il diags plan Am Soc T M Pro 21:852-60 '21; Same. Chem & Met Eng 24:1153-5 Je 29 '21; Discussion. Am Soc T M Pro 21:861-75 '21
- Conditions générales d'essai des produits utilisés par la sidérurgie. J. Durand. il Génie Civil 83:375-7 O 20 '23

Steel—Testing—Continued

- Dauerbrüche an konstruktionsstählen und die krüppische dauerschlagprobe. F. Rittershausen and F. P. Fischer. *il diags Stahl & Eisen* 41:1681-90 N 24 '21
- Deformation of material by impact test. Chem & Met Eng 27:752-3 O 11 '22
- Determination of the fatigue-resisting capacity of steel under alternating stress. T. Robson. *il Engineering* 115:67-8 Ja 19 '23
- Determining resistance to wear. *Automotive Ind* 46:1271-2 Je 8 '22
- Effect of rate of loading on tensile properties of boiler plate. H. J. French. *Chem & Met Eng* 27:309-10 Ag 16 '22
- Effect of scratches and of various workshop finishes upon the fatigue strength of steel. W. N. Thomas. *il diags Engineering* 116:449-52, 483-5 O 12-19 '23
- Effect of temperature, deformation and rate of loading on the tensile properties of low-carbon steel below the thermal critical range. H. J. French. *il diags U S Bur Stand Tech Pa* 219:679-725 '22; *Abstract. Power* 57:1037 Je 26 '23
- Effect of temperature on impact; abstracts. F. C. Langenberg. *il diag Iron Tr R* 73:1174-9 O 25 '23; *Iron Age* 112:1170-2 N 1 '23
- Effect of temperature on the mechanical and microscopic properties of steel. G. C. Priester and O. E. Harder. *il diag Chem & Met Eng* 28:111-15 Ja 17 '23
- Elastic limits of fatigued steel. L. Bairstow. *Chem & Met Eng* 28:820-1 My 7 '23
- L'emploi des aciers spéciaux sur les voies de chemins de fer, aux États-Unis. W. C. Cushing. *Génie Civil* 79:569-70 D 24 '21
- Endurance limit of automobile steels. W. H. Hatfield. *Automotive Ind* 46:1433 Je 29 '22
- Endurance of steel. H. F. Moore and T. M. Jasper. *Eng N* 91:308-10 Ag 23 '23
- Endurance of steel in tension, torsion and impact. D. J. McAdam. *Eng N* 91:298-301 Ag 23 '23; *Abstract. Am Mach* 59:173 Ag 2 '23
- Endurance of steel under repeated stresses. D. J. McAdam, jr. *diags Chem & Met Eng* 25:1081-7 D 14 '21
- Experiments on the yield point of steel under transverse tests. A. B. W. Kennedy. *Engineering* 115:736-8 Je 15 '23; *Discussion. W. H. Thorpe. 115:813 Je 29 '23*
- First progress report on gage steel investigation. *Am Mach* 57:443 S 21 '22
- Grundlagen für die feststellung von fehlerstellen in stahl mittels röntgenstrahlen. E. H. Schulz. *il diags Stahl & Eisen* 42:492-6 Mr 30 '22
- Hardness formulas. E. J. Janitzky. *Iron Tr R* 69:1079-81 O 27 '21; *Discussion. R. Hadfield. 70:682 Mr 9 '22*
- Impact endurance tests of rods of varying cross-section. *Engineering* 113:246 F 24 '22
- Impact properties of various steels. F. C. Langenberg. *il diags Chem & Met Eng* 25:910-12 N 16 '21
- Impact tests on cast steel. F. C. Langenberg. *il Am Soc T M Pro* 21:840-9; *Discussion. 850-1 '21*
- Improvement in crusher steel is suggested by metallographic tests. O. E. Harder. *il Eng & Min J* 115:314-18 F 17 '23
- Inspecting by magnetic method. A. V. DeForest. *diags Iron Tr R* 73:531-3+ Ag 23 '23; *Abstract. Am Mach* 59:146 J 12 '23; *Iron Age* 112:11 J 15 '23
- Inspection methods. E. Fairbrother. *Eng & Ind Management* 8:113-15, 159-61 S 7-21 '22
- Interesting tests of carbon vanadium steel. *Ry R* 73:591-2 O 20 '23
- Investigates grinding of steels. H. W. Wagner. *diags Iron Tr R* 71:444-6 Ag 17 '22
- Investigation of the behaviour of certain steels under impact at different temperatures. F. C. Langenberg. *Engineering* 115:758-60, 788-90 Je 15-22 '23
- Investigation of the fatigue of metals. H. F. Moore and J. B. Kommers. *bibliog il diags Ill U Eng Exp Sta Bul* 124:1-185 '21; *Abstracts. Chem & Met Eng* 25:1141-4 D 21 '21; *Eng & Contr* 56:593-6 D 28 '21; *Iron Tr R* 69:1623-30 D 22 '21
- Investigation on sulphur in rivet steel. *Iron Age* 109:1745-8 Je 22 '22
- Magnetic analysis of steel; uses of electric current for inspection. R. L. Sanford. *il Am Mach* 55:836-9 N 24 '21
- Mass in the heat treatment of steel. E. J. Janitzky. *Iron Age* 109:658-9; 110:788-90 Mr 9, S 28 '22
- Mechanics of the Wöhler rotating bar fatigue test. W. Mason. *Engineering* 115:698-9 Je 1 '23
- National screw thread commission to recommend standards. *diags Iron Tr R* 70:1038-9 Ap 13 '22
- New experiments with repeated shocks. L. Guillet. *Iron Age* 112:890-1 O 4 '23
- Potential energy of cold-worked steel. T. F. Russell. *diag Iron & Steel Inst J* 107:497-511, pl 19; *Discussion. 512-15 no 1 '23*
- Quality of steel determined by fracture test. W. J. Priestley. *il Ry Mech Eng* 96:598-9 O '22
- Relation between width of scratch and load on diamond in the scratch hardness test. G. A. Hankins. *diags Engineering* 115:537-40 Ap 27 '23; *Abstract. Engineer* 135:444-5 Ap 27 '23; *Abstract. Mech Eng* 45:433 J 1 '23; *Discussion. Engineering* 115:519-20 Ap 27 '23; *Engineer* 135:445-6 Ap 27 '23
- Report of sub-committee III of A.S.T.M. on inspection of the Fort Sheridan, Pittsburgh and Annapolis tests. *il Am Soc T M Pro* 21:106-56, pl 1-6; 22 pt 1:156-94, pl 1-3 '21-22
- Report of sub-committee V of A.S.T.M. on total immersion tests. *il Am Soc T M Pro* 21:157-90 '21
- Die rückfeinung (regenerierung) des kernes von eingesetztem flusseisen. W. Oertel. *il Stahl & Eisen* 43:494-502 Ap 12 '23
- Scientific selection of materials for forgings. *il diags Am Mach* 57:211-15 Ag 10 '22
- Selecting material for drawing. L. N. Brown. *il Iron Tr R* 73:879-82 S 27 '23
- Some experiments on the flow of steels at a low red heat, with a note on the scaling of heated steels. J. H. S. Dickenson. *il Engineering* 114:326-9, 378-9 S 15-22 '22; *Same. Iron & Steel Inst J* 106:103-40, pl 4-7 no 2 '22; *Discussion. Engineering* 114:339 S 15 '22; *Iron & Steel Inst J* 106:141-54 no 2 '22; *Engineer* 134:265-6 S 15 '22
- Some properties of materials and their use. J. M. Lessells. *il diags Ry Mech Eng* 96:683-5 D '22
- Some properties of steels containing globular cementite. C. H. Desch and A. T. Roberts. *Iron & Steel Inst J* 107:249-59, pl 10-13a; *Discussion. 260-6 no 1 '23; Discussion. Engineering* 115:613-14 My 18 '23; *Engineer* 135:547 My 25 '23
- Sorbic steel for tires. *il Engineer* 132:656, 657 D 16 '21
- Stainless steel; interesting experiments with turbine blades. *diags Automobile Eng* 11:380 N '21
- Static indentation tests. R. G. C. Batson. *Engineering* 115:534-7 Ap 27 '23; *Abstract. Engineer* 135:444 Ap 27 '23; *Abstract. Mech Eng* 45:433-4 J 1 '23; *Discussion. Engineering* 115:519-20 Ap 27 '23; *Engineer* 135:445-6 Ap 27 '23
- Statische und dynamische kugeldruck-härteprüfung. M. v. Schwarz. *diag Stahl & Eisen* 42:582-8 Ap 13 '22
- Steel requirements of the automotive industry. H. Chandler. *diags Blast F & Steel Pl* 10:544-8 N '22; *Same. Iron Tr R* 71:1192-4+ N 2 '22; *Same cond. Iron Age* 110:1136-7 N 2 '22
- Strength and elasticity of boiler plate at elevated temperatures. H. J. French. *Chem & Met Eng* 26:1207-9 Je 28 '22
- Strength of steels at high temperatures. H. J. French and W. A. Tucker. *Iron Age* 112:193-5, 275-8 J 12-26 Ag 2 '23
- Study of steels for the petroleum industry. F. F. McIntosh. *il Am Pet Inst Bul* 3:51-3 D 30 '22
- Summarizes work on sulphur in steel. *Iron Tr R* 73:1023-4 O 11 '23
- Tensile properties of some structural alloy steels at high temperatures. H. J. French. *il diags U S Bur Stand Tech Pa* 205:77-92 '22
- Tensile properties of steel castings. L. H. Fry. *Engineering* 114:249-52 Ag 25 '22

Steel—Testing—Continued

- Tensile strength increase by cold drawing. E. J. Janitzky. *Iron Age* 109:707-11 Mr 16 '22
- Tensile tests of materials at high temperatures. F. C. Lea. *Engineer* 135:182-3 F 16 '23
- Tentative methods of metallographic testing of iron and steel. *Am Soc T M Pro* 21:817-28 '21
- Test for shock strength of hardened steel. C. E. Margerum. *diags Am Soc T M Pro* 21:876-82 '21
- Testing materials for shipbuilding. L. Guillet. *diags Engineering* 114:57-8 Jl 14 '22; Same. *Engineer* 134:46-7 Jl 14 '22; Discussion. *Engineering* 114:37 Jl 14 '22
- Testing steel by striking sparks. *il diags Sci Am* 127:247 O '22
- Thermo-electric phenomena for identifying certain steels. *diags Automotive Ind* 46:1273 Je 8 '22
- To identify special steels by thermoelectric test. *diag Pop Mech* 39:120 Ja '23
- Ueber kerbwirkungen bei flusseisen. P. Ludwig and R. Scheu. *Stahl & Eisen* 43:999-1001 Ag 2 '23
- Die unerforschte kerbschlagprobe. R. Stribeck. *Stahl & Eisen* 42:405-8 Mr 16 '22
- L'utilisation de la force thermo-électromotrice de contact pour identifier quelques aciers. Galibourg. *diags Génie Civil* 80:239 Mr 11 '22; Same cond. *Iron Age* 109:1291-2 My 11 '22
- Value of the energy relation in the testing of ferrous metals at varying ranges of stress and at intermediate and high temperatures. T. M. Jasper. *diags Philos Mag* 6th ser 46:609-27 O '23
- Variation of Brinell hardness number with testing load. H. O'Neill. *Iron & Steel Inst J* 107:343-69; Bibliography. 369-70; Discussion. 371-6 no 1 '23
- Vergleichende statische und dynamische zugversuche. R. Mailänder. *Stahl & Eisen* 43:1108-9 Ag 23 '23
- Warmversuche mit sonderstählen. H. Edert. *Stahl & Eisen* 42:961-8 Je 22 '22; Abstract (Tests with special steels). *Iron Age* 110:406 Ag 17 '22
- Was haben wir an der kerbschlagprobe? M. Moser. *il diags Stahl & Eisen* 43:935-42 Jl 19 '23
- Why weary metal fails under light loads; the causes of steel fatigue. G. H. Dacy. *il Sci Am* 125A:109-10 D '21
- X-ray examination of steel castings. H. H. Lester. *il diags Chem & Met Eng* 28:261-7 F 7 '23; Abstract. *Mech Eng* 45:257 Ap '23
- Zur gesetzmässigkeit der kerbschlagprobe. M. Moser. *diags Stahl & Eisen* 42:90-7 Ja 19 '22; Discussion. 42:1055-8 Jl 6 '22
- See also Brinell hardness test; Electric welding, Arc—Testing; Steel, Automobile—Testing; Steel castings—Testing; Tool steel—Testing; Tubes, Steel—Testing

Bibliography

- Selected bibliography on mechanical tests of alloy steels at high temperatures. *Iron Age* 112:278 Ag 2 '23

Transportation

- Iron and steel interests ask reductions. L. W. Moffett. *Iron Age* 109:284-91 Ja 26 '22
- Railroad rates on iron and steel products. *Iron Age* 110:1702-3 D 28 '22
- Safe and economical loading of steel products. W. R. Rogers. *Ry Mech Eng* 97:168-70; Discussion. 170-2 Mr '23
- Steel manufacturers utilize great inland waterway. W. H. Lloyd. *il Iron Tr R* 70:1325-8 My 11 '22; Same. *Marine R* 52:247-50 Je '22
- Transportation in the steel industry from an engineering standpoint. F. L. Egan. *Blast F & Steel Pl* 11:11-14 Ja '23

Steel, Automobile

- Advantages and limitations of cold drawn steel in automotive work. W. Rosenhain. *il Automotive Ind* 47:469-72 S 7 '22
- Alloy steels in motor car manufacture. *Blast F & Steel Pl* 11:198-+ Mr '23

- Better cars and trucks may result from iron and steel research. P. M. Heldt. *Automotive Ind* 46:1270-7 Je 8 '22
- Defects in automobile steel sheets. G. F. Comstock. *il Iron Age* 111:1475-80 My 24 '23
- Failures in steel parts. *il diags Automobile Eng* 13:298-9 O '23
- Making pressed steel automobile parts. *il Iron Tr R* 70:601-4 Mr 2 '22
- Steel in automobiles. *Iron Age* 111:1859 Je 28 '23
- Steel requirements of the automotive industry. H. Chandler. *diags Blast F & Steel Pl* 10:544-8 N '22; Same. *Iron Tr R* 71:1192-4+ N 2 '22; Same cond. *Iron Age* 110:1136-7 N 2 '22
- Steels for automobile construction; standardized steel specifications of the German automotive industry. B. R. Dierfeld. *Iron Age* 110:1199-1203 N 9 '22
- Use of molybdenum steel in the automotive industry. J. D. Cutter. *diags Soc Auto Eng J* 10:340-2; Discussion. 342-4+ My '22

Specifications

- Six-point carbon range proposed for alloy steels. *Automotive Ind* 48:1214 Je 7 '23
- Spring steel wire; proposed extension of general information. charts *Soc Auto Eng J* 12:574-80 Je '23
- Standard specifications for automobile carbon and alloy steels: A 29-21. *Am Soc T M Pro* 22 pt 1:79-80 '22

Testing

- Endurance limit of automobile steels. W. H. Hatfield. *Automotive Ind* 46:1433 Je 29 '22
- Testing materials for automotive parts. R. J. Allen. *il Soc Auto Eng J* 13:39-40 Jl '23

Steel, Cold working of

- Boiler plate after cold-work or work at blue-heat. H. J. French. *Chem & Met Eng* 27:211-15 Ag 2 '22
- Cold-working of steel with reference to the tensile test. J. Stead. *Iron & Steel Inst J* 107:377-415; Discussion. 416-18 no 1 '23
- Improving the surface of steel by cold rolling. J. H. McElhinney. *Blast F & Steel Pl* 11:91-2 Ja '23
- Potential energy of cold-worked steel. T. F. Russell. *Iron & Steel Inst J* 107:497-511, pl 19; Discussion. 512-15 no 1 '23
- Tensile strength increase by cold drawing; abstracts. E. J. Janitzky. *Iron Age* 109:707-11 Mr 16 '22; *Automotive Ind* 46:1275 Je 8 '22
- Variation of Brinell hardness number with testing load. H. O'Neill. *bibliog Iron & Steel Inst J* 107:343-70; Discussion. 371-6 no 1 '23

Steel, Galvanized

- Analysis by temperature changes. D. M. Strickland. *Metal Ind* 20:339-40 S '22; Same. *Iron Age* 110:777 S 21 '22
- Report of the British electrical and allied industries research association upon tests on galvanized steel wires and cables for overhead transmission lines. *Inst E E J* 61:1026-40 S '23

Steel, Hardening of

- American society for steel treating session on lathe tools and steel hardness. *Iron Age* 112:1047-8 O 18 '23
- Bemerkungen zu dem aufsatz von E. Maurer: Ueber das beta-eisen und über härtingstheorien. *Stahl & Eisen* 42:1396-9 S 7 '22
- Cause of red hardness of high-speed steel. E. C. Bain and Z. Jeffries. *il Iron Age* 112:805-10 S 27 '23
- Difficulties in hardening high-speed steel. O. C. Simmons. *diags Mach* 29:627-8 Ap '23
- Hardening high-speed cutters. *Mach* 28:481, 763 F, My '22
- Hardening sense. R. McHenry. *Am Mach* 56:603 Ap 20 '22
- Hardness formulas. E. J. Janitzky. *Iron Tr R* 69:1079-81 O 27 '21; Discussion. R. Hatfield. 70:682 Mr 9 '22
- Hardness of high-speed steel. A. H. d'Arccambal. *il Chem & Met Eng* 25:1168-73 D 28 '21
- How a difficult piece is hardened. L. H. Anderson. *il Am Mach* 56:269-70 F 16 '22

Steel, Hardening of—Continued

- Influence of dissolved oxides on carburising and hardening qualities of steel. E. W. Ehn. *il Engineering* 114:125-9 J1 28 '22
- Inspection methods. E. Fairbrother. *Eng & Ind Management* 8:113-15 S 7 '22
- Mass in the heat treatment of steel. E. J. Janitzky. *Iron Age* 109:658-9; 110:788-90 Mr 9, S 28 '22
- Properties of some steels in the hardening range. W. R. Chapin. *Chem & Met Eng* 26:798 Ap 26 '22
- Slip interference theory of the hardening of metals. Z. Jeffries and R. S. Archer. *Chem & Met Eng* 26:249-52 F 8 '22
- Surface oxidation during hardening. *Chem & Met Eng* 28:313 F 14 '23
- Ueber das beta-eisen und über härtungs-theorien. H. Schottky. *Stahl & Eisen* 41:1696-1706 N 24 '21
- Various methods for hardening high-speed steel. A. H. d'Arcambal. *Chem & Met Eng* 25:1150-1 D 21 '21; Same. *Am Mach* 56:212-13 F 9 '22
- Volume changes during hardening. *Chem & Met Eng* 28:353 F 21 '23
- Why tools crack in hardening. F. R. Palmer. *Am Mach* 59:219 Ag 9 '23
- See also *Case hardening; Steel, Heat treatment of*
- Steel, Heat treatment of**
- American society for steel treating meeting. Bethlehem, Pa. *Chem & Met Eng* 28:1119-20 Je 25 '23; *Iron Age* 111:1779-80+ Je 21 '23
- American society for steel treating; session on heating practices. *Chem & Met Eng* 27:729-30 O 11 '22; *Iron Age* 110:933-4 O 12 '22
- Carbon affects chromium steels. C. R. Austin. *chart diag Iron Tr R* 73:29-32 J1 5 '23
- Cause of red hardness of high-speed steel. E. C. Bain and Z. Jeffries. *il Iron Age* 112:805-10 S 27 '23
- Changes in iron and steel below 400° C. A. Goffey and F. C. Thompson. *bibliog diags Iron & Steel Inst J* 107:465-90 no 1 '23
- Changes of volume of steels during heat treatment. L. Aitchison and G. R. Woodvine. *Iron & Steel Inst J* 106:175-90; Discussion. 191-2 no 2 '22
- Characteristic curves of the heat treatment of steels. A. M. Portevin and P. Chevenard. *Iron & Steel Inst J* 104:117-35, pl 11 no 2 '21; Same. *Engineering* 112:551-3 O 14 '21; Excerpts. *Ry Mech Eng* 95:775-6 D '21; Discussion. *Iron & Steel Inst J* 104:136-40 no 2 '21; *Engineering* 112:384 S 9 '21
- Comparative tests of steels at high temperatures. R. S. MacPherran. *il diags plan Am Soc T M Pro* 21:852-60 '21; Same. *Chem & Met Eng* 24:1153-5 Je 29 '21; Discussion. *Am Soc T M Pro* 21:861-75 '21
- Contributions to the study of coalescence in steels and its commercial results. A. Portevin and V. Bernard. *Iron & Steel Inst J* 104:145-79, pl 14-16 no 2 '21
- Decomposition of martensite into troostite in alloy steels. H. Scott. *Blast F & Steel Pl* 10:421-4 Ag '22
- Effect of heat treatment on lathe tool performance and some other properties of high speed steels. H. J. French, J. Strauss and T. G. Digges. *Ry Mech Eng* 97:775-6 N '23
- Effect of heat-treatment on steel castings and drop forgings. A. A. Blue. *il Am Mach* 55:413-18 S 15 '21; Discussion. F. B. Bayless. 55:1010 D 22 '21
- Effect of heat treatment on the mechanical properties of 1 per cent carbon steel. H. J. French and W. G. Johnson. *il diags U S Bur Stand Tech Pa* 206:93-121 '22
- Effect of temperature on impact; abstracts. F. C. Langenberg. *il diag Iron Tr R* 73:1174-9 O 25 '23; *Iron Age* 112:1170-2 N 1 '23
- Effect of time in reheating quenched medium-carbon steel below the critical range; abstract. C. R. Hayward, D. M. MacNeil and R. L. Presbrey. *Min & Met* 181:34-5 Ja '22
- Effective method of heat treating steel-wheel tires. *Elec Ry J* 59:273 F 18 '22
- Der einfluss der abkühlungsgeschwindigkeit auf die lage des haltpunktes und das gefüge der kohlenstoffstähle. W. Schneider. *Stahl & Eisen* 42:1577-84 O 19 '22
- Elements of the heat-treatment of steel. H. J. French. *il Am Mach* 55:907-11, 960-4 D 8-15 '21
- Etude de la pénétration de la trempe dans l'acier. G. Charpy and L. Grenet. *il diag Génie Civil* 80:506-7 Je 3 '22
- Experimental investigation of the mechanical properties of steels at high temperatures. E. L. Dupuy. *diags Iron & Steel Inst J* 104:91-112, pl 1-10 no 2 '21; Same. *Engineering* 112:391-4, 427-8 S 9-16 '21; Abstracts. *Engineer* 132:257-8 S 9 '21; *Mech Eng* 43:681 O '21; Discussion. *Iron & Steel Inst J* 104:113-16 no 2 '21; *Engineering* 112:384 S 9 '21
- Furnace atmospheres form scale. G. C. McCormick. *Iron Tr R* 71:854-5+ S 28 '22
- Hardening and tempering steel strip; the Lefeur electrical process. *il Elec R (Lond)* 90:210-11 F 10 '22
- Hardness and heat treatment of drill steel shanks. C. Y. Clayton. *Eng & Contr (Ry)* 59:673-4 Mr 21 '23
- Heat of transformation of austenite to martensite and of martensite to pearlite. N. Yamada. *diags Iron & Steel Inst J* 105:409-27 no 1 '22
- Heat-treated steel parts in service. G. K. Elliott. *Iron Age* 112:810-11 S 27 '23
- Heat treating changes volume. L. Aitchison and G. R. Woodvine. *diag Iron Tr R* 71:915-18 O 5 '22; Same. *Engineering* 114:568-70 N 3 '22
- Heat treating equipment in a truck plant. *il Am Mach* 59:415-16 S 13 '23
- Heat treating improves castings. A. W. Lorenz. *il diags Iron Tr R* 73:534-5 Ag 23 '23; Same. *Foundry* 51:740-1 S 15 '23
- Heat treating in automotive production. *Automotive Ind* 47:726-7 O 12 '22
- Heat treating in lead. R. B. Schenck. *Ry Mech Eng* 96:650 N '22
- Heat treating—its principles and applications. C. H. Fulton, H. M. Henton, and J. H. Knapp. *Iron Tr R* 73:943-6+, 1099-1102, 1240-4, 1369-72, 1483-6+, 1603-7, 1728-31 O 4, 13, N 1, 15, 29, D 13, 27 '23
- Heat treating of tool steels. L. A. Lanning. *Blast F & Steel Pl* 9:706-7 D '21
- Heat-treating steel castings to spheroidize cementite. *Chem & Met Eng* 27:293 Ag 16 '22
- Heat treating steel for structural parts. H. C. Knerr. *il Blast F & Steel Pl* 10:178-83 Mr '22
- Heat-treatment of drop-forgings. *il diag Mach* 26:384-8 Ja '22
- Heat treatment of 1 per cent carbon steel. *Automotive Ind* 47:221 Ag 3 '22
- Heat treatment of screw gauges. F. A. Livermore. *Brass W* 18:63 F '22
- Heat treatment of steel. F. B. Foley. *Am Pet Inst Bul* 3:57-8 D 30 '22
- Heat treatment of steel castings. H. C. Ihnen. *il Blast F & Steel Pl* 11:95-9 Ja '23
- Heat treatment of steel castings. F. C. Langenberg. *diags Iron Age* 111:397-400 F 8 '23
- Heat treatment of steel forgings. *Automotive Ind* 47:27 J1 6 '22
- Heating and cooling large ingots. F. E. Bash. *Iron Tr R* 72:594-6 F 22 '23
- Improvement in crusher steel is suggested by metallographic tests. O. E. Harder. *il Eng & Min J* 115:314-18 F 17 '23
- Influence of dissolved oxides on carburising and hardening qualities of steel. E. W. Ehn. *Engineer* 133:519 My 12 '22; Discussion. *Engineering* 113:595 My 12 '22
- Influence of temperature, time and rate of cooling on the physical properties of carbon steel. F. B. Foley and J. Winlock. *diags Chem & Met Eng* 28:502 Mr 14 '23
- Ingot structure and heat treatment; possible effect of electro-magnetic treatment during solidification. B. D. Saklatwalla. *Iron Age* 112:815-16 S 27 '23
- Die kennzeichnenden kurven eines nickel-stahles und eines chromstahles. H. Jungbluth. *il Stahl & Eisen* 42:1392-6 S 7 '22
- Magnetic change A₂ in silicon and chromium steels. H. Scott. *Chem & Met Eng* 28:212-15 Ja 31 '23

Steel, Heat treatment of—Continued

- Making steel castings tough as forgings. L. R. Mann. *diags Iron Age* 112:425-6 Ag 16 '23
- Manganese steel made in electric furnace. L. J. Barton. *il diags Iron Age* 109:48 Ja 5 '22
- Mechanical properties of a series of chromium steels. C. R. Austin. *Iron & Steel Inst J* 107:419-33 no 1 '23; Same. *Iron Tr R* 73:29-32 Jl 5 '23; Discussion. *Iron & Steel Inst J* 107:434-8 no 1 '23
- Metallurgy and heat-treatment of steel stampings. R. H. Sherry. *il diag Mach* 30:105-8 O '23
- Musket steel. A. H. d'Arcambal. *il Chem & Met Eng* 25:1055 D 7 '21
- Physical tests on high-speed steels. A. H. d'Arcambal. *il diags Iron Age* 110:1-5 Jl 6 '22
- Practical notes on the manufacture and treatment of high-speed steel. H. K. Ogilvie. *Engineer* 134:282-3 S 15 '22; Same. *Iron Tr R* 71:1129-33 O 26 '22; Discussion. *Engineer* 134:265-6 S 15 '22; *Engineering* 114:339 S 15 '22
- Practical talk on some modern methods of heat treatment as applied to the oil well industry. S. D. Tuthill. *Am Pet Inst Bul* 3:53-7 D 30 '22
- Preliminary magnetic study of some heat-treated carbon steels. E. D. Campbell and E. R. Johnson. *il Iron & Steel Inst J* 106:201-22, pl 9 no 2 '22
- Present status of drill steel breakage and heat treatment. F. B. Foley, C. Y. Clayton and H. S. Burnholz. *Eng & Contr (Ry)* 59:671-2 Mr 21 '23
- La réduction et la disparition des efforts internes dans les aciers, par réchauffage suivi de refroidissement lent. A. Portevin. *diag Génie Civil* 81:522 D 2 '22
- Regional meeting of steel treaters in Pittsburgh. *Chem & Met Eng* 26:1062-3 Je 7 '22; *Iron Tr R* 70:1586-7 Je 1 '22
- Report of committee A-4 of A.S.T.M. on heat treatment of iron and steel. *Am Soc T M Pro* 21:99-102 '21
- Salt baths for heat treating. S. Tour. *Ry Mech Eng* 97:43 Ja '23
- Selection and heat treatment of tool steel. S. C. Spaulding. *Blast F & Steel Pl* 10:224-7 Ap '22
- Shrinkage and expansion of high-speed steel due to heat-treatment. M. A. Grossmann. *Chem & Met Eng* 27:541-4 S 13 '22
- Some experiments on the flow of steels at a low red heat, with a note on the scaling of heated steels. J. H. S. Dickenson. *il Engineering* 114:326-9, 378-9 S 15-22 '22; Same. *Iron & Steel Inst J* 106:103-40, pl 4-7 no 2 '22; Discussion. *Engineering* 114:339 S 15 '22; *Iron & Steel Inst J* 106:141-54 no 2 '22; *Engineer* 134:265-6 S 15 '22
- Steel castings viewed through the microscope. M. G. Dumas. *il diags Ry R* 73:456-62 S 29 '23
- Steel structural parts for aircraft. H. C. Knerr. *il Iron Age* 112:816-20 S 27 '23
- Steel thermal treatment. J. W. Urquhart. 336p Van Nostrand '22
- Stepped A1 transformation in carbon steel during a rapid cooling. K. Honda and T. Kikuta. *Iron & Steel Inst J* 105:393-407 no 1 '22
- Strength of steels at high temperatures. H. J. French and W. A. Tucker. *Iron Age* 112:193-5, 275-8 Jl 26-Ag 2 '23
- Strip requirements are exacting. R. H. Ingraham. *Iron Tr R* 73:1103-5 O 18 '23
- Thermal curves for chromium-vanadium steels. J. S. Vanick and W. W. Sveshnikoff. *Chem & Met Eng* 27:1079 N 29 '22
- Thermal treatment of molded pieces; imperfections in tempering semi-steel. *Iron Age* 112:743+ S 20 '23
- La trempe de l'acier et des alliages métalliques. A. Portevin. *diags Génie Civil* 82:151-4 F 17 '23; Same abr. *Chimie & Ind* 10:283-6 Ag '23

Ueber die wärmebehandlung der sonderstähle im allgemeinen und der chromstähle im besonderen. E. Maurer and R. Hohage. *Stahl & Eisen* 42:59-61 Ja 12 '22

Variables in drop forge practice. J. H. Nelson. *Automotive Ind* 46:274-6 F 9 '22; Same. *Soc Auto Eng J* 10:207-11 Mr '22; Discussion. 10:379-82 My '22

Variations de capacité accompagnant les traitements thermiques des corps creux en acier. A. Portevin. *Génie Civil* 82:355-6 Ap 14 '23

War aided art of heat treating. *il Iron Tr R* 73:947-9 O 4 '23

When temperature changes occur; fusion, melting and vaporizing of metals and other substances. H. D. Hibbard. *Brass W* 18:359-60 D '22; Same. *Iron Age* 110:1492-3 D 7 '22

See also Annealing; Steel, Hardening of

Cost

Over-all cost of heat-treated parts. C. I. Ipsen. *il diags Iron Age* 109:459-62 F 16 '22

Exhibitions

American society for steel treating annual convention. Pittsburgh. *Iron Age* 112:826-33, 1054-7 S 27, O 18 '23; *Iron Tr R* 73:958-63, 1109-12+ O 4, 18 '23; *Blast F & Steel Pl* 11:583-4 N '23

International steel exposition. *Iron Age* 110:938-41 O 12 '22

What will be displayed at exhibition of American society for steel treating convention. *Iron Tr R* 71:865-7, 1006-9 S 28, O 12 '22; *Iron Age* 110:795-8 S 28 '22

Steel, Pressed

Description of a pressed steel plant. *il plan Blast F & Steel Pl* 10:144-7 F '22

Making handles from strip steel. H. R. Simonds. *il diags Iron Tr R* 72:505-7+ F 15 '23

Making pressed steel automobile parts. *il Iron Tr R* 70:601-4 Mr 2 '22

Making textile machine parts from pressed metal. H. R. Simonds. *il diags Iron Tr R* 72:1232-6 Ap 26 '23

Manufacture of Jewett sedan shows progress in pressed metal work. J. E. Schipper. *il Automotive Ind* 47:1180-3 D 14 '22

Planning for pressed metal work. *il Iron Tr R* 72:882-4 Mr 22 '23

Practice of a pressed steel plant. F. R. Daniels. *il diags Mach* 29:790-3 Je '23

Pressed metal methods advance. O. P. Hatton. *il Iron Tr R* 72:62-4 Ja 4 '23

Pressed-steel machine handles. F. R. Daniels. *il diags Mach* 29:466-3 F '23

Pressed steel textile equipment. *Textile World* 60:3503+ D 17 '21

Replacing castings with stampings. *il diags Mach* 29:873-5 Jl '23

See also Wheels, Steel

Steel, Reinforcing

L'emploi de barres d'acier écrouies par étirage pour les ouvrages en béton armé. P. Piketty. *Génie Civil* 82:161 F 17 '23

Old steel lives again in huge skyscrapers built of scrapped and rusty nails. *il Pop Mech* 40:709-12 N '23

Steel plays new role in highway construction. F. G. Steinebach. *il Iron Tr R* 73:525-30+ Ag 23 '23

Specifications

Department of specifications. *Am Arch* 123:76-8, 257-8+ Ja 17, Mr 14 '23

Tentative specifications for cold-drawn steel wire for concrete reinforcement. *Am Soc T M Pro* 21:459-60 '21

Steel, Road

Steel plays new role in highway construction. F. G. Steinebach. *il Iron Tr R* 73:525-30+ Ag 23 '23

Steel, Stainless

Rostfreie stähle. K. Daevs. *Stahl & Eisen* 42:1315-19; Bibliography. 1319-20 Ag 24 '22

Stainless metals of commerce. J. K. Smith. *Iron Age* 112:615, 650-1 S 6 '23

See also Chromium steel; Iron, Stainless

Steel, Stainless—Continued

Bibliography

Stainless steel. Mech Eng 44:469 JI '22

Patents

Stainless steel. Engineering 115:550-1 My 4 '23; Same. Engineer 135:497-8 My 11 '23

Steel, Structural

Acero para construcciones. 716p U.S. steel products co., New York '21

Albion ironworks, Miles Plating, Manchester. il Gas J (Lond) 164:38-41 O 3 '23

Arc welding as a manufacturing asset. J. F. Lincoln. diags Elec W 81:1147-8 My 19 '23

Capacity of fabricated structural steel shops of U.S. totals 250,000 tons per month. Eng & Contr (Bldgs) 58:122 D 27 '22

Codes hinder economical use of steel. L. H. Miller. Iron Tr R 70:1257 My 4 '22

Corrosion of ferrous metals; abstracts. R. A. Haddfield. Engineering 113:419 Ap 7 '22; Engineer 133:414 Ap 14 '22; Eng & Contr 57:530 My 31 '22; Iron Tr R 70:1481-3 My 25 '22; Mech Eng 44:734-5 N '22

Dauerbrücke an konstruktionsstählen und die krupsche dauerschlagprobe. F. Rittershausen and F. P. Fischer. il diags Stahl & Eisen 41:1681-90 N 24 '21

Extracts from Carnegie Pocket companion for engineers, architects and builders. 156p Carnegie steel co., Pittsburgh, Pa. '23

Fabricates large storage tanks. J. D. Knox. il plan Iron Tr R 73:241-7 JI 26 '23

Manufacturers of pressed steel joists standardize sections. diags Eng N 89:269 Ag 17 '22

Shape tonnage is at highest point. Iron Tr R 72:95 Ja 4 '23

Shape tonnages gained slowly. Iron Tr R 70:82-3 Ja 5 '22

Some ways of using structural steel in mounting motors on machines. A. S. Mill. il Elec R 80:119+ Mr '22

Steel for strength, asphalt for dryness, asbestos for life make light and lasting coat for roof or walls; Robertson process metal. il Coal Age 21:45-6 Ja 12 '22

Steel structural parts for aircraft. H. C. Knerr. il Iron Age 112:816-20 S 27 '23

Steel structures. U. A. Peters. diags Blast F & Steel Pl 11:240-2 Ap '23

Structural codes to be formulated. L. H. Miller. Iron Tr R 71:1498-1500 N 30 '22; Same cond. Iron Age 110:1445-6 N 30 '22

Structural steel. Eng N 88:15 Ja 5 '22

Structural steel; its past and future. G. H. Danforth. Eng Soc W Pa 38:1-6 F '22; Same. Iron Tr R 71:1062-4 O 19 '22; Same abr. Blast F & Steel Pl 10:202+ Mr '22

Structural steel practice in United States and Europe. P. B. McDonald. Min & Sci P 124:221-2 F 18 '22

Study of steels for engineering structures. G. K. Burgess. Am Soc C E Pro 49:524-47 Mr '23; Same cond. Iron Tr R 72:443-5, 508-10 F 8-15 '23; Excerpts. Iron Age 111:281+ Ja 25 '23; Eng & Contr (Bldgs) 59:962-6 Ap 25 '23; Can Eng 45:195-7 JI 31 '23

Tensile properties of some structural alloy steels at high temperatures. H. J. French. il diags U S Bur Stand Tech Pa 205:77-92 '22

Tests of structural steel welds. E. S. Humphrey, jr. diags Eng & Contr (Bldgs) 58:41-5 O 25 '22

Ueber die dauerschlagbiegefestigkeit und schlaghärte der legierten baustähle. W. Müller. diags Stahl & Eisen 42:547-9, 1132-3 Ap 6, JI 20 '22

Use of special steels in ships' hulls. Marine Eng 26:937-8 D '21

See also Bridges, Iron and steel; Cars, Steel; Chromium steel; Concrete, Reinforced; Freight cars, Steel; Iron, Stainless; Molybdenum steel; Painting, Structural; Ships, Iron and steel; Steel, Automobile; Steel, Reinforcing; Steel construction

Inspection

Inspection of structural steel. Can Eng 42:610 Je 13 '22; Excerpt. Eng & Contr 58:87 JI 26 '22

Shop inspection of structural steel. J. B. Nelson. Eng & Contr (Bldgs) 59:699-700 Mr 28 '23; Same. Can Eng 44:324 Mr 13 '23

Specifications

American institute of steel construction adopts structural specifications. Iron Tr R 72:1020-3 Ap 5 '23; Same. Arch & Bldg 55:51-6 My '23; Same. Eng & Contr (Bldgs) 59:1450-4 Je 27 '23

Cheaper steel construction is objective of A.I.S.C. Can Eng 44:615-18 Je 26 '23

Specification outline for structural steel. Am Arch 123:177-9 F 14 '23

Specifications for structural steel. Am Arch 122:475-7, 568-70+ N 22, D 20 '22

Tentative specification for testing of concrete and steel for buildings. Am Arch 122:sup12+ D 6 '22

Steel alloys

Acl range in alloy steels. J. A. Jones. Iron & Steel Inst J 107:439-51, pl 16-18; Discussion. 452-4 no 1 '23

Alloy-steel and bearing alloys. J. A. Mathews. Soc Auto Eng J 12:614-15 Je '23

Correlation of the chemical constitutions of true steels with their micrographic structures. J. O. Arnold. Iron & Steel Inst J 107:213-20 no 1 '23; Same. Engineering 115:699-700 Je 1 '23; Discussion. Iron & Steel Inst J 107:221-4 no 1 '23

Decomposition of martensite into troostite in alloy steels. H. Scott. Blast F & Steel Pl 10:421-4 Ag '22

Etching reagents for carbides in alloy steels. Iron Age 110:1653 D 28 '22

Experimental production of alloy steels. H. W. Gillett and E. L. Mack. il U S Bur Mines Bul 199:1-79 '22; Abstract. Am Mach 57:638 O 26 '22

Experiments with rare metal steels. H. W. Gillett and E. L. Mack. il Am Electrochem Soc Trans v 43 (preprint 15):147-74 My '23

Growth of American alloy steel industry. E. F. Cone. Iron Age 110:791-3 S 28 '22

Importance of alloy steels. Am Mach 57:962 D 21 '22

Inherent effect of alloying elements in steel. B. D. Saklatwalla. Am Electrochem Soc Trans v 43 (preprint 14):137-45 My '23; Same. Iron Tr R 72:1833-4+ Je 28 '23

Large place taken by alloy steels. J. K. Smith. Iron Age 111:1621-3 Je 7 '23

Les méthodes de recherche et de contrôle dans la métallurgie de précision. P. Chevenard. Génie Civil 83:91-2 JI 28 '23

Progress toward the solution of certain unsolved problems of engineering. W. H. Maw. Engineering 114:599-600 N 10 '22; Excerpts. Engineer 134:500-1 N 10 '22; Abstract. Eng & Contr (Bldgs) 58:133-4 D 27 '22

Research investigations on molybdenum, cerium and zirconium alloy steels. Iron Age 108:1608 D 22 '21

Short method for figuring alloys. J. M. Quinn. Blast F & Steel Pl 11:232-8, 279-82 Ap-May '23

Special steels. T. H. Burnham. 193p Pitman '23

Steels with zirconium, cerium or boron. il Chem & Met Eng 26:169 Ja 25 '22

Symposium on production and use of rare metals at American electrochemical society meeting. Iron Age 111:1325-8 My 10 '23

Das ternäre system eisen-bor-kohlenstoff; abstract. R. Vogel and G. Tammann. diags Stahl & Eisen 43:826-8 Je 21 '23

Ueber den einfluss verschiedener legierungsmetalle nebst kohlenstoff auf einige physikalische eigenschaften des eisens. E. Maurer and W. Schmidt. Stahl & Eisen 42:103-5 Ja 19 '22

What is alloy steel?—the case of vanadium. B. D. Saklatwalla. Iron Age 111:1653 Je 7 '23

See also Chromium-molybdenum steel; Chromium-nickel steel; Chromium steel; Chromium vanadium steel; Cobalt steel; Invar; Manganese steel; Molybdenum steel; Nickel steel; Silicon steel; Tool steel; Tungsten steel; Uranium steel; Vanadium steel

Steel alloys—Continued**Testing****Bibliography**

Selected bibliography on mechanical tests of alloy steels at high temperatures. Iron Age 112:278 Ag 2 '23

Steel balls. See Balls, Steel

Steel bands

Use of steel bands for power transmitting and conveying purposes. B. Kruger. W Soc E J 26:428-32 D '21; Same. Iron Age 109:640-2 Mr 9 '22

Steel barrels. See Barrels, Steel

Steel bars

A.S.M.E. specifications for steel bars. Mech Eng 45:381-2 Je '23

British standard specification for steel bars for the production of machined parts. 13p British engineering standards association, London '21

Figuring bar steel weights. W. F. Schaphorst. Iron Age 109:422 F 9 '22

Formula for finding weight of cast steel segmental bar. W. L. Tryon. Foundry 50:582a Jl 15 '22

Maximum production in flat bar grinding. H. Rekersdres. il Iron Age 111:1413-14 My 17 '23

Torsional strength of bars. C. Weber. diags Mech Eng 44:738-9+; 45:45-7 N '22, Ja '23

Prices

Average steel bar prices, by months, 1907-1921. Iron Tr R 70:76 Ja 5 '22

Storage

Storing of steel bars. il Iron Age 109:789 Mr 23 '22; Same cond. Iron Tr R 70:678-9 Mr 9 '22; Same cond. Ry R 70:363-4 Mr 11 '22

Steel belt conveyors. See Conveying machinery

Steel belting. See Belting, Steel

Steel cars. See Cars, Steel; Freight cars, Steel

Steel castings

Acid electric steel castings. L. J. Barton. Iron Age 112:1249+ N 8 '23

Adopts melting units to meet varied needs. B. K. Price. il plan Foundry 51:868-72+ N 1 '23

Alloy castings from electric furnaces. L. J. Barton. Iron Age 110:784-6 S 28 '22

Casting heavy-type generator castings. il Iron Tr R 73:42-3 Jl 5 '23

Chromium alloy steel cast centrifugally. L. Cammen. il Iron Age 110:655 S 14 '22

Converter makes better steel. R. Burke. diags Foundry 50:915-17 N 15 '22; Same. Iron Tr R 71:1555-6+ D 7 '22

Electric steel plant at the Southern Pacific shops. L. J. Barton. il plan Chem & Met Eng 26:838-40 My 3 '22

Fifty causes for defective steel castings. M. R. Burns. Foundry 51:353 My 1 '23

Heat treating improves castings. A. W. Lorenz. il diags Iron Tr R 73:534-5 Ag 23 '23; Same. Foundry 51:740-1 S 15 '23

Heat treatment of steel castings. H. C. Ihlen. il Blast F & Steel Pl 11:95-9 Ja '23

Heat treatment of steel castings. F. C. Langenberg. diags Iron Age 111:397-40 F 8 '23

Huge turbine casting sets record for size. il Pop Mech 40:234 Ag '23

Konstruktion von stahlformgussstücken. H. Oeking. diags Stahl & Eisen 43:841-5 Je 28 '23

Making steel castings tough as forgings. L. R. Mann. diags Iron Age 112:425-6 Ag 16 '23

Manufacture of crucible composite steel. A. W. F. Green. il diags Chem & Met Eng 29:59-61 Jl 9 '23

Manufacture of light steel castings. H. Bradley. Blast F & Steel Pl 10:393-4 Jl '22

Modern British foundry practice; abstracts. P. Longmuir. Iron Age 111:1427-9 My 17 '23; Iron Tr R 72:1459-61 My 17 '23; Foundry 51:497-501 Je 15 '23

Outline steel castings trend. E. A. Custer. Foundry 51:789-91 O 1 '23

Pearlitic and sorbitic manganese steels. J. H. Hall. Iron Age 110:786-8 S 28 '22

Pour steel castings in chill molds. W. H. Roesner. diags Foundry 50:558-9 Jl 1 '22

Producing steel castings. R. A. Bull. Foundry 51:537-41, 571-4, 619-23 Jl 1-Ag 1 '23; Same. Iron Tr R 73:248-52, 314-17, 335-8+ Jl 26-Ag 9 '23

Steel casting plant has liaison service. G. P. Blackiston. il Iron Age 109:925-7 Ap 6 '22

Steel castings for sugar mills. H. J. Barton. il Iron Age 112:822-5 S 27 '23

Steel castings sales in 1922 at 1920 level. Comm & Fin Chr 116:459 F 3 '23

Steel foundries and cooperative research. W. J. Corbett. Iron Age 112:675+ S 13 '23

Steel foundries co-operate in joint research. D. M. Avey. il Iron Tr R 70:1471-4 My 25 '22; Same. Foundry 50:529-32 Jl 1 '22

Steel foundry session of A.F.A. Foundry 51:395-6 My 15 '23; Iron Age 111:1331-2 My 10 '23

Steel turret track castings. S. W. Brinson. il Foundry 51:645-8+ Ag 15 '23

Study properties of steel sands. il Iron Tr R 71:103-6 Jl 13 '22

Tensile properties of steel castings. L. H. Fry. Engineering 114:249-52 Ag 25 '22

Traces trend in steel foundries. E. A. Custer. Iron Tr R 73:1028-30 O 11 '23

Use of the small converter for the production of large steel castings. C. Vanzetti. diags Engineering 116:374-5 S 21 '23

X-ray examination of steel castings. H. H. Lester. il diags Chem & Met Eng 28:261-7 F 7 '23; Abstract. Mech Eng 45:257 Ap '23

See also Semi-steel; Steel ingots

Cleaning

Cleaning steel castings, with cost data. H. R. Simonds. il diag Foundry 51:349-50, 457-60, 486-90, 528-32, 582-7 My 1, Je 1-Jl 15 '23

Cost

Arc furnace operation flexible. J. L. M. Yardley. il Foundry 51:698 S 1 '23; Same. Elec W 82:483 S 8 '23

Prices

Prices of steel castings. Iron Age 109:936-8, 1814-16; 110:814-16 Ap 6, Je 29, S 28 '22

Specifications

A.S.M.E. specifications for steel castings. Mech Eng 45:382 Je '23

New specifications for locomotive steel castings; report of joint committee of the A.R. A. and A.S.T.M. Ry R 71:19-21 Jl 1 '22

Proposed radical changes in specifications for steel castings. Foundry 50:482-3 Je 15 '22; Same. Iron Tr R 70:1735 Je 15 '22

Railroad steel castings; tentative specifications just adopted for carbon steel. diag Iron Age 110:284 Ag 3 '22

Report of the joint committee on specifications for steel castings for railroads. Am Soc T M Pro 22 pt 1:83-93 '22

Specifications for steel castings adopted as tentative by the American society for testing materials at Atlantic City, June 25, 1923. diag Foundry 51:563-4 Jl 15 '23; Abstract. Am Mach 59:41 Jl 12 '23

Trend of specifications for steel castings. E. R. Young. Blast F & Steel Pl 10:463-6 S '22

Testing

Einige betrachtungen über die werkstoffprüfung bei stahlformguss. R. Krieger. Stahl & Eisen 42:1769-73 N 30 '22; Discussion. 43:306-9 Mr 1 '23

Mechanical characteristics of castings. A. Portevin. il Iron Age 112:610-14 S 6 '23

New testing methods for castings. il diags Iron Age 112:393-6, 470-3 Ag 16-23 '23

Tensile properties of steel castings. L. H. Fry. Engineering 114:249-52 Ag 25 '22; Same. Am Soc T M Pro 22 pt 2:150-71; Discussion. 172-6 '22

Steel construction

All-steel grandstand. il Sci Am 128:18 Ja '23

All-steel grand stand at Iowa State university. B. J. Lambert. il Eng N 90:353 F 22 '23

All-steel stadium at the University of Iowa. il diag Am Arch 123:331-3 Ap 11 '23

Steel construction—Continued

Arc welding for steel structures. F. P. McKibben. *il diags Eng N 90:492-3 Mr 15 '23*
 Arc welding of structural steel. E. S. Humphrys, jr. *il diags Iron Age 109:1422-5 My 25 '22*
 Design and construction features of steel frame roof of large rink at Moncton, N.B. *il Eng & Contr 57:277 Mr 22 '22*
 Electric arc welding in steel structures. J. Caldwell. *il diag Engineering 113:88-90 Ja 20 '22*; Excerpts. *Engineer 133:79-80 Ja 20 '22*
 Erecting office building over complicated track layout. *il plan Eng N 90:532-3 Mr 22 '23*
 Erection of steel building and 150-ft. truss, U. S. mail terminal at Chicago. *il diags Eng N 87:1058-60 D 29 '21*
 Erection of steel structures by arc welding. H. L. Unland. *il diags Eng Soc W Pa 37:417-31 D '21*; Same. *Eng & Contr 58:183-5 Ag 23 '22*; Discussion. *Eng Soc W Pa 37:432-47 D '21*
 Erection record on a Chicago building. *il Eng N 89:359-60 Ag 31 '22*
 Examples of articulation between reinforced concrete and structural steel in recent structures. E. E. Seelye. *diags Am Arch 121:323-4 Ap 12 '22*
 Extension to Eaton store building, Toronto. *il diag Can Eng 44:621-2 Je 26 '23*
 For greater use of steel in dwellings. *il Iron Age 110:469-70 Ag 24 '22*
 Handbook of steel erection. M. C. Bland. 241p McGraw-Hill '23
 Heavy steelwork in new theater and office building. *diags plans Eng N 88:1036-41 Je 22 '22*; Abstract. *Eng & Contr 59:222-3 Ja 24 '23*
 Heavy steelwork in New York stock exchange extension; four trusses weighing 150 tons each required. J. W. Pickworth. *il diags plans Eng N 87:842-6 N 24 '21*
 Heavy structural steelwork in Keith office building and theatre at Cleveland, Ohio. *Can Eng 44:107 Ja 2 '23*
 Higher stresses for steel buildings proposed by fabricators. *Eng N 90:670-1 Ap 12 '23*
 Huge airship hangar for U.S. army; Scott field, Illinois. H. F. Smith. *il diags plans Eng N 90:334-40 F 22 '23*
 Proposed investigations in structural engineering. W. M. Wilson. *W Soc E J 26: 289-96 Ag '21*; Same. *Eng & Contr 55:512-14 My 25 '21*; Same abr. *Am Arch 120:355-7, 405-7 N 9-23 '21*
 Report of joint conference on steel frame structures. E. S. Andrews. *Eng & Contr 59:257-8 Ja 31 '23*
 Safety in erecting the steel frameworks of modern high buildings. W. E. Welch. *diags Safety Eng 44:158-61, 196-200 O D '22*
 Santa Fe Ry. has large steel-frame shop with glass walls. *il plans Eng N 89:12-15 Jl 6 '22*
 Seaplane hangar at Copenhagen. *il diags Engineering 136:176, 180-3 Ag 17 '23*
 Some features of the S. W. Straus building now being erected in Chicago. *il Eng & Contr (Bldgs) 60:355-7 Ag 22 '23*
 Special stiffening of Tokio buildings. H. V. Spurr. *diag Iron Age 112:685-6 S 13 '23*; Same abr. *Eng & Contr (Bldgs) 60:678-9 S 26 '23*
 Steel construction for small buildings. *il diags Bldg Age 45:56-7 F '23*
 Steel lumber and its application. T. J. Foster. *diags Blast F & Steel P 9:687-90 D '21*; Same cond. *Iron Age 108:1331-4 N 24 '21*; Same cond. *Iron Tr R 69:1350-2+ N 24 '21*; Abstract. *Eng & Contr 56:598 D 28 '21*
 Steel lumber developed for buildings. G. Canterbury. *il Iron Age 110:645-9 S 14 '22*
 Structural engineering in dirigible airship work; building the navy airship ZRI. F. E. Schmitt. *il diags Eng N 91:212-20 Ag 9 '23*; Same cond. *Am Mach 59:367-71 S 6 '23*
 Structural steel practice in United States and Europe. P. B. McDonald. *Min & Sci P 124:221-2 F 18 '22*
 Structural steelwork. W. H. Black. 102p Pitman '22
 Supporting structure for fuel oil tank. F. W. Brady. *Power Pl Eng 26:333-4 Mr 15 '22*

Winter erection of steel shed under canvas. *Eng & Contr (Bldgs) 58:59 N 22 '22*

See also Bridges, Iron and steel; Cars, Steel; Chimneys, Iron and steel; Columns, Steel; Concrete, Reinforced; Concrete construction; Corrosion and anti-corrosives; Elevated railroads; Girders; Graphic statics; Ships, Iron and steel; Standpipes; Steel, Structural; Steel houses; Strains and stresses; Strength of materials; Towers, Steel

Design

Le calcul des poutres à diagonales croisées. L. Descans. *diags Génie Civil 80:494-8 Je 3 '22*
 Design of steel mill buildings and the calculation of stresses in framed structures. M. S. Ketchum. 4th ed. 632p McGraw-Hill '21
 Designing steel details with attention to drainage. A. M. Shaw. *il Eng N 91:606 O 11 '23*
 New floor design reduces load in tall steel building. *il diags Eng N 90:452-3 Mr 8 '23*
 Plate-girder design and detailing—notes from practice. R. Fleming. *diags Eng N 90:1032-7 Je 14 '23*
 Reminders for the designer of steel structures. R. Fleming. *il diags Eng N 88:271-3 F 16 '22*
 Restraining value of beam connections. P. L. Pratley. *diags Can Eng 43:631-4 D 19 '22*; Correction. 44:116 Ja 2 '23
 Some advances in structural designing practice. *Eng & Contr (Bldgs) 60:838 O 24 '23*
 Some data on the design of steel coal bins. R. Fleming. *diags Eng N 89:35-50 Ag 31 '22*; Discussion. 89:669-70, 808, 1132-3 O 19, N 9, D 28 '22
 Steel design for buildings. C. L. Shedd. *Arch Forum 35:25-8, 59-62, 99-102, 145-6, 183-6, 230-2 Jl-D '21*
 Steel mill building girts. A. W. Engel. *Eng & Contr 56:583 D 28 '21*
 Structural design of U. S. mail terminal at Chicago. *il diags plans Eng N 87:1010-13 D 22 '21*

Specifications

American institute of steel construction adopts structural specifications. *Iron Tr R 72:1020-3 Ap 5 '23*; Same. *Arch & Bldg 55:51-6 My '23*; Same. *Eng & Contr (Bldgs) 59:1450-4 Je 27 '23*
 Cheaper steel construction is objective of A.I.S.C. *Can Eng 44:615-18 Je 26 '23*

Steel curbs. See Curbs, Steel

Steel cutting

New method of cutting off bars. *il Engineer 134:244 S 8 '22*

Steel floors. See Floors, Steel

Steel forgings

Leaves from a steel melter's note book. H. D. Hibbard. *Iron Age 109:465-7 F 16 '22*
 Manufacture of fine forging steels. L. J. Barton. *diags Blast F & Steel Pl 10:612-13 D '22*
 Manufacture of heavy forgings. W. R. Klinkicht. *Iron Age 112:1051-2 O 18 '23*
 Nickel chrome forgings. T. H. Turner. *il Iron Tr R 71:1695-1700 D 21 '22*; Same abr. *Engineering 114:662-4 N 24 '22*
 Producing heavy steel forgings; abstracts. J. L. Cox. *il Iron Tr R 73:1233-6+ N 1 '23*; *Iron Age 112:1175-6 N 1 '23*; *Am Mach 59: 807-9 N 29 '23*
 Scientific selection of materials for forgings. *il diags Am Mach 57:211-15 Ag 10 '22*
 Specifications for steel forgings. Min & Met 181:13 Ja '22
 Suggestions for heating, forging and normalizing of carbon vanadium forging steel. *il Ry R 73:511 O 6 '23*; Same abr. *Iron Age 112:602 S 6 '23*

Variables in drop forge practice. J. H. Nelson. *Automotive Ind 46:274-6 F 9 '22*; Same. *Soc Auto Eng J 10:207-11 Mr '22*; Discussion. 10:379-82 My '22

Steel furniture. See Furniture, Steel

Steel houses

Lumber of steel. *Sci Am 126:47 Ja '22*

Steel industry and trade

Alloy steels for cement mills. G. S. Eaton. Iron Age 111:1105 Ap 19 '23
 Amount of steel scrap to be made available. S. G. Koon. Iron Age 108:1280-1 N 17 '21
 Automotive consumption outstanding feature of 1922 metal markets. W. C. Hirsch. Automotive Ind 48:7-12 Ja 4 '23
 Cement industry consumes much steel. G. S. Eaton. Iron Tr R 72:1385+ My 10 '23
 Development of the steel salesman. A. E. Crockett. Eng Soc W Pa 37:398-405; Discussion. 406-10 N '21
 Export field for iron and steel. M. H. Bletz. Iron Age 112:905-6 O 4 '23; Same. Blast F & Steel Pl 11:556-7 O '23
 Exporting iron and steel. V. G. Iden. il Iron Tr R 66:987-91, 1257-61, 1474-7+; 67:236-40, 1411-15, 1675-8; 68:698-703, 1657-61; 69:619-23; 70:823-6, 1335-7+ Ap 1, 20, My 20, Jl 22, N 18, D 16 '20, Mr 10, Je 16, S 8 '21, Mr 23, My 11 '22
 International iron and steel trade. E. T. Good. Engineer 132:477-8 N 4 '21
 Iron and steel. B. E. V. Luty. Eng & Min J 115:153 Ja 20 '23
 Most needs of steel industry. G. M. Verity. Iron Tr R 73:469-71 Ag 16 '23
 Past year one of unusual complications. B. E. V. Luty. Blast F & Steel Pl 11:2-4 Ja '23
 Pig iron and steel output of the world. E. F. Cone. Iron Age 111:44-6 Ja 4 '23
 Relation of the iron and steel industries to the chemical industries. J. M. Camp. Blast F & Steel Pl 9:701-6 D '21; Same. Chem & Met Eng 26:6-10 Ja 4 '22; Excerpts. Iron Age 108:1329-31 N 24 '21; Same cond. Iron Tr R 69:1343-5+ N 24 '21
 Research in the steel industry. J. A. Mathews. Min & Met 180:11-13 D '21
 Steel exports meet competition. H. C. Estep. charts Iron Tr R 70:1107-12+ Ap 20 '22
 Steel industry will disarm with world. C. M. Schwab. Iron Tr R 69:1339+ N 24 '21
 Steel industry's needs. E. T. Weir. Iron Tr R 73:805-6+ S 20 '23
 Steel trade outlook promising. G. H. Manlove. Iron Tr R 71:38-9 Jl 6 '22
 Ten groups take bulk of steel. E. C. Kreutzberg. Iron Tr R 70:47-51 Ja 5 '22
 When does scrap come back into use? W. C. Hirsch. Iron Age 111:1775-9 Je 21 '23
 Where we stand in world market. H. C. Estep. Iron Tr R 72:33-5+ Ja 4 '23
 World is going back to work. V. G. Iden. Iron Tr R 70:19-21 Ja 5 '22
 World's iron and steel production, 1921. Iron Tr R 70:22-3 Ja 5 '22
 World's production of iron and steel, 1922. Iron Tr R 72:26-7 Ja 4 '23

See also Iron industry and trade: Rolling mills; Steel—Prices; Steel, Structural; Steel castings—Prices; Steel mergers; Steel workers; Steel works; also American rolling mill company, Bethlehem steel company

Advertising

Singling out the prospect in business paper publicity. Ptr Ink 117:41-2 D 1 '21

History

Carnegie's vision still unfolding. H. P. Bope. Iron Tr R 71:235-8 Jl 27 '22
 How Bethlehem became armament maker. H. F. J. Porter. Iron Age 110:1339-41 N 23 '22
 Tracing the history of Pittsburgh basing. Iron Age 110:1287-9 N 16 '22

Australia

See Steel works—Australia

Brazil

Brazil's steel industry expands. W. L. Schurz. Iron Tr R 70:1861-4+ Je 29 '22

See also Steel works—Brazil

Canada

Canada's trade with United States declines. W. L. Edmonds. Iron Age 110:867-8 O 5 '22
 Iron and steel: a great maritime province industry. W. F. Ingalls. il Can Chem & Met 6:153-5 J '22

See also Steel works—Canada

China

China a market for steel scrap. Iron Tr R 73:678-9 S 6 '23
 Electric steel in China. Iron Age 112:597 S 6 '23
 Producing iron and steel in China. L. W. Hoyt. Iron Tr R 72:227-30, 515-16 Ja 18, F 15 '23

Czechoslovakia

Central Europe getting started. B. Schapira. Iron Tr R 70:100+ Ja 5 '22
 Czechoslovak steel industry. Iron Age 110:293-4 Ag 3 '22

Europe

European steel industry to-day. Iron Age 109:475-6 F 16 '22
 Iron and steel industries of Europe. Iron Age 109:801-2 Mr 23 '22

France

French gain at home and abroad. V. Delport. Iron Tr R 72:107-8 Ja 4 '23
 Frenchmen show selling ability. F. Miltoun. Iron Tr R 70:95-6 Ja 5 '22
 Problems and progress of iron and steel metallurgy in France. J. Cavalier. Mech Eng 43:827-8 D '21
 Reorganization of the Comptoir Sidérurgique de France. Iron Tr R 70:1338 My 11 '22

See also Iron industry and trade—France; Steel works—France

Germany

German exports of iron and steel in 1921; tabulation. Iron Tr R 70:899 Mr 30 '22
 German industries in combine. Iron Tr R 73:669-72 S 6 '23
 German industry near collapse. Iron Tr R 71:1344-6 N 16 '22
 German iron and steel industry, 1921. Iron Age 109:92-3 Ja 5 '22
 German iron and steel output in 1919. Iron Age 110:81 Jl 13 '22
 German pig iron and steel production of 1919 compared with 1913. Iron Age 109:217-18 Ja 19 '22
 German plants net good profit in 1921. Iron Tr R 70:147-8 Ja 12 '22
 Germans wonder about future. Iron Tr R 72:110+ Ja 4 '23
 Germany keeps on with inflation. Iron Tr R 70:97-8 Ja 5 '22
 Germany still is doing business. H. C. Estep. il Iron Tr R 72:363-70 F 1 '23
 Germany trades steel for paper. H. C. Estep. il Iron Tr R 70:199-205 Ja 19 '22
 Nordwestliche gruppe des Vereins deutscher eisen- und stahlindustrieller; bericht an die hauptversammlung am 29. Juni 1922. Stahl & Eisen 42:1081-8, 1126-32, 1167-73 Jl 13-27 '22

Year of distress for German steel industry. E. Schroedter. Iron Age 111:64-6+ Ja 4 '23

See also Iron industry and trade—Germany; Steel works—Germany

Great Britain

Britain is ready for competition. H. C. Estep. Iron Tr R 70:1397-1400 My 18 '22
 Britain leads in foreign trade. J. Horton. Iron Tr R 72:104-6 Ja 4 '23
 Britain liquidates for a new start. J. Horton. Iron Tr R 70:92-4 Ja 5 '22
 British exports of iron and steel products in February. Iron Tr R 70:1042-3 Ap 13 '22
 British iron and steel in 1921. Iron Age 109:90-1 Ja 5 '22
 Iron, steel, coal and engineering trades in 1921. Engineer 133:2-5, 31-2, 59-60 Ja 6-20 '22
 Tariff is not favored in Britain. J. Horton. il Iron Tr R 70:43-6 Ja 5 '22
 Unify British iron, steel extras. J. Horton. Iron Tr R 70:1798-1800+ Je 22 '22

See also Steel works—Great Britain

Italy

Iron and steel industry of Italy. Engineering 116:372 S 21 '23
 Italian steel industry much hampered. E. d'Amico. Iron Age 109:1159-60 Ap 27 '22

Steel industry and trade—Italy—Continued

Italians now face many problems. F. Miltoun. Iron Tr R 70:271-2 Ja 26 '22
Italy's position and views on the Ruhr. F. A. Shepley. il Blast F & Steel Pl 11:522-4 O '23

See also Steel works—Italy

Japan

Depression prevails in Japan. I. Takano. Iron Tr R 72:165-6 Ja 11 '23
Japan less active steel buyer. Iron Tr R 70:1128 Ap 20 '22
Japanese trade is regaining strength. I. Takano. Iron Tr R 70:102+ Ja 5 '22
Japan's steel-encouragement act. Am Mach 56:52c Ja 5 '22

Lorraine

Lorraine now ready for business. H. C. Estep. il maps Iron Tr R 69:1411-16+ D 1 '21

Netherlands

See Steel works—Netherlands

New England

Steel distribution in New England. H. R. Simonds. il Iron Tr R 72:581-5 F 22 '23

Pennsylvania

See Steel works—Pennsylvania

Philippine Islands

Phillippines as a market for iron and steel. V. Villamin. Iron Age 111:1415-16 My 17 '23

Poland

Prospects of Polish steel industry. Chem & Met Eng 26:895 My 10 '22

Russia

Russian iron and steel at stake. B. Schapiro. Iron Tr R 71:647-50 S 7 '22

Scotland

See Steel works—Scotland

South Africa

South Africa's output of steel 21,988 tons. Iron Tr R 70:1416 My 18 '22

South America

Getting back our steel trade with South America. Iron Age 109:1157-8 Ap 27 '22

United States

Address; abstracts. E. H. Gary. Iron Age 112:1166-8 N 1 '23; Iron Tr R 73:1228-9 N 1 '23
American iron and steel production. J. P. Bedson. Engineer 133:281-2 Mr 10 '22

Chart showing monthly unfilled tonnage of United States steel corp., 1911-1921. Iron Tr R 70:24a Ja 5 '22

Disarmament steel loss small. Iron Tr R 69:1272-3 N 17 '21

1st annual convention of sheet steel executives. Iron Age 111:1181-3+ Ap 26 '23; Iron Tr R 72:1245+ Ap 26 '23

High tonnage in iron and steel imports in 1922. Iron Age 111:965-6 Ap 5 '23

How disarmament affects steel makers. L. W. Moffett. Iron Age 108:1279-80 N 17 '21

Iron and steel. A. I. Findley. Iron Age 110:1001-2 O 19 '22

Iron and steel exports gain heavily. Iron Age 110:24-5 J1 6 '22

Iron and steel market conditions. See weekly numbers of Commercial and financial chronicle and Annalist

Jobbing trade developed on Pacific coast. D. C. Partridge. il Iron Tr R 69:1557-60 D 15 '21

1921 in iron and steel. Iron Age 109:1-3+ Ja 5 '22; Excerpts. Eng & Contr 57:86-7 Ja 25 '22

1921 steel output falls sharply; finished material loss heavy. Iron Tr R 70:1746-7 Je 15 '22

1922 ends with good promise for early 1923. Iron Age 111:1-3+ Ja 4 '23

Outlook in iron and steel. A. I. Findley. Eng & Min J 113:138-40 Ja 21 '22

Per capita pig iron and steel ingot output at normal. J. W. Hill. Iron Tr R 72:1016-18 Ap 5 '23

Pittsburgh as a tonnage producing center. F. J. Crollius. il Blast F & Steel Pl 11:514-16 O '23

Problems facing American steel industry. L. D. Becker. Iron Age 111:13-16 Ja 4 '23

Prosperity still on sound basis; abstracts. E. H. Gary. Iron Tr R 72:1596-7 My 31 '23;

Iron Age 111:1547-8+ My 31 '23

Railroads use most steel in 1922; annual analysis of steel consumption by principal groups. E. C. Kreutzberg. Iron Tr R 72:2-6 Ja 4 '23

Sharp decrease of iron and steel compared with preceding year. Iron Age 109:1633, 1714 Je 8-15 '22

Sheet sales and production analyzed. W. H. Greul. Iron Age 112:682-3 S 13 '23

Slight gain in iron and steel exports. Iron Age 110:1508-9 D 7 '22

South great in steel making, not in using. D. E. Woodbridge. Iron Age 111:1419 My 17 '23

Steel castings sales in 1922 at 1920 level. Comm & Fin Chr 116:459 F 3 '23

Steel corporation output less; report of 1921 operations. Iron Tr R 70:802-3+ Mr 23 '22

Steel fabricating shop capacity increased since 1913. Eng N 89:1142-3 D 28 '22

Steel industry during 1921. B. E. V. Luty. Blast F & Steel Pl 10:2-4 Ja '22

Steel industry hopes for much from 1922. F. K. Sprague. Annalist 19:58 Ja 9 '22

Steel making in United States last year. Iron Age 112:21 J1 5 '23; Iron Tr R 73:55-6 J1 5 '23

Steel plant pioneering in Northwest. C. T. Kennan. Iron Tr R 72:659-60 Mr 1 '23

Steel production in 1921. Comm & Fin Chr 114:2540-1 Je 10 '22

Steel revival depends on ore rate reduction. J. A. Topping; A. C. Dinkey and others. Iron Age 108:1535-9 D 15 '21

Trade status of some minor steel products. Iron Age 110:7-8 J1 6 '22

Upbuilding of steel industry augurs well for future. F. K. Sprague. Annalist 21:65 Ja 8 '23

Use of steel by the automobile industry. A. H. Chamberlain. Iron Age 111:1705-7 Je 14 '23; Excerpts. Iron Tr R 72:1656 Je 7 '23

What is ahead of American industry? F. Franz. Management Eng 2:179-81 Mr '22

What will next ten years bring in steel? A. I. Findley. Iron Age 110:132-3 J1 20 '22

Where steel went in nineteen twenty-two. Iron Age 111:99-100 Ja 4 '23

See also Steel mergers; Steel works—United States; also Lackawanna steel company; United States steel corporation

Steel ingots

Casting steel ingots centrifugally. L. Cammen. diags Iron Age 110:1494-6 D 7 '22

Distribution of temperature in steel ingots during cooling; abstract. Seizō Saitō. Chem & Met Eng 26:323-4 F 15 '22

Heating and cooling large ingots. F. E. Bash. Iron Tr R 72:594-6 F 22 '23

Ingot structure and heat treatment; possible effect of electro-magnetic treatment during solidification. B. D. Saklatwalla. Iron Age 112:815-16 S 27 '23

Leaves from a steel melter's note book. H. D. Hibbard. Iron Age 109:465-7 F 16 '22

Pouring sound ingots of fine steel. diags Chem & Met Eng 27:350-2 Ag 23 '22

Sound ingots and rails as a matter of course. E. Gathmann. Chem & Met Eng 25:1080 D 14 '21

Steel ingot production 1922-23. Iron Tr R 73:1377 N 15 '23

Ueber fehlstellen in blöcken von siliziertem Siemens-Martin-stahl und deren vermeidung. F. Pacher. il diags Stahl & Eisen 42:485-92, 533-40, 573-7 Mr 30-AP 13 '22

United States production of steel ingots. Iron Age 110:71-2 J1 13 '22

See also Soaking pits; Steel castings; Steel metallurgy

Steel ingots—Continued**Molds**

- Acid open hearth process for manufacture of gun steel and fine steel. W. P. Barba and H. M. Howe. Iron Tr R 70:1117-23 Ap 20 '22; Same abr. Blast F & Steel Pl 10:235-8, 287-8 Ap-May '22
- Casting heavy iron ingot molds. J. H. Eastham. diags Foundry 50:17-19 Ja 1 '22
- Formen und giessen von blockformen. C. Irresberger. diags Stahl & Eisen 42:649-54, 1013-16 Ap 27, Je 29 '22
- How ingot mold castings are made. il diags Foundry 50:229-35 Mr 15 '22
- Steel ingot molds in place of cast iron. Iron Age 112:440 Ag 16 '23

Steel lumber

- Lumber of steel. Sci Am 126:47 Ja '22
- Steel lumber and its application. T. J. Foster. diags Blast F & Steel Pl 9:687-90 D '21; Same cond. Iron Age 108:1331+ N 24 '21; Same cond. Iron Tr R 69:1350-2+ N 24 '21; Abstract. Eng & Contr 56:598 D 28 '21
- Steel lumber developed for buildings. G. Canterbury. il Iron Age 110:645-9 S 14 '22

Steel mergers

- Another South African steel merger. Iron Age 112:266 Ag 2 '23
- Bethlehem complaints merged. Iron Tr R 72:382-3 F 1 '23
- Bethlehem-Lackawanna merger approved. Iron Age 110:473 Ag 24 '22
- Bethlehem steel co. acquires Midvale. Iron Age 110:1443-4 N 30 '22; Iron Tr R 71:1468-9 N 30 '22
- Competition spurs steel merger. A. O. Backert. maps Iron Tr R 72:7-10+ Ja 4 '23
- Daugherty gives approval to steel mergers. Iron Tr R 71:252-3+ Jl 27 '22; Comm & Fin Chr 115:602-4 Ag 5 '22
- Federal trade commission says proposed Republic-Midvale-Inland merger would violate law. Comm & Fin Chr 115:1042-4 S 2 '22; Iron Age 110:597-600 S 7 '22; Iron Tr R 71:631-2 S 7 '22
- Government questions mergers. Iron Tr R 70:1385 My 18 '22
- Investigation of steel company mergers. Iron Age 109:1450-2+, 1587-91+ My 25, Je 8 '22; Iron Tr R 70:1490-1 My 25 '22
- Investigations of proposed steel mergers. L. W. Moffett. Iron Age 109:1809 Je 29 '22
- Leaders in industry direct merger; works united have historic growth. Iron Tr R 70:1662-3 Je 8 '22
- Pittsburgh plus and the proposed mergers. Iron Age 110:85-6 Jl 13 '22
- Plans for consolidation of Midvale, Republic and Inland abandoned. Iron Tr R 71:934 O 5 '22; Iron Age 110:873-4 O 5 '22
- Proposed merger of seven steel companies. Iron Age 108:1492-3 D 8 '21; Iron Tr R 69:1474-5 D 8 '21
- Proposed steel mergers are not illegal. L. W. Moffett. Iron Age 110:207-10, 246a-d Jl 27 '22
- Three company merger; details of the plan. Iron Age 109:1612-13, 1699 Je 8-15 '22; Iron Tr R 70:1660, 1664-5+, 1739 Je 8-15 '22
- To give merger facts to trade commission. L. W. Moffett. Iron Age 109:1371-2 My 18 '22
- Untermeyer sees no violation of law in mergers. Iron Age 109:1712-13 Je 15 '22

See also Bethlehem steel company

Steel metallurgy

- L'acier (élaboration et travail). J. B. C. Rouelle. 200p A. Colin. Paris '22
- Add ferroalloys to steel in thin stream. il Foundry 49:973 D 15 '21; Same. Iron Tr R 69:1688 D 29 '21
- Adds cerium to brass and iron. L. W. Spring. il Foundry 50:542-4 Jl 1 '22
- American practice in high-speed steel manufacture. A. H. d'Arcambal. Chem & Met Eng 25:1097-9 D 14 '21
- Calorific value of steel-making elements. H. D. Hibbard. Iron Age 111:143-4, 211-13, 347-9 Ja 11-18, F 1 '23
- Chemistry develops metallurgy. W. A. Forbes. Iron Tr R 72:1672-6 Je 7 '23; Same cond. Iron Age 111:1554-6 My 31 '23; Discussion. B. Dewey. Iron Tr R 72:1821-2 Je 21 '23

- Control of segregation in rail steel by use of silicon or titanium. G. F. Comstock. Ry Age 72:1323-4 Je 10 '22
- Crucible and electric tool steel. W. J. Green and S. S. Green. Iron Age 109:201-5 Ja 19 '22
- Developments in metallurgy of iron and steel. S. L. Goodale and K. D. Dodd. Blast F & Steel Pl 11:4-6 Ja '23
- Direct process for steel manufacture; abstracts. A. E. Bourcoud. Blast F & Steel Pl 9:698-700 D '21; Iron Age 109:1349-51 My 18 '22
- Early history of steel making in England. R. Jenkins. Engineer 134:572-4 D 1 '22; Discussion. L. P. Sidney. 134:629 D 15 '22
- Fuel gases in iron and steel plants; abstracts. H. S. Watts. Iron Age 110:153-7 Jl 20 '22; Iron Tr R 70:605-9 Mr 2 '22
- Heat treating—its principles and applications. C. H. Fulton. H. M. Henton and J. H. Knapp. Iron Tr R 73:943-6+ O 4 '23
- Improve equipment despite lull. E. L. Shaner. il diags Iron Tr R 70:33-6 Ja 5 '22
- Influence of temperature in steel making processes. Iron Age 111:1710-11 Je 14 '23
- Last year in iron and steel metallurgy. C. E. Mac Quigg. bibliog Iron Age 111:54-7 Ja 4 '23
- Leaves from a steel melter's note book. H. D. Hibbard. Iron Age 108:1065-7, 1337, 1379-80; 109:465-7, 1219-20, 1735-9 O 27, N 24 '21, F 16, My 4, Je 22 '22
- Manufacture of steel. G. A. Reinhardt. Blast F & Steel Pl 11:193-5 Mr '23
- Metallurgical applications of physical chemistry. C. H. Desch. Chem Soc J 123:280-8 F '23
- Metallurgy of high speed steel. D. M. Giltinan. Ry Mech Eng 95:709-10 N '21
- Modern Bessemer plant of the Pennsylvania engineering works, New Castle, Pa. il diags plans Iron Tr R 70:813-19 Mr 23 '22
- Nickel steel direct from the ore. F. H. Mason. Iron Age 112:753-4 S 20 '23
- Outline of refractory requirements for the iron and steel industry. F. W. Davis. Am Cer Soc J 6:1183-8 N '23
- Oxygen in steel making. Iron Age 112:734-5 S 20 '23
- Producing steel castings. R. A. Bull. Foundry 51:537-41, 571-4 Jl 1-15 '23; Same. Iron Tr R 73:248-52, 314-17 Jl 26-Ag 2 '23
- Progress in iron and steel metallurgy. J. H. Hall. Blast F & Steel Pl 10:9-10 Ja '22
- Progress of steel making in Australia. R. Bedford. Iron Age 109:660-1 Mr 9 '22
- Reduction of fuel wastes in the steel industry. F. G. Cutler. Mech Eng 44:237-8+ Ap '22; Same. Iron Tr R 70:1040-2 Ap 13 '22; Same. Blast F & Steel Pl 10:291-4 My '22; Same cond. Power Pl Eng 26:465-7 My 1 '22; Excerpts. Chem & Met Eng 26:844-5 My 3 '22; Discussion. Mech Eng 44:465-6 Jl '22
- Short method for figuring alloys. J. M. Quinn. Blast F & Steel Pl 11:232-8, 279-82 Ap-May '23
- Steel foundry. J. H. Hall. 2d ed., rev. & enl. 334p McGraw-Hill '22
- Das Talbotverfahren im vergleich mit anderen herdfischverfahren. J. Puppe. il diags Stahl & Eisen 42:1-10, 46-54 Ja 5-12 '22
- Throws light on steel melting. G. Muntz. Foundry 51:77-9 Ja 15 '23; Same. Iron Tr R 72:880-1 Mr 22 '23
- Tropenas converter for making steel. S. R. Robinson. Blast F & Steel Pl 10:282-4 My '22
- Utilization of waste heat in the steel industry. A. T. Lewis. diags Mech Eng 44:515-17 Ag '22; Same abr. Chem & Met Eng 27:268-70 Ag 9 '22
- Die verarbeitung von flüssigem Thomasroheisen im feststehenden Martinofen mit nur einer schlacke. A. Jung. Stahl & Eisen 43:845-9 Je 28 '23
- Vergleichende untersuchungen an saurem und basischem stahl. F. Körber. Stahl & Eisen 43:502-5 Ap 12 '23
- Das verhalten des mangans im basischen herdfischverfahren. P. Oberhoffer and F. Koerber. Stahl & Eisen 45:329-34 Mr 8 '23

Steel metallurgy—Continued

Wissenschaftliche forschung in der eisenindustrie. P. Goerens. il diags Stahl & Eisen 43: 1191-9 S 13 '23

Year, 1921 in iron and steel metallurgy. J. H. Hall. Iron Age 109:80-3 Ja 5 '22

See also Annealing; Armor plate; Bessemer process; Electric furnaces, Steel making; Iron metallurgy; Molybdenum steel; Open hearth process; Rolling mills; Semi-steel; Steel—Decarburisation; Steel, Heat treatment of; Steel castings; Steel ingots; Steel works

Basset process

Das Basset-verfahren zur direkten eisen-erzeugung. F. Wüst. diags Stahl & Eisen 41:1841-8 D 22 '21; Abstract (Steel direct from ore by Basset process). Iron Age 109: 989-91 Ap 13 '22
Steel made direct from ore. Automotive Ind 47:216 Jl 20 '22

Bibliography

Steel maker's library to be installed in the Hotel McAlpin. Chem & Met Eng 27:754 O 11 '22

Electrometallurgy

Acid electric steel castings. L. J. Barton. Iron Age 112:1249+ N 8 '23

Acid electric steel furnace operation. J. M. Quinn. Iron Age 111:1177-9 Ap 26 '23

Acid electric steel process. A. Muller. Blast F & Steel Pl 10:43-7 Ja '22

Advance in manufacture of steel for castings. L. W. Spring. Power 57:696 My 1 '23

Analysis aids acid steelmaking. A. C. Jones. Iron Tr R 70:1720-2 Je 15 '22; Same. Foundry 50:639-41 Ag 1 '22

Current practice of making electric steel. B. Stoughton. Chem & Met Eng 28:983-6 Je 4 '23

Deoxidation and desulphurization in the Heroult furnace. F. T. Sisco. Chem & Met Eng 26:17-22 Ja 4 '22

Electric steel industry after ten years. E. F. Cone. Iron Age 111:80-3 Ja 4 '23

Electric steel plant at the Southern Pacific shops. L. J. Barton. il plan Chem & Met Eng 26:838-40 My 3 '22

Electric steel production of the world; record of the leading countries from 1913 to 1921. E. F. Cone. Iron Age 110:653-4 S 14 '22

Electricity in metallurgy. Iron Age 112:756 S 20 '23

Electro-metallurgy of steel. C. C. Gow. 351p Van Nostrand '21

Manganese steel made in electric furnace. L. J. Barton. il diags Iron Age 109:4-8 Ja 5 '22

Manufacture of alloy steel for airplane shafts. E. Kothny. Chem & Met Eng 27:1020-4 N 22 '22

Manufacture of chromium ball-bearing steel in the Heroult furnace. F. T. Sisco. il Chem & Met Eng 26:71-6 Ja 11 '22

Manufacture of fine forging steels. L. J. Barton. diags Blast F & Steel Pl 10:612-18 D '22

Molten ferromanganese; advantages from use of electrically melted alloy in steel making. F. Hodson. Iron Age 111:677 Mr 8 '23; Same. Iron Tr R 72:450 F 8 '23; Same cond. Blast F & Steel Pl 11:243 Ap '23

Practical notes on the manufacture and treatment of high-speed steel. H. K. Ogilvie. Engineer 134:282-3 S 15 '22; Same. Iron Tr R 71:1129-33 O 26 '22; Same. Engineering 114:630-1 N 17 '22; Same. Iron & Steel Inst J 106:155-65, pl 8 no 2 '22; Same. Iron Age 111:679-81 Mr 8 '23; Discussion. Engineer 134:265-6 S 15 '22; Iron & Steel Inst J 106: 166-73 no 2 '22; Engineering 114:339 S 15 '22

Present status of the electric furnace in refining iron and steel. J. A. Mathews. Chem & Met Eng 27:872-4 N 1 '22

Status of the electric steel industry. E. F. Cone. Iron Age 109:85-8 Ja 5 '22

Sulphur and oxides in ordnance steel. W. J. Priestley. il Iron Age 108:1658-61 D 29 '21; Same. Blast F & Steel Pl 10:96-100 Ja '22;

Same cond. Min & Met 180:34-5 D '21; Abstract. Chem & Met Eng 26:393 Mr 1 '22
See also Electric furnaces, Steel making

Cost

China offers field for electric furnaces. L. W.

Hoyt. Iron Tr R 72:515-16 F 15 '23

Costs of electric steel melting. C. W. Francis.

Iron Age 110:525-6 Ag 31 '22

Size of furnace affects costs. L. J. Barton.

Foundry 51:742-3 S 15 '23

Steel pipes. See Pipes, Steel

Steel poles. See Poles, Steel

Steel reinforcing wire. See Steel, Reinforcing

Steel ropes. See Wire rope

Steel sheets

Session of American society for steel treating on sheet steel. Iron Age 112:1053 O 18 '23

See also Car doors, Steel

Steel strike, 1919-1920

Analysis of the Interchurch world movement report on the steel strike. Review. Iron Age 111:157-9 Ja 11 '23

Comments on the Interchurch report on the steel strike of 1919. E. W. Young. 88p R. G. Badger, Boston '21

Public opinion and the steel strike. 346p Harcourt, Brace & co., New York '21

Steel tanks. See Tanks, Steel

Steel tires. See Tires, Steel

Steel towers. See Towers, Steel

Steel treating. American society for. See American society for steel treating

Steel tubes. See Tubes, Steel

Steel turnings. See Steel waste

Steel waste

Crushing steel turnings. il diags Iron Age 112:152-3 Jl 19 '23

Steel wheels. See Wheels, Steel

Steel wire. See Wire, Steel

Steel wool

Manufacture

Metal wool and methods of making it. L. W. Moffett. diags Iron Age 110:591-2 S 7 '22

Steel workers

Adopting 8-hour day in steel. J. D. Knox. Iron Tr R 72:1737 Je 14 '23

Aliens offered for 8-hour day. Iron Tr R 71: 1542 D 7 '22

American engineering council adopts report for 8-hour day. Iron Tr R 71:730-1 S 14 '22

Application of the three-shift system to the iron and steel industry. 156p International labour office, Geneva '22

Change from the twelve-hour shift to the eight-hour shift in the iron and steel industry from the technical viewpoint. B. Stoughton. Mech Eng 44:683-5 O '22

Efficient arrangement of open hearth labor. P. S. Young. Blast F & Steel Pl 10:215-19 Ap '22

8-hour day in Europe. H. C. Estep. il Iron Tr R 73:536-40 Ag 23 '23

Eight-hour day summarily established by Carnegie steel co. Iron Age 112:399-400 Ag 16 '23

8-hour steel day brought nearer. Iron Tr R 70. 1494-5 My 25 '22

Gradually reducing the hours of labor. Iron Age 112:559 Ag 30 '23

Harding opposes 12-hour day. Iron Tr R 71:1652 D 14 '22

Hours of labor in the iron and steel industry. Iron Age 109:1515 Je 1 '22

Influence of fatigue on health and longevity. Monthly Labor R 13:1107-8 N '21

Inland steel co. and the shorter work day. Iron Age 112:333 Ag 9 '23

Institute directors act on eight-hour day. Iron Age 112:71-3 Jl 12 '23; Comm & Fin Chr 117:38-9 Jl 7 '23; Iron Tr R 73:128 Jl 12 '23;

Blast F & Steel Pl 11:444-5 Ag '23

Judge Gary's statement to the press on the twelve-hour day. Comm & Fin Chr 117:163-4 Jl 14 '23

Steel workers—Continued

- Keen interest in coming of immigrants. L. W. Moffett. Iron Age 111:1573 My 31 '23
- Long-day problem submitted to industry. Iron Age 109:1491-3 Je 1 '22
- One mill's experience with 8-hour day. E. T. Davis. Iron Age 112:491-2 Ag 23 '23
- One month's progress in reducing hours. Iron Age 112:750-1 S 20 '23
- Plants begin eight-hour shifts. Iron Tr R 73:437 Ag 16 '23
- Production and wages in a German steel works, 1913 to 1921. Monthly Labor R 16:758-60 Ap '23
- Production per man analyzed. Iron Tr R 71:120-1 Jl 13 '22
- Report of American iron and steel institute committee on the twelve-hour day. Monthly Labor R 17:92-5 Jl '23; Excerpts. Iron Tr R 72:1595-+ My 31 '23; Iron Age 111:1546-7 My 31 '23; Comm & Fin Chr 116:2473-4 Je 2 '23; Am Mach 58:822a My 31 '23
- Secretary of labor Davis deplores strikes. J. J. Davis. Iron Age 111:961-2 Ap 5 '23
- Short day, problem for all. G. H. Charles. Iron Tr R 73:480 Ag 16 '23
- Steel companies announce wage advance. Iron Age 111:1053-4 Ap 12 '23
- Steel men are White House guests; President Harding confers with leaders of the industry in regard to abolishing twelve-hour day. L. W. Moffett. Iron Age 109:1448-9 My 25 '22
- Steel; the diary of a furnace worker. C. R. Walker. 157p Atlantic monthly press, Boston '22
- Steel works experience with the short day. B. Stoughton. Iron Age 112:325-8, 495-6 Ag 9, 23 '23
- Steelworks wages compared. Iron Tr R 73:60 Jl 5 '23
- Three-shift day at steel works. Iron Age 110:657-8, 689-92 S 14 '22
- Three-shift system in the iron and steel industry. Int Labour R 6:547-58 O '22
- Three shifts more costly than two shifts. Iron Age 109:1353, 1402-4 My 18 '22
- Three shifts vs. two, in steel. B. Stoughton. Iron Tr R 71:791-5, 856-60, 923-9 S 21-O 5 '22
- Training steelworks foremen. B. M. Nussbaum. Iron Tr R 71:1407-8, 1491-2 N 23-30 '22
- Trend of wages in the iron and steel industry, 1907 to 1920. Monthly Labor R 13:1243-51 D '21
- Trumbull steel co. puts more men on eight hours. Iron Age 111:1793 Je 21 '23
- United States steel corporation announces twenty per cent wage increase. Comm & Fin Chr 115:943 Ag 26 '22
- Wage advances announced by U.S. steel corporation—similar action by other steel companies. Comm & Fin Chr 116:1595-6 Ap 14 '23
- Wages and hours in the iron and steel industry, 1922. Monthly Labor R 16:1236-62 Je '23
- What are real evils of the long shift? A. D. Perley. Iron Age 110:1005-6 O 19 '22
- Why foreigners are needed in steel plants. G. Walter. Iron Age 112:331-2 Ag 9 '23
- Working on abolition of the long day; conferences of iron and steel manufacturers held in New York and Cleveland. Iron Age 112:285-6 Ag 2 '23

See also Steel strike, 1919-1920

Steel works

- Adapts bar mills to alloy steel. J. D. Knox. il plan Iron Tr R 69:1275-81 N 17 '21
- Discussion of heat balance. J. E. Crane. Blast F & Steel Pl 10:583-4 N '22
- From claybank to steelworks. Iron Tr R 73:605-9 Ag 30 '23
- Heat balances of blast furnace and steel plants. W. Trinks. diags Blast F & Steel Pl 10:451-6 S '22
- Neubauten auf amerikanischen, englischen und französischen hüttenwerken während der kriegsjahre. diags plans Stahl & Eisen 42:1460-9, 1524-7, 1560-4, 1687-91, 1715-19, 1752-8 S 21, O 5-12, N 9-23 '22
- Rating of steel works. Engineering 113:298-9 Mr 10 '22

- Tool factory makes own crucible steel. L. S. Love. il Iron Age 111:1485-7 My 24 '23
- Use of medium grade gases in the steel industry. F. J. Denk. diags Blast F & Steel Pl 9:719-21 D '21
- Utilization of waste heat in the steel industry. A. T. Lewis. diags Mech Eng 44:515-17 Ag '22; Same abr. Chem & Met Eng 27:268-70 Ag '22

See also Foundries; Rolling mills; Steel workers

Accidents

- Accident frequency rates in the iron and steel industry, by causes, 1913 to 1920. L. W. Chaney. Monthly Labor R 13:487-92 S '21
- Accident occurrence in the iron and steel industry, 1922. L. W. Chaney. Monthly Labor R 17:907-16 O '23
- Causes and prevention of accidents in the iron and steel industry, 1910-1919. L. W. Chaney. il U S Bur Labor Statistics Bul 298:1-398 '22
- Frequency and severity of accidents in the iron and steel industry of the United States 1907 to 1920. L. W. Chaney. Int Labour R 5:145-50 Ja '22; Excerpt. Monthly Labor R 13:886-8 O '21

Accounting

- Accounting for pig iron production. N. B. Bergman. J Account 33:90-9 F '22
- Outlines steel sheet cost system. K. B. Woods. Iron Tr R 72:586-90 F 22 '23
- Transportanlagen in Siemens-Martin-stahlwerken unter besonderer berücksichtigung der kosten der materialbewegung. H. Fromm. diags Stahl & Eisen 42:1737-42, 1809-15 N 23, D 7 '22

Electric equipment

- Auxiliary electrical plant at Dorman Long & co.'s Redcar works. il Electrician 87:656-7 N 18 '21
- Coal strike and the development of the use of electricity in the iron and steel industry. A. Davidson. Electrician 87:634-5 N 18 '21
- Display steel works equipment at Cleveland convention of Association of iron and steel electrical engineers. Iron Tr R 71:697-9 S 14 '22
- Economy of electricity recognized in steel plants. R. B. Gerhardt. Elec W 79:28-9 Ja 7 '22
- Electric transportation in steel mills. F. O. Schnure. Iron Age 112:971-2 O 11 '23
- Electrical applications in Bethlehem plant of Bethlehem steel company. D. M. Petty and A. J. Standing. il diags Blast F & Steel Pl 11:304-10 Je '23
- Electrical developments in iron and steel works. J. Smith. il Electrician 89:586-90 N 24 '22
- Material handling for steel mills. R. W. McNeil. il Blast F & Steel Pl 11:161-3 F '23
- Mill electrification progresses. R. B. Gerhardt. Iron Tr R 71:783-6 S 21 '22
- Motor-operated centrifugal pumps; abstracts. B. A. Cornwell. Ind Eng 81:480-1 O '23; Power 58:786-8 N 13 '23; Discussion. Ind Eng 81:484, 515 O '23
- Penistone works of Cammell Laird and co., limited. il diag (supp) Engineer 136:62-4, 72 Jl 20 '23
- Renewal parts. A. G. Ahrens. Elec J 20:312-13 S '23
- Report of A.I.E.E. iron and steel industry committee. Am Inst E E J 41:946-51 D '22
- Report of the electrical development committee. W. C. Kennedy. il Ind Eng 81:474-7 O '23
- Steel works electrification; the Consett iron co.'s mills. il Elec R (Lond) 93:321 Ag 31 '23
- Switching apparatus in steel mills. G. H. Jump. diag Gen Elec R 26:677-80 O '23
- Use of electricity in the iron and steel and allied industries. H. West. Inst E E J 61:152-6 Ja '23

Employees

See Steel workers

Equipment

- Les aciéries de Rombas, près Metz (Moselle). C. Dantin. il diags map plan Génie Civil 79:385-93, pl 4-5 N 5 '21

Steel works—Equipment

First large gas-engine installation in American steel works. E. P. Coleman. Blast F & Steel Pl 11:517-20; Discussion. 520-1+ O '23
 Material-handling equipment as used in the iron and steel industry. F. L. Leach. il diags plans Mech Eng 44:493-9 Ag '22; Same abr. Blast F & Steel Pl 10:265-6 My '22

Layout

Hadfields adds new mills to East Hecla works. il map diags Iron Tr R 71:370-8 Ag 10 '22
 LaSalle co. completes cold drawing plant; with layout. G. L. Lacher. il Iron Age 109:27-31 Ja 5 '22
 Layout for electric tool steel plant. M. W. Caruthers. plan Iron Age 110:1363-4 N 23 '22
 Steel plant installed for sheet mill. C. W. Peirce. il plan Iron Age 109:47-51 Ja 5 '22

Lighting

Modern lighting in steel mills. J. J. McLaughlin. il diags Blast F & Steel Pl 11:476-82 S '23
 Practical methods in the lighting of steel mills. D. W. Atwater and J. J. McLaughlin. il diags Elec J 19:332-5 S '22

Management

Auswertung statistischer unterlagen für betriebsüberwachung und forschung (gross-zahlforschung). K. Daeves. Stahl & Eisen 43:462-6 Ap 5 '23
 Increased efficiency in many steel plants. Iron Age 109:867-8 Mr 30 '22
 L'économie de combustibles dans une grande usine sidérurgique. Génie Civil 83:30-4 JI 14 '23
 Organisation der technischen betriebsüberwachung in der eisen-industrie. K. Daeves. Stahl & Eisen 42:221-4, 1097-1100 F 9, JI 13 '22
 Organizing plant maintenance. M. W. Dundore. diag Iron Tr R 71:1625-30 D 14 '22
 Reducing waste in steelmaking. H. T. Morris. Iron Tr R 72:1600-2 My 31 '23; Same cond. Iron Age 111:1552-4 My 31 '23

Power

Application of electric power in the iron and steel industry. W. S. Hall. W Soc E J 27:145-52; Discussion. 152-7 My '22; Excerpts. Iron Age 109:995 Ap 13 '22
 Central-station utilization of byproduct power from steel plants. L. B. Breedlove. Elec W 82:761-2 O 13 '23; Discussion. 82:969 N 10 '23
 Direct-current power generation for steel plant loads. E. Pragst. il Gen Elec R 26:672-7 O '23
 Economic importance of the power plant in the steel industry. E. F. Entwistle. Blast F & Steel Pl 10:585-7 N '22; Same. Iron Tr R 71:1201-2+ N 2 '22; Abstract. Iron Age 110:1214-15 N 9 '22; Discussion. F. L. Collins. Iron Tr R 71:1561-3 D 7 '22
 Economic principles governing the use of electrical power in iron and steel works. C. A. Ablett. Iron & Steel Inst J 107:225-40 no 1 '23; Abstract. Elec R (Lond) 92:756-7 My 11 '23; Discussion. Iron & Steel Inst J 107:241-7 no 1 '23; Elec R (Lond) 92:794 My 18 '23; Engineering 115:613 My 18 '23; Engineer 135:547 My 25 '23
 Electric power in iron and steel works; advantages of generation and transmission by alternating current emphasised. A. Davidson. J. P. Hodges. Electrician 89:594-600 N 24 '22
 Electrical applications in Bethlehem plant of Bethlehem steel company. D. M. Petty and A. J. Standing. il diags Blast F & Steel Pl 11:304-10 Je '23
 Feed heating for high thermal efficiency. L. Helander. diags Mech Eng 45:105-9 F '23; Same cond. Power 56:1036-8 D 26 '22; Abstracts. Power Pl Eng 27:166-7 F 1 '23; Iron Age 111:1023-5 Ap 12 '23; Discussion. Mech Eng 45:65-6 Ja '23; Power 56:915-16 D 12 '22
 Follansbee bros. co. operate new steel unit. il Blast F & Steel Pl 10:340-3 Je '22

Power and fuel consumption of the iron and steel industries of the Pittsburgh district. S. B. Ely and W. F. Rittman. il Mech Eng 45:401-6 JI '23

Power in the steel industry during 1921. F. J. Crolius. diags Blast F & Steel Pl 10:78-83 Ja '22

Power plant designed for steel mill conditions; Indiana Harbor works of the Inland steel co. il diags Power 55:566-70 Ap 11 '22

Power plant problems of steel mills. L. B. Breedlove. Iron Age 112:1027-30 O 18 '23; Discussion. K. Huessener. 112:1194 N 1 '23

Reliability of power, a necessity in the steel industry. F. O. Schnure. Gen Elec R 26:669-71 O '23

Selection of electrical systems for iron and steelworks. J. MacSheehy. plan Electrician 89:601-7 N 24 '22

Sloss-Sheffield steel and iron company's steam generating stations. M. M. Argo and H. Maulshagen. il charts Blast F & Steel Pl 10:83-8 Ja '22

Steam turbines and electrical drives for vital auxiliaries. L. Helander. il Blast F & Steel Pl 10:418-20 Ag '22

Steel-mill power plant of the Follansbee brothers company, Toronto, Ohio. J. Breslove. il diags Power 56:116-21 JI 25 '22

Trend of power development as affecting steel mills. B. Barrister. Blast F & Steel Pl 11:110-11 Ja '23

Das zweite elektrisch angetriebene konvertergebläse der Aktiengesellschaft Peiner wälzwerk. F. Hartig. il diags Stahl & Eisen 42:1117-24 JI 20 '22

See also Rolling mills—Power

Reconstruction

Rebuilds plant without shutdown; crucible steel shops of Krupp works. M. Schleussner. il diag Iron Tr R 71:35-7 JI 6 '22

Safety devices and measures

One hundred per cent safety for 1923. J. A. Oartel. Blast F & Steel Pl 11:15-16 Ja '23
 Safety centralized in steel. Iron Tr R 73:1035-7 O 11 '23
 Steel industry is safety force. L. W. Chaney. Iron Tr R 71:721-3 S 14 '22

Alabama

Description of the Alabama City works of the Gulf states steel company. il Blast F & Steel Pl 10:254-8 My '22

Australia

Australian steelworks modern; abstracts. D. Baker. Iron Tr R 70:1555-8+ Je 1 '22; Iron Age 109:1821-3 Je 29 '22

Brazil

Electric iron and steel plant for Brazil. N. A. V. Paulsson. il diags map plans Chem & Met Eng 25:1057-61 D 7 '21

Canada

Ojibway plant to resemble Gary. E. C. Kreutzberg. il map Iron Tr R 71:439-43+ Ag 17 '22; Same. Can Eng 43:489-93 O 31 '22

China

Modern iron and steel works in China. K. E. Humbert. il map Iron Age 112:461-6 Ag 23 '23

Czechoslovakia

Skoda and the revolution of Pilsen. H. Obermeyer and A. L. Greene. il Am Mach 59:519-24 O 4 '23

France

Les aciéries de Knutange (Moselle); usines de la Paix et de Fontoy. A. Pawlowski. il map plan Génie Civil 80:121-5, pl 5 F 11 '22
 French steel plant built since the war; Schneider works at Caen in Normandy. G. L. Carden. il Iron Age 112:197-201 JI 26 '23

Position of the metallurgical industries of northern and eastern France; their destruction and reconstruction. L. Guillet. Iron & Steel Inst J 104:73-89 no 2 '21; Same. Iron Age 108:796-800 S 29 '21

Steel works—Continued**Georgia**

Description of the plant of the Atlantic steel company, Atlanta, Ga. il Blast F & Steel Pl 10:252-4 My '22

Germany

Das Martinwerk 7 der Fried. Krupp A.-G., Essen. plan Stahl & Eisen 43:199-200 F 8 '23

- Great Britain

British steel industry. H. B. Allin-Smith. U S Bur For & Dom Com Trade Information Bul 133:1-22 '23

Nottingham railway rolling stock works of Cammell Laird and co., limited. plan Engineer 133:268-70, 272 Mr 10 '22; Engineering 113:292-4, 296 Mr 10 '22

Park Gate ironworks. il (supp) plan Engineer 134:216-17, 220 S 1 '22

Penistone works of Cammell Laird and co., limited. il diags plans (supp) Engineer 136:2-5, 14, 30-2, 42, 62-4, 72 Jl 6-20 '23

Illinois

Illinois coal meets Missouri iron. F. J. Crolius. il map Blast F & Steel Pl 11:535-41, 575-80, 620-3 O-D '23

See also Ryerson, Joseph T., & son

Indiana

Bessemer plant of Steel & tube company. G. L. Lacher. il diags plans Iron Age 108:1199-1205 N 10 '21

La nouvelle aciérie Bessemer de la Steel and tube company, à Indiana Harbor (Indiana. E.-U.). il diags plans Génie Civil 80:73-5 Ja 28 '22

Italy

Improvement in sheet mill practice; new Italian design. E. D'Amico. il diags Iron Age 109:1655-7 Je 15 '22

Lorraine

Les aciéries de Rombas, près Metz (Moselle). C. Dantin. il diags map plan Génie Civil 79:385-93, pl 4-5 N 5 '21

Luxemburg

Stand des deutschen ausbaues der lothringischen und luxemburgischen eisenindustrie bis zum jahre 1918. H. Hoff. il diags Stahl & Eisen 42:1041-50, 1089-97 Jl 6-13 '22

Minnesota

Minnesota steel adds new mills in Duluth. A. J. Hain. il plans Iron Tr R 71:1772-8 D 28 '22

Netherlands

La construction des aciéries royales néerlandaises à Velsen (Hollande). diags Génie Civil 81:138-9 Ag 5 '22

New York

Adaptable electric steel company; Hammond steel co., Syracuse. il plan Iron Age 109:1196-1202 My 4 '22

Buffalo as a steel producer. L. S. Graham. il Blast F & Steel Pl 11:472-5 S '23

Ohio

Plant embodies modern practice; Follansbee bro. co. 10-unit plant at Toronto, O. J. D. Knox. il Iron Tr R 72:153-8+ Ja 11 '23

River transportation featured in Ohio steel plant at Portsmouth. F. J. Crolius. il plan Blast F & Steel Pl 11:70-82 Ja '23

Sheetmaker builds steel plant; Mansfield sheet & tin plate co., Mansfield, O. il diag Iron Tr R 70:194-8 Ja 19 '22

Pennsylvania

Description of a pressed steel plant. il plan Blast F & Steel Pl 10:144-7 F '22

Great diversified manufacturing plant; Bethlehem steel co. D. M. Petty and A. J. Standing. il Blast F & Steel Pl 11:368-77 Jl '23

Making pressed steel automobile parts. il Iron Tr R 70:601-4 Mr 2 '22

Saar valley

Dillingen Hutte works—Saar valley. diags Engineer 135:31-2 Ja 12 '23
Les usines sidérurgiques de Neunkirchen (Sarre). P. Lemoine. il diags map plan Génie Civil 80:1-6, pl 1-2 Ja 7 '22

Scotland

Clydebridge steel works. il (supp) diag plans Engineer 136:218-20, 228, 245-8, 254 Ag 31-S 7 '23

Mossend steel works and rolling mills. plans Engineering 114:447-8, 484, 494, 543-5, 603-6, 618, 641-3, 704, 712, 795-7, pl 33-4, 36, 39-41, 43, 48-9 O 13-20, N 3, 17-24, D 8, 29 '22

New rolling mill equipment added by William Beardmore & co., ltd., Glasgow, Scotland. J. Horton. il Iron Tr R 70:746-8 Mr 16 '22

United States

Construction gains momentum; financial conditions exerted restraining influence on blast furnace, open-hearth and rolling mill extension. J. D. Knox. Iron Tr R 72:11-14 Ja 4 '23

Glimpse into the works of the U. S. steel corporation. il Ind Eng 81:2-3 Ja '23

New iron and steel works construction in 1921. Iron Age 109:112-17 Ja 5 '22

New iron and steel works construction. Iron Age 111:87-92 Ja 4 '23

Ohio leads in strip production; statistics of strip mills in the United States. J. D. Knox. Iron Tr R 73:321-6 Ag 2 '23

Steel works and rolling mills, 1921. Am Mach 58:620 Ap 26 '23

Steelwork

Use of gas forges in repair shops. J. L. Springer. Gas Age 49:133-4 F 4 '22

Steeple-jacks

Steeple-jack's instructor. C. J. Murray. 95p S. J. Lee pub. co., Chicago '21

Steering gear

Automatic steering. E. A. Sperry. Marine Eng 27:771-2 D '22

Automatic steering gear used on U.S. ship. il Pop Mech 39:225 F '23

Compressed air operates ship's steering gear. il Pop Mech 39:708 My '23

Simplified type direct rudder head steering gear. il diag Marine Eng 27:637-9 O '22

Steering machinery—merchant and naval types. G. Murray. il diags plan Marine Eng 27:247-51 Ap '22

Wake system of automatic steering. R. H. Rogers. chart diags Marine Eng 28:173-4 Mr '23

See also Automobiles—Steering gear

Steinmetz, Charles Proteus, 1865-1923

Sketch. por Chem & Met Eng 29:810 O 29 '23; Power 58:711 O 30 '23; Am Mach 59:678i N 1 '23; Coal Age 24:675 N 1 '23; Comm & Fin Chr 117:1930 N 3 '23; Elec W 82:930-2 N 3 '23; Eng N 91:733 N 1 '23; Wireless Age 11:34 N '23

Steinway and sons

Handling material in the Steinway factories. P. Bilhuber. il Management Eng 2:263-8 My '22

Stellite

Grinding and inspecting stellite cutters. C. W. Metzger. il diags Mach 30:125-7 O '23

Stellite cutters for milling. C. W. Metzger. il diags Mach 29:589-93, 717-20 Ap-May '23

Thermal expansion of nickel, monel metal, stellite, stainless steel, and aluminum. W. H. Souder and P. Hidnert. U S Bur Stand Sci Pa 426:497-519 '22

Stencils and stenciling

Making clean-cut metal stencils. J. Tate. il Pop Mech 39:796 My '23

Stenographers

Gauging stenographic ability. E. J. Benge. Administration 5:156-62 F '23

Manual for stenographers and secretaries. G. G. Munn. Administration 3:702-8 Je '22

Stenography. See Shorthand

Stentorphone

London's phonographic hustler for use on crowded subway platforms. *il Sci Am* 126:132 F '22

Steps, Concrete. See Stairways, Concrete**Stereochemistry**

Configuration of the doubly-linked tervalent nitrogen atom. W: H. Mills and H. Schindler. *Chem Soc J* 123:312-23 F '23

Electron valency theories and stereochemistry. S: Sugden. *Chem Soc J* 123:1861-5; Discussion. T: M. Lowry. 1866-7 Ag '23

Method of representing co-ordinated compounds. T. M. Lowry. *Soc Chem Ind J* (Chem & Ind) 42:224-5 Mr 9 '23

Note on the constitution of benzene. R. Fraser. *il diags Chem Soc J* 121:188-96 Ja '22

Raumchemische betrachtungen in der anorganischen chemie. P. Pfeiffer. *Stahl & Eisen* 43:334-40 Mr 8 '23

Stereochemistry of cyclic alcohols, aldehydes and carboxylic acids; abstract. A. Skita. *Chem Soc J* 124 pt 1:460-1 My '23

See also Atoms; Betaines; Chemistry, Physical and theoretical; Cyclic compounds; Isomerism; Langmuir postulates; Molecular rearrangements; Polarization (light)

Stereoisomerism. See Isomerism**Stereoscopic moving pictures.** See Moving pictures, Stereoscopic**Stereotyping**

Handbook of electrotyping and stereotyping. R. F. Salade. 120p Oswald pub. co., New York '23

Stereotyping; abstract with discussion. A. H. Munday and J: Cartland. *Engineer* 136:238 S 14 '23

Stereotyping machine. See Autoplate machine**Steric hindrance**

Relation between molecular structure and odor in tri-substituted benzenes; derivatives of para-methoxy-acetophenone. M. T. Bogert and L. F. Curtin. *Am Chem Soc J* 45: 2161-7 S '23

Sterno

How Sterno created a new habit and capitalized on it. D. E. Wheeler. *Ptr Ink* 124: 25-8 S 20 '23

Sternwheelers. See Steamboats**Steubenville, Ohio**

•

Rapid transit

Chaos in Steubenville. *Elec Ry J* 60:55 JI 8 '22

Stevedores. See Longshoremen**Stevedoring costs.** See Freight ships—Cost of operation**Stevens Indicator**

Contents and index vols. I to XXXVIII. *Stevens Ind* 38:331-408 O '21

Stevens institute of technology

History of the Stevens claim. A. R. Whitney, jr. *Stevens Ind* 39:26-9 My 15 '22

Stewart, Robert W.

Builders of business. N. M. Clark. *por System* 40:699-701 D '21

Stibine

Studies on metal hydrides; the electrolytic formation of stibine in sulphuric acid and in sodium hydroxide solution. H: J. S. Sand, F: J. Weeks and S. W. Worrell. *Chem Soc J* 123:456-70 Mr '23

Stibinic acids

Abweichendes verhalten des lithiumhydroxyds gegenüber natrium- und kaliumhydroxyd bei der hydratisierung der polymeren aryl-stibinsäuren. H. Schmidt. *Deutsche Chem Gesell Ber* 55:697-701 Mr '22

Stibnite

Optical properties of some metallic sulfides. E. P. T. Tyndall. *diags Phys R* 21:162-80 F '23

Various photo-electrical investigations. W. W. Coblenz. *U S Bur Stand Sci Pa* 462:585-607 '23

Stilbene

Abspaltung aromatisch gebundenen wasserstoffes unter verknüpfung aromatischer kerne durch aluminiumchlorid; versuche mit benzil, stilben und phenanthren. R. Scholl and G. Schwarzer. *Deutsche Chem Gesell Ber* 55:324-30 F '22

Chromoisomerism in the stilbene series. N: M. Cullinane. *Chem Soc J* 123:2053-60 Ag '23

Zur kenntnis der stereoisomeren stilbenderivate. R. Stoermer and H. Oehlert. *Deutsche Chem Gesell Ber* 55:1232-43 My '22; Abstract. *Chem Soc J* 122 pt 1:647-8 JI '22

Stilbenedicarboxylic acid

Stilbene-2:2'-dicarboxylic acid. P. Ruggli and R. E. Meyer. *Chem Soc J* 122 pt 1:343-6 Ap '22

Still engine

New development in marine propulsion. H. R. Sankey. *Engineering* 113:177-8 F 10 '22; Excerpt. *Power* 55:520 Mr 28 '22

Still engine. L. B. Chapman. *diags Marine Eng* 27:265-6 Ap '22

Still engine for marine propulsion. A. Rennie. *il diags Engineering* 113:275-8, 309-12, pl 14 Mr 3-10 '22; Same cond. *Engineer* 133:180-2, 204-7 F 17-24 '22; Abstract. *Mech Eng* 44: 316-17 My '22

Still oil engine for marine propulsion. *il Engineering* 112:344-5 S 2 '21; Same cond. *Soc Auto Eng J* 9:435 D '21

Stinnes, Hugo, 1870-

Portrait. *System* 41:50 Ja '22
Stinnes, underwriter of Germany. J: W. Harrington. *Annalist* 18:460 N 14 '21

Stirrers

Equipment used for agitating and stirring. C. H. Tyler. *il Chem & Met Eng* 29:441-4 S 10 '23

Gas-tight stirrer. G: E. Holm and G: R. Greenbank. *diag Ind & Eng Chem* 15:1134 N '23

Measurement of stirrer performance. J. C. Wood, E. R. Whitemore and W. L. Badger. *diags Chem & Met Eng* 27:1176-9 D 13 '22

Stirring

High-speed stirring as an aid to chemical action. C. H. Milligan and E. E. Reid. *diags Ind & Eng Chem* 15:1048-9 O '23

Influence of stirring on the rate and course of development. S. E. Sheppard and F. A. Elliott. *il diags J Fr Inst* 195:211-28 F '23

Saybolt viscosity measurements and their control; stirring devices. P. E. Klopsteg and W. H. Stannard. *diags Ind & Eng Chem* 15:705-7 JI '23

Stirring device. H: W. George. *diags Ind & Eng Chem* 15:728 JI '23

Stock cars

Design of combination 40-ton stock and coal car. *diags Ry R* 73:159-69 Ag 4 '23

Stock exchange

Bankers' gazette. Published in weekly numbers of Commercial and financial chronicle
Course of study for brokerage, stock exchange, investment banking. R. L. Smitley. 253p
Dixie business book shop, 140 Greenwich st., New York '23

New York state Attorney-General Sherman suggests that exchanges require waivers of immunity. *Comm & Fin Chr* 116:2943 Je 30 '23

Service and selling. T. J. Burke. *Paper Tr J* 77:45+ S 13 '23

Stock and produce exchanges. A. W: Atwood. (Modern business v. 20) 323p Alexander Hamilton institute, New York '21

Stock-exchange questionnaire and related financial statements. H. M. Smith. *J Account* 35:95-114 F '23

Stock market. S. S. Huebner. 496p Appleton '22

Stock market barometer. W: P: Hamilton. 325p Harper '22

Transaction on stock exchange markets outside New York, 1921. *Annalist* 19:109-10 Ja 9 '22

Transactions on other markets outside New York, 1922. *Annalist* 21:82-3 Ja 8 '23

Stock exchange—Continued

Work of the stock exchange. J. E. Meeker. 633p Ronald press '22

See also Brokers; Foreign exchange; Investments; Speculation; Stocks; also Boston stock exchange; Chicago stock exchange; New York curb market; New York stock exchange

Advertising

Competition turns San Francisco stock exchanges into advertisers. *Ptr Ink* 123:28 Ap 26 '23

See also New York stock exchange—Advertising rules

Stock growers' finance corporation

First year's operations. *Comm & Fin Chr* 115:493 Jl 29 '22

Stock-keeping records. See Inventories; Stores systems**Stockholders**

Making the stockholder a sales missionary. R. Dickinson. *Ptr Ink M* 4:29-30+ Mr '22

Stockholders held liable for debts of company that failed. *Nat Pet N* 14:106-7 O 4 '22

See also Corporation law; Employees as stockholders

Stocks

Amazing showing of the stock market. F. K. Sprague. *Annalist* 19:459-60 Ap 24 '22

Appreciation of stocks here and abroad. R. Estcourt. *Annalist* 19:535-6 My 15 '22

Chicago stock exchange record of prices for 1922. *Comm & Fin Chr* 116:349-50 Ja 27 '23

Course of prices of railroad and miscellaneous stocks at the New York stock exchange for the year 1922. *Comm & Fin Chr* 116:42-8 Ja 6 '23

Course of prices of railroad and miscellaneous stocks for the year 1921. *Comm & Fin Chr* 114:46-51 Ja 7 '22

Dividends. Published in weekly numbers of Commercial and financial chronicle

Eleven-year profile of average prices on the New York stock exchange. *Annalist* 21:72-3 Ja 8 '23

Guaranteed stocks. T. Marache, jr. *Annalist* 22:47-9 Jl 9 '23

Investment stock costs under the 1921 revenue act. E. L. Kohler. *Administration* 5:86-94 Ja '23

New York stock exchange transactions, 1921. *Annalist* 19:93-6 Ja 9 '22

New York stock exchange transactions—1922. *Annalist* 21:101-5 Ja 8 '23

Proposed taxation of stock dividends. W. J. Matherly. *J Account* 36:97-103 Ag '23

Railway and industrial stocks and bonds. *Comm & Fin Chr* Railway and industrial section 114:1-239 My 27 '22 [Issued semi-annually, May and November]

Range of stock market averages. See weekly numbers of the *Annalist*

Relation between stock prices and production. L. B. Mann. *Annalist* 21:788 Je 11 '23

Scientific investing and trading. G. C. Selden. 94p W. H. McKenna & co., New York, Philadelphia '22

Stock market movements. 169p Marsh & Young co., inc., Bloomfield, N.J. '23

Stock rights—what they really are. T. York. *Administration* 4:53-63 Jl '22

Survey of the year in the financial district: stocks, bonds, exchange, money. *Annalist* 19:86-92 Ja 9 '22

Survey of the year in the financial district: stocks, bonds, exchange, money. *Annalist* 21:92-100 Ja 8 '23

Ten-year profile of average prices on the New York stock exchange. *Annalist* 19:72-3 Ja 9 '22

Transactions on the New York curb—1921. *Annalist* 19:103-4 Ja 9 '22

Truth of the stock tape. W. D. Gann. 185p Financial guardian pub. co., New York '23

See also Bonds; Corporations; Employees as stockholders; Investments; Securities; Stock exchange; also Boston stock exchange; Chicago stock exchange; New York stock exchange

Stockton, California**Railroads**

Western Pacific plans new industrial section. *chart Ry Age* 73:578 S 23 '22

Stoker manufacturers' association

Fall meeting, Briarcliff Manor, N.Y., Oct. 23. *Power* 58:710 O 30 '23

Fall meeting, Hot Springs, Va., Nov. 21-23. *Power* 56:900 D 5 '22

5th annual meeting, New London, Conn., June 20-22. *Power* 56:32 Jl 4 '22

Stokers. Mechanical

Alternating-current versus direct-current motors for stoker drive. W. E. Douglas and H. H. Bates. *il Power* 58:8-9 Jl 3 '23

L'application de la chauffe mécanique à bord des navires. *il diags Génie Civil* 82:37-8 Ja 13 '23

Application of automatic combustion control to mechanical stokers. C. H. Smoot. *Power* 58:152 Jl 24 '23

Automatic kiln stokers. J. D. Martin. *Am Cer Soc J* 6:1044-9 O '23

Automatic mechanical stoker for Scotch marine boilers. *diags Ind Management (Lond)* 8:297-8 N 16 '22

Automatic stoker controls steam boiler pressure. *il Pop Mech* 39:561 Ap '23

Burning a low grade of fuel on underfeed stokers. *il diags Power* 56:247-51 Ag 15 '22

Burning bituminous coal on stokers; symposium. G. E. Wood; and others. *Mech Eng* 44:373-4+ Je '22

Burning coal dust on Coxie stoker. F. B. Orr. *diags Power* 56:223-4 Ag 8 '22

Burning low grade fuel at West Point; forced draft chain grate stokers increase steam generating efficiency. *il diags Power Pl Eng* 26:849-50 S 1 '22

Chain-grate stokers for burning lignite. *diags Engineering* 113:336 Mr 17 '22

Changes in design of Elvin stoker. *il Ry Age* 73:216 Jl 29 '22; Same. *Ry Mech Eng* 96:478 Ag '22

Choosing and operating an underfeed stoker. *il diags Coal Age* 23:798-802 My 17 '23

Chronological history of stoker development. A. H. Blackburn. *Power* 56:898-9 D 5 '22; Discussion. 56:911-12 D 12 '22

Construction and operation of Coxie stokers. J. Van Brunt. *diags Am Soc Heat & V E J* 28:298-308; Discussion. 308-10 Ap '22

Design and operation of underfeed stokers. H. F. Lawrence. *Mech Eng* 45:19-21 Ja '23; Same. *Power* 57:100-4 Ja 16 '23; Discussion. *Mech Eng* 45:21-4 Ja '23

Determining boiler operating factors. D. C. Hess. *diags Am Gas J* 117:679-83 D 16 '22; Same. *Blast F & Steel Pl* 11:169-72 F '23; Same. *Gas Age* 51:271-4 Mr 3 '23; Same. *Ry Mech Eng* 97:177-9, 239-41 Mr-Apr '23

Detroit Edison co. has superstoker. E. E. Dubry. *il diag Power* 56:536-8 O 3 '22

Development and use of the modern chain grate. T. A. Marsh. *Mech Eng* 45:14-16 Ja '23; Abstract. *Power* 56:909-10 D 12 '22; Discussion. *Mech Eng* 45:21-4 Ja '23

Du Pont-Simplex type locomotive stoker. *il diags Ry Age* 73:809-11 O 28 '22; Same. *Ry Mech Eng* 96:659-61 N '22

Economical use of bituminous fuels. J. B. C. Kershaw. *diags Elec W* 80:1317-24 D 16 '22

An everyday run with the new Hanna type H-2 stoker. *il Ry R* 70:51-3 Ja 14 '22

Furnace engineering company's stoker replacement parts. *il diag Power* 55:544-5 Ap 4 '22

Green chain grate for forced or natural draft. *diags Power* 55:859-60 My 30 '22; *Power Pl Eng* 26:731-2 Jl 15 '22

Green fuel retarder adjustable for firing rates. *il Power* 55:459 Mr 21 '22

Hopper feed added to CoKal hand stoker. *il diag Power* 55:774 My 16 '22

Improved Hanna locomotive stoker, type H-2. *il diags Ry Age* 72:429-32 F 18 '22; Same. *Ry Mech Eng* 96:104-7 F '22

Improved stoker replacement parts. *diags Power* 58:96 Jl 17 '23

Improved underfeed stokers for P.R.T. boiler plant. *il diag Elec Ry J* 60:913 D 9 '22

Stokers, Mechanical—Continued

- Improving boiler room practice. R. June. *il* Gas Age 51:467-70 Ap 14 '23
- Is mechanical firing reducing the cost of train operation; abstracts. Ry Age 73:902-4 N 11 '22; Ry R 71:656-8 N 11 '22; Ry Mech Eng 97:89-91 F '23
- Locomotive stoker as an operating factor. F. P. Roesch. Ry R 69:635-7 N 19 '21
- Low stoker and furnace maintenance. *il* Power 58:377 S 4 '23
- Machine firing lowers fuel and labor cost. *il* Brick & Clay Rec 60:913-14 Je 13 '22
- Many features in design of new Taylor stoker. *il* diag Power Pl Eng 27:602-4 Je 1 '23
- Mechanical stoker and modern plant efficiencies. J. G. Worker. Power 58:394-5 S 4 '23
- Mechanical stokers. J. G. Worker and T. A. Peebles. 258p McGraw-Hill '22
- Mechanical stokers and small steam plants. H. E. Osgood. Power 55:271-2 F 14 '22; Discussion. 55:589; 56:259 Ap 11, Ag 15 '22
- Mechanical stokers and stoking. W. N. Polakoff. *diags* Management Eng 2:325-30; 3:29-36, 73-80, 171-9, 233-41, 295-303 Je-N '22
- Mechanical stokers and the chemical industries. W. H. Wood. *il* Ind & Eng Chem 15:918-20 S '23
- Mechanical stokers for locomotives. Ry R 73:1159-61 Je 30 '23; Abstract, with discussion. Ry Age 74:1593-4, 1598-9 Je 23 '23; Same. Ry Mech Eng 97:505-6, 510-11 Jl '23
- Mechanical stokers—number sold, horsepower and kinds of installation by months in 1923. Comm & Fin Chr 117:1405 S 29 '23
- Mechanical stokers on marine water-tube boilers. W. J. Muller. *diags* Engineer 136:279-80 S 14 '23; Same. Engineering 116:297-9 S 7 '23; Discussion. Engineer 136:274 S 14 '23; Engineering 116:323 S 14 '23
- Mechanical stoking at sea. *il* *diags* Engineer 135:46 Ja 12 '23
- Modern utilization of anthracite coal with some notes on the construction and operation of stokers. J. Van Brunt. *diags* Dom Eng 98:164-6, 211-12 Ja 28-F 4 '22
- More information necessary for best results with underfeed stokers. G. A. Marsh. *diag* Power 58:742-3 N 6 '23
- New automatic and hand-feed stokers. *il* Management & Adm 6:638 N '23
- New Jones stoker is of the lateral retort type. *il* Power 56:168 Ag 1 '22
- New McClave-Brooks mechanical stokers. *il* Power 58:321 Ag 28 '23; Power Pl Eng 27:851 Ag 15 '23
- New Playford traveling grate stoker. *il* Power 57:673-4 My 1 '23
- New type H Taylor stoker. *il* *diag* Power 58:21-2 Jl 3 '23
- Nine years with underfeed stokers and Illinois coal. C. C. Cobb, jr. *diag* Power 57:328-30 F 27 '23
- Northwest station increasing stoker capacity. *il* *diags* Power 57:46-8 Ja 9 '23
- Overfeed stokers of the inclined type. G. I. Bouton. *diags* Mech Eng 45:17-18 Ja '23; Same cond. Power 56:910-11 D 12 '22; Discussion. Mech Eng 45:21-4 Ja '23
- Performance of large chain-grate stoker at Calumet station, Chicago. *il* *diag* Power 58:254-5 Ag 14 '23
- Performance of mechanical stokers in South Wales. *il* Eng & Ind Management 7:427-8 My 18 '22
- Pluto mechanical stoker. *diags* Engineering 115:325-8 Mr 16 '23; Power 58:71 Jl 10 '23
- Practical operation of an underfeed stoker. *il* *diags* Power 55:179-80 Ja 31 '22
- Reeves automatic stoker control. *il* *diags* Power 56:133-4 Jl 25 '22
- Refractories for stokers. G. I. Bouton. Am Cer Soc J 6:1190-3 N '23
- Some essentials of automatic stokers. E. Rauber. Electrician 88:15 Ja 6 '22
- Stoker firing of sawmill refuse. Power 58:616 O 16 '23
- Stoker operating methods. H. T. Edgcomb. Power 58:226-7 Ag 7 '23
- Stoker problem discussed from an operating viewpoint; abstracts. R. E. Dillon. Elec W 81:533 Mr 10 '23; Power 56:432-3 S 12 '22
- Stoker replacement parts. R. T. Gray. Power 55:559 Ap 4 '22
- Stokers, draft regulators, furnaces and ash handlers for paper mill power plants. W. F. Schaphorst. *il* Paper Tr J 74:24+ Je 15 '22
- Stoking machinery for horizontal retorts. *il* *diags* Gas J (Lond) 162:273-5 My 2 '23
- Swinging damper reduces air leakage at rear of chain-grate stokers. J. J. Monaghan. *diags* Power 56:947-8 D 12 '22
- Under-feed stoker. F. A. De Boos. *il* *diags* Am Soc Heat & V E J 28:121-31; Discussion. 131-2 Mr '22
- Under-feed stoker in paper mill work. F. A. De Boos. *il* *diags* Paper Tr J 74:22-6 Je 8 '22
- Underfeed stoker most favorable for burning lignite. Elec W 80:380-1 Ag 19 '22
- Underfeed stoker successfully burns low-grade fuel. *il* *diags* Elec Ry J 60:221-5 Ag 12 '22; Abstract. Elec W 80:612-13 S 16 '22
- Underfeed stokers burn low grade of coal. C. E. Reese. *il* *diag* Blast F & Steel Pl 10:588-91 N '22
- Unit machine & mfg. co. industrial stoker. *il* Power Pl Eng 26:198 F 1 '22; Power 55:419 Mr 14 '22
- Variable speed steam turbine stoker drive. I. S. Forde. *il* Blast F & Steel Pl 11:342-4 Je '23
- Water-tube boiler with underfeed stoker for shipboard. *il* *diags* plan Engineering 113:584-6 My 12 '22
- What to know when selecting stoker equipment. J. G. Worker. Power 55:647-50 Ap 25 '22

Testing

- Test shows flexibility of new stokers. E. Fitts. Elec W 78:1027 N 19 '21

Stokes's law (fall of spheres)

- Coefficients of slip in gases and the law of reflection of molecules from the surfaces of solids and liquids. R. A. Millikan. Phys R 21:217-38 Mr '23

General law of fall of a small spherical body through a gas, and its bearing upon the nature of molecular reflection from surfaces. R. A. Millikan. Phys R 22:1-23 Jl '23

Stokes's law (optics)

- Principle of combination and Stokes' law in the X-ray series. D. Coster. Phys R 19:20-3 Ja '22

Stone

- Prevention of decay in stonework. N. Heaton. Sci Am 127:247 O '22

- Stone in 1921. G. F. Loughlin and A. T. Coons. U S Geol S Min Res of U S 1921, pt 2:175-213 '23

See also Blasting; Building stone; Cobble stones; Concrete stone; Granite; Limestone; Marble; Masonry; Quarries and quarrying; Road materials; Rocks; Sandstone; Scoria

Stone, Artificial

- Nouveaux procédés de mélange des matériaux et des liants dans la fabrication du béton et des pierres artificielles. R. Marc. *diags* Génie Civil 81:277-9 S 23 '22

Schaumsteine; neues verfahren zur herstellung von leichtsteinen aus hochofen- oder anderen schlacken. A. Frisak. *il* *diags* Stahl & Eisen 43:1219-28 S 20 '23

Stone, Crushed

- Cost of placing stone on road. R. Wiley. Pub Works 54:153-4 My '23

Crushed stone for railroad ballast. T. Bloecher, jr. Eng & Contr (Ry) 59:907-8 Ap 18 '23

Field-stone crushing plant for roadwork. *il* Eng N 88:1028 Je 22 '22

Stone, Crushed—Continued

Preparation of stone and gravel for road maintenance. A. H. Hinkle. *Munic Eng* 64: 66-72 F '23; Same. *Eng & Contr* (R & S) 60:213-19 Ag 1 '23

Use of explosives in production of crushed stone. S. R. Russell. *Eng & Contr* 57:371-4 Ap 19 '22; Excerpts. *Pub Works* 52:443-4 Je 17 '22

Valuation of stone deposits for crushed rock production. J. H. Watkins. *Eng & Contr* (R & S) 59:771-5 Ap 4 '23

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Cost of sand, gravel and crushed stone; tabulation from 700 cities. *Pub Works* 52:128-30, 392-3 F 18, My 27 '22

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New building material. *Am Arch* 122:472 N 27 '22

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Dustiness of the air in granite-cutting plants. S. H. Katz and L. J. Trostel. *il charts diags Am Soc Heat & V E J* 28:421-42 My '22

Sawing stones with man-made stones; how abrasives are employed in cutting and shaping marble and granite. J. F. Springer. *il Sci Am* 129:40-1 Jl '23

Stone-cutting machine effects economy. *il Pop Mech* 40:940 D '23

Stonehenge

Stonehenge—the enigma of Salisbury plain; two new theories based on recent discoveries during restoration. *il diags Sci Am* 127:114-15 Ag '22

Stones, Precious. See *Precious stones***Stoneware**

Acid- and chemical-proof stoneware. M. A. Knight. *Ind & Eng Chem* 15:472-3 My '23; Abstract. *Chem & Met Eng* 28:689 Ap 16 '23

De quelques nouveautés dans l'industrie des grès chimiques. M. Kaltenbach. *il diags Chimie & Ind* 9:227-32 F '23

Unique development of modern chemical stoneware. P. C. Kingsbury. *il diags Chem & Met Eng* 27:1226-31 D 20 '22; Excerpts. *Chem Age* 30:551-4 D '22

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Improved stopcock. P. H. Kollwryn. *diags Ind & Eng Chem* 15:1038 O '23

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Economic storage of barrels; with warehouse layout. M. W. Potts. *il diags plan Management Eng* 3:213-19 O '22

How to save money by proper methods of barrel handling. M. W. Potts. *il Chem & Met Eng* 28:345-8, 404-7 F 21-28 '23; Same. *Ind Management* (Lond) 9:247-50, 261-3 Ap 19-May 3 '23

Making every foot of space pay its way. W. H. Leffingwell. *System* 42:710-12 D '22

See also *Airplanes—Storage; Bins, Concrete; Coal storage; Cold storage; Explosives—Storage; Freight houses; Motor trucks—Storage; Oil storage; Pattern storage; Stores systems; Warehouses; Warehousing; Water storage*

Storage batteries

Action of electrolyte and elements in a storage battery. C. W. Webb. *diags Brass W* 18:245 Ag '22

Address before the Schenectady research laboratory. J. J. Thomson. *Gen Elec R* 26: 496-9 Jl '23

American exports of storage batteries for 1922; tabulation. *Automotive Ind* 48:479 F 22 '23

Automobile battery care and repair. H. P. Manly. 335p Drake '22

Automobile storage battery, its care and repair; radio batteries, farm lighting batteries. O. A. Witte. 3d ed., rev. & enl. 532p American bureau of engineering, Chicago '22

Care of radio storage batteries. F. L. Brittin. *il diags Pop Mech* 40:973-4 D '23

Care of storage batteries. M. M. Brown. *diag Power Pl Eng* 27:595-6 Je 1 '23

Combining high voltage with compactness in storage battery construction. *il Sci Am* 128:385 Je '23

Common metals and acids cause little injury to storage batteries. *Elec W* 79:1177 Je 10 '22

Development of automotive batteries. K. W. Gasche. *il Bus Transportation* 1:447-8 Ag '22

Exide batteries in the polar regions. *Elec R* (Lond) 92:715 My 4 '23

Exide battery service, Chloride electrical storage co.'s organisation. *il Elec R* (Lond) 90:256 F 24 '22

Extravagant claims for the lead-hydrate battery. *Elec W* 80:467 S 2 '22

Fuller Sparta accumulators. *il Elec R* (Lond) 90:610-11 Ap 28 '22

Homemade storage B-battery. E. J. Bachman. *il diags Pop Mech* 39:640-2 Ap '23

How the life and performance of the lead storage battery may be extended by proper care. M. F. Packard. *Coal Age* 21:733-4 My 4 '22

How to get best results from a battery. *Coal Age* 23:1047-8 Je 28 '23

Keeping nickel-iron storage batteries in condition. M. F. Packard. *Coal Age* 21:779-80 My 11 '22

Lead-hydrate storage battery. *il Elec R* (Lond) 90:402-4 Mr 24 '22

Lead storage battery. H. G. Brown. 162p Locomotive pub. co., London '22

Maintenance and inspection of storage batteries. C. Schenck. *Power* 55:571-3 Ap 11 '22

Monobloc containers for starting and lighting batteries; S.A.E. recommended practice. *diags Soc Auto Eng J* 10:450 N '22; Same. *Automotive Ind* 47:1018 N 23 '22

New lightweight electric storage batteries. *Pop Mech* 38:436 S '22

New method for determining the rate of sulphation of storage-battery plates. G. W. Vinal and L. M. Ritchie. *il U S Bur Stand Tech Pa* 225:117-24 '22; Same. *Chem & Met Eng* 27:1116-18 D 6 '22; Same. *Elec W* 80: 1383-5 D 23 '22

Operation of Edison storage batteries. L. W. Webb. *il Power* 56:97-8 Jl 15 '22

Precautions in storage-battery operation. C. Schenck. *Power* 55:214-15 F 7 '22

Reactions of the lead storage battery. M. Knobel. *Am Electrochem Soc Trans v* 43 (preprint 3):29-34 My '23

Les soins à donner aux batteries d'accumulateurs des postes radiotéléphoniques. *diag Génie Civil* 82:307-8 Mr 31 '23

Some reflections on the lead hydrate accumulator. W. R. Cooper. *Electrician* 88:654-6 Je 2 '22

Storage batteries. *Power Pl Eng* 26:94-6 Ja 1 '22

Storage batteries. W. H. Patchell. *Inst E E J* 60:424-7 Ap '22

Storage batteries and charging for electric vehicles. J. H. Tracey. *il Elec J* 20:20-2 Ja '23

Storage batteries, stationary and portable. J. T. Niblett. 105p Drake '22

Storage batteries that are out of the ordinary. *il Sci Am* 128:120 F '23

Storage-battery as a mechanical problem. C. W. Hazelett. *il Soc Auto Eng J* 11:350-2; Discussion. 352-4 O '22

Storage battery for the electric vehicle. B. Ford. *Gen Elec R* 25:241-3 Ap '22

Storing storage batteries. V. H. Todd. *diag Power Pl Eng* 26:323-4 Mr 15 '22

Study of effect of impurities on storage batteries. H. C. Gillette. *Am Electrochem Soc Trans v* 41 (preprint 7):55-62 Ap '22; Same. *Chem & Met Eng* 26:981-3 My 24 '22

Storage batteries—Continued

Systematic care insures service from storage batteries. A. F. Campbell. Elec R 80:95 F '22

See also Electric batteries

Accidents

Burns from storage batteries. Monthly Labor R 16:153-4 Ja '23

Advertising

Exide battery grabs the buck for the industry in business-paper advertising. W. B. Edwards. Ptr Ink 123:34+ My 31 '23

Getting quick distribution among dealers and distributors by mail. W. E. Brewster. Ptr Ink 117:105-6+ D 29 '21

Charging

Automatic charging of motive-power storage-batteries. H. M. Beck. il diags Soc Auto Eng J 10:499-505; Discussion. 505-6 Je '22

Balancer set for battery charging. H. M. Phillips. diags Power Pl Eng 26:657-9 JI 1 '22

Battery charging apparatus; boosters, their connections, ratings and causes of failure. H. M. Phillips. diag Power Pl Eng 26:522-4 My 15 '22

Building a battery charger. F. L. Brittin. diags Pop Mech 40:811-12 N '23

Charging control, power and excitation batteries. Elec W 82:184 JI 28 '23

Charging storage batteries from a.c. C. E. Hamann. il diags Wireless Age 9:52-3+ My '22

Charging systems for electric vehicles. R. E. Russell. il Gen Elec R 25:244-50 Ap '22

Charging vehicle batteries. O. Sarvas. il diags Elec J 20:27-30 Ja '23

Connections for charging storage batteries. V. H. Todd. diags Power 55:70 Ja 10 '22

Equipment for battery charging; solving rheostat problems arising in charging storage batteries. H. M. Phillips. Power Pl Eng 26:371-3 Ap 1 '22

Fixed-resistor battery-charging method receiving more attention. F. L. Spangler and A. J. Horton. Elec W 79:282-4 F 11 '22

Fool-proof recharger for storage-batteries. il Sci Am 129:321 N '23

Generators for charging batteries. H. M. Phillips. Power Pl Eng 26:570-2 Je 1 '22

Hobart HB constant-potential battery charging outfit. il Am Mach 57:200 Ag 3 '22

Homecharging radio B batteries. diag Wireless Age 9:87 Ag '22

Keeping the storage battery young and lively. M. F. Packard. diags Coal Age 22:793-5 N 16 '22

Maintaining batteries on the Long Island. il Elec Ry J 59:967-9 Je 17 '22

New battery service rate at Hartford. Elec W 80:781 O 7 '22

New dynamo and battery regulator. diag Engineer 136:375 O 5 '23; Elec R (Lond) 93:553 O 12 '23

New means of regulating charge rate of batteries developed. diag Automotive Ind 49:833 O 25 '23

Operation and control of storage batteries in central stations. A. Fastman. Elec R (Lond) 91:933-4 D 22 '22

Portable plant for charging electric batteries. il Engineer 136:209 Ag 24 '23

Relative merits of three methods of charging batteries. F. L. Spangler. il Elec W 81:105-6 Ja 13 '23

Report of the signal section committee on batteries. Ry Age 74:647-8 Mr 14 '23

Storage-battery recharger for the home or garage. il Sci Am 126:413 Je '22

Trickle charge method for charging storage batteries. Ry R 72:741-2 Ap 28 '23

Cleaning

Maintaining batteries on the Long Island. il Elec Ry J 59:967-9 Je 17 '22

Manufacture

Chloride electrical storage company, limited. il Engineer 135:601-2 Je 8 '23

Keeping them safe in the storage battery plant. C. T. Fish. il Nat Safety N 8:13-15+ JI '23

Manufacture of Ediswan accumulators. Electrician 88:689 Je 9 '22

Manufacture of separators for electric storage batteries. W. Roberts. India Rubber W 67:111 N '22

Rating

Ratings of storage batteries for isolated electric lighting-plants; S.A.E. recommended practice. Soc Auto Eng J 11:452 N '22; Same. Automotive Ind 47:1018 N 23 '22

Ratings of storage batteries for isolated electric-lighting plants; proposed S.A.E. recommended practice. Soc Auto Eng J 11:545 D '22; Discussion. 12:224-5 F '23

Repair

Battery repair methods on the C. B. & Q. il Ry Age 75:379-81 S 1 '23

Overhauling storage batteries. C. Schenck. il Power 55:336-9 F 28 '22

Repairing and inspecting storage batteries. Elec W 82:543 S 15 '23

Standards

Storage-battery revisions proposed. Soc Auto Eng J 13:104-5 JI '23

Testing

Storage batteries undergo a severe endurance test. L. C. Ilsley and H. B. Brunot. Elec W 80:177-8 JI 22 '22

Storage battery cars. See Motor cars (railroad) —Storage battery

Storage battery jars

Manufacture of battery jar covers. W. Roberts. il diags India Rubber W 65:271-2 Ja '22

Storage-battery monoblock containers; proposed S.A.E. recommended practice. Soc Auto Eng J 11:545-6 D '22

Use of hard rubber battery jars in car lighting. A. E. Voight. il Ry Age 72:579-80 Mr 11 '22

Storage battery locomotives. See Electric locomotives, Storage battery

Storage pits

Nitrate storage pit of reinforced concrete constructed in record time. il diags plans Concrete 20:170-3 Ap '22

Storage racks

Racks facilitate the progress of work. il Management Eng 4:32 Ja '23

Storage racks and bins. C. W. Lytle. diags Management Eng 3:381-4 D '22

Up-to-date bar storage rack. F. H. Colvin. il plan Am Mach 57:380-1 S 7 '22

Store buildings

Better store buildings by careful planning. C. A. Byers. il plan Bldg Age 45:40-1 Ja '23

Creating better store architecture. il plan Bldg Age 44:30 O '22

Fifth avenue pipe and tobacco shop. il Am Arch 122:58-60 JI 19 '22

Heckscher building, New York. il plans 'Arch & Bldg 54:17, pl 19-21 F '22

Old English design for stores and apartments. il plans Bldg Age 44:36-7 Mr '22

Remodeling residence into a store. il Bldg Age 44:33 F '22

Row of stores; novel bungalow designs. C. A. Byers. il plan Bldg Age 44:30 F '22

1650 Broadway building, New York. Arch & Bldg 55:7, pl 10-11 Ja '23

Sixth street shops, Los Angeles, Cal.; views. il Arch Rec 54:343-51 O '23

Store building, Westville, Conn.; view and plans. Am Arch 121:2541, 266 Mr 29 '22

See also Department stores

Heating and ventilation

See Department stores—Heating and ventilation

Lighting

Department store illumination. il Elec W 82:223-5 Ag 4 '23

Developing business that will bring repeat orders. R. E. Chatfield. J Elec 50:296 Ap 15 '23

Store buildings—Lighting—Continued

- Light that sells. H. H. Courtright. *il diag plan J Elec 51:49-52 Jl 15 '23*
 Lighting developments that are building profits. O. R. Hogue. *System 44:344+ S '23*
 Lighting of retail stores. R. S. Prussia. *J Elec 50:410-11 Je 1 '23*
 Lighting of small stores. (Lighting data. Edison lamp works; Bulletin L.D. 139). bibliog. *Am Inst Arch J 11:XV+ Ag '23*
 More business through better lighting. G. B. Regar. *il N E L A Bul 9:687-98 N '22*
 Outside shop lighting. M. A. C. Brereton. *il Gas J (Lond) sup 2:131-3 Jl 25 '23*
 Possibilities in better store lighting. *Elec W 80:30 Jl 1 '22*
 Potential business in store lighting. H. H. Allison. *J Elec 51:286-7 O 15 '23*
 Practical lighting in store and residence. F. J. Gunther. *N E L A Bul 9:50-5 Ja '22*
 Store lighting as a source of income. J. J. Kirk and W. E. Underwood. *Elec W 80:1454-5 D 30 '22*; Same. *N E L A Bul 10:99-101 F '23*
 Successful campaign for better store illumination. L. B. Gawan. *il J Elec 51:248-50 O 1 '23*
 Ten year advance in the illumination of small stores. A. L. Powell. *il diag Illum Eng Soc 17:289-302 Jl '22*; Excerpt (Table). *Elec W 80:674 S '23*; Discussion. *Illum Eng Soc 17:303-14 Jl '22*
 What a store-lighting survey shows. O. R. Hogue and J. J. Kirk. *charts diag Elec W 80:832-3 O 14 '22*

See also Show windows—Lighting

Store door delivery. *See* Freight handling—Store door delivery

Store fixtures

Why our business has grown 20-fold since we adopted simplification. J. N. McLean. *il System 41:144-7+ F '22*

Storehouses

See Stores systems; Warehouses

Stores (retail trade)

See also Company stores; Department stores; Electric shops (retail trade); Retail trade; Show windows; Store buildings

Location

- Choosing the most advantageous store location. I. B. Lincoln. *il J Elec 49:23 Jl 1 '22*
 How chain organizations pick locations. R. M. Rhodes. *Ptr Ink M 4:53 My '22*
 How retail store sites are selected. *Ptr Ink 122:112 Ja 11 '23*
 What's the best location? I. A. Lurie. *il System 42:401-3+ O '22*

Stores, Company. *See* Company stores

Stores systems

- Analysis of construction costs and methods. H. A. Call. *Sanitary & Heat Eng 97:186-8 Ap 7 '22*
 Are you tempting employees to steal tools? J. Hartshorne. *Ind Management 63:41-2 Ja '22*
 Balance of stores procedure. *Management Eng 3:253-6 O '22*
 Beating the brass check. F. A. Sharp. *Ind Management 63:24-5 Ja '22*
 Brass check versus the triplicate slip system. C. Walton. *Ind Management 64:232-5 O '22*
 Budgeting material issues. K. W. Stillman. *Ind Management 65:299-300 My '23*
 Controlling production without a planning department. K. W. Stillman. *Ind Management 66:160-2 S '23*
 Co-ordinating material handling. P. Hoheisel. *Elec W 80:370-2 Ag 19 '22*
 Cutting costs in the storeroom. *Factory 29:750+ D '22*
 Determining the production order quantity. W. E. Camp. *Management Eng 2:17-18 Ja '22*
 Equipment changes and maintenance of electrical and associated mechanical systems. L. J. Stewart. *Ind Eng 80:317-24+ Jl '22*
 Factory organisation. N. G. Smith. *Ind Management (Lond) 8:275-7 N 16 '22*
 Factory storekeeping and material control. H. H. Farquhar. *Am Mach 56:653-6, 733-6, 813-6, 884-8; 57:7-9, 53-61, 189-92 My 4, 18, Je 1, 15, Jl 6-13, Ag 3 '22*

- Factory storekeeping—the control and storage of materials. H. H. Farquhar. 182p McGraw-Hill '22
 Flexible stock control at lower cost. H. J. Whitten. *Factory 28:536-8+ My '22*
 Handling stores and store records in rubber factories. *India Rubber W 67:347-9 Mr '23*
 Holding down storeroom costs. H. J. Whitten. *il Factory 28:421-3+ Ap '22*
 How to reduce purchasing wastes. S. G. Fell. *Management Eng 2:244-5 Ap '22*
 How tool engineering cuts costs. J. Lannen. *il diag Ind Management 63:12-20 Ja '22*
 Importance of material control. G. R. Haigh. *Ind Management 63:205 Ap '22*
 Keeping stock records up-to-date. J. K. Raymond. *il Dom Eng 101:47-8 O 14 '22*
 Keeping stocks at proper level shows good profit. M. J. Kane. *Elec W 80:234-5 Jl 29 '22*
 Keeping track of empty barrels. *Management Eng 2:46 Ja '22*
 Keeping track of repair parts. E. E. Ayars. *Brick & Clay Rec 63:330-3 S 4 '23*
 Keeping up production volume with 31% less stock on hand. C. F. Scribner. *Factory 31:40-2 Jl '23*
 Making output records control material purchases. K. Coggeshall. *charts Ind Management 64:6-11+ J '22*
 Management problems of the small factory. E. Cordeal. *il Ind Management 62:334-40 D '21*
 Matching purchasing with production. D. B. Gauchet. *Factory 31:315-16 S '23*
 Mechanical accounting for stores inventories. L. H. Angstadt. *Management Eng 4:267-8 Ap '23*
 Mnemonic stores classification. *Management Eng 2:193-6 Mr '22*
 Modern practice in stores management. W. D. Gordon. *Ind Management 65:274-7, 375-8; 66:163-9, 320-6 My-Je, S, D '23*
 Not a stock-room but a stock-aisle. *Factory 29:407 O '23*
 Ordering and storing small tools. W. J. Sansom. *Am Mach 57:869-72 D 7 '22*
 Perpetual stocktaking systems. H. W. Ross. *Ind Management (Lond) 8:147-8 S 21 '22*
 Records of material in stock should be simple. R. Page. *Elec W 79:1170-2 Je 10 '22*
 Responsibilities of the electrical stockkeeper are simplified by continuous inventories and up-to-minute records. A. A. Barbera. *il Elec R 80:31-4 Ja '22*
 Seven ways a stores department helps to cut costs. H. J. Whitten. *Factory 28:282-4+ Mr '22*
 Shop office accounting. N. G. Meade. *Ind Management 65:216-20 Ap '23*
 Some notes on stores control. *Eng & Ind Management 6:632-4 D 15 '21*
 Some of the ways procedure in maintenance work can be audited. A. J. Whitcomb. *Ind Eng 81:11-15+ Ja '23*
 Standardization of practices recommended in purchasing and storing. C. A. Kelley. *J Elec 50:438-41 Je 1 '23*
 Standardizing stock records. J. P. Richards. *Factory 30:699-700 Je '23*
 Stock keeping an aid to efficient service. P. H. Smith. *Automotive Ind 46:764-7 Ap 6 '22*
 Stock shortages. J. O. Knowles. *Elec R (Lond) 92:529-31 Ap 6 '23*
 Storage and disbursement of small tools. W. J. Sansom. *Am Mach 57:713-16 N 9 '22*
 Storeroom solution on a scattered system. P. Hoheisel. *il Elec W 80:122-4 Jl 15 '22*
 Stores and materials control, including procurement by manufacture and by purchase. M. Cartmell. 459p Ronald press '22
 Storing of steel bars. *il Iron Age 109:789 Mr 23 '22*; Same cond. *Iron Tr R 70:678-9 Mr 9 '22*; Same cond. *Ry R 70:363-4 Mr 11 '22*
 System in taking care of stock. A. D. Palmer. *Power 56:385-6 S 5 '22*
 This storeroom pays dividends. C. E. Gerberich. *il Factory 30:35-6+ Ja '23*
 Three methods of storing material. H. Crawford. *il Am Mach 57:193 Ag 3 '22*
 Tool supply and stock-carrying methods. G. H. Shepard. *il Mach 28:896-8 Jl '22*

Stores systems—Continued

Turning obsolete material into cash. Factory 28:656 Je '22

Why we put our plant in order. J. N. Millspaugh. il Factory 29:542-3 N '22

Your storing questions profitably answered. H. J. Whitten. Factory 28:652-3+ Je '22

See also Electric railroads—Stores systems; Pattern storage; Railroads—Stores systems; Storage racks; Street railroads—Stores systems; Tools

Storm King highway

Storm King—a modern road built under pioneer conditions. il diags maps plan Eng N 90:66-9 Ja 11 '23

Trip over the Storm King highway. il Good Roads 62:321-3 Je 14 '22

Storm water

Treatment of storm-water. J. F. Skinner. Am Soc C E Pro 47:625-7 D '21; Same. Eng & Contr 57:44 Ja 11 '22

See also Sewer design; Sewerage

Storms

American storms which figure in the work of the heating engineer. G. J. O'Connor. diags map Heat & Ven 20:51-3 Ja '23

See also Meteorology; Rain and rainfall; Snow; Thunderstorms

Stove factories

Bridge & Beach manufacturing co. plant, St Louis: views and plans. Arch Forum 39:pl 49 S '23

Stove industry and trade

Thirty-year experience in industrial democracy. J. P. Frey. Int Labour R 5:539-52 Ap '22

Advertising

Phonograph record helps dealers make sales: Estate stove company. Ptr Ink M 5:80+ S '22

Pictorial demonstration instead of the superlative. il Ptr Ink M 6:65+ Ja '23

Stove pipes**Manufacture**

A-B-C of sheet metal working machinery application. L. Broemel. il diags Sheet Metal Worker 13:328-9 Je 9 '22

Stoves

Improvement in railroad stoves. il Ry Age 73:1140 D 16 '22

Prosperous stove business from salvage. C. A. Goddard. il Pop Mech 37:83-4 Ja '22

Tests on ranges and cooking appliances. A. H. Barker. 55p Gt. Brit. Dept. of sci. and ind. research, London '22

See also Concrete stoves; Electric stoves; Gas stoves; Oil stoves

Manufacture

Electric enamel furnace lowers rejections on stove parts. il Chem & Met Eng 28:364 F 21 '23

Making a knockdown camp stove. il diags Sheet Metal Worker 13:760; 14:525-6 D 8 '22, Ag 3 '23

Straightening

It pays to replace; straightening bars or pipes. E. T. Spidy. il Am Mach 59:507-8 O 4 '23

Need of straightening in automobile repair work. D. A. Hampson. Am Mach 58:760 My 24 '23

Tonnage required to straighten cold-rolled steel. G. N. Dorr. Mach 29:580 Mr '23

Unusual methods of making graduated rods. D. A. Hampson. diag Am Mach 59:382 S 6 '23

Use of preheating torch for repair work. J. H. Clemmency. diag Mach 28:541 Mr '22

Straightening machines

Abramsen straightening machine for round bars and tubes. il diags Engineering 114:736-7 D 15 '22

Tool for straightening arch pipes. E. A. Miller. diags Ry Mech Eng 96:322 Je '22

Strain gages

Accurate recording gauge; Fereday-Palmer stress recorder employed in determining actual stresses in bridge members. Can Eng 45:414 O 16 '23

New impact strain gage. E. B. Smith. il diag Eng & Contr (R & S) 59:759-61 Ap 4 '23; Same. Good Roads 64:217-18 Je 6 '23

Optical strain gauges and extensometers. L. B. Tuckerman. il diags Engineering 116:222-3 Ag 17 '23; Abstract. Eng N 91:266-7 Ag 16 '23

Pocket strain gage gives stresses in concrete roads. A. T. Goldbeck. il diags plans Eng N 90:575-6 Mr 29 '23

See also Telemeter

Strainers

New type of multiduct strainer. il Power 58:94 J1 17 '23

Self-cleaning suction strainer. M. M. Brown. diag Power Pl Eng 26:1219 D 15 '22

Strainer may be cleaned without interrupting flow. il Power Pl Eng 27:656 Je 15 '23

See also Oil filters; Screens

Strains and stresses

Abaque pour la détermination des taux de travail dans une poutre rectangulaire en béton armé, soumise à la flexion composée. V: Loup. Génie Civil 80:154-7 F 18 '22

Account of some experiments on the action of cutting tools. E. G. Coker and K. C. Chakko. diags Engineering 113:564-9 My 5 '22; Same cond. Engineer 113:503-5 My 5 '22; Discussion. Engineering 113:561-2 My 5 '22; Engineer 133:491 My 5 '22

Accurate mechanical solution of statically indeterminate structures by use of paper models and special gages. G. E. Beggs. il diags Am Concrete Inst Pro 18:58-78 '22; Same abr. Am Arch 122:32-6, 69-74 J1 5-19 '22; Discussion. Am Concrete Inst Pro 18:79-82 '22

Analysis of common forms of solid domes. R. H. Canfield. diags Eng & Contr (Bldgs) 59:189-93 Ja 24 '23

Analytical discrimination of elastic stresses in an isotropic body. R. F. Gwyther. Philos Mag 6th ser 44:274-83 J1 '22

Arch dam temperature changes and deflection measurements. F: A. Noetzi. diags Eng N 89:930-2 N 30 '22; Discussion. 89:1038; 90:131 D 14 '22, Ja 18 '23

Beams with loads irregularly distributed. T. Thompson. Engineering 112:656-8, 686-8 N 11-18 '21; Discussion. S. Timoshenko. Engineering 113:196-7 F 17 '22

Behaviour of metals under compressive stresses. H. I. Coe. Engineering 116:349-51 S 14 '23

Bending stresses in curved tubes of rectangular cross-section. S. Timoshenko. diags Mech Eng 45:582+ O '23

Brittleness developed in aluminum and duralumin by stress and corrosion. H: S. Rawdon. A. I. Krynitsky and J. F. T. Berliner. il Chem & Met Eng 26:154-8 Ja 25 '22

Brittleness developed in pure lead by stress and corrosion. H: S. Rawdon. A. I. Krynitsky and J. F. T. Berliner. il Chem & Met Eng 26:109-11 Ja 18 '22

Buckling of elastic structures. H. M. Westergaard. Am Soc C E Pro 47:455-529 N '21; Discussion. 48:103-10, 373-83, 1265-8 Ja-F, My '22

Calcul de l'arc à deux articulations à fibre moyenne parabolique. A. Rogoff. Génie Civil 81:363-7, 384-7, 619-20 O 21-28, D 30 '22

Calcul de l'arc à deux rotules et à bielle intermédiaire. C. Molitor. diags Génie Civil 82:59-63, 80-2, 104-7 Ja 20-F 3 '23

Calcul de l'arc parabolique à rotules, continu sur deux ouvertures. L. Légens. diags Génie Civil 82:619-21 Je 30 '23

Le calcul des portiques continus. L. Descans. diags Génie Civil 79:439-43, 461-4 N 19-26 '21

Calcul des poutres à treillis double avec membrures parallèles et montants verticaux à tous les nœuds d'attache. L. Légens. diags Génie Civil 80:125-9 F 11 '22

Strains and stresses—Continued

- Calcul des poutres à treillis double avec membrures parallèles et montants verticaux sur les appuis seulement. L. Légens. diags Génie Civil 80:11-13 Ja 7 '22
- Calcul général des pièces à deux appuis à encastrement partiel. L. Gellusseau. Génie Civil 80:315-18, 335-9, 359-61, 375-8, 401-3, 546-8, 564-7 Ap 8-My 6, Je 17-24 '22
- Calculating stresses in a roof truss. A. W. Engel. diags Eng & Contr (Bldgs) 58:129-30 D 27 '22
- Cohesion from the engineering standpoint. A. A. Griffith. Engineering 116:377 S 21 '23; Same cond. Engineer 136:303 S 21 '23
- Column strength of single angles. Eng N 89:1108-9 D 28 '22
- Comparison of experimental methods for obtaining the stress at a point in a plate by optical and mechanical methods. E. G. Coker. il Engineering 116:512-14 O 19 '23
- Complex stress. Engineering 114:209-10 Ag 18 '22
- Complex stress distributions in engineering materials. Engineer 136:333-4 S 28 '23; Engineering 116:388 S 28 '23
- Computing stresses in reinforced concrete arches and other structures. A. Bull. diags Concrete 19:242-5 D '21
- Conditions for elastic equilibrium under surface tractions in a uniformly isotropic body. R. F. Gwyther. Philos Mag 6th ser 44:501-7 S '22
- Deflections of beams by the conjugate beam method. H. M. Westergaard. diags W Soc E J 26:369-96 N '21
- Design of elastic structures from paper molds. G. E. Beggs. il diags Am Concrete Inst Pro 19:53-65; Discussion. 66 '23
- Distribution of stresses in a circular ring compressed by two forces acting along a diameter. S. Timoshenko. diags Philos Mag 6th ser 44:1014-19 N '22
- Effect of repetition stresses on materials. F. C. Lea. Engineering 115:217-19, 252-4 F 16-23 '23
- Elastic stresses in the rock surrounding pressure tunnels. C. P. Dunn. diags Am Soc C E Pro 49:661-70 Ap '23; Discussion. 49:1264-78 Ag '23
- Engineering problems solved by photo-elastic methods. E. G. Coker. il diags J Fr Inst 196:433-76 O '23
- Experiments on the yield point of steel under transverse tests. A. B. W. Kennedy. Engineering 115:736-8 Je 15 '23; Discussion. W. H. Thorpe. 115:813 Je 29 '23
- Factors of safety and allowable stress. C. D. Albert. Am Mach 57:54-7 JI 13 '22
- Formula for determining the safe load for gears. V. Charushin. Am Mach 57:737 N 9 '22
- Fracture of wire in steel ropes. E. M. Horsburgh. diags Engineering 112:707-11 N 18 '21
- Further experiments on large-size riveted joints. J. Montgomerie. diags Engineering 115:727-30, 755-7 Je 8-15 '23; Excerpt. Engineer 135:397 Ap 13 '23
- Girder bridge design. T. C. Hood. Engineer 135:124-5 F 2 '23
- Graphical determination of stress from photo-elastic observations. L. N. G. Filon. Engineering 116:511-12 O 19 '23
- Haunched steel I-beam tests analyzed. Can Eng 45:121-6 JI 10 '23; Eng & Contr (Bldgs) 60:1119-23 N 28 '23
- Higher stresses for steel buildings proposed by fabricators. Eng N 90:670-1 Ap 12 '23
- Improvements in built-up ship girders. S. H. Phillips. diags Aviation 13:828-30 D 25 '22
- Influence of rivet holes on the strength and endurance of steel structures. J. S. Wilson and E. P. Haigh. il diags Engineering 114:369-12 S 8 '22; Excerpts. Eng & Contr 58:8-10 N 23 '22; Discussion. Engineering 114:336 S 15 '22
- Initial failure and automatic relief of stress. D. C. Coyle. Eng N 90:631-2 Ap 5 '23
- Investigation of secondary stresses in the Kenova bridge. G. A. Maney and J. I. Parcel. (Studies in engineering, no. 4) 51p University of Minnesota, Minneapolis '22
- Lateral strength of columns subject to flexure. C. R. Young. diags Eng N 89:788-9 N 9 '22
- Law of failure of solid bodies due to stress. C. Sunatani. Mech Eng 44:833 D '22
- Leaves from a steel melter's note book. H. D. Hibbard. Iron Age 108:1337, 1379-80 N 24 '21
- Measurement of structural stresses. F. Johnston-Taylor. diag plan Eng & Contr (Bldgs) 59:1173-6 My 23 '23
- Measuring forces in impact. A. Elmendorf. il Am Soc T M Pro 22 pt 2:117-23 '22
- Mechanical model illustrating the behaviour of metals under static and alternating loads. C. F. Jenkin. diags Engineering 114:603 N 17 '22
- Moments and stresses in slabs. H. M. Westergaard and W. A. Slater. il diags plans Am Concrete Inst Pro 17:415-538 '21; Same. (Reprint & Circ. Ser. 32) 124p '21 \$1 National Research Council, 1701 Massachusetts av, Washington, D.C.
- New studies of stress distribution in irregular members. G. Paaswell. Eng N 89:194-5 Ag 3 '22
- Note sur la résistance des tôles comprimées et à joints par recouvrement. M. Koehlin. Génie Civil 81:546 D 9 '22
- Oscillations and fatigue of springs. J. K. Wood. diags Am Mach 58:67-70, 113-17, 155-8, 185-7 Ja 11-F 1 '23
- Overstrain, internal stresses and creep. Z. Jeffries and R. S. Archer. Chem & Met Eng 27:833-7 O 25 '22
- La poutre à treillis à membrures parallèles calculée comme système élastique. L. Légens. diags Génie Civil 82:8-12 Ja 6 '23
- Power calculations for bending rolls. A. L. Roberts. diags Mach 29:512-15 Mr '23
- Proposed investigations in structural engineering. W. M. Wilson. W Soc E J 26:289-96 Ag '21; Same. Eng & Contr 55:512-14 My 25 '21; Same abr. Am Arch 120:355-7, 405-7 N 9-23 '21
- Rapid calculation of ferro-concrete beams. A. Esnouf and L. J. Coutanceau. diags Engineering 113:155-7, 193-5, 221-3, 273-4 F 10-Mr 3 '22; Discussion. J. Botin. 113:390 Mr 31 '22
- Recent photo-elastic researches on engineering problems. E. G. Coker. diags Engineering 113:756-7 Je 16 '22
- Reinforcing value of gunite encasing for steel beams. Can Eng 44:361-2 Mr 27 '23
- Relation between deflections and stresses in arch dams. F. A. Noetzi. Am Soc C E Pro 47:261-84 O '21; Discussion. 47:791-4; 48:75-90, 359-66, 675-81, 967-80 D '21-Apr '22
- Restraining value of beam connections. P. L. Pratlley. diags Can Eng 43:631-4 D 19 '22; Correction. 44:116 Ja 2 '23
- Rotating discs of conical profile. diags Engineering 115:1-3, 115-16 Ja 5, 26 '23; Discussion. 115:407, 630; 116:274-5, 417-19 Mr 30, My 18, Ag 31, O 5 '23
- Rules for rivet-hole deductions in tension members. V. H. Cochrane. diags Eng N 89:847-8 N 16 '22
- Simple model to illustrate elastic hysteresis. S. Lees. diags Philos Mag 6th ser 44:511-37 S '22
- Solutions for two truss problems. C. R. McAnlis. diags Eng & Contr (Bldgs) 60:878-9 O 24 '23; Discussion. 60:1105, 1325-6 N 28, D 26 '23
- Some special cases of two dimensional stress or strain. C. E. Inglis. diags Engineering 113:732-3 Je 9 '22
- Statically indeterminate and non-articulated structures. F. C. Lea. Engineering 113:313-15, 351-2, 403-4, 482 Mr 17-31, Ap 21 '22
- Stiffness of poles for overhead transmission lines. G. B. R. Pimm. Elec R (Lond) 90:9-10 Ja 6 '22; Discussion. G. V. Twiss. 90:142 Ja 27 '22
- Strength of column-supported foundations; analysis of stresses in various parts of condenser foundation. J. Flodin. diags Marine Eng 28:180-2 Mr '23
- Strength of forked connecting rods. W. J. Kearton. il diags Engineering 116:442-4 O 5 '23; Abstract. Engineer 136:333-4 S 28 '23
- Stress coefficients for large horizontal pipes. J. M. Paris. Eng N 87:768-71 N 10 '21

Strains and stresses—Continued

Stress concentrations due to notches and like discontinuities. E. G. Coker and P. Heymans. *Engineering* 113:26-8 Ja 6 '22; Discussion. 112:408-9 S 16 '21

Stress distribution in electric railway motor pinions as determined by the photoelastic method. P. Heymans and A. L. Kimball, Jr. *il diags Gen Elec R* 26:143-53 Mr '23; Same abr. *Mech Eng* 45:93-5+ F '23

Stress on rectangular plates. K. Sezawa. *Engineering* 116:188-91 Ag 10 '23

Stresses and deformation in flat circular cylinder heads. G. D. Fish. charts diags *Mech Eng* 44:165-9; Discussion. 170 Mr '22

Stresses, calculable and incalculable. *Engineer* 133:499-500 My 5 '22; Same. *Eng & Contr* 57:511-12 My 31 '22

Stresses in pipe bends. H. D. Fisher. diags *Power Pl Eng* 26:340-1 Mr 15 '22

Stresses in pipes reinforced by steel rings. G. Cook. *Engineering* 116:477-8 O 12 '23; Abstract. *Power* 58:669 O 23 '23

Stresses in reinforcement caused by shrinkage of concrete in hardening. M. S. Duecker and H. R. Reed. *Eng & Contr (Bldgs)* 59:492-4 F 28 '23

Stresses in the firebox crown stays of locomotive boilers. *Engineering* 113:514-15 Ap 28 '22

Surprising variations in timber stresses allowed by different building codes. R. G. Kimball. *Eng & Contr* 57:503-4 My 24 '22

Test arrangement for measuring skew arch thrust. *il Eng N* 89:700 O 26 '22

Tests of I-beams encased in concrete. diags *Can Eng* 44:267-9 F 27 '23

Tests on different shaped arch bar side frames. L. E. Endsley. *il diags Ry Age* 75:377-8 S 1 '23

Théorie cinématique du treillis. L. Légens. diags *Génie Civil* 81:40-3 J1 8 '22

Thermal stresses in car wheels. *Chem & Met Eng* 26:269 F 8 '22

Thermal stresses in steel car wheels. G. K. Burgess and G. W. Quick. *il diags U S Bur Stand Tech Pa* 235:367-403 '23; Same cond. *Ry Mech Eng* 97:221-4 Ap '23; Same cond. *Ry Age* 74:951-3 Ap 14 '23; Abstract. *Eng & Contr (Ry)* 59:1134 My 16 '23

Thrust in skew arches. D. Royse. diags *Munic Eng* 62:202-7 Je '22; Same. *Can Eng* 43:467-9 O 24 '22

Torsional strength of bars. C. Weber. diags *Mech Eng* 44:738-9+; 45:45-7 N '22, Ja '23

Torsional strength of reinforced concrete beams. C. R. Young, W. L. Sagar and C. A. Hughes. *il diags Can Eng* 43:425-30 O 10 '22

Transverse forces in truck side frames on curves; an analysis for determining the stresses set up by wheel slippage, coupler pull and elevation of rail. G. A. Anderson. diags *Ry Age* 74:1423-5 Je 16 '23

Trend of British structural design. E. S. Andrews. *Eng & Contr* 56:519 N 30 '21

True net sections riveted tension members. C. R. Young. diags *Am Arch* 122:121-6 Ag 2 '22; Abstract. with discussion. *Eng N* 88:911, 1051; 89:33, 366 Je 1, 22, J1 6, Ag 31 '22

Two solutions of the stress equations, under tractions only, expressed in general orthogonal coordinates, with two deductions therefrom. R. F. Gwyther. *Philos Mag* 6th ser 46:481-7 S '23

Value of the energy relation in the testing of ferrous metals at varying ranges of stress and at intermediate and high temperatures. T. M. Jasper. diags *Philos Mag* 6th ser 46:609-27 O '23

Verfestigung und zugfestigkeit. F. Körber. *il diags Stahl & Eisen* 42:365-70 Mr 9 '22

Volumes of jack-arch groins. G. Paaswell. diags *Eng N* 89:1024-5 D 14 '22

When steel beams stretch; a new instrument for observing and photographing stresses in iron and steel. P. J. Risdon. *il Sci Am* 127:32 J1 '22

Working stresses for structural timbers. *Eng & Contr (Bldgs)* 60:640-1 S 26 '23

See also Airships—Strains and stresses; Bending moment; Bridge design; Bridges; Load; Building; Columns; Concrete construction—Design; Deformations (mechanics);

Earth pressure; Elastic limit; Elasticity; Fatigue in metals; Flexure; Girders; Graphic statics; Load (mechanics); Rails—Stresses; Riveting; Roofs; Ships—Strains and stresses; Strain gages; Strength of materials; Tension; Trusses; Wind pressure

Bibliography

Buckling of elastic structures. H. M. Westergaard. *Am Soc C E Pro* 47:529-33 N '21

Terminology

Improving the terminology of mechanics. J. H. Griffith. *Eng N* 87:865 N 24 '21

Suggested definitions relating to methods of testing. *Am Soc T M Pro* 22 pt 1:516-20 '22

Straits (Bosphorus and Dardanelles). See Dardanelles

Stratton, Samuel Wesley, 1861-
Engineering inaugural. *por Chem & Met Eng* 28:1060 Je 18 '23; *Eng & Min J* 115:1076 Je 16 '23

He made science pay dividends. J. B. Morrow. *il Nation's Business* 10:21-3 D '22

President of the Massachusetts institute of technology. *por Chem & Met Eng* 27:805 O 18 '22; *Elec W* 80:860 O 21 '22; *Eng N* 89:672 O 19 '22

Straw

Gas made by carbonizing straw. H. E. Roethe. *il Gas Age* 49:75-6 Ja 21 '22

See also Flax straw

Straw blocks

Comfortable houses made of straw. *Sci Am* 126:247 Ap '22

Constructions en paille, système feuilleté. *il Génie Civil* 79:378 O 29 '21

Emergency houses of clay and straw. *il Sci Am* 126:335 My '22

France builds compressed straw houses. *Eng N* 88:103 Ja 19 '22

Straw hats

Mallory enters straw-hat field and gets distribution in first season. G. H. Wicker. *Ptr Ink* 124:99-100 J1 12 '23

Straw hats; their history and manufacture. H. Inwards. 123p Pitman '22

Strawberry plants**Advertising**

How to use advertising as the manufacturer's only salesman; R. M. Kellogg company's strawberry plants. J. A. Murphy. *Ptr Ink* 124:25-7+ S 6 '23

Stray currents

Odd case of underground-current drainage. *Elec W* 79:335-6, 1274 F 18, Je 24 '22

Recherches sur les courants vagabonds. J. Chappius and Hubert-Desprez. *Génie Civil* 79:470 N 26 '21

Rules for recommended practice relative to the protection of oil sidings from danger due to stray currents. *Ry R* 72:526-7 Mr 17 '23

Tackling the stray current problem. C. E. Schutt. *Munic Eng* 64:218-20 Je '23

Stream flow

Determining regulated-flow duration curves graphically. G. E. Lyon. *Eng N* 91:235-6 Ag 9 '23; Discussion. G. H. Matthes. 91:318 Ag 23 '23

Experiments on the effect of upper channel improvements upon the downstream flood heights. L. K. Sherman. diags *W Soc E J* 28:293-303; Discussion. 303-18 Ag '23

Flow in Tennessee checked against hydraulic formulas. B. E. Jones. map *Eng N* 89:610-12 O 12 '22; Discussion. 89:1132 D 28 '22

Island removal causes scour upstream. I. E. Houk. map *Eng & Contr (W W)* 58:52-4 O 11 '22

Measuring flow of streams. C. C. Covert. *il Can Eng* 44:393-5 Ap 10 '23

Methods of obtaining records of stream flow for municipal and industrial purposes. C. C. Covert. *Am Water Works Assn J* 10:778-84 S '23; Same. *Eng & Contr (W W)* 60:776-82 O 10 '23

Rainfall and the flow of rivers. *Engineering* 116:45-6 J1 13 '23

Stream flow—Continued

Stream-flow measurements under tidal influence. E. A. Bailey. *il Eng N* 90:347-9 F 22 '23

Water-power studies. W. T. Taylor. *Elec R (Lond)* 92:924-6, 991-3 Je 15-22 '23

See also Run-off; Stream measurement; Water flow

Stream line shape

Shape assumed by a deformable body immersed in a moving fluid. E. Karrer. *il diags J Fr Inst* 192:737-56 D '21

Stream measurement

Measurement of irrigation water. 3d ed. 48p U.S. reclamation service, Washington, D.C. '23

See also Stream flow

Stream pollution. *See* Water pollution

Street, Oscar Dickinson, 1877-

Portrait. *Elec W* 79:66 Ja 14 '22

Street accidents

Accidents analyzed; 32 per cent of Milwaukee accidents were intersection collisions. *Elec Ry J* 61:582 Mr 31 '23

Accidents decreased at street crossing where traffic circle was used. *Eng N* 90:164 Ja 25 '23

Analysis of public accidents. *Elec Ry J* 59:272 F 18 '22

Illumination and street accidents. E. A. Anderson and O. F. Haas. *il diags Safety Eng* 46:40-6 J1 '23

Illumination and traffic accidents; statistics from thirty-two cities. E. A. Anderson and O. F. Haas. *Ilum Eng Soc* 16:452-61 no 8 '21; Same. *Good Roads* 61:209-12+, N 2 '21; Same. *Munic Eng* 61:177-81 N 21; Same abstr. *Am Inst E E J* 41:383-5 My '22; Abstract. *Elec W* 79:80 Ja 14 '22; Discussion. *Ilum Eng Soc* 16:461-8 no 8 '21

Police department's responsibilities for street and traffic safety. S. J. Dickson. *Safety Eng* 43:242-3 Je '22

See also Automobile accidents; Express service—Safety devices and measures; Street railroads—Accidents

Street car lighting. *See* Car lighting

Street car trailers. *See* Street cars—Trailers

Street cars

American cars for Finland. plan *Elec Ry J* 58:1074 D 17 '21

American street cars in Finland. J. A. H. Torry. *il Gen Elec R* 25:458-9 J1 '22

Application of the light-weight double-truck car. H. C. Hickock. *il Elec J* 20:356-60 O '23

Les autobus et les tramways en Angleterre. *il diags plans Génie Civil* 80:353-8 Ap 22 '22

Bringing leads from motor to car body. *il Elec Ry J* 58:1148 D 31 '21

Broad trend of car development. *il Elec Ry J* 62:473-4 S 29 '23

Cars for Boston tunnel operation. plans *Elec Ry J* 60:267-8 Ag 19 '22

Chicago's motor car for train service. *il diags plans Elec Ry J* 62:363-6 S 8 '23

Clean cars. L. S. Storrs and others. *Aera* 10: 855-77 My '22

Delhi buys American cars. *il Aera* 11:1453-5 Je '23

Developing Chicago's street cars. W. T. Thorn. *diags Elec Ry J* 60:440-4, 499-504 S 23-30 '22

Double-end pay-as-you-pass car introduced in Brooklyn. *il diags Elec Ry J* 62:739-42 O 27 '23

Double-truck, one-man, two-man cars in Milwaukee. *il diag plan Elec Ry J* 58:933-8 N 26 '21

Electric tramway rolling stock. W. E. Ireland. *Elec R (Lond)* 93:34-5; Discussion. 35-6 J1 6 '23

Facilities for expediting passenger movement. *il diags Elec Ry J* 62:482-90 S 29 '23

Features of the Youngstown & suburban cars. J. A. Dewhurst. *il Elec Ry J* 61:181-2 Ja 27 '23

Four-motor equipment favored. *Elec Ry J* 62: 41 J1 7 '23

Future light-weight cars. W. H. Heulings, jr. *Aera* 12:352-3 O '23

Improvement in turnstile cars. *il diags Elec Ry J* 59:787-9 My 13 '22

Incorporating merchandising features in the design. *il diags Elec Ry J* 62:523-8 S 29 '23

Kind of traction system serving Havana, Cuba. O. Gottschalk. *il Elec Ry J* 61:1081-2 Je 30 '23

Latest in articulated cars. *diag Elec Ry J* 61:729, 809 Ap 28, My 12 '23

Light-weight double-truck cars. W. J. Clardy. *il Elec J* 19:409-12 O '22

Merchandising principles in car design and operation eliminate competition in Lexington, Ky. *il map Elec Ry J* 59:893-6 Je 3 '22

Modern improvements in rolling stock; abstracts with discussion. C. J. Spencer. *Elec R (Lond)* 91:66-7 J1 14 '22; Electrician 89:10-11 J1 7 '22; *Elec Ry J* 60:641-3 O 14 '22

Multiple-unit operation. W. J. Clardy. *il Elec J* 20:366-9 O '23

New cars embody unusual features; Kansas City railways' multiple-unit cars. E. B. Sanders. *il Elec Ry J* 61:402-4 Mr 10 '23

New cars for North Shore branch line. *il Elec Ry J* 61:959-60 Je 9 '23

New data show present body design tendencies. *il Elec Ry J* 62:475-81 S 29 '23

New light motor car for Paris tramways. *il Elec Ry J* 60:878 D 2 '22

New line car built in Trenton shops. *il Elec Ry J* 60:812 N 18 '22

New one-man, two-man, three-man cars. *il Elec Ry J* 62:410-11 S 15 '23

New Philadelphia cars will have many modern devices. *il Elec Ry J* 61:1073-6 Je 30 '23

New type of trolley car. *il Aera* 11:786-90 F '23

New worm drive double-deck tramcar. *il plans Aera* 12:175-9 S '23

Newer methods in body construction. *il diags plans Elec Ry J* 62:491-501 S 29 '23

Notes on French car design. *Elec Ry J* 60: 638 O 14 '22

One-man, two-man cars for hydroelectric railways. *diag Elec Ry J* 62:335-6 S 1 '23

Passenger cars ordered during first part of 1922. *Elec Ry J* 60:33 J1 1 '22

Pittsburgh's new light six train. *il diags Elec Ry J* 61:919-22 Je 2 '23

Public eye is on cars. J. L. Gould. *Aera* 10: 506-9 Ja '22

Report of committee on unification of car design. *Aera* 11:290-2 O '22; Same cond., with diag. *Elec Ry J* 60:594-5 O 7 '22

Results obtained with high-speed, light-weight interurban cars. E. B. Gunn. *Elec Ry J* 61:135 Ja 20 '23

Rolling stock for Sydney metropolitan electric service. *il diag Elec Ry J* 60:189-92 Ag 5 '22

Special car service in St Louis. *Elec Ry J* 59:751-2 My 6 '22

Toronto's progressive rolling stock. *il diags plans Elec Ry J* 59:867-70 My 27 '22

Tramway rolling stock; abstracts. E. S. Rayner. *Elec R (Lond)* 91:368-9 S 15 '22; Electrician 89:322-3 S 22 '22

Two-car train weighs 490 lb. per seat. *il plan Elec Ry J* 60:317-19 S 2 '22

Two-coach street cars run on three trucks. *il Pop Mech* 40:225 Ag '23

Welded steel cars in Cuba. *il Elec Ry J* 59:276 F 18 '22

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Equipment

C. E. R. A. report of car equipment committee. *Elec Ry J* 62:147 J1 28 '23

Mechanical and electrical equipment keeps pace. *il diags Elec Ry J* 62:511-19+, 547-52 S 29-O 6 '23

Pneumatic operation of doors and steps. O. A. Broten. *Elec Ry J* 61:568-9 Mr 31 '23

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Read while you ride; newspaper vending machine installed on Dayton cars. Elec Ry J 60:492 S 23 '22

Rehabilitation of electrical equipments on street railway cars. H. R. Meyer. il Elec J 20:375-9 O '23

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Automatic door control on latest Chicago safety cars. il diags Elec Ry J 60:514-16 S 30 '22

Car remodeling job in Chattanooga. Elec Ry J 62:340 S 1 '23

Commission rules out complaint of Syracuse against one-man cars. Elec Ry J 60:526 S 30 '22

Converting to one-man cars. E. P. Locke. il Aera 10:520-2 Ja '22

Dayton city railway remodels cars for one-man operation. il Elec Ry J 61:123-4 Ja 20 '23

Dayton operates large light-weight one-man cars. il plan Elec Ry J 60:697-9 O 28 '22

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Double-truck, one-man, two-man cars in Milwaukee. il diag plan Elec Ry J 58:933-8 N 26 '21

Effect of the one-man car on traffic hazard. T. G. A. Ashton. Elec Ry J 58:875 N 12 '21

Experience as to life of Birney car. E. M. Walker. il Elec Ry J 62:403-4 S 15 '23

Fare collection at Providence. il Elec Ry J 61:1048 Je 23 '23

How light-weight cars improve interurban earnings. F. E. Wynne. Elec Ry J 60:49-51 Jl 8 '22

How the one-man street-car has reduced both accidents and operating costs. C. W. Kellogg. Safety Eng 43:245-4 Je '22

Light-weight cars for Connecticut company. diags plan Elec Ry J 59:276-7 F 18 '22

Light-weight interurban cars. J. P. Pope. Elec Ry J 60:561-2 O 7 '22

Light-weight one-man cars for Eastern Massachusetts street railway. il diag plan Elec Ry J 60:933-5 D 16 '22

Modern cars double net revenue. il Elec Ry J 62:327-8 S 1 '23

New double-truck one-man cars in Bangor. H. B. Baldwin. il plan Elec Ry J 59:643-4 Ap 15 '22

New England club committee analyzes one-man car and bus situation. Elec Ry J 59:241-3 F 11 '22

New York railways tries turnstile car. il diag Elec Ry J 60:1009-11 D 30 '22

Ninth avenue railroad converted to one-man operation. map Elec Ry J 59:1002 Je 24 '22

One-man car an economic need. C. E. Morgan. Elec Ry J 61:167-8; Discussion. 164, 168-9 Ja 27 '23

One-man car operation with double-truck cars. H. S. Sweet. il plans Elec Ry J 59:156-8 Ja 28 '22

One-man cars and buses prove a live subject at New England street railway club. Elec Ry J 59:239-41 F 11 '22

One-man cars desirable. il Elec Ry J 61:601-3 Ap 7 '23

One-man cars for hydro-electric railways. il Elec Ry J 60:909-10 D 9 '22

One-man cars have lower accident record than two-man cars. il Elec Ry J 59:237 F 11 '22

One-man cars improve service. E. J. Murphy. Aera 11:620-7 Ja '23

One-man cars in Germany. il Elec Ry J 61:91 Ja 13 '23

One-man interurban cars used in Spokane. il plan Elec Ry J 60:76 Jl 15 '22

Operating costs of one-man and two-man cars compared. H. C. Hickock. Aera 12:633-4 N '23; Same. Eng & Contr (Ry) 60:1070-1 N 21 '23

Operating results of automatic door safety cars. C. Gordon. il Elec Ry J 62:283-7 Ag 25 '23; Discussion. H. C. Eddy. 62:453 S 22 '23

Passenger compartment at the front in combination cars. il plan Elec Ry J 62:287-8 Ag 25 '23

Pay-as-you-leave car tried in New York. il Pop Mech 39:188 F '23

Place of the safety car. E. P. Gooch. il Elec J 19:412-14 O '22

Recent developments in car design. H. H. Adams. il Elec Ry J 59:520-2 Mr 25 '22

Reconstruction of Sacramento cars for one-man operation. il Elec Ry J 61:530 Mr 24 '23

Remodeling obsolete cars for one-man operation. il Elec Ry J 61:996-8 Je 16 '23

Report of the committee on one-man car operation. Elec Ry J 60:587-9 O 7 '22

Report of the T. & T. A. committee on one-man car operation. Elec Ry J 62:638 O 13 '23

Seattle trailers rebuilt into motor cars. Elec Ry J 62:254 Ag 18 '23

Some features of safety car design. H. Cordell. Elec Ry J 59:562 Ap 1 '22

Stop warning sign on safety car doors. il Elec Ry J 61:612-13 Ap 7 '23

Toledo votes down one-man car. Elec Ry J 60:889, 925 D 2-9 '22

Trailers converted to motor cars. G. R. Green. il Elec Ry J 60:705 O 28 '22

Turnstile car on the New York state railway. J. E. Duffy and H. S. Sweet. Elec Ry J 60:558-9 O 7 '22

Two new types of safety cars for Chicago. C. Gordon. il diags plans Elec Ry J 59:65-71 Ja 14 '22

Use of one-man cars in Europe spreading. P. M. Nieuwenhuis. diags Elec Ry J 60:881-2 D 2 '22

Les voitures de tramways desservies par un seul agent; les tramways d'Arnhem (Hollande). il diags plans Génie Civil 82:33-6 Ja 13 '23

What the trolley car has to learn from the automobile. H. L. Andrews. Gen Elec R 25:280-4 My '22

Why one-man operation is popular in Birmingham. il Elec Ry J 61:766-7 My 5 '23

Zone collections by machine on one-man cars. il Elec Ry J 58:953 N 26 '21

Painting

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Brooklyn remodels double-truck cars for one-man or two-man operation. il plans Elec Ry J 60:349-52 S 9 '22

Car reconstruction in Los Angeles. il Elec Ry J 60:706-7 O 28 '22

Changing from left to right hand operation in British Columbia. W. G. Murrin. il Elec Ry J 58:894-5; 59:871 N 19 '21, My 27 '22

Chattanooga remodels cars. il Elec Ry J 59:116-17 Ja 21 '22

North branch transit company rebuilds cars. il Elec Ry J 61:327-8 F 24 '23

Reconstructing cars in Berlin. E. Kindler. il diags Elec Ry J 61:130-1 Ja 20 '23

Service car constructed from old passenger car. il Elec Ry J 60:945 D 16 '22

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Cutting maintenance costs; fine record of Connecticut company. L. Spraggon. Aera 11:1419-22 Je '23; Same. Eng & Contr (Ry) 59:1367-9 Je 20 '23

Economics of car maintenance through modern shop practice. W. Silvus. Elec Ry J 59:833-4 My 20 '22

Frisco maintenance plan. J. M. Yount. Aera 10:514-16 Ja '22

Keeping 95 per cent of the cars in service. Elec Ry J 61:1003-5 Je 16 '23

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Important economies to be had on electric railways in greater interchangeability and standardization. diags Elec Ry J 62:520-2 S 29 '23; Discussion. 62:744 O 27 '23

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Baltimore's new trail cars. L. H. Palmer. il plan Elec Ry J 58:891-3 N 19 '21
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Amount of street sweepings in St Louis. il Pub Works 52:79-80 F 4 '22
Amount of street sweepings in St Louis. Z. Witkin. Pub Works 52:214-15 Mr 25 '22
Street cleaning and refuse disposal data; information concerning appliances and methods used by about two hundred and fifty municipalities. Pub Works 53:270-84; 54:36-7 D '22-Ja '23
Street cleaning in Newport. Pub Works 54:310-11 O '23
Street cleaning in Toledo. Pub Works 54:135-6 Ap '23
Street cleaning methods and costs at Akron, Ohio. F. C. Tolles. Eng N 85:523-4 S 28 '22
Street cleaning performance and cost data. Z. Witkin. Pub Works 52:465-6 Je 24 '22
Street cleaning statistics. Pub Works 54:326-8, 330-5 O '23
Vacuum-cleaning apparatus used on city streets. il Pop Mech 38:888 D '22

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Cost

Cost of street cleaning and sprinkling at St Paul, Minn. Eng & Contr (R & S) 59:64 Ja 3 '23; Pub Works 54:218 Jl '23
Municipal street cleaning in Philadelphia. il Pub Works 51:425-8 D 3 '21
Refuse disposal in Chicago. Pub Works 54:317 O '23
Street and sewer work in Cincinnati. Pub Works 53:117-18 Ag '22
Street cleaning costs at Cincinnati, O. Eng & Contr (R & S) 58:44 O 4 '22

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Street-cleaning buggy. il Sci Am 126:130 F '22

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New motor pick-up street sweeper. il Sci Am 129:193 S '23

Otterson auto-eductor equipment for cleaning streets and catch-basins. il Can Eng 42:268-9 F 28 '22

Street lighting

Analyzing causes of outages in street lighting. Elec W 82:441 S 1 '23
Capital of Michigan will have first architecturally uniform lighting system. O. E. Bulkeley. Am Inst E E J 42:412-13 Ap '23; Same, with il. Elec W 81:511-12 Mr 3 '23
City zoning of street lighting. C. J. Stahl. il map Elec W 81:1517-21 Je 30 '23
Cleveland has new street lighting demonstration. il Am Inst E E J 42:1217 N 23
Data on the lighting of streets and highways. A. R. Knight. Munic Eng 65:80-3 Ag '23; Same. Eng & Contr (R & S) 60:726-9 O 3 '23
Development of incandescent lamp for street lighting. A. D. Cameron. Elec W 80:877 O 21 '22
Effective lighting plan for a small city; Fremont, Ohio. il Elec W 82:73-4 Jl 14 '23
Efficient street lighting insures safety. Safety Eng 44:133 S '22

Extracts from the report of the street lighting committee of the A.S.M.I. Am Inst E E J 42:178-80 F '23

Gas for street lighting advocated by a London engineer. C. H. S. Tupholme. diag Gas Age 52:37-41 Jl 14 '23

Gas street lighting—is it to be discarded? F. V. Westermaier. Am Gas J 116:159-61+ F 18 '22

Illumination and street accidents. E. A. Anderson and O. F. Haas. il diags Safety Eng 46:40-6 Jl '23

Illumination and traffic accidents; statistics from thirty-two cities. E. A. Anderson and O. F. Haas. Illum Eng Soc 16:452-61 no 8 '21; Same. Good Roads 61:209-12+ N 2 '21; Same. Munic Eng 61:177-81 N '21; Same abr. Am Inst E E J 41:383-5 My '22; Abstract. Elec W 79:80 Ja 14 '22; Discussion. Illum Eng Soc 16:461-8 no 8 '21

Improved street lighting that assures greater safety to traffic. E. A. Anderson and O. F. Haas. il diags Elec W 80:221-4 Jl 29 '22

Increased interest shown in street lighting. il Elec W 82:428-9 S 1 '23

Inexpensive street-lighting system. J. W. Walker. diag Elec W 82:868 O 27 '23

Lighting of city streets. il Pub Works 54:296-9 S '23

Lima's new street lighting. il Pub Works 53:150-1 S '22

Mandan, North Dakota, discards old and installs new street lighting system. Munic Eng 61:226-8 D '21

Multiple street lighting favored. E. A. Anderson. diags Elec W 80:436-7 Ag 26 '22

Necessity of maintenance in street lighting. il diags Am Inst E E J 41:913-14 N '22

New practices in street lighting. A. E. Bettis. il diags map Elec W 81:321-6 F 10 '23; Same cond. Am Inst E E J 42:985-7 S '23

Ornamental lighting system installed for \$100,000 in Mandan, N.D. P. B. Reed. il Elec W 80:829-30 O 14 '22

Ornamental street lighting; abstracts. L. A. S. Wood. il Elec W 78:1223-5 D 17 '21; Elec R 79:721-6 N 12 '21; Good Roads 61:253-4+ D 7 '21; Munic Eng 61:208-14 D '21

Ornamental street lighting; its design and equipment. L. A. S. Wood. il Elec J 19:191-4 My '22

Ornamental street lighting system at Lima, Ohio. E. McClain. il Munic Eng 63:80-2 S '22; Same. Elec W 80:1050 N 11 '22

Oxford street lighting. Elec R (Lond) 90:331-2 Mr 10 '22

Park cable simplifies street lighting. F. A. Westbrook. diag Elec W 80:1223 D 2 '22

Public lighting. E. Burke. Gas J (Lond) 161:85-6 Ja 10 '23

Recent developments in street illumination. Eng & Contr 56:420 N 2 '21

Remote control of multiple street lighting. W. T. Dempsey. il diag Am Inst E E J 42:1106 O '23

Safety coils and auto current transformers for series lighting circuits. W. A. Sumner. il Elec J 19:201-2 My '22

Single-lamp white-way posts supplant cluster lights. P. Y. Danley. il Elec W 78:1177-8 D 10 '21

Some brand-new arguments for better street lighting. Elec W 79:140 Ja 21 '22

Specific data for street-lighting practice. C. W. Koiner. Elec W 80:1397 D 23 '22

Street and highway lighting. il Eng & Contr (R & S) 60:8-13 Jl 4 '23

Street illumination. Pub Works 53:177-8 O '22

Street lighting. Illum Eng Soc 17:377-84 S '22

Street lighting. G. A. Sawin. Elec J 19:183-4 My '22

Street lighting—an undeveloped source of revenue. G. E. Miller. il Elec W 82:859-62 O 27 '23

Street lighting and safety. L. Gaster. Illum Engr 16:12-13; Discussion. 14-23 Ja '23

Street lighting construction and apparatus. M. B. Hastings. diag Pub Works 53:242-3 N '22

Street lighting for the small city. G. B. McNair. Munic Eng 65:85-6 Ag '23

Street lighting—Continued

- Street lighting from illumination standpoint. R. M. Love. Eng & Contr (R & S) 56:164-6 D 6 '22
- Street-lighting gas in Newcastle-on-Tyne. R. Davison. Illum Engr 15:229 Ag '22
- Street lighting in the United States. Electrician 88:563-4 My 12 '22
- Street lighting; recent developments and modern requirements. Elec R (Lond) 91:995 D 29 '22
- Street lighting; report of committee on progress for 1921. Illum Eng Soc 16:193-200 no 7 '21
- Street lighting requirements. H. T. Harrison. il diags Illum Engr 16:6-11; Discussion. 14-23 Ja '23
- Street lighting schedules, 1922. (Eng. Ext. Dept. Bul. 50) 5p Iowa state col. agric. & mech. arts, Ames '21
- Traffic accidents in relation to street and highway lighting. C. J. Stahl. Munic Eng 64:181-3 My '23; Same. Eng & Contr (R & S) 60:226-8 Ag 1 '23
- Types of circuits employed in street lighting. C. H. Shepherd. il diags plans Elec R 79:388-91, 875-8 S 10, D 10 '21
- Value of improved street lighting. C. H. Shepherd. il Elec J 19:187-90 My '22
- Why city streets and highways should be better lighted. G. T. Bigelow. J Elec 48:389-90 My 15 '22
- Year's progress in illumination, 1922-1923. Illum Eng Soc 18:610-19 S '23
- See also* Washington, D. C.—Lighting

Cost

- Average street-lighting cost about \$2 per capita. A. F. Dickerson. Elec W 80:170 JI 22 '22
- Cost of adequate street lighting. Am Inst EE J 41:615-16 Ag '22
- Cost of installing street-lighting equipment. Elec W 81:1419 Je 16 '23
- Data on the lighting of streets and highways. A. R. Knight. Munic Eng 65:80-3 Ag '23; Same. Eng & Contr (R & S) 60:726-9 O 3 '23
- Higher costs of underground service recognized. Elec W 80:392 Ag 19 '22
- Street lighting—an undeveloped source of revenue. G. E. Miller. il Elec W 82:859-62 O 27 '23
- Street lighting fixtures**
- Capital of Michigan will have first architecturally uniform lighting system. O. E. Bulkeley. Am Inst EE J 42:412-13 Ap '23; Same, with il Elec W 81:511-12 Mr 3 '23
- Glassware for street lighting. S. G. Hibben. il diags Elec J 19:196-9 My '22
- Lamp standards present a rough surface. Foundry 50:148 F 15 '22
- New practices in street lighting. A. E. Bettis. il diags map Elec W 81:321-6 F 10 '23
- Ornamental street lighting; its design and equipment. L. A. S. Wood. il Elec J 19:191-4 My '22
- Stimulate the demand for ornamental street lamp installations. il J Elec 50:177-8 Mr 1 '23

Street names

- Street nomenclature in city planning. G. Burnap. plan Arch Rec 51:535-7 Je '22

Street openings

- Backfilling to avoid settlement. L. B. Manheimer. Eng N 91:113 JI 19 '23
- Bonds and deposits for trenching permits. Pub Works 54:60 F '23
- Controlling excavations through right-of-way. R. B. Genest. il diags Elec Ry J 59:703-7 Ap 29 '22
- Replacing trenches in streets, with tabulation. Pub Works 54:58-9, 65-71 F '23

See also Pavements—Cutting

Street railroads

- City of Manchester, England, finds the tramcar is supreme. Aera 12:635-45 N '23
- Commissioner's viewpoint on some electric railway problems. W. D. B. Ainey. Elec Ry J 59:373-4 Mr 4 '23
- Future of the electric railway industry. P. Shoup. Elec J 19:402-3 O '22

- Insurance for electric railways. Elec Ry J 59:73-8 Ja 14 '22
- Interest of the car rider. C. D. Jackson. Aera 11:417-25 N '22
- Keep ahead of the procession; an interview with C. D. Emmons. H. V. Bozell. Elec Ry J 60:871-4 D 2 '22
- Liverpool, Glasgow, Edinburgh compared. D. L. Turner. Elec Ry J 61:1039-41 Je 23 '23
- New York, London, Paris and Berlin transit compared. D. L. Turner. map Elec Ry J 61:79-84, 153-6 Ja 13, 27 '23
- Planning mass transportation facilities. T. Fitzgerald. Eng Soc W Pa 39:47-68; Discussion. 69-77 Mr '23
- Problems to be solved by the T. & T. association. L. H. Palmer. Elec Ry J 59:15-17 Ja 7 '22
- Railway vs. bus to radio audience. H. L. Brown. Elec Ry J 62:260-1 Ag 18 '23
- Street space occupied by cars and buses. D. L. Turner. Elec Ry J 61:957-8 Je 9 '23; Same cond. Bus Transportation 2:277-8 Je '23
- Trackless transportation versus rail transportation; advantages and disadvantages. K. A. Simmon. il Elec Ry J 59:233-6 F 11 '22
- Traffic relations between steam and electric lines improve. C. E. Thompson. Elec Ry J 59:519-20 Mr 25 '22
- Tramways, from a traffic point of view. L. S. Rayner. Elec R (Lond) 93:76-7 JI 13 '23
- What the trolley car has to learn from the automobile. H. L. Andrews. Gen Elec R 25:280-4 My '22
- What the University of Wisconsin is doing and can do for the electric railway industry. J. T. Rood. Aera 12:196-202 S '23

See also Electric railroads; Elevated railroads; Street cars; Subways; also names of cities, subhead Rapid transit; also International street and interurban bus association

Accidents

- Accidents decrease in Pennsylvania; tabulation. Elec Ry J 59:912 Je 3 '22
- Carrying safety to the public. C. W. Price. il Elec Ry J 61:805-6, 847-9, 833-4, 928-9, 964-5, 999-1000, 1041-2, 1083-5; 62:11-13, 49-50 My 12-JI 14 '23
- Collisions as seen by motorman. E. S. Wilde. Aera 11:1414-18 Je '23; Abstract. Elec Ry J 61:890 My 26 '23
- Effect upon claims of accident prevention; discussion. Elec Ry J 60:669-71 O 21 '22
- Joint committee on accident prevention. Elec Ry J 62:641-3 O 13 '23
- Motorman Hargis's record. Aera 11:997 Mr '23
- Problem of collisions between cars and automobiles. R. M. Howard. Elec Ry J 61:570 Mr 31 '23
- Right-of-way law. J. J. Reynolds. Aera 10:896-9 My '22
- Symposium on automobile accidents. Elec Ry J 60:671-4 O 21 '22

See also Street railroads—Safety devices and measures; Witnesses

Accounting

- Benefits of subdividing operating expense accounts. C. A. Elliott. Elec Ry J 61:1045-6 Je 23 '23
- Construction cost accounts. W. J. Hibbs. Elec Ry J 62:687-8 O 20 '23
- Cost accounting in the engineering department. R. B. Genest. chart Elec Ry J 61:755-9 My 5 '23
- How we handle our money. H. A. Horton. Aera 11:1338-9 My '23
- Operating reports and their usefulness to the management. E. H. Reed. Elec Ry J 62:689 O 20 '23
- Standard classification of accounts. Elec Ry J 62:702 O 20 '23

See also American electric railway accountants' association

Advertising

- Advertisers advertising to street car companies. G. A. Nichols. Ptr Ink 117:33-6 D 22 '21

Street railroads—Advertising—Continued

Advertising helps sell car rides at wholesale prices. W. Jackson. *Ptr Ink* 118:77-8+ Ja 5 '22

Advertising the electric railway's service. J. J. Morgan. *Elec Ry J* 59:516-17; Discussion. 517 Mr 25 '22

A.E.R.A. committee report on publicity. *Elec Ry J* 62:626-7 O 13 '23

Balanced advertising speeds up street cars. D. Hubbard. *Ptr Ink* 123:49-50+ Ap 5 '23

Does publicity produce results? E. F. Kelley. *Elec Ry J* 59:320-1 F 25 '22

Don't ride your auto to work. C. V. Allen. *Elec Ry J* 59:410-11 Mr 11 '22

Driving a thought home; clever use of space at a local exposition in Baltimore. il Aera 10:1070-4 Jl '22

Educating the public in Chicago. J. E. Wilkie. *Elec Ry J* 60:453-4 S 23 '22

Exchanging ideas on publicity work. E. B. Sanders. *Elec Ry J* 61:794-6 My 12 '23

How electric railways are being advertised. L. St Clair. *Elec Ry J* 59:523 Mr 25 '22

How the story is being told. Aera 10:941-96 Je '22

If it's good for a national advertiser it's good for you. *Elec Ry J* 59:684 Ap 22 '22

Jack-in-the-pulpit is succeeding the shrinking violet. L. St Clair. *Elec Ry J* 61:526-7 Mr 24 '23

Keep everlastingly at it. L. St Clair. Aera 11:71-4 Ag '22

Message to young people. D. Burroughs. Aera 12:216-19 S '23

Now is the time to advertise. L. St Clair. Aera 10:523-30 Ja '22

Originality marks publicity of East St Louis & suburban railway. *Elec Ry J* 62:178 Ag 4 '23

Paid advertising is essential. L. St Clair. Aera 12:655-7 N '23

Plenty to talk about, trolley company finds. *Ptr Ink* 121:93-4 D 7 '22

Publicity. A. Krock. *Elec Ry J* 61:164-5 Ja 27 '23

Publicity popularizing weekly pass in Fort Wayne, Ind. *Elec Ry J* 59:598-9 Ap 8 '22

Railway leads shop-at-home movement. *Elec Ry J* 59:747-8 My 6 '22

Railway publicity in Australia. T. Crouch. *Elec Ry J* 60:977 D 23 '22

Railway turns to the Bible. A. V. Bland. Aera 12:210-12 S '23

Report of Transportation and traffic association committee on merchandising transportation. Aera 12:435-6 O '23

Selling rides by advertising. C. A. Elliott. il *Elec Ry J* 60:978 D 23 '22

Selling street car rides in Dallas. Z. E. Black. *Elec Ry J* 62:405-7 S 15 '23

Selling the ride at Youngstown. *Elec Ry J* 58:899-902 N 19 '21

Selling transportation. G. I. Plummer. *Elec Ry J* 59:754-5 My 6 '22

Soda water, pigs and trolleys. L. St Clair. Aera 11:564+ D '22

Street railway fights automobile competition. *Ptr Ink* 122:122+ Ja 18 '23

This and that in advertising. L. St Clair. Aera 10:805-10 Ap '22

See also Elevated railroads—Advertising

Automobile competition

Friendly enemies. P. A. Arkwright. Aera 11:51-8 Ag '22

Bibliography

List of pamphlets sent out by the A. E. R. A. during year 1922-1923 and monthly compilations and bulletins. Aera 12:405-10 O '23

Buildings and structures

Attractive division headquarters at Medford. il plan *Elec Ry J* 62:439-40 S 22 '23

Detroit street railway moves administration center to new buildings. il diags plans *Elec Ry J* 60:901-4 D 9 '22

New maintenance facilities for New York & Harlem transportation lines. il diags plans map *Elec Ry J* 59:441-5 Mr 18 '22

Report of the committee on buildings and structures. *Elec Ry J* 60:598 O 7 '22

See also Car houses

Claims

Back to the basis of things. H. D. Briggs. Aera 11:533-5 D '22

Broader field for claim agents. J. H. Handlon. Aera 10:1089-91 Jl '22

Chicago convention of the American electric railway claims association. C. G. Rice. *Elec Ry J* 60:663-81 O 21 '22

Claim agent has a real job. R. L. Hayward. Aera 11:1140-4 Ap '23

Claim agent's part. W. Muir. Aera 12:370-3 O '23

Claims department organization. *Elec Ry J* 62:692-3 O 20 '23

Effect upon claims of accident prevention; discussion. *Elec Ry J* 60:669-71 O 21 '22

Fair impartial outlook. J. H. Handlon. Aera 11:946-7 Mr '23

Medical defense of litigated claims. J. Leeming. *Elec Ry J* 60:717-19 O 23 '22

Medical testimony in litigated cases. T. G. Aston. *Elec Ry J* 60:171-3 Jl 29 '22

Message to claims men. C. G. Rice. Aera 10:895-6 My '22

Preparation of litigated claims. E. F. Livingston. *Elec Ry J* 62:685-6 O 20 '23

Proceedings of the Claims association. *Elec Ry J* 62:691-7 O 20 '23

Proposed code of ethics of the Claims association. R. A. Sears. *Elec Ry J* 62:686-7 O 20 '23

Review and probable trend of claims work. J. H. Handlon. *Elec Ry J* 60:678-9 O 21 '22

Cost of maintenance

Equipment maintenance costs compared. *Elec Ry J* 59:277 F 18 '22

Cost of operation

Cutting down the operating ratio in Terre Haute, Ind. *Elec Ry J* 62:291-2 Ag 25 '23

Economic fields of trolley car and bus. V. Topping. *Elec Ry J* 62:289-91 Ag 25 '23; Same. Can Eng 45:265-7 Ag 28 '23

Essential operating costs. F. W. Doolittle. *Elec Ry J* 62:595-7 O 13 '23

Further accomplishments of Detroit municipal system described. *Elec Ry J* 61:508-9 Mr 24 '23

Operating costs of one-man and two-man cars compared. H. C. Hickock. Aera 12:633-4 N '23; Same. Eng & Contr (Ry) 60:1070-1 N 21 '23

Rail car and buses in city service. J. C. Thirlwall. Bus Transportation 1:504-5 S '22

Results obtained with high-speed, lightweight interurban cars. E. B. Gunn. *Elec Ry J* 61:135 Ja 20 '23

Trolleys favored for surface transport in large cities. J. A. Beeler. Bus Transportation 2:72-6 F '23

Twelve large companies compared; operating ratio goes down for surface lines and up slightly for rapid transit. *Elec Ry J* 59:981 Je 17 '22

Costs

L'augmentation des dépenses d'établissement et d'exploitation des tramways, chemins de fer d'intérêt local et transports publics automobiles. Génie Civil 81:517-18 D 2 '22

Rail cars cheapest and best. J. C. Thirlwall. Aera 11:331-2+ O '22; Abstract. *Elec Ry J* 60:715-16; Discussion. 716-17 O 28 '22

Respective fields of the rail car, trolley bus, and gasoline bus in city transportation. J. C. Thirlwall. il Gen Elec R 24:974-85 D '21; Same cond. Can Eng 43:549-52 N 21 '22; Same. Eng & Contr (Ry) 58:121-5 D 20 '22

Trend of prices, wages and fares in 1922. *Elec Ry J* 61:22-4 Ja 6 '23

Crossings

Quick installation of noiseless crossings in Cleveland. il diags *Elec Ry J* 60:944-5 D 16 '22

Street railroads—Continued

Curves and turnouts

A.E.R.A. easements versus Brooklyn practice. S. Strizheff. plans Elec Ry J 59:115-16 Ja 21 '22

Employees

Accident reduction in Los Angeles; men thoroughly drilled to be careful. J. C. Collins. Elec Ry J 60:131-4 Jl 22 '22

Another human nature study. Elec Ry J 58:993 D 3 '21

Columbia, Carolina capital city, completely careless. il Elec Ry J 59:483-6 Mr 18 '22

Company employee organizations on eastern interurban, the Olean, Bradford & Salamanca railway. Elec Ry J 61:645-6 Ap 14 '23

Detroit experiments with flat rate for eight-hour day on its municipal railroad. Elec Ry J 60:830 N 18 '22

Detroit trial board works well. Elec Ry J 61:881-2 My 26 '23

Electric railways have unique possibilities for employee training. Elec Ry J 60:15-16 Jl 1 '22

El Paso foremen profit by vocational training. W. Rouse. Elec Ry J 61:849-50 My 19 '23

Employee education in Fort Worth. V. W. Berry. Aera 12:1-4 Ag '23

Employees' funds total nearly \$2,000,000. Elec Ry J 61:560-1 Mr 31 '23

Examination for foremen. Elec Ry J 59:592 Ap 8 '22

Extra compensation; employees of San Diego property will benefit in new co-operative plan. Elec Ry J 61:97 Ja 13 '23

Getting back to courtesy. E. B. Atchley. Aera 10:488-91 Ja '22

Good fellowship the rule on British Columbia electric railway. J. Lightbody. Aera 11:1605-12 Jl '23

How trainmen can sell transportation. Elec Ry J 61:715 Ap 28 '23

How trainmen's working conditions affect railway operation. Elec Ry J 59:21-4 Ja 7 '22

Human side of our business. B. I. Budd. Elec Ry J 60:401-2 S 16 '22

Humanism and transportation. C. E. Morgan. Elec Ry 19:405-6 O '22

Improving the electric railway personnel. F. L. Butler. Elec Ry J 59:560-1 Ap 1 '22

Industry in overalls. L. St Clair. Aera 12:427-32 O '23

Maintenance of men. H. E. Fisher. Elec Ry J 62:600-2 O 13 '23

Make your master mechanic an optimist. B. W. Arnold. Elec Ry J 60:787 N 11 '22

Manager talks to men. C. E. Morgan. Elec Ry J 59:318-19 F 25 '22

Meetings of an educational nature to help the workmen. J. S. Dean. Elec Ry J 20:114-15 Mr '23

Merit system works well in Los Angeles. J. G. Jeffery. Elec Ry J 61:721-2 Ap 28 '23

Necessary physical and mental requirements. J. Leeming. Elec Ry J 59:404-6 Mr 11 '22

Discussion. N. L. Hoopingarner. 59:716-17 Ap 29 '22

Pacific electric railway petitions court to make strike injunction order of 1918 permanent. Elec Ry J 59:489 Mr 18 '22

Personal factor in electric railways. C. E. Morgan. Elec Ry J 60:18-19 Jl 1 '22

Psychological tests for motormen. A. Gradenwitz. il Elec Ry J 59:143-6 Ja 28 '22

Report of the committee on education to the A.E.R.A. Elec Ry J 60:574-6 O 7 '22

Report on personnel and training of transportation department employees; with suggested questions for use by employment officers. Elec Ry J 60:589-92 O 7 '22

Representation plan highly successful in Kansas City, Mo. Elec Ry J 60:518 S 30 '22

Schenectady street-car strike. Monthly Labor R 17:740-2 S '23

Selecting platform men. H. Vernon. Elec Ry J 60:235 Ag 12 '22

Selection and training of employees. M. McCants. Elec Ry J 60:679-81, 710-15 O 21-28 '22

Selling the employee on salesmanship. B. R. Bigelow. Elec Ry J 58:1111-12, 1143-4 D 24-31 '21

Selling transportation. G. I. Plummer. Elec Ry J 59:754-5 My 6 '22

Social insurance and transportation companies. Elec Ry J 59:229-32 F 11 '22

Standardized methods of employment. C. S. Yoakum. Elec Ry J 59:679-81 Ap 22 '22

Street railways—Massachusetts. Monthly Labor R 17:863-7 O '23

Street railways—Toledo. Monthly Labor R 15:787-93 O '22

Strike at St John, N.B., a political issue. Elec Ry J 59:908 Je 3 '22

Strike in New Jersey. Elec Ry J 62:112, 154, 189-90, 230, 268-9, 307-9, 344-7, 386 Jl 21-S 8 '23

They have fun at the school of the Beaver Valley. il Aera 12:24-9 Ag '23

Training plan successful in Dallas. Elec Ry J 60:493 S 23 '22

Training platform men. W. A. Robertson. Elec Ry J 59:798 My 13 '22

Training railway employees. M. McCants. il Aera 11:1473-81 Je '23

Utilizing employees for selling. M. McCants. Aera 12:15-20 Ag '23

Vocational education in the electric railway business. H. M. Robinson. Elec Ry J 60:810 N 18 '22

Vocational training at Nashville. Elec Ry J 62:222 Ag 11 '23

Working off the rough edge on prospective motormen. J. G. Jeffery. il Elec Ry J 61:1037-8 Je 23 '23

Workmen's compensation claims considered as a continuing and increasing liability to electric railway companies. M. E. Burke. Elec Ry J 59:159-60 Ja 28 '22

See also Electric railroads—Employees; Street railroads—Wages

Equipment and supplies

Automotive equipment ordered during 1922. Elec Ry J 61:43-4 Ja 6 '23

Automotive equipment owned by electric railways. Elec Ry J 59:36-7 Ja 7 '22

How the manufacturers of electric railway supplies can help the industry. E. F. Wickwire. Elec Ry J 59:362-3 Mr 4 '22

Live railway topics practically discussed. Elec Ry J 60:951-2 D 16 '22

Points of interest about the Capital traction company. R. H. Dalglish. il diag Elec Ry J 61:235-8 F 10 '23

What the manufacturer has to sell and what the railway company requires. J. C. Thirlwall. Gen Elec R 25:56-9 Ja '22

See also Electric motors, Railway; Electric railroads—Equipment and supplies; Street cars; Street railroads—Stores systems

Fare collection

Brooklyn tries automatic coin switch for registering fares. il diag Elec Ry J 60:356 S 9 '22

Change-making machine and fare box. il Elec Ry J 61:133 Ja 20 '23

Fare box prints transfer and registers coin. il Pop Mech 40:421 S '23

Fare collection at Providence. il Elec Ry J 61:1048 Je 23 '23

Fare collection on one-man interurban. il Elec Ry J 62:407-8 S 15 '23

Fare register and coin box electrically interlocked. il Elec Ry J 62:747 O 27 '23

Ingenious system solves double-carfare problem. diag Pop Mech 37:441 Mr '22

New fare box has many unique features. il Elec Ry J 60:355-6 S 9 '22

Pneumatic operation of fare boxes. il diag Elec Ry J 60:948-9 D 16 '22

Zone collections by machine on one-man cars. il Elec Ry J 58:953 N 26 '21

See also Electric railroads—Fare collection; Street railroads—Tickets and tokens

Fare sorting machine

Machine sorts receipts from loaded fare boxes. R. S. Neal. il diag Elec Ry J 62:776 N 3 '23

Street railroads—Fare sorting machine—*Cont.*
 Railway builds coin and ticket sorter. *il Elec*
 Ry J 58:1073 D 17 '21

Fares

Akron experiment in voluntary 1-cent fare premium. A. C. Blinn. Ry R 73:374-5 S 15 '23
 Akron people respond to appeal for higher fare. E. B. Atchley. *Elec Ry J* 62:370-1 S 8 '23
 Analysis of weekly pass at Youngstown. map *Elec Ry J* 58:1104-8 D 24 '21
 Argument completed in Chicago case. *Elec Ry J* 58:1050 D 10 '21
 Argument for the penny fare demonstrated by actual experience. E. Hatton. *Elec R (Lond)* 91:409 S 22 '22
 Authorizes six-cent fare continuation in Dallas. *Elec Ry J* 61:1103 Je 30 '23
 Bellingham railway offers five-cent fare as experiment. *Elec Ry J* 60:994 D 23 '22
 California body ruled to be right in fixing different basis for local and interurban fares. *Elec Ry J* 62:467 S 22 '23
 City council of Seattle tables Mayor's request for lower fare. *Elec Ry J* 60:894 D 2 '22
 Commutation rate fixed in New Jersey. *Elec Ry J* 59:731 Ap 29 '22
 Connecticut commission believes five-cent rate impracticable in large cities. *Elec Ry J* 60:960 D 16 '22
 Dallas case before court. *Elec Ry J* 60:833, 961 N 18, D 16 '22
 Demand rate charge applied to fares. R. Schaddelee. *Elec Ry J* 59:32-3 Ja 7 '22
 Distance fare is logical railway rate. H. L. Doherty. *Elec Ry J* 59:942-3 Je 10 '22
 Eight-cent fare in Jersey. *Elec Ry J* 61:1024 Je 16 '23
 Fare controversy in Houston (Texas) settled by compromise. *Elec Ry J* 60:530, 796 S 30, N 11 '22
 Fare fight in court; testimony of city of Fort Worth heard to compel Northern Texas traction company to reduce fares. *Elec Ry J* 60:411-12 S 16 '22
 Fare injunction stands in Louisville. *Elec Ry J* 59:810 My 13 '22
 Fares cut in Albany. *Elec Ry J* 60:63 J1 8 '22
 Fares increased in Detroit. *Elec Ry J* 62:314 Ag 25 '23
 Five-cent fare order restrained in Chicago. *Elec Ry J* 58:1009 D 3 '21
 Five-cent fare ordered in Bridgeport, Conn. *Elec Ry J* 58:924 N 19 '21
 Five-cent fare to be tried in Jersey. *Elec Ry J* 62:539-40, 561-2 S 29-O 6 '23
 Interchangeable scrip coupons; brief filed with Interstate commerce commission by American electric railway association and Central electric railway association sets forth attitude of industry. Aera 11:547-9 D '22; Abstract. *Elec Ry J* 60:858 N 25 '22
 Killing the goose that lays the golden eggs. H. C. Spurr. *Elec Ry J* 62:607-9 O 13 '23
 Lower court is upheld in Galveston fare case. *Elec Ry J* 59:718-21 Ap 29 '22
 Lower fares in Hollywood. *Elec Ry J* 60:373 S 9 '22
 Monthly identification card betters public relations. F. V. Skelly. *Elec Ry J* 60:784-5 N 11 '22
 Monthly tickets please riders. B. J. Denman Aera 10:495-502 Ja '22
 More fare modification in Connecticut. *Elec Ry J* 59:847 My 20 '22
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 Make your tax talk heard. F. Sanders. Aera 10:683-90 Mr '22; Excerpts. Elec Ry J 59:365-7 Mr 4 '22
 Paving tax burden should be eliminated. A. T. Davison. Elec Ry J 60:823-4 N 18 '22
 Railways loaded with taxes. Aera 12:334-41 O '23
 Taxation argument up in Seattle. Elec Ry J 60:525 S 30 '22
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L. C. C. tramway traffic control; direct regulation by telephone from headquarters. il Elec R (Lond) 93:169-70 Ag 3 '23
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Cincinnati double-deck terminal for electric lines. il diags plans Eng N 89:218-23 Ag 10 '22
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 Printing interurban tickets as used. T. B. MacRae. il Elec Ry J 60:773-4 N 11 '22
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 Analysis of special trackwork loads. M. Bernard. diag Elec Ry J 62:173-4 Ag 4 '23
 Barbey rail has reduced noise. diag Elec Ry J 61:1038 Je 23 '23
 C. E. R. A. report of track and roadway committee. Elec Ry J 62:146 Jl 28 '23
 Chrome-nickel steel in special work; abstracts. F. G. Hibbard. il diags Elec Ry J 61:461-7 Mr 17 '23; Iron Age 111:753-7 Mr 15 '23; Discussion. Elec Ry J 61:608 Ap 7 '23
 Cicero, Illinois, has peculiar problem. il Elec Ry J 62:111 Jl 21 '23
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 Concreting plant for street elevation. il Concrete 23:82-3 Ag '23
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 Design and construction of streets for street railway traffic. il Elec Ry J 60:788-9 N 11 '22
 Design of street railway includes tie bars as concrete reinforcing. J. Montgomery. diag Eng N 88:607 Ap 13 '22
 Design of street railway tracks; abstracts. W. W. Wysor. Elec Ry J 60:748-9 N 4 '22; Eng & Contr (Ry) 58:130-2 D 20 '22; Can Eng 44:215 F 6 '23; Discussion. Elec Ry J 60:749-50 N 4 '22
 Design of track in paved streets. H. H. George. Aera 12:38-44 Ag '23; Same. Eng & Contr (Ry) 60:614-19 S 19 '23; Same. Munic Eng 65:181-6 O '23; Same cond. Elec Ry J 60:747-8; Discussion. 749-50 N 4 '22
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Effect on special trackwork of reversing direction of car movement in Vancouver. Elec Ry J 60:814-15 N 18 '22

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Excavating track in chunks with a derrick. R. C. Cram. il diags Elec Ry J 60:735-8 N 4 '22

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Importance of track work. W. F. Allshouse. Aera 11:813-16 F '23

Insuring accuracy in trackwork estimates. C. A. Elliott. Elec Ry J 59:269-71 F 18 '22

Keeping tracks in O. K. condition. R. M. Hyde and others. il Aera 11:159-68 S '22

Labor-saving machinery shows economies. charts Elec Ry J 61:126 Ja 20 '23; Same. Eng & Contr (Ry) 59:441 F 21 '23

Live topics on way matters discussed. Elec Ry J 59:245 F 11 '22

Location of street railway track in streets. R. C. Cram. Eng & Contr (Ry) 59:433-5 F 21 '23; Abstract. Elec Ry J 60:747; Discussion. 749-50 N 4 '22

Maintaining continually sinking track. il map Elec Ry J 60:967-9 D 23 '22

Maintenance of special work. R. A. D'Arcy. il Eng & Contr 58:167-8 Ag 16 '22; Same. Aera 11:59-64 Ag '22

Manganese centers; welding of special work in Syracuse. H. E. Bean. il Elec Ry J 59:830-1 My 20 '22; Same. Eng & Contr 58:65 J 19 '22

Method and cost of reclaiming Seattle paved track. A. E. Pierce. il Elec Ry J 61:329-31 F 24 '23

Method of valuation of railway special trackwork. J. E. Rapuano. Elec Ry J 59:264-8 F 18 '22

Methods and cost of relaying double track at Rochester, N.Y. diag Eng & Contr 58:67-8 J 19 '22

New paving block for track joints. il Can Eng 43:563 N 21 '22

New type of track drain. L. R. Brown. il diags Elec Ry J 60:353 S 9 '22; Same. Eng & Contr (Ry) 58:17 O 18 '22

Practical example in track replacement. S. Striezhoff. diag Elec Ry J 59:829-30 My 20 '22

Reclaiming track in paved streets. L. A. Mitchell. Elec Ry J 59:201-2 F 4 '22

Rehabilitation of street railway tracks. F. B. Walker. il Boston Soc C E J 9:143-51 S '22; Same. Eng & Contr (Ry) 58:20-2 O 18 '22; Abstract. Elec Ry J 60:640-1 O 14 '22; Discussion. Boston Soc C E J 9:151-4 S '22

Removing rails and restoring paving at Everett. Eng N 91:525 S 27 '23

Report of the committee on way matters. Elec Ry J 60:600-2 O 7 '22

Special chart for recording track reconstruction progress. Eng & Contr 58:71 J 19 '22

Special concrete headers for street railway track. diag Eng & Contr 58:64 J 19 '22

Special joint supports prove highly satisfactory. M. Ackerman. il Elec Ry J 59:203-4 F 4 '22

Specialized repair forces produce better track maintenance. il Elec Ry J 59:453-5 Mr 18 '22

Steel tie track in Youngstown has stood hard wear. il Elec Ry J 61:850 My 19 '23

Street car's carpet. il Elec Ry J 60:979 D 23 '22

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To what extent is paving affected by street railway tracks? J. Adler. Elec Ry J 60:790 N 11 '22; Same. Eng & Contr (Ry) 58:132-3 D 20 '22

Track and paving. Elec Ry J 61:11-13 Ja 6 '23

Track and wiring on large bridge across the Housatonic river. il diags plan Elec Ry J 59:587-91 Ap 8 '22

Track building with steel ties. C. L. Hedges. Elec Ry J 62:376 S 8 '23

Track built on concrete base in Kansas City. A. E. Harvey. il diags Elec Ry J 60:625-7 O 14 '22

Track construction in city streets. H. C. Packard. il Eng & Contr (Ry) 58:9-10 O 18 '22

Track costs reduced to units of work. Elec Ry J 61:1007-8 Je 16 '23

Track machinery in Boston. il Elec Ry J 61:458-60 Mr 17 '23

Track notes from Detroit. diag Elec Ry J 61:1049 Je 23 '23

Track reclamation costs from Fort Wayne. H. V. Norford. Elec Ry J 59:202 F 4 '22

Track reconstruction in San Diego. il Elec Ry J 61:719-20 Ap 28 '23

Track relaying accelerated by installing pre-welded rails. C. S. Kimball. il Elec Ry J 60:386-8 S 16 '22

Unusual method of raising track. R. C. Cram. il diags Elec Ry J 58:895-6 N 19 '21

Urban electric railway tracks. E. J. McIlrath. Eng & Contr 58:279-81 S 20 '22; Same. Can Eng 43:496-8 O 31 '22; Same cond. Elec Ry J 60:169-70 J 1 29 '22

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Wear on rail head may determine life of track. C. H. Clark. diag Elec Ry J 62:47-9 J 14 '23; Discussion. 62:220-2, 374 Ag 11, S 8 '23

Welding manganese special work. Aera 12:244-53 S '23

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Extreme heaving of pavement adjacent to track construction. il diags Elec Ry J 61:677-8 Ap 21 '23; Discussion. 61:769, 889 My 5, 26 '23

Getting rid of paving. N. C. Rasmussen. Elec Ry J 60:160 J 1 29 '22

Header curb along street-car track protects pavement. H. H. Edwards. il Pop Mech 38:253-4 Ag '22

Making a noiseless granite block paving. il Elec Ry J 61:481 Mr 17 '23

Pavement design for street railway traffic. C. M. Pinckney. Eng & Contr (Ry) 59:1360 Je 20 '23

Paving case of Pottstown, Pa., decided. Elec Ry J 61:655 Ap 14 '23

Paving tax burden should be eliminated. A. T. Davison. Elec Ry J 60:823-4 N 18 '22

Paving for construction and maintenance of car track paving. Munic Eng 65:3-6 J 1 '23

Railway does better paving than city. il diag Elec Ry J 62:326-7 S 1 '23

Review of paving situation. E. J. Murphy. Aera 11:765-85 F '23

Street paving with regard to electric railway tracks. Elec Ry J 60:822-3 N 18 '22

There should be relief from the paving tax. A. T. Davison. Elec Ry J 60:19-20 J 1 '22

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 Detroit traffic graph made directly on street. il Elec Ry J 61:638 Ap 14 '23
 Electric railway passenger traffic increasing. Aera 12:652-4 N '23
 Statistics of New York traffic. Elec Ry J 58:941-4 N 26 '21
 Traffic survey for urban railways. A. Jackson. charts Elec Ry J 62:22-4 Jl 7 '23
 Up-to-date passenger traffic checking methods in New Jersey produce good office records. Bus Transportation 1:531-3 O '22

Trains

Cars for use in train operation. il diags Elec Ry J 62:529-36 S 29 '23
 Determination of train make-up on Long Island. G. C. Bishop. il diags Elec Ry J 59:110-13 Ja 21 '22
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Boston tries new transfer. Elec Ry J 60:288 Ag 26 '22
 New transfer system for New Orleans. chart Elec Ry J 61:1043-4 Je 23 '23
 Transfer abuse reduced in Boston. J. H. Moran. Elec Ry J 62:9-10 Jl 7 '23
 Transfers show point of origin. T. G. Brabston. Elec Ry J 59:153 Ja 28 '22

Valuation

Award made in Toronto street railway valuation. P. W. Greene. Eng N 90:292-3 F 15 '23
 City and company \$6,000,000 apart; report of city engineer at Norfolk, Va. Elec Ry J 61:902-3 My 26 '23
 Duluth street railway valued. Elec Ry J 61:552-3 Mr 31 '23
 Feustel Philadelphia valuation presents valuable analytical and cost data. Elec Ry J 59:929-33 Je 10 '22
 Method of valuation of railway special track-work. J. E. Rapuano. Elec Ry J 59:264-8 F 18 '22
 Minnesota commission concludes hearings in Duluth railway case. Elec Ry J 59:495 Mr 18 '22
 \$9,000,000 valuation upheld. Elec Ry J 61:782-3 My 5 '23
 Railway files brief in New Jersey rate case. Elec Ry J 61:63-4 Ja 6 '23
 Reasonable value defined. Elec Ry J 58:995 D 3 '21
 Report of A.E.R.A. committee on valuation. Elec Ry J 62:780-7 N 3 '23; Same cond. Aera 12:343-50 O '23; Discussion. L. R. Nash. Elec Ry J 62:907-9 N 24 '23
 Review of Brooklyn transit commission valuation. Elec Ry J 60:875-7 D 2 '22
 Richmond valuation report published. Elec Ry J 61:161-2 Ja 27 '23
 Toronto system worth nearly \$12,000,000. Elec Ry J 61:247-9 F 10 '23
 Valuation and renewal fund considered. Elec Ry J 58:989-90 D 3 '21
 Valuation of street railway assets, their maintenance and depreciation. L. A. Herdt and E. G. Burr. Elec Ry J 59:934-5 Je 10 '22
 Valuations all protested in New York. Elec Ry J 59:538 Mr 25 '22
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 Scranton wages advanced. Elec Ry J 62:32 Jl 7 '23
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 Wages advanced in Louisville. Elec Ry J 60:1020 D 30 '22
 Wages advanced on New York & Queens county railway. Elec Ry J 62:29 Jl 7 '23

Australia

Graphs from Australia. Elec Ry J 62:451 S 22 '23
 Railway publicity in Australia. T. Crouch. Elec Ry J 60:977 D 23 '22
 Tramways in the antipodes. T. Neilson. Aera 11:541-3 D '22

Brazil

Traffic increases on Brazilian tramways. Elec Ry J 60:339 S 2 '22

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California

California body ruled to be right in fixing different basis for local and interurban fares. Elec Ry J 62:467 S 22 '23
 California situation regarding rail and trackless transportation. P. Shoup. Elec Ry J 50:360-2 Mr 4 '22
 Conditions in California. P. Shoup. Aera 12:332-3 O '23
 Difficulties confronting electric railway in California. W. V. Hill. Elec Ry J 59:604-5 Ap 8 '22
 I.C.C. act interpretation; electric railways oppose steam railroad purchase proposal from California at Washington hearing. Elec Ry J 60:991 D 23 '22

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China

Chinese cities to have electric railways. Elec Ry J 60:9 Jl 1 '22

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Discrimination charged; New Haven association demands that Connecticut company reduce fares. Elec Ry J 60:618 O 7 '22
 Shore line revived between New Haven and Guilford. Elec Ry J 62:108 Jl 21 '23

Europe

Tramways in Europe. A. L. Donnelly. diags plan Aera 11:735-46 F '23
 Use of one-man cars in Europe spreading. P. M. Nieuwenhuis. diags Elec Ry J 60:881-2 D 2 '22

Finland

American street cars in Finland. J. A. H. Torry. il Gen Elec R 25:458-9 Jl '22

France

Tramway conditions in France. M. Guiffart. Elec Ry J 59:757-8 My 6 '22

Germany

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 Frankfurt fare 31 times 1918 rate. F. T. F. Dumont. Aera 11:454-6 N '22

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Great Britain

- British electric railway prospects. Elec Ry J 59:25-8 Ja 7 '22
 Fares, wages and prices all being readjusted—£648,000 for Edinburgh electrification. Elec Ry J 59:207 F 4 '22
 Tramways: and some of to-day's problems. A. W. A. Chivers. il Elec R (Lond) 93:33-4; Discussion. 34 JI 6 '23
 Tyneside tramway development; linking-up of Newcastle and Gateshead. map Elec R (Lond) 92:74-5 Ja 12 '23

Japan

- Everybody rides in Japan. I. F. Baker. il Aera 12:9-13 Ag '23

Massachusetts

- Public regulation in Massachusetts. H: C. Attwill. Elec Ry J 62:606-7 O 13 '23

New Jersey

- Communities urge continuance of Jersey Central traction line. Elec Ry J 62:33 JI 7 '23

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- Court issues temporary injunction in which jurisdiction of I.C.C. over electric lines is denied. Elec Ry J 59:580 Ap 1 '22
 Utility regulation in Ohio. C: C. Marshall. Elec Ry J 62:609-10 O 13 '23

Ontario

- Canadian border municipalities vote against ambitious electric railway project. Elec Ry J 61:139 Ja 20 '23

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- First Russian tramway conference. Elec Ry J 62:543 S 29 '23

Southern states

- Notes from southern cities. diags Elec Ry J 59:709-11 Ap 29 '22

Switzerland

- Economic situation of the Swiss railways from 1913 to 1920. Elec Ry J 62:219 Ag 11 '23

Tennessee

- Observations in three Tennessee cities. Elec Ry J 62:371-2 S 8 '23

United States

- Bright prospects for electric railway industry. C. D. Emmons. Aera 12:305-12 O '23; Same abr. Elec Ry J 62:587-9 O 13 '23
 Electric railways have a secure future; an interview with H: L. Doherty. H. V. Bozell. Elec Ry J 59:9-14 Ja 7 '22
 Electric railways have come back. J. W. Welsh. Elec Ry J 62:789-90 N 3 '23
 Expresses confidence in future of traction. A. C. Blinn. Elec Ry J 59:192-3 F 4 '22
 Outlook for the street railways. F. G. Buffe. Eng & Contr (Ry) 60:587-9 S 19 '23; Same abr. Aera 12:5-8 Ag '23
 Over the road with Father Time. G. J. MacMurray. Elec Ry J 61:31-4 Ja 6 '23
 Railways' financial cycle has come; optimism over the electric railway outlook. R. I. Todd. Elec Ry J 58:1018-23 D 10 '21
 Transportation situation. J. W. Welsh. Aera 12:184-7 S '23
 Why optimism is justified at this time. R. I. Todd. Elec Ry J 60:537-8 O 7 '22

Virginia

- Observations on the railway situation in three Virginia cities: Hampton, Newport News and Roanoke. il Elec Ry J 62:133-5 JI 28 '23
 Present conditions in Norfolk, Richmond and Petersburg. Elec Ry J 62:59-60 JI 14 '23

Street railroads, Municipal

- All Detroit lines now municipally owned. Elec Ry J 59:838-41 My 20 '22

- Annual report shows gain in Seattle. Elec Ry J 59:613 Ap 8 '22
 Another M. O. experiment in Ashtabula, Ohio. Elec Ry J 59:761 My 6 '22
 Bulletins on the Detroit municipal railway; abstracts and discussion. W. Jackson. Elec Ry J 61:371-2, 508-12, 564, 647-9 Mr 3, 24-31, Ap 14 '23

- Detroit's street railways. J: W. Colton. il Aera 11:1561-74 JI '23
 Doubled income; still shows loss; Seattle's experiment in municipal ownership of street railway system. Gas Age 49:233-4 F 25 '22

- First year of municipal ownership of Detroit street railway system. L. D. Upson. Munic Eng 65:148-50 O '23

- Four years of municipal railway ownership in Seattle. P. M. Fogg. il Elec Ry J 62:175-7 Ag 4 '23

- Gone—Detroit's 5-cent fare. J: W. Colton. Aera 12:466-+ O '23

- Municipal railways in the United States and Canada. D. F. Wilcox, M. M. O'Shaughnessy and others. 71p Municipal ownership league of America, Chicago '22

- \$938,467 earned by Detroit Municipal. Elec Ry J 62:797-8 N 3 '23

- Seattle's fiasco in municipal ownership of traction lines. Eng & Contr 57:461-2 My 17 '22

- Toronto takes over street railways. il diags map Elec Ry J 59:505-11 Mr 25 '22

- Would "sell" Detroit municipal railway to Detroit people. Elec Ry J 61:371-2 Mr 3 '23

- See also Street railroads—Municipal ownership; also Detroit, Michigan—Rapid transit; Seattle, Washington—Rapid transit; San Francisco—Rapid transit

- Street railway motors. See Electric motors, Railway

Street signs

- New street signs for San Francisco cost \$18 in place. il Eng N 87:805 N 17 '21

Street sprinkling

- Salt water sprinkling in California. C: W. Geiger. il Pub Works 54:196 Je '23

Street trades

- Influence of the push-cart vendor on distribution. Ptr Ink 120:65-6+ O 12 '22

Street traffic

- Automobile control, city planning and traffic regulation. H. S. Swan. Eng N 90:351-3 F 22 '23

- Baltimore vehicular traffic study. J. A. Stoll. map Elec Ry J 61:76-8 Ja 13 '23

- Better city planning needed to solve serious traffic problems. A. Macauley. Automotive Ind 49:262-5 Ag 9 '23; Discussion. C. Campbell. 49:591 S 20 '23

- Future of our big cities. Am Inst Arch J 11: 24-5 Ja '23

- Highways and traffic in a city. F. S. Besson. Soc Auto Eng J 12:612-14 Je '23

- Horses increasing in numbers despite automobiles. il Pop Mech 40:491-2 O '23

- L'influence de la vitesse des véhicules sur la facilité de traversée d'une chaussée fréquentée par les piétons. G. Morin. Génie Civil 82:528-30 Je 2 '23

- Organization of city street traffic. M. Girardot. diags Eng & Contr (R & S) 59: 1275-6 Je 6 '23

- Pittsburgh traffic count. W. Haydock. diags maps Eng Soc W Pa 37:477-96 Ja '22; Same abr. Eng & Contr (R & S) 58:36-8 O 4 '22; Discussion. Eng Soc W Pa 37:497-513 Ja '22

- Planning mass transportation facilities. T. Fitzgerald. Eng Soc W Pa 39:47-68; Discussion. 69-77 Mr '23

- Report of the committee on traffic and transportation of the American society for municipal improvements. Munic Eng 61: sup12+ N '21; Same. Eng & Contr 56:409 N 2 '21; Same. Eng N 87:778 N 10 '21

- St Louis plans wider streets to relieve traffic congestion. charts plan Eng N 90:1126-8 Je 28 '23

- Self reading traffic chart. J. L. Crane, jr. Eng N 91:688 O 25 '23

Street traffic—Continued

- Solving the street traffic problem in New York city; speeding up traffic by separating the through and the local traffic. *il map Sci Am* 129:36-7 J1 '23
- Some engineering aspects of New York traffic. A. Schaeffer. *Eng N* 88:1029 Je 22 '22
- Some suggestions for municipal traffic relief. H. W. Slauson. *Munic Eng* 65:162-5 O '23; Same. *Eng & Contr (R & S)* 60:976-8 N 7 '23; Same cond. *Automotive Ind* 49:564-5+S 20 '23
- Speeding up traffic at street intersections. H. S. Swan. *diags Eng N* 90:400-4 Mr 1 '23
- To render street traffic fluid. *Sci Am* 127:86 Ag '22
- Traffic control as an aid to good roads. G. G. Kelcey. *il Good Roads* 65:31-5+ Ag 1 '23
- Traffic survey in Los Angeles. *map Elec Ry J* 62:770-3 N 3 '23
- See also* Automobile laws and regulations; Automobile parking; Bridge traffic; Moving platforms; Road traffic; Street railroads—Traffic; Traffic regulations

Streets

- Contour map of street intersection. *Eng N* 87:932 D 8 '21
- Determination of the area of assessment; method of fixing areas of assessment for benefit in park and street opening. B. Scheiman. *Eng & Contr (R & S)* 60:722-5 O 3 '23
- Factors influencing street design. P. L. Brockway. *Munic Eng* 61:sup14+ D '21
- Features of street and sidewalk design in various cities. *Munic Eng* 63:131-5 O '22; Same. *Eng & Contr (R & S)* 58:83-7 N 1 '22; Same. *Can Eng* 44:147-9 Ja 16 '23
- Highways and traffic in a city. F. S. Besson. *Soc Auto Eng J* 12:612-14 Je '23
- Improving East Ohio street. Pittsburgh. *il diags Pub Works* 52:455-7 Je 24 '22
- Report of committee of American society for municipal improvements upon street and sidewalk design. E. R. Conant. G. A. Crayton and S. Q. Cannon. *Eng N* 89:615 O 12 '22
- Revising street intersections with the aid of a model. *il Sci Am* 126:190 Mr '22
- Slab design on hills and for irregular crossings. G. Reinberg, jr. *diags Eng N* 90:790-2 My 3 '23
- Street improvement acts of California. W. J. Locke. rev. ed. 161p A. Carlisle & co., San Francisco '21
- Street intersections mapped out by means of contours. F. S. Besson. *diags Eng N* 90:255-7 F 8 '23
- Surface-treated gravel for light traffic streets. D. B. Davis. *Eng N* 89:705 O 26 '22
- Traffic-storage at congested street crossings. C. W. Farrier. *diags Eng N* 89:845-6 N 16 '22
- L'urbanisme en Allemagne. G. Mesnard. *diags Génie Civil* 82:180-2 F 24 '23
- See also* Arcades; Business streets—Advertising; City planning; Curbs; Grading (earthwork); Gutters; Highway law; Pavements; Roads; Sidewalks; Snow removal; Street cleaning; Street lighting; Street names; Street openings; Street traffic; Subways (streets); Traffic regulations; *also* subdivision Streets under names of cities, e.g. Cleveland, Ohio—Streets; London—Streets; New York (city)—Streets; Paris—Streets; San Francisco, California—Streets

Grades

- Method of figuring street intersection grades. A. B. Cutter. *diags Eng & Contr* 57:543 Je 7 '22
- Street intersections mapped out by means of contours. F. S. Besson. *diags Eng N* 90:255-7 F 8 '23

Nomenclature

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Reconstruction

- Complete reconstruction of down town streets of Springfield, Ill. W. D. Seeley. *Munic Eng* 65:141-3 O '23

Widening

- Some thoughts on street widening in business districts. C. E. Grunsky. *Munic Eng* 63:142-4 O '22
- Street widened by moving concrete curb and gutter sections. J. D. Adams. *il Eng N* 91:611 O 11 '23

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- Design of streets to fit traffic requirements. W. Haydock. *Eng & Contr (R & S)* 58:24-5 O 4 '22; Same, without *il. Can Eng* 44:127 Ja 9 '23

Strength of materials

- Material selection should be based on strength-weight factors. H. C. Knerr. *Automotive Ind* 48:868-72 Ap 19 '23
- Les matériaux des constructions mécaniques et aéronautiques. E. Marcotte and E. Béréhare. 414p Dunod, Paris '21
- Mechanical testing. R. G. C. Batson and J. H. Hyde. 2v Dutton '22
- Observations on the failure of structural materials. G. Paaswell. *Eng N* 91:379-80 S 6 '23
- Practical mechanics and strength of materials. C. W. Leigh. 293p McGraw-Hill '23
- Strength and proportion of industrial gears. G. E. Katzenmeyer. *charts Am Mach* 56:666-71 My 4 '22; Correction. 56:713 My 11 '22
- Strength of materials. W. E. Wines. 230p McGraw-Hill '23
- Stress concentrations due to notches and like discontinuities. E. G. Coker and P. Heymans. *Engineering* 113:26-8 Ja 6 '22; Discussion. 112:408-9 S 16 '21
- See also* Bending moment; Building materials; Deformations (mechanics); Elastic limit; Elasticity; Flexure; Graphic statics; Impact; Metals—Testing; Plywood—Testing; Steel—Testing; Strains and stresses; Testing; Trusses; Wood—Testing

Stresses. *See* Strains and stresses

Strikes and lockouts

- American mining congress would strip labor organizations and employers of strike and lockout powers. *Comm & Fin Chr* 115:2119-20 N 11 '22
- Bill of New York chamber of commerce for preventing strikes and lockouts; text. *Comm & Fin Chr* 114:472 F 4 '22
- Buffalo lines tied up by strike. *Elec Ry J* 60:56 J1 8 '22
- Conditions on the Rand. T. A. Rickard. *Eng & Min J* 113:948 Je 3 '22
- Constitution or soviet? a denunciation of the domination by a minority of the people that urban growth has made possible in this country. L. Bell. *Elec W* 80:652-3 S 23 '22
- Cost of industrial strikes. R. Estcourt. *Analyst* 20:269-70 S 18 '22
- Cost of strikes. *Comm & Fin Chr* 115:233-4 J1 15 '22
- Cutting down industrial war. J. J. Davis. *Nation's Business* 10:19-20 F '22
- Echoes of the recent strike. *Ry Age* 73:1034 D 2 '22
- Effect of strikes on cooperative stores. T. D. Stiles. *Monthly Labor R* 17:230-1 J1 '23
- Engineering lock-out; report on the causes and circumstances of the dispute. W. Mackenzie. *Elec R (Lond)* 90:693-4 My 19 '22
- Industrial strikes and lockouts in Italy, 1921. *Monthly Labor R* 16:651-3 Mr '23
- Industrial unrest in England. V. B. Turner. *Monthly Labor R* 16:1189-1203 Je '23
- Labor statistics show strikes have not diminished during 1921. N. G. Shidle. *Automotive Ind* 46:423-6 F 16 '22
- Labor union theory of seniority. *Ry Age* 73:321 Ag 19 '22
- Legal status of a railroad strike. J. C. Davis. *Ry Age* 71:977-80 N 19 '21
- Morality of the strike. D. A. McLean. 196p P. J. Kenedy & sons, New York '21
- National strikes an extravagant and unfortunate method of settling disputes. *Coal Age* 24:485-7 S 27 '23
- New England textile strike. L. E. Tilden. *Monthly Labor R* 16:899-922 My '23

Strikes and lockouts—Continued

- Official reports on Schenectady strike. Elec Ry J 62:108-9 JI 21 '23
- Prohibition of strikes (*In University debaters' annual*, 1920-1921) E. M. Phelps, ed. p. 141-92 H. W. Wilson co. '21
- Public and the right to strike. I. T. Bush. System 41:454+ Ap '22
- Railroad and coal strikes will ultimately be avoided. R. W. Babson. Comm & Fin Chr 115:948-9 Ag 26 '22
- Railroad strike in Germany. Monthly Labor R 14:1044-50 My '22
- Recent strikes in China. Monthly Labor R 16:201-2 Ja '23
- Right to strike. A. R. Foote. 61p Ohio board of commerce, Columbus '21
- Shipping strike in Hongkong. Ta Chen. Monthly Labor R 14:863-9 My '22
- Should the White House be called upon to settle strikes; views of railroad men in various positions. Ry R 71:221-3 Ag 12 '22
- Strike as a weapon for railroad workers; a series of interviews with men in railroad service. Ry R 71:86-8 JI 15 '22
- Strike in New Jersey. Elec Ry J 62:112, 154, 189-90, 230, 268-9, 307-9, 344-7, 386 JI 21-S 8 '23
- Strike in the gold mines of South Africa. A. C. Key. Int Labour R 6:893-916 D '22
- Strike of employees of English Cooperative wholesale society. Monthly Labor R 17:969-71 O '23
- Strike on the Rand. T. A. Rickard. Eng & Min J 113:757-8 My 6 '22
- Strikes and lockouts. See monthly numbers of Monthly labor review
- Strikes and lockouts in the United States, 1916 to 1921. Monthly Labor R 14:1035-43 My '22
- Third party in industrial disputes. W. J. Matherly. Am Mach 57:416-17 S 14 '22
- See also Arbitration, Industrial; Industrial relations; Labor and laboring classes; Picketing; Syndicalism; Trade unions; also Coal strike, 1922; Printers' strike, New York, 1923; Railroad shopmen's strike, 1922; Steel strike, 1919-1920

Bibliography

- University debaters' annual. E. M. Phelps, ed. p. 193-7 H. W. Wilson co. '21
- String board graphics**
- String board graphics. P. S. Brown. Am Mach 56:483 Mr 30 '22; Discussion. H. E. Taylor. 57:622-3 O 19 '22
- Stringed instruments**
- Action of the bow in stringed instruments. K. C. Kar. il diags Phys R 20:148-53 Ag '22
- Dynamical theory of the bridge of a certain class of stringed instruments. K. C. Kar. Phys R 21:695-8 Je '23
- Musical strings and where they come from. il Sci Am 126:193 Mr '22
- Strip mills.** See Rolling mills
- Stroboscopic instruments**
- High speed stroboscope. il diags Engineering 116:255-6 Ag 31 '23
- Stroboscopic method of speed measurement. V. A. Fynn. il Am Inst E E J 41:764-70 O '22
- When optical illusions aid the engineer. F. Rowlinson. il Sci Am 127:316+ N '22
- Strontium**
- Barium and strontium in Canada. H. S. Spence. 100p Canada Dept. of mines, Ottawa '22
- Strontium in 1922. G. W. Stose. U S Geol S Min Res of U S 1922, pt 2:59-61 '23
- Strontium silicate**
- Silicates of strontium and barium. P. Eskola. diags Am J Sci 5th ser 4:331-75 N '22
- Structural drawing**
- Structural drafting and the design of details. C. T. Bishop. 2d ed., rev. 352p Wiley '22
- Structures, Marine.** See Marine structures
- Structures, Theory of**
- Castigliano's theorem of least work, and the principle of St Venant. R. V. Southwell. Philos Mag 6th ser 45:193-212 Ja '23

- Design of elastic structures from paper molds. G. E. Beggs. il diags Am Concrete Inst Pro 19:53-65; Discussion. 66 '23
- Essentials in the theory of framed structures. C. A. Ellis. 330p McGraw-Hill '22
- Notes on structural mechanics. H. W. Hayward. 106p Technical composition co., Cambridge, Mass. '23
- Practical structural design. E. McCullough. 2d ed., rev., and enl. 317p U. P. C. book co. '21
- Structural design in theory and practice. H. Adams. 2d ed. 248p Van Nostrand '23
- Structural design problems; a discussion of the present importance of the items of restraint, continuity and unbalanced moments. Am Arch 121:402-5, 445-7 My 10-24 '22
- Structural members and connections. G. A. Hool and W. S. Kinne, eds. 611p McGraw-Hill '23
- Trapezoidal portal and eccentric heel-joint of truss. C. Weiss. Eng N 91:339 Ag 30 '23; Discussion. 91:447, 568, 730 S 13, O 4, N 1 '23

See also Building; Flexure; Graphic statics; Strains and stresses; Strength of materials

Strychnos alkaloids

- Die darstellung des isostrychnins. H. Leuchs and R. Nitschke. Deutsche Chem Gesell Ber 55:3171-4 O '22
- Über äther des oxy-dihydro-brucinolons und die violette farbreaktion von nitrochinonen daraus; (über strychnos-alkaloide). H. Leuchs, J. Grüss and H. Heering. Deutsche Chem Gesell Ber 55:3729-38 D '22; Abstract. Chem Soc J 124 pt 1:131-2 F '23
- Über den abbau des kakothelins durch brom (über strychnos-alkaloide). H. Leuchs, H. Mildbrand and W. R. Leuchs. Deutsche Chem Gesell Ber 55:2403-15 S '22; Abstract. Chem Soc J 122 pt 1:133-4 N '22
- Über den abbau des methyl-kakothelins und seine violette farbreaktion mit natriumsulfid; (über strychnos-alkaloide). H. Leuchs, B. Winkler and W. R. Leuchs. Deutsche Chem Gesell Ber 55:3936-50 D '22; Abstract. Chem Soc J 124 pt 1:133-5 F '23
- Über die darstellung von methoxy- und äthoxydihydro-strychninolon, von strychninolon-o und über dessen oxydation; (über strychnos-alkaloide). H. Leuchs and R. Nitschke. Deutsche Chem Gesell Ber 55:3738-45 D '22
- Über die oxydation des krypto-brucinolons und seine darstellung aus brucinolon-b; (über strychnos-alkaloide). H. Leuchs, E. Hellriegel and H. Heering. Deutsche Chem Gesell Ber 54:2177-90 O '21; Abstract. Chem Soc J 120 pt 1:833-4 D '21
- Über die violette und die grüne farbreaktion des kakothelins. H. Leuchs. Deutsche Chem Gesell Ber 55:724-32 Mr '22

Stucco

- Cement stucco covering for small railway buildings. diags plans Eng N 87:852-3 N 24 '21
- Details of stucco finish recommended by Atlas Portland cement co. diags Bldg Age 45:57 Ap '23
- Lime in construction; abstract. T. B. Shertz. Am Inst Arch J 11:XIII+ S '23
- New developments in oxychloride stucco and flooring. J. B. Shaw and G. A. Bole. Am Cer Soc J 5:311-21 Je '22; Discussion. (Bul) 5:155-60 Ag '22
- New steel fabric simplifies stucco work. il Pop Mech 39:687 My '23
- Prepared Portland cement stucco. plans Concrete 21:80-1 S '22
- Recommended practice for Portland cement stucco. Can Eng 44:371 Ap 3 '23
- Shrinkage of Portland cement mortars and its importance in stucco construction. J. C. Pearson. il Am Concrete Inst Pro 17:133-49 '21; Same. Eng & Contr 55:187-90 F 23 '21
- Standard recommended practice for Portland cement stucco. Am Concrete Inst Pro 19:471-88 '23
- Stucco—its myriad textures. E. D. Boyer. il Concrete 20:28-30 Ja '22

Stucco—Continued**Cost**

- Back-plastered stucco costs. Concrete 22:77 F '23
 Costs on machine stuccoed riding club. il plan Concrete 19:247 D '21
 What back-plastered stucco houses cost. il plans Concrete 20:197-8 My '22

Stucco lath

- New stucco lath made of burned clay. il Brick & Clay Rec 60:995-6 Je 27 '22

Studebaker corporation

- Glimpse into the works of the Studebaker corporation of America. il Ind Eng 81:328-30 J1 '23
 Studebaker common earns \$23:68 share. Automotive Ind 49:918 N 1 '23
 What has kept our volume climbing; Studebaker corporation. A. R. Erskine. il System 42:395-8 O '22

Studios

- Tendencies in apartment house design. F. C. Brown. il diags plans Arch Rec 51:249-68 Mr '22

Studs. See Bolts and nuts**Stuffer's law**

- Triethylene tri- and tetra-sulphides; the sulphones, sulphinic and sulphonic acids of the series; extension of Stuffer's law. P. C. Ray. Chem Soc J 123:2174-8 S '23

Stumps. See Clearing of land**Style manuals. See Printing, Practical—Style manuals****Styrene**

- Indene and styrene—constituents of carbureted water-gas tar. R. L. Brown and R. D. Howard. Ind & Eng Chem 15:1147 N '23

Subdivision of ships. See Bulkheads (naval architecture)**Subgrades. See Roads—Subgrades****Subject headings**

- Tentative system of subject headings for the literature of military science. F. Rider, comp. 301p Cumulative digest corp., New York '22

Submarine boats

- Communicues on debate of submarine question at armament conference. Comm & Fin Chr 113:2774-7 D 31 '21
 Cruising endurance of submarines. Engineer 134:275-6 S 15 '22
 German submarine building programme, 1914-1918. il chart Engineer 133:431-4 Ap 21 '22; Discussion. 133:477 Ap 28 '22
 New submarine power plant will give 10,000-mile radius. Pop Mech 37:102 Ja '22
 Peace-time perils of submarine service. il Pop Mech 37:194-5 F '22
 Propulsion of submarines. Engineer 134:527-8 N 17 '22
 Robert Fulton and the submarine. W. B. Parsons. 154p Columbia university press, New York '22
 Salvaging a U-boat to sink it. E. G. Maxwell. il Pop Mech 38:863-4 D '22
 Secret of submarine revealed by camera. il Pop Mech 40:517 O '23
 Submarine construction at the Krupp Germania works by Dr Techel. Review. diags (supp) Engineer 135:386-7 Ap 13 '23
 Submarines. Engineering 116:243-4 Ag 24 '23
 Two submarines added to U.S. navy. il Pop Mech 38:357 S '22

See also Diesel engines, Submarine; Submarine warfare

Submarine cables. See Cables, Submarine**Submarine chasers**

- United States navy sub chaser personnel training system. 449p U. S. navy gas engine school, New York '21

Submarine detectors

- L'écoute sous-marine et quelques-uns de ses progrès récents. diags Génie Civil 79:375-6, 393-5, 417-19 O 29-N 12 '21

- Nouveau procédé pour déceler la présence d'un sous-marin. P. Sacerdote and P. Lambert. diags Génie Civil 81:144 Ag 5 '22

- Recherches relatives à l'établissement d'appareils d'écoute sous-marins. H. Brillié. diags Génie Civil 80:373-80, 397-401, 427-30 Ap 29-My 13 '22

Submarine diving. See Diving, Submarine**Submarine explosions. See Explosions, Submarine****Submarine painting. See Painting, Submarine****Submarine pipe lines. See Pipe laying, Subaqueous****Submarine tractors. See Tractors, Submarine****Submarine warfare**

- Root resolutions strengthening existing laws governing submarine warfare. Comm & Fin Chr 114:21-6, 138-49 Ja 7-14 '22

See also Submarine boats; Submarine detectors; also Conference on the limitation of armaments, Washington, D.C.—Five-power submarine and poison gas treaty

Protective devices

- Protection of merchant ships against submarines. E. H. T. D'Eyncourt. diags plans Engineering 112:787-90 D 9 '21

Subscription book association

- Advertising to dignify the book salesman. Ptr Ink 122:20 Ja 4 '23

Subsidence (earth movements). See Mine subsidence; Rivers—Bank subsidence**Subsidies. See Aeronautics, Commercial—Subsidies; Ship subsidies****Substations, Electric. See Electric substations****Substitutes**

See Gasoline, Substitutes for; Wood, Substitutes for

Substitution (chemistry)

- Bemerkung zu der abhandlung von Kurt H. Meyer: zur kenntnis der substitutionsvorgänge. K. v. Auwers. Deutsche Chem Gesell Ber 54:3000-3 D '21

- Cumulative effect of the chlorine atom and the methyl and sulphonyl chloride groups on substitution in the benzene nucleus. W. Davies. Chem Soc J 121:785-91 My '22

- Effect of substitution on the free energy of oxidation-reduction reactions; benzoquinone derivatives. V. K. LaMer and L. E. Baker. Am Chem Soc J 44:1954-64 S '22

- Electron theory of chemistry. J. J. Thomson. diags Philos Mag 6th ser 46:497-514 S '23

- Formation of derivatives of tetrahydronaphthalene from γ -phenyl fatty acids. A. Stevenson, J. F. Thorpe and A. J. Attwood. Chem Soc J 121:1717-22; 123:1755-66 S '22, J1 '23

- Influence of nitro-groups on the reactivity of substituents in the benzene nucleus, reactions of 2:5- and 4:5-dinitro-*m*-xylenes. K. Ibbotson and J. Kenner. Chem Soc J 123:1260-8 My '23

- Instance of the apparent effect of the entering group on the position of substitution in the benzene nucleus. W. Davies. Chem Soc J 121:806-15 My '22

- Mercuri-organic derivatives; the mercurization of aromatic amines and its relation to the theory of substitution. M. S. Kharasch and I. M. Jacobsohn. Am Chem Soc J 43:1894-1903 Ag '21

- Problem of substitution in the benzene nucleus and the Thomson-Lewis-Langmuir theory of co-valence; abstract. R. Fraser and J. E. Humphries. Chem Soc J 124 pt 1: 450 My '23

- Reactivity of doubly-conjugated unsaturated ketones; effect of substitution on the reactivity of 4'-dimethylamino-2-hydroxy-distyryl ketone. I. M. Heilbron and A. B. Whitworth. Chem Soc J 123:238-45 F '23

- Replaceability of the halogen in halogen-substituted phthalic acids; abstract. A. Eckert and F. Seidel. Chem Soc J 120 pt 1: 862-4 D '21

- Substitution in the pyrazole series; halogen derivatives of 3:5-dimethylpyrazole. G. T. Morgan and I. Ackerman. Chem Soc J 123: 1308-18 My '23

Substitution (chemistry)—Continued

- Substitution in vicinal trisubstituted benzene derivatives. W. Davies. *Chem Soc J* 123: 1575-93 *Je* '23
- Tesla-luminescence spectra; some monosubstitution products of benzene. W. H. McVicker, J. K. Marsh and A. W. Stewart. *il Chem Soc J* 123:2147-63, pl 1 *S* '23
- Über substituierte salicylsäuren; physiologische wirkung. H. P. Kaufmann and W. Kaufmann. *Deutsche Chem Gesell Ber* 55: 282-8 *Ja* '22
- Zum benzol-problem; der benzol-ring in substitutionsprodukten. A. v. Weinberg. *Deutsche Chem Gesell Ber* 54:2171-5 *S* '21
- Zur kenntnis, der substitutionsvorgänge. K. H. Meyer. *Deutsche Chem Gesell Ber* 54: 2265-73 *O* '21; Abstract. *Chem Soc J* 120 pt 1:855-7 *D* '21

Substitution (marketing problem)**Bibliography**

- Substitution. *Ptr Ink* 124:150 *S* 27 '23
- Suburban traffic. See Electric railroads; Interurban railroads; also Illinois Central railroad
- Subveyors. See Dumb-waiters
- Subway cars. See Cars, Subway
- Subway stations
- Le chemin de fer métropolitain de Paris. L. Biette. *il diags plans Génie Civil* 80: 97-103, pl 4 *F* 4 '22
- Improvements possible in subway construction and operation. P. Sachs. *diags Elec Ry J* 62:441-4 *S* 22 '23
- See also Turnstiles, Fare collecting

Subways

- Building the new Queensboro subway extension. S. G. Roberts. *il Aera* 12:188-95 *S* '23
- Le chemin de fer métropolitain de Paris. L. Biette. *il diags plans Génie Civil* 80: 97-103, pl 4; 83:145-51, pl 2 *F* 4 '22, *Ag* 18 '23
- Detroit's future dips. *map Elec Ry J* 61:489 *Mr* 17 '23
- New Jersey commuter in New York subway. D. L. Turner. *Elec Ry J* 58:1151-2 *D* 31 '21
- New method of placing concrete in subway construction. G. Murgatroyd. *diag Eng & Contr* 56:453-4 *N* 16 '21
- Rochester begins work of making subway out of Erie canal. E. A. Fisher. *diags map Eng N* 88:744-5 *My* 4 '22
- Shield for enlarging the city and South London tube. *il diags Engineer* 135:76-7 *Ja* 19 '23
- Subways for city transportation; abstracts. R. Ridgway. *Eng & Contr* 56:574-6 *D* 21 '21; *Eng N* 87:778-9 *N* 10 '21
- Will enlarge London tunnel by shield method under traffic. *diags Eng N* 88:60 *Ja* 12 '22
- See also Cars, Subway; Subway stations; also London—Subways; New York (city)—Subways

Accidents

- Paris subway wreck caused by signal failure. *il Pop Mech* 36:845 *D* '21
- Review of recent accidents in New York subways. R. Ridgway. *Eng N* 89:325-6 *Ag* 24 '22

Lighting

- Improvements in lighting on London underground railways. *il Ry R* 70:8-10 *Ja* 7 '22

Signals

- Signaling on New York subway extension. *il Ry R* 73:421 *S* 22 '23

Ventilation

- London underground ventilation. *Elec Ry J* 62:254 *Ag* 18 '23

Subways (conduits)

- City controls sub-surface use of public streets. C. U. Powell. *diags Eng N* 90:743-4 *Ap* 26 '23
- Getting ready for the pavement. R. A. MacGregor. *Eng & Contr* 57:428-9 *My* 3 '22

Subways (streets)

- Strengthening Chicago track elevation subways. *diags Ry Age* 73:199-200 *Jl* 29 '22

Success

- Advertising that capitalizes the product's disadvantages. M. Hastings, jr. *Ptr Ink M* 7: 43-4 *Ag* '23
- Curiosity as a builder of men; interview with Henry L. Doherty, by R. Dickinson. *Ptr Ink M* 6:19-20 *Ap* '23
- "It's up to you to prove it"; the business philosophy of Cyrus H. K. Curtis. R. C. Epstein. *System* 44:606+ *N* '23
- Making good in business. R. W. Babson. 175p *Revell* '21
- Man and the job. G. M. Eaton. *diags Ind Management* 66:174-5 *Mr* '23; Same. *Eng Educ* 13:579-83 *My* '23
- Secret of wealth. F. Hobbs. 230p *Franklyn Hobbs & Co., Chicago* (For sale by McClurg) '23

See also Business management; Efficiency, Industrial; Executive ability; Saving

Succinic acid

- Aldehyde acids of the succinic series. E. Carrière. *Chem Soc J* 122 pt 1:318-20 *Ap* '22
- Formation of substituted succinic acids from esters of α -unsaturated acids. L. Higginbotham and A. Lapworth. *Chem Soc J* 121: 49-54 *Ja* '22
- Preparation and properties of several phenyl alkyl succinic acids. F. W. Upson and T. J. Thompson. *Am Chem Soc J* 44:181-8 *Ja* '22
- Syntheses of alkylidenecyanoacetic acids and of substituted succinic acids; acids containing aromatic residues. A. Lapworth and J. A. McRae. *Chem Soc J* 121:1699-1712 *S* '22

Sucrose. See Invertase**Sucrose. See Sugar****Suction devices for ships**

- Suction experiments. P. G. Rouse. *il diags Engineering* 116:3-5 *Jl* 6 '23

Sugar

- Adsorption of color from sugar solutions by chars. M. T. Sanders. *Ind & Eng Chem* 15: 784-6 *Ag* '23
- A. C. S. division of sugar chemistry; discussion. *Chem & Met Eng* 29:579-80 *S* 24 '23
- Constitution of the disaccharides; sucrose. W. N. Haworth and others. *Chem Soc J* 123:294-310 *F* '23
- Effect of sucrose on the activities of certain ions. J. W. Corran. *Am Chem Soc J* 45: 1627-36 *Jl* '23
- Effect of sucrose on the activities of the chloride and hydrogen ions. J. W. Corran and W. C. M. Lewis. *Am Chem Soc J* 44: 1673-84 *Ag* '22
- Effect of sugar in concrete mix. M. Lora. *Concrete* 22:160-1 *Ap* '23
- Energetics of sucrose inversion. T. Moran and H. A. Taylor. *Am Chem Soc J* 44:2886-92 *D* '22
- Formation of formic acid by caramelization of cane sugar. S. G. Simpson. *Ind & Eng Chem* 15:1054-5 *O* '23
- Further investigation of the velocity of sugar hydrolysis. R. H. Clark. *Am Chem Soc J* 43: 1759-64 *Ag* '21
- Hydration of sucrose in water solution as calculated from vapor-pressure measurements. G. Scatchard. *Am Chem Soc J* 43: 2406-18 *N* '21
- Native sugar industry of Szechuen province, western China. H. K. Richardson. *il diags map Chem & Met Eng* 27:105-8 *Jl* 19 '22
- Osmotic pressures of concentrated solutions of sucrose as determined by the water interferometer. P. Lotz and J. C. W. Frazer. *diag Am Chem Soc J* 43:2501-7 *D* '21
- Oxidation of sucrose by nitric acid. F. D. Chattaway and H. J. Harris. *Chem Soc J* 121:2703-9 *D* '22
- Rate of hydrolysis of methyl acetate by hydrochloric acid in solutions containing sucrose. G. J. Burrows. *Chem Soc J* 119:1798-1802 *N* '21
- Relative sweetness of invert sugar. J. W. Sale and W. W. Skinner. *J Ind & Eng Chem* 14: 522-5 *Je* '22

Sugar—Continued

- Speed of reaction in concentrated solutions and the mechanism of the inversion of sucrose. G. Scatchard. *Am Chem Soc J* 43:2387-2406; 45:1580-92 N '21, J1 '23
- Story of sugar; where it comes from, and how it is converted from the raw material. A. L. Dahl and R. Gotthold. *il Sci Am* 125A: 128-30 D '21
- Structure of sucrose. M. Bergmann. *Chem Soc J* 123:1277-9 My '23
- Studies in catalysis; the inversion of sucrose by hydrogen ion. T. Moran and W. C. M. Lewis. *Chem Soc J* 121:1613-24 Ag '22
- Sugar formation in a sulfate digester. E. C. Sherrard and C. F. Suhm. *J Ind & Eng Chem* 14:931-2 O '22
- Surface phenomena in sucrose solutions. R. R. Butler. *Chem. Soc J* 123:2060-5 Ag '23
- Velocity of inversion of sucrose as a function of the thermodynamic concentration of hydrogen ion. H. A. Fales and J. C. Morrell. *Am Chem Soc J* 44:2071-91 O '22
- See also* Beets and beet sugar; Maple sugar; Sirups; Sugars

Analysis

- Apparatus for the alpha-naphthol test for sucrose. G. L. Spencer. *diags Ind & Eng Chem* 15:593 Je '23
- Detection of sugar in condensed waters by means of cresol. G. E. Stevens. *Ind & Eng Chem* 15:363 Ap '23
- Determination of ash in Cuban raw sugar. U. S. Jamison and J. R. Withrow. *Ind & Eng Chem* 15:386-9 Ap '23
- Determination of gums in sugar products. H. T. Ruff and J. R. Withrow. *J Ind & Eng Chem* 14:1131-4 D '22
- Determination of sugar in cossettes by the Pellet method. S. J. Osborn. *Ind & Eng Chem* 15:787-8 Ag '23
- Estimation of caramel in sugar products—criticism of the Ehrlich method. G. P. Meade. *Ind & Eng Chem* 15:275 Mr '23
- Influence of glucose on the dialysis of sucrose through a parchment membrane; the possibility of the separation of glucose from sucrose by dialysis. L. A. Congdon and H. R. Ingersoll. *Am Chem Soc J* 43:2588-97 D '21
- New qualitative test for sucrose in the presence of glucose. L. A. Congdon and C. R. Stewart. *J Ind & Eng Chem* 13:1143-4 D '21
- Phosphoric acid in cane juices. H. Walker. *Ind & Eng Chem* 15:164-5 F '23
- Precipitation of proteins from cereal extracts by sodium tungstate. L. A. Rumsey. *Ind & Eng Chem* 15:270-2 Mr '23
- Sugar purity determinations. W. D. Horne. *J Ind & Eng Chem* 14:944-5 O '22

Manufacture and refining

- Cane sugar. N. Deerr. 2d ed., rev. & enl. 644p [bibliog. p. 591-604] Van Nostrand '21
- Chemical progress in cane-sugar manufacture. G. L. Spencer. *Ind & Eng Chem* 15:10-11 Ja '23
- L'économie des combustibles dans les industries du sucre. *Génie Civil* 82:282-3 Mr 24 '23
- Evaporation by compression. W. Gensecke. *diags Chem & Met Eng* 28:450-3 Mr 7 '23
- Hydrogen-ion determination as a method of refinery control. H. Z. E. Perkins. *Ind & Eng Chem* 15:623-4 Je '23
- Manufacture of cane sugar. L. Jones and F. I. Scard. 2d ed., rev. 481p. Pub. under the auspices of the West India com. by Duckworth & co., London '21
- New process for the industrial production of barium hydroxide for the treatment of molasses in sugar refining. *Am J Sci* 5th ser 4:73 J1 '22
- Potash from kelp; the applicability of kelp-char as a bleaching and purifying agent. J. W. Turrentine and H. G. Tanner. *J Ind & Eng Chem* 14:20-1 Ja '22
- Precipitate formed in sugarhouse sirups. J. F. Brewster and W. G. Raines, jr. *J Ind & Eng Chem* 14:946-7 O '22
- Rice-field waste benefits sugar refining. *il Pop Mech* 39:916 Je '23

- Story of sugar; where it comes from, and how it is converted from the raw material. A. L. Dahl and R. Gotthold. *il Sci Am* 125A: 128-30 D '21
- Thomas and Petree process of sugar clarification in Hawaii. *Chem & Met Eng* 28:365 F 21 '23
- Vacuum pan evaporation in the sugar industry. C. F. Huttlinger. *Chem & Met Eng* 29: 498-9 S 10 '23

See also Beets and beet sugar; Sugar factories; Sugar machinery

Study and teaching

- Management problem in seasonal industries. D. W. Rockey. *Ind Management* 63:77-9 F '22

Sugar, Dahlia. *See* Dahlia sugar

Sugar beets. *See* Beets and beet sugar

Sugar cane

- Harvesting sugar cane by machine. *il Sci Am* 127:251 O '22
- Novel use for sugar-cane waste. *il Sci Am* 129: 241 O '23
- Sugar-cane planter cuts labor costs. *il Pop Mech* 40:938 D '23

See also Bagasse; Celotex

Sugar charcoal. *See* Charcoal

Sugar dust

- Proposed regulations to prevent dust in the sugar industry. *Chem & Met Eng* 28:419 F 28 '23
- Zur kenntnis der explosionen organischer staubarten; experimentaluntersuchung am einfachen beispiel des zuckerstaubes. P. Beyersdorfer. *il diags Deutsche Chem Gesell Ber* 55:2568-96 S '22; *Abstract. Chem Soc J* 122 pt 2:749-51 N '22

Sugar factories

- Baltimore refinery of the American sugar refining company. W. P. Comstock. *il Arch & Bldg* 54:92-6, pl 161-72 O '22
- Boiler house of the American sugar refining company at Baltimore, Maryland. E. B. Powell. *il diag Mech Eng* 44:509-12 Ag '22
- Economical use of steam in a sugar refinery. C. C. Brown. *il chart Power Pl Eng* 27: 923-7 S 15 '23
- Kelham beet sugar factory. *il diags plans Engineer* 134:161-4, 179, 184-7, 210-14 Ag 18-S 1 '22
- Works of the American sugar refining company. *il Ind Eng* 81:520-2 N '23

See also Sugar—Manufacture and refining; Sugar machinery

Electric equipment

- Advantages and disadvantages of electric drive in a beet sugar factory. A. J. Forbess. *il Gen Elec R* 25:492-7 Ag '22
- Applying electricity scientifically to factor problems. L. F. Leurey. *il J Elec* 48:343-5 My 1 '22
- Decreasing production interruptions in sugar mills by the use of proper distribution, protection and control equipment. R. B. Stevens. *il diags Ind Eng* 80:463-74+ O '22
- Power plant in a modern sugar refinery. R. B. Stevens. *il diag Power* 56:440-5, 500 S 19-26 '22
- Selection and control of motors. R. B. Stevens. *il diags Elec W* 80:1433-7 D 30 '22

Equipment

- Coal handling plant of the American sugar refining co., Baltimore, Maryland. E. B. Powell. *diags plan Ind Management (Lond)* 9:277-8 My 3 '23
- Handling the finished products of industry. G. L. Montgomery. *plans Chem & Met Eng* 27:779-83 O 18 '22
- Materials handling in a modern sugar refinery. H. L. Rank. *il Ind Management* 65: 306-13 My '23

See also Sugar machinery

Safety devices and measures

- Proposed regulations to prevent dust in the sugar industry. *Chem & Met Eng* 28:419 F 28 '23

Sugar industry and trade

Sugar situation. *Comm & Fin Chr* 117:1187-8 S 15 '23

Sugar situation—its many ramifications. *Annalist* 21:628+ My 7 '23

See also Central Aguirre sugar company; Fajardo sugar company of Porto Rico

Advertising

Advertising to make the consumer an expert. *R. Dickinson. Ptr Ink* 120:89-90+ Ag 31 '22

Sugar industry needs interpretation through advertising. *R. McDaniel. Ptr Ink* 125:33-4+ N 1 '23

United States

Census of manufactures, 1921. 18p U S Bur Census '23

Government's injunction proceedings against New York coffee & sugar exchanges, inc. *Comm & Fin Chr* 116:1719-21 Ap 21 '23

How the American sugar company has entered a new field. *J. Henle. Ptr Ink* 120:41-2+ Ag 31 '22

Sugar boycott by women to force down price. *Comm & Fin Chr* 116:1967 My 5 '23

Sugar price investigation ordered by President Harding. *Comm & Fin Chr* 116:1368-71 Mr 31 '23

Sugar's readjustment. *F. C. Lowry. Annalist* 19:68 Ja 9 '22

What happened to sugar. *H. Wheeler. N Nat's Business* 11:29-31 Jl '23

Sugar machinery

Centrifugal pumps in sugar refinery. *C. C. Brown. diags Power Pl Eng* 25:1087-8 N 15 '21; *Abstract. Mech Eng* 44:57-8 Ja '22

Sugar machinery. Lord Invernairn. flow sheet *il diags Engineering* 115:817-20 Je 29 '23; *Excerpts. Engineer* 135:694-5 Je 29 '23

Thornycroft continuous sugar beet diffuser. *Engineering* 113:315-17, 328, pl 16 Mr 17 '22

Manufacture

Molding an evaporator belt. *G. Boys. diags Foundry* 50:666-8 Ag 15 '22

Steel castings for sugar mills. *H. J. Barton. il Iron Age* 112:822-5 S 27 '23

Sugar refining. See Sugar—Manufacture and refining

Sugar tube

Sugar-tube method of determining rock dust in air. *A. C. Fieldner, S. H. Katz and E. S. Longfellow. U S Bur Mines Tech Pa* 278:1-40 '21

Sugars

Biological and chemical significance of gamma sugars. *J. C. Irvine. Ind & Eng Chem* 15:1162-4 N '23

Catalytic hydrogenation of dextro glucose; preliminary notice. *W. E. Cake. Am Chem Soc J* 44:859-61 Ap '22

Clarification of solutions containing reducing sugars by basic lead acetate; the effect of different deleading agents. *D. T. Englis and C. Y. Tsang. Am Chem Soc J* 44:865-7 Ap '22

Constitution of acetone derivatives of glucose and fructose. *J. C. Irvine and J. Patterson. Chem Soc J* 121:2146-61 O '22

Determination of reducing sugars by means of Fehling's solution with methylene blue as internal indicator. *J. H. Lane and L. Eynon. Soc Chem Ind J* 42:32-7t Ja 26 '23

Effect of acids and salts upon the hydrolysis of wood. *E. C. Sherrard and W. H. Gauger. Ind & Eng Chem* 15:1164-5 N '23

Electrometric titration of reducing sugars. *W. L. Daggett, A. W. Campbell and J. L. Whitman. Am Chem Soc J* 45:1043-5 Ap '23

Fluoro-acetyl derivatives of sugars. *D. H. Brauns. Am Chem Soc J* 45:833-5, 2381-90 Mr, O '23

Influence of alkaline-earths on the determination of reducing sugars by Fehling's solution. *L. Eynon and J. H. Lane. Soc Chem Ind J* 42:143-6 Ap 6 '23

Moisture absorptive power of different sugars and carbohydrates under varying conditions of atmospheric humidity. *C. A. Browne. J Ind & Eng Chem* 14:712-14 Ag '22

Neues aus der zucker-chemie. *H. Kiliani. Deutsche Chem Gesell Ber* 55:75-101, 158-72, 2817-26 Ja-F, S '22; *Abstract. Chem Soc J* 122 pt 1:223-5, 321-2, 1111-13 F, Ap, D '22

Optical rotations of the sugars. *J. G. Maltby. Chem Soc J* 121:26-8-12; 123:1494-9 N '22, Je '23

Revision of Rosanoff's diagram of the aldose sugars. *J. J. Willaman and C. A. Morrow. Am Chem Soc J* 45:1273-80 My '23

Structure of the normal monosaccharides; xylose. *E. L. Hirst and C. B. Purves. Chem Soc J* 123:1352-60 Je '23

Sugars of great price. *J. H. Collins. il Sci Am* 126:313+ My '22

Synthesen gemischt-acylierter halogenzucker. *K. Freudenberg and O. Ivers. Deutsche Chem Gesell Ber* 55:929-41 Ap '22; *Abstract. Chem Soc J* 122 pt 1:523-5 Je '22

Über die ungesättigten reduktionsprodukte der zucker und ihre umwandlungen; glucosid-artiges derivat eines einfachen oxyketons, des δ -aceto-*n*-butylalkohols nebst bemerkungen über die struktur des rohrzuckers. *M. Bergmann and A. Miekeley. Deutsche Chem Gesell Ber* 55:1390-1403 My '22; *Abstract. Chem Soc J* 122 pt 1:618-19 Jl '22

Über die ungesättigten reduktionsprodukte der zuckerarten und ihre umwandlungen; über 2-desoxyglucose (gluco-desose). *M. Bergmann, H. Schotte and W. Lechinsky. Deutsche Chem Gesell Ber* 55:158-72 Ja '22; *Abstract. Chem Soc J* 122 pt 1:227-8 Mr '22

Zur kenntnis der aceton-zucker; diaceton-xylose. *K. Freudenberg and O. Svanberg. Deutsche Chem Gesell Ber* 55:3239-42 O '22

Zur kenntnis der aceton-zucker; umwandlungen der diaceton-glucose. *K. Freudenberg and F. Brauns. Deutsche Chem Gesell Ber* 55:3233-8 O '22

See also Dahlia sugar; Dextrose; Fructose; Galactose; Glucose; Hexosamines; Mannan; Mannose; Methylfructoside; Polysaccharides; Raffinose; Sugar—Analysis; Tetraglucosan; Trimethyl glucose

Suggestion systems

Cards point way to improvement. *F. V. Faulhaber. Inland Ptr* 70:718 F '23

Does a suggestion system make savings? *H. C. Blagbrough. il Factory* 30:146-8+ F '23

Does it pay a workman to make suggestions? *J. Durkin. Management Eng* 4:328 My '23

Employee suggestion plans. *S. DeHart. Am Mach* 57:365-7 S 7 '22; *Discussion. A. Clegg. 58:454-5 Mr 22 '23*

Foreman and the suggestion box. *F. A. Pope. Am Mach* 58:572 Ap 19 '23

Getting suggestions which really cut costs. *E. H. Trick. il Factory* 31:31-3+ Jl '23

Getting the idea out of their heads. *J. McGinn. Office Management* 8:43 O '22

How to reward employees for suggestions. *R. E. Fox. Ind Management* 63:118+ F '22

Keeping alive suggestion systems. *Factory* 27:826+ D '21

Rewarding suggestions. *A. W. Forbes. Am Mach* 58:863-4 Je 14 '23

Rewards for money saving ideas. *J. Thomas. Am Mach* 57:794 N 23 '22

Rewards for suggestions. *F. P. Terry. Am Mach* 56:766 My 25 '22

Stimulating improvement suggestions. *F. B. Avery. Ind Management* 64:103-4 Ag '22

Suggestion systems in power plants. *C. M. King. Power* 58:300 Ag 21 '23

To stamp out old alligator waste. *J. D. Larkin, jr. il System* 44:282-3 S '23

Sulfamidophthalic acid

Sulfamidophthalic acid and sulfimidophthalic acid; abstract. *T. Zincke and H. Greune. Chem Soc J* 122 pt 1:550-1 Je '22

Sulfamphthaleins

Dyes derived from saccharin; the sulphamphthaleins. *S. Dutt. Chem Soc J* 121:2389-94 N '22

Sulfarsphenamine

Preparation of sulfarsphenamine. *C. Voegtlin and J. M. Johnson. Am Chem Soc J* 44:2573-7 N '22

Sulfate liquor

Alkali recovery in the sulphate process. C. K. Textor. Paper 29:17-19 Ja 18; 7-9 F 1 '22; Same. Paper Tr J 74:50-2 F 16 '22

Sulfates

Compound formation and conductivity in systems of the types formic acid:metal formate and sulfuric acid:metal sulfate. J. Kendall, H. Adler and A. W. Davidson. Am Chem Soc J 43:1846-53 Ag '21

Esters of the hydroxyalkylarylamines; acid sulphuric esters of the simple mono-hydroxyethylarylamines. K. H. Saunders. Chem Soc J 121:2667-75 D '22

Notiz über die umwandlung von ammonium-sulfid und thiosulfaten in sulfat. W. Gluud. Deutsche Chem Gesell Ber 54:2425-6 O '21

Vapor pressures of certain hydrated metal sulfates. C. D. Carpenter and E. R. Jette. diags Am Chem Soc J 45:578-90 Mr '23

See also Alkali metal hydrogen sulfates; Copper alkali sulfates; Thiosulfates

Sulfide dyes. See Dyes and dyeing—Cotton

Sulfides

Chlorinated dialkyl sulphides. W: J. Pope and J. L. B. Smith. Chem Soc J 121:1166-70 Je '22

Researches on residual affinity and coordination; interactions of metallic salts and dimethyldithioethylene. G. T. Morgan and W. Ledbury. Chem Soc J 121:2882-94 D '22

Sulphides as bronzing agents. Metal Ind 20: 223-9, 264 Je-Jl '22

Triethylene tri- and tetra-sulphides; the sulphones, sulphinic and sulphonic acids of the series; extension of Stuffer's law. P. C. Ray. Chem Soc J 123:2174-8 S '23

See also Ammonium sulfides; Barium sulfide; Hydrogen sulfide; Molybdenite; Pyrites

Sulfilmines

Sulphilmines, a new class of organic compounds containing quadrivalent sulphur. F: G. Mann and W: J. Pope. Chem Soc J 121:1052-5 Je '22

Sulfite liquor

Durability of sole leather filled with sulphite cellulose extract. R. C. Bowker. U S Bur Stand Tech Pa 215:495-500 '22

Evaporating cellulose liquors; new method evolved by Swedish scientist. K. L. Thunholm. diag Paper 31:149-50+ Ap 18 '23

Lignin-untersuchungen; dimethyl-sulfitlauge-lactone. B. Holmberg and M. Sjöberg. Deutsche Chem Gesell Ber 54:2406-17 O '21

Lignin-untersuchungen; über alkali-lignine. B. Holmberg and T. Wintzell. Deutsche Chem Gesell Ber 54:2417-25 O '21

Lignin-untersuchungen; über das sulfitlauge-lacton. B. Holmberg. Deutsche Chem Gesell Ber 54:2389-2406 O '21; Abstract. Chem Soc J 120 pt 1:849-50 D '21

Production of sulphite alcohol. R. Heinzelmann. Paper Tr J 74:49-51 My 25; 75:56-8 Jl 6 '22

Profit from sulfite waste. Paper 32:9 S 19 '23

Profit from sulphite waste liquor. R. H. McKee. Paper 33:5-7+ N 1 '23; Same. Paper Tr J 77:49-50 O 11 '23

Seasonal influence on sulphite manufacturing. W. S. Haley. Paper Tr J 75:40+ O 12 '22

Sense in sulphite acid making. Paper 29: 13+ F 22 '22

Solvent for dyestuffs. Color Tr J 10:42-3 Ja '22

Sugar formation in a sulfite digester. E. C. Sherrard and C. F. Suhm. J Ind & Eng Chem 14:931-2 O '22

Sulphur in sulphite waste liquor. G: Barsky. Paper Tr J 74:315+ Ap 13 '22; Same. Tech Assn Pa ser 5:81-5 Je '22

Treatment of sulphite waste liquors. Chem Age 31:116 Mr '23

Use of sulfite waste liquor in dyeing. Color Tr J 13:141 O '23

Using waste liquor residue for fuel. Paper 29:7-10 Ja 11 '22

Utilization of cellulose waste liquors. L: E. Andes. Paper Tr J 73:42+ S 1; 40+ S 8; 30+ S 15; 49-50 D 29 '21

Analysis

Analysis of reclaimed sulphite acid. G. P. Genberg. Paper 30:122-3 Ap 19 '22; Same. Paper Tr J 74:275+ Ap 13 '22; Same. Tech Assn Pa ser 5:48-9 Je '22

Analysis of sulphite cooking acid. E. Oman. Tech Assn Pa ser 4:61-70 Je '21; Abstract. Paper 29:32 N 16 '21

Concerning the analysis of the raw sulphite acid. R. Sieber. Paper Tr J 74:277+ Ap 13 '22; Same. Tech Assn Pa ser 5:49-52 Je '22

Control analyses of sulphite cooking acid. P: Klason. Tech Assn Pa ser 4:71-6 Je '21

Determination of calcium sulphate. A. Sander. Paper 32:5-6+ Jl 11 '23

Determination of sulphurous acid and lime in sulphite liquors. B. Deutsch. Paper Tr J 74:49-50 My 18 '22

Sulfoacetic acid

Sulfo-essigsäure als kondensationsmittel; aceto-naphthol-methyläther und 2-methyl-3-aceto-[β -naphthochromon- α]. W. Schneider and F. Kunau. Deutsche Chem Gesell Ber 54:2302-10 O '21

Sulfo-essigsäure als kondensationsmittel; iso-acetovanillon. W: Schneider and E. Kraft. Deutsche Chem Gesell Ber 55:1892-9 Je '22

Sulfo-essigsäure als kondensationsmittel; synthese des *symm.* tri-*p*-anisyl-benzols aus anisol. W. Schneider and F. Seebach. Deutsche Chem Gesell Ber 54:2298-2302 O '21

Sulfocinnamic acid

Constitution of the secondary product in the sulfonation of cinnamic acid. F. J. Moore and R. Thomas. Am Chem Soc J 44:367-9 F '22

Sulfonamides

Action of diazo-salts on aromatic sulphonamides. P. K. Dutt, H. R. Whitehead and A. Wormald. Chem Soc J 119:2088-94 D '21

Aliphatic sulphonamides. P. W. Clutterbuck and J. B. Cohen. Chem Soc J 121:120-8 Ja '22

Sulfonation

Speed of sulphonation of phenols; the effect of temperature and the methyl group. A. F. Campbell. Chem Soc J 121:847-57 My '22

Sulphonating hydrocarbons. Chem & Met Eng 27:656 S 27 '22

Sulphonation and nitration of naphthalene. H. E. Fierz-David. Soc Chem Ind J 42:421-4, 425-6 N 2-9 '23; Abstract. Chem Age (Lond) 9: 309-10 S 22 '23

Sulphur trioxide in liquid SO₂ as a sulphonating agent. Chem Age 30:369-70 Ag '22

Sulfonediibutyric acid

Sterische umlagerungen bei α -sulfon-difettsäuren. R. Ahlberg. Deutsche Chem Gesell Ber 55:1279-81 My '22

Sulfones

Triethylene tri- and tetra-sulphides; the sulphones, sulphinic and sulphonic acids of the series; extension of Stuffer's law. P. C. Ray. Chem Soc J 123:2174-8 S '23

Sulfonic acids

Action of bromine on *p*-hydroxy- and *p*-methoxy-sulphonic acids. A. N. Meldrum and M. S. Shah. Chem Soc J 123:1982-6 Ag '23

Derivatives of anthraquinone; aliphatic thio-ethers, dithio-ethers, and thio-ethers sulfonic acids. E. E. Reid, C. M. Mackall and G. E. Miller. Am Chem Soc J 43:2104-17 S '21

See also Naphthalene sulfonic acids; Tri-phenolmethane sulfonic acids

Sulfonido-triphenylmethyl

2,2'-sulfonido-triphenylmethyl. M. Gomberg and E. C. Britton. Am Chem Soc J 43:1945-50 Ag '21

Sulfonimides

Über isomere naphthoesäure-sulfimide, ein beitrag zur theorie dulcigener gruppen. H. P. Kaufmann and H. Zobel. Deutsche Chem Gesell Ber 55:1499-1508 Je '22

Sulfonium compounds

Über die sulfonium-basen, welche sich vom thio-diphenylamin und analogen Verbindungen ableiten. F. Kehrman und J. H. Dardel. Deutsche Chem Gesell Ber 55:2346-56 S '22; Abstract. Chem Soc J 122 pt 1: 1063-4 N '22

Sulfonyl chlorides

Aromatic sulphonyl chlorides. J. Stewart. Chem Soc J 121:2555-61 N '22

Chlorosulphonyl derivatives of aromatic amines. R. N. Johnson and S. Smiles. Chem Soc J 123:2384-8 S '23

Sulfonyl halides

Reaction of organic mercury compounds with halides; para-mercury ditolyl and sulfonyl halides. F. C. Whitmore and N. Thurman. Am Chem Soc J 45:1068-70 Ap '23

Sulfosalicylic acid

Constitution of phenylsulfosalicylic acid and of related substances. A. N. Meldrum and M. S. Shah. Chem Soc J 123:1986-93 Ag '23

Sulfoxylates

Method of analysis of hydrosulphites and sulfoxylates; abstract. E. L. Helwig. Am Dyestuff Rep 12:327-8 Ap '23

Some properties of commercial hydrosulphites and sulfoxylates. C. S. Hollander. Am Dyestuff Rep 12:9-12 Ja '23

Uses of sulfoxylates in calico printing. W. R. McIntyre. Am Dyestuff Rep 12:110-11 Ja '23

See also Sodium formaldehydesulfoxalate

Sulfur

Action of sulphur on cuprous chloride. F. W. Pinkard and W. Wardlaw. Chem Soc J 121: 1300-2 Ji '22

Beiträge zum valenzproblem des schwefels: die formalen schwefel-analoga der aromatischen diazoverbindungen. H. Lecher and K. Simon. Deutsche Chem Gesell Ber 54: 2249-51 O '21

Beiträge zum valenzproblem des schwefels: die molekulargröße des rhodans. H. Lecher and A. Goebel. Deutsche Chem Gesell Ber 54:2223-9 O '21

Beiträge zum valenzproblem des schwefels: über das *o*-nitrophenyl-dithiochlorid. H. Lecher and K. Simon. Deutsche Chem Gesell Ber 55:2423-32 S '22

Burning American crude sulphur. *il* Chem & Met Eng 29:154 Ji '23

Burning sulphur; patent. Chem & Met Eng 28:1038-9 Je 11 '23

Colloidal sulphur. Chem Age 30:561 D '22

Comparison of the normal boiling temperatures of undesiccated sulfur as measured by the dynamic and the static methods. A. W. C. Menzies. Am Chem Soc J 45:327-31 F '23

Conditions of reaction of hydrogen with sulphur. R. G. W. Norrish and E. K. Rideal. *diag* Chem Soc J 123:696-705, 1689-1705 Mr, Ji '23

Control of sulphur in the basic open hearth process. S. V. Williams. Blast F & Steel Pl 11:51-4 Ja '23

Crystallization of sulphur in rubber and the phenomenon of blooming. H. A. Endres. *il* India Rubber W 68:635-7 Ji '23

Dry lime-sulphur and sulphur dust explosions. P. W. Edwards. *il* Chem & Met Eng 27:986-9 N 15 '22

Effects of sulphur in fuel oil. A. F. Brewer. Power 55:50-1 Ja 10 '22

Efficiency in handling sulphur. Chem Age 30:366 Ag '22

Forms of sulfur in coke. A. R. Powell. *diag* Am Chem Soc J 45:1-15 Ja '23

Free sulphur in motor fuels, etc. W. R. Ormandy and E. C. Craven. *Inst Pet Tech J* 9:133-9 Ap '23; Abstract. Soc Chem Ind J (Chem & Ind) 42:577 Je 15 '23

Germans desulphurize iron in the ladle. H. Hermanns. *diag* Foundry 50:248 Mr 15 '22

Hydrophobic and hydrophilic sols of sulphur; abstract. H. Freundlich and P. Scholz. Chem Soc J 122 pt 2:841-3 D '22

In regrouting cylinder foundation, use of sulphur was narrowly averted. F. C. Sinback. Coal Age 21:527 Mr 30 '22

Influence of sulfur on the color of azo dyes.

W. R. Waldron and E. E. Reid. *Am Chem Soc J* 45:2399-2417 O '23

Marketing of sulphur. A. G. Wolf. Eng & Min J 114:19-23 Ji 1 '22; Excerpts. Chem & Met Eng 27:329-39 Ag 16 '22

Methods for recovering gasoline from uncondensed still vapors. D. B. Dow. *flow sheet* Nat Pet N 14:53-4 Je 14 '22

Oil refining and sulfur mining together. P. Wagner. *il* Nat Pet N 15:51-2 Ji 18 '23

Quantitative determination of sulfur forms in coke. A. R. Powell. *Ind & Eng Chem* 15: 951-3 S '23

Recent advances in the American sulphur industry. R. F. Bacon and H. S. Davis. *il* Am Inst Chem Eng Trans v 13 pt 2:1-22; Discussion. 22-4 '20-'21

Recent developments in sulfur technology. W. N. Wilkinson. *Chem Age* 31:97-101 Mr '23

Recent investigations on the oxidation of sulfur by microorganisms. J. G. Lipman. *bibliog* Ind & Eng Chem 15:404-5 Ap '23

Restricting sulphur in pig iron. A. R. Powell. *Iron Tr R* 72:874-8 Mr 22 '23

Solidifying molten sulphur. *Chem Age* 31:285-6 Je '23

Solubility of sulfur in rubber. C. S. Venable and C. D. Greene. *J Ind & Eng Chem* 14:319-21 Ap '22; Excerpt. *India Rubber W* 66:547-8 My '22

Solubility; solubility relations of rhombic sulfur. J. H. Hildebrand and C. A. Jenks. *Am Chem Soc J* 43:2172-7 O '21

Studies in organic compounds containing sulphur; the effect on general absorption due to the valency and mode of linkage of the sulphur atom. D. T. Gibson, H. Graham and J. Reid. *Chem Soc J* 123:874-81 Ap '23

Sulfur and pyrites production. *il* Chem Age 30: 231 My '22

Sulfur compounds and oxidation of petroleum oils. C. E. Waters. *J Ind & Eng Chem* 14: 725-7 Ag '22; Abstract. *Nat Pet N* 14:39+- S 20 '22

Sulfur in proteins; the effects of acid in hydrolysis upon cystine. W. F. Hoffman and R. A. Gortner. *Am Chem Soc J* 44:341-60 F '22

Sulfur obtained from blast furnace slag; the Diel process and apparatus developed in Germany. *diag* Iron Age 109:335-6 F 2 '22

Sulphur and pyrites in 1921. H. A. C. Jenison, and H. M. Meyer. *U S Geol S Min Res* of U S 1921, pt 2:169-73 '22

Sulphur and sulphur derivatives. H. A. Auden. *101p Pitman* '21

Sulphur in the paper industry. R. F. Bacon. *Paper Tr J* 77:55 S 27 '23; Same. *Oil Paint & Drug Rep* 104: xv sec 2 S 24 '23

Sulphur in the sulphate process. S. D. Wells. *Paper* 32:5-8 Je 27 '23

Sulphur production at Hoskins Mound. C. E. Herrmann. *il* Chem Age 31:273 Je '23

Sulphur, pyrites and sulphuric acid. Brass W 18:372-3 D '22

Sulphur, pyrites and sulphuric acid in 1920 and 1921. *Chem & Met Eng* 26:976 My 24 '22

Sulphur resources of Chile. H. G. Officer. *il* *diag* map Eng & Min J 113:995-1000 Je 10 '22

Über die einwirkung von schwefel und einigen schwefelverbindungen auf terpene. P. P. Budnikoff and E. A. Schilow. *Deutsche Chem Gesell Ber* 55:3848-53 D '22

Ueber noch wenig bekannte schwierigkeiten im hochofen durch schwefelelend. A. Killing. *Stahl & Eisen* 42:968-70; Discussion. 970-1 Je 22 '22

See also Coal—Sulfur content; Coke—Sulfur content; Petroleum—Sulfur content; Steel—Sulfur and phosphorus content

Analysis

Determination of available sulphur in golden sulphide of antimony. B. D. Luff and B. D. Porritt. *India Rubber W* 66:356 F '22

Determination of sulphur and some of its compounds. J. M. Taylor. *Soc Chem Ind J* 42:294-7 Ji 6 '23

Sulfur—Analysis—Continued

- Determination of sulfur in organic compounds. W. F. Hoffman and R. A. Gortner. *Am Chem Soc J* 45:1033-6 Ap '23
- Determination of total sulfur in rubber goods. S. Collier, M. Levin and R. T. Mease. *Ind & Eng Chem* 15:953-5 S '23
- Determination of total sulfur in soils and silicate rocks. W. M. Shaw and W. H. MacIntire. *bibliog Ind & Eng Chem* 15:1183-6 N '23
- Determination of true free sulfur and the true coefficient of vulcanization in vulcanized rubber. W. J. Kelly. *J Ind & Eng Chem* 12:875-8; 14:196-7 S '20, Mr '22; Same cond. *India Rubber W* 63:175-6; 66:491-2 D '20, Ap '22
- Determine sulphur by evolution method. V. E. Hillman. *il Foundry* 50:837-8 O 15 '22; Same. *Iron Tr R* 71:1489-90 N 30 '22
- Electrometric determination of sulfur in soluble sulfides. H. H. Willard and F. Fenwick. *Am Chem Soc J* 45:645-9 Mr '23
- Estimation of sulphur and chlorine by the lamp method. S. Bowman. *Inst Pet Tech J* 7:334-8 O '21
- Finding sulfur content in oxide. C. E. Little. *Gas Age* 49:463-5 Ap 15 '22
- Method for the simultaneous determination of sulfur and halogens in organic compounds. C. S. Leonard. *diag Am Chem Soc J* 45:255-7 Ja '23
- Quantitative method for the determination of total sulfur in biological material. M. Stockholm and F. C. Koch. *Am Chem Soc J* 45:1953-9 Ag '23
- Quelques dispositifs nouveaux pour l'analyse en série. J. Durand and J. Vernay. *il Chimie & Ind* 10:207-9 Ag '23
- Tentative method of test for detection of free sulfur and corrosive sulfur compounds in petroleum products. *Am Soc T M Pro* 21:643 '21; Same. *Nat Pet N* 13:63 N 23 '21
- Tentative method of test for sulfur in naphthas and illuminating oils. *diags Am Soc T M Pro* 21:644-7 '21; Same. *Nat Pet N* 13:63+ N 23 '21
- Sulfur black**
Preparation of sulfur black. *Color Tr J* 10:39 Ja '22
- Sulfur burner**
Sulphur burner. *Chem & Met Eng* 28:908 My 21 '23
- Sulfur chlorides**
Action of sulphur monochloride on mercaptans. G. C. Chakravarti. *Chem Soc J* 123:964-8 My '23
- Decolorizing sulphur chloride. *Chem & Met Eng* 29:411 S 3 '23
- Über die einwirkung von schwefelchlorür auf anthracen. P. Friedländer and A. Simon. *Deutsche Chem Gesell Ber* 55:3969-80 D '22; Abstract. *Chem Soc J* 124 pt 1:109-10 F '23
- Über die einwirkung von schwefelchlorür auf tertiäre aromatische arsine: konstitution des schwefelchlorürs. F. Zuckerkandl and M. Sinai. *Deutsche Chem Gesell Ber* 54:2479-89 O '21; Abstract. *Chem Soc J* 120 pt 1:901-2 D '21
- Sulfur compounds**
Sulphur compounds used in bleaching and dyeing. A. J. Hall. *Textile Col* 45:163-5 Mr '23
- Sulfur-terpene substitution compounds. W. B. Pratt. *Ind & Eng Chem* 15:178-81 F '23
- See also Mercaptans
- Sulfur dioxide**
Atmospheric pollution by industrial wastes. R. E. Swain. *Ind & Eng Chem* 15:296-301 Mr '23
- Atmospheric pollution from sulphuric acid plant fumes. J. R. Withrow. *Chem & Met Eng* 26:972-6 My 24 '22
- Boiling points of ammonia, sulfur dioxide, and nitrous oxide. F. W. Bergstrom. *diags J Phys Chem* 26:876-94 D '22
- Disposal of activated sludge. R. H. Eagles. *Pub Works* 53:111-12 Ag '22; Same. *Can Eng* 43:459-60 O 17 '22
- Effect of the various refrigerants upon the human body. *Refrig Eng* 9:141-2 O '22

- Equilibrium in the reaction between sulfur dioxide and water. F. R. Bichowsky. *diag Am Chem Soc J* 44:116-32 Ja '22
- Kinetics of the reaction between ferrous phosphate and sulphur dioxide in phosphoric acid solution. S. R. Carter and J. A. V. Butler. *diag Chem Soc J* 123:2370-80 S '23
- Leaching nonsulphide copper ores with sulphur dioxide. C. E. van Barneveld and E. S. Leaver. *flow sheets diags U S Bur Mines Tech Pa* 312:1-91, pl 1-5 '23
- Leaching ore with sulphur dioxide. J. Irving, jr. *flow sheet Eng & Min J* 114:360-4 Ag 26 '22
- Liquid sulphur dioxide process for sulphite pulp. R. H. McKee and D. E. Cable. *diag Paper Tr J* 77:101-4 O 18 '23
- Oxidising and reducing properties of sulphur dioxide; mercury chloride. L. M. Stewart and W. Wardlaw. *Chem Soc J* 121:1481-9 Ag '22
- Oxidising properties of sulphur dioxide; copper chlorides. W. Wardlaw and F. W. Pinkard. *diags Chem Soc J* 121:210-21 Ja '22
- Oxidising properties of sulphur dioxide; molybdenum sulphates. W. Wardlaw and N. D. Sylvester. *diags Chem Soc J* 123:969-80 My '23
- Reaction between ferrous phosphate and sulphur dioxide in phosphoric acid solution; the nature of the decomposition products. S. R. Carter and J. A. V. Butler. *Chem Soc J* 123:2380-4 S '23
- Sludge dewatering with hot sulphur dioxide gas and live steam. *Eng N* 87:947 D 8 '21
- Solubility of sulfur dioxide in suspensions of calcium and magnesium hydroxides. W. T. Smith and R. B. Parkhurst. *Am Chem Soc J* 44:1918-27 S '22
- Specific heats of ammonia, sulphur dioxide, and carbon dioxide. J. R. Partington and H. J. Cant. *diags Philos Mag* 6th ser 43:369-80 F '22
- Sulphate-free sulphites for standard sulphur dioxide solutions. S. L. Shenefield, F. C. Vilbrandt and J. R. Withrow. *Chem & Met Eng* 25:953-5 N 23 '21
- Sulphur-dioxide leaching of copper ores. *Eng & Min J* 113:1078-9 Je 24 '22
- Sulphur-dioxide leaching of copper ores as viewed by an Australian. B. Du Faur. *Eng & Min J* 115:669 Ap 14 '23
- Sulphur dioxide (SO₂). C. H. Herter. *Refrig W* 58:13-16 Ag '23
- Sulphuric acid plant fume problem. F. C. Vilbrandt and J. R. Withrow. *Am Inst Chem Eng Trans v* 13 pt 2:43-55; Discussion. 56-63 '20-21
- Vapor pressure of sulfur dioxide and ammonia. F. W. Bergstrom. *diags J Phys Chem* 26:358-76 Ap '22
- Viscosity and molecular dimensions of sulphur dioxide. C. J. Smith. *Philos Mag* 6th ser 44:508-11 S '22
- See also Steam engines—Binary vapor engines
- Sulfur dithiocyanate**
Schwefelrhodanür. H. Lecher and A. Goebel. *diag Deutsche Chem Gesell Ber* 55:1483-95 My '22; Abstract. *Chem Soc J* 122 pt 1:640-1 Jl '22
- Sulfur industry and trade**
American sulphur in the world's markets. *Chem Age* 30:534 D '22
- Is the sulfur market stable? A. G. Wolf. *il Chem & Met Eng* 28:1031-3 Je 11 '23
- Marketing of sulphur. A. G. Wolf. *Eng & Min J* 114:19-22 Jl 1 '22; Excerpts. *Chem & Met Eng* 27:329-30 Ag 16 '22
- Partition of world's sulphur markets. *Chem Age* 31:208 My '23
- Sicilian sulphur industry. *Chem Age (Lond)* 8:369 Ap 7 '23
- Stabilizing the sulfur market for chemical industry. H. S. Davies. *Ind & Eng Chem* 15:13-14 Ja '23
- Sulphur industry of the world. *Chem & Met Eng* 28:459 Mr 7 '23

Sulfur industry and trade—Continued

- Sulphur mines of Sicily. C. L. Sagui. diags Econ Geol 18:278-87 Ap '23
 Troubles of the Sicilian sulphur industry. Eng & Min J 114:393 Ag 26 '22
 World sulphur producers reach agreement in London. Eng & Min J 115:638 Ag 7 '23

Sulfur tetroxide

- Über die existenz des schwefeltetroxyds. F. Meyer, G. Baillieu und G. Henkel. diags Deutsche Chem Gesell Ber 55:2923-9 S '22

Sulfur thiocyanate

- Schwefelrhodanid. H. Lecher and M. Wittwer. Deutsche Chem Gesell Ber 55:1481-2 My '22

Sulfur trioxide

- La sulfatation spontanée des pierres calcaires dans les centres urbains. Florentin. Génie Civil 81:496-7 N 25 '22
 System chromium trioxide—sulphur trioxide—water. L. F. Gilbert, H. Buckley and I. Masson. Chem Soc J 121:1934-8 S '22
 The system, $\text{Fe}_2\text{O}_3\text{-SO}_3\text{-H}_2\text{O}$. E. Posnjak and H. E. Merwin. Am Chem Soc J 44:1965-94 S '22

Sulfuretted hydrogen. See Hydrogen sulfide**Sulfuric acid**

- Absorption spectra of nitrosylsulfuric acid and of the complex compounds of copper sulfate and of ferrous sulfate with nitric oxide. H. I. Schlesinger and A. Salathe. Am Chem Soc J 45:1863-78 Ag '23
 Action of sulfuric acid on nitroguanidine. T. L. Davis. Am Chem Soc J 44:868-72 Ap '22
 Apparatus for dispensing concentrated sulfuric acid and sodium hydroxide solutions. R. C. Abbott. diags Ind & Eng Chem 15:493 My '23
 Decomposition of formic acid by sulfuric acid. E. R. Schierz. Am Chem Soc J 45:447-55 F '23
 Determination of inorganic impurities in organic compounds soluble with difficulty in water, such as sulphuric acid in picric acid. T. S. Patterson and K. L. Moudgill. Soc Chem Ind J 42:211-12 My 11 '23
 Effect of velocity on the corrosion of steel in sulfuric acid. W. G. Whitman and others. diags Ind & Eng Chem 15:672-6 J1 '23
 Failure of cast and high silicon iron in fuming sulfuric acid. T. F. Banigan. J Ind & Eng Chem 14:323 Ap '22
 Handling sulphuric acid in tank car shipments. G. A. Foot. diags Can Chem & Met 6:13 Ja '22
 How sulphuric underlies production of other acids. Chem & Met Eng 29:755 O 22 '23
 Influence of gelatin on the transference numbers of sulfuric acid. A. L. Ferguson and W. G. France. Am Chem Soc J 43:2161-71 O '21
 Properties of mixtures of ethyl ether, sulphuric acid, and water. J. R. Pound. diags Chem Soc J 121:941-5 My '22
 Safe practice in handling sulphuric acid. M. F. Crass. Chem Age 29:477-8 N '21
 Solubility of iodine pentoxide in sulfuric acid. A. B. Lamb and A. W. Phillips. Am Chem Soc J 45:108-12 Ja '23
 Study of the fluidity relationships in the system, nitric acid, sulfuric acid and water. E. C. Bingham and S. B. Stone. J Phys Chem 27:701-38 N '23
 Sulphur, pyrites and sulphuric acid. Brass W 18:372-3 D '22
 Sulfuric acid and acid phosphate used in the manufacture of fertilizers. Chem & Met Eng 27:617 S 20 '22
 Sulphuric-acid treatment of petroleum products. C. J. Von Bihra. Chem & Met Eng 27:66-72 J1 12 '22
 Transference numbers of sulfuric acid by the concentration cell method. A. L. Ferguson and W. G. France. diags Am Chem Soc J 43:2150-60 O '21
 Use of sulphuric acid with alum in water purification. J. R. Baylis. Eng N 89:351 Ag 31 '22
 Viscosities of mixtures of sulfuric acid and water. F. H. Rhodes and C. B. Barbour. Ind & Eng Chem 15:850-2 Ag '23

Manufacture

- Atmospheric pollution from sulphuric acid plant fumes. J. R. Withrow. Chem & Met Eng 26:972-6 My 24 '22
 Brimstone versus pyrites. Engineer 134:196 Ag 25 '22
 Cascade system of sulfuric acid concentration. L. A. Thiele. il diags Chem Age 30:279-80 Je '22
 Concentration of waste sulphuric acid. Engineering 113:6-7 Ja 6 '22
 Design and operation in a modern fertilizer plant. C. Wadsworth, 3d. il Chem & Met Eng 29:179-83 J1 30 '23
 Fabrication de l'acide sulfurique par le procédé des chambres de plomb. P. Truchot. diags Chimie & Ind 8:289-95 Ag '22; Discussion. 9:272 F '23
 Fabrication intensive de l'acide sulfurique. P. Le Breton. il diags Chimie & Ind 7:253-6 F '22
 Graphic record of sulphuric-acid plant operation. E. B. Rupard. Chem & Met Eng 26:365-7 F 22 '22
 History of void tower sulphuric acid chambers. P. Parrish. il Chem Age (Lond) 8:692-4 Je 30 '23
 Increased capacity in sulphuric acid production. C. H. MacDowell. diags Chem Age 30:83-5 F '22
 Introduction of niter into sulphuric acid processes as mixed acid. E. L. Larison. diags Chem & Met Eng 26:642-4 Ap 5 '22
 Manufacture of sulfuric acid. L. A. Pratt. Ind & Eng Chem 15:11-13 Ja '23
 Manufacture of sulphuric acid by contact process. 128p Gt. Brit. Ministry of munitions, London '21
 Modern methods of concentrating sulphuric acid. P. S. Gilchrist. il diags Chem & Met Eng 26:1159-62 Je 21 '22; Same. Chem Age 30:257-60 Je '22
 Packed cell process for sulphuric acid. E. L. Larison. il diags plans Chem & Met Eng 26:830-7 My 3 '22
 Production of sulphuric acid and caustic soda by electrolysis of sodium sulphate. E. R. Watson. Soc Chem Ind J 42:251-2 Je 8 '23
 Raw materials for the manufacture of sulphuric acid and the manufacture of sulphur dioxide by W. Wyld. Review by P. Parrish. Chem Age (Lond) 8:560-1 My 26 '23
 Recent developments in the sulphuric-acid industry. A. M. Fairlie. il diags Chem & Met Eng 25:861-5, 917-20, 964-70, 1005-8 N 9-30 '21
 Réglage automatique du courant d'oxydants introduit dans les chambres à acide sulfurique. K. Warming. diags Chimie & Ind 9:671-3 Ap '23
 Sulfuric acid manufacture without chambers and towers. diags plan Chem Age 30:39-41 Ja '22
 Sulphuric acid by the chamber process. T. R. Horney. Brass W 17:332-4 N '21
 Sulphuric acid concentration. (Tech. records of explosives supply 1915-1918, no. 3) 91p Gt. Brit. Ministry of munitions, London '21
 Sulphuric acid manufacture. Chem Age 31:334 J1 '23
 Sulphuric acid plant fume problem. F. C. Vilbrandt and J. R. Withrow. Am Inst Chem Eng Trans v 13 pt 2:43-55; Discussion. 56-63 '20-'21
 Sulphuric acid recovery in oil refineries. L. B. Skinner. Chem & Met Eng 27:734-6 O 11 '22
 Thermal considerations in sulphuric acid concentration. F. C. Zeisberg. Chem & Met Eng 27:22-6 J1 5 '22
 U.S. government explosives plant C, Nitro, West Virginia; manufacture of sulfuric acid by the contact process. M. F. Chase and F. E. Pierce. diags J Ind & Eng Chem 14:498-503 Je '22

Statistics

- Acid production in the fertilizer industry increased during first half of this year. Oil Paint & Drug Rep 104:83 O 8 '23
 Manufacture of sulphuric acid and acid phosphates during 1922. Chem & Met Eng 28:728 Ap 23 '23

Sulfurous acid

Electrometric titration of sulfurous acid with permanganate. W. S. Hendrixson and L. M. Verbeck. *J Ind & Eng Chem* 14:1152-3 D '22
 Reaction between iodine and sulphurous acid. R. M. Macaulay. *Chem Soc J* 121:552-6 Mr '22

Sulfuryl azide

Die einwirkung von sulfurylazid auf benzol. F. Schmidt. *Deutsche Chem Gesell Ber* 55: 1581-3 Je '22
 Die einwirkung von sulfurylazid, $N_2SO_2N_2$, auf *p*-xylol. T. Curtius and F. Schmidt. *Deutsche Chem Gesell Ber* 55:1571-81 Je '22; Abstract. *Chem Soc J* 122 pt 1:776-7 Ag '22

Sulfuryl chloride

Action of sulphuryl chloride on organic substances. T. H. Durrans. *Chem Soc J* 123: 1424-9 Je '23
 Action of sulphuryl chloride on organic substances; simple monosubstituted benzenes. T. H. Durrans. *Chem Soc J* 121:44-9 Ja '22
 Researches on sulphuryl chloride; a new chlorinating agent; preparation of polychloro-derivatives of benzene. O. Silberrad. *Chem Soc J* 121:1015-22 Je '22
 Researches on sulphuryl chloride; influence of catalysts; a convenient method of chlorinating benzene. O. Silberrad. *Chem Soc J* 119:2029-36 D '21
 Über die einwirkung von sulfurylchlorid auf aromatische amine. W. Eller and L. Klemm. *Deutsche Chem Gesell Ber* 55:217-24 Ja '22

Sulgrave Manor

Sulgrave Manor house. *il Am Arch* 121:459-63 Je 7 '22

Sullivan, Louis H.

Autobiography of an idea. *Am Inst Arch J* 10:178-82, 210-13, 239-43, 270-5, 341-6, 371-6 Je-S, N-D '22

Sulphur. See Sulfur**Sulzer engines**

Four cylinder two cycle Sulzer engine. *il Marine Eng* 27:443-4 Jl '22
 Sulzer two-stroke Diesel engine. *il diags Engineering* 114:169-73, 224-7, pl 16 Ag 11, 25 '22

Sumac

Activity in leather trade increased demand for Sicilian sumac. *Chem & Met Eng* 29:250 Ag 6 '23
 American sumac. H. M. Hoar. *Textile Col* 45:591 S '23

Sumatra

See Petroleum—Sumatra; Rubber industry and trade—Sumatra

Summer business

Candy manufacturer samples his product among brides. *Ptr Ink* 119:28 Je 8 '22
 Extra push that holds up summer sales. *il System* 43:741-4+ Je '23
 How Foulds is taking macaroni out of summer slump class. *Ptr Ink* 124:17 Ag 9 '23
 How industry can avoid summer depression. E. E. Hunt. *Ptr Ink* 119:8+ My 18 '22
 How seventy-three manufacturers are fighting the summer slump. W. T. Hague. *Ptr Ink* 123:3-4+ Je 14 '23
 How 200 companies are building summer sales. *System* 44:29-32+ Jl '23
 Ideas that helped this industry kill its summer slump. F. M. Cockrell. *Ptr Ink* 119: 161-2+ Je 1 '22
 Making dull months into busy ones. *System* 44:51-3 Jl '23
 Plan that built August business. P. F. O'Shea. *il System* 44:172-4+ Ag '23
 Selling in the dog days. A. H. Deute. *Ptr Ink* 119:101-2+ Je 1 '22
 Smashing tradition in seasonal advertising. A. L. Townsend. *Ptr Ink* 119:134+ Je 29 '22
 What can I do about summer sales? *System* 44:158-61+ Ag '23
 Why we don't have a summer slump. *System* 43:775-7 Je '23
 Wilted collar selling; how manufacturers are planning to prevent the summer slump. S. C. Lambert. *Ptr Ink* 119:3-4+ My 25 '22

Summer resorts**Sanitation**

Motorized laboratory for resort sanitation work. W. C. Brockway and G. C. Stucky. *il Eng N* 89:430-2 S 14 '22

Sun

La chaleur reçue du soleil par la terre et le cycle terrestre du carbone. C. Roszak. *Génie Civil* 81:446-7 N 11 '22
 Crocker eclipse pictures show sun streamers. *il Pop Mech* 39:825 Je '23
 Sun's activity. *Sci Am* 128:245 Ap '23
 See also Eclipses, Solar; Solar heaters; Solar power; Solar radiation

Sun rooms

See Porches

Sun spots

Drouth periods and sun spots. F. E. Clements. *Sci Am* 127:25 Jl '22

Sunderland, England**Harbor**

Enlargement of Deptford dock, Sunderland. *diags plan Engineer* 133:656-8 Je 16 '22

Sunflower-seed oil

Chemical composition of sunflower-seed oil. G. S. Jamieson and W. F. Baughman. *Am Chem Soc J* 44:2952-7 D '22

Sunlight

Life-giving rays of summer sun are found to be a cure for many ills. *il Pop Mech* 40: 567-9 O '23

See also Daylight

Superchargers. See Airplane engines—Superchargers; Automobile engines—Superchargers

Supergene processes. See Ore deposits

Superheated steam

Application of superheated steam for heating. F. W. Bosch. *Power Pl Eng* 27:292 Mr 1 '23
 La chute de température dans les conduites de vapeur surchauffée. C. Pasquay. *Génie Civil* 79:377 O 29 '21; Same. *Power Pl Eng* 26:166-7 F 1 '22
 Commercial economy of high pressures and temperatures. G. A. Orrok. *diags Power* 56:684-7 O 31 '22; Same. *Mech Eng* 44:706-8 N '22; Same cond. *Elec W* 80:1205-7 D 2 '22; Same cond. *Power Pl Eng* 26:1150-2 D 1 '22; Discussion. *Mech Eng* 45:64-5 Ja '23; *Power* 56:914 D 12 '22; *Elec W* 81:104 Ja 13 '23
 Comparative heat losses from saturated and superheated steam lines. *Heat & Ven* 20: 54-5 Ag '23
 Early experiments with superheated steam. R. A. Holme. *Power* 57:407 Mr 13 '23
 Economy of superheater steam. *il Ind Management (Lond)* 9:365-6 Je 14 '23
 Effect of superheat on boiler performance. R. A. Holme. *Power* 58:259-60 Ag 14 '23
 Effect of superheat on steam and fuel consumption. R. A. Holme. *Power* 58:286 Ag 21 '23
 Effect of superheated steam on cylinder lubrication. W. F. Osborne. *Power* 56:352-3 S 5 '22
 Effect of superheated steam on non-ferrous metals used in locomotives. H. Fowler. *il Engineering* 114:374 S 22 '22; Same. *Metal Ind* 20:461-2 D '22; Abstract. *Brass W* 18: 291 O '22; Abstract. *Mech Eng* 44:833-4 D '22
 Experiments on superheated steam. Stromeier. *Engineer* 135:241-2 Mr 2 '23
 Fallacy of superheating exhaust steam. W. F. Schaphorst. *Heat & Ven* 19:45 O '22
 High pressure and temperature steam lines; abstracts. B. N. Broido. *Power Pl Eng* 27: 221-4 F 15 '23; *Power* 56:913-14 D 12 '22; *Mech Eng* 45:289-93; Discussion. 293-4 My '23
 High temperatures in industrial processes. P. W. Foster, jr. *il diags Chem & Met Eng* 26:458-62 Mr 8 '22
 Influence of valves and steam traps on the economic steam velocity for superheated-steam turbines. O. Denecke. *diags Mech Eng* 45:594-6 O '23

Superheated steam—Continued

- Joule-Thomson effect in superheated steam. R. V. Kleinschmidt. *Mech Eng* 45:165-7 Mr '23
- Lower line loss with superheated steam. *Power* 58:233 Ag 7 '23
- Measurement of superheat. B. O. Snyder. *diags Power Pl Eng* 26:515-16 My 15 '22
- Meeting competition by using superheated steam. H. B. Oatley. *Marine Eng* 28:287-9 My '23
- Merits of superheated steam. R. June. *il Gas Age* 51:667-70 My 26 '23
- Method of de-superheating steam. A. G. Christie. *diag Power* 58:366 S 4 '23; Discussion. 58:544-5, 661, 780-1 O 2, 23, N 13 '23
- Power problems of vital interest to executives. J. T. Beard. *il Ind Management* 66:211-16 O '23
- Saturated vs. superheated steam for oil pumping. W. G. Stubbs. *Power* 56:121 Jl 25 '22
- Specific heat of superheated steam for pressures from 20 to 30 atmos. and for saturation temperatures up to 350 deg. cent. O. Knoblauch and E. Raisch. *Mech Eng* 44:538 Ag '22
- Superheat means fuel economy. *Marine R* 53:133-6 Ap '23
- Superheated steam. *Paper Tr J* 76:60+ My 10 '23
- Superheated steam causes failure of cast iron. *Sci Am* 127:155 S '22
- Superheated steam for heating only. *il Power Pl Eng* 25:1199-1200 D 15 '21
- Textile plant superheats exhaust steam for process work. *diags Power* 55:965-6 Je 20 '22
- Value of raising steam temperatures. J. R. LeVally. *diag Blast F & Steel Pl* 11:112-13 Ja '23
- Why superheated steam causes failure of cast iron. *Sci Am* 127:331 N '22
- Superheaters**
- Design of an internally fired superheater. W. R. Woolrich. *diags Power* 54:717-18 N 8 '21
- Economizers, feed water heaters, superheaters and air preheaters for paper mill power plants. W. F. Schaphorst. *il Paper Tr J* 74:32+ Mr 9 '22
- Economy of superheater steam. *il Ind Management (Lond)* 9:365-6 Je 14 '23
- Elesco superheater. *il Power Pl Eng* 26:730 Jl 15 '22
- Fire tube superheaters save fuel on railroad tugs. *il Marine Eng* 27:129-30 F '22
- Fuel economy by the adoption of scientific management in steam generation and utilization. D. Brownlie. *Eng & Ind Management* 6:685-7, 719-20 D 15-22 '21
- Merits of superheated steam. R. June. *il Gas Age* 51:667-70 My 26 '23
- Multi-flow steam superheaters. *il diags Engineer* 136:376-7 O 5 '23
- Practical ideas for the engineer. *il Marine R* 52:89-90 F '22
- Steam boilers and superheaters have again increased in size. *Power* 57:4-5 Ja 2 '23
- Super-heat in the steel industry. C. A. Brandt. *diags Blast F & Steel Pl* 11:334-6 Je '23
- Superheaters: desirable temperatures; precautions in operation. *il diags Power Pl Eng* 26:32-3 Ja 1 '22
- Uptake superheater for Scotch marine boilers. *diags Engineer* 136:134 Ag 3 '23
- See also* Locomotives—Superheaters; Superheated steam
- Failures**
- Explosion of a superheater. *Engineering* 114:62 Jl 14 '22
- Superheating**
- Pressure-volume relation of superheated liquids. K. L. Wismer. *J Phys Chem* 26:301-15 Ap '22
- Superior, Wisconsin**
- Harbor**
- Great Northern builds new dock at Superior. H. A. Gerst. *il diags plans Ry Age* 74:1311-14 Je 2 '23

Superior castings company, Dayton

- Operate co-operative foundry. E. H. Tingley. Foundry 51:735-6 S 15 '23
- Superphosphate.** *See* Phosphates
- Superpower conference**
- Super-power conference. New York city. Comm & Fin Chr 117:1742-3 O 20 '23; Elec W 82:827-8 O 20 '23; Eng N 91:653 O 18 '23; Power 58:667-8 O 23 '23; Am Inst E E J 42:1227-8 N '23; N E L A Bul 10:643-50 N '23
- Superpower stations.** *See* Electric plants—Interconnection
- Superpower surveys**
- Boston-Washington power project. Min & Sci P 123:734 N 26 '21
- Great Lakes power survey. R. F. Schuchardt. map N E L A Bul 10:342-4 Je '23
- Important position of coal in super-power plan. E. J. Gealy. *Coal Age* 24:245-6 Ag 16 '23
- Murray report on hydro power. *Can Eng* 42:430 Ap 25 '22
- National superpower scheme. F. G. Baum. map Elec W 81:1273-5 Je 2 '23
- Notable plan for uniting and developing eastern electric power service—the super-power report. Comm & Fin Chr 113:2044-6 N 12 '21
- Performance and cost of the superpower system. A. R. Wellwood. map Power 54:725-30 N 8 '21
- Some aspects of the superpower project. L. Bell. Elec W 78:1125-6 D 3 '21
- Superpower advocates strive to answer criticisms. *Ry Age* 71:1189-92 D 17 '21
- Superpower and the textile industry. G. H. Perkins. *Textile World* 60:3253-4 D 3 '21
- Super-power project. C. T. Chenery. *Annalist* 19:5-6 Ja 2 '22
- Superpower project for region between Boston and Washington. *Munic Eng* 61:170-2 N '21
- Superpower report recites gains from power consolidation. *Eng N* 87:783 N 10 '21
- Superpower study in Pittsburgh district. W. W. Handy. Elec W 80:1263-7 D 9 '22
- Superpower survey. map Power Pl Eng 25:1185-7 D 15 '21
- Super-power survey of the Pacific Northwest. *il charts map J Elec* 50:320-9 My 1 '23; Abstracts. Elec W 81:1137-8 My 19 '23; Power 57:873-4 My 29 '23
- Superpower system. H. Flood, jr. *Am Inst E E J* 41:287-91 Ap '22; Same. Sibley J 36:96-100 My '22; Excerpts. Power Pl Eng 26:275-7 Mr 1 '22
- Superpower system. L. E. Imlay. *Am Inst E E J* 41:292-7 Ap '22
- Superpower system as an answer to a national power policy. W. S. Murray. *Gen Elec R* 25:72-4; Discussion. 74-6 F '22
- Superpower system for the region between Boston and Washington. W. S. Murray and others. *U S Geol S Prof Pa* 123:1-261, pl 1-11 '21
- United States super-power survey. W. S. Murray. *diag Engineer* 134:563-4 N 10 '22
- What the superpower survey means to the United States. H. Goodwin, jr. maps *Gen Elec R* 25:77-87 F '22
- See also* Electric plants—Interconnection
- Super-pressure steam**
- Benson super-pressure plant. P. W. Swain. *il diags plan Power* 57:796-801, 842-6 My 22-29 '23; Abstract. Elec R (Lond) 92:955-6 Je 15 '23; Discussion. Power 58:190-1 Jl 31 '23
- Supersaturated steam**
- Supersaturated condition as shown by nozzle flow. A. L. Mellanby and W. Kerr. *Engineering* 113:832-5 Je 30 '22; Excerpts. Engineer 133:714-15 Je 30 '22
- Supersaturation limit. H. M. Martin. *Engineering* 115:607 My 18 '23; Same cond. *Mech Eng* 45:440 Jl '23
- Supply and demand**
- Demand and methods of its creation. V. W. Hartley. N E L A Bul 8:645-8 N '21
- Supply and demand. H. D. Henderson. 181p Harcourt, Brace & co., N.Y. '22
- Supply trains.** *See* Railroads—Supply trains

Suprarenine. See Adrenaline

Supreme court of the United States. See United States—Supreme court

Suretyship and guaranty

Annotated cases on the law of suretyship. A. A. Stearns and W. M. Cook. 740p W. H. Anderson co., Cincinnati '22

Co-partners in the contract; relations of the contractor, the surety and the banker. G. L. Stevick. Eng & Contr (R & S) 59:775-8 Ap 4 '23

Court and contract bonds. A. E. Kirkpatrick. Can Eng 43:598-600 D 5 '22

Law of suretyship. A. A. Stearns. 3d ed. 722p W. H. Anderson co., Cincinnati '22

Liability of a master plumber who gives a written guaranty of a friend's account at a supply house. Dom Eng 102:327-8 F 17 '23

Surety bonds. E. C. Lunt. 370p Ronald press '22

Surety companies and contractors' bonds. W. H. Hall. Can Eng 42:192-4 Ja 31 '22

Uses of surety bonds in business. E. C. Lunt. Administration 4:276-84 S '22

Surface combustion

Principles of surface combustion. M. Goodman. Il diags Gas Age 48:867-8 D 24 '21

Recent developments in flameless combustion. E. Sinkinson. Il Chem & Met Eng 29:804-5 O 29 '23

Surface combustion, with special reference to recent developments in radiopharm heating. W. A. Bone. Il diags Gas J (Lond) 162: 423-8 My 16 '23; Abstract. Chem Age 31:254 Je '23

Bibliography

American fuels. R. F. Bacon and W. A. Hamor. v. 2 p.1091-4 McGraw-Hill '22

Surface energy

Heat of wetting of silicic gel. W. A. Patrick and F. V. Grimm. diag Am Chem Soc J 43:2144-50 O '21

High pressure due to adsorption, and the density and volume relations of charcoal. W. D. Harkins and D. T. Ewing. Am Chem Soc J 43:1787-1802 Ag '21

Solubility and surface energy of calcium sulfate. M. L. Dundon and E. Mack, jr. Am Chem Soc J 45:2479-85 N '23

Surface energy of several salts. M. L. Dundon. diag Am Chem Soc J 45:2658-66 N '23

Vaporization in steps as related to surface formation. W. D. Harkins and L. E. Roberts. Am Chem Soc J 44:653-70 Ap '22

Surface tension

Absorption from the gas phase at a liquid-gas interface. T. Iredale. diag Philos Mag 6th ser 45:1088-1100 My '23

Adsorption and orientation of the molecules of dibasic organic acids and their ethereal salts in liquid-vapor interfaces. H. H. King and R. W. Wampler. Am Chem Soc J 44: 1894-1902 S '22

Chemical reactions on surfaces. I. Langmuir. Gen Elec R 25:445-54 Jl '22

Determination of surface tension from the maximum pressure in bubbles. S. Sugden. diags Chem Soc J 121:858-66 My '22

Electrification at the boundary between a liquid and a gas. H. A. McTaggart. diag Philos Mag 6th ser 44:386-95 Ag '22

Influence of the surface-tension on the efflux of a liquid in jet form. J. Hartmann. diags Phys R 20:728-44 D '22

Measurement of surface tensions. R. B. Elder. J Phys Chem 26:558-62 Je '22

Method of calculating fluidity, surface tension and reaction (equilibrium) pressure. H. J. M. Creighton. J Fr Inst 193:647-55 My '22

Separation of the components of petroleum; surface tension. P. F. Gordon. Soc Chem Ind J 42:411T-13T O 19 '23

Shape of the capillary curve formed between a flat glass plate and a uniform circular cylinder, and the accurate determination of the surface tension of liquids. J. E. P. Wagstaff. diag Philos Mag 6th ser 45:88-94 Ja '23

Surface-energy and adsorption in flotation. A. W. Fahrenwald. Il diags Min & Sci P 123:227-34 Ag 13 '21; Abstract. Chem & Met Eng 25:295 Ag 17 '21; Discussion. Min & Sci P 123:498, 631-2; 124:83 O 8, N 5 '21, Ja 21 '22

Surface phenomena in sucrose solutions. R. R. Butler. Chem Soc J 123:2060-5 Ag '23

Surface tension and adsorption phenomena in flotation. A. F. Taggart and A. M. Gaudin. Min & Met 188:37-8 Ag '22

Surface tension and flotation phenomena. D. W. Leeke and R. H. Jarvis. Eng & Min J 114:321-2 Ag 19 '22; Discussion. 114:1019-20; 116:5 D 9 '22, Jl 7 '23

Surface tension and surface energy and their influence on chemical phenomena. R. S. Willows and E. Hatschek. 3d ed. 134p J. & A. Churchill, London '23

Surface tension balance. R. G. Green. Il Ind & Eng Chem 15:1024-5 O '23

Surface tension of alkaline soap solutions. E. B. Millard. diag Ind & Eng Chem 15:810-11 Ag '23

Surface tension of mixtures of alcohol and water at 25°. L. L. Bircumshaw. Chem Soc J 121:887-91 My '22

Surface tension of petroleum. C. K. Francis and H. T. Bennett. diag J Ind & Eng Chem 14:626-8 Jl '22

Surface tension of soap solutions for different concentrations. A. L. Narayan and G. Subrahmanyam. Philos Mag 6th ser 43:663-71, pl 15 Ap '22

Surface-tension phenomena and electrostatics. R. H. Jarvis and D. W. Leeke. diags Eng & Min J 114:17-18 Jl 1 '22

Thermodynamical theory of surface tension. S. Sano. Philos Mag 6th ser 43:649-58 Ap '22

Value of the surface tension of iron sulphide. E. J. L. Holman. Iron & Steel Inst J 107: 517-23 no 1 '23

See also Capillarity; Interfacial tension

Surfacing machines. See Facing tools

Surge tanks

Novel features of surge tank Pit river power plant no. 1; illustrations. Power Pl Eng 27: 163 F 1 '23

Surge tank and spillway combined on Pit river plant no. 1. Il diags plan Eng N 91: 630-2 O 18 '23

Surge-tank problem. Mech Eng 44:541-2, 764, 857-8; 45:202-3 Ag, N-D '22, Mr '23

Surge tanks. B. F. Jakobsen. diags plan Am Soc C E Pro 48:853-69 Ap '22; Same, without appendix. Eng & Contr 58:247-8 S 13 '22

Surgery

Keeping track of surgical operations with a motion-picture camera. Il Sci Am 126:45 Ja '22

New moving-picture camera records operations. Il Pop Mech 36:820-1 D '21

Overhauling the human mechanism. W. A. McGarry. Sci Am 126:94 F '22

Surges. See Electric waves

Surgical instruments

Novel surgical tool. Sci Am 128:326 My '23

Surgical lamps. T. Maltgren. Illum Eng Soc 17:25-8; Discussion. 35-43 Ja '22

Surplus

Sources and treatment of surplus. T. N. Beckman. J Account 35:343-9 My '23

Surplus of corporations. P. W. Pinkerton. Administration 4:437-44, 588-96; 5:68-76, 213-20, 335-42, 459-64 O-N '22, Ja-Apr '23

Survey markers

Establishing of plant base lines as an aid to the engineer. J. L. Underhill. diags Can Eng 42:490-1 My 16 '22; Same. Eng & Contr 58:181-2 Ag 23 '22

Survey of current business (periodical)

Statistical facts from the government that help increase profits. Ptr Ink 124:100+ Ag 30 '23

Surveying

Agricultural surveying and drainage laboratory manual. D. Scoates. 3d ed. 85p Daniels Scoates. College Station, Tex. '22

Surveying—Continued

- Chaining on boundary survey. R. W. Cautley. Can Eng 45:164-6 J1 24 '23
- Easy method of obtaining the true bearing of a line by observation of the North Star. E. S. M. Lovelace. Can Eng 43:385-7 S 26 '22
- Hints on engineering field work. J. E. Rapuano. diags Elec Ry J 60:321-3 S 2 '22
- Locating a curve with an inaccessible P. I. in thorn-brush country. W. W. Armstrong. diags Eng N 89:804 N 9 '22
- Measurements by eighths of an inch. Eng N 91:447 S 13 '23
- Method of setting slope stakes with rod, hand level and tape. P. McCombs. diags Eng N 89:303-4 Ag 24 '22; Discussion. 89:490; 90:174-5 S 21 '22, Ja 25 '23
- Mineral land surveying. J. Underhill. 3d ed., rev. & enl. Wiley '21
- New device reduces survey cost; automatic time switches for signal lamps. Can Eng 45:214 Ag 7 '23
- Ontario-Manitoba boundary. J. W. Pierce. Can Eng 45:146-8 J1 17 '23
- Practical surveying for surveyors' assistants, vocational, and high schools. E. McCullough. 2d ed., rev. 401p Van Nostrand '21
- Quick measurements for pole-line extensions made in automobile. N. L. Dolph. il Elec W 78:1228 D 17 '21
- Review of important developments in the science of cadastral resurveys as executed by the United States government, with ethical discussion thereof. H. R. Farnsworth. il Am Soc C E Pro 47:405-42 N '21; Discussion. 48:99-101, 367-72, 703-5 Ja-Mr '22
- Simple directions explaining how to read a survey. J. L. Michaels. diags Bldg Age 45:64-5 Je; 62-3 J1; 67-9 Ag; 70-1 S; 64-5 O; 56-7 N; 73-5 D '23
- Some of the legal aspects of land surveying. M. E. Chamberlin. Eng N 90:1079 Je 21 '23
- Sources of error occurring in boundary surveys. C. V. Hodgson. Eng N 89:517-18 S 28 '22
- Survey checked by taking side-shot angular measurements. G. C. Love. plan Eng N 88:863 My 25 '22
- Surveying without instruments on Siberian railway. W. Ewald. diags Eng N 90:202-3 F 1 '23
- Surveys for drainage districts in Arkansas. O. G. Baxter. Eng N 88:317-18 F 23 '22
- Taking a solar observation. S. L. Lloyd. Eng & Min J 114:552 S 23 '22
- Three-point-problem applied to transit surveys. J. R. Jahn. diags Eng N 88:684-5 Ap 27 '22
- Time signals tell where you are; how surveyors use Arlington time in laying out boundary lines. S. R. Winters. il Wireless Age 11:31+ N '23
- Treatise on the law of surveying and boundaries. F. E. Clark. 631p Bobbs '22
- Tutorial land and mine surveying. T. Bryson. 186p Pitman '21
- Use of geodetic control for city surveys. H. C. Mitchell. 80p U.S. Coast and geodetic survey, Washington '23
- Value of geodetic control in city survey work. H. C. Mitchell. Eng N 89:101-3 J1 20 '22
- See also Earthwork—Tables, calculations, etc.; Geodesy; Hydrographic surveying; Leveling; Magnetic surveying; Meridian; Mine surveying; Photographic surveying; Plane table; Railroad surveying; Roads—Surveying; Surveying instruments; Topographical surveying; Triangulation; United States—Geological survey*
- Tables, calculations, etc.**
- Computation of areas mechanically. R. Conover. diags Eng N 90:758 Ap 26 '23
- Form for computing areas mechanically. J. R. Jahn. Eng N 89:709-10 O 26 '22
- Plotting transit lines by natural tangents and cotangents. F. R. Molther. diags Eng N 89:1032-3 D 14 '22
- Slide rule solution of the cosine formula. J. R. Jahn. diags Eng N 90:759 Ap 26 '23
- Solving a land-subdivision problem. E. P. Arneson. Eng N 88:1033 Je 22 '22

Use of perfect squares in survey work. J. R. Jahn. Eng N 89:894 N 23 '22

Surveying, Aerial

- Aerial mapping by the Geological survey. C. H. Birdseye. Aerial Age 16:230-2 My '23
- Aerial photographic mapping developed for municipal and other engineering services. il maps Eng N 87:596-9 O 13 '21; Discussion. 87:828; 88:746 N 17 '21, My 4 '22
- Aerial photography as an aid in map making [hand drawn] with special reference to water power surveys. G. H. Matthes. il diags Am Soc C E Pro 43:1824-45 D '22; Discussion. 49:117-22 Ja '23
- Aerial photography as applied to surveying. J. B. Mandeville. il Eng Soc W Pa 37:189-206; Discussion. 207-20 My '21
- Aerial survey of the Mississippi delta. S. R. Winters. il Aviation 12:103-4 Ja 23 '22
- Aeroplane surveying. Engineering 114:407 S 29 '22
- Air photos as plane-table sheets aid mapping. H. C. Fiske. maps Eng N 89:552-4 O 5 '22; Discussion. 89:1087 D 21 '22
- Assembling an aerial survey. il Sci Am 128:93 F '23
- Exploring by seaplane. A. M. Narraway. Can Eng 45:546 N 14 '22
- Forest mapping and estimating from the air. E. Wilson. il map Aviation 12:538-9 My 8 '22
- Limitations of aerial surveying outlined. P. J. Barry. diags Can Eng 44:197-9 F 6 '23
- Log of an aerial survey. B. E. Nowland. il Pop Mech 39:689-93 My '23
- Los Angeles mapped from air to aid traffic studies. C. H. Richards. Eng N 88:961-3 Je 8 '22
- New air surveying device. Aviation 12:232 F 20 '22
- Progress in air surveying. E. L. Jones. Eng N 88:110 Ja 19 '22
- Reclamation work in Carrot river district. E. F. Drake. Can Eng 43:556 N 21 '22
- Surveying from the air. E. L. Jones. il diags J Fr Inst 193:461-90 Ap '22
- Surveying with aircraft photographs; with discussion. J. W. Bagley. il W Soc E J 27:351-61 D '22
- Uses of aerial photographs in map making. G. S. Smith. il Eng N 88:194-6 F 2 '22; Discussion. 88:746-7 My 4 '22
- Winged surveyors; what aerial photography is doing for industry and science. S. M. Fairchild. il map Sci Am 126:157-60+ Mr '22

See also Autocartograph

- Surveying, Magnetic.** See Magnetic surveying
- Surveying, Marine.** See Hydrographic surveying
- Surveying, Photographic.** See Photographic surveying
- Surveying, Railroad.** See Railroad surveying
- Surveying, Topographical.** See Topographical surveying
- Surveying instruments**
- Greek and Roman engineering instruments. R. C. S. Walters. diags Engineer 132:637-9 D 16 '21
- New surveying instrument: the reconnoitre-graph. C. E. Wuensch. il diags Eng & Min J 116:271-3 Ag 18 '23
- See also Altiplanigraph; Levels; Plane table; Protractors*
- Surveys, Market.** See Market surveys
- Suspended railroads.** See Cableways
- Suspension bridges.** See Bridges, Suspension
- Suspensions**
- Determination of suspended impurities in gases. W. W. Scott. diags J Ind & Eng Chem 14:432-3 My '22
- Determination of the particle size of pigments. W. W. Vogt. India Rubber W 66:347-9 F '22
- Law of distribution of particles in colloidal suspensions, with special reference to Perrin's investigations. A. W. Porter and J. J. Hedges. diags Philos Mag 6th ser 44:641-51 S '22

Suspensions—Continued

- Simple theory of the nephelometer. P. V. Wells. *Am Chem Soc J* 44:267-76 F '22
See also Sedimentation

Swaging

- Hot swaging. F. R. Daniels. *il diags Mach* 28:521-6 Mr '22
 Hot swaging under a drop hammer. H. Crawford. *il Am Mach* 58:741 My 17 '23

Swaging machines

- Langelier roller-cage-type swaging machine. *il Am Mach* 55:981 D 15 '21; *Iron Age* 108:1416 D 1 '21; *Mach* 28:331-2 D '21

Swain, Robert E.

- Portrait. *Chem Age* 30:217 Mv '22

Swan, James

- James Swan, noted naval architect. *por Marine Eng* 28:519-20 S '23

Sweat. *See* Perspiration**Sweden**

- Swedish year-book, 1922. 253p Almquist & Wikalls Boktryckeri-A-B, Stockholm, Sweden

See also Automobile industry and trade—Sweden; Cost of living—Sweden; Cotton manufacture—Sweden; Cotton trade—Sweden; Electric industries—Sweden; Electric railroads—Sweden; Factory inspection—Sweden; Finance—Sweden; Housing—Sweden; Hydroelectric plants—Sweden; Labor and laboring classes—Scandinavia; Labor and laboring classes—Sweden; Machine tool industry—Sweden; Mines and mineral resources—Sweden; Paper industry and trade—Sweden; Textile industry and trade—Sweden; Unemployment—Sweden; Wages—Sweden

Legislative reference bureau

- Swedish reference bureau. P. Widegren. *Special Lib* 13:160-1 N '22

Navy

See Warships—Sweden

Sweepers, Track. *See* Railroads—Track sweepers; Street railroads—Track sweepers**Sweet-potato sirup**

- Sweet-potato sirup—a byproduct industry. *Chem & Met Eng* 29:183 J1 30 '23

Sweet potatoes

- Formation of maltose in sweet potatoes on cooking. H. C. Gore. *Ind & Eng Chem* 15:938-40 S '23

Advertising

- Advertised sweet potato makes its bow. *Ptr Ink* 118:137 Mr 23 '22

Sweeteners. *See* Dulcin; Saccharin**Swelling**

- Drying and swelling of gelatin; preliminary note. S. E. Sheppard and F. A. Elliott. *il Am Chem Soc J* 44:373-9 F '22

- Relation of anomalous osmose to the swelling of colloidal material. F. E. Bartell and L. B. Sims. *diags Am Chem Soc J* 44:289-99 F '22

- Studies on the swelling of cotton cellulose—cotton hairs in solutions of sodium hydroxide. G. E. Collins and A. M. Williams. *diag Textile Inst J* 14:T287-95 S '23; Same. *Color Tr J* 13:182-5 N '23; Same. *Soc Dyers & Col J* 39:368-71 D '23

- Swelling of agar-agar. F. Fairbrother and H. Mastin. *Chem Soc J* 123:1412-24 Je '23

- Swelling of cotton cellulose. G. E. Collins. *Textile Inst J* 14:T264-72; Bibliography. T273-6 Ag '23; Same. *Am Dyestuff Rep* 12:669-77 S 10 '23; Same cond. *Soc Dyers & Col J* 39:303-7 O '23

Swimming pools

- Bacterium coli and bacterium aerogenes in swimming pools. M. Levin and C. H. Werkman. *Eng & Contr (W W)* 59:98-9 Ja 10 '23; Same. *Am Water Works Assn J* 10:620-2 J1 '23; Same, without table. *Can Eng* 44:499 My 15 '23

- Building a swimming pool in record time. W. B. Ferguson. *il plan Management & Adm* 6:33-8 J1 '23

- Large open air swimming pool at Camp Dodge, Iowa. L. N. Hintgen. *il diags plan Eng N* 91:518-19 S 27 '23

- Municipal outdoor swimming pools; design and construction features of more common type and description of German floating bath. C. Elliott. *diags plans Eng & Contr* 58:16-19 N 29 '22

- Municipal swimming pools. *il diags plans Dom Eng* 102:26-30 Ja 6 '23

- New method of disinfecting swimming pools. *Dom Eng* 102:106-7 Ja 13 '23

- Outdoor swimming pool, Riverside Park, Edmonton. R. J. Gibb. *il diags plans Can Eng* 44:329-33 Mr 20 '23

- Rules for sanitation and safety of swimming pools; abstract. R. Hilscher. *Am Inst Arch J* 11:75+ F '23

- Sanitation of bathhouses. W. P. Gerhard. *il diag plans Arch & Bldg* 54:43-5, 55-8, 71-3 My-J1 '22

- Sterilization of swimming-pool supplies. J. Van Benschoten. *diag Can Eng* 42:477 My 9 '22

- Super-sanitary swimming pool installation. E. Cunningham. *diags Dom Eng* 97:621-4+ D 31 '21

- Swimming pool on estate of R. H. White, esq., Cleveland, Ohio; view. *Am Arch* 123:320p Ap 11 '23

- Swimming pool standards. A. M. Crane. *il Eng & Contr (W W)* 59:1316-20 Je 13 '23

- Water sanitation at Krug Park swimming pool, Omaha, Nebraska. R. N. Perkins. *Am Water Works Assn J* 9:284-94 Mr '22

Swimming pools, Concrete

- How world's largest swimming tank was built of concrete. *il plan Concrete* 23:152-3 O '23

- World's largest indoor swimming pool. W. B. Lawler. *diags plans Am Soc Heat & V E J* 27:815-22 N '21

Failures

- Inadequate design causes failure of concrete swimming pool. *il diag plan Eng N* 91:383 S 6 '23

Painting

- Painting concrete swimming pools. *Munic Eng* 65:46 J1 '23

Swindlers and swindling

- Bait for the business man. S. H. Adams. *Nation's Business* 10:20-1 My '22

- Buncoing the banker. S. H. Adams. *Nation's Business* 10:22-4 Je '22

- Idaho platinum bubble bursts; thorough investigation discloses absence of the metal from the Coeur d'Alenes. *Eng & Min J* 116:250 Ag 11 '23

- Inventory and the grifter at the summer amusement parks. E. H. Smith. *il Sci Am* 129:78-9+ Ag '23

- Swindler gets the retort courteous. *Ptr Ink* 121:116+ D 28 '22

See also Oil promoters

Swine houses

- Artistic and practical hog house. *il plan Bldg Age* 44:36 F '22

- Hog house of unusual design. *il plan Bldg Age* 44:48 S '22

Switchboards

- Brookhirst switchgear. *il Elec R (Lond)* 90:137-8 Ja 27 '22

- Central control of motors. O. F. Long. *il diags Elec R* 80:180-4 Ap '22

- Concrete switchboard installation. L. S. Loomie. *diags Elec J* 19:111-12 Mr '22

- Crowding of switchboard wiring avoided. D. D. Clarke. *il Elec W* 82:766 O 13 '23

- Developments in power station design. *il diags Engineer* 133:608-10 Je 2 '22

- Flexible exciter switchboard. H. Mulford. *diags Power* 55:628-9 Ap 18 '22

- Guards on switchboard prevent mistakes. G. C. Heckman. *il Elec W* 81:1280 Je 2 '23

- High tension switchboards. H. E. Poole. 114p Pitman '21

- Installation details of switchboards and control pits. W. F. Sutherland. *il diags plans Elec W* 80:763-7 O 7 '22

- Latest in ironclad switchgear. *il Electrician* 87:713 D 2 '21

Switchboards—Continued

- Locating switchboard faults. O. D. Smalley. diags Power Pl Eng 26:424-5 Ap 15 '22
- Meter panelboards for large consumers. V. I. E. Wiegand. diags Elec W 80:415-17 Ag 26 '22
- Midland electric manufacturing co.'s works. il Elec R (Lond) 89:807-10 D 16 '21
- Motor service panels with standardized equipment. C. H. Matthews. il diags Elec R 80:271-4+ Je '22
- Motor-starting pillars and panels. il Engineering 115:268, 270 Mr 2 '23
- New switchgear. il Engineer 132:573-4 N 25 '21
- Old and modern switchboard; designs in use between 1890 and 1922. il Ind Eng 80:462 O '22
- Recent tendencies in switchgear design and manufacture. J. R. Cowie. il diag Electrician 88:778-82 Je 30 '22
- Safety inclosed sectional switchboard. il Power 56:127 J1 25 '22
- Safety lighting-feeder switchboard for industrial plant. F. W. McGraw. Elec R 80:91 F '22
- Safety switchboard for New York stock exchange. il Power Pl Eng 26:884 S 1 '22
- Selection of switchboard equipment. S. W. Mauger. il diag Power Pl Eng 27:680-3 J1 1 '23
- Sheet steel cubicles and truck type switching equipment in steel mills. G. P. Wilson. il diags Elec J 19:386-90 S '22
- Stonework cubicle gear at Southport power house. il Electrician 88:508 Ap 28 '22
- Switchboard construction that combines safety and flexibility for extensions. V. K. Stalford. il Ind Eng 80:353 J1 '22
- Switchboard which simplifies testing motors by the pump-back method. E. C. Soares. diag Ind Eng 81:557 N '23
- Switching equipment for the Hell Gate station. C. M. Moss and J. B. MacNeill. il diags Elec J 19:221-6 My '22
- Switching equipment for the Queenston station. L. B. Chubbuck. il diag Elec J 19:324-8 Ag '22

Switches, Electric. See Electric switches

Switches, Railroad. See Railroads—Switches, frogs, etc.; Street railroads—Switches, frogs, etc.

Switzerland

See also Architecture—Switzerland; Electric plants (central stations)—Switzerland; Hydroelectric plants—Switzerland; Railroads—Switzerland; Railroads and state—Switzerland; Street railroads—Switzerland

Commerce

Export trade of Switzerland. Chem & Met Eng 26:176 Ja 25 '22

Switzerland—exports of machinery for working metal, wood, stone, etc. Am Mach 57:958-9 D 21 '22

Switzerland—imports of machinery for working metal, wood, stone, etc. Am Mach 57:1003 D 28 '22

Trade with Switzerland. Engineering 113:624-5 My 19 '22

See also Advertising—Switzerland

Economic conditions

Economic conditions in Switzerland. W. E. Boverl. Am Mach 55:830-1 N 24 '21

Swiss technical notes. Eng N 89:446-7 S 14 '22

See also Cost of living—Switzerland; Prices—Switzerland

Industries and resources

Industry in Switzerland. A. Lambercier. Am Mach 55:810-11 N 17 '21

See also Automobile industry and trade—Switzerland; Electric industries—Switzerland; Machinery industry—Switzerland; Rubber industry and trade—Switzerland

Swope, Gerard, 1872-

Sketch. por Elec W 79:216 F 4 '22

Sydney, New South Wales**Bridges**

- New 3,800 foot bridge at Sydney harbor. diag Eng & Contr 57:295 Mr 29 '22
- Proposed cantilever bridge at Sydney. diags plans Engineering 112:880-3 D 30 '21
- Sydney harbor bridge. P. J. Risdon. il Sci Am 127:180-1+ S '22

Rapid transit

- Rolling stock for Sydney metropolitan electric service. il diag Elec Ry J 60:189-92 Ag 5 '22
- Sydney tramway system. il map Elec Ry J 61:71-5 Ja 13 '23

Sewerage

- Ocean out-fall sewer syphon under the Middle harbour, Sydney, N.S.W. diags plan Engineering 115:547-50, 556 My 4 '23

Water supply

- Cordeaux and Avon reservoirs for Sydney water supply. il (supp) diags map Engineer 135:570-3 Je 1 '23

Syphon diaphragms

- Syphon diaphragms; a method for predicting their performance for purposes of instrument design. H. N. Eaton and G. H. Keulegan. Aerial Age 15:370-2 Je 26 '22

Symbiosis

- Symbiosis in the forest. W. B. McDougall. Sci Am 127:255 O '22

Symbols

- Standardization of abbreviations and symbols. Refrig Eng 9:235-6 Ja '23
- Symbolization of expenditures as an aid to executive control. D. T. Farnham. Administration 3:230-4 F '22
- Symbolizing standard parts. C. C. Ross. Ind Management 64:345 D '22

See also Electric symbols

Symbols, Mnemonic

- Mnemonic stores classification. Management Eng 2:193-6 Mr '22
- Mnemonic tool classification. il Management Eng 4:141-3 F '23

Symmetry. See Design

Synagogues

- Synagogues, New York city; views. Arch & Bldg 55:pl 16-21 Ja '23

Synchronous converters. See Converters, Synchronous

Synchronous motors. See Electric motors, Synchronous

Synchroscope

- Getting acquainted with the synchronism indicator. R. Brown. il diag Power 57:1014-15 Je 26 '23; Discussion, 58:305 Ag 21 '23

Synchroscope connections should be checked before using. E. C. Soares. diags Elec W 79:484-5 Mr 11 '22

Syndicalism

- Criminal syndicalism and sabotage. D. F. Callahan. Monthly Labor R 14:803-12 Ap '22

See also Gild socialism; Industrial unionism; Socialism

Syndlogger

- Making open-hearth bottom. il Iron Age 112:674 S 13 '23

Synthesis

- Constitution of the so-called dithio-urazole of Martin Freund; new methods of synthesis, isomerism and poly-derivatives. P. C. Guha. Am Chem Soc J 44:1510-17 J1 '22

New type of synthesis; the reaction between halogen-alkyl sulfonates and organomagnesium halides. H. Gilman and N. J. Beaber. Am Chem Soc J 45:839-42 Mr '23

Organic syntheses; annual. v 1 84p Wiley '21

Progress toward the artificial synthesis of carbohydrates and proteins. R. W. Thatcher. J Ind & Eng Chem 14:1146-7 D '22

Über die synthese von vinylidenglykol-diäthyläther (keten-acetal), ein beitrage zur aufklärung des reaktionsverlaufes der acetessigester-synthese. H. Scheibler and H.

Synthesis—Continued

Ziegner, Deutsche Chem Gesell Ber 55:789-803 Mr '22; Abstract. Chem Soc J 122 pt 1: 426-7 My '22

See also Wurtz-Fittig synthesis

Synthetic organic chemical manufacturers association of the United States

Dye men form new association. Oil Paint & Drug Rep 100:23+ sec 1 O 31 '21

Organization. Textile World 60:2639+, 3486 N 5, D 17 '21

Possibilities of organic chemical association.

C: H. Herty. Textile World 61:853 F 4 '22

2d annual meeting, New York, March 8. Textile World 63:1703+ Mr 10 '23; Oil Paint

& Drug Rep 103:20+ Mr 12 '23; Color Tr

J 12:160-4 Ap '23

Synthetic pig iron. See Pig iron**Synura**

Synura and other organisms in Catskill water supply. W: W. Brush. il map plan Eng N 88:266-71 F 16 '22

Syphilis

La lutte pour l'abolition de la syphilis. Génie

Civil 81:43-5 J1 8 '22

Recent contributions of chemistry to medicine.

E. H. Volwiler. Ind & Eng Chem 15:906-7

S '23

Relation of syphilis to railway accidents. A.

E. Chace and G: A. Hays. Ry Age 73:1103-5

D 9 '22

Rôle of syphilis in industrial disablement: analysis of 291 physical surveys. P. Edmunds.

J Ind Hygiene 4:380-5 Ja '23

Sur l'amélioration de la condition sanitaire

des ouvriers. L: Le Chatelier. Soc Ing Civils

Bul 75:53-63 Ja '22

Syracuse, New York**Rapid transit**

Commission fixes fares. Elec Ry J 60:531 S 30 '22

Commission orders increase in Utica and decrease in Syracuse. Elec Ry J 60:650-1 O 14 '22

Water supply

Measurement of water supply by the Pitot

tube in Syracuse, New York. H. R. Star-

bird. diag Am Water Works Assn J 9:403-7

My '22

Syria

Valeur économique de la Syrie et du Liban.

Chimie & Ind 9:206-12 Ja '23

See also Mines and mineral resources—

Syria

Syrups. See Sirups**T****T slots**

Standardization of T-slots. H. Cadwallader, jr. diags Mach 29:62-3 S '22

Tables

Chippendale card table showing Chinese influence; measured drawing by R. C. Raymond. Arch Forum 36:167 Ap '22

Tables, Computing. See Ready reckoners; also

subdivision Tables, calculations, etc., under various subjects, e.g. Building—Tables, calculations, etc.; Earthwork—Tables, calculations, etc.; Electric engineering—Tables, calculations, etc.; Hydraulics—Tables, calculations, etc.; Ventilation—Tables, calculations, etc.

Tablets, Bronze. See Bronze tablets**Tabulating machines**

A. B. & A. introduces tabulating machine checks. il Ry Age 75:76-7 J1 14 '23

Établissement et ventilation des feuilles de paye et analyse des prix de revient par l'emploi de machines automatiques. il Génie Civil 82:398-401 Ap 28 '23

Mechanical accounting for stores inventories.

L. H. Angstadt. Management Eng 4:267-8

Ap '23

See also Calculating machines

Tachograph

O-Z hand tachograph. il Am Mach 58:168 Ja

25 '23; Power 57:180 Ja 30 '23; Mach 29:493

F '23

Teloc locomotive speed indicator and recorder.

il diags Engineering 113:131-3 F 3 '22

Tachometers

Coats hand tachometer. il Am Mach 57:712

N 2 '22

New frequency meter and station tachometer.

R. C. Clinker. il Elec R (Lond) 90:44-5 Ja

13 '22

Stroboscopic method of speed measurement.

V. A. Fynn. il Am Inst E E J 41:764-70 O

'22

Tachometer for indicating high speeds. P. M.

Mueller. diags Mach 29:893-4 J1 '23

Tachometers, Airplane

Airplane tachometers. G. E. Washburn. il

diags U S Nat Advisory Com for Aero-

navitics 1921:667-89 '23

Testing

Testing of airplane tachometers. R. C. Syl-

vander. il diags U S Nat Advisory Com for

Aeronautics 1921:690-713 '23

Tachoscope

O-Z direct-reading tachoscope. il Mach 29:

1001 Ag '23

Tackle blocks

Ropes, chains and blocks for shipbuilding

purposes. H. H. Thayer. Marine Eng 27:790-2

D '22

Tacoma, Washington**Rapid transit**

Pass in Tacoma. C. V. Allen. Elec Ry J 60:

1016-17 D 30 '22

Water supply

Tacoma builds semi-circular conduit of

gunite; with cost tables. il diags Eng N

88:906-9 Je 1 '22

Tailings

Replogle magnetic tailing re-treatment plant.

W. R. Canton. il diags Eng & Min J 115:

849-50 My 12 '23

Re-treatment of Rand tailings. Eng & Min J

112:815 N 19 '21

Tailing air lift of the Chino copper co. H. G.

S. Anderson. il diags plan Eng & Min J

112:806-11 N 19 '21

Treatment of native-copper tailing by the

Calumet & Hecla. Eng & Min J 115:983 Je

2 '23

Utilization of waste material. A. W. Allen.

Eng & Min J 115:492-3 Mr 17 '23

Taxation

Taxation of tailing. Eng & Min J 115:611 Ap 7

'23

Takamine, Jokichi, 1854-1922

Sketch. A. Harden. Chem Soc J 123:954-5 Ap

23

Sketch. F. O. Taylor. por J Ind & Eng Chem

14:990 O '22

Talbot's bands. See Spectrum**Talc**

Development and production in the talc in-

dustry of Italy. Oil Paint & Drug Rep 101:

85+ Mr 28 '22

Electrical insulators from powdered talc.

Chem & Met Eng 28:1126 Je 25 '23

Marketing of talc. R. B. Ladoo. Eng & Min

J 113:963-5 Je 3 '22

Modern talc mill at Gouverneur, N.Y. E: H.

Robie. flow sheets il Eng & Min J 116:359-

63 S 1 '23

Secondary crushing of talc. Chem & Met Eng

29:440 S 10 '23

Talc. Min & Sci P 123:889 D 24 '21

Talc. R. B. Ladoo. Eng & Min J 115:103 Ja

20 '23

Talc and its uses. Paper 29:24-5 N 2 '21

Talc and soapstone in 1921. E: Sampson. U S

Geol S Min Res of U S 1921, pt 2:97-103 '22

Talc—Continued

Talc and soapstone; their mining, milling, products and uses. R. B. Ladoo. flow sheets il diags U S Bur Mines Bul 213:1-133, pl 1-12 '23

Talc as a flux for high tension insulator porcelains. R. Twells, jr. Am Cer Soc J 5: 675-84 O '22

Talc industry in 1921. R. B. Ladoo. Eng & Min J 113:97 Ja 21 '22

Why is talc? Sci Am 129:111 Ag '23

See also Otatite; Soapstone

Tampa, Florida**Bridges**

Bridge with a thousand spans between Tampa and St Petersburg. F. W. Wilson. il Pop Mech 39:502-4 Ap '23

Tamping machines

Care and handling of mechanical tie tampers. Eng & Contr (Ry) 59:909-11 Ap 18 '23

Jackson electric tie tamper. il Ry R 72:463-5 Mr 10 '23; Eng & Contr (Ry) 59:1139 My 16 '23

Labor saving machines for railway construction and maintenance. N. M. Clougher. il Eng & Contr 57:305-7 Mr 29 '22

Pneumatic tie tampers. W. H. Armstrong. il Ry R 72:888-91 My 26 '23

Road and trench tamping and breaking machine. il Engineering 112:853 D 23 '21

Tanganyika

Tanganyika. C. C. Miller. U S Bur For & Dom Com Trade Information Bul 86:1-17 '23

Tangier, Morocco

Les travaux du port de Tanger; concours pour l'adjudication des travaux d'infra-structure. diags plans Génie Civil 81:179-81 Ag 19 '22

Commerce

Le commerce de Tanger en 1919-1920-1921. Chimie & Ind 8:1347-50 D '22

Tank blocks. See Glass manufacture**Tank cars**

American petroleum institute drafts rules covering compensation for tank car abuses. Nat Pet N 14:59 Ap 5 '22

Coal car ruling won't hit oil tank cars. Nat Pet N 15:100+ S 5 '23

Colonel Dunn asks support of gasoline men in increasing safety of tank cars. Nat Pet N 15:113+ My 2 '23

Egyptian state railway tank cars. il Ry Mech Eng 96:272 My '22

Eliminating sources of trouble in tank car construction; report of A. R. A. committee. diags Ry R 70:975-6 Je 24 '22

Handling milk in specially constructed tank cars. il Ry Mech Eng 95:763-4 D '21

Repairs and maintenance of tank cars. S. F. Beasley. Ry Mech Eng 97:26-7; Discussion. 27-31 Ja '23

Report of the Mechanical division committee on tank cars. Ry Age 74:1625-6 Je 23 '23; Same. Ry Mech Eng 97:465-6 Jl '23; Same cond. Ry R 72:1150 Je 30 '23

Rotary tank car for transportation of bulk materials. R. Welcker. diags Ry R 71:902-4 D 23 '22

Tank car outages can be figured closely without higher mathematics. W. K. Halbert. Nat Pet N 15:53-4 F 28 '23

Tank car rentals advanced 30 per cent since November, 1922. W. K. Halbert. Nat Pet N 15:91+ Mr 28 '23

Tank cars for transportation of muriatic acid lined with unvulcanized rubber. J. M. Rowland. il Chem Age 30:299-301 Jl '22

Tank cars injected into assigned car case. Nat Pet N 15:47+ O 31 '23

Sewing thread specifications. Textile World Up-to-date distribution and accounting for gasoline; special 10,000 gallon cars and standard storage tanks on Missouri Pacific. L. V. Hyatt. diags Ry R 70:1008-10 Je 24 '22

Vacuum-bottle milk-car. il Sci Am 126:202 Mr '22

See also Oil measurement; Tank trucks

Valves

Bottom outlet valve indispensable says American petroleum institute committee report. Nat Pet N 15:22-3 My 30 '23

Donomarent safety tank car outlet valve. diags Ry Age 74:1377 Je 9 '23; Ry Mech Eng 97:306 My '23

Improved outlet valves prevent tank car leaks. il Oil Paint & Drug Rep 102:42D Jl 17 '22

Improvement on tank car discharge outlets. diags Ry R 73:591 O 20 '23

New outlet valves for tank cars. il Ry R 70: 953-5 Je 17 '22

Tank-ships lines

Five tankers transferred from Mexican to intercoastal service. P. Wagner. Nat Pet N 15:25-6 My 9 '23

Tank ships

Efficiency in operation of oil tankers. T. J. Smith. il Marine Eng 28:477-9 Ag '23

Electrically driven ship. Am Inst E E J 42: 539 My '23

Modern tank steamships. J. G. Pew. diags Min & Met 192:15-17 D '22

Motor tank ship Zoppot. il diags plans Marine Eng 27:113-20 F '22

Motor tanker Conde de Churruca. Sci Am 126:7 Ja '22

Oil tanker discharge. diags Ind Management (Lond) 9:345 My 31 '23

Southern Pacific oil tanker Tamiahua. H. Greger. il diags Marine Eng 27:308-12 My '22

Tank-motorship Oljaren, of 7,700 tons deadweight, built by Aktiebolaget Götaaverken, Göteborg, for the Rederiaktiebolaget Transatlantic, Göteborg, Sweden. diags plans Marine Eng 28:86-7 F '23

Tank trucks

Invite criticisms on proposed code of tolerances for tanks. Nat Pet N 15:51+ O 10 '23

New oil truck carries tank on trailer. il Pop Mech 36:832 D '21

Tanks

Getting the most out of industrial tanks. C. L. Hubbard. il diags Factory 29:398-400+ O '22

Sectional cast-iron tank for coal and ashes. diags Power 55:729 My 9 '22

Tank construction, relating principally to the design, manufacture and erection of tanks in mild steel. E. G. Beck. 265p Emmott & co., Manchester '21

Tank of 40,000 gal. capacity supported by timber bents moved on flat cars. il Eng N 88:1034 Je 22 '22

Three thousand gallon cooling tank. W. Scholl. diags Sheet Metal Worker 14:566-7 Ag 17 '23

See also Acid tanks; Air tanks; Airplanes—Fuel tanks; Electric transformers—Tanks; Gas holders; Imhoff tanks; Oil tanks; Pickling tanks; Septic tanks; Sewage tanks; Standpipes; Surge tanks; Tank cars; Tank ships; Tank trucks; Water tanks

Failures

Air tank explosion. R. L. Hemingway. il Power Pl Eng 25:1156-7 D 1 '21

See also Air receivers

Measurement

Handy circular tank chart. W. F. Schaphorst. chart Power Pl Eng 27:1053 O 15 '23

How many gallons in any cylindrical tank? Sanitary & Heat Eng 100:250 O 19 '23

Measuring the contents of a horizontal tank. J. L. Bogert. Power 56:724-5 N 7 '22

Methods used in calculating tank volumes. J. H. Pound. diags Power Pl Eng 27:1022-4 O 15 '23

Rapid and accurate method for the calculation of storage tanks. J. W. McDavid. diags Chem & Met Eng 27:156-7 Jl 26 '22

Tanks (military science)

Amphibious military tank. il Sci Am 128:90 F '23

Tanks (military science)—Continued

Les chars d'assaut et le matériel à chenilles. L. A. Legros. *diags* Soc Ing Civils Bul 74: 412-48, pl 14-15 Jl '21; Abstracts (Tanks and chain-track artillery). Engineer 132: 592-4, 625-7, 659-60 D 2-16 '21; Automobile Eng 12:77-81, 107-12 Mr-Apr '22

Tank equipped with radio latest war machine. *il* Pop Mech 38:927 D '22

War tank that travels by land or water. H. S. White. *il* Pop Mech 39:172-3 F '23

Tanks, Concrete

Concrete in the construction of chemical-manufacturing facilities. A. C. Irwin and F. W. Ashton. *Ind & Eng Chem* 15:562-5 Je '23

Concrete tanks for inflammable liquids. *il* Concrete 23:154 O '23

Concrete tanks for storage of mineral oils. E. D. Cole. *il* *diags* Concrete 19:213-16 D '21

Construction of concrete fuel oil tanks. *Can Eng* 45:131-3 Jl 10 '23

Fuel oil storage in concrete tanks. E. L. Heidenreich. *il* *diags* Concrete 19:222-5 D '21

Greenburg. Ind., gas and electric co. stores fuel oil in concrete tank. R. F. Lee. *Munic Eng* 64:172-3 Ap '23

Unusually large tank for testing working models of ships. O. Colberg. *diags* Eng N 91:139 Jl 26 '23

See also Cement storage; Coal tanks, Concrete; Septic tanks, Concrete; Water tanks, Concrete

Repair

Repairing leaks in concrete tank when subjected to external water pressure. R. W. Horne. *Eng N* 91:444 S 13 '23

Specifications

Tentative recommended practice and standard specifications for concrete fuel oil tanks. *Am Concrete Inst Pro* 19:420-7 '23; Same. *Eng & Contr (Bldgs)* 59:954-8 Ap 25 '23

Testing

Further tests of concrete tanks for oil storage. G. A. Smith. *il* *diag* plans *Am Concrete Inst Pro* 17:22-39 '21

Tanks, Dipping. See Dipping tanks**Tanks, Steel**

Air hoists facilitate tank erection. *il* *Iron Age* 111:1320 My 10 '23

Erecting tanks downward. *Pub Works* 54:157 My '23

Life of buried steel fuel oil tanks. *Am Arch* 121:531-2 Je 21 '22

Role of steel tanks is important. J. D. Knox. *il* *Iron Tr R* 70:1795-7+ Je 22 '22

Welded tank joints. *il* *Eng N* 91:522 S 27 '23

Welds galvanized steel storage tanks. *il* *Iron Tr R* 71:1409 N 23 '22

See also Gas holders

Advertising

Old successes revived when sales of other lines slacken; farm trade for Columbian steel tank company. P. S. Wells. *Ptr Ink* 122:25-8 Ja 4 '23

Tanks, Wood

Effect of chemical solutions on various woods used in tanks. S. J. Hauser and C. Bahlman. *Chem & Met Eng* 28:159-63 Ja 24 '23; Same. *Brass W* 19:47-51 F '23

Important considerations in the construction of wood tanks. C. Pennucci. *il* *Chem & Met Eng* 28:676 Ap 16 '23

Spray for wooden tanks. C. L. Olson. *diag* plan *Eng & Min J* 115:193 Ja 27 '23

Tanks, if of durable wood, last long with low cost for upkeep; how erected. *Coal Age* 20: 964-5 D 15 '21

Wood tanks for the paper-making industry. L. E. Long. *diag* *Chem & Met Eng* 28:677 Ap 16 '23

Tanneries

Electric drive in tanneries. J. A. Horne. *il* *Gen Elec R* 25:618-24 O '22

New plant of the Badger state tanning co. *il* *diags* plans *Power Pl Eng* 26:547-53 Je 1 '22

Safety devices and measures

What mechanical guarding has done in one tannery. *il* *Nat Safety N* 7:13-16 Ja '23

Tanning

A. C. S. division of leather chemistry; problems of tanning. *Chem & Met Eng* 29:575-6 S 24 '23

Art and science of leather manufacture. F. L. Seymour-Jones. *il* *Chem & Met Eng* 28: 200-5, 400-3 Ja 31, F 28 '23

Chemistry of lime liquors used in the tannery. W. R. Atkin. *J Ind & Eng Chem* 14: 412-14 My '22

Concentration factor in the combination of tannin with hide substance. A. W. Thomas and M. W. Kelly. *Ind & Eng Chem* 15:928 S '23

Critical study of bating. J. A. Wilson and G. Daub. *il* *J Ind & Eng Chem* 13:1137-41 D '21

Direct determination of the plumping power of tan liquors. J. A. Wilson and A. F. Gallun, Jr. *Ind & Eng Chem* 15:376-7 Ap '23

Effect of change of acidity upon the rate of diffusion of tan liquor into gelatin jelly. J. A. Wilson and E. J. Kern. *J Ind & Eng Chem* 14:45-6 Ja '22

From hide to leather. S. Hirst. *Soc Chem Ind J (Chem & Ind)* 42:140-2 F 16 '23

Home tanning and leather making guide. A. B. Farnham. 176p A. R. Harding, Columbus, O. '22

Influence of hydrogen-ion concentration in the fixation of vegetable tannins by hide substance. A. W. Thomas and M. W. Kelly. *bibliog* *Ind & Eng Chem* 15:1148-53 N '23

Influence of sodium chloride, sodium sulfate, and sucrose on the combination of chromic ion with hide substance. A. W. Thomas and S. B. Foster. *J Ind & Eng Chem* 14:132-3 F '22

Iron tannage. Te-Pang Hou. [Reprinted from *Journal of American leather chemists assn.*, Feb., Mar., April, May, 1921] 85p Te-Pang Hou, New York '21

Nature and control of tannery processes. J. R. Lorenz. 52p Shoe & leather reporter, Boston '22

Physiological and histological studies on flayed skins. A. Seymour-Jones. *Chem & Met Eng* 25:1051-4 D 7 '21

Practical tanning. A. Rogers. 699p H. C. Baird & co., New York '22

Preparation of skin for tanning. J. A. Wilson. *J Ind & Eng Chem* 14:834-6 S '22

Properties and action of enzymes in relation to leather manufacture. J. T. Wood. *J Ind & Eng Chem* 13:1135-7 D '21

Studies in chrome tanning. A. W. Thomas and M. W. Kelly. *J Ind & Eng Chem* 14: 621-3 Jl '22

Sur la neutralisation du cuir au chrome. L. Meunier and P. Chambard. *Chimie & Ind* 9:259-63 F '23

Le tannage au chrome à un bain à partir de l'alun de chrome. P. Chambard and L. Meunier. *Chimie & Ind* 8:325-9 Ag '22

Tanning industry. E. L. Judkins. *il* *Gen Elec R* 25:441-4 Jl '22

Technical problems of the tanning industry; power requirements of machinery. W. E. Broughton and J. J. Brophy. *il* *Am Inst E E* J 41:646-9 S '22

Theory of vegetable tanning. H. G. B. de Jong. *Chem Soc J* 124 pt 1:821-2 Ag '23

Time and concentration factors in the combination of tannin with hide substance. A. W. Thomas and M. W. Kelly. *J Ind & Eng Chem* 14:292-4 Ap '22

Time reduction in the tanning process; abstract. R. O. Phillips. *Soc Dyers & Col J* 39:57-8 F '23

See also Leather

Bibliography

Review of analytical work applicable to leather and tanning, 1920-1921. F. P. Veitch and R. W. Frey. *J Ind & Eng Chem* 14:828-9 S '22

Tanning machinery**Manufacture**

Make tanning machine parts. P. Dwyer. *il Foundry* 51:811-16 O 15 '23

Tanning materials

Activity in leather trade increased demand for Sicilian sumac. *Chem & Met Eng* 29:250 Ag 6 '23

Colloid chemistry of basic chrome solutions. F. L. Seymour-Jones. *Ind & Eng Chem* 15:75-8 Ja '23

Colloid content of vegetable tanning extracts. A. W. Thomas and S. B. Foster. *J Ind & Eng Chem* 14:191-5 Mr '22

La culture des acacias tannifères dans nos possessions de l'Afrique du nord. E. Jalade. *Chimie & Ind* 8:696-700 S '22

Electrophoresis of chromic solutions. F. L. Seymour-Jones. *Ind & Eng Chem* 15:265-6 Mr '23

Der gerbstoff der edelkastanie. K. Freudenberg and H. Walpuski. *Deutsche Chem Gesell Ber* 54:1695-1700 S '21; *Abstract. Chem Soc J* 120 pt 1:799-800 N '21

L'industrie des extraits de châtaignier, son passé, son évolution récente, son avenir. E. Depasse. *il Chimie & Ind* 7:244-52, 458-64 F-Mr '22

Leaching of tannin materials: Thornycroft patent. J. A. Reavell. *il diags Chem Age (Lond)* 8:506-8 My 12 '23

Manufacture of wood extract. J. A. Reavell. *il diags Soc Chem Ind J* 42:245-50 Je 8 '23

Mineral tannages. F. L. Seymour-Jones. *J Ind & Eng Chem* 14:832-4 S '22

New tannin material found in Mexico; plant known as sangre de drago. *Chem & Met Eng* 29:161 JI 23 '23

Raumisomer catechine; mitteilung über gerbstoffe und ähnliche verbindungen. K. Freudenberg, O. Böhme and L. Purrmann. *diag Deutsche Chem Gesell Ber* 55:1734-47 Je '22; *Abstract. Chem Soc J* 122 pt 1: 756-7 Ag '22

Synthetic tannins. R. B. Croad. *Soc Chem Ind J* 42:203-7 My 11 '23

Synthetic tannins, their synthesis, industrial production and application. G. Grasser. 143p Van Nostrand '22

Tanning material from waste sulphite liquor. *Chem Age* 31:189-90 Ap '23

Tanning materials, with notes on tanning extract manufacture. A. Harvey. 182p Van Nostrand '21

U. S. production of dyestuffs and extracts and tanning materials by decades. *Oil Paint & Drug Rep* 101:45 Mr 28 '22

Vegetable tanning. A. W. Thomas. *J Ind & Eng Chem* 14:829-31 S '22

See also Catechol; Catechutannins; Divi-divi

Analysis

Effect of hydrogen-ion concentration upon the analysis of vegetable tanning materials. J. A. Wilson and E. J. Kern. *J Ind & Eng Chem* 14:1128-9 D '22

Review of analytical work applicable to leather and tanning, 1920-1921. F. P. Veitch and R. W. Frey. *bibliog J Ind & Eng Chem* 14:825-9 S '22

Patents

Mordants, oils, detergents, solvents and other substances. J. Y. Johnson. *Soc Dyers & Col J* 39:51 F '23

Synthetic tanning agents. *Chem & Met Eng* 26:705; 27:994 Ap 12, N 15 '22

Tanning research

Mechanical improvements vs. fundamental research in the leather industry. J. A. Wilson. *Chem & Met Eng* 27:465 Ag 30 '22; Discussion. M. M. Merritt. 27:775 O 18 '22

Tannins

Crystalline synthetic tannins. P. Karrer and H. R. Salomon. *Chem Soc J* 122 pt 1: 266-7 Mr '22

Electrical charge of vegetable tannin particles. A. W. Thomas and S. B. Foster. *Ind & Eng Chem* 15:707-8 JI '23

Gelatin-tannin reaction. A. W. Thomas and A. Frieden. *bibliog Ind & Eng Chem* 15: 829-41 Ag '23

Der gerbstoff der einheimischen eichen. K. Freudenberg and E. Vollbrecht. *Deutsche Chem Gesell Ber* 55:2420-3 S '22; *Abstract. Chem Soc J* 122 pt 1:1046 N '22

Loss of tannins during the drying of myrobalans. A. N. Srivastava. *Soc Chem Ind J* 42:272 Je 22 '23

Measurement of the colour of brown solutions, with special reference to tannin extracts. H. R. Procter. *Soc Chem Ind J* 42: 73-9 Mr 2 '23

Occurrence of a crystalline tannin in the leaves of the Acer ginnala. A. G. Perkin and Y. Uyeda. *Chem Soc J* 121:66-76 Ja '22

Synthesis of the depsides and the tannins. H. Hepworth. *Soc Chem Ind J* 42:41-3 F 2 '23

Tannin of Chinese galls; abstract. P. Karrer, H. R. Salomon and J. Peyer. *Soc Dyers & Col J* 39:82 Mr '23

Zur kenntnis des chinesischen tannins. K. Freudenberg and W. Seilasi. *Deutsche Chem Gesell Ber* 55:2813-16 S '22

See also Mangrove

Analysis

Analysis of tannins and tannin mordants. I. Ginsberg. *Am Dyestuff Rep* 12:307-12 Ap 23 '23

Tantalates

Tantalate and some columbites from Custer county, South Dakota. W. P. Headden. *Am J Sci* 5th ser 3:293-9 Ap '22

Tantalum

Graphs for calculation of electron emission from tungsten, thoriated tungsten, molybdenum and tantalum. S. Dushman and J. W. Ewald. *Gen Elec R* 26:154-60 Mr '23

Investigations into the analytical chemistry of tantalum, columbium, and their mineral associates: the use of tartaric acid in the analysis of natural tantalocolumbates; the separation of zirconium from tantalum and from columbium. W. R. Schoeller and A. R. Powell. *Chem Soc J* 119:1927-35 D '21

Metallic tantalum now commercially available. *Chem & Met Eng* 27:704 O 4 '22

Separation of columbium and tantalum by means of selenium oxychloride. H. B. Merrill. *Am Chem Soc J* 43:2378-83 N '21

Story of the production and uses of ductile tantalum. C. W. Balke. *Chem & Met Eng* 27:1271-3 D 27 '22; Same. *Ind & Eng Chem* 15:560-2 Je '23; *Excerpt (Uses)*. *Brass W* 19: 338 O '23

Tantalum dichloride

Über die chloride des zweiwertigen molybdäns, wolframs und tantal. K. Lindner and others. *Deutsche Chem Gesell Ber* 55:1458-65 My '22; *Abstract. Chem Soc J* 122 pt 2: 509-10 JI '22

Tantalum pentachloride

Die reduktion des tantalpentachlorids. O. Ruff and F. Thomas. *Deutsche Chem Gesell Ber* 55:1466-73 My '22

Tapa cloth

South Sea savages wonderful craftsmen; made cloth and mats of finest texture. F. Burnett. *il Textile Col* 45:651-2 O '23

Taper pins

Can taper pin practice be standardized? *Am Mach* 58:255-6 F 15 '23

Taper rope. See Wire rope**Tapers**

Calculating diameter at intersection of two tapers. W. G. Holmes. *diags Mach* 29:54 S '22

Formula for finding tapers. A. McAlpine. *diags Foundry* 51:496a Je 15 '23

Setting lathe for turning tapers. D. Campbell. *diag Mach* 28:904 JI '22

Shall we standardize tapers? *Am Mach* 56:551-2, 595-7, 627-9 Ap 13-27 '22

Standard tapers. L. D. Burlingame. *diags Am Mach* 57:130-3 JI 27 '22

Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 56:591-4 Ap 20 '22

Tapers—Continued

- Turning special tapers. W. H. Bath. Am Mach 56:715-16 My 11 '22
Turning tapers on old lathes. D. A. Hampson. il Am Mach 58:809 My 31 '23

Tapestry

- Gobelin tapestries reproduced. Textile World 63:911 F 3 '23
Romance in making tapestries. il Color Tr J 10:137-40 Ap '22
Tapestry styles and room design. P. Ackerman. Arch Rec 50:413-15 N '21

Advertising

- Created a new sales outlet to speed turnover. R. Crothers. Ptr Ink M 6:56+ Ap '23

Tapping

- Drilling and tapping head. H. A. Peters. diags Mach 28:727 My '22
Points to be observed in machine tapping. H. H. Armstrong. Mach 28:290 D '21
Tapping and tap design. J. C. Nicholson. diags Mach 28:665 Ap '22

Tapping machines

- Anderson dial-feed multiple-spindle tapping machine. il Mach 28:498-9 F '22; Iron Age 109:264 Ja 26 '22
Barnes heavy duty drill for tapping pressed steel spuds. il Iron Age 111:342 F 1 '23
Burke no. 10 automatic tapping machine. il Am Mach 57:860 N 30 '22; Mach 29:325 D '22
Dial fed tapper equipped with hopper of the Anderson die machine co. il Iron Age 112:265 Ag 2 '23
Etico high-speed tapping attachment. il diags Mach 28:839-40 Je '22
Fox three-way semi-automatic tapping machine. il Am Mach 58:853 Je 7 '23
Gateman pneumatic oscillating tapping machines. il Mach 30:153 O '23; Iron Age 112:762 S 20 '23
Landau sensitive multiple drilling and tapping machine. il Iron Age 109:1761 Je 22 '22
Langelier drilling and tapping machines for terminal boxes. il Am Mach 58:606-7 Ap 19 '23
Nut-tapping machine of Belgian design. A. L. Valentine. il diags Mach 29:146-8 O '22
Tapping fixtures. diags Mach 29:602-3 Ap '23

Taps

- Burbaker spiral-fluted staybolt tap. il Am Mach 58:675 My 3 '23
Collapsible taps. R. G. Mumma. il Mach 29:706-8 My '23
Etico high-speed tapping attachment. il diags Am Mach 56:941 Je 22 '22
Tapping and tap design. J. C. Nicholson. diags Mach 28:665 Ap '22
Victor receding-chaser collapsible pipe taps. il Am Mach 57:665-6 O 26 '22

Standards

- Commercial standards as adopted by the Tap and die institute. Am Mach 57:883-90 D 7 '22
Standard dimensions for taper taps adopted by the Tap & die institute. diags Mach 29:620 Ap '23
Standardization of tap thread tolerances. Mach 29:607-8 Ap '23
Standards for taper taps and nut taps. C. M. Pond. Mach 30:77 S '23; Same. Am Mach 59:414 S 13 '23

Tar

- Application of electrical precipitation to the wood-distillation process. L. F. Hawley and H. M. Pier. il diags Chem & Met Eng 26:1031-3 My 31 '22
La composition des goudrons distillés à haute et basse température; abstract. J. Marcusson and M. Picard. Chimie & Ind 7:901 My '22
Consistency of road tars. D. C. Broome. Soc Chem Ind J 42:192-4 My 4 '23
Continuous dehydration of tar at the Glastonbury corporation gas-works. D. E. Garlick. il Gas J (Lond) 164:255 O 24 '23
Dehydration of tar in the laboratory. W. J. Huff. J Ind & Eng Chem 15:1123 D '21
Indene and styrene—constituents of carburetted water-gas tar. R. L. Brown and R. D. Howard. Ind & Eng Chem 15:1147 N '23

- Preparation and uses of tar and its simple crude derivatives. W. W. Odell. il diags U S Bur Mines Tech Pa 268:1-84 '22
Present day tars for pipe coating. W. R. Conard. Am Water Works Assn J 10:304-8 Mr '23

- Procédés modernes pour le traitement du lignite et de ses dérivés. C. Berthelot. il diags Chimie & Ind 7:855-63, 1079-89 My-Je '22

- Tar distillation. W. A. Walmsley. Engineering 114:64 Jl 21 '22

- Tar distillation; Weiss patent. diags Chem & Met Eng 27:370 Ag 23 '22

- Tar impregnation for concrete drain tile. E. C. E. Lord. Eng N 90:828 My 10 '23

- Tars, new and old. S. R. Church. diags plan N E Water Works Assn J 36:571-86 D '22; Excerpt. Eng N 90:293-4 F 15 '23; Same. Chem & Met Eng 28:447 Mr 7 '23

- Über den braunkohlen-vergaserte. S. Ruhemann. Deutsche Chem Gesell Ber 54:2565-8 N '21; Abstract. Chem Soc J 122 pt 1:22-3 Ja '22

- Ueber stahlwerksteer. E. Herzog. diags Stahl & Eisen 43:1063-73 Ag 16 '23

- Use of tar in road construction. Pub Works 52:403-5 Je 3 '22

- L'usine de distillation continue du goudron. G. Illert. diags Chimie & Ind 8:817 O '22

- Water-gas tar emulsions. W. W. Odell. U S Bur Mines Tech Pa 304:1-49 '23; Excerpts. Gas Age 49:561-2+ My 6 '22; Am Gas J 119:228 S 15 '23

- See also Coal tar; Coal-tar products; Roads, Tarred

Specifications

- Tentative specifications for tar for surface treatment, etc. Am Soc T M Pro 21:686-701 '21

Tar distillation plants

- Distillation of coke-oven tar and the recovery of some of its products. W. J. Huff. diags Chem & Met Eng 26:113-18 Ja 18 '22

- Modern tar distillation plant. W. J. Huff. flow sheet il plans Chem & Met Eng 28:720-4 Ap 23 '23; Same cond. Gas Age 52:33-6 Jl 14 '23

Tar extractor

- Disposal of waste from gas plants; report of 1921. A. G. A. committee. F. W. Sperr, jr. diags plans Am Gas Assn Technical sec v 3:571-90 '21; Same. Gas Age 48:566-71 N 5 '21; Discussion. Am Gas Assn Technical sec v 3:590-5 '21

- Galusha tar extractor. il Iron Age 110:283 Ag 3 '22

- Successful tar emulsion separator of the Metcalfe-Shaw process. diags Gas Age 48:572-3 N 5 '21

- Using clean cold producer gas. C. F. Kaufman. Iron Tr R 70:267-70 Ja 26 '22

Tar sands. See Bituminous materials**Tardiness (employees)**

- How 21 firms handle tardiness. A. V. Levering. System 41:539-42+ My '22

- Punching the clock. J. Flodin. Ind Management 66:95-6 Ag '23

- Why our employees get down on time. F. I. Charles. System 42:219 Ag '22

Tariff

- Colonial tariff policies. 869p U. S. Tariff comm., Washington '22

- Customs regulations. (Brochure no. 26) 131p International chamber of commerce, 33, Rue Jean-Goujon, Paris '23

- Customs tariffs levied on electrical and allied machinery in British dominions and colonies, and foreign countries. Elec R (Lond) 93:300-1, 335-6 Ag 24-31 '23

- L'orientation mondiale de la politique douanière. M. Lambert. Chimie & Ind 8:909-12 O '22

- Post-war tariffs. T. O. Marvin. Textile World 61:3363+ Je 3 '22

- Tariff tinkering by treaty. H. Chalmers. Nation's Business 11:46-8 Ap '23

Tariff—Continued

- Tariffs: a study in method. T. E. G. Gregory. 518p Lippincott '21
See also Commerce; Drawbacks; Free harbors; Free trade and protection; Octroi
- Australia**
 Australia and her tariff. Am Ind 22:44 D '21
- Belgium**
 Import and export schedule of Belgium. U S Bur For & Dom Com misc ser 107:1-28 '22
- Canada**
 Canadian textile tariff a blow. C. H. Brooks. Textile World 63:3676 Je 2 '23
 How will Canada's preferential tariff work? W: L: Edmonds. Annalist 19:607 Je 5 '22
- China**
 Agreement at armament conference on Chinese tariff revision. Comm & Fin Chr 114:363 Ja 28 '22
 Official communiqué regarding China's revenues—statement on China's tariff autonomy. Comm & Fin Chr 113:2363-4 sec 1 D 3 '21
 Treaty adopted at armament conference providing for Chinese tariff revision. Comm & Fin Chr 114:576-7 F 11 '22
- Cuba**
 Import and export schedules of Cuba. U S Bur For & Dom Com misc ser 110:1-19 '22
- Czechoslovakia**
 Special tariff in effect for Czecho-Slovakian automobile factories. Automotive Ind 46:1015 My 11 '22
- Europe**
 Europe's new tariffs. Nation's Business 10:22-5 Jl '22
 What Europe's tariffs mean to us. H: Chalmers. Nation's Business 11:50 Mr '23
- France**
 Vers la revision douanière; l'enquête du ministère du commerce. M. Lambert. Chimie & Ind 9:809-11 Ap '23
- Germany**
 Praktische grenzen der freihandelstheorie für die deutsche handelspolitik. O. Steinbrinck. Stahl & Eisen 42:1200-5 Ag 3 '22
- Great Britain**
 Protection and depreciated currencies. H. Withers. Annalist 22:423 O 1 '23
 Safeguarding of industries act, 1921. 73p Gt. Brit. Board of trade, London '21
- India**
 Indian fiscal commission and the future of industry. Engineering 115:294-5 Mr 9 '23
- Italy**
 Italian chamber passes new dyestuff tariff law. Am Dyestuff Rep 12:683-4 S 10 '23
- United States**
 American and false valuations. M. DeVries. Am Ind 22:11-12+ Ja '22
 American bankers' league to oppose tariff reductions, especially linseed and vegetable oil and sugar. Comm & Fin Chr 117:287-8 Jl 21 '23
 American tariff and British electrical engineering export trade. W. P. Digby. Elec R (Lond) 91:513-14 O 13 '22
 American valuation. F. Waldo. Oil Paint & Drug Rep 100:59-60 N 2 '21
 American valuation and retailers. C. D. Wagoner. Am Ind 22:15-16 Ap '22
 American valuation association presents views on proposed plan. H. L. Henry. J Elec 48:88 F 1 '22
 American valuation has strong support. Iron Age 109:363-4 F 2 '22
 American valuation in new tariff. M. DeVries. Brick & Clay Rec 59:899-900 D 13 '21
- American valuation? No! J: G. Shedd. Nation's Business 9:23 D '21
 American valuation plan. H. L. Henry. Am Mach 56:167 F 2 '22
 American valuation vs. importers. Am Ind 22:7-8+ Mr '22
 American valuation? Yes! M. De Vries. Nation's Business 9:22-3 D '21
 American valuations. W. Camp. Textile World 60:2667+ N 5 '21
 Canada and the tariff. Chem & Met Eng 25:989-90 N 30 '21
 Chamber of commerce of the United States to vote on tariff policies. Nation's Business 10:21-2 Ja '22
 Comparison of proposed and existing tariff duties. Am Mach 56:611 Ap 20 '22
 Comparison of tariff acts. 379p U.S. Tariff comm., Washington '22
 Comparison of the dutiable and free lists of the tariff acts of 1909, 1913, and 1922. 339p U.S. Tariff comm., Washington '22
 Conference report on the tariff bill. Comm & Fin Chr 115:1271-4 S 16 '22
 Coolidge and the tariff. Annalist 22:263 Ag 27 '23
 Customs tariff act, September 21, 1922. 519p R. F. Downing & co., New York '22
 Customs tariff changes in fifty years. Oil Paint & Drug Rep 101:15 Mr 28 '22
 Digest of tariff hearings before the Committee on finance, United States Senate, on the bill H. R. 7456, Sixty-seventh Congress, first session. 605p U.S. Tariff commission, Washington '22
 Enactment by Congress of Fordney-McCumber tariff bill. Comm & Fin Chr 115:1387-9 S 23 '22
 Equalizing exchange duties' to solve tariff problems. G. F. Bauer. Annalist 18:509-10 N 28 '21
 Executive order issued by President Harding for reference of petitions under flexible tariff provisions to U. S. tariff commission. Comm & Fin Chr 115:1686 O 14 '22
 File paper brief with Senate committee. Paper Tr J 73:16-20 D 22 '21
 Flexible tariff provisions of tariff measure. Comm & Fin Chr 115:937 Ag 26 '22
 Fordney-McCumber tariff bill of 1922. (67th Cong., 2d sess. Senate. Doc. 264) 418p Govt. print. off., Washington '22
 Free zone system included in tariff bill. L. W. Moffett. Iron Age 110:471-2 Ag 24 '22
 Hand book of the United States tariff. W: W. Rich, ed. 889p F. B. Vandegrift & co., 44 Whitehall st., New York '23
 Investigation favors American valuation. L. W. Moffett. Iron Age 108:1481-2 D 8 '21
 List of principal subjects investigated and reported upon by the United States Tariff commission. Rev. 32p Tariff commission, Washington, D.C. '23
 Manufacturers' rights under the tariff act of 1922. M. De Vries. Textile World 63:759 F 3 '23
 Manufacturers urge American valuation principles. Am Mach 56:238 F 9 '22
 Manufactures in export trade. J. W. Drake. Automotive Ind 48:1070 My 17 '23
 Many changes in tariff bill made by amendments in Senate. Oil Paint & Drug Rep 102:19+ Ag 21 '22
 National association of manufacturers special tariff convention, Washington, Jan. 30-31. Am Ind 22:7-8, 41-4+ F '22
 New tariff act. R. B. Ross. Am Mach 57:767-8 N 16 '22
 New tariff in its contact with the graphic arts. W. Fawcett. Inland Ptr 70:373-4 D '22
 New tariff in its effect on general taxation. R. Estcourt. Annalist 20:153-4 Ag 14 '22
 Obvious objections to American valuation plan cited by importer. H. J. Oehlmann. J Elec 48:88-9 F 1 '22
 Operation of the flexible tariff plan. T: O. Marvin. Textile World 63:758 F 3 '23
 Opposition to foreign valuation plan. L. W. Moffett. Iron Age 109:540-1 F 23 '22
 Remaking the tariff to fit. H. A. Wheeler. Nation's Business 11:25-6 N '23

Tariff—United States—Continued

- Reports of tariff committee. Oil Paint & Drug Rep 100:54-6 N 2 '21; 102:29+ N 23 '22; 104:23+ O 30 '23
- Smoot offers flexible tariff. Oil Paint & Drug Rep 101:23+ Ja 16 '22
- Summary of tariff information, 1921, relative to the bill H. R. 7456. 1625p U. S. Tariff commission, Washington '22
- Talk that makes a tariff. Nation's Business 10: 15-16 N '22
- Tariff act is signed by the president after embargo extension efforts fail. Oil Paint & Drug Rep 102:18 S 25 '22
- Tariff act of 1922. (67th Cong., 2d sess. Senate. Doc. 187) 179p Govt. ptg. off., Washington '22
- Tariff acts compared. 389p U. S. Tariff comm., Washington '22
- Tariff bargaining, Senate style. C. D. Snow. Nation's Business 10:25-7 Je '22
- Tariff bill out of Senate finance committee. Textile World 61:2189+ Ap 15 '22
- Tariff changes asked for rare sugars, amino acids, chlorate, nitrite, thymol. Oil Paint & Drug Rep 104:21+ Ag 20 '23
- Tariff commission now more important. L. W. Moffett. Iron Age 110:807-8 S 28 '22
- Tariff; full text of the bill approved September 21, 1922. Comm & Fin Chr 115:1-32 sec 2 S 23 '22
- Tariff history of the United States. F. W. Taussig. 7th ed., rev. 499p Putnam '23
- Tariff information, 1921. 226p U. S. Tariff commission, Washington '21
- Tariff information, 1921; hearings before the Committee on ways and means, 1921; partial index. E. D. Henley. Special Lib 12:232-3 D '21
- Tariff inquiry on 17 commodities. Am Ind 23: 10 Ap '23
- Tariff-making machine. W. Bishop. il Nation's Business 10:24-5 Mr '22
- Tariff on finished coal tar products fixed at 60 per cent by the Senate. Oil Paint & Drug Rep 101:19+ Je 12 '22
- Tariff primer; a graphic presentation of the Fordney-McCumber tariff. L. F. Lybarger. 100p Tariff pub. co., 1819 Broadway, New York '22
- Tariff rates of new law compared with old. Oil Paint & Drug Rep 102:47-8 O 9 '22; Same. 103:5-6 Mr 29 '23
- Tariff revision bill passed by Senate; summary of bill. Comm & Fin Chr 115:933-7 Ag 26 '22
- Tariff revision bill reported to Senate. Comm & Fin Chr 114:1594-1600 Ap 15 '22
- To test flexible provisions of tariff law. L. W. Moffett. Iron Age 111:407-8 F 8 '23
- United States chamber votes on tariff principles. Am Mach 56:200b F 2 '22
- What to do about the tariff. J. H. Defrees. Nation's Business 10:30-1 Mr '22
- What will that new tariff do? C. D. Snow Nation's Business 10:17-19 N '22

Automobiles

- How will the new tariff affect automotive exports? Automotive Ind 47:676-7 O 5 '22
- Sound tariff principles warrant support of industry; recommendations of U. S. chamber of commerce. N. G. Shidle. Automotive Ind 45:1151-3 D 15 '21
- Tariff bill will help export trade. Automotive Ind 47:596 S 21 '22

Building materials

- High tariff delusion and building materials. G. H. Bruns. Annalist 20:53-4 Jl 17 '22
- Senate tariff duties on construction materials. Eng N 89:374+ Ag 31 '22

Cement

- Cement industry requests tariff protection. I. D. Foos. Concrete 19:sup104-5 D '21

Chemical schedule

- Chemical schedule of the Senate tariff bill. Chem & Met Eng 26:742-4 Ap 19 '22
- Chemical tariff schedule finished for first reading for amendments. Oil Paint & Drug Rep 101:19-20+ My 22 '22

- Duty on casein discussed at public hearing of Tariff commission. Chem & Met Eng 29: 331 Ag 20 '23
- Quotations on dutiable and free entry articles compared as of Sept. 13, 1922, and Sept. 17, 1923, together with the rate of duty. Oil Paint & Drug Rep 104:20 O 1 '23
- Tariff act of 1922 and its probable effect on the chemical market. Chem & Met Eng 27: 664-6 S 27 '22
- Tariff act of 1922 and the chemical industries. F. W. Taussig. Chem & Met Eng 28: 210-11 Ja 31 '23
- Tariff discussion speeds up; dye schedule again deferred. Oil Paint & Drug Rep 101: 19+ My 29 '22
- Tariff without protection. J Ind & Eng Chem 14:882 O '22

Copper

- Protection for copper? Eng & Min J 114:925-6 N 25 '22

Dyes

- Advantages of dye restriction. B. M. Cone. Textile World 60:2638 N 5 '21
- Commonsense and the dyestuff tariff. L. W. Alwyn-Schmidt. Color Tr J 12:93-5 Mr '23
- Dye embargo dropped by conferees and potash returned to free list. Oil Paint & Drug Rep 102:19-20 sec 1 S 18 '22
- Dye embargo section defeated in Senate. Textile World 62:440-1+ Jl 22 '22
- Dye importation rules submitted for trade comment to March 1. Oil Paint & Drug Rep 103:40b F 26 '23
- Dye standards for tariff purposes promulgated by Treasury department. Oil Paint & Drug Rep 104:20+ Ag 20 '23; Textile World 64: 1073+ Ag 25 '23
- Dye tariff rules are now in effect. Oil Paint & Drug Rep 103:79 Mr 12 '23
- Dye valuation plan offered by E. R. Pickrell. Oil Paint & Drug Rep 102:19 O 9 '22
- Dyes in bond dutiable as of withdrawal date. Oil Paint & Drug Rep 104:19 Jl 23 '23
- Dyestuff import cases heard and pending in the general appraiser's court. H. F. Willmot. Am Dyestuff Rep 12:534-5 Jl 16 '23
- Dyestuff import regulations issued by the Customs service. Color Tr J 12:144-6 Ap '23
- Dyestuff standards issued by Customs division of Treasury department. Color Tr J 12:243-4 Je '23
- First section of dye tariff schedule adopted—fight expected on finished dyes and embargo. Chem & Met Eng 26:1090 Je 7 '22
- Interpretation of the competitive clause in the new tariff bill as applied to dyestuffs. G. A. Moran. Am Dyestuff Rep 12:65-6; Discussion. 66-77 Ja 15 '23
- Last minute changes in tariff bill boost items on chemical schedule. Chem & Met Eng 27: 371+ Ag 23 '22
- Official regulations for the entry and appraisal of articles dutiable under paragraphs 27 and 28 of the tariff act of 1922, with list of non-competitive colors. Am Dyestuff Rep 12:299-306 Ap 9 '23
- Permanent dye regulations issued. Textile World 63:1702 Mr 10 '23
- Regulations necessary for the working of the Fordney tariff act. E. R. Pickerell. Color Tr J 12:95-7 Mr '23
- Smoot's dye plan liked by experts. Oil Paint & Drug Rep 100:23+ sec 1 D 12 '21
- Tariff bill authorizes president to prolong dye import control. Oil Paint & Drug Rep 101: 19+ Ap 17 '22
- Tariff discussion opens in Senate—opposition to dye embargo. Chem & Met Eng 26:851 My 3 '22
- Tentative dye rules. Textile World 63:1400 F 24 '23
- Testimony before dye investigation committee ends with defence of textile alliance. Chem & Met Eng 26:1137 Je 14 '22

Electric apparatus and appliances

- Senate reduces tariff on electric light bulbs. Elec W 80:444 Ag 26 '22
- Senate reports out elastic tariff with foreign valuation. Elec W 79:749 Ap 15 '22
- What the tariff act means to the industry. J. McElroy. Elec W 80:1017-18 N 4 '22

Tariff—United States—Continued

Lead

Tariff on lead since 1883. Eng & Min J 115:238 F 3 '23

Machine tools

Machinery duties under the tariff bill. Am Mach 57:360b, 472b, 516a Ag 31, S 21-28 '22

Metal schedule

Alloys and alloy steels favored. Iron Tr R 71:50 J1 6 '22
Ferromanganese drawback; possibilities of the steel export trade under the new tariff. Iron Age 110:1006 O 19 '22
Metal duties in Fordney-McCumber tariff. L. W. Moffett. Iron Age 110:726-31+ S 21 '22
Numerous changes in the metal schedule. L. W. Moffett. Iron Age 110:475-6 Ag 24 '22
Senate amends metal schedule rates. L. W. Moffett. Iron Age 109:1685 Je 15 '22
Senate committee reports tariff bill with many changes. P. Wooton. Eng & Min J 113:640-2 Ap 15 '22
Tariff bill carries important changes in the metal schedule as it passed the House. Iron Age 109:1018-21 Ap 13 '22
Tariff bill reported by conference. Eng & Min J 114:559 S 23 '22
Tariff enlarges import schedule. Iron Tr R 71:868-9 S 28 '22
Tariff on minerals. M. Pawl. Eng & Min J 115:145 Ja 20 '23
Tariff rates in metals schedule lowered. Eng & Min J 114:384-5 Ag 26 '22

Oils and fats

Flaxseed and linseed oil duties adopted as recommended to Senate; vegetable oil group practically disposed of. Oil Paint & Drug Rep 102:42K-L J1 17 '22

Petroleum

Mid-continent producers revive fight for tariff on oil. A. E. Heiss. Nat Pet N 14:57-8 Ja 11 '22

Scientific instruments

Importation and progress in scientific instrument development. J. Biddle. Elec W 80:149-50 J1 15 '22

Silk

Details of silk schedule. Textile World 62:731 Ag 5 '22

Textile schedule

Changes in cotton schedule. Textile World 62:439+ J1 22 '22
Committee wool rates upheld; tariff action in Senate delayed by speech-making—miscellaneous rates fixed. Textile World 62:567-8 J1 29 '22
Cotton tariff. A. H. Lowe. Textile World 61:2693+ My 6 '22
Emergency tariff act and long-staple cotton. (Tariff information ser. no. 27) 35p U.S. Tariff comm., Washington '22
Textile industry demands prompt tariff action. Textile World 61:670-1+ F 4 '22
Textile manufacturers present tariff arguments. Textile World 60:3489-91+ D 17 '21
Textile schedules of Senate tariff bill. Textile World 62:1113-14+ Ag 26 '22

Wool

Committee wool rates upheld; tariff action in Senate delayed by speech-making—miscellaneous rates fixed. Textile World 62:567-8 J1 29 '22
Defends Fordney-McCumber tariff. G. C. Hetzel. Textile World 63:4054 Je 23 '23
For and against ad valorem wool duties. P. T. Cherington; S. S. Dale. Textile World 61:646+ F 4 '22
Regulations for carpet wool import. Textile World 63:459 Ja 27 '23
Senate attack on wool tariff rate reaches climax. Textile World 62:730-1 Ag 5 '22
Tariff rules for carpet wools. Textile World 63:1944 Mr 24 '23

Wool tariff snags. Textile World 62:2296+ O 21 '22

Tariff commission. See United States—Tariff commission

Tartardialdehyde

Abbau von d-zuckersäure zum dialdehyd der l-weinsäure. M. Bergmann. Deutsche Chem Gesell Ber 54:2651-8 N '21; Abstract. Chem Soc J 122 pt 1:7-8 Ja '22

Tartaric acid

Dihydroxy-tartaric acid. A. Lachman. Am Chem Soc J 43:2091-7 S '21

Tartrazine

Manufacture of tartrazine. R. Sansone. diags Color Tr J 12:50-3; 13:123-7 F, O '23

Tasmania

See Geology—Tasmania; Hydroelectric plants—Tasmania; Mines and mineral resources—Tasmania

Tate electrolytic textile processes, inc.

Cranston print works. I. Ginsberg. il diag Color Tr J 12:1-5 Ja '23

Tautomerism

Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; intra-annular tautomerism. E. H. Farmer, C. K. Ingold and J. F. Thorpe. Chem Soc J 121:128-59 Ja '22

Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; intra-annular tautomerism of α -campholytic acid. J. P. C. Chandrasena, C. K. Ingold and J. F. Thorpe. Chem Soc J 121:1542-51 Ag '22

Chemistry of polycyclic structures in relation to their homocyclic unsaturated isomerides; the simulation of benzenoid properties by the five-carbon intra-annular nucleus. C. K. Ingold, E. A. Seeley and J. F. Thorpe. Chem Soc J 123:853-74 Ap '23

Chemistry of the glutaric acids; three carbon tautomerism in the cyclopropane series. F. R. Goss, C. K. Ingold and J. F. Thorpe. Chem Soc J 123:327-61 F '23

Chemistry of the three-carbon system; the influence of the cyclohexane ring on the α - β change. S. F. Birch, G. A. R. Kon and W. S. G. P. Morris. Chem Soc J 123:1361-74 Je '23

Correlation of additive reactions with tautomeric change; the aldol reaction. E. H. Usherwood. Chem Soc J 123:1717-26 J1 '23

Cyanine dyes; the virtual tautomerism of the thiocyanines. W. H. Mills and W. T. K. Braunholtz. Chem Soc J 121:1489-95 Ag '22

Labile nature of the halogen atom in organic compounds; the tautomeric hydrogen hypothesis, and the removal of the halogen atom from aromatic nitro-compounds. A. K. Macbeth. Chem Soc J 121:1116-21 Je '22

Mobility of symmetrical triad systems. C. K. Ingold and H. A. Pigott. Chem Soc J 121:2381-9; 123:1469-1509 N '22, Je '23

Relationship of the tautomeric hydrogen theory to the theory of induced alternate polarities. F. Allsop and J. Kenner. Chem Soc J 123:2296-2315 S '23

Ring-chain tautomerism; the effect of the gem-diethyl group on the carbon tetrahedral angle. S. S. Deshapande and J. F. Thorpe. Chem Soc J 121:1430-42 J1 '22

Ring-chain tautomerism; the effect of the gem-dipropyl grouping on the carbon tetrahedral angle. L. Bains and J. F. Thorpe. Chem Soc J 123:1206-14 My '23

Ring-chain tautomerism; the effect of the methyl ethyl grouping on the carbon tetrahedral angle. B. Singh and J. F. Thorpe. Chem Soc J 123:113-22 Ja '23

Ring-chain tautomerism; the mechanism of the keto-cyclo change in the propane series. E. W. Lanfear and P. F. Thorpe. Chem Soc J 123:1683-9 J1 '23

Ring-chain tautomerism; the occurrence and effect of keto-enol tautomerism between a ring compound and its open-chain isomeride. G. A. R. Kon, A. Stevenson and J. F. Thorpe. Chem Soc J 121:650-65 Ap '22

Tautomerism—Continued

- Ring-chain tautomerism; the occurrence of tautomerism of the three-carbon (glutamic) type between a homocyclic compound and its unsaturated open-chain isomeride. C. K. Ingold, E. A. Perren and J. F. Thorpe. *Chem Soc J* 121:1765-89 S '22
- Some new aspects of tautomerism. J. F. Thorpe and C. K. Ingold. *Soc Chem Ind J (Chem & Ind)* 42:612-14 Je 22 '23
- Structure of the benzene nucleus; intra-nuclear tautomerism. C. K. Ingold. *Chem Soc J* 121:1133-43 Je '22
- Studies in the anthracene series. F. de B. Barnett, J. W. Cook and M. A. Matthews. *Chem Soc J* 123:1994-2008 Ag '23
- Tautomerism of amidines; alkylation of open-chain amidines. F. L. Pyman. *Chem Soc J* 123:367-70 F '23
- Tautomerism of amidines: 2:4- and 2:5-diphenylglyoxalines. R. Burtles and F. L. Pyman. *Chem Soc J* 123:361-7 F '23
- Tautomerism of dyads; detection of tautomeric equilibria in hydrocyanic acid. E. H. Usherwood. *Chem Soc J* 121:1604-12 Ag '22
- Triphenylmethyl: tautomerism of orthohydroxy-triphenyl carbinol; ortho-hydroxy- and alkyloxy-triphenylmethyl. M. Gomberg and D. Nishida. *Am Chem Soc J* 45:190-207 Ja '23
- Über die konstitution und das tautomeriegleichgewicht der beiden phthalsäuretetra-chloride. E. Ott. *Deutsche Chem Gesell Ber* 55:2108-25 Jl '22; *Abstract. Chem Soc J* 122: pt 1:834-5 S '22
- Über die tautomerie der phenole; dioxy-1,5- und dioxy-2,7-naphthalin. W. Fuchs and W. Stix. *Deutsche Chem Gesell Ber* 55:658-70 Mr '22
- Versuche aus dem gebiet der keto-enol-tautomerie. H. P. Kaufmann. *Deutsche Chem Gesell Ber* 55:2255-7 S '22

See also Isomerism

Tavarnuzze, Tuscany

- Villa Dei Collazzi, Tavarnuzze. H. D. Eberlein. *Il plan Arch Rec* 51:197-209 Mr '22

Taxation

- Essays in taxation. E. R. A. Seligman. 9th ed., rev. & enl. 806p Macmillan '21
- How great is the national fund from which taxes must be paid? F. W. Thornton. *J Account* 36:241-6 O '23
- International finance—double taxation. H. Withers. *Annalist* 21:607 Ap 30 '23
- Public finance. M. E. Robinson. 172p Harcourt '22
- Selected articles on current problems in taxation. L. T. Beman. 350p H. W. Wilson co. '21
- Taxation. H. B. Fernald. *Eng & Min J* 115: 146 Ja 20 '23
- Taxation and repayment of national debts. R. Estcourt. *Annalist* 20:56-7 Jl 17 '22
- Taxation and war strains; status of comparative public finance today. L. R. Gottlieb. *Annalist* 22:271-2+ Ag 27 '23
- Taxation, yesterday & to-morrow. R. Jones. 147p P. S. King & son, London '21

See also Assessments; Excess profits tax; Income tax; Inheritance tax; Mine taxation; Municipal finance; Octroi; Sales tax; Tariff; also subdivision Taxation under various subjects, e.g. Automobiles—Taxation; Banks and banking—Taxation; Coal—Taxation; Corporations—Taxation; Electric railroads—Taxation; Insurance companies—Taxation; Motor bus lines—Taxation; Motor vehicles—Taxation; Petroleum—Taxation; Petroleum pipe lines—Taxation; Plumbing trade—Taxation; Public utilities—Taxation

Canada

- Five months' stay for Canada's sales tax, effective Jan. 1. *Comm & Fin Chr* 117:239 Jl 21 '23

Czechoslovakia

- Czecho-Slovak taxation system, budget and trade. V. A. Geringer and P. E. McKenney. *U S Bur For & Dom Com Trade Information Bul* 100:1-22 '23
- Sales tax in Czechoslovakia. A. Comstock. *Annalist* 19:632 Je 12 '22

France

- Lessons of the French turnover tax. A. Comstock. *Annalist* 18:556+ D 12 '21

See also Octroi

Germany

- Die belastung unseres wirtschaftslebens durch das steuerkompromiss. M. Wellenstein. *Stahl & Eisen* 42:350-3 Je 1 '22
- German tax situation for the coming year. *Annalist* 20:595-6 D 4 '22
- German taxation and reparations. L. R. Gottlieb. *Annalist* 20:27-8 Jl 10 '22
- Germany's fantastic schedule of taxation. *Annalist* 22:426 O 1 '23

Great Britain

- Bonar Law against increase in taxes. *Comm & Fin Chr* 115:2221 N 18 '22
- British budget undercurrents. A. Comstock. *Annalist* 22:231+ Ag 20 '23
- Chancellor Baldwin's proposals respecting reductions in Great Britain's taxes. *Comm & Fin Chr* 116:1710-11 Ap 21 '23
- High taxation; its crushing effect on industry. *Elec R (Lond)* 89:904-5 D 30 '21
- How taxation is crushing British industry. F. C. Chappell. *Annalist* 21:826+ Je 18 '23
- Rates and taxes on industry and commerce. T. Rich. *Eng & Ind Management* 7:172-4 F 9 '22
- Rating of machinery. E. W. Pierce. *Ind Management (Lond)* 9:304-6, 334-6; 10:95-7 My 17, 31, Ag 23 '23
- Reparation and taxation. *Electrician* 87:700-1 D 2 '21

Illinois

- How and why railways are taxed. R. Heilman. *Aera* 11:822-31 F '23

Massachusetts

- Taxation in Massachusetts. P. Nichols. 2d ed. 321p Financial pub. co., Boston '22

Mexico

- Proposed payroll tax in Mexico. *Eng & Min J* 114:856-7 N 11 '22

New York (city)

- Tentative values of real estate and personal property in New York city for 1924. *Comm & Fin Chr* 117:1687-8 O 13 '23

New York (state)

- Report of the special joint committee on taxation and retrenchment. 310p J. B. Lyon co., Albany '23
- Tax committee report—corporation and other taxes in New York state. *Comm & Fin Chr* 115:1696-1704 O 14 '22
- Tax law of the state of New York. J. T. Fitzpatrick, ed. 314p Baker, Voorhis & co., New York; M. Bender & co., Albany, N.Y. '21

See also Income tax—New York (state)

Ohio

- Effects of tax limitation upon local finance in Ohio, 1911 to 1922. R. C. Atkinson. 130p R. C. Atkinson, Columbia univ., New York '23

Oklahoma

- Claim tax ferrets use unfair methods; harass Tulsa oil companies. J. C. Chatfield. *Nat Pet N* 14:35+ My 3 '22

Portugal

- New tax in Portugal. *Comm & Fin Chr* 115: 2756 D 23 '22

Russia

- Operation of soviet taxation system in Russia. *Comm & Fin Chr* 115:2208 N 18 '22

South Carolina

- Tax reform in South Carolina. G. McCutchen and R. Smith. (*Bul*, 104, Feb. 1922) 186p Univ. of South Carolina, Columbia '22

Switzerland

- Proposed capital levy in Switzerland creates panic conditions. *Comm & Fin Chr* 115:2206-7 N 18 '22

Taxation—Continued

United States

Action of conferees on tax revision bill—House accepts 50% surtax. Comm & Fin Chr 113:2134-5 N 19 '21

Are we getting an adequate return for our municipal taxes? W: H. Nanry. J Elec 49: 56-8 J1 15 '22

Cases on taxation. J. H. Beale. 511p Harvard univ. press, Cambridge '22

Changes in tax law seriously affect owners of coal land. R. M. Haig. Coal Age 20:1020-1 D 22 '21

Comparison of the revenue acts of 1918 and 1921. 238p Govt. print. off., Washington '22

Does Uncle Sam owe you anything? E. F. DuBrul. Am Mach 56:161-4 F 2 '22

Federal taxes for 1921. 127p Federal trade information service, New York and Washington '21

545 United States tax cases. W: Kix Miller and Baar. 752p Commerce clearing house, New York, Washington '21

From the viewpoint of the Treasury department. Annalist 20:624+ D 11 '22

Have you deducted for war facilities? reasons for permitting amortization. F. R. Weaver. Am Mach 56:164-6 F 2 '22

Let up on taxation burdens carried in bonus and other measures urged. W: E. Borah. Comm & Fin Chr 115:373-5 J1 22 '22

Minimizing taxes. J: H. Sears. 706p Vernon law book co., Kansas City, Mo. '22

Need of further revision of tax laws. A. W: Mellon. Comm & Fin Chr 113:2463-4 D 10 '21

Neglected sources of revenue. R. Estcourt. Annalist 19:415-16 Ap 10 '22

New revenue act analyzed. J. J. Klein. Annalist 18:507-8 N 28 '21

New revenue and tax law of 1921; text. Comm & Fin Chr 113:2267-85 N 26 '21

New tariff in its effect on general taxation. R. Estcourt. Annalist 20:153-4 Ag 14 '22

Proposed taxation of stock dividends. W. J. Matherly. J Account 36:97-103 Ag '23; Same. Paper Tr J 77:54-6 Ag 23 '23

Revenue act of 1921. 243p Equitable trust co. of New York, N.Y. '21

Revenue act of 1921. 220p Guaranty trust co. of New York, New York '21

Some aspects of the Revenue act of 1921. R: M. Haig. Elec Ry J 58:1068-9 D 17 '21; Same. Am Mach 55:987-8 D 22 '21; Same. Eng & Min J 112:1011-12 D 24 '21

Survey shows heavy tax burden on industry. Iron Tr R 71:1510 N 30 '22

Tax bill details. Textile World 60:2858-9 N 12 '21

Tax bill made clear. Nation's Business 10: 23-4 Ja '22

Tax exemptions increase burden of taxpayers. Gas Age 52:559-60 N 3 '23

Tax receipts for year ending June 30 1921 \$800,000,000 less than in 1920. Comm & Fin Chr 113:2464 D 10 '21

Tax revision bill enacted into law; comments on changes. Comm & Fin Chr 113:2244-6 N 26 '21

Tax revision bill sent to conference. Comm & Fin Chr 113:2036-8 N 12 '21

Taxation. G. W. Cox. Textile World 61:2699 My 6 '22

Taxation and national income—National industrial conference board. 86p Century co. '22

Taxation and the bonus. Annalist 22:295 S 3 '23

Taxation biggest problem before the world today. N. M. Butler. Comm & Fin Chr 113: 2264-5 N 26 '21

Taxes—what may we expect? W: R. Green. Nation's Business 11:13-15 N '23

War tax service, 1922. Corporation trust co., New York '22

What's ahead in taxes? M. Sullivan. Nation's Business 10:9-11 J1 '22

You are probably entitled to amortization; operation under priority indicates business was essential. J. E. Philbrick. Am Mach 56: 201-5 F 9 '22

See also Excess profits tax; Income tax—United States

Taxation, Exemption from

Advocates tax-exempt securities. D. U. Fletcher. Comm & Fin Chr 114:249-50 Ja 21 '22

Agree on using taxes in shipbuilding. Marine R 52:330-1 Ag '22

Amendment to prohibit tax-exempt securities urged. Comm & Fin Chr 115:2854-7 D 30 '22

Curb tax exempt securities. L: T. McFadden. Aera 10:700-3 Mr '22

Discontinuance of tax-exempt issues a benefit to all. Elec Ry J 60:965-6, 1015-16 D 23-30 '22

Effect of the tax-exemption ordinance in New York city on housing. M. Conynghton. Monthly Labor R 14:631-40 Ap '22

House of representatives passes Representative Green's resolution to restrict tax-exempt issues. Comm & Fin Chr 116:374-5 Ja 27 '23

Justice Tierney's decision on New York tax exemption. Comm & Fin Chr 116:1489 Ap 7 '23

Law of 1920 exempting from taxes new buildings in New York held invalid by Justice Tierney. Comm & Fin Chr 116:1242-3 Mr 24 '23

Majority sentiment of governors opposed to tax exemption on securities. N E L A Bul 9:160-1 Mr '22

Opposition to proposed ban against tax-exempt securities. Comm & Fin Chr 116:474-9 F 3 '23

Prerequisites to exemption from the federal income tax in exchanging securities. Comm & Fin Chr 115:1291 S 16 '22

Representative Green on purpose of legislation to restrict tax-exempt securities. Comm & Fin Chr 117:1620-1 O 13 '23

Strong opposition against tax-exempt securities amendment. Am Mach 55:60a Ja 4 '23

Subtleties of tax exemptions. M. L. Seidman. Annalist 22:145+ J1 30 '23

Support ban on tax-exempt securities. Comm & Fin Chr 114:248-9 Ja 21 '22

Tax exemption evil recognized; congressional committee recommends constitutional amendment. Gas Age 49:629 My 20 '22

Tax exemptions and tax exempt dwellings in New York city. Monthly Labor R 15:1323-5 D '22

Tax exemptions on real estate, an increasing menace. 99p Westchester county chamber of com., White Plains, N.Y. '22

Tax-free government securities; the case against exemption. R. Hitt. Administration 5:389-92 Ap '23

Tax-free government securities; the case for exemption. C. H. Kelsey. Administration 5: 385-8 Ap '23

See also Taxation of bonds, securities, etc.

Taxation of bonds, securities, etc.

Alabama tax recording law upheld by state court. Comm & Fin Chr 114:1843-4 Ap 29 '22

Federal taxation of state and municipal bonds. C. Heer. Administration 4:331-8 S '22

House passes Green bill designed to stop tax evasions. Comm & Fin Chr 116:473-4 F 3 '23

Income tax and investment yield. B. F. Magruder. Annalist 22:394 S 24 '23

Income tax calculations; how they bear on income from taxable bonds. B. F. Magruder. Annalist 22:533+ O 22 '23

New York state tax on national bank shares held invalid. Comm & Fin Chr 115:2650 D 16 '22

Report of taxation committee. Comm & Fin Chr 117:1950-1 N 3 '23

Report of taxation committee of the Investment bankers' association. Comm & Fin Chr 115:1807-8 O 21 '22

Taxation of bonds, securities, etc.—Continued
 Representative Frear renews attack on stock dividend declarations. *Comm & Fin Chr* 115:2639-41 D 16 '22
 Taxability of stock dividends. *Comm & Fin Chr* 115:2542-4 D 9 '22
 Taxation of federal, state and municipal bonds. J: H. Hoffman and D: M. Wood. 115p Wilbur & Hastings, New York '21

See also Taxation, Exemption from

Taxicab companies

Why our business has grown to the largest of its kind. J: Hertz. *il System* 43:608-11+ My '23

See also National association of taxicab owners

Advertising

How advertising cuts down dead mileage. S: R. Houser. *Ptr Ink* 120:126+ J1 27 '22
 Telephone number is leading feature of taxi company's advertising. *Ptr Ink* 118:60+ F 9 '22

Taxicabs

Automotive service methods and equipment. H. Campbell. *il Am Mach* 56:920-2; 57:4-6 Je 22, J1 6 '22

Low fuel consumption features new taxicab design. W. F. Bradley. *il Automotive Ind* 46:162-3 Ja 26 '22

New European taxicabs are designed for high economy. W. F. Bradley. *il diags Automotive Ind* 46:1316-19 Je 15 '22

New French taxi adopts four-wheel brakes on economic grounds. W. F. Bradley. *il Automotive Ind* 49:222-3 Ag 2 '23

Reducing prices to increase profits; the Yellow cab co. of Chicago. J: Hertz. *Ptr Ink M* 4:21-2+ F '22

Roof of taxicab differs greatly from ordinary top construction. *Automotive Ind* 48:960-2 My 3 '23

What the taxicab driver knows. W. R. Rasmussen. *Nat Safety N* 7:15-16 F '23

Manufacture

Taxicab-body construction. H. G. Bersie. bibliog *il Soc Auto Eng* J 12:480-3 My '23; Abstract. *Bus Transportation* 2:239 My '23; Discussion. *Soc Auto Eng J* 12:497 My '23

Specifications

American taxicab specifications; tabulation. *Automotive Ind* 48:384-5 F 22 '23

Taxicabs, Electric. See Electric taxicabs

Taxidermy

Behind the scenes in a great museum. J. T. E. Jones. *il Pop Mech* 40:409-13 S '23
 Evolution in museum technique. *il Sci Am* 126:399 Je '22

Selling stuffed animals by mail. J: T. Bartlett. *il Ptr Ink M* 5:54-8 N '22

Taximeter

On the trail of the taxi driver. G. I. Stodola. *il Sci Am* 128:29 Ja '23

Manufacture

Improvements in light metal machining. *il Iron Age* 111:529-30 F 22 '23

Taylor, Frederick Winslow

Taylor method of expense and burden distribution. P. M. Atkins. *Ind Management* 66:217-23 O '23

Taylor, H. Birchard

Sketch. *por Elec W* 81:316 F 10 '23

Taylor color chart. See Color

Taylor instrument companies

Advertising that creates a sixth sense; Tycoos temperature instruments. E: Hungerford. *il Ptr Ink M* 6:35-6+ Je '23

Taylor society

Annual meeting, New York, Dec. 1-3. *Iron Age* 108:1463-7 D 8 '21; *Mach* 28:355 Ja '22
 Annual meeting, New York, Nov. 22-24. *Am Mach* 57:866 N 30 '22; *Iron Age* 110:1431-2+ N 30 '22; *Iron Tr R* 71:1505 N 30 '22

Henry R. Towne becomes honorary president of the Taylor society. *Ind Management* 62:378 D '21

Meeting, Syracuse, N.Y., June 7-9. *Iron Age* 111:1715-17 Je 14 '23; *Iron Tr R* 72:1762-4 Je 14 '23

Spring meeting, Philadelphia, Mar. 16-18. *Am Mach* 56:464f Mr 23 '22

Taylor system. See Industrial management; Motion study; Time study

Tea

Indian tea growers campaign in the United States. *Ptr Ink* 125:68 O 11 '23

Advertising

Government of Formosa advertises tea. *Ptr Ink* 121:41-2 N 23 '22

New method of use can sell a highly competitive product; tea, packed in balls. *Ptr Ink* 122:76-7 Mr 22 '23

Overcoming a popular prejudice by indirect argument. G. Wright. *Ptr Ink* 118:85-6+ Mr 30 '22

Racial traits of foreign-language consumers make good copy; newspaper advertising of White rose tea. R. Cole. *Ptr Ink* 121:8+ N 16 '22

Tea factories

Handling at the largest tea factory in the world. G: F: Zimmer. *il diags plans Ind Management (Lond)* 9:19-25, 52 Ja 11-27 '23

Tea rooms

Building for Frank G. Shattuck co., West street, Boston. *Arch Forum* 39:81, pl 22-7 Ag '23

Teachers

Leadership of teachers. I. N. Hollis. *Eng Educ* 14:32-45 S '23

Three characteristics of a good teacher. F. E. Spaulding. *Eng Educ* 12:167-9 D '21

Teaching

Advantages of the lecture system of teaching in a technical school. W. R. Veazey. *Eng Educ* 13:177-87 D '22

Teaching and scholarship. J: G. Bowman. *Eng Educ* 13:563-5 My '23

See also Industrial education; Technical education; also subdivision Study and teaching under special subjects

Teall, F. Horace, 1850-1923

Noted lexicographer, passes away. H. Hillman. *por Inland Ptr* 71:63-4 Ap '23

Teamsters

Coal teamsters—Boston. *Monthly Labor R* 16:1319-20 Ja '23

Teapot Dome contract. See Oil reserves (U.S. navy)

Tear gas

New tear-gas gun makes effective weapon. *il Pop Mech* 39:932 Je '23

War gases for dispersing mobs. T. M. Knapen. *il Gas Age* 48:701-3 N 26 '21

Technical association of the pulp and paper industry

Seventh annual meeting, New York, Apr. 10. *Chem & Met Eng* 26:755-6 Ap 19 '22

8th annual convention, New York, April 9. *Chem & Met Eng* 28:725-6 Ap 23 '23; *Paper* 31:25-32 Ap 18 '23; *Paper Tr J* 76:128-32 Ap 12 '23

Fall meeting, Detroit, Mich. *Paper Tr J* 75:55-8 O 26 '22

Technical education

Equipment of university shops. W. Ichler. *il Mach* 28:723 My '22

How to teach a trade. R. W. Selvidge. 111p Manual arts press '23

Science and industry in America. W. Rosenhain. *Engineer* 136:412-13, 440-1 O 19-26 '23

Tackling tech. L. W. Conant. 197p Ronald press '22

Technical education and national character. H: H. Knox. *Min & Met* 192:7-9 D '22; Same. *Chem Age* 31:7-9 Ja '23

Technical education and the city livery companies. C. C. Hawkins. *Soc Dyers & Col J* 39:259-61 Ag '23

Technical education in China. *Engineer* 136:345-6 S 28 '23

Technical education—Continued

What technical schools offer. J. D. Hoffman and R. E. Wendt. Foundry 50:783-5 O 1 '22

See also Apprentices; Automobile schools; Aviation schools; Chemical education; Corporation schools; Employees, Training of; Engineering education; Evening and continuation schools; Industrial education; Industrial management—Study and teaching; Machine shop practice—Study and teaching; Manual training; Mining schools and education; Patent laws and legislation—Study and teaching; Plumbing—Study and teaching; Printing, Practical—Study and teaching; Professional education; Shipbuilding—Study and teaching; Technical writing; Textile education; Textile schools; Trade schools; Vocational education; *also* Massachusetts institute of technology; Newark technical school; North Dakota agricultural college—School of chemistry

Technical libraries

Library and industry. A. E. White. Special Lib 13:129-31 O '22
Practical suggestions on the research library question. A. S. L. Barnes. Can Chem & Met 6:54 Mr '22; Same. Can Eng 42:294 Mr 7 '22; Same. Special Lib 13:71-2 My '22; Discussion. Can Eng 42:355, 481 Mr 28, My 9 '22
See also Business libraries; *also* Engineering societies' library, New York

Technical literature

Instruction of students in the use of technical literature; an unexploited phase of engineering education. E. H. McClelland. Eng Educ 12:407-20 My '22; Same. Eng & Contr 57:598-600 Je 21 '22
See also subdivision Bibliography under technical subjects

Technical periodicals

Duties and privileges of technical journalism. T. A. Rickard. Eng & Min J 114:928-32 N 25 '22
Publicity from the standpoint of the technical journal. Heat & Ven 19:84+ N '22
Technical paper and its new relation to industry. H. C. Parmelee. Chem & Met Eng 26:197-200 F 1 '22; Same. J Ind & Eng Chem 14:153-6 F '22
See also Engineering periodicals; Trade journals

Technical photographic and microscopical society

Technical and industrial photography to be fostered by new society. Chem & Met Eng 26:949 My 17 '22

Technical products

Turning technicalities into the other fellow's language. Ptr Ink M 4:50 D '21
See also Piston rings

Advertising

Advertising that creates a sixth sense; Tycos temperature instruments. E: Hungerford. il Ptr Ink M 6:35-6+ Je '23
Blood-and-thunder in industrial advertising. A. L. Townsend. Ptr Ink 124:134+ Ag 9 '23
Cinderella product that became a sales leader; Head regrinding machines. J. M. Mosely. Ptr Ink 123:197-8+ Ap 26 '23
Duplex advertising campaign in business papers; manufacturer of chucks advertises drills. R. L. Burdick. Ptr Ink 121:25-7+ N 16 '22
Finding a copy transmitter in a mythical organization; advertising ash gates. W. B. Edwards. Ptr Ink 123:77-8+ Ap 12 '23
Footnote enters the headlines of industrial advertising. M. W. Sohn. Ptr Ink M 7:35-6 Ag '23

Getting a successor for novelty appeal copy; human interest stories. il Ptr Ink 122:89-90+ Mr 22 '23

Getting home use for an expert's product; how Walworth advertised its Stillson wrench. C. B. Larrabee. Ptr Ink 122:69-70+ Ja 4 '23

How to picture the utility of the technical product. W. F. Mulhall. Ptr Ink 120:57-8+ Ag 3 '22

Identifying a product that is destined finally to lose its identity; Standard steel works co., of Philadelphia. Ptr Ink 123:92+ Je 28 '23

Instilling life into the industrial advertisement. P. W. Stone. Ptr Ink M 7:37-8+ O '23

Is the best industrial advertising the most informative? M. W. Sohn. Ptr Ink 124:61-2+ JI 19 '23

Krauter pliers advertise their way into the household. il Ptr Ink 125:111-12 N 1 '23

Making the advertisement a stage and using prospective customers for actors. R. Cole. Ptr Ink 120:49-50+ S 7 '22

Making the technical product of general interest; Johns-Manville, inc., succeeds in making the public think about insulation. R. Cole. Ptr Ink 121:25-8+ D 21 '22

Pictorial devices to make a product's mechanics understandable. W. L. Larned. Ptr Ink 117:41-2+ D 8 '21

Picture simile as a theme for technical advertising. H: Burwen. Ptr Ink 122:97-8 Mr 8 '23

Picturizing the blueprint in selling the engineering proposition. H: Burwen. Ptr Ink M 7:74+ O '23

Planning direct advertising to appeal to technical men and women. Inland Ptr 71:543-6 JI '23

Talking to the dealer in a new language. S. C. Lambert. Ptr Ink 117:77-8+ D 15 '21

Technical details made to interest the layman. Ptr Ink 121:140+ D 14 '22

Testimonial advertising that steps up the reader's conception of a product; twist drills. K. Kendig. Ptr Ink M 7:100+ O '23

See also Belting—Advertising; Boiler tubes—Advertising; Centrifugal machines—advertising; Gas and oil engines—Advertising; Machinery industry—Advertising; Piston rings—Advertising; Radio apparatus industry—Advertising; Roller bearings—Advertising; Saws—Advertising; Storage batteries—Advertising; *also* Laminated shim company

Technical terms

See Business dictionaries; Engineering—Terminology; Foundry terms; Rubber—Terminology

Technical writing

Plain geology. G. O. Smith. Econ Geol 17:34-9 Ja '22; Same. Nat Pet N 14:95-6 Ap 5 '22

Technical writing. Min & Sci P 123:597-8, 632, 774 O 29-N 5, D 3 '21

Wrong word. T. A. Rickard. Eng & Min J 113:908-13 My 27 '22

See also Engineering reports; Engineering societies—Proceedings; Foundry literature

Technology

Applied science for metal and wood workers. W: H. Dooley. 559p Ronald press '23

Why not get away from traditions? diag Chem & Met Eng 27:1060-1, 1252 N 29, D 27 '22

See also Brickmaking; Building; Chemistry, Technical; Clay industries; Concrete; Dyes and dyeing; Electric engineering; Engineering; Glass manufacture; Industrial arts; Industrial education; Inventions; Machinery; Manufactures; Metallurgy; Oil industries; Paper making; Pottery; Railroad engineering; Rubber; Steel; Technical education; Textile industry

Bibliography

Catalogue of British scientific and technical books. 376p British science guild, London '21

Some technical bibliographies. R. N. Brown. Mech Eng 44:774; 45:149 N '22, F '23

Technical books of 1921. D. Hendry. 28p Pratt institute free library, Brooklyn, N.Y. '22

Technology—Continued**Classification**

Classification; Class T. 2d ed. 321p U.S. Library of congress, Classification division, Washington '22

Dictionaries

Italian technical words & phrases. E. F. Paventa. 307p E. Marlborough & co., London '21

Werkstoffe. P. Krais. J. A. Barth, Leipzig '21

Language

English for engineers. S. A. Harbarger. 266p McGraw-Hill '23

Tectophone

Detection, location and comparison of sound; testing machinery by sound. C. E. Noël-Storr. Mech Eng 45:52 Ja '23

Tectoscope

Detection, location and comparison of sound; testing machinery by sound. C. E. Noël-Storr. Mech Eng 45:52 Ja '23

Teeth**Diseases**

See Pyorrhea

Telegraph

Army finds way to keep its messages secret. il Pop Mech 40:248 Ag '23

Electric telegraph. W: Noble. Inst E E J 60: 438-40 Ap '22

Jubilee of the Eastern telegraph co. Electrician 89:62-4, 104-5 Jl 21-28 '22

Orders by wire; some examples of the use of telegraph and telephone on sales and advertising. R. Dickinson. Ptr Ink 122:69-70+ F 8 '23

Phantom telephone circuits, and combined telegraph and telephone circuits, worked at audio frequencies. J. G. Hill. diags Inst E E J 60:675-91 Je '22; Abstract. Elec R (Lond) 90:642-4 My 5 '22; Discussion. Inst E E J 60:691-705 Je '22

Physical phenomenon and its applications to telegraphy, telephony, etc. A. Johnsen and K. Rahbek. diags Inst E E J 61:713-25 Jl '23

Report of A.L.E.E. telegraphy and telephony committee. Am Inst E E J 41:936-9 D '22

Telegraph engineering. E. Hausmann. 2d ed., rev. 406p Van Nostrand '22

Telegraphy, telephony and wireless. J. Poole. 120p Pitman '21

Trend of progress in communication by wire. T. F. Purves and W: Noble. Elec R (Lond) 91:708-11 N 17 '22

See also Phototelegraphy; Radio telegraph; Railroads—Telegraph

Alphabets

Method of transmitting the telegraph alphabet applicable for radio, land lines, and submarine cables. G: O. Squier. J Fr Inst 195: 633-9 My '23; Same abr. Wireless Age 10: 55-6 Je '23

History

Early pioneering in telegraphy and telephony. C: Bright. Electrician 87:602-3 N 11 '21

Experiences over fifty years of a telegraph and telephone engineer. D. Sinclair. Inst E E J 60:488-90 Ap '22

Relics of the 1840's; an interesting chapter from the early history of the telegraph. A. A. Hopkins. il Sci Am 129:184 S '23

Sixty years of telegraph progress. H. H. Harrison. Electrician 87:600-1 N 11 '21

Recorders

Application of a revolving magnetic drum to electric relays, siphon recorders and radio transmitting keys. N. W. McLachlan. diags Inst E E J 61:903-26; Discussion. 926-33 Ag '23

France

Projet officiel de réorganisation des postes, télégraphes et téléphones, et les Semaines des P. T. T. A. Ferry. Génie Civil 82:495-7; 83:280-2 My 26, S 22 '23

La Semaine des postes, télégraphes et téléphones, (Paris, 30 avril-5 mai 1923). P. Rague. Génie Civil 82:471-5 My 19 '23

Telegraph, Carrier current

Carrier current communication achieved. il Ry R 69:831 D 17 '21

Radio communication between power stations and substations. Elec W 78:1278-9 D 24 '21

Unification of communication engineering; present trend toward our vast system of radio and wired wireless. G: O. Squier. Sci Am 127:85+ Ag '22

Telegraph, Printing

Automatic station with an adaptation of printing telegraph apparatus as supervisory control system. Elec W 79:435 Mr 4 '22

Printing telegraph by radio. R. A. Heising. diags J Fr Inst 193:97-101 Ja '22

Printing telegraph systems and mechanisms. H. H. Harrison. 435p Longmans '23

Printing telegraph systems applied to message traffic handling. A. H. Reiber. il diags Am Inst E E J 41:79-91 F '22; Excerpts.

Elec W 79:380 F 25 '22; Discussion. Am Inst E E J 41:597-8 Ag '22

Radio typewriter for airplanes. G: H. Dacy. Sci Am 128:173 Mr '23

Simple printing telegraph covers new field of use. il Pop Mech 37:440 Mr '22

Teletype; a new printing telegraph. il Elec R (Lond) 91:355-7 S 8 '23; Same. Electrician 89:263-6 S 8 '22

Telegraph, Submarine

Alternating current cable telegraphy. L: Cohen. J Fr Inst 195:165-82 F '23

Early submarine telegraphy. C: Bright. Inst E E J 60:448-51 Ap '22; Abstract. Electrician 89:127-8 Ag 4 '22

Largest cable in the world for Atlantic ocean. Pop Mech 40:57 Jl '23

Nerves of the nations; the romance of the submarine cable. R. Belfort. Elec R (Lond) 91:76-7, 135-6 Jl 21-28 '22

Pacific cable board; annual report. Elec R (Lond) 89:731 N 25 '21

Submarine cable telegraphy. J. W. Milnor. diags Am Inst E E J 41:118-36 F '22; Discussion. 41:596-7 Ag '22

Submarine telegraphy. R. Appleyard. Elec R (Lond) 91:725-7 N 17 '22

Submarine telegraphy. W. Judd. Inst E E J 60:406-8 Ap '22

Submarine telegraphy, 1861-1921. Electrician 87:608-9 N 11 '21

Transmission characteristics of the submarine cable. J: R. Carson and J. J. Gilbert. diags J Fr Inst 192:705-35 D '21

Telegraph, Wireless. See Radio telegraph**Telegraph codes. See Cipher and telegraph codes****Telegraph companies**

See also Western union telegraph company

Telegraph lines**Construction**

British standard specifications for overhead line wire material for telegraph and telephone purposes. (Rep. nos. 174-84) 41p

British engineering standards assn., London '23

Specifications for pole line construction. 238p Western union telegraph co., New York '23

Specifications for underground construction. 124p Western union telegraph co., New York '22

Protection

Dispositif permettant de conserver des circuits télégraphiques unifilaires a proximité de lignes a courants alternatifs. diag Génie Civil 81:182 Ag 19 '22

Wind shielding between conductors of telegraph and telephone lines. P. J. Howe. il Am Inst E E J 42:20-6 Ja '23; Discussion. 42:750-3 Jl '23

Telegraph offices

Rapid transit in the telegraph office. il Sci Am 126:119 F '22

Telegraphers

Telegraphers' wages. Monthly Labor R 16: 396-9 F '23

Work of juniors in the telegraph service. R. E. Berry. (Div. of vocational educ. Part-time educ. ser. no. 10. Bul. no. 7) 179p

Univ. of Cal., Berkeley '22

Telehor

Telehor, a Hungarian invention. Elec W 82: 454 S 1 '23

Telemeter

New developments in electric telemeters. O. S. Peters and R. S. Johnston. il diags Engineering 116:253-4 Ag 24 '23

Telephone

Electrical communication particularly telephony over considerable distances. F. Gill. Inst E E J 61:1-15 D '22; Same cond. Elec R (Lond) 91:678-81 N 10 '22; Excerpts. Engineering 134:486-7 N 10 '22; Abstract. Electrician 89:534-5 N 10 '22

Inter-communicating telephone. il Eng & Ind Management 6:507 N 3 '21

Length of telephone talk controlled by timer. il Pop Mech 36:814 D '21

Long-distance telephone problems. il Sci Am 128:106-7 F '23

Noyaux de bobines d'appareils téléphoniques, en poudre de fer comprimée. Génie Civil 81:621-2 D 30 '22

Phantom telephone circuits, and combined telegraph and telephone circuits, worked at audio frequencies. J. G. Hill. diags Inst E E J 60:675-91 Je '22; Abstract. Elec R (Lond) 90:642-4 My 5 '22; Abstract. Electrician 88: 408-10 Ap 7 '22; Discussion. Inst E E J 60: 691-705 Je '22

Phone service measured like electric light. il Pop Mech 37:833-4 Je '22

Physical phenomenon and its applications to telegraphy, telephony, etc. A. Johnsen and K. Rahbek. diags Inst E E J 61:713-25 Jl '23

Problems in telephony, solved and unsolved. J. A. Fleming. Inst E E J 61:613-41 Je '23; Abstracts. Elec R (Lond) 92:929-30, 997-8 Je 15-22 '23; Engineering 115:710 Je 8 '23

Reflection in telephone circuits. L. C. Pocock. Electrician 88:589-90 My 19 '22

Report of A.L.E.E. telegraphy and telephony committee. Am Inst E E J 41:936-9 D '22

Telephone equipment for long cable circuits. C. S. Demaree. il diags Am Inst E E J 42:1159-61 N '23

Telephone service. il diags U S Bur Stand Circ 112:1-214 '21

Telephone that tells no tales. G. H. Dacy. il Pop Mech 37:524 Ap '22

Telephone transmission over long cable circuits. A. B. Clark. il diags Am Inst E E J 42:1-11 Ja '23; Discussion. 42:848-9 Ag '23

Telephone transmission over long distances. H. S. Osborne. il maps Am Inst E E J 42: 1051-62 O '23

Telephonic transmission through submarine cables. A. Rosen. Inst E E J 60:73-80 D '21

Telephony. J. E. Kingsbury. Inst E E J 60: 423-31 Ap '22

Telephony. S. G. McMeen and K. B. Miller. 925p American technical society, Chicago '22

Trend of progress in communication by wire. T. F. Purves and W. Noble. Elec R (Lond) 91:708-11 N 17 '22

Who invented the telephone? E. Boschetti. Elec W 80:666 S 23 '22

See also Electric plants (central stations)—Telephone; Light telephone; Mine telephones; Radio telephone; Railroads—Telephone; Street railroads—Telephone; Telephone, Carrier current

Amplifying apparatus

Practical application of the telephone repeater; with discussion. H. S. Osborne. il diags W Soc E J 27:129-43 My '22

Telephonic repeaters and long distance telephony. J. A. Cooper. diags Inst E E J 61: 75-80 D '22

Business application

See Telephone in offices

Coin collecting box

Hall coin-collecting telephone box. il diags Engineering 114:551-3 N 3 '22

H.T.A. coin collector and impulse dial; a new telephone call box. il diags Elec R (Lond) 91:770-1 N 17 '22

History

Bell and his telephone; little known facts. Sci Am 127:232 O '22

Designs of telephone instruments from the first model to present-day types. il Ind Eng 80:560 D '22

Early pioneering in telegraphy and telephony. C: Bright. Electrician 87:602-3 N 11 '21

Experiences over fifty years of a telegraph and telephone engineer. D. Sinclair. Inst E E J 60:488-9 Ap '22

Loud speaking apparatus

"Dam is breaking!"—heard four miles. H. A. Lane. Pop Mech 37:9-12 Ja '22

Electrical achievements signalize unknown hero honors. J. W. Kean. il Pop Mech 37: 19-22 Ja '22

Electrical loud speakers. A. Nyman. diags Am Inst E E J 42:921-7 S '23; Discussion. 42:1338-41 D '23

Function of the horn on a loud speaker. C. R. Hanna. diags Elec J 20:396-7 N '23

Hornless loud speaker. B. Dill. il Wireless Age 10:67 '22

Loud speaker guides vessels to port. il Pop Mech 40:245 Ag '23

Loud-speaking telephones and signals assist in power-house operation. R. C. Denny. il Elec W 78:1077-8 N 26 '21

One hundred and fifty thousand hear Arlington exercises. il Elec W 78:1041-2 N 19 '21

Public address systems. I. W. Green and J. P. Maxfield. il diags Am Inst E E J 42:347-58 Ap '23; Discussion. 42:654-7 Je '23

Science provides modern ally for director of film. il J Elec 51:53 Jl 15 '23

Use of public address system with telephone lines. W. H. Martin and A. B. Clark. diags Am Inst E E J 42:359-66 Ap '23; Discussion. 42:654-7 Je '23

Voice with the nation-wide audience. R. W. King. il diags plan Sci Am 126:120-1 F '22

When electricity magnifies the speaker's voice. il Sci Am 128:167+ Mr '23

Manufacture

Machining qualities set standard for telephone box. H. R. Simonds. il Foundry 49: 970-3 D 15 '21

Brazil

History of the telephone and telegraph in Brazil, 1851-1921. V: M. Berthold. 92p V: M. Berthold, New York '22

Europe

Telephone possibilities in Europe. Engineering 114:589-90 N 10 '22

France

Projet officiel de réorganisation des postes, télégraphes et téléphones, et les Semaines des P. T. T. A. Ferry. Génie Civil 82:495-7; 83:280-2 My 26, S 22 '23

La Semaine des postes, télégraphes et téléphones, (Paris, 30 avril-5 mai 1923).

P. Rague. Génie Civil 82:471-5 My 19 '23

State telephone ownership condemned in France. Elec W 80:952 O 28 '22

Great Britain

Progress and potentialities of the telephone in the United Kingdom. F. G. C. Baldwin. Inst E E J 61:24-30 D '22; Abstract. Electrician 89:509-10 N 3 '22

Telephone service. Elec R (Lond) 90:442 Mr 31 '22

Netherlands

Le réseau de cables téléphoniques à longue distance de Hollande. A. Ferry. map Génie Civil 83:87-8 Jl 28 '23

United States

American telephone practice from a British point of view. E. S. Byng. Sci Am 126:93 F '22

Telephone, Automatic

Automatic telephone expedites communication at large locomotive shops. il Ry Age 74:1007-8 Ap 21 '23

Telephone, Automatic—Continued

Auxiliary features in automatic telephone systems. W. Aitken. Electrician 87:564-5, 728-9; 88:62-3, 154, 470-1 N 4, D 9 '21, Ja 20, F 10, Ap 21 '22

Development of automatic telephony. il diags Engineering 113:63-6 Ja 20 '22

Fleetwood automatic telephone exchange. il Elec R (Lond) 91:639-41 N 3 '22; Engineer 134:474-5 N 3 '22; Engineering 114:548-50 N 3 '22; Electrician 89:506-7 N 3 '22

Ingenious variation in automatic telephones. Sci Am 129:371 N '23

Latest marvel of telephone science in use. il Pop Mech 40:163-5 Ag '23

Machine switching telephone system for large Metropolitan areas. E. B. Craft, L. F. Morehouse and H. P. Charlesworth. il diags map plans Am Inst E E J 42:320-34 Ap '23; Excerpt. Elec W 81:446-7 F 24 '23; Discussion. Am Inst E E J 42:747-50 Jl '23

New automatic telephone exchange. il Elec R (Lond) 90:186-7 F 10 '22

Operating speed of automatic telephone equipment. P. G. Andres. il diags W Soc E J 28:421-37 O '23

Raleigh coal co. keeps in touch with key workmen by automatic telephones. A. F. Brosky. il Coal Age 23:490 Mr 22 '23

Relay automatic telephone system. il Engineering 114:406-7, 422-4, 448-51 S 29-O 13 '22

Relay automatic telephones. il Eng & Ind Management 7:79 Ja 19 '22

Thermostatic protecting devices. W. Aitken. diags Electrician 89:208 Ag 25 '22

Telephone, Carrier current

Aiding the development of carrier current. Elec W 82:341 Ag 18 '23

Baltimore-Holtwood carrier current giving excellent service. il diags Elec W 81:1076-81 My 12 '23

Broadcasting over wires. Elec W 82:448 S 1 '23

Carrier current being used successfully. E. P. Peck. il Elec W 81:163 Ja 20 '23

Carrier current communication over high-voltage transmission lines. E. Austin. il diags Gen Elec R 26:424-35 Je '23

Carrier-current communication through cable. G. M. Armbrust. Elec W 80:129 Jl 15 '22

Carrier current for interstation communication. Elec W 78:1189; 79:185 D 10 '21, Ja 28 '22

Carrier-current sets for central stations. Elec W 80:668-9 S 23 '22

Carrier current telephone between Holtwood, Pa. and Baltimore, Md. N E L A Bul 10:95 F '23; Same. Am Inst E E J 42:246 Mr '23

Carrier current telephony. B. R. Cummings. il Sci Am 129:100+ Ag '23

Development of carrier current telephone on 110,000 volt transmission line of Shawinigan water & power company, Montreal. N E L A Bul 10:38-9 Ja '23

Every lamp socket a radio-phone. S. R. Winters. Sci Am 126:384 Je '22

Experiences with carrier-current systems described at Del Monte convention. L. F. Fuller. Elec W 82:804-5 O 20 '23

Great Western carrier system. J. A. Koontz, jr. il Elec W 82:805-6 O 20 '23

Key West—Havana submarine telephone cable system. W. H. Martin, G. A. Anderegg and B. W. Kendall. il diags Am Inst E E J 41:199-200 Mr '22

Limitations of carrier-current telephony. C. A. Boddie and M. W. Cooke. il diags Elec W 81:909-13 Ap 21 '23

Long-distance carrier-current record. il Elec W 81:1053 My 5 '23

New telephone invention. il Sci Am 126:391 Je '22

New transmission line communication system for power stations demonstrated. N E L A Bul 9:183-4 Mr '22

Power company communication developments. il diags J Elec 50:358-69 My 15 '23

Power-line telephony. Elec W 82:96 Jl 14 '23

Progress in carrier-current telephony. il Elec W 80:1464 D 30 '22

Radio development will aid central stations. Elec W 80:941 O 28 '22

Radio revolution not yet here. C. Dreher. Wireless Age 10:52-3 Ap '23

Radio subcommittee of electrical apparatus committee on carrier current broadcasting. N E L A Bul 9:679-80 N '22

Secret conversations by radio superphone. il Pop Mech 39:349 Mr '23

Telephone transmission over long distances. H. S. Osborne. il maps Am Inst E E J 42:1059-61 O '23

Telephoning from a moving car; the carrier current communication system demonstrated. il Elec Ry J 58:1032 D 10 '21

Telephoning over power lines. Elec Ry J 62:336 S 1 '23

Telephony over high-tension lines. Elec W 81:294 F 3 '23

Telephony over power lines in Europe. C. N. Anderson. diags Elec W 81:45-6 Ja 6 '23

Transatlantic conversation nearly here. Elec W 81:177 Ja 20 '23

Wired radio broadcasting. Elec W 81:117 Ja 13 '23

Wired-wireless broadcasting. R. D. Duncan, jr. il diags Elec W 80:367-9 Ag 19 '22

Wired wireless for communication with line crews tried on Third avenue railway, New York. Elec W 81:870 Ap 14 '23; Same. Elec Ry J 61:554 Mr 31 '23

Wired wireless for creating good will. G. O. Squier. Elec W 79:1071 My 27 '22

Wired wireless for trolleys. L. T. Wilson. il Aera 11:1231-6 My '23

Wired wireless over power lines. C. A. Boddie. Elec Ry J 62:182 Ag 4 '23

Wired-wireless telephony by the post office. diags Engineering 114:593-4 N 10 '22

World's longest guided radio line on Pitt river system. C. W. Geiger. il Power Pl Eng 27:636 Je 15 '23

Telephone, Light. See Light telephone

Telephone, Loud speaking. See Telephone—Loud speaking apparatus

Telephone, Wireless. See Radio telephone

Telephone association, United States independent. See United States independent telephone association

Telephone cables

Key West—Havana submarine telephone cable system. W. H. Martin, G. A. Anderegg and B. W. Kendall. il diags map Am Inst E E J 41:184-202 Mr '22; Discussion. 41:596 Ag '22

Lincoln highway of the telephone; laying a giant cable across the mountains of Pennsylvania. H. A. Mount. il map Sci Am 126:172-3 Mr '22

New York-Chicago cable is engineering feat. il Pop Mech 36:811 D '21

Philadelphia-Pittsburgh section of the New York-Chicago cable. J. J. Pilliod. il diags maps Am Inst E E J 41:585-95 Ag '22

Telephone transmission over long cable circuits. A. B. Clark. il diags Am Inst E E J 42:1-11 Ja '23; Discussion. 42:848-9 Ag '23

Telephone companies

How Bell telephone system charts future growth of cities. maps C. B. Larrabee. Ptr Ink M 4:32-4 D '21

Advertising

Sectional campaign of telephone company localizes appeal. E. A. Muschamp. Ptr Ink 117:101-2+ N 17 '21

Tearing down old copy dogs. W. B. Edwards. Ptr Ink 123:65-6+ Ap 26 '23

Employees

Library service for telephone system employees. K. Weisiger. Special Lib 13:42-3 Mr '22

Ten receive first award of Theodore N. Vail medals. il Elec R 79:860-2 D 3 '21

See also Telephone operators

Public relations

Taking the plant to the consumer. J. O. Martin. il Ptr Ink M 5:66 Ag '22

Telephone company buildings

New York telephone company building, New York. Arch Forum 39:41, pl 10-11 Jl '23

Telephone exchanges

New Clerkenwell telephone exchange. *il Elec R (Lond)* 90:6-8 Ja 6 '22

Telephone in offices

Are you getting the most from your telephones? J. S. McCulloh. *il System* 43:191-3+ F '23

Harnessing the telephone. *Dom Eng* 104:288-9 Ag 11 '23

Telephone lines

Key West—Havana submarine telephone cable system. W. H. Martin, G. A. Anderegg and B. W. Kendall. *il diags map Am Inst E E J* 41:184-202 Mr '22

Long-distance telephone problems. *il Sci Am* 128:106-7 F '23

Meaning of inductive co-ordination. J. C. Damon. *diags Elec W* 80:1037-41 N 11 '22

Le réseau de câbles téléphoniques à longue distance de Hollande. A. Ferry. *map Génie Civil* 83:87-8 J1 28 '23

Taking your voice under the river. R. J. O'Donnell. *il Am Ind* 22:11-12 D '21

Telephone line work in the United States. E. S. Byng. *diags plans Inst E E J* 60:85-110 Ja '22; Abstracts. *Elec R (Lond)* 89:727-9 N 25 '21; Electrician 87:676-8 N 25 '21; Discussion. *Inst E E J* 60:110-35, 262-4, 362-75, 604-12 Ja-Mr, My '22; *Elec R (Lond)* 89:729-30, 799, 900-1; 90:79-80, 606-7 N 5, D 9, 30 '21, Ja 20, Ap 28 '22; Electrician 87:681; 88:192 N 25 '21, F 17 '22

Telephone placed on high-tension power line. P. C. Herault. *il Elec W* 80:26 J1 1 '22

Telephone transmission over long distances. H. S. Osborne. *il maps Am Inst E E J* 42:1051-62 O '23

Telephonic transmission through submarine cables. A. Rosen. *Inst E E J* 60:73-80 D '21

Les transmissions téléphoniques à longue distance. A. Ferry. *il diags Génie Civil* 81:563-9 D 16 '22

See also Telephone cables

Protection

Protection of telephone circuits. E. Fischer. *diag Elec W* 82:617 S 22 '23

Wind shielding between conductors of telegraph and telephone lines. P. J. Howe. *il Am Inst E E J* 42:20-6 Ja '23

Telephone operators

Women in Kentucky industries. *U S Women's Bur Bul* 28:58-63 '23

Telephone receivers

Electrical vibration instruments. A. E. Kennelly. 450p [bibliog p 438-42] Macmillan '23

Hard rubber ear caps. *il diags India Rubber W* 69:85-6 N '23

Making hard rubber goods from hard rubber dust. W. S. Cobb. *il diags India Rubber W* 66:409-11 Mr '22

Theory of the telephone receiver. L. C. Pocock. *Electrician* 89:708-10 D 22 '22

Undistorted sounds given by new phone receiver. *Pop Mech* 38:852 D '22

Telephone repeaters. See Telephone—Amplifying apparatus

Telephotography

Telephotography. C. F. Lan-Davis. 2d ed. 116p Routledge; Dutton '21

Telescope

Correction for top and side telescope. J. Underhill. *Eng & Min J* 115:764 Ap 28 '23

18-in. refracting telescope for the Brazilian government. *il diag Engineering* 115:130-1, 161-2, 223-5 pl 10-12, 14 F 2-9, 23 '23

Garden telescope for the amateur astronomer. *il Sci Am* 128:35 Ja '23

100-inch Hooker reflecting telescope of the Mount Wilson observatory. F. G. Pease. *il Mech Eng* 45:447-8 J1 '23

Telescope. L. Bell. 287p McGraw-Hill '22

Le télescope équatorial de l'Observatoire national de Rio-de-Janeiro. H. Guérin. *il diags Génie Civil* 83:25-9 J1 14 '23

See also Lenses

Manufacture

Great telescope built by Warner & Swasey co. for Argentine national observatory. *Mach* 29:148 O '22; *Iron Tr R* 71:853 S 28 '22

Manufacture of reflecting telescope disks. D. E. Sharp and W. H. Rising. *il diags J Ind & Eng Chem* 14:511-15 Je '22; Same abr. *Gas Age* 49:775-6+ Je 24 '22

Reflector cast in America for largest telescope. *Pop Mech* 38:10 J1 '22

Telotype. See Telegraph, Printing

Television

Motion pictures in three dimensions thru use of the television. *il diags Sci Am* 128:5 Ja '23

Tellurides

Molecular weight of the sodium-tellurium complex in liquid ammonia as derived from vapor-pressure measurements. C: A. Kraus and E: H. Zeitfuchs. *diag Am Chem Soc J* 44:2714-28 D '22

Tellurides. T. A. Rickard. *Eng & Min J* 114:708, 752, 972-3; 116:990-1 O 21-28, D 2 '22, D 8 '23

Tellurium

Bismuth, selenium, and tellurium in 1922. V: C. Heikes. *U S Geol S Min Res of U S* 1922, pt 1:15-25 '23

Electrometric titration of selenium in the presence of tellurium, iron and copper. H. H. Willard and F. Fenwick. *diag Am Chem Soc J* 45:933-9 Ap '23

Marketing of selenium and tellurium. F. F. Colcord. *Eng & Min J* 115:887-8 My 19 '23

Nature of the complexes formed between sodium and tellurium in liquid ammonia. C: A. Kraus and C. Y. Chiu. *Am Chem Soc J* 44:1999-2008 S '22

New uses for selenium and tellurium. *Eng & Min J* 114:505 S 16 '22

Tellurium. H. A. Doerner. *Brass W* 18:376 D '22

Tellurium and its uses. H. A. Doerner. *Chem & Met Eng* 27:847-8 O 25 '22

Tellurium compounds increase efficiency of gasoline. *Sci Am* 126:343 My '22

Uses, metallurgy, and detection of tellurium. *Eng & Min J* 114:681 O 14 '22

Volumetric determination of tellurium by the dichromate method. V. Lenher and H. F. Wakefield. *Am Chem Soc J* 45:1423-5 Je '23

See also Tellurides

Tellurium tetrabromide

Compounds of tellurium tetrabromide with organic bases. A. Lowy and R. F. Dunbrook. *Am Chem Soc J* 44:614-17 Mr '22

Tellurium tetrachloride

Researches on residual affinity and coordination. G. T. Morgan, H. D. K. Drew and H. G. Reeves. *Chem Soc J* 121:922-40; 123:444-52 My '22, Mr '23

Telpherage

Blockierung und fernsteuerung für elektro-hängebahnen. C. Schwarz. *diags Stahl & Eisen* 42:940-2 Je 15 '22

Correcting a time killing evil by an overhead carrying system. L. Broemel. *il Sheet Metal Worker* 13:633-4 N 10 '22

Development of mechanical handling devices in Germany during and since the war. G: F: Zimmer. *il Eng & Ind Management* 7:334-40 Ap 6 '22

Electric telpher installation at Plymouth gas works. H. Blyth. *il diags plan Electrician* 87:829-32 D 30 '21

Handling at the largest tea factory in the world. G: F: Zimmer. *il diags plans Ind Management (Lond)* 9:19-25 Ja 11 '23

High-speed monorail traction system; abstract. *Mahl. Elec W* 78:1184-5 D 10 '21

Tramrail system for handling materials. *il Power Pl Eng* 26:543 My 15 '22

Transporteurs automoteurs à monorail, pour la manutention mécanique des marchandises. *il Génie Civil* 80:570-1 Je 24 '22

Tel-U-Where company of America, Boston, Massachusetts

National service to the buying public. L. R. Gibbs. *Special Lib* 13:53-5 Ap '22

Temiskaming & Northern Ontario railway

Electric traction recommended for T. & N. O. Ry. *Age* 74:325-6 F 3 '23

Temperature

See also Atmospheric temperature; Boiling points; Calorimeters and calorimetry; Concrete—Temperature; Earth temperature; Electric machinery—Temperature; Freezing points; Gas and oil engines—Temperature; Heat; Melting points; Pyrometers and pyrometry; Soil temperature; Thermocouples; Thermometers and thermometry; Water—Temperature

Measurement

- Advertising that creates a sixth sense; Tycos temperature instruments. E: Hungerford. il Ptr Ink M 6:35-6+ Je '23
- Ambient temperature measurements. W. B. Kouwenhoven. Am Inst E E J 41:635 S '22
- Application of the ultra-micrometer to the measurement of small increments of temperature. W. Sucksmith. diags Philos Mag 6th ser 43:223-6 Ja '22
- Applications and limitations of thermocouples for measuring temperatures. I. B. Smith. diags Am Inst E E J 42:171-8 F '23; Discussion. 42:851-3 Ag '23
- Charts for estimating temperature distributions in heating or cooling solid shapes. H. P. Gurney and J. Lurie. Ind & Eng Chem 15:1170-2 N '23
- Control of boilers by temperature and draught measurements. J. B. C. Kershaw. il diag Engineer 135:437-41 Ap '23
- Device records temperature inside refrigerator cars. il Pop Mech 36:894 D '21
- Discharge temperatures of carbon-dioxide compressors. T. M. Gunn. Power 58:501-2 S 25 '23
- Measuring the flow of heat in buildings by means of resistance wires. F. E. Gieseck. il diags Heat & Ven 19:29-31 Ag '22
- Rapid calculation of theoretical maximum temperatures. G. G. Brown. Chem & Met Eng 27:497-500 S 6 '22
- Temperature indicators for turbo-generators. Power 58:344 Ag 28 '23
- Temperature variation in eyebars found slight. diags Eng N 90:740 Ap 26 '23
- Temperatures and gas velocities in boiler settings; results of tests on 1000-hp. Stirling boilers. A. W. Binns and C. E. Joos. diag Power Pl Eng 25:1138-9 D 1 '21
- Temperatures of pneumatic truck-tires. F. O. Ellenwood. il diags Soc Auto Eng J 11:129-38 Ag '22; Same cond. Automotive Ind 46:1232-6 Je 8 '22; Discussion. Soc Auto Eng J 11:138 Ag '22
- Temperaturmessungen an giesspfannen für eisen- und stahl-giessereien. L. Treuhit. diags Stahl & Eisen 41:1526-9, 1731-6 O 27-D 1 '21
- Tool temperatures and the cutting resistance of metals. H. A. Schwartz and W. W. Slagle. Am Mach 59:319 Ag 30 '23
- See also Boiling points; Calorimeters and calorimetry; Pyrometers and pyrometry; Thermocouples; Thermometers and thermometry
- Physiological effect**
- Determination of the comfort zone with further verification of effective temperatures within this zone. F. C. Houghten and C. P. Yagloglou. Am Soc Heat & V E J 29:515-32; Discussion. 532-6 S '23
- Determining equal comfort lines. F. C. Houghten and C. P. Yagloglou. il chart plan Am Soc Heat & V E J 29:165-76 Mr '23
- Further study of physiological reactions. W. J. McConnell, F. C. Houghten and F. M. Phillips. il Am Soc Heat & V E J 29:507-14 S '23
- Industrial accidents in relation to temperature. H. M. Vernon. Ind Management (Lond) 8:371-2 D 28 '22
- Some physiological reactions to high temperatures and humidities. W. J. McConnell and F. C. Houghten. il charts Am Soc Heat & V E J 29:131-63 Mr '23
- Ventilation and human efficiency. L. Hill. Min & Sci P 124:259-63 F 25 '22

Regulation

- Automatic control apparatus regulates temperature and pressure. il Iron Age 111:613 Mr 1 '23
- Automatic electric temperature-regulating system for furnaces. I. W. Chubb. il Am Mach 57:685-6 N 2 '22
- Automatic temperature-time control for piece dyeing. V. Wichum. il charts Am Dyestuff Rep 12:774-9 O 22 '23
- Centralized control of steam-heating system based on outside temperature. diags Power 58:528-30 O 2 '23
- Electric switch regulates temperature. il Pop Mech 39:736 My '23
- Fuel economy effected through automatic temperature regulation. W. H. Woods. Dom Eng 100:457+ S 9 '22
- Hoskins automatic temperature regulator. il Am Mach 57:357 Ag 31 '22
- New form of temperature regulator. C. Wells. diag Power Pl Eng 26:474-5 My 1 '22; Same. Chem & Met Eng 26:561 Mr 22 '22
- Production economies through automatic temperature control. il charts Factory 30:696-9+; 31:37-40+ Je-Jl '23
- Saybolt viscosity measurements and their control. P. E. Klopsteg and W. H. Stannard. diags Ind & Eng Chem 15:702-7 Jl '23
- Some phases of automatic process control. H. A. Clark. il diags J Ind & Eng Chem 14:1016-18 N '22
- Steam savings by automatic control in large buildings. B. L. Boalt. Heat & Ven 20:40-2 S '23
- Steam waste in heating railroad coaches. T. W. Reynolds. diags Heat & Ven 19:41-5 Je '22
- Syphon temperature control instrument. diag Power 58:608 O 16 '23
- Temperature control. Engineer 135:44 Ja 12 '23
- Temperature control by fractional distribution of steam in large one and two-pipe systems. J. A. Donnelly. diags Am Soc Heat & V E J 28:404-6 My '22
- Temperature control in industries. L. O. Robertshaw. Gas Age 49:217-18 F 18 '22
- Temperature control in the dye house and bleachery. B. F. Wadsworth. Textile Col 45:103-6, 171-4+, 239-42, 307-10, 375-8, 511-15, 644-7, 787-92 F-Je, Ag, O, D '23
- Temperature regulation by automatic valve. G. A. Wegner. diags A S R E J 8:203-10 N '21
- Temperature regulators for Leviathan. diags Marine R 53:315-16 Ag '23
- See also Thermostats
- Temperature, Animal and human**
- Body temperatures and their measurements. W. J. McConnell and F. C. Houghten. il diags Am Soc Heat & V E J 28:523-32 Jl '22
- Temperature, Atmospheric.** See Atmospheric temperature
- Temperature, High**
- Les appareils de laboratoire pour le chauffage aux hautes températures. M. Garvin. diags Chimie & Ind 9:647-50 Ap '23
- High temperature investigation. E. F. Northrup. il diags J Fr Inst 195:665-86 My '23
- Physical properties of elements at high temperatures. Megh Nad Saha. Philos Mag 6th ser 46:534-43 S '23
- Temperature, Low**
- Low temperatures. R. F. Yates. Refrig W 57:35-6 Jl '22
- Lowest temperature yet attained. H. K. Onnes. Refrig Eng 9:211 D '22
- Lowest temperature yet reached. Sci Am 129:251 O '23
- Some low temperature reference points. F. G. Keyes. Refrig Eng 9:293-4 Mr '23
- Where the temperature is 434 degrees below zero; the work of the Bureau of standards in liquefying and freezing hydrogen, lightest of gases. S. R. Winters. il Sci Am 129:106 Ag '23
- See also Freezing points

Temperature coefficient

Resistance-temperature coefficient of concentrated solutions of sodium in liquid ammonia. C: A. Kraus and W. W. Lucasse. *Am Chem Soc J* 44:1941-9 S '22

Temperature of explosion. See Explosions**Temperature regulators****Advertising**

Big push on heat regulators. *Sheet Metal Worker* 13:607-8+ O 13 '22
Heat regulator week success in St Paul. *il Sheet Metal Worker* 14:749-50 O 26 '23
High price and scarcity of coal your opportunity. *Sheet Metal Worker* 13:685-6 N 10 '22
How to plan a heat regulation sales campaign. *Heat & Ven* 20:72 S '23
How to sell heat regulators. B: Benson. *Dom Eng* 104:434-5 S 1 '23
Timely heat regulation drive. *il Dom Eng* 100:400-3 S 2 '22

Tempering

Beitrag zur kenntnis des temperprozesses. P. Oberhoffer and J. Welter. *il diags Stahl & Eisen* 43:105-10, 301-6 Ja 25, Mr 1 '23
How to temper 7/8-in. hollow steel drill heads. S. L. Baker. *Eng & Min J* 116:679 O 20 '23
Shop talk on tempering steel. *Gas Age* 50:357-9 S 16 '22
Structure of martensitic carbon steels and changes in microstructure which occur upon tempering. H: S. Rawdon and S: Epstein. *il U S Bur Stand Sci Pa* 452:373-409 '22
Tempering of tool steels. J. P. Gill and L. D. Bowman. *Iron Age* 112:1050 O 18 '23
Tempering tools by steam at high pressure. E. Sheldon. *il Am Mach* 59:705-6 N 8 '23
La trempe de l'acier et des alliages métalliques. A. Portevin. *diags Génie Civil* 82:151-4 F 17 '23
Ueber die anlauffarben von metallen. G. Tarnmann. *Stahl & Eisen* 42:615-19 Ap 20 '22

Temples

Chinese temple in Formosa. K. W. Dowie. *il plan Arch Forum* 37:115-18 S '22
Temple city of Baalbek. P. W. Copeland. *il plan Am Arch* 124:139-44 Ag 15 '23
World to view wonders of ancient temple; Boro-Budur, an old Buddhist shrine in central Java. *il Pop Mech* 40:726-7 N '23

Temples, Mormon

Mormon temple is designed on straight lines. *il Pop Mech* 37:333 Mr '22

Templets

Countershaft templet. *diags Mach* 28:489-90 F '22
Device for setting up and laying out templets. S. H. Drake. *il Am Mach* 56:785 My 25 '22
Laying out master cam templets. E: J. Rantsch. *diags Mach* 30:49-50 S '23
Templet for laying out keyways. W: S. Rowell. *diags Mach* 28:313 D '21

Temporary bridges. See Bridges, Temporary**Tenders, Locomotive.** See Locomotive tenders**Tenement houses**

Building of Manhattan; tenements. F: L. Ackerman. *il Am Inst Arch J* 10:114-20 Ap '22
House design. A. J. Thomas. *plans Am Soc C E Pro* 48:484-8 Mr '22; Same. *Eng & Contr* 57:403-4 Ap 26 '22
Phelps-Stokes fund tenement house competition. F: L. Ackerman. *plans Am Inst Arch J* 10:76-82 Mr '22
Tenement house planning. *plans Arch Forum* 36:157-9 Ap '22

See also Apartment houses; Housing

Tennessee

See Mines and mineral resources—Tennessee; Motor bus lines—Tennessee; Roads—Tennessee; Street railroads—Tennessee

Tennessee copper and chemical corporation

Facts for the stockholder. *Eng & Min J* 116:789 N 3 '23

Tennis courts

Concrete bowl for tennis stadium. *il diags Concrete* 23:94-6 S '23

Official notification of awards. *il Am Arch* 122:525-30+, 562-5 D 6-20 '22

Tensiometer, Airplane. See Airplane tensiometer**Tension devices (textile machinery)**

Evolution of spooler tension device. R: E. Naumburg. *il Textile World* 60:2682+ N 5 '21

Tension meters

Acoustic tension meter. A. H. Stuart. *il Aeronautical J* 27:73-8 F '23

Tensors

Equality of tensors. T. Y. Thomas. *Philos Mag* 6th ser 45:177-81 Ja '23
Tensors of given types in Riemann space. P. Franklin. *Philos Mag* 6th ser 45:998-1009 My '23

Tents

Camping tent without stakes, guys, or posts. *il Pop Mech* 39:415 Mr '23

Ter Meulen credit plan. See Credit, International**Teredos**

Angelique—a wood that resists the attack of the teredo. *il Sci Am* 129:319 N '23
Destructive action of marine borers. H. von Schrenk. *Can Eng* 43:390-2 S 26 '22; Same *abr. Eng & Contr (Bldgs)* 58:47-50 O 25 '22
Deterioration of materials used in harbour construction. *Engineering* 113:739-40 Je 16 '22; Same. *Eng & Contr* 58:270-2 S 20 '22; Same. *Can Eng* 43:431-3 O 10 '22
Digestion of wood by teredo navalis. W. H. Dore and R. C. Miller. 400p Univ. of California press, Berkeley '23
Greenheart as teredo resistant on Panama locks. C. J. Embree. *il Eng N* 89:619-21 O 12 '22; Discussion. 89:626, 714 O 12, 26 '22
Marine borers. W. G. Atwood. *il Am Soc C E Pro* 48:1408-24 Ag '22
Monograph of the American shipworms. P. Bartsch. 51p (Smithsonian institution Bul. 122) U.S. National museum, Washington '22
Suggests foreign woods to resist borers. C. Kooy. *Eng N* 89:626 O 12 '22

Terminals

Aerial view of a metropolitan terminal where car and ferry meet. *il Pop Mech* 39:258 F '23
Central station opportunities in harbor development. E. W. Roesch. *il N E L A Bul* 9:681-5 N '22
Constructional activities at the port of Montreal. *Can Eng* 43:581 N 28 '22
L'installation pour le déchargement et la manutention des grains, à Bordeaux-Bassens. *il diags Génie Civil* 79:529-32, pl 6 D 17 '21
Los Angeles wholesale terminal. C. A. Elliott. *il Elec Ry J* 59:78-9 Ja 14 '22
Modern quayside equipment for general goods handling. B. Cunningham. *Ind Management (Lond)* 8:193-6 O 5 '22
Modern rail and water terminals, with particular reference to the situation at Chicago, Illinois. *diags map plans Am Soc C E Pro* 49:1552-84 S '23
New Claremont freight terminal. L.V.R.R. *il diags plans map Ry R* 72:726-31 Ap 28 '23; *Ry Age* 74:1195-1201 My 19 '23
New river-and-rail terminals on the Mississippi. *diags maps Eng N* 89:18-20 Jl 6 '22
New U.S. port for Asia's trade. H. H. Dunn. *il plans Marine R* 52:155-8 Ap '22
Newark develops port terminal. *il map Marine R* 52:480-2 D '22
Ports of the nation—Galveston. I. D. McMaster. *il chart Am Ind* 23:19-23 Ap '23
Pouch terminal, Clifton, Staten Island, N.Y. *Arch & Bldg* 54:90+, pl 159-60 S '22
Problem of terminal organization and operation. J. R. Bibbins. *Ry R* 73:617 O 27 '23
Rehabilitation of old piers to reduce the cost of handling freight. F. L. Stuart. *Can Eng* 42:529-31 My 23 '22
Relationship of rail and water carriers. W: J. Wilgus. *Marine Eng* 27:203-4 Mr '22
Serves vegetable oil traffic. *il Marine R* 52:39-40 F '22

Terminals—Continued

- Setting the practical limits of terminal unification. F. R. Ford. Eng N 90:249 F 8 '23
- Use of mechanical equipment on modern waterfront terminals with particular regard to industrial trucks, tractors and trailers. W. Lansing, jr. Gen Elec R 25:257-9 Ap '22
- Water terminal and transfer facilities. 2409p U. S. Engineer dept., Washington '21
- Waterfront improvements in the central business district of Pittsburgh. E. K. Morse. Eng Soc W Pa 36:267-76; Discussion. 277-308 O '22
- Waterway terminal situation in Illinois. M. G. Barnes. il diag map W Soc E J 28:404-12 S '23
- Waterways need new terminals. G. P. Gleason. il Marine R 52:439-43 N '22
- World's largest canal terminal; New York state barge canal terminal at Gowanus Bay. G. P. Gleason. il Pop Mech 38:264-8 Ag '22
- See also Electric railroads—Terminals; Freight handling; Harbors; Locomotive terminals; Motor bus lines—Terminals; Ore docks; Ports; Railroads—Terminals; Street railroads—Terminals; also New York (city)—Harbor

Electric equipment

- Electrification of Seattle port terminals. O. P. Seim. il diags plan Elec W 81:155-8 Ja 20 '23

Terminals, Railroad. See Railroads—Terminals

Terminology

- See Automobiles—Terminology; Concrete—Terminology; Engineering—Terminology; Lighting—Terminology; Paper—Terminology; Rubber—Terminology

Termites

- Destruction of cedar poles by termites in California. il J Elec 48:110 F 1 '22
- Preservation of wood from the attacks of termites. G. W. Herrick. Sibley J 37:130+ Je '23

Terne plate

- Weather proofing with tin plate. il plan Sheet Metal Worker 14:77-80 Mr 2 '23

Terpenes

- Chemistry of the terpene medium for ceramic liquid gold. P. P. Budnikoff and E. A. Shilov. Am Cer Soc J 6:1000-6 S '23
- Constitution of the terpene present in the essential oil from *Andropogon iwarancusa*. Jones, J. L. Simonsen. Chem Soc J 121:2292-9 O '22
- Effect of fuller's earth on pinene and other terpenes. C. S. Venable. Am Chem Soc J 45:728-34 Mr '23
- Higher terpene compounds. L. Ruzicka. H. Schinz and F. Balas. Chem Soc J 124 pt 1: 818-20 Ag '23
- Higher terpene compounds; abstract. L. Ruzicka and M. Stoll. Chem Soc J 124 pt 1: 119-20 F '23
- Sulfur-terpene substitution compounds. W. B. Pratt. Ind & Eng Chem 15:178-81 F '23
- Über die einwirkung von schwefel und einigen schwefelverbindungen auf terpene. P. P. Budnikoff and E. A. Schilow. Deutsche Chem Gesell Ber 55:3848-53 D '22
- See also Cadalene; Eudalene; Sabinene; Sesquiterpenes

Terra cotta

- Ceramic art and architecture. G. Ferrand. Am Cer Soc J 5:743-9; Discussion. 749-57 N '22
- Color in architecture. F. S. Laurence. il Am Arch 122:311-18+; Bibliography. 321 O 11 '22
- Data on viscosity of Indiana clay slip with electrolytes in regard to the casting of terra cotta. H. E. Davis. Am Cer Soc J 5:702-9; Discussion. 709-12 O '22
- Effect of some fluxes on the absorption and transverse strength of a terra cotta body. E. C. Hill. Am Cer Soc J 5:832-4; Discussion. 835-6 N '22
- Estimating the cost of stone setting; block, terra cotta, cut stone. C. F. Dingman. Concrete 21:189-92 D '22
- Good and bad practice in the pressing department. T. A. Klinefelter and F. C. Parsons. il Am Cer Soc J 5:632-40; Discussion. 640-2 S '22

- Humidity system of drying terra cotta. F. B. Ortmann and H. E. Davis. Am Cer Soc J 4:796-804 O '21
- Influence of the American ceramic society in the terra cotta industry. W. D. Gates. Am Cer Soc J 6:231-2 Ja '23
- Looking backward in the terra cotta field. A. F. Hottinger. Am Cer Soc J 6:306-8 Ja '23
- Notes on shivering of terra cotta. J. L. Carruthers. il diag Am Cer Soc J 5:518-26 Ag '22; Discussion. (Bul) 5:301-3 N '22
- Pershing Square building; its technique of materials. F. S. Laurence. il Am Arch 124: 319-24 O 10 '23
- Possibilities of terra cotta casting. R. F. Geller. il Am Cer Soc J 4:883-95 N '21
- Pressing terra cotta. J. Clark. il Am Cer Soc J 5:623-31 S '22
- Scheduling in a terra cotta plant. P. Mawby. Am Cer Soc J 6:440-7 F '23
- Setting terra cotta. diags Am Arch 123:425-6 My 9 '23
- Shop notes—plaster shop. T. A. Klinefelter and F. C. Parsons. diags Am Cer Soc J 6: 783-6 Jl '23; Discussion. (Bul) 6:299-300 S '23
- Short cuts in mitre cutting. T. A. Klinefelter and F. C. Parsons. diags Am Cer Soc J 6:786-9 Jl '23
- Some experiments on the firecracking of terra cotta. E. C. Hill. il Am Cer Soc J 5:299-310 Je '22; Discussion. (Bul) 5:225-9 O '22
- Something better in enamel smelters. H. E. Davis. Chem & Met Eng 27:1210-11 D 20 '22
- Technique in clay products. F. S. Laurence. il diags plans Am Arch 122:353-60+ O 25 '22
- Terra cotta problems suggested for discussion and investigation. C. W. Hill. Am Cer Soc J 5:733-8 O '22
- Testing barium carbonate for use in terra cotta bodies. W. L. Howat and G. A. Williams. Am Cer Soc J (Bul) 6:161-3 Je '23
- Use of forced draft for terra cotta kilns. J. L. Carruthers. il plans Am Cer Soc J 5:449-54 Jl '22; Discussion. (Bul) 5:222-5 O '22

Specifications

- Outline for tentative specification for architectural terra cotta. Am Arch 124:sup 12+ O 10 '23

Terraces

- Beautifying the home setting by artistic terracing. il Bldg Age 45:43-7 My '23

Terrazzo floors. See Floors, Terrazzo**Terre Haute, Indiana****Rapid transit**

- Cutting down the operating ratio in Terre Haute, Ind. Elec Ry J 62:291-2 Ag 25 '23

Streets

- Ohio Boulevard extension at Terre Haute, Indiana. G. J. Stoner. Munic Eng 62:172-3 My '22

Terre Haute, Indianapolis and Eastern traction company

- Interurban report shows improvement. Elec Ry J 61:620 Ap 7 '23

Terrestrial magnetism. See Magnetism, Terrestrial**Testing**

- Electric truing device aids machinists and inspectors. il Pop Mech 37:224 F '22
- Endurance-test data and their interpretation. K. Heindlhofer and H. Sjövall. Mech Eng 45:579-81+ O '23
- Giving your product the fire test. System 41:289-91+ Mr '22
- Hardness testing on a commercial scale. E. F. Lake. diags Iron Age 109:913-16 Ap 6 '22; Discussion. H. A. Holz. 109:1085-6 Ap 20 '22
- Mechanical testing. R. G. Batson and J. H. Hyde. 2v Dutton '22-'23
- Methods of testing materials. Am Mach 59: 358 S 6 '23
- Report of committee E-1 of A.S.T.M. on methods of testing. Am Soc T M Pro 21:428-35 '21
- Report of committee E-1 of A.S.T.M. on methods of testing. Am Soc T M Pro 22 pt 1:501-33 '22

Testing—Continued

Suggested definitions relating to methods of testing. *Am Soc T M Pro* 22 pt 1:516-20 '22
 Testing materials; the case for a national testing organisation. T. W. MacAlpine. *Eng & Ind Management* 6:498-9 N 3 '21
 Tests—reliable and otherwise. *Soc Auto Eng J* 12:374-5 Ap '23

See also Brinell hardness test; Coal testing; Dye testing; Dynamometer cars; Electric testing; Engineering laboratories; Gas testing; Hardness; Impact; Laboratories; Magnetic testing; Oil testing; Strains and stresses; Strength of materials; Testing machines; also subdivision Testing under various subjects, e.g. Automobile engines—Testing; Automobiles—Testing; Boilers—Testing; Carburetors—Testing; Cement—Testing; Concrete—Testing; Gas and oil engines—Testing; Metals—Testing; Rails—Testing; Steel—Testing; also American society for testing materials; Underwriters' laboratories; United States—Standards, Bureau of

Bibliography

American society for testing materials; index to proceedings (1913-1920). 189p. *Am. soc. for testing materials*, 1315 Spruce st., Philadelphia, Pa. '23
 Standards of weight and measure. 6th ed. (Price list 64) 36p. U.S. Superintendent of documents, Washington '21

Testing laboratories

College and commercial laboratories equipped for testing concrete block and drain tile. *Concrete* 21:21-2 J1 '22
 Gas testing laboratory helps sales. J. H. Schalek. *il Gas Age* 51:277-8 Mr 3 '23

Testing laboratories, Municipal

Value of a material testing laboratory to a municipality. H. L. Howe, jr. *Pub Works* 54:211 Je '23

Testing machines

Appareils nouveaux pour l'essai des bois et spécialement des bois pour l'aéronautique. P. Breuil. *il diags plan Génie Civil* 80:417-2, 446-9 My 13-20 '22
 Applies drop test to malleable wedges. *il Foundry* 51:36-7 Ja 1 '23

Biggest testing machine in the world at Bureau of standards. *Eng & Contr (Bldgs)* 59:199 Ja 24 '23; *Power Pl Eng* 27:171 F 1 '23
 Bultman fatigue testing machine. *il Mach* 29: 654 Ap '23; *Am Mach* 58:675 My 3 '23
 Bultman Izod impact testing machine. *il Am Mach* 58:677 My 3 '23

Deflection testing of locomotive axles; universal 100-ton testing machine. *il Engineer* 134: 279-80 S 15 '22

Hydraulic testing machine for welded steel mains. *il diags Engineering* 114:359 S 22 '22
 Hydraulic testing machine for welded steel pipes. *il diags Engineering* 114:565 N 3 '22
 Hydraulic testing machine for welded-steel pipes. *il Pop Mech* 39:11 Ja '23

Machines d'essais, donnant la limite élastique et le module d'élasticité des métaux. H. Le Chatelier and R. Guillery. *diag Génie Civil* 79:496 D 3 '21

Mechanical testing. R. G. Batson and J. H. Hyde. v. 1. 413p. Dutton '22

Mechanical testing of cotton materials; the machines commonly used. E. Midgley. *bibliog diags Textile Inst J* 14:1189-208 J1 '23
 Eine neue machine zur abnutzungsprüfung der metalle. A. Stadel. *il Stahl & Eisen* 43:340-2 Mr 8 '23

New Scott tearing strength tester. *il Paper* 29:26-7 N 2 '21; *Textile World* 60:3006 N 19 '21; *India Rubber W* 66:423-4 Mr '22

New tensile testing machine for bars, strips and wire. *il Iron Age* 110:1345 N 23 '22
 Perkins' tensile tester for cloth. *il Textile World* 61:2853 My 13 '22

Short-time tests for long-time endurance. J. W. Harsch. *il diag Sci Am* 128:264+ Ap '23
 Suggested methods for verification of testing machines. *diags Am Soc T M Pro* 22 pt 1: 521-7 '22

Tensile testing machine draws stress-strain curves. H. A. Depew. *il India Rubber W* 67:154-5 D '22

Testing definitions. *Am Mach* 59:292 Ag 23 '23

Torsion test rig for testing machine. *il Eng N* 90:1125 Je 28 '23

See also Concrete, Reinforced—Testing; Dynamometer; Gear testing machines; Minimeters

Tetraarylbutine

Reduktion organischer halogenverbindungen; über 1.1.4.4-tetraaryl-butine-2. K. Brand. *Deutsche Chem Gesell Ber* 54:2017-21 S '21

Tetrabromoquinone

Halogenation: the action of bromine and nitric acid on organic compounds; preparation of nitrosyl tribromide and the formation of tetrabromoquinone. R. L. Datta and N. R. Chatterjee. *Am Chem Soc J* 45:480-2 F '23

Tetrachlorethane

Observations on the control and prevention of tetrachlorethane poisoning. D. C. Farmer. *ter. bibliog J Ind Hygiene* 5:159-61 S '23

Tetrachlorethane poisoning in industry. *Int Labour R* 6:803-5 N '22

Tetrachlorides

Distribution of thermal energy in the tetrachlorides of carbon, silicon, titanium and tin. W. M. Latimer. *Am Chem Soc J* 44: 90-7 Ja '22

Tetrachloro toluene

Manufacture of new chlorinated toluene products as dyestuff intermediates. *Color Tr J* 12:114 Mr '23

Tetraethylammonium

Über das tetraäthylammonium: über ammonium-radikale. H. H. Schlubach and F. Ballauf. *diags Deutsche Chem Gesell Ber* 54: 2811-25 N '21; *Abstract. Chem Soc J* 122 pt 1:15-16 Ja '22

Tetraglucosan

Über tetralävoglucosan und tetraglucosan. H. Fringsheim and K. Schmalz. *Deutsche Chem Gesell Ber* 55:3001-7 O '22

Tetrahydroacenaphthene

Über benzo-polymethylen-verbindungen; dehydrierungsversuche bei tetralin-, hydrinden- und tetrahydro-acenaphthen-(tetraphthen-)derivaten. J. v. Braun, E. Hahn and J. Seemann. *Deutsche Chem Gesell Ber* 55: 1687-1700 Je '22; *Abstract. Chem Soc J* 122 pt 1:728-30 Ag '22

Tetrahydrocarbazole

Derivatives of tetrahydrocarbazole. W. H. Perkin, jr., and S. G. P. Plant. *Chem Soc J* 119:1825-39; 123:676-95 N '21, Mr '23

Derivatives of tetrahydrocarbazole; amino-compounds. G. A. Edwards and S. G. P. Plant. *Chem Soc J* 123:2393-9 S '23

Tetrahydronaphthalene. See Tetralin**Tetrahydronaphthalenesulfonic acids**

Hydrogenated naphthalenes and their transformations; tetrahydronaphthalenesulfonic acids, tetrahydronaphthols, and their derivatives. G. Schroeter and others. *Chem Soc J* 122 pt 1:126-30 F '22

Tetrahydronaphthoylbenzoic acid

Über o-[tetrahydro-naphthoyl-2]-benzoesäure und deren reduktions- und kondensationsprodukte. G. Schroeter. *Deutsche Chem Gesell Ber* 54:2242-8 O '21

Tetrahydroquinoline

Die relative festigkeit cyclischer basen; der phenmorpholin- und der homo-tetrahydrochinolin-ring. J. v. Braun and J. Seemann. *Deutsche Chem Gesell Ber* 55:3818-25 D '22; *Abstract. Chem Soc J* 124 pt 1:146-7 F '23

Die relative festigkeit cyclischer basen; substituierte tetrahydro chinolin-ringe. J. v. Braun, J. Seemann and A. Schultheiss. *Deutsche Chem Gesell Ber* 55:3803-17 D '22; *Abstract. Chem Soc J* 124 pt 1:138-40 F '23

5:6:7:8-tetrahydroquinolines and their derivatives. J. von Braun and others. *Chem Soc J* 124 pt 1:835-7 Ag '23

Tetrahydroxybenzene

Colouring matters from 1:2:4:5-tetrahydroxybenzene and related substances. D. N. Mukerji. *Chem Soc J* 121:545-52 Mr '22

Tetrahydroxy-stearic acids

C_{18} acids; four tetrahydroxy-stearic acids derived from linolic acid, and their significance with regard to the linolic acid of common oils. B. H. Nicolet and H. L. Cox. *Am Chem Soc J* 44:144-52 Ja '22

Tetrahydrovoglucosan

Über tetrahydrovoglucosan und tetraglucosan. H. Pringsheim and K. Schmalz. *Deutsche Chem Gesell Ber* 55:3001-7 O '22

Tetralin

Formation of derivatives of tetrahydronaphthalene from γ -phenyl fatty acids. A. Stevenson, J. F. Thorpe and A. J. Attwood. *Chem Soc J* 121:1717-22; 123:1755-66 S '22, JI '23

Hydrogenated naphthalenes and their transformations; nitro- and amino-derivatives of tetrahydronaphthalene; abstract. G. Schroeter and others. *Chem Soc J* 122 pt 1:123-6 F '22

Manufacture of German national fuel now explained. *Automotive Ind* 49:73 JI 12 '23

Tetralin, the new motor fuel. *Sci Am* 126:311 My '22

Über benzo-polymethylen-verbindungen; dehydrierungsversuche bei tetralin-, hydrinden- und tetrahydro-acenaphthen-(tetraphthen-)derivaten. J. v. Braun, E. Hahn and J. Seemann. *Deutsche Chem Gesell Ber* 55:1687-1700 Je '22; Abstract. *Chem Soc J* 122 pt 1:728-30 Ag '22

Über benzo-polymethylen-verbindungen; die zwei *ar*-aldehyde des tetralins. J. v. Braun. *Deutsche Chem Gesell Ber* 55:1700-9 Je '22; Abstract. *Chem Soc J* 122 pt 1:748-9 Ag '22

Über benzo-polymethylen-verbindungen; oxybasen und β -ketone der tetralin- und hydrinden-reihe. J. v. Braun, O. Braunsdorf and G. Kirschbaum. *Deutsche Chem Gesell Ber* 55:2648-63 D '22; Abstract. *Chem Soc J* 124 pt 1:105-7 F '23

Über benzopolymethylen-verbindungen; synthese des α -anthrapyridins aus tetralin. J. v. Braun and H. Gruber. *Deutsche Chem Gesell Ber* 55:1710-17 Je '22

Über die *ar*-aldehyde des tetrahydronaphthalins. K. Fleischer and G. Feldmeier. *Deutsche Chem Gesell Ber* 55:3290-3 O '22

Tetralone

Über farbstoff-derivate des α -keto-tetrahydronaphthalins (α -tetralons). W. Herzog and J. Kreidl. *Deutsche Chem Gesell Ber* 55:3394-3400 N '22

Tetramethyldiaminoacridine

2:8-tetramethyldiaminoacridine. K. L. Moudgill. *Chem Soc J* 121:1506-9 Ag '22

Tetramethyldiaminoanthrafuchson

Preparation and properties of 4':4''-tetramethyldiaminoanthrafuchson. F. A. Mason. *Chem Soc J* 123:1546-59 Je '23

Tetramethylthiuramdisulfide

Compounding properties of tetra-methylthiuramdisulphide. *India Rubber W* 69:15-16 O '23

Tetranitro-aniline

Hydroscopicity of tetryl and tetranitraniline. L. G. Marsh. *Chem & Met Eng* 27:1261-2 D 27 '22

Solubility of tetranitro-aniline in organic solvents. C. A. Taylor and W. H. Rinkenbach. *Am Chem Soc J* 45:1218-20 My '23

Tetranitroanthrachryson

Über tetranitro-anthrachryson. G. Heller and P. Lindner. *Deutsche Chem Gesell Ber* 55:2674-9 S '22

Tetranitromethane

Über die einwirkung von tetranitromethan auf triphenyl-hydrazin. S. Goldschmidt and K. Renn. *Deutsche Chem Gesell Ber* 55:644-7 Mr '22

Zur kenntnis des tetranitro-methans; tetranitromethan als nitrierungsmittel. E. Schmidt and others. *Deutsche Chem Gesell Ber* 55:1751-9 Je '22; Abstract. *Chem Soc J* 122 pt 1:733-4 Ag '22

Tetraoxyanthraquinones

Notes on the tetra-oxyanthraquinones. *Color Tr J* 11:151-2 O '22

Tetraphenylbutane

Organischer halogenverbindungen über phenoläther der tetraphenyl-butan-reihe. K. Brand and F. Kercher. *Deutsche Chem Gesell Ber* 54:2007-17 S '21; Abstract. *Chem Soc J* 120 pt 1:787-8 N '21

Tetraphenylbutatriene

Über untersuchungen in der tetraaryl-butan-reihe und über das 1.1.4.4-tetraphenylbutatrien; über die reduktion organischer halogenverbindungen. K. Brand. *Deutsche Chem Gesell Ber* 54:1987-2006 S '21; Abstract. *Chem Soc J* 120 pt 1:783-5 N '21

Tetraphenyldiarsine

Tetraphenyl-diarsine. P. Borgstrom and M. M. Dewar. *Am Chem Soc J* 44:2915-23 D '22

Tetrapropyl-ethane

Tetrapropyl-ethane. J. Piccard and R. Q. Brewster. *Am Chem Soc J* 43:2626-9 D '21

Tetrazones

Tetrazones from hydrazones and azo-compounds. M. Busch, H. Müller and E. Schwarz. *Chem Soc J* 124 pt 1:864-7 Ag '23

Tetryl

Analysis of TNT—tetryl mixtures. C. A. Taylor and W. H. Rinkenbach. *Ind & Eng Chem* 15:280-1 Mr '23

Estimation of the proportions of TNT and tetryl from the freezing point curve. C. A. Taylor and W. H. Rinkenbach. *Ind & Eng Chem* 15:73-4 Ja '23

Freezing point-solubility diagram of the system tetryl-picric acid. C. A. Taylor and W. H. Rinkenbach. *Ind & Eng Chem* 15:1070-1 O '23

Hygroscopicity of tetryl and tetranitraniline. L. G. Marsh. *Chem & Met Eng* 27:1261-2 D 27 '22

Solubility of trinitro-phenylmethyl-nitramine (tetryl) in organic solvents. C. A. Taylor and W. H. Rinkenbach. *Am Chem Soc J* 45:104-7 Ja '23

War-time manufacture of tetryl. W. L. Tanner. *Chem & Met Eng* 29:404 S 3 '23

Tewkesbury abbey

Tewkesbury abbey. S. F. Campbell. *il Am Inst Arch J* 11:398-401 O '23

Texas

See also Gas, Natural—Texas; Gasoline industry—Texas; Geology—Texas; Petroleum—Texas; Petroleum industry and trade—Texas; Potash—Texas; Roads—Texas; Textile industry—Texas

Architecture

Record of architectural achievement in the state of Texas. R. H. Bryan. *il Arch Forum* 36:187-92 My '22

Boundaries

Engineers appointed to retrace Oklahoma-Texas boundary; disputed claims to oil lands in Big Bend area to be settled. *map Eng N* 90:705-6 Ap 19 '23

See also Red river

Texas. Agricultural and mechanical college

Agricultural and mechanical college of Texas. *map Chem Age* 30:305-7 JI '22

Texas conservation association

Conservation association formed in Texas. *Eng N* 89:370 Ag 31 '22

Texas surveys

Digest of geodetic publications issued by the United States Coast and geodetic survey resulting from surveys in the state of Texas. 26p U. S. Coast and geodetic survey, Washington '23

Textile alliance

Textile alliance announcement. *Color Tr J* 11:21-2 JI '22

Textile associations

English textile associations and societies. F. Nasmith. *Textile World* 63:762-3 F 3 '23

Textile chemistry

Handy graphics. C. F. Goldthwait and J. E. Hoff. *Am Dyestuff Rep* 12:205-7, 273-5 Mr 12, Ap 9 '23

Introduction to textile chemistry. H. Harper. 189p Macmillan '21

Textile chemistry—Continued

Recent novelties in the field of textile chemistry. A. Kertess. Color Tr J 13:175-7 N '23
Textile chemistry. F. J. Cooper. 235p Dutton '23

See also Bleaching; Dye analysis; Dyes and dyeing—Chemistry; Retting; Soap, Textile; Textile fabrics—Analysis

Textile color card association

Textile color card association. Color Tr J 10:159-60 Ap '22

Textile design

Decorative silks. O: von Falke. 47p W. Helburn, New York '22

Design in cotton manufacture. M. D. C. Crawford. Textile World 64:2671+ N 3 '23

Dress, blouse, and costume cloths. R. Beaumont and W. G. Hill. 579p Pitman '21

Dress cottons gain in variety and distinction. L. McDougal. il Textile World 63:3153+ My 12 '23

Finished textiles for the Indian market. C. G. E. Bunt. il Textile World 64:2413+ O 27 '23

Layouts for bolivia cloth. il Textile World 62:1425-6 S 9 '22

New styles in men's wear for next fall. il Textile World 63:1699-1700 Mr 10 '23

Patterned lines mark French fall showings. H. Volka. Textile World 63:3799-3800+ Je 9 '23

Style tendencies in silks, knit goods and cottons. D. MacDougal. Textile World 63:719-20+ F 3 '23

Textile design and colour. W: Watson. 2d ed. 436p Longmans '21

Wide variety in silk patterns for spring. il Textile World 63:343-4 Ja 20 '23

See also Embroidery; Tapestry

Textile drying. See Drying apparatus—Textiles**Textile education**

Education and research in the textile industry. A. J. Turner. Am Dyestuff Rep 12: 591-5 Ag 13 '23

See also Textile schools

Textile fabrics

Charting course of fabric trends in women's wear. H. Volka. il Textile World 63:716-18 F 3 '23

Disputes in relation to textile fabrics. A. M. Bell. Am Dyestuff Rep 12:90, 133-4+, 187-9 Ja 15, F 12-26 '23

Distributing fine yarn fabrics. C: Pinnell. Textile World 64:2676-7 N 3 '23

Fabric wall covering. il Color Tr J 11:184-5 O '22

Fabrics and shades favored by Paris for fall. L. McDougall. Textile World 64:2109 O 13 '23

Fancy weaves vs. novelty yarns. Textile World 63:3811+ Je 9 '23

Germans turn chine grass into strong fabric. il Pop Mech 40:194 Ag '23

High lights in Rodier's fabrics for fall. D. G. McDougall. Textile World 64:230+ JI 14 '23

Household textiles. C. M. Gibbs. 256p Whitcomb & Barrows, Boston '22

Manufacture of novelty skirtings. il Textile World 64:115+ JI 7 '23

Many novelties in new French fabrics. il Textile World 62:1413-14+ S 9 '22

Novelties in Botany worsted mills showing. Textile World 62:2293 O 21 '22

Novelties in English textiles. J. A. Hunter. il Textile World 61:2656 My 6 '22

Plea for the architect's interest in fabrics. H. Moran. il Arch Forum 37:154-8, 198-202, 239-42 S-N '22

Procedure in manufacturing a new fabric. J. Chittick. Textile World 63:359+ Ja 20 '23

Reducing costs of manufacture. H. D. Martin. Color Tr J 9:232-3 D '21

Style tendencies in silks, knit goods and cottons. D. MacDougal. Textile World 63:719-20+ F 3 '23

Textile fabrics. E. Dyer. 352p Houghton '23
Textile fibers and fabrics. H. A. Bray. (Bul. no. 92) 45p [bibliog.] Extension dept., College of industrial arts, Denton, Tex. '21

Textiles. A. F. Barker. Rev. ed. 386p Van Nostrand '22

Thermal conductivity of some wearing materials. E. S. Rood. Phys R 18:356-61 N '21

Uses for textiles in manufacturing industries. Textile World 63:714-15 F 3 '23

What's what in textiles. J. F. Tear. (Bul. no. 89) 24p [bibliog.] Extension dept., College of industrial arts, Denton, Tex.

Wool and worsted men's wear constructions. il Textile World 61:93+ Ja 7 '22

Working with the laundry. J. A. Hunter. Textile World 61:3787+ Je 24 '22

See also Airplane fabric; Balloon fabric; Bleaching; Broadcloth; Canvas; Chinchilla; Cloth cutting machines; Color in the textile industry; Cotton fabrics; Covert cloth; Crepe de chine; Degumming (textiles); Drapery; Dress goods; Dry goods; Elastic fabrics; Felt; Fireproofing of textiles; Fulling; Hair press cloth; Iron stains; Knit goods; Laundry; Linen; Mohair; Paper textiles; Raincoats; Rubber fabrics; Rugs; Shoddy; Silk; Silk, Artificial; Singeing of textiles; Sizing (textiles); Tapa cloth; Tapestry; Textile fibers; Textile finishing; Textile industry; Textile printing; Textile research; Tire fabrics; Underwear; Waterproofing of textiles; Weaving; Woolen and worsted fabrics; Woolen and worsted manufacture; Worsted

Analysis

Analysis of woven fabrics. A. F. Barker and E. Midgley. 2d ed., rev. and enl. 324p Van Nostrand '22

Examination of textiles by X-rays. il Sci Am 127:120 Ag '22

Microscopic analysis of fabrics. L. A. Housman. il Textile World 62:1023+ Ag 19 '22

Presence of acids in cloth. T: Hadfield. Textile World 61:1795+ Mr 25 '22

Things every textile chemist and colorist should know; methods of analysis of union textile materials. Am Dyestuff Rep 12:756+ O 22 '23

Cleaning

See Cleaning

Specifications

Report of committee D-13. Textile World 62: 196+ JI 8 '22

Standards

Standardization in textiles. F. R. McGowan. Textile World 60:2673+ N 5 '21

Terminology

Fabrics and how to know them. G. G. Denny. 146p Lippincott '23

How fabrics get their names. J. A. Hunter. Textile World 64:1246+ S 1 '23

Misleading textile trade terms investigated. Ptr Ink 123:173 Je 21 '23

Tentative definitions of terms relating to mechanical fabric. Am Soc T M Pro 21:814 '21

Textile trade terms. 30p National Vigilance Committee, 383 Madison Avenue, New York; Abstract. Ptr Ink 123:173 Je 21 '23

Testing

Analysis des tissus imperméables caoutchoutés et autres. B. Setlik. Chimie & Ind 8:540 S '22

Department store laboratory. E. B. Millard. J Ind & Eng Chem 14:785-6 S '22

Detection and estimation of cotton in mixtures. B. F. Wadsworth. Textile Col 45:443-6, 582-6, 722-5, 792-6 JI, S, N-D '23

Fabrics and how to know them. G. G. Denny. 146p Lippincott '23

Heat-retaining properties of fabrics. F. R. McGowan and P. D. Sale. il Textile World 63:2607+, 3041+ Ap 21, My 5 '23

Heat-retaining value of cloths. H. Priestman. Textile World 62:1426-7+ S 9 '22; Abstract. Heat & Ven 19:60-2 D '22

Mullen tester and index value. C. J. Burkley. il diag Textile World 64:117+ JI 7 '23

Testing leather substitutes and top materials. J. B. Davis. il diag Soc Auto Eng J 12:276-82 Mr '23

See also Cotton fabrics—Testing

Textile fabrics—Continued**Thread counting**

Methods of counting threads in fabrics. J. Chittick. *Textile World* 60:3623+; 61:331+ D 24 '21, Ja 21 '22

Textile fibers

Action of alkalies on fibers. W. A. Lawrence. *Am Dyestuff Rep* 12:631 Ag 27 '23
Arghan—a new fiber. *Chem & Met Eng* 28: 991 Je 4 '23

Asbestos as a textile fiber. J. M. Matthews. *il diags Color Tr J* 12:73-6, 117-20 F-Mr '23
Capabilities of arghan fibre. J. A. Hunter. *il Textile World* 64:827 Ag 11 '23

La désagrégation biologique des tiges fibreuses. F. Tobler. *Chimie & Ind* 9:148-9 Ja '23

Hollow textile fibres; abstract. J. Rousset. *diag Soc Dyers & Col J* 39:55 F '23

Imparting to vegetable fibres the characteristics of wool. *Chem Age* 30:20 Ja '22

Interesting notes on textile fibers gleaned from various sources. *Color Tr J* 11:170, 185-6 O '22

Making textile fibers more reactive with dyestuffs. J. Korselt. *Color Tr J* 12:138 Mr '23
Manufacture of new lustrous fibers. *Color Tr J* 12:269 Je '23

More about arghan fibers. *Color Tr J* 12:225-6 My '23

New textile fibre; arghan as a substitute for hemp and flax. A. S. Moore. *il Textile World* 62:566 Jl 29 '22

New textile plant. H. Guyot. *il Color Tr J* 11:83-4 Ag '22

Note sur l'analyse des textiles; préparation des fibres et examen microscopique. M. Pontio. *Chimie & Ind* 7:667-8 Ap '22

Outline of general microscopic characteristics of vegetable textile fibers. L. Savaron. *Color Tr J* 12:224-5 My '23

Status of German fibre substitutes. E. Neumann. *Textile World* 61:2955-6 My 20 '22

Textile raw materials and their conversion into yarns. J. Zipser. 2d. ed., rev. & partly re-written. 480p Van Nostrand '21

Textile raw materials: cotton, linen, wool, silk, artificial silk. W. Harrison. *Textile Inst J* 14:P72-6 Ap '23

That substitute for cotton. M. S. Sharp. *Chem Age* 31:215 My '23

Truth about arghan or pita floja fibre. G. A. Lowry. *il Textile World* 63:1155-6 F 10 '23
See also Bast fibers; Cotton; Cotton fibers; Flax; Hemp; Jute; Ramie; Silk; Wool

Analysis

See Silk—Analysis; Textile fabrics—Analysis

Testing

Microchemical tests to distinguish between cotton, linen, hemp, and ramie textile fibers. L. Savaron. *Color Tr J* 13:110-12 S '23

Testing fibres. *Textile World* 61:3371+ Je 3 '22

Textile finishing

Finishing fabrics in pattern effects. *Color Tr J* 11:183-4 O '22

Possibilities in rubber latex. J. A. Hunter. *Textile World* 62:3014 N 25 '22

Problems of mill and finisher. R. W. Arrington. *Textile World* 64:2240+ O 20 '23

Silk finish calendars. R. Sansone. *Textile World* 62:1130 Ag 26 '22

Some practical factors in the selection and use of detergents. J. F. Tonn. *Am Dyestuff Rep* 12:762-4 O 22 '23

South's largest finishing plant; Union bleachery, Greenville, S.C. E. R. Stall. *il Textile World* 62:1545-6+ S 16 '22

Uses of malt extract. A. J. Hall. *Color Tr J* 9:252-3 D '21

See also Cotton finishing; Linen finishing; Mercerizing; Silk finishing; Sizing (textiles); Waterproofing of textiles; Woolen and worsted finishing

Textile industry

Course in textile production methods. Business training corp., New York, Chicago '22

Disputes in relation to textile fabrics. A. M. Bell. *Am Dyestuff Rep* 12:90, 133-4+, 187-9 Ja 15, F 12-26 '23

Handicaps to export trade. *Textile World* 63: 773+ F 3 '23

Lime in the textile industry. E. R. Darling. *Textile World* 61:3793+ Je 24 '22

Science in the textile industry. E. D. Walen. *J Ind & Eng Chem* 14:806-7 S '22

Side lights on manufacturing. W. B. MacColl. *Textile World* 61:311 Ja 21 '22

Symposium on textile manufacture and economics in Philadelphia. *Textile World* 61: 1391+ Mr 4 '22

Textile trend and forecast. *See* weekly numbers of Textile world

Use of lime in the textile industry. E. Holmes. *Chem Age* 30:129-30 Mr '22

See also Bleaching; Carpets; Clothing; Clothing trade; Cotton; Cotton manufacture; Cotton trade; Dress goods; Drying apparatus—Textiles; Dye industry; Dyes and dyeing; Flax; Gas mantles; Hosiery; Knit goods; Knitting; Lace and lace making; Linen; Lingette; Paper textiles; Rugs; Silk; Silk manufacture and trade; Sizing (textiles); Spinning; Textile design; Textile fabrics; Textile fibers; Textile finishing; Textile machinery; Textile mills; Textile printing; Thread; Weaving; Wool; Wool trade; Woolen and worsted manufacture; Worsted; Yarn

Advertising

Importance of style emphasis in marketing fabrics. R. W. Welch. *Ptr Ink* 120:73-4+ Ag 17 '22

Retail market for textiles and the operation of a brand. L. H. Allen. *Ptr Ink* 121:89-90+ D 28 '22

Some aspects of textile advertising. P. T. Cherington. *Textile World* 63:760-1 F 3 '23

Textile industry—and advertising. H. G. McKerrow. *Textile World* 63:2601-2 Ap 21 '23

Textiles—the great field of advertising opportunity. L. Allen. *Ptr Ink* 121:17-20 N 9 '22

Bibliography

Why the textile business has been backward in advertising. *Ptr Ink* 120:64+ Ag 10 '22

Bibliography

Abstracts. *See* monthly numbers of the Journal of the textile institute

Dictionaries

Glossary of textile terms. H. P. Curtis. 304p Bragdon, Lord & Nagle co., New York '21

Exhibitions

Interesting exhibits at the textile exposition. E. Cagliostro. *Color Tr J* 13:169-72 N '23

9th textile show and N.A.C.M. convention. *Textile World* 64:2393+, 2679+ G 27-N 3 '23

10th annual textile and machinery exposition, Chicago. *Textile World* 63:3474+ My 26 '23

See also Textile machinery—Exhibitions

History

History of textiles in the new world. M. D. C. Crawford. *il Color Tr J* 9:220-7 D '21

Tables, calculations, etc.

Conversion table of linear yard weight to square yard weight of fabric. *Am Soc T M Pro* 21:815-16 '21

Graphic method for textile calculations. C. F. Goldthwait. *Textile World* 60:3717+ D 31 '21

Roll or coil length; chart for quickly finding the number of feet. W. F. Schaphorst. *Textile World* 64:372+ Jl 21 '23

Textile mathematics. T. Woodhouse and A. Brand. 2v Bragdon, Lord & Nagle, 334 4th av., New York '20-'21

Brazil

Textile opportunities in Brazil. *Textile World* 62:2433+ O 28 '22

Textile industry—Continued

Canada

Canadian textile tariff a blow. C. H. Brooks.
Textile World 63:367-6 Je 2 '23

China

American textiles in China. E. T. Pickard.
Textile World 63:723 F 3 '23
Impressions of Orient from a textile standpoint. C. J. Webb. Textile World 63:764-5 F 3 '23

Cuba

Textile market of Cuba. F. R. Masters, jr.
U S Bur For & Dom Com Trade Information
Bul 82:1-24 '23

Czechoslovakia

Review of Czecho-Slovakian textiles. H. Obermeyer and A. L. Greene. Textile World 64:77-8 Jl 7 '23

Egypt

Textile market of Egypt. G: L. Brandt. U S Bur For & Dom Com Trade Information Bul 22:1-9 '22

England

Fabrics in England. J. A. Hunter. Textile World 64:74-5 Jl 7 '23

Europe

Textile industry of Central Europe. F. W. Busch. Textile World 63:4172-3 Je 30 '23

Germany

Trend in German textile industry. Dr. Tschierschky. il Textile World 63:4057+ Je 23 '23

Great Britain

Combines keep up English charges. J. A. Hunter. Textile World 61:2969+ My 20 '22

India

Industrial future in India. J. F. Crowley. Electrician 88:222-5, 282-5 F 24, Mr 10 '22

Japan

Impressions of Orient from a textile standpoint. C. J. Webb. Textile World 63:764-5 F 3 '23

Russia

Prospects for Russian textiles. A. Borman.
Textile World 63:1563 Mr 3 '23
Russian textile industry reviving. W. Jacob.
Textile World 62:192 Jl 8 '22

Sweden

Sweden's development as a hosiery market. W. H. Sholes. Am Dyestuff Rep 12:668-9 S 10 '23

Texas

Growth of textile industry in Texas. B. C. Blanton. Comm & Fin Chr 117:1064 S 8 '23
Texas textile tour ends. il Textile World 63:3673+ Je 2 '23
Textile manufacturing in Texas. J. A. McPherson. Textile World 60:2857-8 N 12 '21

United States

Advertising overcomes geography as an obstacle in textile distribution. L. Allen. Ptr Ink 121:142+ D 7 '22
Analysis of census of textile manufactures, 1919. Textile World 61:644-5+ F 4 '22
Comparison of textile trade statistics. Textile World 61:949 F 4 '22
Financial opinions regarding textile conditions. Textile World 63:711-13+ F 3 '23
Fourteenth census of the United States: manufactures, 1919; textiles and their products. U S Bur Census p 147-306 '23
Industry in government. E: T. Pickard. Textile World 60:2671+ N 5 '21
Relation of federal bureaus to textile industry; annual reports of Bureau of foreign and domestic commerce and of Bureau of standards. Textile World 62:3425-6+ D 16 '22
Textile export outlook. J. Klein. Textile World 61:2701 My 6 '22

Textile foreign trade for fiscal year. Textile World 62:1119 Ag 26 '22
Textile industry's wealth and vast extent. L. Allen. Ptr Ink 121:93-4+ N 23 '22
Textile leaders hopeful of the future. Textile World 63:709-10 F 3 '23
Textile strength reflected in stock values. Textile World 61:642 F 4 '22
Textiles. See weekly numbers of the Annalist
Your industry and our government. H. Hoover. Textile World 61:639 F 4 '22

Venezuela

Opportunities for American textiles in Venezuela. H. C. Plummer. il Textile World 61:1655+ Mr 18 '22

Textile laboratories

How the Shawmut laboratory met the depression. il Textile World 63:2595-6 Ap 21 '23

Textile laws and regulations

Fallacies of fabric branding bill. P. T. Cherington. Textile World 61:1244 F 25 '22
Labeling fabrics. Color Tr J 12:198-201 My '23
Proposed branding law for duck. Textile World 60:3713+ D 31 '21
Truth in fabrics. Chem Age 31:54 F '23

Textile machinery

British textile machinery industry. Am Mach 57:632a-b O 19 '22

Dewing machine. Textile World 62:1141 Ag 26 '22

Machine, système Feuillette, pour le teillage industriel du lin. E. Weiss. il diag plans Génie Civil 79:590-1 D 31 '21

Maintenance of textile machinery. E. H. Marble. Mech Eng 44:311-12 My '22; Same. Am Mach 56:819-20 Je 1 '22; Same. Eng & Ind Management 7:466-8 Je 1 '22; Excerpts. Textile World 61:2849+ My 13 '22

Pressed steel textile equipment. Textile World 60:3503+ D 17 '21

Preventing the abuse of textile machinery. H. D. Martin. Am Dyestuff Rep 12:561-2 Jl 30 '23

Textile machinery in Scandinavia. Textile World 61:193 Ja 14 '22

Textile machinery industry. Textile World 63:1156 F 10 '23

See also Calenders; Carding machines; Cloth cutting machines; Cotton machinery; Creels; Dyeing machines; Hosiery machines; Knitting machines; Looms; Rolls (textile machinery); Sewing machines; Spinning machines; Spooling machines; Tension devices (textile machinery); Textile printing machines; Winding machines; Yarnometer

Exhibitions

8th textile machinery and power show at the textile exhibitors' association, Boston. il Textile World 60:2695+ N 5 '21

Exhibit of machinery and supplies at 5th exhibition of the Southern textile exposition, Greenville, S.C., Oct. 19-25. il Textile World 62:2153-4, 2427+ O 14, 28 '22

Exhibits at coming Southern textile show. Oct. 19-26 at Greenville, S.C. plans Textile World 62:2153-4 O 14 '22

9th exhibit of textile machinery, supplies, fabrics and power appliances, Boston. il Textile World 64:2679+ N 3 '23

2d National merchandise fair. il Textile World 64:669-70 Ag 4 '23

Textile machinery and accessories exhibition at Manchester. il diag Engineer 134:362-3, 390-1 O 6-13 '22; Engineering 114:427-30, 432, 454-5 O 6-13 '22; Textile World 62:2299 O 21 '22

Manufacture

Are automobile manufacturing methods applicable to the textile industry? D. T. Hamilton. Am Mach 55:994-5 D 22 '21

Making textile machine parts from pressed metal. H. R. Simonds. il diags Iron Tr R 72:1232-6 Ap 26 '23

Ten years of scientific management. J: G. Aldrich. il diag Management Eng 4:87-92 F '23

Patents

New cloth plaiter and piling machine. diags Color Tr J 11:85-6 Ag '22

Textile machinery—Continued**Repair**

Repairing textile parts by welding. C. W. Brett. *il* Textile World 60:3267+ D 3 '21
Taking the repair shop to the job. *il* Textile World 62:2635+ N 4 '22

Safety devices and measures

Safety guards; standardization would save expense for the mills. Textile World 63:3691+ Je 2 '23

Textile mills

Building plant efficiency. Textile World 62:2773+ N 11 '22

Causes of fires in textile mills. J. A. Collins, Jr. Textile World 60:3257+ D 3 '21

Condensation in textile mills. D. Adams. Textile World 63:2477+ Ap 14 '23

Fire risks in dye and print works. Textile World 62:749+ Ag 5 '22

New mills, enlargements and improvements. Textile World 63:993-1039 F 3 '23

New projects, enlargements and improvements. Textile World 61:897 F 4 '22

Painting mill interiors. Textile World 60:2715+ N 5 '21

Planning building and equipment layouts. H. M. Burke. *il* diags Textile World 63:3681+ Je 2 '23

Planters and merchants mill; ten thousand spindle gingham mill built at New Braunfels, Texas. C. M. Mumford. *il* Textile World 64:97+ Jl 7 '23

Prevention of textile mill fires. J. A. Collins, Jr. Textile World 61:3523+ Je 10 '22

Refrigeration in the textile industry. L. Nussbaum. *il* Textile World 62:3189+ D 2 '22

Structural features of finishing plant; Mt. Hope finishing co., North Dighton, Mass. H. M. Burke. *il* Textile World 62:1295-6+ S 2 '22

Textile plant superheats exhaust steam for process work. diags Power 55:965-6 Je 20 '22

See also Carpet factories; Cotton mills; Hosiery mills; Knitting mills; Silk mills; Textile industry; Textile machinery; Textile workers; Woolen and worsted mills

Accounting

Cost control and accounting for textile mills. E. Szepesti. 441p Bragdon, Lord & Nagle co., New York '22

Essential reports for textile executives. E. G. Boutelle. Textile World 63:752-4 F 3 '23

Home made cost systems. R. E. Loper. Textile World 63:756-7 F 3 '23

How to compute the cost of colored fabrics. H. D. Martin. Color Tr J 10:70-3 F '22

Making textile cost accounting a necessity. E. Szepesti. Textile World 62:2149-50+ O 14 '22

Mill efficiency and uniform costs. S. Gordon. Textile World 60:3249+ D 3 '21

Simplicity in cost methods. R. E. Loper. Textile World 60:2675+ N 5 '21

Textile cost control. H. C. Haskell. Management Eng 4:57-9 Ja '23

Yardstick for measuring textile costs. E. Szepesti. chart Textile World 61:655+ F 4 '22

See also Cotton mills—Accounting; Silk mills—Accounting

Directories

Detailed report of new mills. Textile World 63:1039+ F 3 '23

Electric equipment

Flexibility of electrical service in textile mills; the new weaving building and raw-stock dyehouse of the Riverside & Dan river cotton mills. *il* diags Elec R 80:70-5+ F '22

Motor drive in old mills. H. W. Reding. *il* Textile World 64:1967+ O 6 '23

Protecting motors from lint. J. M. Pettingell. *il* Textile World 62:3193+ D 2 '22

See also Cotton mills—Electric equipment

Employees

See Textile workers

Equipment

Conveyor system at Jackson mills. G. H. Goldsmith. *il* Textile World 61:881-4 F 4 '22
Internal transportation in a large textile finishing plant. A. H. Church. *il* diags plan Management Eng 2:197-202, 293-6 Ap-May '22
Producer gas in the textile industry. P. A. Merriam. *il* Textile World 63:3013+ My 5 '23

Uses of compressed air; speeds up cleaning and repair work—a necessity in modern textile mill power plant. Textile World 61:1305+ S 2 '22

See also Textile machinery

Heating and ventilation

Ventilation and humidification of textile factories. H. N. Leask. diags Engineering 112:202-4 Jl 29 '21; Same. Am Soc Heat & V E J 27:884-91 D '21

Lighting

Artificial daylight; its applications in the textile and dyeing industries. J. S. Dow. *il* Electrician 88:220-1 F 24 '22

Lighting of textile mills. A. L. Powell. *il* Textile World 63:71+ 215+ Ja 6-13 '23

Production increased 25 per cent by better lighting. W. S. Mowry. Elec W 80:1450 D 30 '22

See also Cotton mills—Lighting; Dyehouses—Lighting; Silk mills—Lighting

Management

Changing counts on machinery. Textile World 63:221+ Ja 13 '23

Course in economics for the worker. E. Szepesti. Textile World 63:755-6 F 3 '23

Hidden waste in textile plants. T. P. Gates. Textile World 61:95+ Ja 7 '22; Same abr. Mech Eng 44:181-2; Discussion. 183-4 Mr '22

How the Shawmut laboratory met the depression. *il* Textile World 63:2595-6 Ap 21 '23

Job analysis reduces labor costs. E. G. Gould. Textile World 64:827+ Ag 11 '23

Key to successful management. J. L. Roberts. Textile World 60:3711 D 31 '21

Material handling in the textile industry. R. M. Gates. *il* Management Eng 2:13-17 Ja '22

Mechanical department kinks. Textile World 63:85+ Ja 6 '23

Mill instructions should be written to avoid misunderstanding. E. C. Gould. Textile World 63:3817 Je 9 '23

Observations on textile waste. E. V. Chambers. Textile World 61:1307+ S 2 '22

Prevention of defects in a colored goods mill. H. D. Martin. Textile Col 45:423-5 Jl '23

Steam waste in dyeing and finishing. Textile World 62:2161+ O 14 '22

See also Cotton mills—Management; Knitting mills—Management; Textile workers

Power

Advances in mechanical department of mills. J. W. Easter. *il* Textile World 61:889+ F 4 '22

American printing co.'s plant at Fall River. *il* diags plan Power Pl Eng 26:1037-42 N 1 '22

Amoskeag manufacturing company hydroelectric development. A. T. Safford. *il* plan Boston Soc C E J 10:95-128, pl 1 Mr '23; Abstract. Power 57:430-4 Mr 20 '23

British steam-turbine drive for textile mills; abstract. Mech Eng 44:455 Jl '22

Economics of the power plant. L. Loeb. Textile World 61:2729+; Discussion. C. A. Baer. 2735+ My 6 '22

Electric motor drive in the textile industry. G. Fox. *il* Power Pl Eng 27:1040-3 O 15 '23

Mechanical storage of water power as a factor in textile production; Walkersburn hydroelectric scheme. *il* diags plans Electrician 88:229-33 F 24 '22; Same. Elec R (Lond) 90:327-30 Mr 10 '22; Same cond. Engineering 113:189-93, 219 F 17-24 '22; Excerpt. Eng & Contr 57:291-3 Mr 29 '22

Re-development of small water power. *il* Textile World 63:985+ F 3 '23

Remodeled mill water power plants. *il* Textile World 61:929+ F 4 '22

Superpower and the textile industry. G. H. Perkins. Textile World 60:3253-4 D 3 '21

Textile mills—Power—Continued

Textile industry and public electricity supply. W. J. H. Wood. *Electrician* 83:214-16 F '24 '22

See also Cotton mills—Electric equipment

Safety devices and measures

Development of the textile safety code presents many intricate problems. A. B. Cole. *Safety Eng* 44:165-71 O '22

Safety devices in the textile industry. B. Fisher. *il* *Safety Eng* 45:12-13, 27-9 Ja '23
Safety where the shuttle flies. G. E. Wallis. *il* *Nat Safety N* 7:5-8 Je '23
Textile safety code. A. B. Cole. *Textile World* 63:3023+ My '23

See also Silk mills—Safety devices and measures

Textile printing

Block printing textile fabrics. H. Cadness. *Textile World* 62:3019+ N '25 '22

Improvements in multicolor printing of textiles; patent. *Color Tr J* 12:60-1 F '23

New process for the color discharge of indigo prints. R. Haller. *Color Tr J* 12:195-7 My '23; Same. *Am Dyestuff Rep* 12:380-2 My '21 '23

Preparation of color pastes. R. Sansone. *Color Tr J* 10:270-1 Je '22

Printing of bronze colors; abstract. J. Besancon. *Color Tr J* 10:32-3 Ja '22

Printing yarn for chintz effects. *Am Dyestuff Rep* 12:399-400 My '21 '23

Tapestry yarn printing. L. J. Matos. *Am Dyestuff Rep* 12:735-8 O '23

Textile printing; its power requirements and electric drive. C. T. Guildford. *il* *diags* *Am Inst E E J* 41:226-33 Mr '22

See also Aniline black; Calico printing; Chintz; Silk printing; Wool printing

Textile printing machines

Textile printing machine and its drive. *il* *diag* *Textile World* 61:1248+, 1787+ F '25, Mr '25 '22

Lubrication

Printing machinery lubrication. *Textile World* 64:1275+ S '1 '23

Textile products

Uncommon uses of textile products. J. W. Cox, jr. *Textile World* 60:3011+ N '19 '21

See also Textile fabrics

Textile research

Application of photography to textile research. E. D. Walen. *il* *Textile World* 61:652+ F '4 '22

Education and research in the textile industry. A. J. Turner. *Am Dyestuff Rep* 12:591-5 Ag '13 '23

Improved method for sectioning textiles. N. O. Howard and W. H. Snell. *diag* *Textile World* 63:747-8 F '3 '23; Same. *Am Dyestuff Rep* 12:202-4+ Mr '12 '23

Newer ways with textile problems. *Textile World* 64:1389+, 1521+, 1671+ S '8-22 '23

Relations between organised research and works practice in the textile industries. J. R. Hannay. *Soc Dyers & Col J* 39:238-40; Discussion. 240-2 Ag '23

Starting textile research. C. F. Goldthwait. *Textile World* 61:755 F '4 '22

See also Cotton research; Silk research; Wool research

Textile schools

Textile school graduations. *Textile World* 63:3804-6 Je '9 '23

See also Bradford-Durfee textile school; Lowell textile school; New Bedford textile school; Philadelphia textile school

Textile sizing. See Sizing (textiles)**Textile soap. See Soap, Textile****Textile terms. See Textile industry—Dictionaries****Textile workers**

Conditions of labour in the Japanese spinning industry. *Int Labour R* 7:747-54 My '23

Employment of women in the German textile industry. *Monthly Labor R* 17:143 JI '23

Evasion of international 48-hour week. H. Cliff. *Textile World* 64:2243-4+ O '20 '23
Fall River textile workers seeking wage increases to await result of conference on April 20. *Comm & Fin Chr* 116:1356-8 Mr '31 '23

New England textile strike. L. E. Tilden. *Monthly Labor R* 16:899-922 My '23

New England's textile strike. *Am Ind* 22:32 Ap '22

Problems of juvenile employment. W. B. Owen. *Textile Inst J* 14:P136-3 Je '23

Survival of the fittest in employe service plans. *Textile World* 61:656-+ F '4 '22

Teaching female beginners. *Textile World* 62:453+ JI '22 '22

Termination of textile strike in New England. *Comm & Fin Chr* 115:1274-5 S '16 '22

Textile strike continues with little change—mediation again fails. *Comm & Fin Chr* 114:1023, 1141-2, 1365-6, 1486-7, 1609-11 Mr '11-18, Ap '1-15 '22

Wage advances by textile mills. *Textile World* 63:2081 Mr '31 '23

Wage changes in textiles since April 1. *Textile World* 64:821 Ag '11 '23

Wage increases in cotton and woolen mills in New England and South. *Comm & Fin Chr* 116:1358-9 Mr '31 '23

Why mill life is unattractive. A. Pollitt. *Textile Inst J* 14:P96-8 My '23

Youngsters in the textile mills. B. Turner. *Textile Inst J* 14:P99-102 My '23

See also Cotton mills—Employees; Cotton weavers; Ribbon weavers; Silk mills—Employees; Textile schools; Woolen and worsted mills—Employees

Textile gear board

Textile gear board; a new material for making gears. *il* *Ry Mech Eng* 97:376-7 Je '23

Thacher, Arthur

Arthur Thacher, mining engineer; an interview. T. A. Rickard. *il* *Min & Sci P* 124:253-8 F '25 '22

Thallium

Heat of solution of thallium in dilute thallium amalgams. T. W. Richards and C. P. Smyth. *Am Chem Soc J* 45:1455-60 Je '23

Organo-derivatives of thallium; action of thallium chlorides on the Grignard reagent and on organo-derivatives of tin, lead, and bismuth. D. Goddard and A. E. Goddard. *Chem Soc J* 121:256-61 F '22

Organo-derivatives of thallium; compounds of the type R₂TlX. A. E. Goddard. *Chem Soc J* 123:1161-72 My '23

Organo-derivatives of thallium; some thalliumdiaryl salts and the preparation of thalliumdiaryl haloids. A. E. Goddard. *Chem Soc J* 121:30-40 Ja '22

Organo-derivatives of thallium; the preparation of thallium diaryl salts. A. E. Goddard and D. Goddard. *Chem Soc J* 121:482-8 Mr '22

Solid thallium amalgams and the electrode potential of pure thallium. T. W. Richards and C. P. Smyth. *diag* *Am Chem Soc J* 44:524-45 Mr '22

Studies on thallium compounds; analytical. A. J. Berry. *Chem Soc J* 121:394-9 Mr '22

Studies on thallium compounds; the reduction of thallic compounds with ferrous sulphate and with sodium arsenite. A. J. Berry. *Chem Soc J* 123:1109-14 My '23

Thallium chlorides

Organo-derivatives of thallium; action of thallium chlorides on the Grignard reagent and on organo-derivatives of tin, lead and bismuth. D. Goddard and A. E. Goddard. *Chem Soc J* 121:256-61 F '22

Thallium halides

Spectrophoto-electrical sensitivity of some halide salts of thallium, lead and silver. W. W. Coblenz and J. F. Eckford. *U S Bur Stand Sci Pa* 456:489-98 '22

Thapsic acid

Electro-synthesis of azelaic and thapsic acids. M. Carmichael. *Chem Soc J* 121:2545-9 N '22

Thatch

Thatch. *il* *Am Inst Arch J* 9:389-96; 10:4-13 D '21-Ja '22

Thawing

- Coal steaming. A. W. Binns. diags plan Power Pl Eng 26:595-8 Je 15 '22
- Cold-water thawing in the North. Min & Sci P 124:147-8 F 4 '22
- Device for thawing frozen switches. J. H. Hahn. diags Ry Mech Eng 96:103 F '22
- Methods and cost of thawing frozen gravel by means of cold water. E. E. Pearce. diags plan Eng & Contr 57:157-8 F 15 '22; Same. Min & Sci P 124:154-6 F 4 '22
- Portable pipe-thawing apparatus that limits current. diags Elec W 79:586 Mr 25 '22; Same. Eng & Contr 58:43 JI 12 '22
- Recent progress in the thawing of frozen gravel in placer mining. C. Janin. diags U S Bur Mines Tech Pa 309:1-34, pl 1-5 '22; Excerpts. Eng & Contr 58:273 S 20 '22; Conclusions. Eng & Min J 114:499 S 16 '22
- Thawing water pipes. Sci Am 128:143 F '23
- See also* Sleet; Snow melters; Snow removal

Theaters

- Allen theatre. I. T. Frary. il plans Arch Rec 50:358-69 N '21
- Apollo theater, Chicago, Ill., Holabird & Roche, architects. il Arch Rec 53:533-43 Je '23
- Applying the lessons of industry to the theater; New York's newest play-house, the Carroll. il Sci Am 126:228-9 Ap '22
- Collapse of theatre during construction. il Bldg Age 44:40-2 Ja '22
- Design and construction of theaters. R. L. Morin. il diags plans Am Arch 122:393-402, 443-50, 453-6, 493-6, 507-10, 537-42, 553-6; 123:57-8, 66-71, 101-4, 117-19 N 8-D 20 '22, Ja 17-31 '23
- Earl Carroll theatre, New York. Arch & Bldg 54:39-40, pl 63-5 Ap '22
- Finishing the interior concrete of Grauman's Metropolitan theatre, Los Angeles. W. L. Woollett. il Concrete 23:47-54 Ag '23
- Foundations for new theater placed while players perform. E. J. Lovett. il Pop Mech 38:25-8 JI '22
- Grauman theatre, Hollywood, Cal. H. R. Kelley. Am Arch 123:106a-i, 113-16, 125-7 Ja 31 '23
- Grauman's Metropolitan theatre—unusual structural features. il diags plans Concrete 23:107-14 S '23
- Hawaii theatre, Honolulu, Hawaii; views and plans. Am Arch 124:378d-h O 24 '23
- Heavy steelwork in Keith theater and office building, Cleveland, O. diags plans Eng N 88:1036-41 Je 22 '22
- Huge concrete girders and trusses in Grauman's new theater and office building in Los Angeles. R. C. Mitchell. il diags plan Eng N 91:4-9 JI 5 '23
- Music box theatre, 239 West 45th street, New York city. Arch & Bldg 53:95, pl 206-8 D '21
- Music box theatre, West 45th street, New York. C. H. Crane. Am Arch 121:98a-e, 99, 100-4 F 1 '21
- New version of the revolving stage idea. il Sci Am 128:224-5 Ap '23
- Ornheim theatre, Wichita, Kansas. Arch & Bldg 55:6-7, pl 6-9 Ja '23
- Regent theater, Brighton, England. il plans Arch Forum 36:193-6 My '22
- Relation of pipe organs to architecture; public halls, auditoriums and theatres. C. W. Cameron. il diags Am Arch 122:225-8+ S 13 '22
- Sheridan theatre, New York. il Arch & Bldg 54:18-19, pl 24-6 F '22
- Small opera house; student work, Beaux-Arts institute of design. Am Arch 124:69-72 JI 18 '23
- Special structural features of San Francisco theater. Z. Witkin. il diags Eng N 90:208-10 F 1 '23
- Student work, Society of Beaux-Arts architects. Am Arch 123:237-40 Mr 14 '23
- Towards a new theatre; new type of theatre building designed by Norman-Bel Geddes. il plans Arch Rec 52:170-82 S '22
- Truss supports for cantilevers of theater balconies. diags Eng N 91:193 Ag 2 '23

- Two recent Chicago playhouses; the twin Selwyn and Harris theaters. il plans Arch Forum 38:13-16, pl 7-10 Ja '23
- Winter Garden, New York. Arch & Bldg 55:39-40, pl 96-8 Ap '23

See also Moving picture theaters; Moving pictures; also Eastman theater and school of music

Advertising

- When the theatre uses window displays. W. Perry. il Ptr Ink M 6:54 Ja '23

Electric equipment

- Electrical and illuminating equipment of the Eastman theatre and school of music. F. A. Mott and L. A. Jones. il diags plans Am Inst E E J 42:569-82 Je '23; Same cond. Am Arch 123:511-15, 565-70 Je 6-20 '23

Failures

See Building failures

Fires and fire protection

- Lessons from a theater fire. E. G. Friedrich. il plan Eng N 91:552-3 O 4 '23
- La protection contre l'incendie par l'ignifugation des tissus et des bois. A. Kling and D. Florentin. Génie Civil 80:180-3, 202-4 F 25-Mr 4 '22

Heating and ventilation

- Cooling of theatres and public buildings. F. Wittenmeier. Refrig Eng 9:115-17; Discussion, 117-18+ O '22
- Fan furnace heating of a theatre. il diags plan Sheet Metal Worker 13:171-3 Ap 14 '22
- Health and comfort dominant essentials in theatres. G. C. Breidert. Am Soc Heat & V E J 29:295-6 Ap '23
- Heating and ventilating of theatre buildings. J. Mackay. diags Dom Eng 98:69-72+ Ja 14 '22
- Heating, ventilating and cooling plant of the Tivoli theatre. il diags plans Power Pl Eng 26:249-55 Mr 1 '22
- Mechanical equipment for a combined theatre and office building; Fantages theatre, Los Angeles. E. L. Weber. il diags plans Heat & Ven 19:27-34 Mr '22
- Modern auditorium ventilating contrasted with old Newgate prison methods. il Dom Eng 100:408-9 S 2 '22
- System of downward introduction of the air. E. P. Heckel. diags Power Pl Eng 27:434-6 Ap 15 '23; Same. Heat & Ven 20:72-3 Je '23; Same abr. Arch Forum 39:70-2 JI '23; Abstract. Dom Eng 103:56-8 Ap 14 '23
- See also* Moving picture theaters—Heating and ventilation

Lighting

- Design and construction of theaters. R. L. Morin. il diags plan Am Arch 122:493-6, 507-10 D 6 '22
- Electric lighting at the Theatre Royal, Drury Lane. il Elec R (Lond) 90:715-16 My 19 '22; Electrician 88:596 My 19 '22
- Grauman's metropolitan theatre, Los Angeles. G. C. Tenney. il chart J Elec 50:131-4 F 15 '23
- Year's progress in illumination, 1922-1923. Illum Eng Soc 18:629-33 S '23
- See also* Moving picture theaters—Lighting; Stage lighting

Projection booths

- Design and construction of theaters. R. L. Morin. il diag plan Am Arch 122:537-9 D 20 '22

Stage setting and scenery

- La couple-décor Fortuny du théâtre de la Scala, à Milan. il diags Génie Civil 80:441-3 My 20 '22
- La double scène tournante du Grand-théâtre de Lyon. P. Calfas. il diags Génie Civil 82:1-5, pl 1 Ja 6 '23
- New and novel use for aluminum; stage scenery. Sci Am 129:254 O '23
- New version of the revolving stage idea. il Sci Am 128:224-5 Ap '23

Theaters—Stage setting and scenery—*Continued*
Le plancher tronconique en béton armé sous la scène tournante du Grand-Théâtre de Lyon. il diags Génie Civil 82:178-9 F 24 '23
Realistic sky for the stage. il Pop Mech 38: 821-2 D '22

Scenic artists make clever stage effects. il Pop Mech 39:418 Mr '23

Six stages in one. il Sci Am 128:154-5 Mr '23
Stage sets. R. L. Morin. il Am Arch 123: 349-53, 405-8 Ap 25-My 9 '23

See also Moving pictures—Setting and scenery; Stage lighting

Theaters, Open air

Stage setting and scenery

Reversible scenery for outdoor theater. J. A. Ford. il Pop Mech 37:95-6 Ja '22

Thebainol

Morphine group; thebainone, thebainol, and dihydrothebainone. J. M. Gulland and R. Robinson. Chem Soc J 123:998-1011 My '23

Thebainone

Morphine group; thebainone, thebainol, and dihydrothebainone. J. M. Gulland and R. Robinson. Chem Soc J 123:998-1011 My '23

Thecodontia

Triassic reptilian order Thecodontia. F. von Huene. bibliog Am J Sci 5th ser 4:22-6 Jl '22

Theft

Chamber of shipping gives rules to prevent pilferage. Marine Eng 27:725-6 N '22

It's your job to keep him honest. W. Bishop. Nation's Business 11:38-9 Ag '23

See also Electric lamps—Theft; Gold—Theft

Therapeutics

See Chemotherapy

Thermal analysis

Distribution of temperature in steel ingots during cooling; abstract. Seizō Saitō. Chem & Met Eng 26:323-4 F 15 '22

L'emploi du pyromètre à dilatation pour l'analyse thermique des alliages. P. Chévenard. Génie Civil 82:379 Ap 21 '23

Neue anwendungen des dilatations-pyrometers für die thermische analyse. L. E. Daweke. diags Stahl & Eisen 43:825-6 Je 21 '23

Recording chronograph for the inverse rate method of thermal analysis. H. J. French. il diags U S Bur Stand Tech Pa 230:245-55 '23

Thermal analysis at low temperatures. F. E. E. Germann. Phys R 19:623-8 Je '22

See also Critical point

Thermal conductivity. See Heat conductivity

Thermal spring. See Hot springs

Thermionic effect

Edison effect and its modern applications. C. H. Sharp. il diags Am Inst E E J 41:68-78 Ja '22

Physics of the three-electrode bulb. K. T. Compton. J Fr Inst 194:29-48 Jl '22

Thermionic tubes. See Vacuum tubes

Thermisilid

Silico-thermy and its practical application. C. A. Heise. il Iron Age 109:337-8 F 2 '22

Thermit welding. See Welding—Thermit process

Thermochemistry

Distribution of thermal energy in the tetra-chlorides of carbon, silicon, titanium and tin. W. M. Latimer. Am Chem Soc J 44: 90-7 Ja '22

Die energie der atombindungen im diamanten und in aliphatischen kohlenwasserstoffen. K. Fajans. Deutsche Chem Gesell Ber 55: 2826-38; Discussion. A. Thiel. 2844-5 S '22

Heat of formation of silver iodide. H. S. Taylor and W. T. Anderson, Jr. Am Chem Soc J 43:2014-17 S '21

Heat of wetting of silicic gel. W. A. Patrick and F. V. Grimm. diags Am Chem Soc J 43:2144-50 O '21

Heats of neutralization of potassium, sodium and lithium hydroxides with hydrochloric, hydrobromic, hydroiodic and nitric acids, at various dilutions. T. W. Richards and A. W. Rowe. Am Chem Soc J 44:684-707 Ap '22

Heats of solution and of transformation of the acids and aquo cobalt pentammines. A. B. Lamb and J. P. Simmons. Am Chem Soc J 43:2188-99 O '21

Solubilities and cooling curves of the mononitrophenols. L. L. Carrick. J Phys Chem 25:628-59 N '21

See also Boiling points; Chemical reaction, Heat of; Coagulation, Heat of; Combustion; Dissociation; Distillation; Evaporation; Flash point; Fusion, Latent heat of; Ionization; Latent heat; Melting points; Solution, Heat of; Specific heat; Vaporization, Heat of

Thermocouples

Applications and limitations of thermocouples for measuring temperatures. I. B. Smith. diags Am Inst E E J 42:171-8 F '23; Same cond. Power 57:461-2 Mr 20 '23; Same cond. Power Pl Eng 27:430-3 Ap 15 '23; Discussion. Am Inst E E J 42:851-3 Ag '23
Combined crucible holder and thermocouple. C. Y. Clayton. il Chem & Met Eng 26:81-2 Ja 11 '22

Contamination of thermocouples. O. A. Hougen and B. L. Miller. diags Chem & Met Eng 29:662-3 O 8 '23; Discussion. 29:806, 934 O 29, N 19 '23

Improvement in quality of rare metal thermocouples. Sci Am 126:391 Je '22

Life tests of platinum: platinum-rhodium thermocouples. C. O. Fairchild and H. M. Schmitt. Chem & Met Eng 26:158-60 Ja 25 '22

Measurement of temperature in rubber and insulating materials by means of thermocouples. E. B. Spear and J. F. Purdy. diags Ind & Eng Chem 15:842-5 Ag '23

Preparation of platinum and of platinum-rhodium alloy for thermocouples. R. P. Neville. Am Electrochem Soc Trans v 43 (preprint 13):125-36 My '23; Same cond. Brass W 19:288-90 S '23

Thermocouples and the measurement of searchlight mirror temperatures. F. A. Benford. il Gen Elec R 25:498-502 Ag '22

See also Potentiometers; Thermopiles

Thermodynamics

Activity coefficients and colligative properties of electrolytes. H. S. Harned. Am Chem Soc J 44:252-67 F '22

Application of thermodynamics to heterogeneous equilibria. G. W. Morey. diags J Fr Inst 194:425-84 O '22

Elements of engineering thermodynamics. J. A. Moyer, J. P. Calderwood and A. A. Potter. 2d ed., rev. 224p Wiley '23

Generation and utilisation of cold; discussion at a joint meeting of the Faraday society and of the British cold storage and ice association. Engineering 114:498-500 O 20 '22

Imaginary thermodynamic process. J. S. Ames. J Fr Inst 195:655-63 My '23

Kinetic theory of solids (metals) and the partition of thermal energy. B. M. Sen. Philo Mag 6th ser 43:672-87 Ap '22

Modification of Van der Waals' equation. W. P. Boynton and A. Bramley. Phys R 20:46-50 Jl '22

Molecular thermodynamics. B. A. M. Cavanagh. Philo Mag 6th ser 43:606-36; 44:226-47, 610-40 Mr, Jl S '22

On the partition of energy; statistical principles and thermodynamics. C. G. Darwin and R. H. Fowler. Philo Mag 6th ser 44:823-42 N '22

Relation between statistical mechanics and thermodynamics. E. C. Tolman. Am Chem Soc J 44:75-90 Ja '22

Restricted movements of molecules at very low pressures: a limit of applicability of the second law of thermodynamics. A. Fairbourn. diags Philo Mag 6th ser 43:1047-56 Je '22

Some by-paths in the fundamentals of engineering. J. Frith and F. Buckingham. Engineer 135:544-6 My 25 '23

Thermodynamics—Continued

- Thermal ionization of gaseous elements at high temperatures. A. A. Noyes and H. A. Wilson. *Am Chem Soc J* 44:2806-15 D '22
- Thermodynamic bases for determining efficiency to be expected from gas turbines. H. Schmolke. *diags Mech Eng* 44:187-90 Mr '22
- Thermodynamic properties of methane. F. G. Keyes, R. S. Taylor and L. E. Smith. *diags Refrig Eng* 9:280-9 Mr '23
- Thermodynamical theory of surface tension. S. Sano. *Philos Mag* 6th ser 43:649-58 Ap '22
- Thermodynamics and statistical mechanics. R. H. Fowler. *Philos Mag* 6th ser 45:497-516 Mr '23
- Thermodynamics and the free energy of chemical substances. G. N. Lewis and M. Randall. 658p McGraw-Hill '23
- Thermodynamics of ammonia compression. W. H. Motz. *Refrig Eng* 9:119-24 O '22; Discussion. 9:124-6†, 233-5, 262 O '22, Ja-F '23
- Third law of thermodynamics; evidence from the specific heats of glycerol that the entropy of a glass exceeds that of a crystal at the absolute zero. G. E. Gibson and W. F. Glaue. *diag Am Chem Soc J* 45:93-104 Ja '23
- See also* Critical point; Entropy; Heat; Joule-Thomson effect; Radiation; Specific heat; Steam; Vapor pressure

Thermoelectric effects

- Hall, Ettingshausen, Nernst and Leduc effects in cadmium, nickel and zinc. A. E. Caswell. *Phys R* 20:280-2 S '22

Thermoelectricity

- Comparison of the thermionic and photoelectric work function for platinum. O. Koppius. *diags Phys R* 18:443-55 D '21
- Thermo-electric force, the entropy of electrons, and the specific heat of metals at high temperatures. W. M. Latimer. *Am Chem Soc J* 44:2136-48 O '22
- Thermoelectric properties of sputtered films of gold, platinum, and palladium; and of solid palladium containing occluded hydrogen. R. M. Holmes. *diag Phys R* 22:137-47 Ag '23

See also Piezoelectricity

Thermoelectromotive force

- Effect of tension on the change of thermoelectromotive forces by magnetization. A. W. Smith. *Phys R* 19:285-99 Ap '22

- Thermoelectromotive force of copper-manganese alloys. S. Kimura and Z. Isawa. *Phys R* 20:441-51 N '22

Thermograph

- Aerographs and strut thermometers. J. A. C. Warner. *il U S Nat Advisory Com for Aeronautics* 1921:550-60 '23

Thermomagnetic analysis

- Thermomagnetic analysis. *Sci Am* 128:23 Ja '23

Thermomagnetic effects

- Hall, Ettingshausen, Nernst and Leduc effects in cadmium, nickel and zinc. A. E. Caswell. *Phys R* 20:280-2 S '22

Thermometers and thermometry

- Aerology for amateurs and others. E. V. Hill. *Heat & Ven* 20:43-4 Mr '23

- Application of a differential thermometer in ebullioscopy. A. W. C. Menzies and S. L. Wright, jr. *diags Am Chem Soc J* 43:2314-23 N '21

- Brown direct-reading resistance thermometer. *il Iron Age* 109:1603 Je 8 '22; *Blast F & Steel* Pl 10:402 Jl '22; *Power* 56:85-6 Jl 18 '22; *Power Pl Eng* 26:682-3 Jl 1 '22

- Differential thermometer. A. W. C. Menzies. *diag Am Chem Soc J* 43:2309-14 N '21

- Exposed stem correction for mercury thermometers. W. L. DeBaufre. *diags Power* 57:320-1 F 27 '23

- How to use mercury-in-glass thermometers. W. L. DeBaufre. *diags Power* 57:440-3 Mr 20 '23

- Improvements in thermometry. C. H. Herter. *Refrig W* 58:19-20† F '23

- Insulation of highly attenuated wires in platinum resistance thermometers. J. J. Manley. *diags Philos Mag* 6th ser 43:95-6 Ja '22
- Lags of thermometers. A. R. McLeod. *Philos Mag* 6th ser 43:49-70 Ja '22
- Measurement of steady and fluctuating temperatures. R. Royds. 162p Van Nostrand (Constable & co., London) '21
- Measurement of superheat. B. O. Snyder. *diags Power Pl Eng* 26:515-16 My 15 '22
- New Fournier type thermometer manufactured in U.S. *il Power Pl Eng* 25:1173 D 1 '21
- Obtaining an indication of transformer temperatures. J. B. Gibbs. *il diags Power* 57:371-2 Mr 6 '23
- Placing thermometers in ammonia lines of refrigerating plant. *Power* 58:664 O 23 '23
- Some instrument practices of the United electric light & power co. W. E. Caldwell. *il Power* 58:280-3 Ag 21 '23
- Some low temperature reference points. F. G. Keyes. *Refrig Eng* 9:293-4 Mr '23
- Temperature control in the dye house and bleachery. B. F. Wadsworth. *Textile Col* 45:174-†, 307-10, 375-8, 511-15 Mr, My-Je, Ag '23
- Temperature measurement with the Einthoven galvanometer. F. Adcock and E. H. Wells. *il diags Philos Mag* 6th ser 45:532-60, pl 9-10 Mr '23
- Thermometer well for use in vertical pipes. C. H. Berry. *diag Power* 57:895 Je 5 '23
- Thermometers for aircraft engines. E. F. Mueller and R. M. Wilhelm. *il diags U S Nat Advisory Com for Aeronautics* 1921:714-20 '23
- Thermometers for measuring rock temperatures. *Sci Am* 128:237 Ap '23
- Thermometric anemometer. J. S. G. Thomas. *Philos Mag* 6th ser 43:688-98 Ap '22
- Total and 1-inch immersion, conversion table. *Nat Pet N* 15:42 O 10 '23
- See also* Calorimeters and calorimetry; Comf-thermometer; Katathermometer; Motometer company; Pyrometers and pyrometry; Temperature—Measurement

Standards

- Thermometer wells. *diags Refrig Eng* 10:58-60 Jl '23

Testing

- Testing of thermometers. *U S Bur Stand Circ* 8:1-18 '21

Thermometers and thermometry, Medical

- Electrically heated bath tests thermometers. *il Pop Mech* 35:180 Ag '22

Thermophone

- Loose contact thermophones. L. Miller. *Elec R* (Lond) 92:590 Ap 13 '23
- Minimum intensity for audition. F. W. Kranz. *diags Phys R* 21:573-84 My '23
- Thermophone. E. C. Wentz. *diags Phys R* 19:333-45 Ap '22

Thermopiles

- Measuring the heat from the stars. *il Sci Am* 127:33 Jl '22
- Portable vacuum thermopile. W. W. Coblentz. *U S Bur Stand Sci Pa* 413:187-92 '21

See also Thermocouples

Thermo-regulators. See Thermostats**Thermos bottles**

- What brought the vacuum bottle from the scientific laboratory to the household? *Ptr Ink* 123:45-6 Je 21 '23

Advertising

- More sales by teaching buyers to use product oftener. *Ptr Ink M* 6:76 Ja '23

Thermostats

- New form of temperature regulator; Wells pipe thermostat. *diag Power* 56:353 S 5 '22
- New method for the control of thermostats. D. J. Beaver and J. J. Beaver. *diag Ind & Eng Chem* 15:359-61 Ap '23
- New temperature control uses metal thermostat. *diags Power* 56:500 S 26 '22
- Salt resistance thermostat. P. E. Demmler. *Chem & Met Eng* 29:368-9 Ag 27 '23

Thermostats—Continued

Steam savings by automatic control in large buildings. B. L. Boalt. *Heat & Ven* 20:40-2 S '23

Thermo-regulator. E. B. Starkey and N. E. Gordon. *diag J Ind & Eng Chem* 14:541 Je '22

Thermostat control for carburetor needle valve. *diags Pop Mech* 40:480 S '23

Thermostat with novel features. *il Heat & Ven* 20:62-3 My '23

Thianthrene

Syntheses in the thianthrene series. J. N. Ray. *Chem Soc J* 119:1959-67 D '21

Synthesis of substituted thianthrens; thianthren and nitrothianthren. S. Krishna. *Chem Soc J* 123:156-60 Ja '23

Thiazane

Substituted thio-ureas; the synthesis of thiazolidine and thiazane derivatives. F. B. Dains and others. *Am Chem Soc J* 44:2637-43 N '22

Thiazoles

Researches on thiazoles; derivatives of 2-phenylbenzothiazole; synthesis of an analog of cinchophen (atophan). M. T. Bogert and E. M. Abrahamson. *Am Chem Soc J* 44:826-37 Ap '22

Researches on thiazoles; 2-para-tolyl-benzothiazole, dehydrothio-para-toluidine, and some related compounds. M. T. Bogert and M. Meyer. *Am Chem Soc J* 44:1568-72 Jl '22

Thiazolidine

Substituted thio-ureas; the synthesis of thiazolidine and thiazane derivatives. F. B. Dains and others. *Am Chem Soc J* 44:2637-43 N '22

Thickening

Theory and practice of thickening. C. H. Tyler. *Chem & Met Eng* 29:452-4 S 10 '23

Thioaldehydes

Isomerism of thioaldehydes. E. Fromm and C. Schultis. *Chem Soc J* 124 pt 1:580-2 Je '23

Thiobacillus thiooxidans

Recent investigations on the oxidation of sulfur by microorganisms. J. G. Lipman. *biblog Ind & Eng Chem* 15:404-5 Ap '23

Thiocarbamides

Interaction of aldehydes or ketones and thiocarbamides in the presence of acids. J. Taylor. *Chem Soc J* 121:2267-72 O '22

Thiocyanates

Production of imido thiol esters by the condensation of thiocyanates with resorcinol or phloroglucinol. R. J. Kaufmann and R. Adams. *Am Chem Soc J* 45:1744-52 Jl '23

Researches on thiocyanates and isothiocyanates; the nature of the intramolecular rearrangement of isothiocyanato-acetanilides. A. J. Hill and E. B. Kelsey. *Am Chem Soc J* 44:2357-69 O '22

See also Alkylthiol thiocyanates

Thiocyanic acid

Interaction of hydrogen sulphide, thiocyanogen, and thiocyanic acid with unsaturated compounds. F. Challenger, A. L. Smith and F. J. Paton. *Chem Soc J* 123:1046-55 My '23

Thiocyanines

Cyanine dyes; dyes containing a quinoline and a benzothiazole nucleus; the thioisocyanines. W. T. K. Braunkholtz and W. H. Mills. *Chem Soc J* 121:2004-8 O '22

Cyanine dyes; the virtual tautomerism of the thiocyanines. W. H. Mills and W. T. K. Braunkholtz. *Chem Soc J* 121:1489-95 Ag '22

See also Alkylsulfur thiocyanates

Thiocyagen

Beiträge zum valenzproblem des schwefels; die molekulargröße des rhodans. H. Lecher and A. Goebel. *Deutsche Chem Gesell Ber* 54:2223-9 O '21

Interaction of hydrogen sulphide, thiocyanogen, and thiocyanic acid with unsaturated compounds. F. Challenger, A. L. Smith and F. J. Paton. *Chem Soc J* 123:1046-55 My '23

Thiodiazoles

Disulphides with neighbouring single and multiple linkings; syntheses of triazoles and thiodiazoles. E. Fromm and others. *Chem Soc J* 122 pt 1:377-80 Ap '22

Thiodiphenylamine

Über die sulfonium-basen, welche sich vom thio-diphenylamin und analogen verbindungen ableiten. F. Kehrman and J. H. Dardel. *Deutsche Chem Gesell Ber* 55:2346-56 S '22; *Abstract. Chem Soc J* 122 pt 1:1063-4 N '22

Thioflavanones

Thioflavanones, thiochromanones, and thiochromanols. F. Arndt and others. *Chem Soc J* 124 pt 1:826-7 Ag '23

Thioimidazolones

Reactions of the formamidines; the thioimidazolones. F. B. Dains, R. Thompson and W. F. Asendorf. *Am Chem Soc J* 44:2310-15 O '22

Thiophenols

Derivatives of *ortho*-thiophenols. D. T. Gibson and S. Smiles. *Chem Soc J* 123:2388-93 S '23

Thionaphthene

Derivatives of 3-oxy (1) thionaphthen. S. Smiles and E. W. McClelland. *Chem Soc J* 119:1810-16 N '21

Thionyl chloride

Action of thionyl chloride on α -hydroxy-acids; abstract. E. E. Blaise and Montagne. *Chem Soc J* 122 pt 1:715-16 Ag '22

Thiophenes

Researches on selenium organic compounds; synthesis of diaryl thiophenes and diaryl selenophenes. M. T. Bogert and P. P. Herrera. *Am Chem Soc J* 45:238-43 Ja '23

Thiosemicarbazones

Reactions of thiosemicarbazones; action of esters of α -halogenated acids. F. J. Wilson and R. Burns. *Chem Soc J* 123:799-804 Ap '23

Reactions of thiosemicarbazones; action of halogen compounds. F. J. Wilson and R. Burns. *Chem Soc J* 121:870-6 My '22

Thiosulfates

Action of thiosulfates on cupric salts. H. Bassett and R. G. Durrant. *Chem Soc J* 123:1279-91 My '23

Free energy of the thiosulfate ion. F. R. Bichowsky. *diags Am Chem Soc J* 45:2225-35 O '23

See also Alkali silver thiosulfates

Thiourazole

Ringschlüsse an schwefel-haltigen dicarbonhydraziden; thio-urazol. F. Arndt, E. Milde and F. Tschenschner. *Deutsche Chem Gesell Ber* 55:341-56 F '22; *Abstract. Chem Soc J* 122 pt 1:375-7 Ap '22

Thio-ureas

Substituted thio-ureas; the synthesis of thiazolidine and thiazane derivatives. F. B. Dains and others. *Am Chem Soc J* 44:2637-43 N '22

Third rails

Electric transportation in steel mills; abstracts. F. O. Schnure. *Iron Age* 112:971-2 O 11 '23; *Ind Eng* 81:555-6 N '23

Limit of voltage in conductor rails. *Elec Ry J* 60:320 S 2 '22

Thirst

Effects of thirst. T. Kudo. *Sci Am* 126:11 Ja '22

Thiuram disulfides

Reactions of accelerators during vulcanization. C. W. Bedford and H. Gray. *Ind & Eng Chem* 15:720-4 Jl '23

Thomas steel. See Bessemer process

Thompson, Arthur W., 1875-Portrait. *Elec W* 82:318 Ag 18 '23

Thompson, John R.

Men and methods. J. Mason. *il System* 42:151-3 Ag '22

Thompson, Robert N.

Thompson, the inventor of pneumatic tires, unsung in the encyclopedias. *Eng & Contr (R & S)* 58:3-4 O 4 '22

Thompson-Starrett foundation

Building construction courses in engineering schools; details of the Thompson-Starrett foundation at Yale and Union. Eng N 91: 394-5 S 6 '23

Thomson, Joseph John, 1856-

Presentation of the Franklin medal and certificate of honorary membership to Dr Ralph Modjeski and Sir Joseph John Thomson. por J Fr Inst 194:362-77 S '22

Thomson, R. W.

R. W. Thomson and road locomotion. R. E. Crompton. Engineer 133:670-1 Je 16 '22

Thoria. See Thorium oxide**Thorium**

Adsorption of the -B and -C members of the radium and thorium series by ferric hydroxide. J: A. Cranston and R. Hutton. Chem Soc J 123:1318-24 My '23

Adsorption of thorium-B and thorium-C by ferric hydroxide. J: A. Cranston and R. A. Burnett. Chem Soc J 119:2036-44 D '21

Adsorption of uranium-X and its isotope, thorium, by basic ferric acetate. A. C. Brown. Chem Soc J 121:1736-43 S '22

Critical potentials of the thorium M series lines. P. A. Ross. il diags Phys R 22:221-5 S '23

Determination of the number of α -particles per second emitted by thorium C of known γ -ray activity. A. G. Shenstone and H. Schlundt. Philos Mag 6th ser 43:1038-47 Je '22

Determination of thorium in monazite sand by an emanation method. H. H. Helmick. diags Am Chem Soc J 43:2003-14 S '21

Electron emission from heated metals. I. Langmuir. Elec R (Lond) 92:132 Ja 26 '23; Same. Elec W 81:384 F 17 '23; Same abr. Chem & Met Eng 28:69, 211 Ja 10, 31 '23

Electrons from hot filaments. I. Langmuir. Elec W 81:384 F 17 '23; Same. Chem & Met Eng 28:69, 211 Ja 10, 31 '23

Removal of thorium from the surface of a thoriated tungsten filament by positive ion bombardment. K. H. Kingdon and I. Langmuir. diags Phys R 22:148-60 Ag '23

Thorium chromate

Investigations of the chromates of thorium and the rare earths; the system thorium oxide-chromic anhydride-water at 25°. H. T. S. Britton. Chem Soc J 123:1429-35 Je '23

Thorium hydride

Über die existenz gasförmiger hydride des zirkoniums und thoriums. R. Schwarz and E. Konrad. Deutsche Chem Gesell Ber 54: 2122-33 S '21; Abstract. Chem Soc J 120 pt 2:645-6 N '21

Thorium nitrate

Electrification at the boundary between a liquid and a gas. H. A. McTaggart. diags Philos Mag 6th ser 44:386-95 Ag '22

Thorium oxide

Action of alumina, titania and thoria upon ethyl and isopropyl acetates. H. Adkins and A. C. Krause. diags Am Chem Soc J 44:385-92 F '22

Reduction of thorium oxide by metallic tungsten. il Chem Soc J 121:2236-8 O '22

Thornton, Sir Henry Worth, 1871-

British railway man's appreciation of Sir Henry Thornton F. J. C. Pole. por Eng N 89:1060-1 D 21 '22

Indiana railroad knight. G: Howard. Nation's Business 11:31-2 F '23

Thought and thinking

How to think in business. M. T. McClure. 173p McGraw-Hill '23

Thread

Dyeing of sewing thread. L: J. Matos. Textile World 64:1087+- Ag 25 '23

Specifications

Sewing thread specifications. Textile World 64:2627-8 N 3 '23

Thread cutting

Cutting diamond screws. J. Hewes. il Am Mach 56:971 Je 29 '22; Discussion. J. T. Towlson. 57:498 S 28 '22

Cutting worm threads. F. D. Jones. il diags Mach 29:349-51 Jl '23

E-Z threading dial. il Am Mach 56:977 Je 29 '22

Formula for tap drill size. Am Mach 56:935; 57:310, 621 Je 22, Ag 24, O 19 '22

Formulas for cutting and measuring threads. J. Williams. chart Am Mach 57:925-7; 58: 944-5 D 14 '22, Je 28 '23

Making chasers for self-opening dies. il Am Mach 57:169-74 Ag 3 '22

Method of cutting internal threads. C. A. Lee. diags Mach 30:40 S '23

Position of thread-cutting tool and its effect on thread form. W: S. Rowell. diags Mach 29:686-7 My '23

Problems of the die head manufacturer. C. W. Bettcher. il Am Mach 56:842-4 Je 8 '22

Threading an aluminum phone case for radio apparatus. H. E. Crawford. diags Am Mach 58:772 My 24 '23

See also Screw threads

Thread cutting machines

Cleveland double-ended automatic threading machine. il Am Mach 57:312-13 Ag 24 '22; Iron Age 110:527 Ag 31 '22; Mach 29:67-8 S '22; Ry Mech Eng 96:664-5 N '22

Drill press used as a threading machine. A. P. Child. il Am Mach 57:500 S 28 '22

Fellows thread generator. il Am Mach 58: 923-4 Je 21 '23; Iron Age 111:1787-8 Je 21 '23; Mach 29:901-2 Jl '23

Grant double-end threading machines. il Mach 30:149-50 O '23; Automotive Ind 49:792-3 O 18 '23; Iron Age 112:901 O 4 '23

Hall planetary thread milling machine. il Mach 29:989-90 Ag '23

Hanson-Whitney semi-automatic universal thread milling machine. il Mach 28:318-19 D '21

Holmes tilted threading machine no. 3. il Am Mach 57:586-7 O 12 '22

Influence of the automotive industry on thread-cutting tools. C. N. Kirkpatrick and G. G. Vink. il diags Am Mach 56:479-81 Mr 30 '22

Machine for threading pipe wrench jaws by the Automatic machine co. il Iron Age 112: 10 Jl 5 '23

Novel applications of the Hartness screw threading attachment. H. A. Loudon. il Am Mach 56:484 Mr 30 '22

Thread cutter offers possibilities of increased production rate. il Automotive Ind 49:26-7 Jl 5 '23

Thread-cutting tool. A. H. Wilson. diags Mach 28:737-8 My '22

Thread milling fixture. J. T. Longdon. diags Mach 30:55 S '23

Thread milling pipe line sockets. il diags Engineer 135:374-5 Ap 6 '23

Waltham thread miller arranged for relieving. il Iron Age 110:1684 D 28 '22

Thread rolling machines

Rolling threads on thin shells. il diags Mach 30:221-2 N '23

Threading machines. See Thread cutting machines

Three carbon series. See Tricarbon series

Three-shift system. See Hours of labor

Thrashing machines

Centrifugal thresher latest for farmer. il Pop Mech 40:940 D '23

Cleaning wheat at the thrashing machine. il diags Sci Am 127:391 D '22

Combined header-thresher is economical machine. il Pop Mech 37:597 Ap '22

Thrashing machine for broom corn, that discards the seed and saves the straw. il Sci Am 127:340 N '22

Thrift. See Saving**Thrust bearings**

Kingsbury air lubricated Michell bearing. il Engineering 116:203 Ag 17 '23

Tunnel shaft bearings on the Michell principle for S.S. Philoctetes. diags Engineering 116:157 Ag 3 '23

Twin-screw steamship Gouverneur-general Chanzy. il diags Engineering 114:105, 108-10 Jl 28 '22

Thujene

Conversion of sabinol into thujene. G. G. Henderson and A. Robertson. *Chem Soc J* 123:1713-17 J1 '23

Thumb indexing

New method of thumb indexing books. A. C. Hewitt. *Eng N* 88:864 My 25 '22

Thunderstorms

Directional observations of atmospherics—1916—1920. R. A. W. Watt. *Philos Mag* 6th ser 45:1010-26 My '23

Electrification produced by the pulverization of aqueous solutions. J. J. Nolan and H. V. Gill. *Philos Mag* 6th ser 46:225-44 Ag '23

Mechanism of a thunderstorm. A. Russell. *Inst E E J* 62:5-8 D '23; Same cond. *Elec R (Lond)* 93:635-7 O 26 '23; Same. *Engineer* 136:458-9 O 26 '23; Same abr. *Engineering* 116:524-5 O 26 '23

Study of high winds and thunderstorm effects; storm that struck New York June 11. J. W. Redway. *diag Eng N* 89:892 N 23 '22

Thurlow backwater suppressors. See Backwater suppressors

Thymine

Detection of thymine in the presence of sugar. H. J. Deuel and O. Baudisch. *Am Chem Soc J* 44:1581-4 J1 '22

Researches on pyrimidines; new methods of identifying the pyrimidine, thymine. T. B. Johnson and O. Baudisch. *Am Chem Soc J* 43:2670-4 D '21

Über einen neuen nachweis von thymine. O. Baudisch and T. B. Johnson. *Deutsche Chem Gesell Ber* 55:18-21 Ja '22

Thymol

Synthesis of thymol from para cymene. M. Phillips. *Am Chem Soc J* 45:1489-93 Je '23

Thymothylether

Über die zersetzung der oxoniumsalze aus thymol-äthyläther und aus anisol durch wehr oder alkalisch reagierende stoffe. F. Kehrman and C. Schmajewski. *Deutsche Chem Gesell Ber* 54:2435-40 O '21

Thymolmercuriacetates

Mercuriation in the aromatic series; abstract. E. Mameli and A. Mameli-Mannessier. *Chem Soc J* 122 pt 1:1080-2 N '22

Thymoquinone

Study of amino and oximo derivatives of thymoquinone. R. M. Hixon. *Am Chem Soc J* 45:2333-41 O '23

Thyroid gland

Some observations on the epinephrin hydrochloride test (Goetsch test) in a group of normal individuals. W. P. Van Wagenen. *bibliog J Ind Hygiene* 3:343-8 Mr '22

Thyssens, August

Zu August Thyssens 80 geburtstage. *por Stahl & Eisen* 42:765-8 My 18 '22

Ticket offices, Railroad. See Railroads—Ticket offices

Tide power

Century-old tide mill at Westport, Me. *il Power* 56:460 S 19 '22

Conservancy of marsh lands. E. Latham. *il diags Engineering* 113:3-6 Ja 6 '22

Fluctuation of water-level in a tidal-power reservoir. S. Chapman. *Philos Mag* 6th ser 46:101-8 J1 '23

Harnessing the tides. *Can Eng* 43:604 D 5 '22

Les marées et leur utilisation industrielle. E. Fichot. 254p Gauthier-Villars et c^{ie}, Paris '23

Power from tides. *Mech Eng* 45:281 My '23

Tidal power possibilities. *Can Eng* 45:379-80 O 2 '23

Tidal research work in eastern Canada. *Can Eng* 42:527 My 23 '22

Tides

Atlantic hewing a new coast line. W. S. Jordan. *il Pop Mech* 39:544-5 Ap '23

Automatic tide gauge weighs only 25 pounds. *il Pop Mech* 39:601 Ap '23

Biological effects of the tides. *Sci Am* 126:237 Ap '22

Stream-flow measurements under tidal influence. E. A. Bailey. *il Eng N* 90:347-9 F 22 '23

Tidal characteristics and their importance to engineers. G. T. Rude. *Eng N* 88:442-5 Mr 16 '22

Tidal stresses and continental displacements. H. H. Poole. *Philos Mag* 6th ser 45:399-400 Mr '23

Tide machine does work of sixty experts. *il Pop Mech* 40:604 O '23

Tides, with special reference to the North Sea; abstract. J. Proudman. *Engineering* 114:420-1 O 6 '22

Utility of models for estuarial experiments. G. E. W. Cruttwell. *Eng & Contr* 56:517 N 30 '21

See also Tide power

Tidewater coal exchange

Court awards \$330,000 damages against Tidewater exchange debtor members. *Coal Age* 21:1020-1 Je 15 '22

Tie tamper. See Tamping machines

Tientsin, China**Bridges**

American bascule bridge for Tientsin, China. *il Pop Mech* 39:4 Ja '23

Tiering machines

Adapting the tiering machine to industry. M. W. Potts. *il Management Eng* 3:155-60 S '22; *Excerpt. Chem & Met Eng* 27:78 J1 12 '22

Cutting costs on moving and piling material with a Lakewood tiering machine. *il Ind Eng* 81:370 J1 '23; *Chem & Met Eng* 29:408 S 3 '23

Lewis-Shepard stacker. *il Am Mach* 56:532-3 Ap 6 '22

Lowering the high cost of moving materials. E. W. Coffey. *Factory* 28:643-5 Je '22

Tiering machines built by the Economy engineering company. *il Engineering* 114:321-5 S 15 '22; *Am Mach* 57:466-7 S 21 '22; *Ind Eng* 80:456-7 S '22; *Pop Mech* 38:585 O '22

What it pays to know about material handling. W. T. Spivey. *il Factory* 30:27-9+ Ja '23

Tiering trucks

Making the equipment fit the job. M. W. Potts. *il Ind Management* 66:231-7 O '23

New tiering truck. *il Chem & Met Eng* 27:367 Ag 23 '22

Ties, Railroad. See Railroad ties

Tilbury, England**Harbor**

Extensions at Tilbury docks, 1912-1917. F. M. G. Du-Plat-Taylor. *Engineering* 114:772 D 22 '22

Tile

Some tile problems of the architect. D. K. Boyd. *Eng & Contr (Bldgs)* 58:63-4 N 22 '22

See also Concrete tile; Drain tile; Hollow tile

Tiles, Decorative

Display rooms of a tile manufactory; New York tiling co. L. V. Solon. *il plan Arch Rec* 52:363-70 N '22

Timber

Measuring and marketing farm timber. W. R. Mattoon and W. B. Barrows. *il diags U S Agric Farmers' Bul* 1210:1-61 '21

Valuation of American timberlands. K. W. Woodward. 246p Wiley '21

See also Forest products; Hard woods; Lumber; Lumbering; Pine; Trees; Wood; also Douglas fir

Specifications

Report of committee D-7 of A. S. T. M. on timber. *Am Soc T M Pro* 21:384-91 '21

Timber preservation. See Wood preservation

Time. See Daylight saving

Time, Standard

Fortieth birthday of standard time. *Ry Age* 75:866 N 10 '23

Time cards

Combining time card and pay check. E. C. Hough. *Factory* 31:601 N '23

Dignifying the flannel shirt. C. B. Bartlett. *Ind Management* 65:26-7 Ja '23

Time cards—Continued

- Graphical study of operating efficiency. A. R. Blakey. *Chem & Met Eng* 27:1259-61 D '27
 Methods of recording elapsed time on jobs. C. W. Lytle. *Management Eng* 4:429-35 Je '23
 Tags for time cards. L. T. Smith. *Factory* 30:608 My '23

Time clocks

- Punching the clock. J. Flodin. *Ind Management* 66:95-6 Ag '23
 System of symbols used in unbeatable clock. *il l'op Mech* 37:40 Ja '22

Time keeping

- Cost keeping in repair shops. *Textile World* 61:75+ Ja 7 '22
 Job cards. H. Bentley. *Eng & Ind Management* 6:533-4 N 10 '21
 Keeping time and pay records. C. A. Walker. *Iron Tr R* 73:38-41 Jl 5 '23
 Labor-saving in and out method. C. Van Zandt. *Management Eng* 3:16 Jl '22; *Same. Ind Management (Lond)* 8:285 N 16 '22
 Methods of recording elapsed time on jobs. C. W. Lytle. *Management Eng* 4:429-35 Je '23
 Standardized costs for sheet metal workers. A. Baruch. *Sheet Metal Worker* 13:76-80, 112-15+ Mr 3-17 '22

See also Time cards; Time clocks

Time measurement

- Enregistrement du temps, en chiffres, au millièbre de seconde, d'après un pendule entretenu électriquement. H. Chrétien. *diags Génie Civil* 82:358 Ap 14 '23
 Method for the accurate measurement of short-time intervals. H. L. Curtis and R. C. Duncan. *il diags U S Bur Stand Sci Pa* 470:17-38 '23; *Abstract. Am Mach* 58:834 Je 7 '23

See also Timing devices

Time signals, Radio

- Nation's time governed by radio daily. *Aerial Age* 15:305 Je 5 '22
 Time signals tell where you are; how surveyors use Arlington time in laying out boundary lines. S. R. Winters. *il Wireless Age* 11:31+ N '23

Time study

- Adjustment of piece rates. C. C. Hermann. *Ind Management* 65:88-92 F '23
 Application of Bedaux management methods in the Robbins & Myers plants. L. C. Morrow. *charts Am Mach* 57:249-55, 294-8 Ag 17-24 '22
 Apply time study to foundry work. J. F. Blank. *Foundry* 51:443 Je 1 '23
 Avoiding mistakes in time study results. E. J. Bengel. *Management Eng* 4:195-7 Mr '23
 Bedaux principle of human power measurement. L. C. Morrow. *Am Mach* 56:241-5 F 16 '22

- Core room premium system. H. Farr. *Foundry* 51:371-4 My 1 '23

- Do time studies tell all the truth. H. K. Reed. *Management Eng* 3:359-62 D '22

- Establishing standards in time study. P. Bernstein. *Ind Management* 64:243-9 O '22

- Holding the stop-watch on salesmen. H. G. Kenagy. *charts Ptr Ink M* 6:31-2+ My '23

- Human side of time study. O. C. Richards. *Ind Management* 65:352-3 Je '23

- Labor relations and the stop-watch. W. O. Lichtner. *Ind Management* 64:31-2+ Jl '22

- Maximum production in flat bar grinding. H. Rekersdres. *il Iron Age* 111:1413-14 My 17 '23

- Method of preparing new instruction sheets from old time study data. C. W. Lytle. *diags Management Eng* 4:281-4 Ap '23

- Modern production methods. W. R. Basset. *Am Mach* 55:1037-9; 56:87-90 D 29 '21; *Ja* 19 '22

- New machine facilitates time-study work. *il Pop Mech* 38:696 N '22

- Observation time-study ticket. J. J. Borkenhagen. *Mach* 28:991-2 Ag '22

- Rate setting by means of elemental time study. F. M. Avery. *Ind Management* 65:161-3 Mr '23

- Reducing the cost of standardization. W. O. Lichtner. *chart Management Eng* 2:275-80; 3:25-8 My, Jl '22

- Relation of time study to cost accounting. R. W. Darnell. *Ind Management* 64:272-8, 341-5 N-D '22

- Silberberg duration time watch for studying efficiency. *il Marine Eng* 27:39 Ja '22

- Simple method increases output. H. P. Drake. *Iron Tr R* 71:646+ S 7 '22

- Standardisation of steel mill practice through time study. R. Gregg. *Engineering* 116:125-7 Jl 27 '23; *Same cond. Iron Tr R* 72:1608-10 My 31 '23; *Same cond. Iron Age* 111:1549-51 My 31 '23

- Stop watch; its place in industry. T. R. Hough. *Ind Management* 64:250-1 O '22

- Stop watch time study. F. B. Gilbreth, L. M. Gilbreth and others. *Eng & Ind Management* 6:437-40, 463-5 O 20-27 '21

- Survey of delivery operations. H. B. Wess. *Administration* 5:275-83 Mr '23

- Time and motion study. E. Farmer. *Eng & Ind Management* 7:70-5, 95-8, 136-9, 221-3, 247-50, 361-5 Ja 19-F 2, 23, Mr 9, Ap 20 '22; *Excerpts, with bibliog. J Ind Hygiene* 4:154-69 Ag '22

- Time and motion study defined. W. Baum. *Iron Tr R* 72:810-12 Mr 15 '23

- Time for performing machining operations on locomotive parts; tabulation of records of seven railroads. E. K. Hammond. *Mach* 28:558-9 Mr '22

- Time study, detailing and shop control. P. L. Dildine. *Ind Management* 64:66+ Ag '22

- Time study for profitable piece work or premium. S. Theaker. *Ind Management* 63:7-11 Ja '22

- Time study in a malleable foundry. M. A. Harder. *Iron Age* 112:748 S 20 '23

- Time study in the day work shop. H. W. Dickson. *Ind Management* 64:262+ N '22

- Time study means progress. A. J. Kramer. *diags Foundry* 51:72-6 Ja 15 '23

- Training time-study men; avoiding the hit-or-miss in rate setting by educational methods. S. M. Lowry. *Ind Management* 64:365-71 D '22; *Same. Ind Management (Lond)* 9:369-70, 393-5; 10:8-10 Je 14-Jl 12 '23

- Two practical cases of task-setting. C. N. Underwood. *Management & Adm* 6:341-6 S '23

- Unit times for washing factory windows. *Management Eng* 3:61-4 Jl '22

- Untruthful costs through faulty time studies. H. K. Reed. *Ind Management* 64:88 Ag '22

- Using time studies in a tire factory. B. M. Maynard. *India Rubber W* 66:415-17 Mr '22

- Verification of Merrick's formula for allowed time. A. A. Hamburger. *chart Ind Management* 64:172-4 S '22

- Wage-incentive plans for cost control. R. W. Darnell. *Management & Adm* 6:459-66 O '23

- Williams time-study machine. *Am Mach* 56:755-6 My 18 '22

See also Job analysis; Rate setting

- Time study watches. *See* Watches

- Timepieces. *See* Clocks; Watches

- Times (London)

- Contest in London Times sale. *Comm & Fin Chr* 115:2111-12 N 11 '22

- Timing devices

- Electrical timing device for short intervals. D. Robertson and N. F. Frome. *diags Inst E E J* 61:49-51 D '22

- Machine time calculating device. *il Ry Mech Eng* 96:175 Mr '22

- New timing disk reduces a day's work into a few minutes. *il Sci Am* 126:39 Ja '22

- Simplex machine-time calculator. *il Am Mach* 56:352 Mr 2 '22; *Mach* 28:588 Mr '22

- Synchronous timing device for relays. *il diags Power* 56:986 D 19 '22

- Timing of airplane races. B. R. Shaw. *il diag Aerial Age* 16:171-2 Ap '23

- Timing of airplane speeds. E. P. Warner. *Aviation* 14:16-17 Ja 1 '23

- Tolhurst automatic timer for centrifugal extractors. *il Textile World* 64:1535 S 15 '23; *Chem & Met Eng* 26:632 O 1 '23

See also Chronograph; Tork clocks

Timken roller bearing company, Canton, Ohio
Making autoists better drivers through advertising. R. Cole. *Ptr Ink* 120:89-90+ Ag 24 '22

Tin

Catalytic activity of tin. O. W. Brown and C. O. Henke. *J Phys Chem* 27:739-60 N '23
Corrosion patterns on cold-worked tin and zinc. H. S. Rawdon, A. I. Krynitsky and J. F. T. Berliner. *Il Chem & Met Eng* 26:212-13 F 1 '22

Drive on architects and builders to use tin roofs. D. B. Whittle. *Sheet Metal Worker* 13:767-8 D 8 '22

Economic geology of the Mount Bischoff tin deposits, Tasmania. J. G. Weston-Dunn. *Il plan Econ Geol* 17:153-93, pl 3 My '22

Equilibrium of the ternary system bismuth-tin-zinc. S. D. Muzaffar. *Il Chem Soc J* 123:2341-52 S '23

Geology of the York tin deposits, Alaska. E. Steidtmann and S. H. Cathcart. *diags maps U S Geol S Bul* 733:1-130, pl 1-12 '22

Marketing of tin. J. H. Lang. *Eng & Min J* 114:630-2 O 7 '22; *Excerpts, Brass W* 18:342 N '22

Mineral industry of the British Empire and foreign countries, 1913-1919. 98p Gt. Britain. Imperial mineral resources bureau, London '22

Mineral industry of the British Empire and foreign countries, 1919-1921. 44p Gt. Brit. Imperial mineral resources bureau, London '23

More roofers mean more tin roofing. *Sheet Metal Worker* 13:764 D 8 '22

Nu-Dura tin roof protects historic church. *Il Sheet Metal Worker* 13:1-3 F 3 '22

Outlook for tin. J. H. Lang. *Eng & Min J* 113:136-8 Ja 21 '22

Repairing a good 28-year-old tin roof. *Il Sheet Metal Worker* 13:33-5 F 17 '22

Report of the Tin and tungsten research board. 100p Department of scientific and industrial research, London '22

Separation of tin and arsenic. L. W. McCay. *Am Chem Soc J* 45:1187-91 My '23

Taylor Creek tin deposits, New Mexico. J. M. Hill. *map U S Geol S Bul* 725-G:347-59 '21

Tin. J. H. Lang. *Eng & Min J* 115:154 Ja 20 '23
Tin affects behavior of steel. J. H. Whiteley and A. Braithwaite. *Il Iron Tr R* 72:1823-5 Je 21 '23

Tin in 1921. B. L. Johnson. *U S Geol S Min Res of U S* 1921, pt 1:71-3 '22

Tin in 1922. *Brass W* 19:24 Ja '23

Tin roof at seventy and going strong; old National guard armory in Philadelphia. *Il Sheet Metal Worker* 13:507-8 S 1 '22

Tin roof on revolutionary mansion. *Il Sheet Metal Worker* 13:765 D 8 '22

World's production of tin. *Sheet Metal Worker* 14:198 Ap 13 '23

See also Tin plate, and other headings beginning Tin

Analysis

Approximate analyses of tin. *Foundry* 50:278a Ap 1 '22

Estimation of tin in iron and steel. *Chem Age (Lond)* 8:647-8 Je 16 '23

Estimation of tin in wolfram; a modification of Powell's method. O. F. Lubatti. *diag Chem Soc J* 123:1409-11 Je '23

Marketing of tin. J. H. Lang. *Eng & Min J* 114:632 O 7 '22

Separation of tin from other metals; including its determination after precipitation by means of cupferron. N. H. Furman. *Ind & Eng Chem* 15:1071-3 O '23

Tables and ready-reckoners

Pig tin conversion tables. 216p James W. Phyte & co., New York '21

Tin acids

Behaviour of stannic acid toward dyestuffs. A. M. Morley and J. K. Wood. *Soc Dyers & Col J* 39:105-6; Discussion. 106-7 Ap '23

Behaviour of the stannic acids towards hydrochloric acid. G. E. Collins and J. K. Wood. *Chem Soc J* 121:1122-33 Je '22

Behaviour of the stannic acids towards solutions of alkaline hydroxides. G. E. Collins and J. K. Wood. *Chem Soc J* 121:2760-5 D '22

Tin alloys

System tin-arsenic. Q. A. Mansuri. *Il diag Chem Soc J* 123:214-23 F '23

White metals. A. H. Munday, C. C. Bissett and J. Cartland. *Il Metal Ind* 21:13-14, 62-3 Ja-F '23

See also Tin lead alloys

Tin cans

Manufacture

A-B-C of sheet metal working machinery application. L. Broemel. *Il diag Sheet Metal Worker* 13:70-2 Mr 3 '22

Building special machines for can-seaming. A. Mumper. *Il Mach* 28:899-900 Jl '22

Combination dies for finishing parts in one stroke. J. Bingham. *diags Mach* 28:306-7 D '21

Design and construction of can dies. A. Mumper. *diags Mach* 30:200-1 N '23

Hot tinning for steel cans. S. R. Gerber. *diags Metal Ind* 20:65-8 F '22

To improve the quality of tin plate containers. *Chem Age* 31:305-7, 417-19 Jl, S '23

What we did to double production. O. Earhart. *Il charts diag Management Eng* 4:217-22 Ap '23; Same. *Ind Management (Lond)* 9:270-2, 297-8 My 3-17 '23

Tin chlorides

Adsorption of stannous chloride by stannic acid. G. E. Collins and J. K. Wood. *Chem Soc J* 123:452-6 Mr '23

Tin compounds

Organo-derivatives of tin and lead; application of lead and tin tetraphenyls in the preparation of organo-metallic compounds. A. E. Goddard, J. N. Ashley, and R. B. Evans. *Chem Soc J* 121:978-82 Je '22

Tin dredging

Dredge and power-plant construction in the Far East. P. R. Parker. *Il Eng & Min J* 113:807-12 My 13 '22

Tin hydride

Über die darstellung gasförmiger metallhydride aus legierungen und lösungen. F. Paneth, A. Johannsen and M. Matthies. *Deutsche Chem Gesell Ber* 55:769-75 Mr '22

Tin hydroxides

Amphoteric character of stannic hydroxide and its bearing on the isomerism of the stannic acids. G. E. Collins and J. K. Wood. *Chem Soc J* 121:441-9 Mr '22

Preparation and reactions of stannous oxide and stannous hydroxides. F. W. Bury and J. R. Partington. *Chem Soc J* 121:1998-2004 O '22

Tin lead alloys

Colloidal state in metal and alloys; white metal and brass. J. Alexander. *Il diag Chem & Met Eng* 26:170-2 Ja 25 '22

Tin metallurgy

Cottrell electrical precipitation installation at the Dugesne reduction company, Pittsburgh, Pa.; recovery of fume losses from furnaces treating tin ore and drosses. N. J. Hansen. *Il diag plans Gen Elec R* 24:1004-10 D '21

Electric furnace detinning and production of synthetic gray iron from tin-plate scrap. C. E. Williams, C. E. Sims and C. A. Newhall. *Am Electrochem Soc Trans v* 43 (preprint 20):251-60 My '23; Same. *Iron Tr R* 72:1531-3 My 24 '23

Metallurgy of tin. W. H. Jacobson. *Metal Ind* 20:103-5 Mr '22

Method of smelting tin concentrate in the Far East. *Eng & Min J* 116:229 Ag 11 '23

New way to recover tin from scrap tin plate. *Sci Am* 125A:99 D '21

Tin smelting in the United States. *Eng & Min J* 114:1102-3 D 23 '22

Tin smelting in the United States, its literature, and ore prices. *Eng & Min J* 114:464 S 9 '22

Tin mines and mining

Tin mining in Cornwall in the year sixteen hundred. J. C. Murray. Eng & Min J 115: 754-6 Ap 28 '23

See also Tin dredging

East Indies

Tin mines of the Netherland East Indies. Eng & Min J 114:1154 D 30 '22

Federated Malay States

Examination of tin deposits in the Federated Malay States. J. B. Newsom. il chart Eng & Min J 115:485-91, 529-34 Mr 17-24 '23

Great Britain

Tin resources of the British Empire, by N. M. Penzer. 358p W. Rider & son, London '21; Bibliog. p.294-342; Review by J. T. Singewald, jr. Econ Geol 17:62-9 Ja '22

Siam

Mining in Siam. Eng & Min J 115:630 Ap 7 '23

Tin oxides

Preparation and reactions of stannous oxide and stannous hydroxides. F. W. Bury and J. R. Partington. Chem Soc J 121:1998-2004 O '22

Tin plate

Changes in spread between products. S. G. Koon. Iron Age 111:39-40+ Ja 4 '23

Charcoal iron sheets once more. il Sheet Metal Worker 13:845-8+ Ja 5 '23

Electric furnace detinning and production of synthetic gray iron from tin-plate scrap. C. E. Williams, C. E. Sims and C. A. Newhall. Am Electrochem Soc Trans v 43 (preprint 20):251-60 My '23; Same. Iron Tr R 72: 1531-3 My 24 '23

Electric spot and seam welding tin plate. W. H. Gibb. il Sheet Metal Worker 12:850-1 Ja 6 '22

Metals, tin plate and sheets for twenty-one years, 1901-1921. Iron Age 109:66-7 Ja 5 '22

Metals, tin plate and sheets for twenty-one years, 1902-1922. Iron Age 111:76 Ja 4 '23

New way to recover tin from scrap tin plate. Sci Am 125A:99 D '21

1921 manufacture of tin plate. Sheet Metal Worker 13:749 N 24 '22

Position of tin plate makers explained. S. A. Davis. Iron Age 112:603+ S 6 '23

Seek new tin plate standards. Iron Tr R 73: 550-1 Ag 23 '23

Shipments of tin plate surpass output. Iron Tr R 72:87 Ja 4 '23

Stock liquidation retards tin plate. Iron Tr R 70:75 Ja 5 '22

Tin plate for canning purposes. Iron Age 111:1863-4 Je 28 '23

Tin plate industry's rise rapid. J. D. Knox. map Iron Tr R 71:577-81 Ag 31 '22

To propose terms for defining tin plate. Iron Age 112:477-8 Ag 23 '23

See also Terne plate; Tinning

Manufacture

Chemistry in relation to tin plate manufacture. H. J. Bailey. Soc Chem Ind J (Chem & Ind) 42:362-5 Ap 13 '23

Double mill promotes regularity; development of the mechanical doubling machine makes possible the rolling of black plate by the three-part system. J. D. Knox. il diags Iron Tr R 71:178-81+ J1 20 '22

Manufacturing of tin plate and thin sheets. Can Eng 43:505-6 O 31 '22

Sheet and tin mill furnaces. T. J. Costello and J. H. Knapp. diags Blast F & Steel Pl 10:141-4 F '22

Tin plate doubling machine. diags Iron Age 111:488 F 15 '23

To improve the quality of tin plate containers. Chem Age 31:305-7, 417-19 J1, S '23

Tin plate mills

Visit to Welsh tin plate works. H. N. Taylor. il Sheet Metal Worker 14:635-7 S 14 '23

Employees

Wages and hours of labor in tin-plate mills in 1922. Monthly Labor R 16:552-6 Mr '23

Tin roofing. See Roofing, Tin**Tin tetra-iodide**

Crystal structure of tin tetra-iodide. R. G. Dickinson. Am Chem Soc J 45:958-62 Ap '23

Tinning

Equipment for retinning dairy fixtures. A. C. Sladky. Sheet Metal Worker 13:486+ Ag 18 '22

Galvanizing and tinning. W. T. Flanders. 323p U.P.C. book co. '22

Hot tinning for steel cans. S. R. Gerber. diags Metal Ind 20:65-8 F '22

Method for cleaning and retinning. A. Eyles. Sheet Metal Worker 12:895-6 Ja 20 '22

Retinning dairy fixtures in England. J. Smith. Sheet Metal Worker 13:207 Ap 28 '22

See also Tin plate

Tinsmithing

New tinsmith's helper and pattern book. H. V. Williams. 5th ed. 458p U.P.C. book co. '22

Tipping

Three classes of labor to avoid; prejudices and habits displayed by men in certain occupations. H. A. Haring. Ind Management 62:370-3 D '21

Tipping rams. See Dumping appliances**Tire carriers. See Automobiles—Tire carriers****Tire chains**

Better tire chains for next winter. il Sci Am 129:119 Ag '23

Dealers shown that experience with a product will help sell it. A. Belden. Ptr Ink 123: 113-14 My 3 '23

New tire chain is quickly and easily attached. il Pop Mech 36:812 D '21

Tire fabrics

Carded peeler fabrics for low price tires. India Rubber W 66:807 S '22

Committee D-13 spring meeting; tolerances for tire fabrics. Textile World 61:1534 Mr 11 '22

Fabric stresses in pneumatic tires. H. F. Schippel. diags Ind & Eng Chem 15:1121-31 N '23

Insulated cord fabric. diags India Rubber W 68:784 S '23

Tire fabric loom. diag Textile World 62:585 J1 29 '22

Ultratex—a weftless product of the loom. il India Rubber W 69:90 N '23; Textile World 64:3033 N 17 '23

Use of X-rays in examination of textiles. R. Truesdale and C. Hayes. Textile World 61: 653+ F 4 '22; Abstract. India Rubber W 66: 478-9 Ap '22

Web cord tire fabric. il India Rubber W 69: 8-9 O '23

Weftless cord tire construction. il India Rubber W 68:759-61 S '23

Specifications

Proposed revised tentative specifications for imperfections and tolerances for square-woven tire fabrics. Textile World 64:226 J1 14 '23

Proposed tentative specifications for imperfections and tolerances for cord tire fabrics. Textile World 64:70+ J1 7 '23

Tentative specifications for imperfections and tolerances for 60-in. 17½-oz. square-woven tire builder fabric. Am Soc T M Pro 21: 811-13 '21

Tire rims. See Automobiles—Wheels**Tires**

Electric tire-heating apparatus. il Sci Am 127:310 N '22; Ry Mech Eng 97:777-8 N '23; Pop Mech 38:933 D '22

Tires, Automobile

Abuse of tires. il India Rubber W 67:162-3 D '22

American vs. British tires. Textile World 62: 3672 D 30 '22

Balloon tire on auto wheel absorbs shocks of road. il Pop Mech 40:883 D '23

Tires, Automobile—Continued

- Balloon tires give riding comfort. C. H. Flintermann. *Automotive Ind* 48:1189 My 31 '23
- Capacity for tire production exceeds immediate demand. N. G. Shidle. *Automotive Ind* 49:685-6 O 4 '23
- Conditions in auto tire industry. D. Bee-croft. *Textile World* 61:725 F 4 '22
- Cost of deflation—in tires. F. C. Brown. *Nation's Business* 10:24 D '22
- Dealer needs of major importance in new tire marketing era. N. G. Shidle. *Automotive Ind* 49:105-7 JI 19 '23
- Determining factors for the life of a pneumatic tire. W. G. Nelson. *Am Inst Chem Eng Trans v* 13 pt 2:209-14 '20-'21
- Dunlops to introduce low-pressure tires. *il diags Automotive Ind* 49:748 O 11 '23
- Experiments indicate possibilities of large section tires. S. P. Thacher. *il Automotive Ind* 48:1375-8 Je 23 '23
- Fabric stresses in pneumatic tires. H. F. Schippel. *diags Ind & Eng Chem* 15:1121-31 N '23
- Far-reaching effects are predicted for large section tires. H. Chase. *Automotive Ind* 48:812-16 Ap 12 '23; *Abstract. Mech Eng* 45:363-4 Je '23; *Discussion. E. Favary. Automotive Ind* 48:983 My 3 '23
- Getting dealers to make successful street demonstrations. *il Ptr Ink M* 5:50+ Ag '22
- Good dealers will help to stabilize retail tire market. N. G. Shidle. *Automotive Ind* 49:578-80 S 20 '23
- How American tires are sold in the Belgian market. P. L. Palmerton. *Automotive Ind* 47:824-6 O 26 '22
- How Goodrich makes dealers better merchandisers. L. H. Butler. *il Ptr Ink M* 5:50+ O '22
- Jobbing tires to dealers without salesmen. R. L. Burdick. *Ptr Ink* 113:103-4+ Mr 2 '22
- Large tire gives better traction. A. L. Putnam. *Automotive Ind* 48:1091 My 17 '23
- Low-pressure cord tire problems. J. F. Palmer. *Soc Auto Eng J* 13:429 N '23
- Make the tire business profitable for the dealer. N. G. Shidle. *Automotive Ind* 48:1212-14 Je 7 '23
- Non-skid tire tread design. H. W. Perry. *diags India Rubber W* 67:355-6 Mr '23
- Performance of balloon tires. J. E. Hale. *Soc Auto Eng J* 13:425 N '23
- Power losses in automobile tires. W. L. Holt and P. L. Wormeley. *il U S Bur Stand Tech Pa* 213:451-61 '22; *Same cond. Automotive Ind* 47:512-15 S 14 '22
- Public warehouses help reduce cost of tire distribution. W. J. Buchanan. *Automotive Ind* 49:182-3 JI 26 '23
- Revision of marketing methods is needed in tire industry. N. G. Shidle. *Automotive Ind* 48:1110-13 My 24 '23
- Self-sealing inner tube defies punctures. *diags Pop Mech* 40:27 JI '23
- Selling American tires in Great Britain. P. L. Palmerton. *Automotive Ind* 47:622-6 S 28 '22
- Shoeing a car with low-pressure air. J. E. Hale. *il diags Soc Auto Eng J* 13:41-50 JI '23; *Same. India Rubber W* 68:622-4, 691-3 JI-Ag '23; *Same cond. Bus Transportation* 2:397-8 Ag '23; *Discussion. Soc Auto Eng J* 13:66-8, 213-16 JI, S '23
- Spring dating should be banished from tire marketing. N. G. Shidle. *Automotive Ind* 48:1159-63 My 31 '23
- Tires—old and new. *Soc Auto Eng J* 12:595-6 Je '23
- Value of balloon tire. J. E. Hale. *il Automotive Ind* 48:1419-21+ Je 28 '23
- We make free service pay us in selling automobile tires. E. Ramsdell. *il System* 42:705-7+ D '22
- What happens when the tire hits the road. *Sci Am* 129:172 S '23
- Why fewer dealers sell more than many. W. O'Neil. *il System* 42:28-31 JI '22
- See also Automobiles—Wheels; Tire chains; Tire fabrics; Tires, Motor bus; Tires, Motor truck; Tires, Pneumatic; also Better tires company; Kelly-Springfield tire company*

Advertising

- Advertising helps tire industry change established practice. J. Henle. *Ptr Ink* 124:85+ Ag 30 '23
- Copy that explains advertising to the consumer. D. M. Hubbard. *Ptr Ink M* 7:39+ N '23

Bibliography

- List of references in the New York Public library. M. B. Konstanzer. *New York Pub Lib Bul* 27:124-46 F '23

Inspection

- Why and when of tire inspection. *India Rubber W* 66:485-6 Ap '22

Manufacture

- Actual temperature of tires during vulcanization. D. F. Cranor. *India Rubber W* 68:709-10 Ag '23
- Can the small manufacturer survive? *India Rubber W* 66:803-5 S '22
- Cotton replaced by hemp in improved cord tire. *il Pop Mech* 38:724 N '22
- Drum built tires. *diags India Rubber W* 66:799-800 S '22
- Effect of pigments on temperature of tire treads. *India Rubber W* 68:429-31 Ap '23
- Flat band built cord tires. *il India Rubber W* 68:625-7 JI '23
- Increased life for tire molds. A. M. Candy. *il Automotive Ind* 47:69-70 JI 13 '22
- Making inner tubes by tubing machines. *il diags India Rubber W* 66:741-2 Ag '22
- Mandrels for inner tubes. *il diag India Rubber W* 68:765 S '23
- Production control in a tire manufacturing plant. W. B. Mendenhall. *charts India Rubber W* 66:729-32 Ag '22
- Safety story of the rubber tire. C. T. Fish. *il Nat Safety N* 7:23-6 Je '23
- Tire industry's amazing growth. B. Henderson. *il Am Ind* 22:15-19 D '21
- Treated liners for tacky stocks. C. O. North. *il India Rubber W* 67:160-1 D '22
- Use of carbon dioxide in air bags. H. R. Minor. *il diags India Rubber W* 67:353-4 Mr '23
- Using time studies in a tire factory. B. M. Maynard. *India Rubber W* 66:415-17 Mr '22
- Value of carbon dioxide in air bags. H. R. Minor. *il India Rubber W* 69:17-18 O '23
- Why we invested \$7,000,000 in simplification. H. S. Firestone. *il Factory* 27:739-43 D '21

Prices

- Should tire price cuts be advertised to the public? N. G. Shidle. *Automotive Ind* 49:786-7 O 18 '23

Repair

- Automotive repair. J. C. Wright. v 4 305p Wiley '23
- Better standard of tire repairing. R. R. Reid. *il India Rubber W* 65:109-11, 174-7 N-D '21
- Tire repairs in the home garage. L. R. Butcher. *il Pop Mech* 40:641-5, 803-6, 965-8 O-D '23

Specifications

- Recommended specifications for pneumatic tires, solid tires, and inner tubes. U S Bur Stand Circ 115:1-18 '21; *Abstract. J Fr Inst* 192:807-9 D '21

Standards

- International balloon tire standard sought. *Automotive Ind* 49:859 O 25 '23
- Revised tire-standards proposed. *Soc Auto Eng J* 13:419-20 N '23
- Standard valve stems. W. J. P. Moore. *diag Automotive Ind* 46:727-8 Mr 30 '22
- Tire and rim division report; proposed revision of S. A. E. standard. *Soc Auto Eng J* 9:432-3 D '21; *Same. India Rubber W* 66:341 F '22

Statistics

- Analysis of tire production, inventory and shipments. W. H. Greul. *India Rubber W* 68:771-3 S '23
- British tire exports; tabulation. *Automotive Ind* 46:415 F 16 '22

Tires, Automobile—Statistics—Continued

- Cord tire inventories grow constantly over two year period. *Automotive Ind* 49:908-11 N 1 '23
- Tire exports, 1911 to 1921; tabulation. *Automotive Ind* 46:410 F 16 '22
- Tire exports, 1913 to 1922; tabulation. *Automotive Ind* 48:478 F 22 '23
- Tire production in the United States. *India Rubber W* 66:668-70 J1 '22
- United States tire industry. *India Rubber W* 68:700-2 Ag '23

Testing

- Build machine to wear out automobile tires. *Il Pop Mech* 38:177 Ag '22
- Chassis friction losses. E. H. Lockwood. *Il diags Soc Auto Eng J* 11:415-26; Discussion. 426-9 N '22
- German determinations of road adherence coefficients. Bredtschneider. *Automotive Ind* 46:1246 Je 8 '22
- Rolling resistance of rubber tires. E. H. Lockwood. *Il India Rubber W* 67:13-15 O '22
- Stresses and wear in automobile tires. O. Enoch. charts *Soc Auto Eng J* 11:438-43 N '22
- Tire friction losses. *Automotive Ind* 46:1236-8 Je 8 '22

Tires, Locomotive

- Micrometer tire gage. diags *Ry Mech Eng* 97:710-11 O '23
- Swiss portable electric tire heater. *Il Ry Mech Eng* 97:777-8 N '23
- Welding driving tire flanges. *Ry Mech Eng* 97:712-13 O '23

Manufacture

- Electricity and tube tyre and wheel mills. W. E. Swale. diags *Electrician* 87:654-5 N 13 '21
- Heating tires electrically for shrinking. F. P. Mann. *Il Am Mach* 58:879-80 Je 14 '23
- Tyre roughing mill at Parkhead forge. *Il diags Engineering* 113:354-6 Mr 24 '22

Tires, Motor bus

- Dual versus single pneumatic tires. R. D. Abbott. *Bus Transportation* 2:284-5 Je '23
- Easy riding on heavy motor vehicles; tire and felloe construction. *Il diags Bus Transportation* 1:277-80 My '22
- How California line gets greater tire mileage. *Bus Transportation* 1:595 N '22
- Improving interurban service with dual tires on buses of the stage type. *Bus Transportation* 2:119-20 Mr '23
- Selection and care of motor bus tires. W. H. Gillilan. *Il Bus Transportation* 1:323-6 Je '22

Tires, Motor truck

- Effect of motor truck tires on unfinished road subgrade. H. W. Slauson. *Eng N* 87:994 D 15 '21
- Engineering in truck-tire building. *Sci Am* 126:137 F '22
- Engineering in truck tire building. H. W. Slauson. *Sci Am* 125A:117 D '21
- Highway transportation as it affects the automotive engineer. E. W. Templin. *Il diags Soc Auto Eng J* 10:212-16 Mr '22; Same. Sibley *J* 36:51-4 Mr '22; Abstract. *India Rubber W* 66:551 My '22; Discussion. *Soc Auto Eng J* 10:216-17+ Mr '22
- New cushion tire has pneumatic core. *Il Automotive Ind* 48:515 Mr 1 '23
- Notes on motor trucks. C. T. Myers. *Il diags Soc Auto Eng J* 11:333-41; Discussion. 341-5 O '22
- Pressure intensity of truck tires on asphalt tested at Detroit. *Eng N* 89:598 O 12 '22
- Small diameter pneumatic tires. C. B. Orr. *Il Bus Transportation* 1:577-8 N '22
- Wide tires not an effective remedy for excessive vehicle loads. S. Whinery. *Eng N* 88:923 Je 1 '22

Tires, Pneumatic

- Engineering in truck tire building. H. W. Slauson. *Sci Am* 125A:117 D '21
- Measurement of temperature in rubber and insulating materials by means of thermocouples. E. B. Spear and J. F. Purdy. diags *Ind & Eng Chem* 15:842-5 Ag '23

- Pneumatic tires, automobile, truck, airplane, motorcycle, bicycle. H. C. Pearson. 1323p *India rubber pub. co.*, New York '22
- Pneumatic tires found well inflated after six months. *Il Pop Mech* 37:366 Mr '22
- Temperatures of pneumatic truck-tires. F. O. Ellenwood. *Il diags Soc Auto Eng J* 11:129-38 Ag '22; Same cond. *Automotive Ind* 46:1232-6 Je 8 '22; Discussion. *Soc Auto Eng J* 11:138 Ag '22

Terminology

- Pneumatic tire definitions. H. C. Pearson. *India Rubber W* 64:882-7; 65:7-9, 93-5, 171-3, 263-5; 66:412-14, 483-5, 540-1, 605-6, 671-2, 739-40 S '21-Ja, Mr-Ag '22

Tires, Steel

- Effective method of heat treating steel-wheel tires. *Elec Ry J* 59:273 F 13 '22
- Sorbic steel for tires. *Il Engineer* 132:656, 657 D 16 '21
- Tests to determine wear of steel wheels. *Elec Ry J* 62:250-1 Ag 18 '23
- See also Tires, Locomotive

Titanic acid

- Behaviour of titanic acid towards dyestuffs. A. M. Morley and J. K. Wood. *Soc Dyers & Col J* 39:100-5 Ap '23

Titanium

- American production of zirconium and titanium ores. *Il Chem Age* 29:476 N '21
- Contribution to the study of titanium. *Chem & Met Eng* 25:1190 D 28 '21
- Ferro carbon titanium reduces rail failures. *Ry Age* 74:1378 Je 9 '23
- Labile nature of the halogen atom in organic compounds; titanium reductions of substituted nitroparaffins. T. Henderson and A. K. Macbeth. *Chem Soc J* 121:892-903 My '22
- Properties and uses of titanium. R. J. Anderson. *Chem Age* 31:27-30 Ja '23; Excerpts. *Chem Age (Lond)* 8:331-2 Mr 31 '23
- Revision of the atomic weight of titanium; preliminary paper: the analysis of titanium tetrachloride. G. P. Baxter and G. J. Fertig. diags *Am Chem Soc J* 45:1228-33 My '23
- Titanium. A. H. A. Robinson. 127p *Canada Dept. of mines*, Ottawa '22
- Titanium as a steel alloy. *Iron Age* 111:21 Ja 4 '23; Same. *Eng & Contr (Bldgs)* 59:224 Ja 24 '23; Same. *Iron Tr R* 72:226 Ja 18 '23
- Titanium products and their development. A. Thompson. *Brass W* 18:376 D '22
- Trivalent titanium; the estimation of copper and iron in the presence of each other. W. M. Thornton, jr. *Am Chem Soc J* 44:998-1001 My '22
- Das vorkommen und verhalten von titan im roheisenmischer. B. Osann. *Stahl & Eisen* 41:1487-9 O 20 '21

Analysis

- Determination of titanium by reduction with zinc and titration with permanganate. G. E. F. Lundell and H. B. Knowles. *Am Chem Soc J* 45:2620-3 N '23
- Determination of titanium in cast iron. *Foundry* 50:456a, 498a Je 1-15 '22

Bibliography

- Titanium. R. J. Anderson. p. 10-12 Rep. of Investigations U S Bur Mines 2406 '22 (typew)

Titanium chlorides

- Analysis of triphenylmethane and azo dyes by titanous chloride. W. S. Calcott and F. L. English. *diags Ind & Eng Chem* 15:1042-4 O '23
- Dangers of the titanium chloride method for determining the strength of dyes. E. H. Gamble and R. E. Rose. *Color Tr J* 11:238-9 D '22
- Use of titanous chloride in quantitative dye testing. O. R. Flynn. diags *Am Dyestuff Rep* 12:313-19 Ap 23 '23

See also Titanium tetrachloride; Titanium trichloride

Titanium compounds

- Electrometric standardizing of titanous solutions. W. S. Hendrixson and L. M. Verbeck. *Am Chem Soc J* 44:2382-6 N '22

Titanium compounds—Continued

Mordants and mordanting. J. Steelman. Textile Col 45:516-20 Ag '23

Titanium dioxide

Action of alumina, titania and thorium upon ethyl and isopropyl acetates. H. Adkins and A. C. Krause. *diag* Am Chem Soc J 44: 385-92 F '22

Fusibility of open-hearth slag containing titanium dioxide. G. F. Comstock. Chem & Met Eng 26:165-6 Ja 25 '22

See also Rutile

Titanium sulfate

Electrometric titration of iodate, bromate, chlorate, ferricyanide with titanous sulfate. W. S. Hendrixson. Am Chem Soc J 45:2013-17 S '23

Über die wirkungsweise des platins bei der sauerstoff-wasserstoff-katalyse und über die verwendung von titanschwefelsäure zur kontrolle des reaktionsverlaufes. K. A. Hofmann. Deutsche Chem Gesell Ber 55:1265-74 My '22

Titanium tetrachloride**Analysis**

Revision of the atomic weight of titanium; preliminary paper: the analysis of titanium tetrachloride. G. P. Baxter and G. J. Fertig. *diags* Am Chem Soc J 45:1228-33 My '23

Titanium trichloride

Über reduktionen mit titan-trichlorid. H. Rathsburg. Deutsche Chem Gesell Ber 54: 3183-4 D '21

Titanium white

Fabrication et propriétés du blanc de titane. C. Coffignier. *il diags* Chimie & Ind 7:651-61 Ap '22

New titanium pigment. Chem & Met Eng 27: 1232 D 20 '22

Title pages

Some title pages and first pages of books. Inland Ptr 70:384a-h D '22

Titles of books, etc.

Booklet titles that pull inquiries. E. B. Weiss. Ptr Ink M 7:40-1+ N '23

Titration. See Volumetric analysis**Titusville, Pennsylvania**

Many spectacular fires marked early days at Titusville. D. A. Dennison. Nat Pet N 14: 61+ Ap 5 '22

TNA. See Tetranitro-aniline**TNT. See Trinitrotoluene****Toads**

Über den giftstoff der kröte. H: Wieland and R: Alles. Deutsche Chem Gesell Ber 55: 1789-98 Je '22

Tobacco

Chemistry as an aid to the tobacco industry. A. L. Chesley. J Ind & Eng Chem 14:817-19 S '22

Nicotine in your tobacco and tobacco smoke. Sci Am 128:164+ Mr '23

Tobaccoland. C. A. Werner. 474p Tobacco leaf pub. co., New York '22

When a king's wrath, whipping, and death failed to halt tobacco's spread. *il Pop Mech* 40:720-4 N '23

Statistics

Acreage and production of tobacco, cotton and rice in the United States. Comm & Fin Chr 115:2237-8 N 18 '22

Tobacco growers cooperative association

Financing an association for co-operative marketing. J. True. Ptr Ink 124:49-50+ S 20 '23

Tobacco industry and trade

American tobacco co. and two former constituent concerns charged with separate efforts to keep up prices. Comm & Fin Chr 114:370-2 Ja 28 '22

Federal trade commission takes exception to certain trade practices. J: F. Richter, jr. Ptr Ink 124:53-4+ Ag '23

See also Tobacco growers cooperative association

Tobacco pipes

Making pipe smoking respectable. J. Henle. Ptr Ink M 5:78+ O '22

Tobacco workers

Wages and working conditions in Swedish tobacco manufacture during 1921. Monthly Labor R 15:1069-71 N '22

Toilet preparations**Advertising**

Why Colgate uses educational advertising. G: S. Fowler. Ptr Ink 117:60+ N 24 '21

Toilet rooms

Modern methods of toilet room ventilation. R. M. Starbuck. *diags* plans Dom Eng 104: 528-30 S 15 '23

See also Lavatories; Public comfort stations; Restaurants—Toilet rooms

Tokyo, Japan**Architecture**

Concerning the Imperial Hotel, Tokyo, Japan. L: H. Sullivan. *il plans* Arch Rec 53:332-52 Ap '23; Abstract. Concrete 22:223-4 Je '23

Toledo, Ohio**Rapid transit**

Statement of income and expenses of the Community traction company, Toledo, Ohio. Elec Ry J 61:538 Mr 24 '23

Toledo property reports. Elec Ry J 59:655 Ap 15 '22

Toledo surplus \$126,106. Elec Ry J 61:537-8 Mr 24 '23

Toledo votes down one-man car. Elec Ry J 60:889, 925 D 2-9 '22

Wage scale extended. Elec Ry J 59:1009-10 Je 24 '22

Streets

Toledo enacts drastic traffic ordinance. Munic Eng 62:sup25-6 Je '22

Tolerance

Advantages of unilateral tolerances. E. C. Peck. Am Mach 58:703-5 My 10 '23

Allowing for gage wear; shall master gages have a fixed tolerance or shall allowance be made for wear? R. Dumas and E. C. Peck. *diags* Am Mach 56:953-4 Je 29 '22; Discussion. 58:739-40 My 17 '23

American engineering standards' committee submits report on plain limit gages. Iron Tr R 71:774-5 S 21 '22

Commercial standards as adopted by the Tap and die institute. Am Mach 57:883-90 D 7 '22

German standards for tolerances and allowances in machine fits. O. R. Wikander. *diags* Am Mach 59:685-9, 733-7, 761-3 N 8-22 '23

Tolerance system in interchangeable manufacture. C. W. Ham. *diags* Sibley J 36:66-7+ Ap '22

Unilateral or bilateral tolerances? E. Buckingham. Am Mach 59:316 Ag 30 '23

Use of both bilateral and unilateral systems of expressing tolerances proposed. E. Buckingham. Soc Auto Eng J 13:339-42 O '23

See also Fits (machinery); Fitting (machinery)

Tolidine

Method for the determination of toolidine. S. Palkin. Ind & Eng Chem 15:1045 O '23

Tolman, L. M.

President of American oil chemists society. *por* Chem & Met Eng 26:1187 Je 21 '22

Toluene

Adsorption of toluene vapor on plane glass surfaces. E. K. Carver. *diag* Am Chem Soc J 45:63-7 Ja '23

Friedel and Crafts' reaction; some substituted phthalic anhydrides with toluene and aluminum chloride. W. A. Lawrance. Am Chem Soc J 43:2577-81 D '21

Interfacial tension between gelatin solutions and toluene. S. E. Sheppard and S. S. Sweet. Am Chem Soc J 44:2797-2805 D '22

Reaction of nitrosyl chloride on toluene. E. V. Lynn and H. L. Arkley. Am Chem Soc J 45: 1045-7 Ap '23

Toluene—Continued

- Relation between the composition of vapor and liquor in distillation. E. Piron. *diags Chem & Met Eng* 26:317-20 F 15 '22
- Study of the ternary system, toluene-acetone-water. J. H. Walton and J. D. Jenkins. *diags Am Chem Soc J* 42:2555-9 N '23
- Sur la distillation d'un mélange de benzène, toluène et méta-xylène. L. Gay. *Chimie & Ind* 7:851-4 My '22
- Über die einwirkung von pyrosulfurylchlorid auf toluol. W. Steinkopf and K. Buchheim. *Deutsche Chem Gesell Ber* 54:2363-8 D '21
- See also Dinitrotoluene; Tetrachlorotoluene; Trinitrotoluene

Toluene-sulfonyl chloride

- Uses of para-toluene-sulfonyl chloride in the manufacture of dyes and intermediates. J. Bebie. *Color Tr J* 11:7-8 J1 '22

Toluene sulfonyl compounds

- Umlagerung des toluol-*p*-sulfonsäure- [di-phenyl-, phenyl-*p*-tolyl- und di-*p*-tolyl-amids]. J. Halberkann. *Deutsche Chem Gesell Ber* 55:3074-95 O '22; *Abstract. Chem Soc J* 122 pt 1:1132-3 D '22
- Umlagerung oder (und) verseifung der toluol-*p*-sulfonsäure verbindungen einiger *p*-substituierter aniline und ihrer *N*-alkyl-derivate. J. Halberkann. *Deutsche Chem Gesell Ber* 54:1833-49 S '21; *Abstract. Chem Soc J* 120 pt 1:779-81 N '21

Toluic acids

- Chlorination and bromination of the toluic acids and the preparation of the phthalaldehydic acids. W. Davies and W. H. Perkin, Jr. *Chem Soc J* 121:2202-15 O '22

Toluidine

- Catalytic preparation of ortho-toluidine. C. O. Henke and O. W. Brown. *J Phys Chem* 27:52-64 Ja '23

Toluidine hydrochloride

- Zur umwandlung von methyl-anilin-chlorhydrat in toluidin-chlorhydrat. E. Beckmann and E. Correns. *Deutsche Chem Gesell Ber* 55:852-6 Ap '22

Tolylbenzothiazole

- Researches on thiazoles; 2-para-tolyl-benzothiazole, dehydrothio-para-toluidine, and some related compounds. M. T. Bogert and M. Meyer. *Am Chem Soc J* 44:1568-72 J1 '22

Tolylene diamine

- Manufacture of meta-tolylene-diamine. H. M. Gensel. *Color Tr J* 10:145-6 Ap '22

Tolyl mercuric chloride

- Preparation of para-tolyl mercury compounds. F. C. Whitmore, F. H. Hamilton and N. Thurman. *Am Chem Soc J* 45:1066-8 Ap '23

Tomatoes

- Advertising Moses wanted by tomato canners. J. H. Collins. *Ptr Ink* 123:17-20 Ap 5 '23

Advertising

- British tomato industry advertises. G. Russell. *Ptr Ink* 120:115-16+ Ag 10 '22
- Perishable foodstuff advertising lesson from Great Britain. G. Russell. *Ptr Ink* 123:97-9 Ap 26 '23

Tombs

- Etruscan mural paintings found in their tombs. L. V. Solon. *il Arch Rec* 52:531-3 D '22
- Mausoleum on a Long Island estate. *Am Arch* 121:184 Mr 1 '22

Tombstones

- Preserving old headstones with concrete. *il Concrete* 22:234 Je '23

Tombstones, Concrete

- Concrete monuments by Granette process. *il Concrete* 21:155 N '22

Tone generator. See Sound—Apparatus**Tonnage**

- Panama canal tolls. C. H. Calhoun. *il Sci Am* 128:20 Ja '23
- Why Americans pay greater Panama canal tolls. M. C. Davis. *il Marine Eng* 28:609-12 O '23

See also Shipping

Tonopah divide mining company

- Report of operations from Dec. 31, 1919, to Dec. 31, 1921. *Eng & Min J* 113:269-70 F 11 '22

Tonoscope

- Scientific methods used in musical education. H. S. White. *il Pop Mech* 38:172-3 Ag '22

Tool boxes

- Portable tool box saves many trips. *il plans Elec R* 80:187 Ap '22

Tool holders

- Double cutter tool-holders withstand tests. *il diags Ry Mech Eng* 96:726-7 D '22
- Holders for square tool bits. M. H. Ball. *diags Mach* 29:936-7 Ag '23
- Morris toolholder and interchangeable cutters. *il Am Mach* 57:588 O 12 '22
- Tool engineering. A. A. Dowd and F. W. Curtis. *diags Am Mach* 55:1029-33; 56:446-50, 472-6 D 29 '21, Mr 23-30 '22

Tool joints

- Saving of time and longer life, claims for threadless tool joint. *il diags Nat Pet N* 15: 99 Ap 11 '23
- Standardization of cable tool joints. G. Hubley. *Am Pet Inst Bul* 3:81-3 D 30 '22
- Standardization of tool joints. S. A. Guiberson, Jr. *Am Pet Inst Bul* 3:74-8 D 30 '22; Same abr. *Eng & Min J* 115:24-5 Ja 6 '23

Tool rooms

- Methods and principles of Frank B. Gilbreth, inc.; the toolroom and its place in the production scheme. K. H. Condit. *il diags Am Mach* 59:329-34 Ag 30 '23

- Reducing fatigue in tool rooms. F. B. Gilbreth and L. M. Gilbreth. *il Eng & Ind Management* 6:660-2 D 8 '21

Tool steel

- American practice in high-speed steel manufacture. A. H. d'Arcambal. *Chem & Met Eng* 25:1097-9 D 14 '21

- Black fractures in carbon tool steels. A. W. F. Green. *il Chem & Met Eng* 27:265-7 Ag 9 '22; Discussion. 27:484-5, 914-15 S 6, N 8 '22

- Brands vs. analysis in buying tool steel. R. H. Davis. *Iron Age* 109:1427-9 My 25 '22; Same cond. *Iron Tr R* 70:1492-3 My 25 '22

- Buying tool steel performance. C. M. Brown. *Mach* 29:366-8 Ja '23

- Cause of red hardness of high-speed steel. E. C. Bain and Z. Jeffries. *il Iron Age* 112:805-10 S 27 '23

- Crucible and electric tool steel. W. J. Green and S. S. Green. *Iron Age* 109:201-5 Ja 19 '22

- Drill steel sharpening. C. M. Haight. *diags Eng & Contr* 57:471 My 17 '22

- Electric tool steel melting practice. W. J. Green and S. S. Green. *Iron Age* 109:999-1001 Ap 13 '22

- Graphitization in a carbon tool steel. H. S. Rawdon and S. Epstein. *il Chem & Met Eng* 27:650-1 S 27 '22

- Hardness and heat treatment of drill steel shanks. C. Y. Clayton. *Eng & Contr (Ry)* 59:673-4 Mr 21 '23

- Hardness of high-speed steel. A. H. d'Arcambal. *Chem & Met Eng* 25:1168-73 D 28 '21

- Heat treating of tool steels. L. A. Lanning. *Blast F & Steel Pl* 9:706-7 D '21

- Heat treating tool steel for cold chisels. P. A. E. Armstrong. *il Nat Safety N* 7:27-8 F '23

- Manufacture of high-speed and tungsten steels. J. W. Weitzenkorn. *il Chem & Met Eng* 26:504-8 Mr 15 '22; Discussion. K. Daevs. 26:869 My 10 '22

- Measures tungsten in tool steel. A. S. Townsend. *Iron Tr R* 69:1551-3 D 15 '21

- Metallurgical miscellany. J. A. Mathews. *Iron Tr R* 70:1722 Je 15 '22

- New steel developed for drills. *il Elec Ry J* 59: 279-80 F 18 '22

- Performance of high-speed cutting tools. J. Strauss. *il Iron Age* 111:1103+ Ap 19 '23

Tool steel—Continued

- Practical notes on the manufacture and treatment of high-speed steel. H. K. Ogilvie. Engineer 134:282-3 S 15 '22; Same. Iron Tr R 71:1129-33 O 26 '22; Same. Engineering 114:630-1 N 17 '22; Same. Iron Age 111:679-81 Mr 8 '23; Discussion. Engineer 134:265-6 S 15 '22; Engineering 114:339 S 15 '22
- Present status of drill steel breakage and heat treatment. F. B. Foley, C. Y. Clayton and H. S. Burnholz. Eng & Contr (Ry) 59: 671-2 Mr 21 '23
- Rock drill steel. R. J. Day. diags Eng & Min J 115:670-3 Ap 14 '23; Discussion. F. B. Foley. 115:833-4 My 12 '23
- Selection and heat treatment of tool steel. S. C. Spaulding. Blast F & Steel Pl 10: 224-7 Ap '22
- Session of American society for steel treating on tool steel. Iron Age 110:931-3 O 12 '22; Chem & Met Eng 27:728-9 O 11 '22
- Shrinkage and expansion of high-speed steel due to heat-treatment. M. A. Grossmann. Chem & Met Eng 27:541-4 S 13 '22
- Standardizing drill steel at Copper Queen mines. A. Notman. Eng & Min J 115:977-8 Je 2 '23
- Tempering of tool steels. J. P. Gill and L. D. Bowman. Iron Age 112:1050 O 18 '23
- Various methods for hardening high-speed steel. A. H. d'Arcambal. Chem & Met Eng 25:1150-1 D 21 '21; Same. Am Mach 56:212-13 F 9 '22
- Why tools crack in hardening. F. R. Palmer. Am Mach 59:219 Ag 9 '23
- See also Chromium steel; Molybdenum steel; Rock drills; Tungsten steel

Testing

- Comparative test of manganese steel and carbon steel dredge cutter blades. Eng & Contr (Ry) 58:84 N 15 '22
- Effect of heat treatment on lathe tool performance and some other properties of high speed steels. H. J. French, J. Strauss and T. G. Digges. Ry Mech Eng 97:775-6 N '23
- Lathe breakdown tests of some modern high-speed tool steels. H. J. French and J. Strauss. il U S Bur Stand Tech Pa 228:183-225 '23; Summary. Iron Tr R 72:1617 My 31 '23; Same. Automotive Ind 48:1172 My 31 '23; Abstract. Ry Mech Eng 96:647-50 N '22
- Lathe tools research. D. Smith. Engineering 115:137-9 F 2 '23; Discussion. Engineer 135: 234-5 Mr 2 '23
- Physical tests on high-speed steels. A. H. d'Arcambal. il diags Iron Age 110:1-5 Jl 6 '22
- Vergleichende versuche über die härte verschiedener werkzeugstähle in der wärme; abstract. E. Schneider. Stahl & Eisen 43: 951-2 Jl 19 '23

Tool storage

- Tool storage and the tool crib. C. N. Underwood. il Management Eng 3:36-8 Jl '22

Tools

- Are you tempting employees to steal tools? J. Hartshorne. Ind Management 63:41-2 Ja '22
- Beating the brass check. F. A. Sharp. Ind Management 63:24-5 Ja '22
- Brass check versus the triplicate slip system. C. Walton. Ind Management 64:232-5 O '22
- Campaigning for economy in tool consumption. R. Angove. il Am Mach 56:22-4 Ja 5 '22
- Care and use of small tools. H. B. Schott. il Mach 29:683-5 My '23
- Control of operating tool and supply cost. F. A. Mance. Soc Auto Eng J 11:407-8 N '22; Same abr. Am Mach 57:853-4 N 30 '22; Same cond. Automotive Ind 47:859-60 N 2 '22
- Cutting tool-crib costs. Factory 30:574+ My '23
- Hand tools; their safe use under all conditions. R. H. Guerrant and J. J. Lamb. Am Gas J 115:517-18+ D 10 '21
- How one company cut its tool crib costs. J. H. Delany. Factory 29:258-9+, 408-9+ S-O '22

- How tool engineering cuts costs. J. Lannen. il diags Ind Management 63:12-20 Ja '22
- Ordering and storing small tools. W. J. Sansom. Am Mach 57:869-72 D 7 '22
- Saving time in handling tool equipment. F. F. Loder. il Elec W 80:1221-2 D 2 '22
- Stabilizing and standardizing tool crib service. J. H. Delany. il Ind Management 63: 209-16 Ap '22
- Storage and disbursement of small tools. W. J. Sansom. Am Mach 57:713-16 N 9 '22
- Tool checking systems in foundries. W. J. Sansom. plan Am Mach 57:795-6 N 23 '22
- Tools and their control. R. R. Langée. il Management Eng 3:273-6 N '22

See also Chisels; Diamond tools; Files and rasps; Forming tools; Machine tools; Miners' tools; Plumbers' tools; Pneumatic tools; Saws; Tool steel; Wrenches

Classification

- Mnemonic tool classification. il Management Eng 4:141-3 F '23

Manufacture

- Tool factory makes own crucible steel. L. S. Love. il Iron Age 111:1485-7 My 24 '23

Standards

- Standardization of small tools. C. J. Oxford. Mech Eng 44:721-3+ N '22; Same, without tables. Iron Tr R 71:1417-19 N 23 '22

Tools, Machine. See Machine tools

Tools, Machinists'. See Machinists' tools

Tooth powder. See Dentifrices—Advertising

Top

- Precession of the spinning top. G. Greenhill. diags Philos Mag 6th ser 45:385-99, pl 5-8 Mr '23

Topaz

- Studies of the etched figures of Japanese minerals. S. Ichikawa. diags Am J Sci 5th ser 6:53-72, 137-56 Jl-Ag '23

Topeka, Kansas**Water supply**

- New water purification plant for Topeka, Kansas. il diags plan Eng N 89:153-5 Jl 27 '22

Topographical maps

- Advantages of a topographical map in city planning. J. C. Grinnalds. Good Roads 61: 243-5+ N 30 '21; Same. Munic Eng 61:221-5 D '21

- Aerial mapping by the Geological survey. C. H. Birdseye. Aerial Age 16:230-2 My '23
- Aerial mosaic map shows marvelous detail. G. F. Paul. Pop Mech 39:107 Ja '23

- Air photos as plane-table sheets aid mapping. H. C. Fiske. maps Eng N 89:552-4 O 5 '22; Discussion. 89:1087 D 21 '22

- Application of aerial photographs to map making. D. H. Nelles. il diags Can Eng 44: 309-15 Mr 13 '23

- Hugershoff autocartograph; ingenious apparatus simplifies process of map drawing from aerial photographs. A. Gradenwitz. il map Aviation 13:805-6 D 18 '22

- Mapping from the skies. G. H. Dacy. il Sci Am 128:328-9 My '23
- Mapping Tennessee from the air. Aviation 14: 218 F 19 '23

- Our strenuous geological survey. G. E. Mitchell. il Sci Am 127:78-9 Ag '22

- Precise map surveys by aerial photography with Hugershoff apparatus. C. Gaines. il Pop Mech 39:895-6 Je '23

- Relation of topographic and geologic mapping of Illinois to professional engineering. F. W. DeWolf. maps W Soc E J 28:18-26; Discussion. 26-8 Ja '23

- Sand box employed by University of Illinois in teaching topographic mapping. W. H. Rayner and J. R. Stubbins. il Eng N 87: 310-11 N 17 '21

- Shaded topographic maps are developed by geological survey. il Eng N 91:382 S 6 '23; Discussion. H. W. Durham. Eng N 91:526 S 27 '23

- Surveying with aircraft photographs; with discussion. J. W. Bagley. il W Soc E J 27: 351-61 D '22

Topographical maps—Continued

Uses of aerial photographs in map making. G. S. Smith. *il Eng N* 88:194-6 F 2 '22; Discussion. 88:746-7 My 4 '22
 What and why is a contour? S. R. Winters. *maps Sci Am* 126:253 Ap '22

See also Relief maps

Topographical modeling. *See* Relief maps**Topographical surveying**

L'altiplanigraphie, système D. S. de Lavaud, pour les levés topographiques. *il diags Génie Civil* 81:593-5 D 23 '22

Comparative merits of stadia and plane table for mapping. R. Crow. *Eng N* 88:622-3 Ap 13 '22

Report of committee on topographical and exploration surveys. J. W. Pierce. *Can Eng* 42:266-7 F 28 '22

Topographical survey of London, Ont. D. H. Nelles. *maps Can Eng* 42:550-1 My 30 '22

See also Photographic surveying; Surveying, Aerial; Topographical maps

Torches

Heating and brazing torches. *Am Mach* 58: 868 Je 14 '23

See also Electric torch; Gas torch; Oxy-acetylene apparatus

Torchio, Philip, 1868-

Portrait. *Elec W* 79:266 F 11 '22

Tork clocks

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Toronto, Ontario**Bridges**

Gerrard street steel arch bridge, Toronto. J. S. Burgoyne and G. Alison. *il diags plans Can Eng* 44:425-8 Ap 24 '23

New structural steel bridge over the Don river, Toronto. *diags plan Can Eng* 43:663 D 26 '22

Toronto highway entrance bridges, at Hamilton. E. B. Allan. *il map Can Eng* 42:397-401 Ap 18 '22

Rapid transit

Expediting track construction in Toronto. *il diags map plan Elec Ry J* 59:551-8 Ap 1 '22

Hydro-radials in issue. *Elec Ry J* 60:957 D 16 '22

\$109,468 surplus for Toronto. *Elec Ry J* 61: 821-2 My 12 '23

Speeding up traffic in Toronto. *il map Elec Ry J* 61:951-3 Je 9 '23

Toronto system worth nearly \$12,000,000. *Elec Ry J* 61:247-9 F 10 '23

Toronto takes over street railways. *il diags map Elec Ry J* 59:505-11 Mr 25 '22

Toronto's new car storage facilities. *il diags plans Elec Ry J* 61:791-3 My 12 '23

Toronto's progressive rolling stock. *il diags plans Elec Ry J* 59:867-70 My 27 '22

Trackless system feeds Toronto tramways. *il Bus Transportation* 1:168-70 Mr '22

Trolley bus operation in Toronto. W. Forsyth. *il plan Bus Transportation* 2:131-2 Mr '23

Water supply

Statistical record of Toronto water, 1912-22. N. J. Howard. *Can Eng* 42:469-76 My 9 '22

Toronto, University

Remodelled curriculum in engineering at University of Toronto. L. J. Robinson. *Can Eng* 43:217 Ag 1 '22

School of engineering research

School of engineering research, University of Toronto. M. C. Boswell. *Can Eng* 42:609-10 Je 13 '22

Torpedo boat destroyers

Les destroyers allemands construits pendant la guerre. E. Choupaut. *diags Génie Civil* 81:320-2 O 7 '22

German torpedo-boat destroyer building during the war. *diags Engineering* 114:135-7+ Ag 4 '22

Model experiments on destroyer propulsion. H. E. Yarrow. *Engineering* 114:523-4 O 27 '22

Modern American destroyers. *il Engineer* 133: 264-5 Mr 10 '22

Torpedo boats

Coastal motor boat for the French navy. *il diags Engineering* 113:548-51, pl 23 My 5 '22

Coastal motor boats (C.M.B.): their design and service during the war. J. E. Thornycroft and Bremner. *Engineering* 115:393-5, pl 26 Mr 30 '23; Same cond. *Engineer* 135:345-6+ Mr 30 '23; Discussion. *Engineering* 115: 372-3 Mr 23 '23

Navy acquires small speedy torpedo boats. *il Pop Mech* 38:497-8 O '22

See also Submarine warfare

Torpedoes

Air torpedo tested. *Aerial Age* 14:221 N 14 '21

Fifty-knot torpedo. *diags Sci Am* 126:238 My '22

Torpedoplanes**Testing**

Navy tests of torpedo planes. *Aviation* 13:102 J1 24 '22

Torque

Torques and forces between short cylindrical coils carrying alternating currents of radio frequency. W. A. Parlin. *Phys R* 22:193-7 Ag '23

Torsion

Torsion of crankshafts. S. Timoshenko. *diags Mech Eng* 45:96-8 F '23

Torsional resonance; a consideration of the critical speeds of crankshafts. J. Morris. *Automobile Eng* 13:113 Ap '23

Torsional strength of reinforced concrete beams. C. R. Young, W. L. Sagar and C. A. Hughes. *il diags Can Eng* 43:425-30 O 10 '22

Tortoises, Fossil

New Paraná-pleurodiran. G. R. Wieland. *bibliog diags Am J Sci* 5th ser 5:1-14, pl 1 Ja '23

Tory, Geoffroy, 1480-1533

Geoffroy Tory, a great typographer and his apprentice, Claude Garamond, the first typefounder. H. L. Bullen. *Inland Ptr* 68: 635-9 F '22

Totem poles

Copyright law of Northwest Indians. F. Dickie. *il Pop Mech* 37:898-9 Je '22

Touceda, Enrique, 1866-

Presentation of John A. Penton medal. *por Iron Tr R* 73:365 Ag 9 '23; *Foundry* 51:649 Ag 15 '23

Tourist trade

Foreign travel advertising creates sales opportunities for American advertisers. R. Cole. *Ptr Ink* 121:3-4+ D 23 '22

Shooting the market on the wing. P. K. Marsh. *il Ptr Ink M* 5:35-6+ O '22

Advertising

Winter is turned into a merchandising proposition in New England. H. Burwen. *Ptr Ink* 122:117-18+ Mr 15 '23

Tourists' camps. *See* Camps, Tourists'**Tours, France****Architecture**

La Rabaterie, Logis d'Olivier le Daim, near Tours, France. J. P. Sims. *il Arch Rec* 51: 84-7 Ja '22

Towboats

American coastwise motor tug. E: A. Edwards. *diags Marine Eng* 27:125-6 F '22

Big Canadian Diesel engine tug. *il Marine R* 53:255 J1 '23

Experimental towboats. 195p U.S. Engineer dept., Washington, D.C. '22

Fire tube superheaters save fuel on railroad tugs. *il Marine Eng* 27:129-30 F '22

Oil engines versus steam for tugboats. H. A. Christensen. *diags Marine Eng* 27:121-4 F '22

River boats use oil engines. J. Brodie. *Soc Auto Eng J* 12:305-6 Mr '23

Small tugs prove value on lower Danube. V. V. Mendl. *map Marine R* 53:27-9 Ja '23

Special service vessel Sir Frederick Dumayne for Calcutta. *il Engineering* 113:520, pl 22 Ap 28 '22

Towboats—Continued

Sternwheel towboat for Mississippi river service. diag plans Marine Eng 27:369-71+ Je '22

Stern wheel Western river towboat Wacouta. T. R. Tarn. il Marine Eng 28:96-9 F '23

Sternwheelers. J. Irving. Engineering 115:64-6, 98-9 Ja 19-26 '23

Tug with grain ship discharging plant. il diag plan Engineer 133:106-9 Ja 27 '22

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Foundations of memorial tower, University of Toronto. diag Can Eng 44:453 My 1 '23; Same. Eng & Contr (Bldgs) 59:1460-1 Je 27 '23

Memorial quadrangle, Yale university, New Haven, Conn. J. G. Rogers. il diag plans Am Arch 120:333-42, 346b-m N 9 '21

Report of the sub-committee on the form of memorial to soldiers, sailors and marines, to be erected by the city of Boston. il plans Am Arch 121:89-92 F 1 '22

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Long span bridge suspended on reinforced concrete towers. T. J. Murphy. il Concrete 19:174-5 N '21

Tallest concrete tower for Japanese radio. il Pop Mech 38:844-5 D '22

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Tower truck cleans street lamps with vacuum. A. J. Theis. il Elec W 80:1110 N 18 '22

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Antenna tower erection for New York radio central. D. S. Fine. il diag plan Eng N 88:230-4 F 9 '22; Same cond. Eng & Contr (Bldgs) 58:76-8 N 22 '22

Jobbing trade developed on Pacific coast. D. C. Partridge. il Iron Tr R 69:1557-60 D 15 '21

Steel tower sections are joined by electric welding outfit. il J Elec 50:19 Ja 1 '23

Welded steel tower built in a cave. H. L. McLean. il Eng N 90:265 F 8 '23

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Town planning. See City planning

Townsend cells. See Electrolytic cells

Toxicity

Relation between the mode of synthesis and toxicity of arsenamine and related compounds. W. G. Christiansen. Am Chem Soc J 43:2202-10 O '21

Sulfur content of arsenamine and its relation to the mode of synthesis and toxicity. W. G. Christiansen. Am Chem Soc J 44:2334-42 O '22

See also Poisons, Industrial

Toy boats

Business of selling little ships. J. B. Twain. il Ptr Ink M 5:52+ JI '22

Toy Tinkers, Evanston, Illinois

How we build more sales for jobbers' salesmen. L. D. Ely. Ptr Ink M 4:40-2 Ap '22

Toys

Ingenious toys for Christmas shoppers. S. F. Corbett. il Pop Mech 38:856-7 D '22

Miniature product—how and why it is marketed. J. A. Murphy. il Ptr Ink M 6:21-3+ F '23

New advertisers created by marketable inventions of fond fathers; Poll Parrot swings. A. H. Van Voris. Ptr Ink 125:33-4+ O 11 '23

Railroad car as an off-season booster of sales. J. M. Mosely. il Ptr Ink M 5:23 Je '22

Toys made in America teach and train. H. A. Mount. il Pop Mech 36:855-9 D '21

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How advertising opened all-year market for toys. G. A. Nichols. Ptr Ink 123:121-4+ Ap 26 '23

Two specialties, to round out season's sales. E. H. Rowe. Ptr Ink 120:141-2+ Ag 24 '22

Manufacture

Application of production methods to toy manufacture. N. Heyman. Ind Management 63:246-50 Ap '22

Charges and costs in toy manufacture. A. Lazarus. Ind Management 66:243-6 O '23

Toy manufacture. J. T. Makinson. 263p Funk & Wagnalls co., New York '21

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Track circuits

Automatic and semi-automatic railway signalling. H. S. Petch. diag Inst E E J 61:82-4 D '22

Invention of the track circuit. 101p Am. ry. assn., Signal section, New York '22

Report of committee on a.c. signaling; recording the characteristics of a.c. track circuits. diag Ry Age 74:642-4 Mr 14 '23

Report of signal section committee on d.c. track circuits. Ry Age 74:739-40 Mr 16 '23

Some notes on transient track circuits. diag Electrician 89:234-6 S 1 '22

Track circuiting the Meudon tunnel. il Engineer 135:562 My 25 '23

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Testing large capacity scales by a new method. il Ry Age 74:383-4 F 10 '23

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Automatic control for rail-less cars. il Elec Ry J 58:863-4 N 12 '21

Baltimore adopts trolley bus. Elec Ry J 60:760 N 4 '22

Baltimore has 6-mile trolley-bus line. A. Hughes, jr. il Bus Transportation 1:631-4 D '22

Birmingham's experiment with trackless trolley. A. Baker. Elec R (Lond) 93:312-13 Ag 31 '23; Abstract. Elec Ry J 62:377 S 8 '23; Discussion. Elec R (Lond) 93:313-15 Ag 31 '23

California situation regarding rail and trackless transportation. P. Shoup. Elec Ry J 59:360-2 Mr 4 '22

City of Manchester, England, finds the tram-car is supreme. Aera 12:635-45 N '23

Development and characteristics of the trolley bus. Lorin. Bus Transportation 1:130-3 F '22

Electric trackless trolleys that look like automobiles. il Sci Am 126:325 My '22

English front-drive trolley bus. il diag plans Bus Transportation 2:181-2 Ap '23

Field of the trolley bus. J. A. Queeney. Bus Transportation 2:203-4 Ap '23

Gasoline bus or trolley bus—which? W. Jackson. Automotive Ind 46:597-600 Mr 16 '22

Hydro-electric railways have started trolley bus operations, Windsor, Ont. il map Bus Transportation 1:416-18 Ag '22

More trolley buses are installed on Staten Island. il map Bus Transportation 1:587-90 N '22; Abstract. Elec Ry J 60:793 N 11 '22

Motor bus, trolley bus and electric railway. W. B. Potter. Eng & Contr (Equip R) 60:937-9 O 31 '23

Trackless trolley—Continued

Motor buses and trackless trolleys. D. E. Blair. Bus Transportation 1:397-8 JI '22; Discussion. Elec Ry J 59:337-8 Je 10 '22

New electric cars; the Bradford corporation one-man railless vehicles. il diags Elec R (Lond) 92:609-10 Ap 20 '23

New Englanders hold meeting to study motor bus and trackless trolley. Bus Transportation 1:124-9, 191-3 F-Mr '22

New English trolley bus. il diags Bus Transportation 1:379-80 JI '22

New trolley bus has four-motor drive. il Bus Transportation 2:290 Je '23

Nouvel autobus électrique à trolley à avant-train moteur, de Leeds (Angleterre). il Génie Civil 82:139 F 10 '23

Only Swiss trackless trolley is a success. Bus Transportation 1:343 Je '22

Overhead materials and current collection equipment for trolley bus lines. M. W. Manz. il chart diags Bus Transportation 1:327-30 Je '22

Railless electric traction; abstracts. E. M. Munro. Elec R (Lond) 91:9-10 JI 7 '22; Electrician 89:9-10 JI 7 '22; Bus Transportation 1:446-7 Ag '22; Can Eng 43:504 O 31 '22; Discussion. Elec R (Lond) 91:10 JI 7 '22; Electrician 89:10 JI 7 '22

Railless traction at Birmingham. il Elec R (Lond) 92:220-3 F 9 '23

Railless trolley bus. Engineering 115:48 Ja 12 '23

Railless trolley traction. C. W. G. Taffs. Elec R (Lond) 92:193-4; Discussion. 194 F 2 '23

Randallstown trolley bus line. il Bus Transportation 1:610 N '22

Respective fields of the rail car, trolley bus, and gasoline bus in city transportation. J. C. Thirlwall. il Gen Elec R 24:974-85 D '21; Same cond. Can Eng 43:549-52 N 27 '22; Same. Eng & Contr (Ry) 58:121-5 D 20 '22

Rochester to operate five automotive type trolley buses. Bus Transportation 2:332 JI '23

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Some details of the rail-less car. il Bus Transportation 1:268-9 My '22

Substitution of trackless trolley for tramway. Elec Ry J 62:113 JI 21 '23

Trackless system feeds Toronto tramways. il Bus Transportation 1:168-70 Mr '22

Trackless transportation versus rail transportation; advantages and disadvantages. K. A. Simmon. il Elec Ry J 59:233-6 F 11 '22

Trackless trolley application before Rochester council. map Elec Ry J 60:829 N 18 '22

Trackless trolley for Rochester. Elec Ry J 62:385 S 8 '23

Trackless trolley franchise is sought in Milwaukee. Wis. Elec Ry J 59:166 Ja 28 '22

Trackless trolley line established on Staten Island. il Good Roads 61:202-3 O 26 '21

Trackless trolley to run on city streets. il Pop Mech 40:90 JI '23

Trackless trolleys at work abroad. W. Jackson. il diags Elec Ry J 58:859-63, 1027-32 N 12, D 10 '21

Trackless-trollicar is the latest. il Elec Ry J 58:1025-6 D 10 '21

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Trolley bus in urban transportation. C. L. Doub. il diags Elec J 19:425-8 O '22

Trolley bus line material and current collectors. G. W. Bower. il Bus Transportation 1:281-2 My '22

Trolley bus made real progress in 1922. J. C. Thirlwall. Bus Transportation 2:7-8 Ja '23

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Trolley bus operation inaugurated at Petersburg. il Bus Transportation 2:379-81 Ag '23

Trolley buses and flexible vehicles for street railway service. W. P. Kennedy. il diags Soc Auto Eng J 13:179-95 S '23; Same cond. Bus Transportation 2:253-4 My '23; Discussion. Soc Auto Eng J 12:401-2; 13:322-32 Ap, O '23; Bus Transportation 2:254 My '23

Trolley buses recommended for Seattle municipal lines. Elec Ry J 58:1024-5 D 10 '21

What the trolley car has to learn from the automobile. H. L. Andrews. Gen Elec R 25:280-4 My '22

Costs

Economic fields of trolley car and bus. V. Topping. Elec Ry J 62:289-91 Ag 25 '23; Same. Can Eng 45:265-7 Ag 28 '23

Electrical engineers talk trolley buses. Bus Transportation 1:607-8 N '22

Rail cars cheapest and best. J. C. Thirlwall. Aera 11:331-2+ O '22; Abstract. Elec Ry J 60:715-16; Discussion. 716-17 O 28 '22

Town transport. H. M. Sayers. Engineer 135:476-7 My 4 '23

What commercial operation of the trolley bus means. C. T. Perry. il diags Bus Transportation 1:23-6 Ja '22

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Motor truck tractive resistances on road surfaces. T. R. Agg. il Eng N 89:982-5 D 7 '22

Tests for tractive resistance of roads. W. E. White. il diags Eng & Contr (R & S) 58:77-82 N 1 '22

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American stock engine specifications for 1923; tabulation. Automotive Ind 48:428-31 F 22 '23

Garden tractor engine specifications, 1922; tabulation. Automotive Ind 46:372-3 F 16 '22

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Harvester and Ford in finish fight for tractor market. G. A. Nichols. Ptr Ink 118:25-8 Mr 30 '22

Helping tractor sales and service by conducting dealer schools. Automotive Ind 47:1130-1 D 7 '22

How shall a bank proceed when it has distress merchandise for sale? Ptr Ink 119:109-10+ Je 8 '22

Market research essential to development of tractor design. E. A. White. Automotive Ind 46:1210-13 Je 8 '22

Motorcycle and tractor exports increase. N. G. Shidle. Automotive Ind 49:540-1 S 13 '23

Narrow view of power farming blights tractor trade. W. L. Carver. Automotive Ind 49:309-13 Ag 16 '23

Rumely dealers work in shops to learn how to sell tractors. G. A. Nichols. Ptr Ink M 4:33-4 Ap '22

Tractor makers assert they can't cut their prices now. D. Beecroft. Automotive Ind 47:804-6 O 26 '22

Advertising

Advertising to steady the keel of production. H. E. Martin. Ptr Ink 117:105-6+ D 1 '21

Demonstration and advertising to revive dormant market. G. M. Walker. Ptr Ink 119:154+ Ap 6 '22

Need of good roads sells tractors. J. True. Ptr Ink 120:45-6+ S 14 '22

Tractor industry and trade—Continued**Service**

Tractor service has been neglected—it must be improved. G. M. Gillette. *Automotive Ind* 46:1016-17 My 11 '22

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Peru a market for tractors. *Automotive Ind* 46:823 Ap 13 '22

South Africa

South African tractor market demands study. G. B. Bell. *Automotive Ind* 45:1228-9, 1279-81 D 22-29 '21

United States

Agricultural tractor exports—1922; tabulation. *Automotive Ind* 48:479 F 22 '23

American tractor exports, 1914-1921; tabulation. *Automotive Ind* 46:408-9 F 16 '22

Improving tractor sales and service. D. D. Blanchard. *Automotive Ind* 47:430-1 Ag 31 '22

Tractor industry in 1922. O. W. Young. *Soc Auto Eng J* 12:188 F '23

Tractor market. J. S. Clapper. *Soc Auto Eng J* 10:337-9 My '22

Tractor operation

How to pull a tractor out of the mud. *diags Eng & Contr* 57:551-2 Je 7 '22

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Agrimotor; present failings and future prospects. H. S. Hall and H. G. Burford. *il diags Automobile Eng* 11:387-9 N '21

Agrophile tractor. *diag Mech Eng* 43:815-16 D '21

All-purpose tractor on the modern farm. J. S. Clapper. *Automotive Ind* 46:622-3 Mr 16 '22

Another walking tractor. *il Sci Am* 128:251 Ap '23

Avery track-runner tractor. *il Eng & Contr (R & S)* 58:75-6 N 1 '22

Cameron small farm tractor has air-cooled engine. *il Automotive Ind* 47:806 O 26 '22

Detailed changes made in Hart-Parr tractors. *il Automotive Ind* 48:318 F 15 '23

Farmers need efficient tractors. O. E. Bradfute. *Soc Auto Eng J* 12:501 My '23

Four-wheel drive tractor from the Pacific coast. *il Automotive Ind* 46:554-5 Mr 9 '22

General-purpose farm tractor. C. M. Eason. *il diag Soc Auto Eng J* 12:597-609 Je '23; Discussion. 13:196-7 S '23

General purpose tractor needed for American farm market. G. B. Gunlogson. *maps Automotive Ind* 47:4-7 Jl 6 '22

L'Hermite agricultural tractor. *il diag plan Engineer* 133:729 Je 30 '22

How one observer views the garden tractor. F. C. Ziesenheim. *diag Automotive Ind* 46:506-8 Mr 2 '22; Excerpt. *Sci Am* 127:267 O '22

Making small garden tractors. J. V. Romig. *il diags Pop Mech* 39:131-4 Ja '23

Motor tractor in industry. E. H. Arnott. *Eng & Ind Management* 6:663-4 D 8 '21

Motor truck convertible into tractor. *il Pop Mech* 33:399 S '22

New farm tractors have three-wheel drive. *il Pop Mech* 37:76 Ja '22

Popular tractor equipped with two new features. *il Sci Am* 128:193 Mr '23

Practical hints on operation and maintenance of tractor grading outfits. *il Eng N* 87:800-3 N 17 '21

Profitable crops from peat bogs. *il Soc Auto Eng J* 12:610-11 Je '23

Relation of the tractor to the farm implement. G. D. Jones. *Soc Auto Eng J* 10:177-8 Mr '22; Discussion. 11:159-62 Ag '22

Saunderson light agricultural tractor. *il diags Engineering* 114:766-7 D 22 '22

Some unusual jobs for the tractor. G. G. McVicker. *il Pop Mech* 37:944-6 Je '22

Successful tractor and semi-trailer railroad-terminal haulage. J. F. Murphy. *il Soc Auto Eng J* 12:467-72 My '23

Tracteur monoroue, système L'Hermite. E. Weiss. *il diag plan Génie Civil* 80:133-4 F 11 '22

Tractor and plow usage in the first breaking of peat land. J. L. Larson. *il chart diags plan Soc Auto Eng J* 13:285-92; Discussion. 292-5 O '23

Tractor defects summarized. *Soc Auto Eng J* 12:499-501 My '23

Tractor fitted to push or haul freight cars. *il Pop Mech* 39:406 Mr '23

Tractor has leveling attachment for hillside. *il Pop Mech* 37:334 Mr '22

Tractor solves problem of switching cars. *il Pop Mech* 39:515 Ap '23

Tractors on southeastern farms. *Automotive Ind* 46:577 Mr 9 '22

Tractors on southern farms. H. R. Tolley and L. M. Church. *U S Agric Farmers' Bul* 1278: 1-26 '22; Excerpts. *Automotive Ind* 48:276-7 F 8 '23

Use of tractors in logging. N. C. Brown. *Paper* 29:16-17 N 30 '21

Walking tractor for use on plowed soil. *il Pop Mech* 37:350 Mr '22

Wilson tractor has novel change speed gear. *il Automotive Ind* 47:258-9 Ag 10 '22

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Cost and utilization of power on farms where tractors are owned. H. R. Tolley and L. A. Reynoldson. *il diags map U S Agric Bul* 997:1-61 '21

Methods and cost of motorized garbage collection in Akron, Ohio, for 1921. F. C. Tolles. *il Munic Eng* 62:sup18+ F '22

Design

British agricultural tractor practice. M. W. Bourdon. *Automotive Ind* 46:374 F 16 '22

Cooling capacity increased in Samson tractor. P. M. Heldt. *il diags Automotive Ind* 46:502-5 Mr 2 '22

French tractor simple and original in design. *il Pop Mech* 37:401-2 Mr '22

International brings out advanced design of tractor. H. Chase. *il diags Automotive Ind* 46:651-4 Mr 23 '22

Notes on tractor designing. E. H. Arnott. *Automobile Eng* 11:386-7 N '21

Small caterpillar tractor built for farm work. P. M. Heldt. *il diags Automotive Ind* 46:167-72 Ja 26 '22

Stability of two-wheeled tractors. P. M. Heldt. *il diags Automotive Ind* 46:614-16 Mr 16 '22

Tracteur automobile Vigneron des établissements Delaunay-Belleville. G. Coupan. *il diags plans Génie Civil* 80:342-4 Ap 15 '22

Tractor design improved since 1920, Nebraska tests show. S. O. Sjogren. *Automotive Ind* 48:921-2 Ap 26 '23

Tractor design trends reflected in 1922 specifications. P. M. Heldt. *Automotive Ind* 46:368-9 F 16 '22

Exhibitions

National tractor show, Minneapolis, Minn. *il Automotive Ind* 46:259-61 F 9 '22

Le XVI^e salon de l'automobile et du cycle (Paris, 5-16 octobre 1921). G. Birlé. *il diag Génie Civil* 79:406-7 N 12 '21

Tractor show marked by new designs. P. M. Heldt. *il diags Automotive Ind* 46:451-7 F 23 '22

Gearing

American stock gearset specifications for 1923; tabulation. *Automotive Ind* 48:436 F 22 '23

New tractor gearsets have novel reverse mechanism. *diags Automotive Ind* 46:1115 My 25 '22

Specifications of American stock gearsets for 1922; tabulation. *Automotive Ind* 46:390 F 16 '22

Hitches

Coupling for road wagons. *il diag plan Engineer* 135:505-6 My 11 '23

Tractor and plow reactions to various hitches. O. B. Zimmerman and T. G. Sewall. *diags Soc Auto Eng J* 11:107-15; Discussion. 115-16 Jl '22

Tractors—Continued**Manufacture**

- 4 economy ideas for moving materials. *il* Factory 28:526-7 My '22
 Heat treating in a California tractor plant. *il* Am Mach 59:679-81 N 8 '23
 Machines and methods used in building large tractors. *il* Am Mach 59:664-5 N 1 '23
 Machining tractor parts and assembling Fordson tractors. J. H. Van Deventer. *il* Ind Management 66:19-27 J1 '23

Performance

- Tractor hauls industrial trains on heavy grade in road work. C. Tappan. *il* Eng N 90:359-60 F 22 '23
 Tractor slogging in frozen lands. E. M. Lagron. *il* Am Ind 22:33-4 D '21
 Tractors prove advantage over teams in river bank protection work. *il* Eng N 89:710 O 26 '22

Rating

- Tractor ratings recommended by S.A.E. committee. Soc Auto Eng J 11:296-8 S '22; Excerpt. Automotive Ind 47:519 S 14 '22

Specifications

- American agricultural tractor specifications; tabulation. Automotive Ind 48:438-41 F 22 '23
 American garden tractor specifications; tabulation. Automotive Ind 48:440-1 F 22 '23
 British agricultural tractor specifications; tabulation. Automotive Ind 48:437 F 22 '23
 Specifications of American farm tractors for 1922; tabulation. Automotive Ind 46:370-3 F 16 '22
 Tractor belts and pulleys; proposed S. A. E. recommended practice. Soc Auto Eng J 12:565-6 Je '23

Standards

- Progress of S.A.E. standards adoption in the tractor industry. Am Mach 56:656 My 4 '22
 Value of standards in tractor manufacture. P. M. Heldt. Soc Auto Eng J 10:270-2 Ap '22; Same. Automotive Ind 46:560-2 Mr 9 '22; Discussion. Soc Auto Eng J 11:158-9 Ag '22

Testing

- Acid test for tractors. *il* Sci Am 128:337 My '23
 British tractor trials develop interesting engineering features. M. W. Bourdon. *il* diags Automotive Ind 45:817-22 O 27 '21
 Nebraska tractor-test analysis. O. W. Sjogren. Soc Auto Eng J 12:587-94+ Je '23; Discussion. 13:197-200 S '23
 New Cletrac and Rogers tractors undergo Nebraska tests. Automotive Ind 47:129 J1 20 '22
 Results of the Nebraska tractor tests, 1921, conducted by the University of Nebraska. Automotive Ind 46:569 Mr 9 '22

Wheels

- Centipede wheel. *il* Sci Am 129:25 J1 '23
 Squirrel-cage wheels used for tractors. *il* Pop Mech 40:251 Ag '23

Tractors, Electric. See Electric tractors

Tractors, Gas. See Gas tractors

Tractors, Industrial

- Developing lower costs for handling freight. *il* Ry Age 75:757-60 O 27 '23
 Full tracklayer type tractor added to Bates line. *il* Automotive Ind 48:670-1 Mr 22 '23
 Heavy duty trailer for concentrated loads. *il* Ry Mech Eng 95:721 N '21
 Intra-plant haulage by means of rail-less railroads. M. W. Potts. *il* Ind Management 66:182-91 S '23; Abstract. Chem & Met Eng 28:1061-4 Je '23
 Mercury tractor introduces new drive. *il* Ry R 73:510 O 6 '23; Ry Age 75:781-2 O 27 '23
 Mercury type-K tractor. *il* Am Mach 56:117 Ja 19 '22
 Towmotor model C gasoline industrial tractor. *il* Am Mach 57:900 D 7 '22; Iron Age 110:1209 N 9 '22
 Utilizing tractors and trailers for 100 ft. hauls. *il* Ry Age 71:991-2 N 19 '21
 What about factory trucks and trailers? W. T. Spivey. *il* Factory 30:549-52+ My '23
 See also Motor trucks, Industrial

Tractors, Military

- Caterpillar ordnance. *il* Sci Am 126:195 Mr '22
 Les chars d'assaut et le matériel à chenilles. L. A. Legros. diags Soc Ing Civils Bul 74:412-48, pl 14-15 J1 '21; Abstracts (Tanks and chain-track artillery). Engineer 132:592-4, 625-7, 659-60 D 2-16 '21; Automobile Eng 12:77-81, 107-12 Mr-Apr '22
 France tests trucks and tractors for military service. W. F. Bradley. *il* Automotive Ind 46:182-3 Ja 26 '22

See also Tanks (military science)

Tractors, Steam

- Caterpillars for railroad-type steam shovels. *il* Ry R 70:767-9 My 27 '22
 Light steam tractor. *il* Sci Am 127:419 D '22
 Lightweight tractor operates by steam. *il* Pop Mech 37:377 Mr '22

Tractors, Submarine

- New method of salvage by compressed air. *il* Sci Am 128:181+ Mr '23

Tractors, Turntable

- Friction drive for turntable tractors. *il* diags Ry Age 75:443-5 S 8 '23

Tractors and roads

See Motor trucks and roads

Tracy, John Clayton, 1869-

- A Yale engineer—Kiwanis governor. por Prof Eng 8:9+ S '23

Trade acceptances. See Acceptances

Trade agreements

- Action by employees to enforce collective agreements. L. D. Clark. Monthly Labor R 15:891-7 O '22
 Agreement between the Allied building metal industries and Housesmiths' union, local no. 52. Monthly Labor R 17:427-30 Ag '23
 Arbitration in the electricity supply industry. J. W. Thomas. Elec R (Lond) 92:832-4 My 25 '23
 Bonus contract of the Industrial association of San Francisco. Monthly Labor R 16:107-9 Ja '23
 Book and job printing—New York city. Monthly Labor R 17:131-4 J1 '23
 Carpenters—Cleveland. Monthly Labor R 16:1040-3 My '23
 Carpenters—Pittsburgh. Monthly Labor R 17:857-8 O '23
 Chicago trade adopts new form of agreement. Heat & Ven 18:50 N '21
 Cleveland garment plan. F. C. Butler. Ind Management 65:314-17 My '23
 Cleveland plan of unemployment compensation. W. J. Mack. Monthly Labor R 14:745-9 Ap '22
 Collective agreements in Germany. Int Labour R 5:573-88 Ap '22
 Collective agreements in Italy. G. Olivetti. Int Labour R 5:209-28 F '22
 Constitutional government in American industries. W. M. Leiserson. Monthly Labor R 15:243-9 Ag '22
 Development of collective bargaining in the men's clothing industry in the United States. M. Gadsby. Monthly Labor R 14:1093-1108 Je '22
 Experience with trade union agreements—clothing industries. (National industrial conference board, Research rep. 38) 134p Century co. '21
 Granite cutters—Barre, Vt. Monthly Labor R 14:973-8 My '22
 Group versus collective bargaining in the railway shop. *il* Ry R 72:77-83 Ja 6 '23
 History of arbitration in American newspaper publishing industry. D. Weiss. Monthly Labor R 17:15-23 J1 '23
 Industrial courts, collective agreements, or what? W. L. Stoddard. Administration 4:261-8 S '22
 Industrial government through collective agreements in Germany. E. Frankel. Management & Adm 6:39-42 J1 '23
 Labor agreements, awards, and decisions. See monthly numbers of Monthly labor review
 Labor situation and the Landis building trades agreements. H. K. Holsman. Am Inst Arch J 9:343-8 N '21

Trade agreements—Continued

Law of collective bargaining in Germany. F. Sitzler. Int Labour R 6:511-26 O '22
Theory of the collective labour contract in France. G. Pirou. Int Labour R 5:35-50 Ja '22

Thirty-year experience in industrial democracy. J. P. Frey. Int Labour R 5:539-52 Ap '22

Trade agreements in the New York garment industries. M. Gadsby. Monthly Labor R 16:1290-1312 Je '23

Union leaders and operators accept Pinchot's terms and sign two-year agreement; text. Coal Age 24:415-16 S 13 '23

See also Arbitration, Industrial; also Amalgamated clothing workers

Trade association executives in New York city
Year book. 14p Trade assn. executives in N. Y. C., 50 Church st, New York '21-'22

Trade associations

Associations—and the trade dispute. J. J. Nevins. Textile World 63:741 F 3 '23

Associations in industrial progress. E. W. McCullough. Paper 31:17-19 Ap 18 '23

Attorney general's tentative opinion regarding trade associations. Am Mach 56:316b F 23 '22

Business and the trade association. R. D. T. Hollowell. Brick & Clay Rec 61:558-60 O 17 '22

Code of ethics or standards of correct practice of Gas products association. Chem Age 31:373-5 Ag '23

Code of principles for trade associations. Iron Age 111:153 Ja 11 '23

Consent decree limiting activities of trade associations. Monthly Labor R 16:576-8 Mr '23

Decree entered against gypsum industries association in anti-trust case. Comm & Fin Chr 116:138-41 Ja 13 '23

Defends associations. H. Hoover. Iron Tr R 73:198-9 Jl 19 '23

Fair practices code of the National association of ice-cream supply men. R. Everett. System 43:342-3+ Mr '23

Functions of trade associations. Elec W 81:937 Ap 21 '23

General charter for trade associations. 46p Federal trade information service, New York and Washington '22

Government's attitude toward trade associations expressed in gypsum case. Ptr Ink 122:10+ Ja 11 '23

Government's view of open price associations. G. H. Montague. Ptr Ink 118:57-8+ Ja 12 '22

Great Britain also has a trade association problem. Nation's Business 10:57 S '22

Gypsum case as a guide. F. Neilson. Elec W 81:542-3 Mr 3 '23

Honest and dishonest trade associations. S. Untermeyer. 27p Samuel Untermeyer, New York '22

Hoover and the trade associations. N. G. Shidle. Automotive Ind 46:847-8 Ap 20 '22

Hoover drops open price bodies. Iron Tr R 70:1127 Ap 20 '22

Hoover enunciates to trade association officials' unalterable opposition to open price reports. Coal Age 21:663-4, 671 Ap 20 '22

Hoover queries form effective trade-association code. Coal Age 21:297-300 F 16 '22

How an association of manufacturers is saving accounts for its members by helping retailers. J. True. Ptr Ink 123:77-8+ Ap 26 '23

How associations are eliminating economic waste. Ptr Ink 123:149-50+ Je 28 '23

How Europe has made trade associations effective. W. Thompson. Annalist 19:411-12 Ap 10 '22

How trade associations may function without breaking law. E. B. Parker. Nat Pet N 13:47-8 D 14 '21

Importance of trade associations. E. W. McCullough. Brick & Clay Rec 60:30-1 Ja 10 '22

Important injunction provisions in Sherman act decision. Sanitary & Heat Eng 99:18+ Ja 12 '23; Same. Sheet Metal Worker 13:905-6 Ja 19 '23

Important work of trade associations. L. W.

Moffett. Iron Age 112:133-5 Jl 19 '23

Keeping trade association activities within the law. G. H. Montague. Ptr Ink 118:57-8+ Ja 5; 61-2+ Ja 19 '22

Legal aspects of statistics. N. B. Gaskill. Paper Tr J 77:53-6+ Ag 16 '23

Legitimate activities of trade associations. H. Hoover; H. M. Daugherty. Dom Eng 98:359-60+ F 25 '22; Excerpts. Automotive Ind 46:474-5 F 23 '22; Elec Ry J 59:287 F 18 '22; Elec W 79:349-50 F 18 '22; Iron Age 109:479-80 F 16 '22; Iron Tr R 70:452-4 F 16 '22; Power 55:322 F 21 '22; Ptr Ink 118:17-18 F 23 '22; Gas Age 49:293-4+ Mr 11 '22; J Elec 48:236-7 Mr 15 '22; Nation's Business 10:26-8 Mr '22; Textile World 61:1132-3 F 18 '22; Brick & Clay Rec 60:285-8 F 21 '22

Legitimate trade association activities. Paper 31:12 D 27 '22

Legitimate trade-association work is vital and should be encouraged. H. C. Hoover. Coal Age 21:665-6 Ap 20 '22; Same. Chem Age 30:193-5 My '22

National survey of trade associations. L. W. Moffett. Iron Age 109:1005+ Ap 13 '22

Open price associations. M. N. Nelson. 240p Univ. of Illinois, Urbana '23

Outlining the legitimate activities of trade associations. Chem & Met Eng 26:372-3 F 22 '22

Philosophy of trade associations. O. B. Towne. Brick & Clay Rec 61:474-7 O 3 '22; Same cond. Concrete 21:sup48-51 S '22

Place of scientific research in the programs of trade associations. E. R. Weidlein. Chem Age 30:241-3 Je '22; Same abr. Refrig W 57:19-20 Ag '22; Same abr. Concrete 21:sup94 D '22

Poor rule that works only one way; the case of the Portland cement manufacturers and Northwest wheat growers associated. Annalist 20:221-2 S 4 '22

Proper use of cost data by trade associations. R. S. Kellogg. Paper Tr J 77:114 O 18 '23

Proposed consent decree against the Tile manufacturers credit association. Automotive Ind 49:867 O 25 '23

Questions relating to trade associations; decision of Supreme court in linseed oil case. Iron Age 111:1713 Je 14 '23

Regulating the activities of the trade association. Chem & Met Eng 26:803 Ap 26 '22

Relation of plant equipment manufacture to chemical industry. R. Everett. Chem Age 31:5-6 Ja '23; Same. Chem & Met Eng 28:173-5 Ja 24 '23

Science for the common good. H. E. Howe. Nation's Business 10:29-30 S '22

Supreme court assails open price associations. Ptr Ink 117:17-18 D 29 '21

Supreme court holds open-price plan illegal. Elec W 78:1290-1 D 24 '21

Taking referendum on associations. Brick & Clay Rec 62:406-8 Mr 6 '23

Trade association. F. E. Wormser. Eng & Min J 113:626-8 Ap 15 '22

Trade association activities. L. E. Warford and R. A. May. 368p [Bibliog. p.317-25] Superintendent of documents, Washington, D. C. '23

Trade association activities and the law. F. D. Jones. 360p McGraw-Hill '22

Trade association and the mining industries. F. E. Wormser. Eng & Min J 113:725-7 Ap 29 '22

Trade associations and business statistics. A. R. Burnet. charts Administration 2:775-92 D '21

Trade associations and statistics; future activities of organizations along these lines and the program of the Hardwood lumber group. L. C. Bell. Am Ind 24:10-13 Ag '23

Trade associations and the law. T. J. Burke. Paper Tr J 76:62 Je 21 '23

Trade associations confer in Washington. April 12. Iron Age 109:1061-2 Ap 20 '22; Oil Paint & Drug Rep 101:19+ Ap 17 '22; Mach 28:708-9 My '22; Comm & Fin Chr 114:1726-7 Ap 22 '22

Trade association's right to perform statistical service upheld by lawyer. Oil Paint & Drug Rep 102:19 O 23 '22

Trade associations—Continued

Trade information associations not illegal—government loses its case against linseed oil crushers. *Comm & Fin Chr* 113:2256-8 N 26 '21

U. S. court defines lawful trade associations. *Eng N* 90:97 Ja 11 '23

What is a trade association. *Eng & Min J* 114:908 N 18 '22

What it profits manufacturers to get together. *P: F. O'Shea, Factory* 29:540-1+ N '22

What may a trade association do? *Nation's Business* 11:98-9 Ap '23

Why and what is a trade association. *G: V. Horgan, Chem Age* 31:321-3 JI '23

Work for trade associations. *F. M. Feiker, Elec W* 81:1550-2 Je 30 '23

. See also Advertising, Association; Ceramic societies; Electric associations; Lumber associations; Plumbers' associations; Price fixing; Textile associations; Trade unions; also names of associations, e.g. American hardwood manufacturers' association; Cement manufacturers protective association; Linseed oil association; National association of hosiery and underwear manufacturers; Sanitary potters' association; United typothetae of America

Directories

Classified list of trade and allied associations and publications in the city of New York with appendix of governmental offices. 44p Chamber of commerce of the state of New York, 65 Liberty st., New York '23

Commercial and industrial organizations of the United States. *U S Bur For & Dom Com misc ser* 99:1-225 '23

International labour directory, 1923. p. 146-453 International labour office, Geneva '23

List of mining trade associations. *Eng & Min J* 114:1009; 115:160 D 2 '22, Ja 20 '23

Executives

Canons of professional ethics of trade association executives. *G. D. McIlvaine, Sanitary & Heat Eng* 99:413-14 Je 15 '23; Same. *Dom Eng* 102:301+ F 10 '23

Trade association executive in modern business. *E. F. Dubrul, Administration* 4:566-74 N '22

Trade balance. See Balance of trade

Trade boards. See Great Britain—Trade boards

Trade catalogs. See Catalogs

Trade characters. See Advertising characters

Trade directories

. See also Mailing lists; Manufacturers—Directories; Refrigeration and refrigerating machinery—Directories; Trade associations—Directories

Bibliography

Trade and class directories copyrighted in the U.S. *Special Lib* 13:26-31, 43-7 F-Mr '22

Trade extension bureau. See National trade extension bureau

Trade journals

Business and the business press. *R. W. Johnson, Ptr Ink* 117:69-70+ D 1 '21; 118:41-2+ Ja 26; 49-51 Mr 2 '22

Business-paper publishers see good year ahead. *Ptr Ink* 125:53-4 O 18 '23

Crain's market data book and directory of class, trade and technical publications. 3d ed. 497p *G. D. Crain, jr., 537 S. Dearborn st., Chicago* '23

Growth of the trade press. *Ptr Ink* 121:125 N 30 '22

Industrial publishing. *H. M. Swetland, 289p U.P.C. book co.* '23

Need a trade paper be dressed decently? *J. L. Frazier, Inland Ptr* 68:73-6 Ap '22

Wild editors—their cause and cure. *J Eleo* 51:166-7 S 1 '23

. See also Advertising mediums—Trade journals; House organs

Bibliography

American and foreign paper trade periodicals. *F: C. Clark and C. J. West, Paper Tr J* 76:45-8 Ja 25 '23

Classified list of trade and allied associations and publications in the city of New York with appendix of governmental offices. 44p Chamber of commerce of the state of New York, 65 Liberty st., New York '23

Foreign periodicals on trade and economic conditions. *E. M. Crampton, U S Bur For & Dom Com misc ser* 114:1-33 '22

Trade marks

Advertising illustrations that become secondary trade-marks. *W. L. Larned, Ptr Ink* 123:109-10+ My 10 '23

Bar association out for uniform state trademark laws. *G. A. Nichols, Ptr Ink* 122:107-8+ Ja 4 '23

Betty Wales wins trade-mark decision. *Ptr Ink* 122:163 F 1 '23

Bradford dyers' service marks gets trade-mark registration. *C. P. Carter, Ptr Ink* 122:153-4+ F 8 '23

Business built on advertising and the love of birds. *R. R. Foster, Ptr Ink M* 4:72+ Ap '22

Can a trade-mark be assigned to an affiliated company? *Ptr Ink* 123:25-6 Je 28 '23

Can a trade-mark be sustained if owner doesn't use it? *Ptr Ink* 123:72 Ap 12 '23

Canadian court renders Corn flakes decision. *Ptr Ink* 125:101 O 18 '23

Cement labels I have met. *C: W. Erdell, il Concrete* 22:sup15-20, sup37-41, sup63-7, sup 79-81, sup105-9; 23:sup12-14, sup32-5, sup 46-50 F-S '23

Copyright of label does not protect trademark. *Ptr Ink* 121:101-2 D 14 '22

Court of appeals distinguishes between brand and trade-mark. *C. P. Carter, Ptr Ink* 124:129-30 JI 19 '23

Distinguishing between trade-marks and brands. *C. P. Carter, Ptr Ink* 117:49-50+ N 17 '21

Domestic or imported? *C. P. Carter, Ptr Ink* 124:137 Ag 2 '23

Early filing of trade-mark of advantage. *Ptr Ink* 123:132 Ap 12 '23

Essentials of a good trade-mark and its value. to a sheet metal contractor. *D. O. Morley, Sheet Metal Worker* 14:14-15 F 2 '23

Four tested plans for putting a business on a trade-mark basis. *J: A. Murphy, Ptr Ink M* 6:17-18+ Ap '23

General information about protection of trade marks, prints and labels. *K. Fenning and T: L. Mead, jr. 23p U. S. Patent office, Washington* '22

Grade-marks are not trade-marks; use of various colored strands to typify different ropes denied trade-mark protection. *Ptr Ink* 120:65-6 S 14 '22

Heraldry of commerce. *E. D. Babst, il Nation's Business* 11:39 Mr '23

How dishonest retailing is being overcome by trade marking. *Eng & Contr* 57:533 Je 7 '22

How Kenney's goat got to be a railroad trade-mark. *J. Cairns, Ptr Ink M* 4:23+ F '22

How to choose a trade-mark. *Sanitary & Heat Eng* 98:253 N 3 '22; Same. *Sheet Metal Worker* 13:793 D 22 '22

Hunting the elusive mark of identification. *Ptr Ink M* 6:94+ Ap '23

Identifies the hard-to-trade-mark product; fish goes to the consumer bearing a pin-ticket. *C. L. Armstrong, Ptr Ink* 118:17-19 Mr 9 '22

Important additions to proposed trademark law. *Ptr Ink* 118:10+ Mr 23 '22

Improvement in registration of trade-marks. *C. P. Carter, Ptr Ink* 119:53-4+ Je 1 '22

Injunction protects fruit of the loom manufacturer and licensee. *Ptr Ink* 121:166+ O 19 '22

Interesting features of the proposed trademark law. *C. P. Carter, Ptr Ink* 121:121-2+ N 9 '22

Lawyers agree on proposed new trade-mark measure. *Ptr Ink* 124:150 JI 5 '23

Little talks about trade-marks. *J: F. Robb, 15p Robb, Robb & Hill, Washington, D.C.* '22

Malted milk registration cancelled by patent office. *Ptr Ink* 120:33-4 S 7 '22

Trade marks—Continued

Meaning and scope of new trade-mark enactment. C. P. Carter. *Ptr Ink* 121:149-50 N 23 '22

New index established for trade-marks. *Ptr Ink* 124:12 J1 26 '23

No protection for trade-marks in advance of use. *Ptr Ink* 120:129-30 J1 13 '22

Ostermoor mattress trade-mark is ordered canceled. *Ptr Ink* 122:28 Mr 8 '23

Outline of foreign trademark practice for United States attorneys. L. Langner and H. Langner. 40p Langner, Parry, Card & Langner, 177 William st., New York '23

Patent and trade-mark actions of 1922. Engineering 115:148 F 2 '23

Patent office decision in Beech-Nut cigarette controversy. *Ptr Ink* 117:116 N 17 '21

Peaks as a trade-mark infringed by Alps. *Ptr Ink* 117:104 D 8 '21

Placing the name-plate on the product. J. N. Brownlee. *Ptr Ink* 119:125-6+ Ap 27 '22

Plight of the unprotected product in the medical field. *Ptr Ink* 118:25-6 Mr 23 '22

Principles, not technicalities, govern trade-mark rights. *Ptr Ink* 122:157+ Mr 29 '23

Progress in the revision of the trade-mark law. C. P. Carter. *Ptr Ink* 117:69-70+ D 15 '21

Proposed new trade-mark act approved by Bar association. *Ptr Ink* 121:25-6 N 2 '22

Protection of industrial property. (Brochure no. 27) 42p International chamber of commerce, 33, Rue Jean-Goujon, Paris '23

Protection of trade-marks without recourse to courts. J. E. Davies. *Ptr Ink* 123:3-4+ Ap 26 '23

Record number of trade-marks registered. *Ptr Ink* 122:151+ F 1 '23

Report of N.P.O. & V.A. committee on trade-marks. Oil Paint & Drug Rep 102:45-6 N 23 '22

Report of N.W.D.A. committee on trade-marks. Oil Paint & Drug Rep 104:15+ O 17 '23

Slogans no longer registerable. *Ptr Ink* 121:53-5 O 26 '22

Trade mark laws of the world. Comp. and ed. by J. H. Ruege and W. B. Graham. 1007p Trade mark law pub. co., New York '22

Trade-mark protection explained in simple terms. *Ptr Ink* 121:133-4+ D 21; 122+ D 28 '22

Trade-mark protection in Europe. U S Bur For & Dom Com Trade Information Bul 155: 1-29 '23

Trade-mark suit makes Coty a firm believer in advertising. *Ptr Ink* 124:33-4+ J1 5 '23

Trade-marking a line of plays; Golden plays. *Ptr Ink* 120:48 Ag 24 '22

Trademarks. C. L. Jenks. Chem & Met Eng 27:1130-4 D 6 '22

Trade-marks denote origin not quality. R. W. Johnson. *Ptr Ink* 122:17-18 F 1 '23

Trade-marks on patented articles. I. Paris. Ind Management 63:265-6 My '22

Uneeda and other trade-marks of suggestive meaning lose in court actions. *Ptr Ink* 122:130+ Ja 11 '23

United States statutes concerning the registration of trade-marks with the rules of the Patent office relating thereto. 41p U.S. Patent office, Washington '22

Waterman name is held property of parent company. *Ptr Ink* 122:120+ Mr 1 '23

What is the basis of good trade-mark design? R. von Huhn. *Ptr Ink* M 6:57-8 Je '23

What's in a name? W. Gustin. Chem & Met Eng 27:342-4 Ag 23 '22

What's your label worth? W. Bishop. II Nation's Business 9:12-13 D '21

When are trade-marked goods genuine? *Ptr Ink* 117:113-14 N 10 '21

When buying always look for this label. A. L. Townsend. *Ptr Ink* 120:41-2+ J1 6 '22

When to translate a trade-mark into a foreign language. C. P. Carter. *Ptr Ink* 124:120-1+ Ag 23 '23

When trade-mark registration under state laws is useful. C. P. Carter. *Ptr Ink* 118:157+ Ja 19 '22

When you cannot get trade-mark registration. *Ptr Ink* 121:10+ N 30 '22

Why bother with trade-mark registration? *Ptr Ink* 122:77-8 Ja 4 '23

Would register trade-marks on probationary basis. *Ptr Ink* 123:12 Ap 5 '23

See also Advertising characters; Branding; Chop marks; Origin, False indications of; Patents; Trade names

Advertising

Advertising a trade-mark is better than advertising a trade-mark suit. G. H. Montague. *Ptr Ink* 123:3-4+ My 31 '23

Animating the main talking point; advertising around its famous Duxbak trade-mark. R. Perry. *Ptr Ink* 122:89-90+ Ja 4 '23

Blue goose campaign of marketing and advertising. J. T. Bartlett. *Ptr Ink* 119:133+ My 25 '22

Can books be merchandized; Alfred A. Knopf, advertising the Borzoi imprint. J. Henle. *Ptr Ink* 123:33-4+ My 3 '23

Carrying the trade character through all your advertising; the Edison man. C. B. Larabee. II *Ptr Ink* M 5:20-2+ Ag '22

Cinching ownership of a brand name with advertising; Lysol campaign. R. Cole. *Ptr Ink* 118:3-4+ F 2 '22

Color advertising creates trade-mark recognized by patent office. E. F. Haxton. *Ptr Ink* 120:33-4+ Ag 17 '22

Full sway for the trade-mark as an illustration. W. L. Larned. *Ptr Ink* 123:41-2+ Ap 19 '23

Giving an advertising identity to automobile bodies. C. M. Harrison. *Ptr Ink* 120:53-4+ S 21 '22

How to get more attention for unobtrusive trade marks. W. H. Heath. *Ptr Ink* 120:93-4 S 14 '22

Infringement suits as advertising material. *Ptr Ink* 122:132+ F 1 '23

When complete advertising files may guard the trade-mark. G. A. Nichols. *Ptr Ink* 123:57-8+ My 3 '23

Trade marks (international law)

American purchaser of foreign trade upheld by court. *Ptr Ink* 122:111-12 F 1 '23

Brazilian court annuls 20,000 trade-marks. *Ptr Ink* 117:28 D 15 '21

Enregistrement international des marques de fabrique et de commerce. L. Paillard. Chimie & Ind 9:403-7 F '23

Famous trademark case reversed; Bourjois & co., inc., vs. Katzel. Chem & Met Eng 28:1076 Je 18 '23

Features of the Chile trade-mark convention. C. P. Carter. *Ptr Ink* 123:109-10 Je 28 '23

Germans may register trade-marks internationally. *Ptr Ink* 121:157+ N 30 '22

How American trade-marks fare in China. C. P. Carter. *Ptr Ink* 122:181+ Ja 25 '23

International commerce chamber suggests changes in trade-mark conventions. *Ptr Ink* 124:81 J1 19 '23

Progress in international trade-mark registration. C. P. Carter. *Ptr Ink* 118:61-2+ F 16 '22

Protection needed against unfair competition from abroad; importation of goods under trade-marks registered in United States. *Ptr Ink* 120:134+ Ag 3 '22

Trade marks, National

Status quo of the proposed national trade-mark. C. P. Carter. *Ptr Ink* 118:61-2+ Mr 16 '22

Trade names

Advertiser's artful aid; words created by the ingenious advertiser which have become part of our everyday vocabulary. Brander Matthews. *Ptr Ink* 119:108-9+ My 11 '22

Advertising the product with the hard-to-say name. G. H. Wicker. *Ptr Ink* 118:33-4+ F 16 '22

Changing the corporate name to the trade name. *Ptr Ink* 121:189 D 14 '22

Changing the name of a product. *Ptr Ink* 117:136 D 15 '21

Heading off threatened infringement. *Ptr Ink* 118:69-70 Mr 2 '22

How well known is your brand? G. B. Hotchkiss. *Ptr Ink* 118:17-20 F 9 '22

Trade names—Continued

- "I want a—," does the consumer insist on your product? S. Rivers. *Ptr Ink* 122:121-2+ F 22 '23
- Mission of a name. R. M. Rhodes. *Ptr Ink M* 5:31 Je '22
- Retail market for textiles and the operation of a brand. L. H. Allen. *Ptr Ink* 121:89-90+ D 28 '22
- What type style is best for your trade name? E. M. Hunt. *Ptr Ink M* 5:60+ D '22
- When the names of two products are too similar. *Ptr Ink* 121:125-6 D 21 '22

See also Trade marks

Trade publications

- Educational value of trade literature; catalogs and handbooks. F: L. Hoffman. *Ptg Art* 41:353-9 Je '23

See also Catalogs; House organs; Trade journals

Trade schools

- Building trades schools of Industrial assn. of San Francisco train 700 apprentices. *Eng & Contr* (Bldgs) 59:1182 My 23 '23
- Educating the plumber's apprentice. *Il Sanitary & Heat Eng* 98:245-6 N 3 '22
- Getting men for the machine industry. H. D. Harper. *Am Mach* 58:540 Ap 12 '23
- Industrial education as represented in schools. C. R. Richards. *Mech Eng* 45:175-9 Mr '23
- LeBlond vocational training course. W. H. Myers. *Am Mach* 59:263 Ag 16 '23
- Making plumbers and steam fitters in New Orleans; the Isaac Delgado Central trade school. *Il Dom Eng* 97:570-1 D 24 '21
- Opportunity school in Denver. *Am Mach* 58:696 My 10 '23
- Philadelphia chamber of commerce proposes to establish industrial school. *Am Mach* 59:126b Jl 19 '23
- Real practical sheet metal school. *Il Sheet Metal Worker* 14:417-18 Je 22 '23
- San Francisco moves for industrial peace. W. H. McBryde. *Il J Elec* 49:237-40 O 1 '22
- Trade schools and apprentices. J. W. Eastman. *Sanitary & Heat Eng* 99:281-4+ My 4 '23
- Trade schools for relieving shortage of building mechanics. J. Baird. *Eng & Contr* (Bldgs) 60:168-9 Jl 25 '23
- Vocational training for sheet metal trade. J. S. Daugherty. *Il Sheet Metal Worker* 14:563-5+ Ag 17 '23

See also Automobile schools; Corporation schools; Industrial education; Printing, Practical—Study and teaching; Technical education; Textile schools; also Retail shoemen's institute of Boston, Massachusetts

Trade secrets

- Natural right in secret process independent of statutory right in patent. *Chem & Met Eng* 27:500 S 6 '22
- Revelation of trade secrets. W. Gustin. *Chem & Met Eng* 28:817 My 7 '23
- Rights of an owner of a trade secret. W. Gustin. *Chem & Met Eng* 27:788 O 18 '22
- Secret processes—and "sich like"; locked factory doors shut out as well as shut in. C. James. *Ptr Ink* 119:145-6 My 11 '22
- What real co-operation can do for the edible oil industry. J. P. Harris. *Chem & Met Eng* 28:545 Mr 21 '23
- When does an employment contract terminate? *Chem & Met Eng* 26:338, 341, 484-6, 532-3 F 22, Mr 15-22 '22

Trade tests. See Ability tests**Trade union banks. See Banks and banking, Trade union****Trade union libraries**

- Amalgamated libraries. *Special Lib* 13:70-1 My '22

Trade unions

- Business methods and accountancy in trade unions. J. Lynch. 183p Labour pub. co., London '22
- Craft unionism versus industrial unionism. F. S. Budgen and L. Cotton. 32p National executive committee, Socialist labor party, New York '22

- Employer and employee at a new angle. E. H. Fish. *Management Eng* 3:204 O '22
- Evolution of the labor movement. E. P. Wheeler. *Am Ind* 23:34+ D '22
- General organisation of industry; present day tendencies. A. Ramsay. *Engineering* 112:683-4 N 18 '21
- Inquiry by Congress into trade unions proposed. W: H. Barr. *Comm & Fin Chr* 115:2344 N 25 '22; Same abr. *Iron Tr R* 71:1430-1 N 23 '22
- Is trade unionism sound? a suggestion for outflanking the power of capital. J. H. Bunting. 98p Benn bros., London '21
- Labor board chairman answers union critics. *Ry Age* 74:379-80 F 10 '23
- Labor organizations. See monthly numbers of Monthly labor review
- Labor unions—their power and irresponsibility. L. F. Loree. *Comm & Fin Chr* 115:135-6 sec 2 O 21 '22; Same. *Ry R* 71:590-2 O 28 '22; Discussion. *Comm & Fin Chr* 115:1575-6 O 7 '22
- Solving the problem of union recognition. E: S. Cowdrick. *Ind Management* 64:237-8+ O '22
- Sub-division of labor; union rules. F: L. Ackerman. *Am Inst Arch J* 10:361-2 N '22
- Trade schools and the building trades unions. F: L. Ackerman. *Arch Forum* 36:sup61-2 Mr '22
- Trade union coercion. T. Rich. *Eng & Ind Management* 6:671-2 D 8 '21
- Trade union organisations. See monthly numbers of the International labour review
- Trade unionism in 1922: a survey. *Int Labour R* 7:252-71 F '23

See also Advertising—Trade union cooperation; Arbitration, Industrial; Banks and banking, Trade union; Check-off system; Cooperation; Guild socialism; Industrial relations; Labor and laboring classes; Open and closed shop; Picketing; Strikes and lockouts; Trade agreements; also American federation of labor; Brotherhood of maintenance of way employees and railway shop laborers; International confederation of Christian trade unions; International federation of trade unions; International molders union of North America; International seamen's union of America; Workers' education bureau of America

Advertising

- Labor unions bid for public confidence through advertising. *Ptr Ink* 119:129-30+ Ap 6 '22

Directories

- International labour directory, 1923. p 455-819 International labour office, Geneva '23
- Official labor union directory. Chicago federation of labor, Chicago '22
- 21st annual directory of labor organizations in Massachusetts, 1922. (Labor bul. no. 136) 61p Massachusetts Dept. of labor and industries, Boston '22
- Year book of International trade unions. [Title and text in German, French and English.] International federation of trade unions, Amsterdam '22

History

- Growth of trade unionism since 1913. *Int Labour R* 4:505-8 D '21
- International survey of the growth of trade-unionism since 1913. *Monthly Labor R* 14:201-11 Ja '22

Australia

- History of trade unionism in Australia. J. T. Sutcliffe. 226p Macmillan '21

Canada

- Trade-unionism in Canada, 1922. *Monthly Labor R* 17:220-1 Jl '23

Czechoslovakia

- Czechoslovakian trade-unions in 1920. *Monthly Labor R* 13:917-18 O '21

Trade unions—Continued

Finland

Trade-union movement in Finland. Monthly Labor R 16:478-9 F '23

France

Left wing trade unionism in France. P. Monatte and others. 129p Labour pub. co., London '22

National congress of Confédération générale du travail. Monthly Labor R 16:843-6 Ap '23

Present position in the French trade union movement. C. Dulot. Int Labour R 7:695-716 My '23

16th congress of the Confédération générale du travail, Paris. Monthly Labor R 13:749-52 O '21

Germany

Craft unionism versus industrial unionism in Germany. Monthly Labor R 16:1101-3 My '23

Educational work of the German trade-unions. Monthly Labor R 14:1291-7 Je '22

Membership of the General federation of German trade-unions. Monthly Labor R 13:1125-7 N '21

Right of association among agricultural workers in Germany. J. Feig. Int Labour R 4:481-9 D '21

Wage controversies, strikes, and lockouts affecting members of the German social-democratic trade-unions, 1920. Monthly Labor R 14:571-3 Mr '22

Women in the German trade union movement. G. Hanna. Int Labour R 8:21-37 JI '23

Great Britain

Amalgamation and federation of British trade-unions. Monthly Labor R 15:171-2 JI '22

Economic readjustment and trade union psychology. Engineering 112:751-2 N 25 '21

Status of British trade-unions, 1920 and 1921. Monthly Labor R 16:647-8 Mr '23

Trade union law. Engineering 112:669-70 N 11 '21

Trade unionism. H. H. Slessor, 2d ed., rev. 136p Methuen & co., London '21

Japan

Progress of the labour movement in Japan. Int Labour R 5:437-54 Mr '22

Netherlands

Trade-union movement in the Netherlands, 1921. Monthly Labor R 16:846-8 Ap '23

Scandinavia

Membership of Scandinavian trade-unions in 1921. Monthly Labor R 16:848-50 Ap '23

Sweden

Trade union movement in Sweden. S. Hansson. Int Labour R 7:481-506 Ap '23; Abstract, Annalist 22:7-8+ JI '23

Switzerland

Swiss trade-union movement in 1921. Monthly Labor R 16:648-50 Mr '23

United States

American trade unionism. G. M. Janes. 138p A. C. McClurg & co., Chicago '22

Bankruptcy of the American labor movement. W. Z. Foster. 62p Trade union educational league, Chicago '22

Crisis in the miners' union; its meaning to labor. Ry R 73:427-8 S 22 '23

History of trade unionism in the United States. S. Perlman. 313p Macmillan '22

Industrial unionism in America. M. D. Savage. 344p Ronald press '22

Labor union held suable under Sherman law by Supreme court—the Coronado coal case. Comm & Fin Chr 114:2538-9 Je 10 '22

Labor union responsibility again considered by the Supreme court. Comm & Fin Chr 114:2524-5 Je 10 '22

Membership of American trade-unions, 1915 to 1920. Monthly Labor R 15:167-9 JI '22

Proportion of union workers. Eng & Contr 56:427-8 N 2 '21

Status of unincorporated labor organizations as to liability for damages and acts affecting interstate commerce. Monthly Labor R 15:147-52 JI '22

Tendencies in trade union development in the United States. J. R. Commons. Int Labour R 5:855-87 Je '22

Trade unionism in the United States. R. F. Hoxie. 2d ed. 468p Appleton '23

Union influence in the building industry. Annalist 18:581+ D 19 '21

Unions do not owe existence to administration. S. Gompers. Comm & Fin Chr 117:157-8 JI 14 '23

What the Coronado case really means. Nation's Business 10:12 JI '22

What the Coronado decision means. J. A. Emery. Am Ind 23:17-18 Ag '22

See also Coal miners—United States

Trade waste

Acid treatment of wool-scouring waste water. H. M. Ladell. Pub Works 53:90 JI 29 '22

Eaux résiduaires industrielles; leur traitement. E. Rolants. Chimie & Ind 7:235-7 F '22

Industrial effluent disposal. Can Eng 43:395 S 26 '22

Industrial waste pollution conference a success. Eng N 91:682-4 O 25 '23

Progress report of committee on industrial wastes in relation to water supply. Am Water Works Assn J 10:415-28; Bibliography. 428-30 My '23; Same, without bibliog. Eng & Contr (W W) 60:294-300 Ag 8 '23

Purification of tomato canning wastes. H. B. Hommon. 58p U.S. Public health service, Washington '21; Abstract. Pub Works 52:191 Mr 18 '22

Study of sewage and trade wastes at Bridgeport, Connecticut. W. W. Skinner and J. W. Sale. map J Fr Inst 192:785-99 D '21

Treatment and disposal of strawboard wastes. H. B. Hommon. Am Soc C E Pro 48:1397-1402 Ag '22

Treatment of effluent spent liquors; the problem in ammonia works. Chem Age (Lond) 9:58-60 JI 21 '23

Treatment of laundry wastes. F. E. Daniels. Pub Works 54:190-1 Je '23

Wastes from pulp and paper mills chemically considered. H. W. Clark. Am Soc C E Pro 48:1393-6 Ag '22

Water pollution and industrial wastes. Eng N 91:664-5 O 25 '23

See also Coal mines and mining—Waste disposal; Refuse, Utilization of; Refuse disposal; Waste; Waste products; Water pollution

Trademarks. See Trade marks

Trades and labor congress of Canada

Meeting, 1921, Winnipeg. Monthly Labor R 13:1170-1 D '21

Traffic. See Road traffic; Street railroads—Traffic; Street traffic

Traffic accidents. See Automobile accidents; Street accidents; Street railroads—Accidents

Traffic census. See Road traffic

Traffic managers

When the traffic manager has a voice in sales and advertising policies. L. Anson. Ptr Ink 120:129-30+ Ag 17 '22

Traffic regulations

Abstract of the annual report of State highway engineer of California. A. B. Fletcher. Eng N 89:1028 D 14 '22

Accidents decreased at street crossing where traffic circle was used. Eng N 90:164 Ja 25 '23

Adequate ranking and parking facilities for vehicles. W. P. Eno. diag Eng & Contr 57:427-8 My 3 '22

Automatic traffic regulation. Il Sci Am 126:263 Ap '22; Pop Mech 36:809 D '21

Baltimore plan of parking regulation. J. E. Cullen. Il Elec Ry J 59:783-6 My 13 '22

Chicago's traffic problem and observations on measures of relief in use or applicable generally in large cities. R. F. Kelker, jr. Il Elec Ry J 60:481-4 S 23 '22

Traffic regulations—Continued

City traffic regulation. E. P. Goodrich. Eng N 90:30-1 Ja 4 '23
 Controlling the pedestrian in traffic. M. A. Blecke. il Nat Safety N 7:11-12 Ja '23
 Educators map out course for teaching highway regulation and safety. Automotive Ind 47:889 N 2 '22
 Engineering aspects of traffic. W. P. Eno. Soc Auto Eng J 12:473-4 My '23
 Highway abuses and how they may be eliminated. T. J. Wasser. Eng N 90:158-9 Ja 25 '23; Same abr. Soc Auto Eng J 12:474 My '23
 Highway traffic despatching. J. Lathrop. Sci Am 128:168 Mr '23
 Highway traffic engineering. H. H. Parsons. Eng N 90:31 Ja 4 '23
 Honolulu honors junior traffic safety officers. L. Blessing. il Nat Safety N 8:21-2 Ag '23
 Human factor in highway regulation and safety. R. Dodge. Eng & Contr (R & S) 59:578-80 Mr 7 '23
 Mechanical devices for highway traffic regulation. L. W. McIntyre. Munic Eng 64:sup21-6 Je '23; Same. Eng & Contr (R & S) 59:1281-6 Je 6 '23
 Need for standardization of traffic laws grows imperative. P. H. Smith. Automotive Ind 48:1081-3 My 17 '23
 L'organisation de la circulation urbaine en surface seulement, à débit maximum, simultanée et continue des véhicules et des piétons. M. Girardot. diags Génie Civil 81:370-1 O 21 '22; Same (Organization of city street traffic). Eng & Contr (R & S) 59:1275-6 Je 6 '23
 Pennsylvania to organize traffic inspection force. Good Roads 64:233-4 Je 27 '23
 Police functions and street hazards. M. McClintock. Nat Safety N 8:17-19 S '23
 Le IV^e Congrès international de la route (Séville, 7-12 mai 1923). C. Dantin. Génie Civil 82:520-5 Je 2 '23
 Report of the T. & T. A. committee on traffic regulations. Elec Ry J 62:634 O 13 '23
 Safety at the cross roads. E. W. Hobbs. diags Nat Safety N 8:28 Jl '23
 Speeding up traffic at street intersections. H. S. Swan. diags Eng N 90:400-4 Mr 1 '23
 Street marking aids safety. W. W. Blakely. Automotive Ind 49:849 O 25 '23
 Toledo enacts drastic traffic ordinance. Munic Eng 62:sup25-6 Je '22
 Traffic and transportation regulations; tentative recommendation presented by a committee of the American society for municipal improvement. Good Roads 63:147-8 O 25 '22
 Traffic center lines on roadways. Munic Eng 64:178-9 My '23; Same. Eng N 90:999 Je 7 '23; Same. Eng & Contr (R & S) 59:1272-3 Je 6 '23; Same. Can Eng 45:213 Ag 7 '23
 Traffic circle relieves crowded street intersections. diags Eng N 89:520 S 28 '22
 Traffic conditions in New York city as a cause of street accidents. W. T. Davis. il Safety Eng 43:148-9 Ap '22
 Traffic congestion. W. W. Holden. Elec Ry J 59:796-7 My 13 '22
 Traffic control as an aid to good roads. G. G. Kelcey. il Good Roads 65:31-5+ Ag 1 '23
 Traffic regulation for streets and highways. Eng & Contr (R & S) 58:100-2 N 1 '22; Same. Munic Eng 63:174-6 N '22
 Traffic restriction and segregation. Eng & Contr (R & S) 58:126-7 D 6 '22
 Traffic squad sells safety to motorist on spot. C. T. Fish. Nat Safety N 7:17-18 My '23
 Traffic-storage at congested street crossings. C. W. Farrier. diags Eng N 89:845-6 N 16 '22
 Turning citizens into traffic cops in Omaha. G. M. Carey. Am Ind 24:29-30 S '23
 Uniform traffic code helps to make highways safe. Automotive Ind 49:383-4 Ag 23 '23
 Untangling our traffic tangles. J. A. Harriss. il Sci Am 126:92-3 F '22
 Use of paint on roads to direct traffic. J. R. McConaghie. Good Roads 63:47-9+, 56-8+ Ag 9-16 '22
 Work ahead in traffic control. Eng N 90:1070-1 Je 21 '23

Wrong right of way. W. E. Hobbs. diags Nat Safety N 8:31 S '23

See also Automobile laws and regulations; Jitney buses; Motor trucks—Laws and regulations; Motor vehicles—Laws and regulations; Road traffic; Street traffic; Traffic signals

Traffic signals

Bronze towers guard Fifth avenue, New York. E. C. Kreutzberg. il Foundry 51:127-30 F 15 '23
 Colors for traffic signals; efforts being made to secure standardization of signals. Elec Ry J 59:974-5 Je 17 '22; Bus Transportation 1:351-2 Je '22
 Combined red and white safety isle fixture. F. Brueggeman. il diags Elec W 81:48 Ja 6 '23
 Fifth avenue traffic towers. J. H. Freedlander. il Arch & Bldg 55:22-4 Mr '23
 Guarding railroad and highway traffic by uniform-colored warning lights. A. H. Rudd. Safety Eng 44:12-16 Jl '22; Abstract. Illum Eng Soc 17:452-4 S '22
 Highway traffic signaling with colored lights. E. A. Warner, jr. Illum Eng Soc 17:256-9; Discussion. 260-8 My '22
 Improved traffic towers for Detroit system. il Pop Mech 37:44 Ja '22
 Interlocking traffic signals hinder railway operation. il Elec Ry J 61:1038 Je 23 '23
 Mechanical devices for highway traffic regulation. L. W. McIntyre. Munic Eng 64:sup21-6 Je '23; Same. Eng & Contr (R & S) 59:1281-6 Je 6 '23
 More talking lamps. il Sci Am 129:323 N '23
 Mushroom traffic light prevents accidents. il Munic Eng 61:sup16+ N '21
 Novel traffic tower an aid to railway. il Elec Ry J 61:803-4 My 12 '23
 Select design for Fifth avenue traffic signal towers. il Eng N 87:788 N 10 '21
 Seven bronze towers to relieve New York traffic congestion. il Eng N 90:136 Ja 18 '23
 Signal control of traffic. J. A. Harriss. J. O'Brien and S. W. Taylor. Illum Eng Soc 17:245-55; Discussion. 260-8 My '22
 Stop and direction signals for motor vehicles. R. N. Falge and W. M. Johnson. il diags Soc Auto Eng J 12:475-9 My '23
 To make railroad and highway signals consistent. Ry Age 72:1345-6 Je 10 '22
 Traffic control lighting equipment. Good Roads 63:61 Ag 16 '22
 Traffic signaling. Soc Auto Eng J 12:512 My '23
 Traffic signalling devices. L. A. S. Wood. N E L A Bul 9:741-2 D '22
 Trailers. See Electric railroads—Trains; Motor truck trailers; Street cars—Trailers; Tractors, Industrial
 Train control. See Railroads—Automatic stop
 Train dispatchers
 Dispatchers given new national agreement. Ry Age 72:483-4 F 25 '22; Ry R 70:275-6 F 25 '22
 Train despatching
 Avoidable waste in the operation of locomotives and cars. W. Elmer. il Ry R 69:746-52 D 3 '21; Same cond. Ry Age 71:1081-4, 1149-50 D 3-10 '21
 Continental Europe adopts telephone train dispatching. Ry Age 74:258-9 Ja 27 '23
 Delivering train orders without getting signatures; personal experiences of a veteran dispatcher. H. W. Forman. Ry Age 71:933-5 N 12 '21
 Le dispatching par téléphone sur les chemins de fer de l'Etat belge. Génie Civil 81:303-4 S 30 '22
 Further testimony on merits of form 19 order. E. W. Weston. Ry Age 72:417-18 F 18 '22
 Operating trains against current reduces delays. K. E. Kellenberger. il chart diag map Ry Age 75:9-13 Jl 7 '23
 Peg system expedites freight train movement. Ry Age 74:755-8 Mr 17 '23
 Single track operation by signal indication. plans Ry R 72:650-4 Ap 14 '23
 Le système de contrôle des trains du Midland railway en Angleterre. Génie Civil 79:443-4 N 19 '21

Train despatching—Continued

- Traffic direction by signal indication on D.L. & W. il diag Ry Age 73:1185-8 D 23 '22
 Train control board on the L. & N. E. railway. il Elec R (Lond) 92:249-50 F 16 '23
 Train loading—a problem for the dispatcher. O. O. Carr. Ry R 72:850-2 My 19 '23
 Train orders by signal indications. A. R. Fugina. il diag Ry Age 73:553-4 S 23 '22; Discussion. 73:1032; 74:798-9 D 2 '22, Mr 24 '23

Train ferries

- Build big Mississippi carferry. il plan Marine R 53:222-3 Je '23
 Car ferry designed to link branches of Missouri-Illinois railroad. il Marine Eng 28:162 Mr '23
 Ferry cradle at St Louis embodies new features. F. E. Bates. il diags plan Ry Age 71:1315-16 D 31 '21; Same. Eng & Contr (Ry) 58:102-3 N 15 '22
 Lengthening operation on car ferry of the Ann Arbor R.R. il Ry R 72:458-9 Mr 10 '23; Same. Marine R 53:152-3 Ap '23; Same cond. Ry Age 74:530 Mr 3 '23; Same. Marine Eng 28:207 Ap '23
 Mammoth car ferry launched on Ohio river. diags plan Marine Eng 28:338-9 Je '23
 New car ferries for the Pere Marquette Ry. Ry R 73:204-5 Ag 11 '23
 New era in transportation; a proposed 1100-mile system of train ferriage on the Father of waters. S. W. Allender. il diag Sci Am 127:94-5 Ag '22
 Railroad ship cut in half and lengthened 48 feet. il Pop Mech 39:595 Ap '23
 Transfer steamer put in service by Gulf Coast lines. il Ry R 73:574-5 O 20 '23

Train line connectors. See Connectors, Train line**Train load.** See Railroads—Train load**Train resistance**

- Freight train resistance and tonnage ratings. R. J. McCarty, jr. il Ry Mech Eng 97:83-6, 146-50, 204-7 F-Ap '23

Train sheds. See Railroads—Train sheds**Train speed.** See Railroads—Train speed**Trains.** See Railroads—Trains**Tramp steamers.** See Freight ships**Tramrail system.** See Telpherage**Tramways and light railways association**

- 14th annual congress, Bournemouth, England, June 22-23. Elec R (Lond) 90:907-8; 91:9-10, 66-7 Je 30-Jl 14 '22; Electrician 89:9-11 Jl 7 '22

Transcontinental freight bureau

- Useful purposes of Transcontinental bureau. Ry Age 74:421-2 F 17 '23; Excerpt. Ry R 72:302-3 F 17 '23

Transfer tables

- Moving long cars on short transfer tables. il Elec Ry J 61:686 Ap 21 '23
 Removing wheels from transfer table axles. H. Cowen. diag Elec Ry J 62:745 O 27 '23

Transference numbers. See Ions**Transformation (chemistry)**

- Umlagerung des toluol-*p*-sulfonsäure- [di-phenyl-, phenyl-*p'*-tolyl- und di-*p'*-tolyl-amids]. J. Halberkann. Deutsche Chem Gesell Ber 55:3074-95 O '22; Abstract. Chem Soc J 122 pt 1:1132-3 D '22
 Umlagerung oder (und) verseifung der toluol-*p*-sulfonsäure verbindungen einiger *p*-substituierter aniline und ihrer *N*-alkyl-derivate. J. Halberkann. Deutsche Chem Gesell Ber 54:1833-49 S '21; Abstract. Chem Soc J 120 pt 1:779-81 N '21

Transformer oil. See Oil, Transformer**Transformers, Electric.** See Electric transformers**Transient crest meter.** See Voltmeters**Translucency**

- Measurement of translucency of ceramic bodies. C. W. Parmelee and R. E. Lowrance. diag Am Cer Soc J 6:630-3 My '23

Transmission, Electric. See Electric transmission**Transmission towers.** See Electric lines—Poles and towers**Transmitters, Radio.** See Radio transmitters**Transmutation of metals**

- Ancient and modern alchemy. P. D. Foote. diags Chem Age 31:337-41, 423-4 Ag-S '23
 Synthetic gold. Min & Met 183:45 Mr '22

Transportation

- American society of civil engineers; papers and discussions. Am Soc C E Pro 48:265-358 F '22
 Le congrès de l'union internationale de tramways de chemins de fer d'intérêt local et de transports publics automobiles (Bruxelles, 2-7 octobre 1922). il Génie Civil 81:417-21 N 4 '22
 Co-ordination of all transportation. J. R. Bibbins. diags Ry Age 74:801-2 Mr 24 '23; Excerpt. Elec Ry J 61:528-9 Mr 24 '23
 Function of streets and highways in national transportation. J. R. Bibbins. Munic Eng 65:38-40 Jl '23
 Fundamentals of transportation. C. F. Walden. 157p Association press, New York '21
 Illinois chamber of commerce discusses transportation. Ry Age 75:765-6 O 27 '23
 Institute of transport congress, London, May 17-20. Engineering 113:615-17, 649-52 My 19-26 '22; Engineer 133:556-7, 581-2, 602-3 My 19-Je 2 '22
 Motor and inland water versus rail transport discussed at British institute of transport congress. S. O. Dunn. Ry Age 72:1271-3 Je 3 '22
 Ocean transportation. C. F. Walden. (Traffic management; the standard course of the United Y.M.C.A. schools, book IV) 248p Assn. press, New York '22
 Planning mass transportation facilities. T. Fitzgerald. Eng & Contr (Ry) 60:129-35 Jl 18 '23
 Practical scientific treatise on traffic management. G. A. Denfeld. 367p G. A. Denfeld, Western univ. of commerce and law, 605 Chamber of Commerce Bldg., Portland, Ore. '21
 Province of the highways in the national transportation plan. C. C. Williams. Munic Eng 64:124-30 Mr '23; Same. Eng & Contr (R & S) 59:1009-15 My 2 '23
 Some post-war problems of transport. J. A. F. Aspinall. maps Engineering 113:569-74, 603-5 My 5-12 '22; Same cond. Engineer 133:500-2 My 5 '22
 Textile side of transportation problems. D. L. Taylor. Textile World 61:1531+ Mr 11 '22
 Transport and its indebtedness to science. H. Fowler. Engineering 116:377-80 S 21 '23; Same cond. Engineer 136:314-15 S 21 '23; Discussion. Engineering 116:361-2 S 21 '23
 Transport by land, sea and air. Engineer 136:305-6 S 21 '23; Elec R (Lond) 93:478-9 S 28 '23
 Transportation. J. A. Campbell. Textile World 60:2691+ N 5 '21
 Transportation and development of modern cities. P. Seurot. Can Eng 42:130-2 Ja 10 '22
 Transportation factor in textile costs. D. L. Taylor. Textile World 63:766+ F 3 '23
 Transportation keyed to production. J. H. Barnes. Ry R 72:1050-2 Je 16 '23
 Water borne transportation inland and marine. J. Millis. map W Soc E J 27:287-93 O '22
 Waterways, highways and railways. S. Thompson. Ry R 70:530-1 Ap 15 '22
 See also Aeronautics, Commercial; Airplanes; Airships; Automobiles; Barges; Bridges; Cableways; Canals; Carriers; Coal handling; Commerce; Communication and traffic; Delivery of goods; Demurrage; Electric railroads; Electric vehicles; Express service; Factory transportation; Ferry bridges; Ferryboats; Freight car service; Freight cars; Freight handling; Harbors; Haulage; Highway transportation; Jitney buses; Mechanical handling; Merchant marine; Mine haulage; Motor bus lines; Motor trucks; Motor vehicles; Moving platforms; Pack transportation; Packing for shipment; Parcel post; Pneumatic conveying; Ports;

Transportation—Continued

Postal service; Postal service, Aerial; Railroads; Rapid transit; River traffic; Road traffic; Roads; Shipping; Steamboat lines; Steamboats; Street railroads; Street traffic; Streets; Terminals; Traffic regulations; Trucks; Waterways; also subdivision Transportation under various subjects, e.g. Coal—Transportation; Explosives—Transportation; Farm produce—Transportation; Lumber—Transportation; Petroleum—Transportation; also Institute of transport; National transportation institute

Cost

Transport costs per ton-mile. Engineer 134: 529 N 17 '22

See also Railroads—Costs; Street railroads—Costs

Dictionaries

Traffic dictionary. G. T. Stufflebeam. 155p Shipper & carrier press, New York '22

History

Evolution of transportation. C. R. Young. Can Eng 42:380-2 Ap 11 '22

Study and teaching

See Michigan. State university—Transportation department

Canada

Transportation routes. H. Holgate. Can Eng 45:250-3 Ag 21 '23

France

Questions de transport. M. Lambert. Chimie & Ind 7:171-5 Ja '22

Kongo

By rail and by water: combination train and tow barges invented by a Belgian engineer for use in the Congo. il Sci Am 126: 374 Je '22

United States

Chamber of commerce discusses transportation. Ry Age 74:1153-5 My 12 '23; Elec Ry J 61:809-12 My 12 '23; Eng N 90:886-7 My 17 '23

Coordination of transportation is vital economic need. J. Dalton. il Automotive Ind 49: 205-10 Ag 2 '23

Economic rail routes for surplus wheat. M. G. Barnes. map Ry R 69:637-40 N 12 '21

Military and commercial highway-transport. B. Taylor. maps Soc Auto Eng J 12:413-32 My '23

Nation's transportation problem. A. B. Barber. Nation's Business 11:69+ Ap '23

Our transportation industry. il Sci Am 128: 293 My '23

Possibilities of coordination disclosed in report. A. H. Swayne. Automotive Ind 48: 1063-5 My 17 '23

Problems of federal expenditures for transportation. B. F. Fitch. p.199-203 Academy of political science, New York '21

Railroads—the arteries of commerce. J. R. Bibbins. diags Am Soc C E Pro 49:1417-31 S '23; Same. Eng & Contr (Ry) 60:317-27 Ag 15 '23; Abstracts. Munic Eng 65:136-7 S '23; Soc Auto Eng J 13:439 N '23

Report of transportation committees of the Chamber of commerce of the U.S. Nation's Business 11:46+ Je 5 '23

Revolutionary transport coordination plan is well under way. Automotive Ind 48:1060-2 My 17 '23

Transportation. G. G. Huebner. 314p Alexander Hamilton inst., New York '23

U.S. Chamber of commerce begins transportation survey. Ry R 72:221-2 F 3 '23

See also Air routes—United States; Railroads—United States; Transportation conference, Washington, 1924; also National transportation institute

Transportation, Factory. See Factory transportation

Transportation, Highway. See Highway transportation

Transportation act, 1920

Advises against amendment of transportation act. S. D. Warfield. Ry R 69:728-9 N 26 '21

Amendment to transportation act opposed. Ry Age 71:1266-7 D 24 '21

Amendments to rail act opposed. Iron Tr R 71:1429 N 23 '22

Associated industries of Massachusetts finds Transportation act inadequate—urges trunk line affiliation for New England roads. Comm & Fin Chr 115:955-7 Ag 26 '22

Bungle in railroad legislation. F. D. Underwood. Ry R 71:322-3 S 2 '22

Character and effect of federal R.R. regulation. W. D. Hines. Ry Age 74:857-9 Mr 31 '23

Edgar E. Clark opposes amendment to transportation act. Ry R 69:711-12 N 26 '21

Five presidents defend Esch-Cummins act. Ry Age 74:509-10 Mr 3 '23

Give the transportation act a real chance. R. Budd. Ry Age 74:419-21 F 17 '23

Investment, bankers and the transportation act. Ry Age 75:823-5 N 3 '23

New England divisions and transportation act. J. S. Eaton. Ry Age 74:181-4, 235-8 Ja 13-20 '23

New Orleans court upholds recapture clause of transportation act. Comm & Fin Chr 116: 1723 Ap 21 '23

Practical tests of the transportation act. A. M. Sakolski. p.376-90 Academy of political science, New York '21

Present railroad situation under the transportation act of 1920. J. H. Parmelee. Administration 4:7-14 Jl '22

Proposed changes in the transportation act. Ry Age 71:1021-2 N 26 '21

Pros and cons of the transportation act of 1920. 109p Am. farm bur. federation, Chicago '23

Railroad funding bill as amended. Comm & Fin Chr 113:2043-4 N 12 '21

Revision of the transportation act. A. C. Johnson. Ry Age 72:1161 My 20 '22

Revision of transportation act suggested. W. G. Besler. Ry Age 73:1189-90 D 23 '22

Section 15a of the Commerce act. C. L. Henry. Aera 11:396-8 N '22

Texas attack on transportation act argued. Ry Age 71:1139-40 D 10 '21

Transportation act, amendment vs. further trial: reviewing the railroads' recent record of operating efficiency. J. Kruttschnitt. Ry Age 75:861-6 N 10 '23

Transportation act and limit of return. A. W. Krech. Comm & Fin Chr 117:1941-2 N 3 '23

Transportation act and the treasury department. E. L. Copeland. Ry Age 73:802-3 O 28 '22

Transportation act, 1920. R. Mac Veagh. 968p Holt '23

Transportation act of 1920. A. A. Lempert. Ry Age 73:5-6 Jl 1 '22

Transportation act of 1920 in Nov. 1923. Comm & Fin Chr 117:3-4 sec 2 N 24 '23

Truth about the transportation act. A. B. Cummins. Ry Age 73:931-5 N 18 '22

Truth about the transportation act; editorial. Ry Age 73:1073-4 D 9 '22

Walker D. Hines defends transportation act, 1920. Ry Age 71:1205-7 D 17 '21

Warfield warns against attacks on transportation act. Ry Age 72:776-7 Mr 25 '22

Why repeal prosperity? a communication to Senators Lodge and Underwood and a Capener bill catechism. A. B. Johnson. Ry R 71:251-5 Ag 19 '22

Transportation and traffic association. See American electric railway transportation and traffic association

Transportation conference, Washington, 1924 Forward move in transportation. L. Mellett. Nation's Business 11:18-21 O '23

Transportation institute, National. See National transportation institute

Transporter bridges. See Ferry bridges

Transposition (music)

- Musical typewriter—a device for transposing and recording music. *il diag Sci Am* 127: 315 N '22
Simple transposing device and musical typewriter. *il Pop Mech* 39:192 F '23

Transvaal

- See* Gold mines and mining—Transvaal;
Water supply—Transvaal

Traps, Plumbing. See Plumbing—Traps**Traps, Steam. See Steam traps****Trass**

- Use of pozzolana in concrete. *Eng & Contr* 56:517 N 30 '21

Travel

- Far-away lands lure tourists. *il Pop Mech* 40:18-26 JI '23

See also Bon voyage gifts

Advertising

- Analyzing the high cost out of ocean travel. *J. True, Ptr Ink* 123:17-20 Ap 12 '23
City's gain from its advertising; Denver advertises the scenic beauties of Colorado. *H. N. Burhans, Ptr Ink* 123:93+ Ap 5 '23
Foreign travel advertising creates sales opportunities for American advertisers. *R. Cole, Ptr Ink* 121:3-4+ D 23 '22

See also Steamboat lines—Advertising

Traveling engineers' association

- History of the Traveling engineers association. *W. O. Thompson, Ry R* 71:649-50 N 11 '22
30th convention, Chicago, Oct. 31-Nov. 3. *Ry Age* 73:849-51, 901-4 N 4-11 '22; *Ry R* 71: 649-51+ N 11 '22; *Ry Mech Eng* 96:687-92 D '22
31st annual convention, Chicago, Sept. 11-14. *Ry Age* 75:481-8, 523-7 S 15-22 '23; *Ry Mech Eng* 97:681-6 O '23

Traveling stores

- Manufacturer finds novel way to get new dealers. *Ptr Ink M* 4:58+ F '22
Railroad car as an off-season booster of sales. *J. M. Mosely, il Ptr Ink M* 5:23 Je '22

Advertising

- Advertising is revolutionizing house-to-house selling. *J. A. Murphy, il Ptr Ink M* 5:25-6+ S '22

- Wagon coffee sellers join in advertising. *Ptr Ink* 120:117+ Ag 3 '22

Treasury savings certificates. See Bonds, Government**Treaties**

- See* Conference on the limitation of armaments, Washington, D.C.

Tree planting

- Appearance of our highways. *C. F. Boehler, Good Roads* 62:205-8 Ap 12 '22
Million trees for California's highways. *H. H. Dunn, il map Pop Mech* 39:872-3 Je '23
Moving big trees economically. *A. M. Husted, il Pop Mech* 37:135 Ja '22
Need for tree planting along the public highways. *F. W. Besley, il Pub Roads* 4:19-20 S '21; *Same, Good Roads* 61:217+ N 9 '21; *Same abr, Eng & Contr* 56:418 N 2 '21
Problems in the reforestation of watersheds; experiences of Scranton (Pa.) water co.; abstracts. *G. R. Taylor, Eng & Contr* 58: 38-40 JI 12 '22; *Can Eng* 43:207-10 Ag 1 '22
Selection, arrangement and planting of road side trees. *C. F. Boehler, diags Eng & Contr* 58:233-4 S 6 '22
Useful trees for highway planting; advantages of nut trees. *C. A. Reed, Good Roads* 61:173-6+ O 5 '21; *Same cond, Eng & Contr* 56:537-9 D 7 '21

Trees

- Measuring the growth of trees. *Sci Am* 126: 173 Mr '22
Solving the tree problem for city dwellers. *Pop Mech* 38:257 Ag '22
Trees for town & city streets. *F. L. Mulford, il map U S Agric Farmers' Bul* 1208:1-40 '22; *Abstract, Pub Works* 53:63 JI 22 '22

See also Douglas fir; Forest fires; Forests and forestry; Lumber; Timber; Wood

Trees, Care of

- Drill for the tree-dentist. *il Sci Am* 126: 259 Ap '22
How to save decayed trees. *A. H. Scott, il diags Pop Mech* 37:283-4 F '22
How to use concrete in tree dentistry. *C. H. Thomas, il Concrete* 20:234 Je '22

Trehalose

- Ein vorkommen von trehalose. *E. O. von Lippmann, Deutsche Chem Gesell Ber* 55:3038-9 O '22

Trellis work

- Lattice and trellis. *P. D. Otter, il diags Bldg Age* 45:62-3 Mr '23

Trenches. See Sewerage**Trenching machinery**

- Auxiliary cutter gives new range of trench widths. *il Eng & Contr (W W)* 59:607-8 Mr 14 '23
Barber-Greene vertical boom trench digger. *il diags Engineering* 116:396-8 S 28 '23
Device converts tractor into trench digger. *il Pop Mech* 38:885 D '22
Ditching machine does work of many men. *il Pop Mech* 37:873-4 Je '22
Ditching on Rock Island railroad with spreader ditcher. *il Eng & Contr* 57:379 Ap 19 '22
Draining land with gasoline; use of machinery for marshland ditching. *S. R. Winters, il Sci Am* 129:34+ JI '23
Mechanical equipment of Baltimore water department. *V. B. Siems, il Pub Works* 51: 39-42, 73-7 JI 16-23 '21; *Same, Am Water Works Assn J* 9:1-25 Ja '22; *Same, without tables, Munic Eng* 60:sup19-20+ Je '21
Parsons model 18 trench excavator. *il Eng & Contr* 56:559 D 14 '21
Railroad ditcher operations on C.R.I. & P. Ry. *Eng & Contr* 57:590 Je 21 '22
Railway ditching machines and performance records. *il diags Eng N* 88:390-3 Mr 9 '22
Sewer trenching by dragline. *il Pub Works* 54:223 JI '23
Trench excavating machinery in Brockton. *H. S. Crocker, Pub Works* 54:222 JI '23

See also Excavating machinery

Trent process. See Flotation process (coal)**Trenton, New Jersey****Sewerage**

- Disapprove of direct-oxidation process for sewage of Trenton. *N. J. Eng N* 90:972 My 31 '23
D-O process for Trenton again disapproved. *Eng N* 91:198 Ag 2 '23
Trenton sewage disposal; abstracts. *G. A. Johnson, Pub Works* 54:57-8+ F '23; *Can Eng* 44:537-9 My 29 '23

Trepanning

- Trepanning tool for cutting holes in metal plates. *J. V. Romig, diag Mach* 29:553 Mr '23

Trespas

- Liability for death of trespassing children in poisoned pool. *W. Gustin, Chem & Met Eng* 27:114-15 JI 19 '22

Trestles

- A.R.E.A. report on wooden bridges and trestles. *diags Ry Age* 74:731-4 Mr 16 '23
Cantilever arms on aqueduct trestle allow unobstructed stream flow. *R. A. Hill, diags plan Eng N* 88:903-4 Je 1 '22
Damage by fire to cresoasted trestle. *N. C. & St L. Ry, il diag plan Ry R* 69:133-5 JI 30 '21; *Same, Eng & Contr* 58:278-9 S 20 '22
40 year old 21.6 mile railway trestle over Lake Pontchartrain. *W. J. Kelleher, Eng & Contr (Ry)* 59:450-2 F 21 '23; *Same cond, Ry Age* 74:336-7 F 3 '23
Heavy trestlework required on new logging railroad. *il diags Eng N* 89:1110-11 D 28 '22
Railway trestle in Hawaii fails. *B. F. Rush, il Eng N* 91:64 JI 12 '23
Unusual trestle construction. *J. B. Holdcroft, il Eng & Contr* 57:87 Ja 25 '22

See also Bridges

Filling

- Filling of railway trestles and steel viaducts; abstracts. *Eng N* 88:727-8 My 4 '22; *Eng & Contr* 58:60-2 JI 19 '22

Trestles—Filling—*Continued*

Recent practice in replacing trestles by earth fill. *il plan Eng N* 88:576-7 Ap 6 '22

Trevelyan rocker

Theory of the Trevelyan rocker. E. G. Richardson. *diags Philos Mag* 6th ser 45:976-89 My '23

Trial balance

Trial-balance information. B. W. Hodges. *J Account* 34:34-6 Jl '22

Trial orders. See Salesmanship—Trial orders**Triammonium hydrogen disulfate**

Action of alcohol on the sulphates of ammonium. H. B. Dunncliff. *Chem Soc J* 123:476-84 Mr '23

Triangulation

Advantages of least-squares adjustment of survey observations. H. C. Mitchell. *il Eng N* 90:546-7 Mr 22 '23

Anaconda copper mining co.'s triangulation of the Butte district. J. L. Hayes. *il diag Eng & Min J* 115:1100-5 Je 23 '23

Deformations of arched dam measured by triangulation. *diags Eng N* 91:63 Jl 12 '23

Detroit river triangulations for fixing span length of Detroit-Windsor bridge. H. F. Johnson. *il diag Eng & Contr* 58:81-2 Jl 26 '22

Power company makes extensive triangulation survey. W. Mussetter. *il diag Eng N* 88:1076-8 Je 29 '22

Precise traverse and triangulation in Indiana. C. A. Mourhess and J. S. Bilby. 89p U.S. Coast and geodetic survey, Washington '22

Reconnaissance and signal building. J. S. Bilby. (special pub. no. 93) 77p U.S. Coast and geodetic survey, Washington '23

Triangulating under difficulties. H. N. Bradstreet. *Eng N* 87:899 D 1 '21

Triangulation and primary traverse, 1916-1918. C. H. Birdseye. *U S Geol S Bul* 709:1-914, pl 1-2 '23

Triangulation in Massachusetts. O. P. Sutherland. 233p U.S. Coast and geodetic survey, Washington '22

Tri-*p*-anisyl-benzene

Sulfo-essigsäure als kondensationsmittel; synthese des *symm.* tri-*p*-anisyl-benzols aus anisol. W. Schneider and F. Seebach. *Deutsche Chem Gesell Ber* 54:2298-2302 O '21

Trianon (villa). See Architecture, Domestic—France

Triaryl methyls

Dissociation of *n*-pentamethylene (or *n*-piperidyl)-*S*-triarylmethyl-dithio-urethanes with the formation of triaryl methyls. F. F. Blicke. *Am Chem Soc J* 45:544-9 F '23

Triarylcarbinol chlorides

Triphenylmethyl; quinoindation in the triaryl-methyls. M. Gomberg and F. F. Blicke. *Am Chem Soc J* 45:1765-79 Jl '23

Triarylisoaxazoles

Über triaryl-isoaxazole. J. Meisenheimer and K. Weibezahn. *Deutsche Chem Gesell Ber* 54:3195-3206 D '21; Abstract. *Chem Soc J* 122 pt 1:176-8 F '22

Triazoles

Disulphides with neighbouring single and multiple linkings; syntheses of triazoles and thiodiazoles. E. Fromm and others. *Chem Soc J* 122 pt 1:377-80 Ap '22

Triazole compounds; some substituted hydroxybenzotriazoles and their methylation products. O. L. Brady and J. N. E. Day. *Chem Soc J* 123:2258-67 S '23

Über einige triazole. F. Arndt. *Deutsche Chem Gesell Ber* 55:12-18 Ja '22

Tribenzophenazine

Dyes derived from phenanthraquinone: phenanthranaphthazines. A. C. Sircar and S. Dutt. *Chem Soc J* 121:1944-51 S '22

Tribo-electricity. See Electricity, Static**Trihydrojuglone**

Hydroxy-naphthoquinone studies; new derivatives of 2,3,8-tribromo-5-hydroxy-1,4-naphthoquinone. A. S. Wheeler and T. M. Andrews. *Am Chem Soc J* 43:2582-7 D '21

Tribromomethyl propanol

Derivatives of trihalogen tertiarybutyl alcohols. T. B. Aldrich and J. E. Blanner. *Am Chem Soc J* 44:1759-62 Ag '22

Tribune (Chicago). See Chicago Tribune building**Tricarbon series**

Chemistry of the three-carbon system; the influence of the cyclohexane ring on the $\alpha\beta$ -by change. S. F. Birch, G. A. R. Kon and W. G. P. Norris. *Chem Soc J* 123:1361-74 Je '23

Trichloroacetaldehyde. See Chloral**Trichloro-acetic acid**

Direct conversion of derivatives of dichloroacetic acid into derivatives of trichloroacetic acid. A. S. Wheeler and S. C. Smith. *Am Chem Soc J* 45:1994-8 Ag '23

Trihalogen-methyl reactions; reaction of trichloroacetic acid with copper. H. W. Doughty and B. Freeman. *Am Chem Soc J* 44:636-45 Mr '22

Trieste

Fiume and Trieste. W. Littlefield. *Annalist* 22:391+ S 24 '23

Triethylamine

Über die einwirkung von triäthylamin auf ketopinsäurechlorid. E. Wedekind and C. Weinand. *Deutsche Chem Gesell Ber* 55:945-51 Ap '22

Triethylene tetra-sulfide

Triethylene tri- and tetra-sulphides. P. C. Rây. *Chem Soc J* 121:1279-83 Jl '22

Triethylene trisulfide

Triethylene tri- and tetra-sulphides. P. C. Rây. *Chem Soc J* 121:1279-83 Jl '22

Triethylsulfonium bromide

Studies in catalysis; absorption spectra of triethylsulfonium bromide in various solvents, in the short infra-red region. H. A. Taylor and W. C. M. Lewis. *Chem Soc J* 121:665-75 Ap '22

Trigonometry

Determining diameter of disk tangent to three other disks. *diags Mach* 28:491-2 F '22

Interesting shop problem. *diag Am Mach* 57:1005; 58:347 D 28 '22, Mr 1 '23

Physical interpretation of complex angles and their functions. A. Boyajian. *diags Am Inst E E J* 42:155-64 F '23; Discussion. 848 Ag '23

Plane trigonometry with practical applications. L. E. Dickson. 176p B. H. Sanborn & co., Chicago, New York '22

Practical uses of sines and tangents. *diags Power* 57:416 Mr 13 '23

Problem in shop trigonometry. E. J. Rantsch. *Am Mach* 57:733 N 9 '22

Trigonometry problems from the drafting room. *Am Mach* 58:652; 59:178, 354, 700 My 3, Ag 2, S 6, N 8 '23

Trihydroxy-methyl-anthraquinone

Trihydroxy-methyl-anthraquinones. G. D. Graves, R. Adams and J. H. Gardner. *Am Chem Soc J* 45:2439-62 O '23

Trilobites

New trilobite appendage. T. H. Clark. *Am J Sci* 5th ser 4:245-8 S '22

Trilobite retaining color-markings. P. E. Raymond. *il Am J Sci* 5th ser 4:461-4 D '22

Trimethyl glucose

2:3:6-trimethyl glucose. J. C. Irvine and E. L. Hirst. *Chem Soc J* 121:1213-23 Jl '22

Trimethyl stannane

Preparation and properties of trimethyl-stannane. C. A. Kraus and W. N. Greer. *diag Am Chem Soc J* 44:2629-33 N '22

Trimethyl tin chloride

Equivalent conductance of trimethylstannylchloride in ethyl alcohol. C. A. Kraus and C. C. Callis. *Am Chem Soc J* 45:2624-32 N '23

Trimethyleneglycol

Über die darstellung von β -chlor- und β -brom-propionsäure aus trimethyleneglykol. C. A. Rojahn. *Deutsche Chem Gesell Ber* 54:3115-18 D '21

Trimethyleneglycol—*Continued*

Über polyäther des trimethylen glykols. C. A. Rojahn. Deutsche Chem Gesell Ber 54:3118-21 D '21

Trimming tools

Tools for trimming electric push-button switch plates. G: Wilder. diags Am Mach 56:716 My 11 '22

Trimming a metal box cover. P. A. Bard. il diag Am Mach 59:601 O 18 '23

Trinidad

See Mines and mineral resources—Trinidad

Trinitrides

Some new lecture experiments with hydro-nitric acid and the trinitrides. A. W. Browne and A. B. Hoel. Am Chem Soc J 44:2116-19 O '22

Trinitro-benzaldehyde

Derivatives of 2,4,6-trinitro-benzaldehyde. A. Lowy and W. Baldwin. Am Chem Soc J 43:1961-3 Ag '21

Trinitrodiphenic acid

Molecular configurations of polynuclear aromatic compounds; 4:6:4'-trinitrodiphenic acid and its resolution into optically active components. G: H. Christie and J. Kenner. Chem Soc J 123:779-85 Ap '23

See also Diphenic acid

Trinitro-meta-cresolates

Temperature of explosion for endothermic substances; trinitro-meta-cresolates and their explosion temperatures. R. L. Datta, L. Misra and J. C. Bardhan. Am Chem Soc J 45:2430-3 O '23

Trinitrotoluene

Analysis of TNT-tetryl mixtures. C. A. Taylor and W: H. Rinkenbach. Ind & Eng Chem 15:280-1 Mr '23

Chemistry of trinitrotoluene. R. Robertson. Chem Age (Lond) 9:451 O 27 '23

Economical blasting with T.N.T. J. L. Clarke. Pub Works 51:335 O 29 '21; Same. Munic Eng 61:193+ N '21

Estimation of the proportions of TNT and tetryl from the freezing point curve. C. A. Taylor and W. H. Rinkenbach. Ind & Eng Chem 15:73-4 Ja '23

Freezing point-solubility diagram of the system TNT-picric acid. C. A. Taylor and W. H. Rinkenbach. Ind & Eng Chem 15:795 Ag '23

Nitration of *m*-nitrotoluene. O. L. Brady. Chem Soc J 121:328-31 Mr '22

Products of nitration of toluene. W: H. Gibson, R. Duckham and R. Fairbairn. Chem Soc J 121:270-83 F '22

Solubility of trinitrotoluene in organic solvents. C. A. Taylor and W: H. Rinkenbach. diag Am Chem Soc J 45:44-59 Ja '23

Trinitrotoluene poisoning—its nature, diagnosis, and prevention. C. Voegtlin, C: W. Hooper and J. M. Johnson. il J Ind Hygiene 3:239-53, 280-92; Bibliography. 253-4, 292 D '21-Ja '22

Trinity buildings corporation of New York

19th consolidated annual report for the year ended April 30, 1923. Comm & Fin Chr 116:2530-2 Je 2 '23

Triodes. See Vacuum tubes**Trioxymethylene**

Preparation of α -trioxymethylene and a new polymeric of formaldehyde. D. L. Hammick and A. R. Boeree. Chem Soc J 121:2738-40 D '22

Triphenylethylcarbinol

Über das tris-[phenyl-äthynyl]-carbinol und seine analogen. K. Hess and W. Weltzien. Deutsche Chem Gesell Ber 54:2511-21 O '21; Abstract. Chem Soc J 122 pt 1:35-6 Ja '22

Triphenylhydrazine

Über die einwirkung von tetranitro-methan auf triphenyl-hydrazin. S. Goldschmidt and K. Renn. Deutsche Chem Gesell Ber 55:644-7 Mr '22

Triphenylmethane

Analysis of triphenylmethane and azo dyes by titanous chloride. W. S. Calcott and F. L. English. diag Ind & Eng Chem 15:1042-4 O '23

Certain triphenylmethane dyes. W. A. Jacobs and M. Heidelberger. Am Chem Soc J 44:2626-8 N '22

Über das auftreten freier radikale bei chemischen reaktionen; zur kenntnis der radikale der basischen triphenyl-methan-farbstoffe. H: Wieland, E. Popper and H. Seefried. Deutsche Chem Gesell Ber 55:1816-34 Je '22; Abstract. Chem Soc J 122 pt 1:772-4 Ag '22

Über die farbigen alkalisalze aus triphenyl-methan und das triphenyl-methyl als amphoterer ion. A. Hantzsch. Deutsche Chem Gesell Ber 54:2613-20 N '21

Über die sogenannte halochromie von triphenyl-methan-derivaten. A. Hantzsch. Deutsche Chem Gesell Ber 54:2620-7 N '21

Triphenylmethane sulfonic acids

Photochemical activity of the triphenyl-methane sulfonic acids. E: O. Holmes, jr. Am Chem Soc J 44:1002-8 My '22

Triphenylmethyl

Action of the alkali metals on triphenyl-methyl and its compounds. C: A. Kraus and T. Kawamura. Am Chem Soc J 45:2756-63 N '23

Triphenylmethyl; para-benzyloxy- and paramethoxy-triphenylmethyl. M. Gomberg and C. C. Buchler. Am Chem Soc J 45:207-22 Ja '23

Triphenylmethyl; quinoxidation in the triaryl-methyls. M. Gomberg and F. F. Blicke. Am Chem Soc J 45:1765-79 Jl '23

Triphenylmethyl; tautomerism of orthohydroxy-triphenyl carbinol; ortho-hydroxy- and alkyloxy-triphenylmethyl. M. Gomberg and D. Nishida. Am Chem Soc J 45:190-207 Ja '23

Über die farbigen alkalisalze aus triphenyl-methan und das triphenyl-methyl als amphoterer ion. A. Hantzsch. Deutsche Chem Gesell Ber 54:2613-20 N '21

Triphenylmethyl disulfide

Spontaneous dissociation of triphenylmethyl disulfide with the formation of triphenyl-methyl; the potassium derivative of triphenyl carbinol and its use as a synthetic agent. F. F. Blicke. Am Chem Soc J 45:1965-9 Ag '23

Triphenylmethylhydrazine

Molecular rearrangement of symmetrical bis-triphenylmethylhydrazine. J. Stieglitz and R. L. Brown. Am Chem Soc J 44:1270-92 Je '22

Triple salts. See Salts, Triple**Tripoli**

Marketing of tripoli. G. V. B. Levings. Eng & Min J 116:631-2 O 13 '23

Tripping mechanism. See Electric protective apparatus**Trithioacetaldehydes**

Isomeric trithioacetaldehydes. F: G: Mann and W: J. Pope. Chem Soc J 123:1178-81 My '23

Trolley bases. See Electric railroads—Trolley bases**Trolley buses.** See Trackless trolley**Trolley cars.** See Electric railroads; Street cars**Trolley ears**

Low-roof trolley ear carries any kind of wire that at any time may be desired. il Coal Age 22:410 S 14 '22

Trolley pull-overs. See Electric railroads—Trolley pull-overs**Trolley shoes.** See Electric railroads—Trolley shoes**Trolley wheels.** See Electric railroads—Trolley wheels**Trolley wire**

Collecting 5,400 amp. at 58 m.p.h. il Elec Ry J 62:125-7 Jl 28 '23

Copper-clad steel wire advocated. Elec Ry J 60:159 Jl 29 '22

Erie replaces steel contact wire with bronze. il Ry Age 74:1693-6 Je 30 '23

Gaging trolley wire for renewal. G. H. McKelway. Elec Ry J 58:904-5 N 19 '21

Graphic records of trolley wire wear. F: G. Wiswell. il charts Elec Ry J 59:118-19 Ja 21 '22

Trolley wire—Continued

- Greasing trolley wire reduces wear. *il Elec Ry J* 61:935-6 *Je* 2 '23
 Overhead and car current collecting devices. L. E. Delf. *Elec Ry J* 59:903-4 *Je* 3 '22
 Overhead line notes from Detroit. *il Elec Ry J* 61:845-6 *My* 19 '23
 Steel trolley wire replaced. *Elec Ry J* 61:572 *Mr* 31 '23

Tropates

- Beziehungen zwischen konstitution und pharmakologischer wirkung bei benzoessäure- und tropasäure-estern von alkalinen. J. v. Braun, O. Braunsdorf and K. Râth. *Deutsche Chem Gesell Ber* 55:1666-80 *Je* '22; Abstract. *Chem Soc J* 122 pt 1:759-61 *Ag* '22

Tropenas process. See Converters**Tropic acid**

- Resolution of tropic acid and the stereo-chemical configuration of the cinchona alkaloids. H. King and A. D. Palmer. *Chem Soc J* 121:2577-86 *N* '22

Tropical plants. See Plants, Tropical**Tropics**

See Engineering—Tropics

Trousers

- Designs and weave for trouserings. *il Textile World* 64:1393+ *S* 8 '23

Lining

- Finishing pant and trunk linings. *Am Dye-stuff Rep* 12:685 *S* 10 '23

Trouton's law

- Critical review of Trouton's law, and its applicability at the triple point. S. B. Mall. *Philos Mag* 6th ser 45:94-7 *Ja* '23

Troy, Matthew Orpheus, 1872-

- Sketch. *por Elec W* 81:614 *Mr* 17 '23

Trucks

- Becker safety carboy truck. *Brass W* 17:368 *D* '21

- Choosing the best type of wheels for industrial trucks. T. N. Arlington. *Factory* 31:620+ *N* '23

- Convenient compressor truck. *il Elec Ry J* 60:81 *JI* 15 '22

- Each handling is a non-productive expense. M. W. Potts. *il Ind Management* 66:69-75 *Ag* '23

- Easy handling of heavy and awkward loads. *il Management & Adm* 6:598 *N* '23

- How a special truck increases production by saving 60 per cent in the time and labor cost and also eliminates accidents. *il Ind Eng* 81:465-6 *S* '23

- Industrial trucks and tractors. *il Management & Adm* 6:636-7 *N* '23

- Lift truck produces substantial savings in railway shop. *il Elec Ry J* 59:458-60 *Mr* 18 '22

- Lowering the high cost of moving materials. E. W. Coffey. *Factory* 28:643-5 *Je* '22

- Making the equipment fit the job. M. W. Potts. *il Ind Management* 66:231-9 *O* '23

- Plimpton elevating attachment for power-driven trucks. *il Am Mach* 58:965 *Je* 28 '23

- Plimpton industrial hand trucks. *il Am Mach* 56:607-8 *Ap* 20 '22

- Saves 50% on trucking labor. *il Brick & Clay Rec* 61:799-801 *N* 28 '22

- Station truck adapts itself to platform. *il Pop Mech* 39:452 *Mr* '23

- What it pays to know about material handling. W. T. Spivey. *il Factory* 30:685-8+ *Je* '23

- Yale K-22 elevating platform truck. *il Chem & Met Eng* 29:239 *Ag* 6 '23

- Yale model K-20 platform truck. *il Chem & Met Eng* 29:112 *JI* 16 '23

See also Car trucks; Electric trucks; Electric trucks, Industrial; Motor trucks

Advertising

- Advertising to get distribution on a seasonal specialty; ash barrel truck. R. F. Degan. *Ptr Ink* 117:10+ *N* 24 '21

Safety devices and measures

- Handling material. *il diag Nat Safety* *N* 7:41-6 *Ap* '23

Trucks, Electric. See Electric trucks**Trunk lining**

- Finishing pant and trunk linings. *Am Dye-stuff Rep* 12:685 *S* 10 '23

Truscott, Samuel John, 1870-

- Mining engineers of note. *por Eng & Min J* 113:210 *F* 4 '22

Trusses

- Calculating stresses in a roof truss. A. W. Engel. *diags Eng & Contr (Bldgs)* 58:129-30 *D* 27 '22

- Concrete continuous-truss bridge without diagonals. *diags Eng N* 89:926 *N* 30 '22

- Design of overhead supports for outdoor piping systems. W. S. Morrison. *diags Eng N* 88:482-3 *Mr* 23 '22

- Erection of steel building and 150-ft. truss. U. S. mail terminal at Chicago. *il diags Eng N* 87:1058-60 *D* 29 '21

- Heavy steelwork in New York stock exchange extension; four trusses weighing 150 tons each required. J. W. Pickworth. *il diags plans Eng N* 87:842-6 *N* 24 '21

- Hook joint for timber chord of scissors truss. D. C. Coyle. *diags Eng N* 88:309 *F* 23 '22; Discussion. 88:800-1 *My* 11 '22

- Huge concrete girders and trusses in Grauman's new theater and office building in Los Angeles. R. C. Mitchell. *il diags plan Eng N* 91:4-9 *JI* 5 '23

- Letters on the Knickerbocker theater failure. *diag Eng N* 88:328-30 *F* 23 '22

- Repairing of roof trusses in Toronto city hall. *diags plans Can Eng* 44:436-7 *Ap* 24 '23; Same. *Eng & Contr (Bldgs)* 59:1152-4 *My* 23 '23

- Solutions for two truss problems. C. R. McAnlis. *diags Eng & Contr (Bldgs)* 60:878-9 *O* 24 '23; Discussion. 60:1105, 1325-6 *N* 28, *D* 26 '23

- Super-span roof trusses for this modern factory building. W. R. Fogg. *il Bldg Age* 45:54-5 *My* '23

- Timber roof framing in Arkansas capitol is 87 years old. P. B. Hill and N. B. Garver. *diags Eng N* 89:61 *JI* 13 '22

- Trapezoidal portal and eccentric heel-joint of truss. C. Weiss. *Eng N* 91:339 *Ag* 30 '23; Discussion. 91:447, 568, 730 *S* 13, *O* 4, *N* 1 '23

- Truss supports for cantilevers of theater balconies. *diags Eng N* 91:193 *Ag* 2 '23

- Unique feature of welding used in roof truss construction. *il Gas Age* 48:827 *D* 17 '21

See also Bridges; Building; Girders; Roofs; Strains and stresses

Trust companies

- Banks and trust companies of the U.S. and Canada; statistics. Published in monthly Bank and quotation section of Commercial and financial chronicle

- Trust companies in New York and elsewhere; editorial. *Comm & Fin Chr* 114:780-3 *F* 25 '22

- Trust companies in New York and elsewhere; editorial. *Comm & Fin Chr* 116:758-62 *F* 24 '23

- Trust company returns. *Comm & Fin Chr* 114:809-25 *F* 25 '22

- Trust company returns. *Comm & Fin Chr* 116:780-96 *F* 24 '23

See also Banks and banking; Insurance trusts; Investment trust companies

Advertising

- Progress of the nation-wide campaign for first-trust business. L. A. Mershon. *Ptr Ink* 124:41-2+ *JI* 26 '23

- Selling the trust company idea by broad educational advertising. *Ptr Ink* 122:19-20 *F* 1 '23

- Telling the story of the trust companies to the nations. F. H. Sisson. *Comm & Fin Chr* 115:189-90 sec 2 *O* 21 '22

- Trusts, Business. See Business trusts

- Trusts, Industrial

- Afterthoughts of a trust buster. F. K. Nebeker. *Nation's Business* 9:9-10 *D* '21

- Anti-trust law handicapped. I. C. Waterbury. *Annalist* 20:33-4 *JI* 10 '22

Trusts, Industrial—Continued

- Era of mergers in business. B. C. Forbes. *Ptr Ink* 121:105-6 O 19 '22
 Trust hunter's story. F. B. Elser. *Nation's Business* 10:21-3 O '22
 Trust problem in the United States. E. Jones. 59p *Macmillan* '21

See also Competition; Corporations; Federal trade commission; Government ownership; Interstate commerce; Interstate commerce commission; Railroads; Restraint of trade; Tariff; *also* Cement manufacturers protective association; Reading company; Sanitary potters' association; Shoe machinery trust

Trusts and trustees

- Business trust agreements and declarations of trust. W. A. McCoy. 259p McCoy's organizing bureau, Pittsburgh, Pa. '22
 The Franklin trust. F. Vierling. *J Account* 36:15-26 J1 '23
 Rule against perpetuities applied to trusts. F. Vierling. *J Account* 36:180-5 S '23
 Trustees in British insolvencies. W. J. Greenwood. *J Account* 36:186-95 S '23
 Trusts for business purposes. W. C. Dunn. 795p Callaghan & co., Chicago '22
See also Business trusts

Truxillic acid

- Constitution of the truxillic and truxinic acids and the action of sunlight on the cinnamic acids and their salts. A. W. K. de Jong. *Chem Soc J* 124 pt 1:574-6 Je '23
 Stereochemistry of the truxillic acids. R. Stoerner, C. Wegner and A. Carl. *Chem Soc J* 124 pt 1:929-30 S '23
 Über die einwirkung des liches auf die zimtsäuren und über die konstitution der truxillsäuren. A. W. K. de Jong. *Deutsche Chem Gesell Ber* 55:463-74 F '22; *Abstract. Chem Soc J* 122 pt 1:339-40 Ap '22
 Über die konfiguration der truxin- und truxillsäuren. R. Stoerner and F. Bachér. *Deutsche Chem Gesell Ber* 55:1860-82 Je '22; *Abstract. Chem Soc J* 122 pt 1:830-3 S '22

Truxinic acid

- Constitution of the truxillic and truxinic acids and the action of sunlight on the cinnamic acids and their salts. A. W. K. de Jong. *Chem Soc J* 124 pt 1:574-6 Je '23
 Über die konfiguration der truxin- und truxillsäuren. R. Stoerner and F. Bachér. *Deutsche Chem Gesell Ber* 55:1860-82 Je '22; *Abstract. Chem Soc J* 122 pt 1:830-3 S '22

Trypsin

- Action of trypsin on colloids and the influence of neutral salts on this action; abstract. E. Stiasny and W. Ackermann. *Chem Soc J* 124 pt 2:301-3 My '23
 Hydrolysis of collagen by trypsin. A. W. Thomas and F. L. Seymour-Jones. *Am Chem Soc J* 45:1515-22 Je '23

Tryptophan

- Quantitative determination of tryptophan. G. E. Holm and G. R. Greenbank. *Am Chem Soc J* 45:1788-92 J1 '23
 Synthetische versuche in der indol-gruppe; eine neue synthese des *racem.* tryptophans. R. Majima and M. Kotake. *Deutsche Chem Gesell Ber* 55:3859-65 D '22

Tube mills

- Artificial pebbles for tube-milling. A. W. Allen. *diags Min & Sci P* 124:405-9 Mr 25 '22
 Ball mills pulverize coal almost without repair and attendance costs and with minimum power. *il diags Coal Age* 20:841-5 N 24 '21
 Broyeur rotatif compound Centaure, système Candlot. *il diags Génie Civil* 83:17 J 7 '23
 Dry pulverizing with air-swept tube mills. *il Chem & Met Eng* 29:761 O 22 '23
 Is there a classifying action within the conical mill? *diags Min & Sci P* 124:209 F 11 '22
 Pebble or ball mills for mixing and grinding. H. F. Kleinfeldt. *Chem & Met Eng* 29:436-8 S 10 '23
 Pulverizing 1,000 tons of ore per day on 80-kw. input. C. A. Gauss. *il Eng & Min J* 116:483-4 S 15 '23

- Rail linings for ball mills. H. W. Hardinge. *il Eng & Min J* 112:899-900 D 3 '21
 Railroad rails for ball-mill linings. P. G. Harrison. *il Eng & Min J* 112:778-9 N 12 '21
 Rubber lined ball mills. *il India Rubber W* 68:697-3 Ag '23
 Rubber lining for tube and ball mills. A. B. Parsons. *il Eng & Min J* 116:489-90 S 22 '23
See also Crushing machinery

Power

- Application of electric motors for driving tube mills. F. Jeffrey. *il diags Am Inst E E J* 42:382-7 Ap '23
 Power-load curves of ball mills. A. O. Gates. *diag Eng & Min J* 113:485-7 Mr 25 '22

Tuberculinic acid

- Sugar contained in tuberculinic acid, the nucleic acid of tubercle bacilli. E. B. Brown and T. B. Johnson. *Am Chem Soc J* 45:1823-7 J1 '23

Tuberculosis

- Business of making health; phases of tuberculosis work, supported by Christmas seal sales. E. Cole. *Ind Management* 64:363-4 D '22
 Control of tuberculosis in industries. J. A. Aupperle. *Chem & Met Eng* 26:594 Mr 29 '22
 Dust phthisis in the printing industry. F. L. Hoffman. *Monthly Labor R* 15:659-71 S '22
 Dusted lung with special reference to the inhalation of silica dust (SiO₂) and its relation to pulmonary tuberculosis. B. S. Nicholson. *il J Ind Hygiene* 5:220-41; *Bibliography*. 241-2 O '23
 Economic loss caused by tuberculosis. *Ind Management* 62:332 D '21
 Eliminating industrial waste caused by tuberculosis. *Am Mach* 55:955 D 15 '21
 Increasing output by preventing tuberculosis. *Am Mach* 55:890 D 1 '21
 La lutte contre la tuberculose, à Chicago. E. Cacheux. *Génie Civil* 83:326-7 O 6 '23
 Occupation's part in the prevalence of tuberculosis. *Annalist* 18:580 D 19 '21
 Ozone and the cure of disease. J. Todd. *Heat & Ven* 19:33-6 O '22
 Problem of dust phthisis in the granite-stone industry. F. L. Hoffman. *U S Bur Labor Statistics Bul* 293:1-178 '22
 Tuberculosis as it affects the industrial workers. F. A. Craig. *J Ind Hygiene* 4:170-5; *Bibliography*. 176 Ag '22
 Tuberculosis in New York city attacks men especially; abstract. G. J. Drolet. *J Ind Hygiene* 3:sup209-10 Ja '22
 Your job and your health. Sibley J 36:8-9 Ja '22
Tuberculosis, Hospitals and sanatoriums for
 Essex county tuberculosis hospital, Middleton, Mass. R. H. Dockham. *il plans Arch Forum* 35:189-92, pl 67-9 N '21
 Municipal tuberculosis sanitarium for city of Detroit, Northville township, Wayne county, Mich.; views and plans. *Arch Forum* 37:pl 102-3 D '22
 Notes on a detail of tuberculosis sanatorium planning. *diags plan Arch Rec* 50:509-11 D '21
 Small children's building for a county tuberculosis sanatorium. T. B. Kidner. *plans Am Arch* 120:420-3 D 7 '21

Tubes

- Bending stresses in curved tubes of rectangular cross-section. S. Timoshenko. *diags Mech Eng* 45:582+ O '23
 Collapsing strength of iron pipes and tubes. W. F. Schaphorst. *Power Pl Eng* 26:483-4 My 1 '22
See also Chemical apparatus; Gas tubing; Pipes

Manufacture

- Bending lock-seam tubing. *il Mach* 28:289 D '21
 Davis-Bournonville tube-welding machine. *il Am Mach* 56:154 Ja 26 '22; *Mach* 28:500-1 F '22
 Electricity and tube tyre and wheel mills. W. E. Swale. *diags Electrician* 87:654-5 N 18 '21

Tubes—Manufacture—Continued

- New tube reducing machine. *il* Iron Age 109: 1352 My 18 '22
 Producing iron and steel tubes. E. Rober. *diags* Iron Tr R 71:1481-4 N 30 '22
 Welded tube manufacture. *il* Iron Age 108: 1274-6 N 17 '21

Transportation

- Need longer cars for tube shipments. Ry R 71:765-6 N 25 '22

Tubes, Brass

- Condenser tubes, their manufacture and specifications; abstract. *Mech Eng* 45:307-8 My '23
 Copper and copper alloys in the chemical and allied industries. W. Stark. *il diags Chem Age* 30:509-12 N '22
 Foundry-made defects in brass tubes. W. E. Ballard. *Brass W* 19:252-3 Ag '23
 Manufacture of brass tubes. W. E. Ballard. *Iron Age* 110:1515 D 7 '22

Tubes, Collapsible

- Manufacture of collapsible artists' tubes. *diags Mach* 28:295 D '21

Tubes, Copper

- Copper and copper alloys in the chemical and allied industries. W. Stark. *il diags Chem Age* 30:509-12 N '22
 Copper tube extension and the manufacture of radiator cores. H. Chase. *il plan Automotive Ind* 45:870-3 N 3 '21

Tubes, Nickel

- Manufacture of 99 per cent nickel tubing. F. L. Prentiss. *il Iron Age* 111:743-4 Mr 15 '23

Tubes, Rubber

- Determination of die sizes for tubes. R. Alajouanine. *India Rubber W* 69:35 O '23

Tubes, Steel

- Seamless steel tubing in motorcycle construction. W. W. Hackett. *diags Automotive Ind* 46:662-5 Mr 23 '22

Advertising

- Basic product finds a way to advertise its salient selling points. *Ptr Ink* 122:49-50 Mr 1 '23

Manufacture

- Forging steel tubing instead of drawing it. C. Warner. *Mech Eng* 45:313 My '23
 Making welded steel tubing. E. K. Hammond. *il diags Mach* 29:421-3 F '23; *Discussion. R. Poliakov. 29:511 Mr '23*
 Mill produces small size tubes. E. F. Ross. *il diag Iron Tr R* 72:1877-82 Je 28 '23
 Plant making small weldless tubes. *il Iron Age* 111:1399-1402 My 17 '23
 Producing seamless steel tubing. C. F. Poppleton. *il diags plan Iron Tr R* 69:1477-83 D 8 '21

Testing

- Nouvelles méthodes pour l'essai mécanique des tubes d'acier. *il Génie Civil* 83:107-8 Ag 4 '23

Tubing machines

- Making inner tubes by tubing machines. *il diags India Rubber W* 66:741-2 Ag '22

Tubs

- Manufacturing pails and tubs. P. H. Lange. *il diags Mach* 29:214-17 N '22

Tubular heaters. See Heaters, Tubular**Tufa**

- Tufa, volcanic-ash rock, is handled like lumber. H. E. Thomas. *il Pop Mech* 36: 833-5 D '21

Tugboats. See Towboats**Tularaemia**

- Tularaemia as a disease of occupational origin. *Int Labour R* 6:450-2 S '22

Tully process. See Gas manufacture and works—Complete gasification process**Tulsa, Oklahoma**

See also Motor bus lines—Tulsa, Oklahoma

Water supply

- Water supply of cities; general and fundamental principles. D. H. Maury. *map W Soc E J* 28:118-20 Ap '23; Same. *Eng & Contr (W W)* 59:1304-7 Je 13 '23; Same, without *map. Munic Eng* 65:13-14 Jl '23

Tumblers

- Specifications for lime-flint glass tumblers. U S Bur Stand Circ 119:1-3 '22

Tumbling barrels

- New burnishing machine. *il Brass W* 18:22 Ja '22

Safety devices

- Whiting combination clutch and brake for tumbling barrels. *il Am Mach* 57:429 S 14 '22

Tung oil

- China wood oil; abstract. K. H. Bauer and K. Herberts. *Chem Soc J* 122 pt 1:806-7 S '22
 China wood oil situation. *Oil Paint & Drug Rep* 104:67+ O 30 '23
 Determination of acid number of tung and other vegetable oils. L. L. Steele and G. G. Sward. *J Ind & Eng Chem* 14:57-8 Ja '22
 Heat treatment of China wood and linseed oils. C. F. Mabery. *Ind & Eng Chem* 15: 365-7 Ap '23
 New qualitative tests for rape and tung oils. A. W. Thomas and Chai-Lan Yu. *Am Chem Soc J* 45:129-30 Ja '23
 Substances that prevent the jellying of tung oil. F. H. Rhodes and T. J. Potts. *Chem & Met Eng* 29:533 S 17 '23
 Tung oil to waterproof paper. *Chem Age* 30: 370 Ag '22
 Variation of refractive index of China wood oil with temperature. F. H. Rhodes and H. E. Goldsmith. *Ind & Eng Chem* 15:786 Ag '23

Tungsten

- Atomic disintegration of tungsten. *Chem & Met Eng* 26:676, 772 Ap 12, 26 '22
 Brightness of tungsten. W. E. Forsythe. *Phys R* 19:436-8 Ap '22
 Domestic tungsten industry slack. *Chem & Met Eng* 27:1094 N 29 '22
 Effect of impurities on recrystallisation and grain growth in tungsten. *il Engineering* 113:342-6 Mr 17 '22; *Abstract. Engineer* 133: 325 Mr 24 '22; *Discussion. Engineering* 113: 317 Mr 17 '22; *Engineer* 133:325 Mr 24 '22
 Electron emission from heated metals. I. Langmuir. *Elec R (Lond)* 92:132 Ja 26 '23; Same. *Elec W* 81:384 F 17 '23; Same *abr. Chem & Met Eng* 28:69, 211 Ja 10, 31 '23
 Evaporation characteristics of tungsten. G. R. Fonda. *Phys R* 21:343-7 Mr '23
 Experimental attempts to decompose tungsten at high temperatures. G. L. Wendt and C. E. Irion. *diags Am Chem Soc J* 44:1887-94 S '22
 Graphs for calculation of electron emission from tungsten, thoriated tungsten, molybdenum and tantalum. S. Dushman and J. W. Ewald. *Gen Elec R* 26:154-60 Mr '23
 Marketing tungsten ores. C. Hardy. *Eng & Min J* 113:666-9 Ap 22 '22
 Oscillations of temperature of an incandescent filament, and the specific heat of tungsten. K. K. Smith and P. W. Bigler. *Phys R* 19:268-70 Mr '22
 Reduction of thorium oxide by metallic tungsten. *il Chem Soc J* 121:2236-8 O '22
 Removal of thorium from the surface of a thoriated tungsten filament by positive ion bombardment. K. H. Kingdon and I. Langmuir. *diag Phys R* 22:148-60 Ag '23
 Report of the Tin and tungsten research board. 100p Department of scientific and industrial research, London '22
 Separation of molybdenum and tungsten by means of selenium oxychloride. H. B. Merrill. *Am Chem Soc J* 43:2383-7 N '21
 Short-wave radiation from tungsten filaments. M. Luckiesh, L. L. Holladay and A. H. Taylor. *il J Fr Inst* 196:353-73, 495-519 S-O '23
 Specific heat of tungsten. P. F. Gaehr. *Phys R* 20:375-6 O '22

Tungsten—Continued

Story of tungsten. W. C. Balke. *il W Soc E* J 27:223-32 Ag '22

Thermionic work function of tungsten. C. Davison and L. H. Germer. *diags Phys R* 20:300-30 O '22

Tungsten. F. L. Hess. *Eng & Min J* 115:103 Ja 20 '23

Tungsten in Colorado. *Min & Sci P* 124:116 Ja 28 '22

Tungsten wire for hydrogen-ion determinations. J. R. Baylis. *diag Ind & Eng Chem* 15:852-3 Ag '23

Wrought tungsten. *Min & Sci P* 124:409 Mr 25 '22

See also Wolframite

Analysis

Determination of small amounts of molybdenum in tungsten. D. Hall. *Am Chem Soc J* 44:1462-5 Jl '22

Determination of small quantities of molybdenum in tungsten. W. J. King. *diags Ind & Eng Chem* 15:350-4 Ap '23

Rapid determination of tungsten. F. G. Rohm. *Chem & Met Eng* 26:1060 Je 7 '22

Tungsten alloys

Cobalt tungsten alloys. K. Kreitz. *diag Metal Ind* 20:463-4 D '22

Tungsten carbides

Production and characteristics of the carbides of tungsten. M. R. Andrews. *diags J Phys Chem* 27:270-83 Mr '23

Tungsten dichloride

Über die chloride des zweiwertigen molybdäns, wolframs und tantalts. K. Lindner and others. *Deutsche Chem Gesell Ber* 55:1458-65 My '22; *Abstract. Chem Soc J* 122 pt 2: 509-10 Jl '22

Tungsten lamps. See Electric lamps, Tungsten

Tungsten metallurgy

Concentrating an ore of wolfram, bismuth, and molybdenite in Australia. H. W. Bowater. *flow sheets Min & Sci P* 123:321-4 D 10 '21

Fabrication du tungstène métallique. G. Besa. *diags Chimie & Ind* 8:596-7 S '22

Treatment of the tungsten ores of Boulder county, Colo. J. P. Bonardi and J. C. Williams. *bibliog il diags U S Bur Mines Bul* 137:1-79 '21

Tungsten electrolysis; patent. *Chem & Met Eng* 27:946 N 8 '22

Tungsten steel

Constituents found in tungsten and molybdenum steels. A. M. Portevin. *Iron & Steel Inst J* 104:141-4, pl 12-13 no 2 '21; Same. *Iron Tr R* 70:745 Mr 16 '22

Manufacture of high-speed and tungsten steels. J. W. Weitzenkorn. *il Chem & Met Eng* 26:504-8 My 15 '22; *Discussion. K. Daeves. 26:869 My 10 '22*

Measures tungsten in tool steel. A. S. Townsend. *Iron Tr R* 69:1551-3 D 15 '21

Ein neues aetzmittel für chrom- und wolframstähle. K. Daeves. *il Stahl & Eisen* 41:1262-4 S 3 '21; *Abstract. Iron Age* 109:790 Mr 23 '22

Practical notes on the manufacture and treatment of high-speed steel. H. K. Ogilvie. *Engineer* 134:282-3 S 15 '22; Same. *Iron Tr R* 71:1129-33 O 26 '22; *Discussion. Engineer* 134:265-6 S 15 '22; *Engineering* 114:339 S 15 '22

Tungstic acid

Use of tungstic acid compounds in dyeing. *Color Tr J* 10:79 F '22

Tuning forks

Overtones of large tuning forks. S. H. Anderson. *Phys R* 21:692-4 Je '23

Tunis**Industries and resources**

Évolution et avenir de l'industrie oléicole en Tunisie. G. Ray. *il diags Chimie & Ind* 8:1318-31 D '22

Water supply

Concours pour un barrage sur l'oued Kébir (Tunisie) en vue de l'alimentation de Tunis en eau. M. Jacquinet and M. Garbe. *il diags plans Génie Civil* 80:537-43 Je 17 '22

Tunnel air

Making most of surrounding conditions in ventilation and heating; fresh air in summer and tempered air in winter obtained from Chicago's freight tunnel. M. Kimberley. *il diag Sanitary & Heat Eng* 98:247-9 N 3 '22

Tests of gas masks and respirators for protection from locomotive smoke in railroad tunnels with analyses of tunnel atmospheres. A. C. Fieldner, S. H. Katz and S. P. Kinney. *il U S Bur Mines Tech Pa* 292:1-27 '22; *Abstract. Ry R* 71:658-62 N 11 '22

See also Tunnel ventilation

Tunnel kiln. See Kilns

Tunnel lining

Concreting Liberty highway tunnels. *il Pub Works* 53:198-200 O '22

Elastic stresses in the rock surrounding pressure tunnels. C. P. Dunn. *diags Am Soc C E Pro* 49:661-70 Ap '23

Guniting tunnel 24.49, mountain subdivision, Canadian Pacific railway. H. Rindal. *Can Eng* 43:647 D 19 '22

Hudson river tunnel project involves iron and steel tonnage. *il diags Iron Tr R* 70:1263-5 My 4 '22

Lining the St Paul pass tunnel. C. F. Urbutt and S. H. George. *Ry R* 69:872-5 D 24 '21; Same. *Eng & Contr* 57:66-8 Ja 18 '22

Making castings for Hudson river tunnel. *il diags Iron Age* 111:663-7 Mr 8 '23; Same. *Foundry* 51:260-3 Ap 1 '23; Same. *Iron Tr R* 72:1160-3 Ap 19 '23

Pneumatic concreting of a Swiss power tunnel. *il diag Eng & Contr (W W)* 58:77-9 N 8 '22

Precast concrete units used for relining railroad tunnels. *il Eng N* 90:669-70 Ap 12 '23

Small tunnels lined with precast concrete ribs. *il Eng N* 89:1119 D 23 '22

Tunnel segment casting methods; cast-iron lining for the vehicular tunnel under the Hudson. *il diags Foundry* 50:137-41 F 15 '22

Tunnel ventilation

Bureau of mines conducts atmospheric tests in western tunnels. *Ry R* 73:183-4 Ag 4 '23

Bureau of mines experimental tunnel for studying the removal of automotive exhaust gas. A. C. Fieldner and J. W. Paul. *Eng & Contr* 56:484 N 23 '21; Same. *Engineering* 112:872 D 23 '21; Same. *Heat & Ven* 18:51-2 D '21

Hazards of railroad tunnels. S. P. Kinney. *diags Safety Eng* 46:64-70 Ag '23; *Abstract. Eng N* 91:255 Ag 16 '23

New problem in tunnel ventilation. *Engineering* 113:79-80 Ja 20 '22

Research fundamental for Hudson tunnel design. *diags plans Mech Eng* 44:826-3 D '22; Same. *Eng & Contr (Ry)* 58:149-53 D 20 '22

Research settles the problem of tunnel ventilation. R. G. Skerrett. *il diags plan Sci Am* 126:169-70 Mr '22

Research work that solved the problem of ventilating the Hudson river tunnel. R. G. Skerrett. *il diags plan Heat & Ven* 19:29-35 My '22; Same. *without il. Eng & Contr* 57:476-8 My 17 '22

Vehicular tunnel shafts' deep foundation. F. W. Skinner. *il diags Eng & Contr (Ry)* 59:135-40 Ja 17 '23

Vehicular tunnel ventilation. *il Sci Am* 126:17 Ja '22

Ventilating a vehicular tunnel; Pittsburgh's Liberty tube. C. F. Carter. *il Sci Am* 128:176-7 Mr '23

Ventilating an existing tunnel. *il Sci Am* 129:167 S '23

Ventilation of Hudson vehicular tunnel. *diag Automotive Ind* 48:227 F 1 '23

Ventilation of the Hudson river vehicular tunnel. *diags Engineer* 134:542-4 N 24 '22

Tunnel ventilation—Continued

Ventilation problems solved in test tunnel.
S. R. Winters. *il Pop Mech* 37:199-201 F '22

See also Tunnel air

Tunneling machines

La machine à creuser les tunnels, système Whitaker. *il diags Génie Civil* 82:193-5 Mr 3 '23; *Engineering* 115:102-3, pl 9 Ja 26 '23

Machine pour le creusement des tunnels, système Roy et Shean. *diag Génie Civil* 80:66 Ja 21 '22

Tunnel-digging machine also lines walls. *il Pop Mech* 37:4-5 Ja '22

Tunnels and tunneling

Caribou tunnel driven under heavy inflow of water; unwatering problems—200 million gal. per month pumped. W. D. Shannon. *il diags Eng N* 89:340-2 Ag 31 '22

City and South London railway tunnel enlargement. *diags Engineer* 132:546 N 18 '21

Colorado prepared new plans for Moffat tunnel. maps Ry Age 73:571-2 S 23 '22

La construction du souterrain du Rove sur le canal de Marseille au Rhône. *il diags Génie Civil* 83:217-24 S 8 '23

Construction methods on a canyon-side road in Wyoming. R. L. Silver. *il diags map Eng N* 90:988-91 Je 7 '23

Construction systematized in soft ground tunnel. *il diags Eng N* 87:940-2 D 8 '21

Converting a tunnel into an open cut on a busy line. W. S. McFetridge. *il diags Ry Age* 72:1275-7 Je 3 '22

La démolition du tunnel des Batignolles, près de la gare Saint-Lazare, à Paris. P. Calfas. *il diags plans Génie Civil* 82:121-8 F 10 '23

Démolition of the Batignolles tunnels. *il diags Engineer* 134:530-1 N 17 '22; Same. *Eng & Contr* 59:278-80 Ja 31 '23

Diagram for designing tunnel roof slabs. R. P. Wallis. *Eng N* 90:970 My 31 '23

Driving a concrete-block sewer tunnel by shield: some troubles and their remedies. J. F. O'Rourke. *il diags Eng N* 89:174-6 Ag 3 '22

Driving a five-mile rock tunnel for Japan railway. *diags Eng N* 88:394-7 Mr 9 '22

Driving a 32-ft. hydraulic pressure tunnel around the American Niagara. *il diags plans map Eng N* 88:678-82 Ap 27 '22

Driving a 20,000 sec. ft. flood protection tunnel. *il diags Eng N* 87:882-6 D 1 '21

Driving an eighteen-mile tunnel through the Sierra Nevada. A. B. Parsons. *il diags map Eng & Min J* 114:96-108 Jl 15 '22

Driving sewer tunnel at Detroit with pneumatic spaders. *il Eng & Contr* 57:43 Ja 11 '22

Effects of grouting and gravel packing around tunnel. W. E. Thompson. *il diags Eng N* 90:617-19 Ap 5 '23; Discussion. J. F. O'Rourke. *90:762 Ap 26 '23*

Elastic stresses in the rock surrounding pressure tunnels. C. P. Dunn. *diags Am Soc C E Pro* 49:661-70 Ap '23; Discussion. 49:1264-78 Ag '23

Eliminating a tunnel without interrupting traffic on Bessemer & Lake Erie RR. *il diags plan Eng N* 89:182-5 Ag 3 '22

Excavating tunnel clay with pneumatic tools. *il Pub Works* 52:447-8 Je 17 '22

Exploratory boring needed as guide to design and construction of public works. J. F. Sanborn. *il diag Eng N* 88:1024-8 Je 22 '22

Ferrous strata develop CO₂ in tunnel shaft. T. C. Hatton. *diag plan Eng N* 89:706-7 O 26 '22

Fissures in pressure tunnels. *Can Eng* 43:493 O 31 '22

Flood control at Kansas City: how a river is being diverted and carried through a hill. *il diag Sci Am* 127:392 D '22

Hydro-electric development involves unusual tunnel job: reconstruction of Kern river plant. H. K. Fox. *il diags plans Eng N* 89:50-5 Jl 13 '22

Linwood avenue tunnel, Milwaukee water works. *il Pub Works* 51:407-10 N 26 '21

Method of driving the 73 ft. wide, 50 ft. high Rove barge canal tunnel. *il diags Eng & Contr* 57:248-9 Mr 15 '22

Method of widening five tunnels on Virginia Ry. for double track. *diag Eng & Contr* 57:582 Je 21 '22

Methods and costs of Myers-Whaley shovel operation in waterworks tunnels. *il diags Eng & Contr (W W)* 58:132-6 D 13 '22

Methods and progress in constructing the 13-mile Florence lake tunnel in California. D. H. Redinger. *il map Eng N* 90:776-9 My 3 '23

Methods of tunnelling in wet ground. W. G. Cameron. *il diags Eng & Contr (W W)* 59:117-20 Ja 10 '23

Modern practice in driving western hard-rock tunnels. R. C. Starr. *il Eng N* 88:598-601 Ap 13 '22

Modern tunneling. D: W. Brunton, J: A. Davis and J. V. Davies. 2d ed., rev. & enl. 612p Wiley '22

Moffat tunnel project nears realization. *diags Ry Age* 75:397-8 S 1 '23

Otira tunnel, New Zealand. *Engineer* 136:154-5 Ag 10 '23

Piercing the Alps. T: B. Preston. *map Ind Management* 64:162-4 S '22

Power tunnel of the Niagara Falls company nearing completion. *il Can Eng* 44:356 Mr 27 '23

Progress on the Wanaque project. *il Pub Works* 54:191-4 Je '23

Proposed Brooklyn-Richmond tunnel. *Pub Works* 51:420 N 26 '21

Proposed Moffat tunnel in Colorado to open up vast coal field. *il map Coal Age* 21:1047-8 Je 22 '22

Rove tunnel of Marseilles canal. M. Mathieu. *diags Eng & Contr (Ry)* 59:658-60 Mr 21 '23

Shandaken tunnel. G. E. Hines. *il map Eng & Contr (W W)* 59:596-602 Mr 14 '23

Shandaken tunnel progressed nine miles during 1921. *Eng N* 88:477 Mr 23 '22

Shield and compressed air tunneling. B. H. M. Hewett and S. Johannesson. 465p [Bibliog. of shield tunneling p. 439-46] McGraw-Hill '22; Review by C. M. Holland. *Eng N* 89:849-50 N 16 '22

Shield for enlarging the City and South London tube. *il diags Engineer* 135:76-7 Ja 19 '23; *Elec R (Lond)* 92:524-5 Ap 6 '23

Tunnel bore enlarged without stopping traffic. *il Pop Mech* 37:586 Ap '22

Tunnel driving progress on the Hetch Hetchy project. *Eng N* 89:580 O 5 '22

Tunnel for water mains under cemeteries. *il Eng N* 90:1054 Je 14 '23

Tunnel surveying at Potrerillos, Chile. J. E. Harding. *diags Eng & Min J* 115:353-5 F 24 '23

Western avenue, Chicago, tunnel extension. *il diags Pub Works* 52:1-4 Ja 7 '22

World's longest continuous tunnel holed through; Shandaken tunnel. *il diag Eng N* 90:443-4 Mr 8 '23

See also Blasting; Drilling and boring (earth and rocks); Excavation; Mining engineering; Rock drills; Subways; Tunnel lining; Tunnel ventilation; Tunneling machines; also Catskill aqueduct; New York (city)—Tunnels

Cost

Driving an eighteen-mile tunnel through the Sierra Nevada. A. B. Parsons. *Eng & Min J* 114:108 Jl 15 '22

Tunnels and tunneling, Subaqueous

Build tunnel for Sinclair pipe line under deep waterway canal. W. K. Halbert. *il Nat Pet N* 15:121+ O 17 '23; Same abr. *Eng & Contr (Ry)* 60:830-2 O 17 '23

By means of bulkheads and the grouting of crevices two haulageways are driven under the Allegheny. *il diags plans Coal Age* 20:1008-11 D 22 '21

Compressed-air illness and its engineering importance; with a report of cases at the East river tunnels. E: Levy. *il U S Bur Mines Tech Pa* 285:1-46 '22; Abstract. *Eng N* 89:343 Ag 31 '22

Method of constructing 8 ft. tunnel through water-bearing strata. R. F. Baker. *Eng & Contr* 56:518-19 N 30 '21

Tunnels and tunneling, Subaqueous—Continued

Projet de tunnels pour piétons et voitures, sous l'Escaut, à Anvers. diags plan Génie Civil 80:482 My 27 '22

Proposed tunnel under the river Mersey. diag plan Engineer 136:362 O 5 '23

Twin tunnels for sewer siphon under Calumet river. diags Eng N 91:59-60 Jl 12 '23

See also English Channel tunnel; Hudson river tunnels

Turbidimeter

Determination of the particle size of pigments. W. W. Vogt. India Rubber W 66:347-9 F '22

Loss of head as a criterion for washing filters; rational standard obtained by a new turbidity detector. J. W. Armstrong. diags Eng N 87:1060-1 D 29 '21

Turbidimetry of water. P. V. Wells. Am Water Works Assn J 9:488-90 My '22

See also Nephelometer

Turbidity

Sensitive detection of suspended matter. J. R. Baylis. diag Pub Works 52:6-7 Ja 7 '22

Turbine furnace. See Furnaces, Boiler—Turbine furnace

Turbines

American mixed-flow turbine and its setting. A. T. Safford and E. P. Hamilton. il diags Am Soc C E Pro 48:753-808 Ap '22

Analytical and experimental investigations relating to water turbines. H. Mawson. diags Engineering 116:539-42 O 26 '23; Abstract. Elec R (Lond) 93:593-4 O 19 '23

Caribou hydroelectric plant; thirty-thousand horsepower impulse turbines, under one thousand and eight feet head. il diag map Sci Am 127:84 Ag '22

Changing waterwheel runner increases efficiency. L. J. Moore. Elec W 80:437 Ag 26 '22

Comparison of American and European hydraulic turbine practice. H. B. Taylor. Power 57:953-4 Je 12 '23

Connecting buckets to impulse waterwheel disks. il Power 57:99 Ja 16 '23

Cross-flow impulse turbine. F. Nagler. diags Mech Eng 45:275-81 My '23; Abstracts. Power 57:733-5 My 8 '23; Power Pl Eng 27:983-5 O 1 '23

Détermination du rendement des turbines hydrauliques par la méthode calorimétrique Barbillion-Poirson. Génie Civil 82:604-5 Je 23 '23; Abstract. Mech Eng 45:545 S '23

Developments in high-speed runners for hydraulic turbines. F. H. Rogers. il diags Power 55:640-3 Ap 25 '22

Developments of steam turbo-generators, water turbines and transformers during the last ten years. A. Rossow, H. Baudisch and K. Thien. Elec W 81:643 Mr 17 '23

Early development of the water turbine. Locomotive 34:109-11 O '22

Efficiencies of old reaction wheels improved by rubber seal rings. Eng N 90:997 Je 7 '23; Same. Power 57:933 Je 12 '23

Efficiency of water turbines. Engineer 133:34 Jl 14 '22

English electric water-power accessories. il diags plan Elec R (Lond) 90:860-1 Je 16 '22

Evolution of the tangential impulse turbine. Engineering 116:163-4 Ag 10 '23

Expansion of waterwheel runner and coupling electrically for fitting on shaft. G. H. Bragg. il J Elec 48:396-7 My 15 '22

Experiments on a Pelton wheel and needle nozzle. A. H. Gibson. diag Mech Eng 44:837 D '22

Experiments with a new design of impulse wheel. J Elec 49:219 S 15 '22; Same. Eng N 89:706 O 26 '22

Extending the life of large waterwheel runners at small expense. G. L. Bayley. il Power 57:295 F 20 '23

55,000-h.p. turbines for the Queenston power station, Ontario. F. H. Rogers. il diags Engineering 114:31-5, pl 7 Jl 14 '22; Same cond. Power 56:40-4 Jl 11 '22; Same cond. Elec J 19:317-20 Ag '22

Glimpses of a 70,000-horsepower hydraulic turbine. il Power 57:1017 Je 26 '23

Helical gears step up the speed of water turbines. diags Power 56:860-1 N 28 '22

Hydraulic equipment as affecting power house design. M. V. Sauer. Can Eng 42:287-8 Mr 7 '22

Hydraulic reaction turbines. D. J. McCormack. il diags charts Elec J 18:524-9; 19:11-16 D '21-Ja '22

Hydraulic turbine in evolution. H. B. Taylor and L. F. Moody. charts diags Mech Eng 44:633-40 O '22

Hydraulic turbines. L. F. Moody. diags Can Eng 42:626-9 Je 20 '22

Impact losses of jets. J. G. Burnell. diags Engineering 113:404-5 Mr 31 '22

Impulse turbine versus reaction turbine for high heads. Engineering 115:129-30 F 2 '23

Large water-turbine installations; abstract. W. Hahn. Elec W 79:1283 Je 24 '22

Largest impulse turbine units in Caribou station. W. M. White. il diags plan Power 54:923-6 D 13 '21; Same abr. J Elec 47:465-6 D 15 '21

Largest low-head turbines installed in siphon settings at Green Island, N. Y. il diags plan Power 57:784-8 My 22 '23

Modern hydraulic turbines of large capacity. H. G. Acres. il diags Mech Eng 45:468-73 Ag '23; Same. Can Eng 45:221-7 Ag 14 '23; Same. Blast F & Steel Pl 11:551-4 O '23; Discussion. Mech Eng 45:473-4 Ag '23

Moody ejector turbine. S. L. Kerr. diags Mech Eng 44:243-7 Ap '22

New records for size of hydro-electric units have again been established. il Power 57:12-14 Ja 2 '23

Progress in water-wheel design. diags Eng N 88:919-21 Je 1 '22

Recent developments in British Pelton wheel design. il Sci Am 127:403 D '22

Recording hydraulic-turbine governor operation with an oscillograph; results of seventy-three tests. il Power 58:446-7, 560-4 S 18, O 9 '23

Rubber seal rings solve hydraulic turbine problem. Eng N 89:789 N 9 '22

Runaway speed of turbines; abstract. P. Attlmayer. Elec W 80:1228 D 2 '22

Single-runner overhung Pelton turbines at Fagundes, Brazil. il diag Engineering 116:461, 464 O 12 '23

Special design of turbine for operation in water impregnated with sulphuric acid. Eng & Contr (W W) 59:1087-8 My 9 '23

Suitable rubber seal rings for water turbines. H. W. Dennis. il Elec W 81:288 Ag 11 '23

Swedish engineer visits Canada. Can Eng 45:415 O 16 '23

Tangential impulse water wheel. E. C. Hutchinson. il Elec J 20:44-8, 82-6 F-Mr '23

Three 70,000 hp. hydraulic turbines to be installed at Niagara Falls. il diags plan Power 55:894-5 Je 6 '22

Time saved in aligning turbine casings by leaving jacks in concrete. il plan Eng N 90:359 F 22 '23

Waterwheels in making groundwood. A. F. Meyer. Paper 30:58+ Ap 19 '22; Same. Paper Tr J 74:215+ Ap 13 '22; Same, without il. Tech Assn Pa ser 5:18-27 Je '22

See also Draft tubes; Gas turbines; Governors (machinery); Steam turbines; Water wheels; Wave motors

Failures

Penstock gate valve fails and causes turbine wreck. C. Voetsch. il diags Power 55:905-6 Je 6 '22

Manufacture

Making shafts for hydraulic turbines. H. Campbell. il Am Mach 58:557-8 Ap 12 '23

Making water turbine castings. H. E. Diller. il Foundry 49:873-8, 920-5 N 15-D 1 '21; Abstract. Stahl & Eisen 42:338-40 Mr 2 '22

Molding a 50-ton turbine runner. il Foundry 50:318-21 Ap 15 '22

Repair

Means of repairing pitted waterwheel runners. Elec W 82:133 Jl 21 '23

Turbines—Continued**Testing**

- Comparative tests on Pelton-wheel buckets of different inclinations. Fukuoka. diag Mech Eng 43:813 D '21
 Hydraulic laboratory. S. G. Roberts. il Sci Am 126:10-11 Ja '22
 Strength test of water turbine runner. J. S. Carpenter. il Power 58:501 S 25 '23
 Testing vertical shaft turbine waterwheel. diag Power 58:585 O 9 '23

Vibration

- Study of irregularity of reaction in Francis turbines. R. Wilkins. il diags Am Inst E E J 42:1141-4 N '23; Same cond. Power 58:827-8 N 20 '23; Abstract. Eng N 91:764-5 N 8 '23

Turbines, Mercury. See Mercury turbines

Turbo-blowers. See Blowers

Turbo-compressor. See Airplane engines—Superchargers

Turbo-generators. See Electric generators

Turkey

- End of the Sultanate in Turkey decreed by Nationalist government at Ankara. Comm & Fin Chr 115:2110 N 11 '22

See also Mining industry and finance—Turkey

Foreign relations

- Turco-American treaty of commerce and amity signed at Lausanne. Comm & Fin Chr 117:633-4 Ag 11 '23

Treaties

- Economic agreement between Italy and Turkey. Comm & Fin Chr 114:2200-1 My 20 '22

Turn indicators. See Airplanes—Turn indicators

Turning

- Ball-turning attachment for lathe. F. H. Sovereign. Mach 29:32 S '22
 Box turning tool equipped with a cross-slide. J. H. Davis and J. Demmer. diags plan Mach 29:476 F '23
 Bullard continuous turning machine. il Am Mach 57:936-8 D 14 '22
 Crank arm turning machine. P. M. Heldt. il Automotive Ind 46:77-8 Ja 12 '22
 Davis & Thompson vertical boring and turning machine. il diag Am Mach 53:813-14 My 31 '23
 Discussion on using turning machines. diags Sheet Metal Worker 13:419 Jl 21 '22
 Early application of multiple stops for turning shoulder work. O. E. Perrigo. diags Am Mach 58:877-9 Je 14 '23
 Information on use of turning machines. L. Broemel. Sheet Metal Worker 13:257-8 My 12 '22
 Making a crankpin turning tool. il Am Mach 55:956-7 D 15 '21
 Poppet-valve turning fixture. J. V. Romig. diags Pop Mech 39:633 Ap '23
 Portable locomotive journal-turning machine. il Ry Mech Eng 96:544-5 S '22
 Special boring machine in the Pelton shop. il Am Mach 56:364 Mr 9 '22
 Tool engineering. A. A. Dowd and F. W. Curtis. diags Am Mach 55:998-1001, 1029-33 D 22-29 '21
 Turning a spherical surface with the milling machine. A. Nelson. il Am Mach 57:813 N 23 '22
 Turning an oversize job. C. H. French. il diag Am Mach 59:266 Ag 16 '23
 Turning special parts. W. H. Bath. Am Mach 56:715-16 My 11 '22
 Turning tapers on old lathes. D. A. Hampson. il Am Mach 58:809 My 31 '23
 Turning tool for welding arbors. K. A. Munson. diag Am Mach 57:421 S 14 '22

See also Lathes

Turnover

- Capital turnover. J. K. Mason. Administration 5:77-82 Ja '23

Coca-cola picture advertising takes intricacies from turnover. Ptr Ink 119:25-6 Ap 27 '22
 Difference between turnover of 1.3 and 2.1 spells success. J. A. Bush. Ptr Ink M 4:35-6 Ap '22

Do you give enough thought to your turnover? E. J. Allard. Sanitary & Heat Eng 100:50 Jl 27 '23

How the National lead company emphasizes turnover to its dealers. Ptr Ink 123:57-8 Ap 5 '23

How to teach proper turnover methods to the dealer. Ptr Ink 122:8 Mr 22 '23

Other side of turnover and its effect on prices. E. M. Skinner. Ptr Ink M 7:25 S '23

Smaller margins and more of them. T. E. Wilson. il System 42:404-6+ O '22

Value of quick stock turnovers. G. W. Hafner. Dom Eng 101:333-4 N 25 '22

What is back of a fast rate of turnover? E. A. Filem. il System 44:533-6+ N '23

What is more important than fast turnover? J. Simpson. il System 44:21-5 Jl '23

What will it do to the rate of turnover? S. W. Reyburn. il diag System 43:301-5+ Mr '23

See also Labor turnover

Bibliography

Turnover comes to the fore as a problem that needs solving. Ptr Ink 124:33-4 S 6 '23

Turnstiles, Fare collecting

Double-end turnstile car tried in New York. il plans Elec Ry J 60:259-61 Ag 19 '22

Featherweight pressure gate on the Interborough. il Elec Ry J 58:940 N 26 '21

Improvement in turnstile cars. il diags Elec Ry J 59:787-9 My 13 '22

New type passimeters in New York. il Elec Ry J 61:127-8 Ja 20 '23

New York railways tries turnstile car. il diag Elec Ry J 60:1009-11 D 30 '22

New York subway turnstile on the market. il Elec Ry J 60:947 D 16 '22

Turnstile car on the New York state railways. J. E. Duffy and H. S. Sweet. Elec Ry J 60:558-9 O 7 '22

Turntables

C. P. R. turntable departs from usual practice. diag plan Ry Age 71:943-4 N 12 '21

Development of the continuous turntable. O. E. Hovey. il diags Ry Age 75:295-8 Ag 18 '23

Friction drive for turntable tractors. il diags Ry Age 75:443-5 S 8 '23

Inclined turntable for narrow-gauge road. il Pop Mech 38:577 O '22

Rapid renewal of turntables at engine terminals. Eng N 87:933 D 8 '21

Rectangular enginehouse with interior turntable at Hornepayne, Ont. diags plans Eng N 87:1064-6 D 29 '21

Removing and installing large turntables. il Sci Am 127:89 Ag '22

Roadbuilders portable turntables. il Pub Works 52:252 Ap 8 '22

Turntable indicating device. M. A. Buoysov. il Ry Mech Eng 95:683 N '21

Turntable used in concrete road work is made from industrial flat cars. C. Tappan. il Eng N 90:84 Ja 11 '23

Twin span turntable reduces load on center. il diags Ry Age 73:383-5 Ag 26 '22

See also Transfer tables

Turpentine

Action des divers constituants dans les synthèses industrielles. G. Dupont. Chimie & Ind 8:555-8 S '22

Composition et applications industrielles des essences de térébenthine; les constituants de l'essence de pin maritime. G. Dupont. diags Chimie & Ind 8:549-52 S '22

Constituents of Indian turpentine from pinus longifolia. Roxb. J. L. Simonsen and M. G. Rau. Chem Soc J 123:549-60 Mr '23

Contribution à l'étude de la composition et des applications industrielles des essences de térébenthine. M. Vèzes and G. Dupont. Chimie & Ind 8:318-19 Ag '22

Turpentine—Continued

Les progrès récents dans le traitement de la gemme landaise. M. Vèzes and G. Dupont. *Il diags Chimie & Ind* 7:13-22 Ja '22

Sulfur-terpene substitution compounds. W. B. Pratt. *Ind & Eng Chem* 15:178-81 F '23

Turpentine and rosin. U S Bur Census 10p '22
Turpentine costs to varnish makers; cost accounting committee of national association reports data. *Oil Paint & Drug Rep* 103:41 Je 25 '23

Turpentine; its sources, properties, uses, transportation, and marketing. F. P. Veitch and V. E. Grotlisch. *Il diags U S Agric Bul* 398:1-53 '21

United States government specification for turpentine. *diags U S Bur Stand Circ* 86:1-11 '22

Wood turpentine; abstract. C. A. Lambert. *J Ind & Eng Chem* 14:491 Je '22

See also Naval stores

Turpentine, Substitutes for

Substitutes for turpentine and linseed oil. *Ry Mech Eng* 97:751-3 N '23

Turpentine substitute from pine oil. *Chem Age* 31:474-5 O '23

Tuscania (steamship)

New 17,200-ton anchor liner Tuscania. *diags plans Marine Eng* 27:613-20 O '22

Tut-ankh-amon, Tomb of

How tourists reach tomb of Tutankhamen. *Il Pop Mech* 39:682-3 My '23

Treasures of ancient Thebes in new-found tomb. R. C. Folger. *Il Pop Mech* 39:367-70 Mr '23

Tutenkhamon's tomb. T. G. Allen. *Il Sci Am* 128:296-7+ My '23

What can King Tut-ankh-Amen teach American manufacturers? B. Berfield. *Ptr Ink* 122:57-8+ Mr 8 '23

Tweed

English method of finishing tweeds. D. S. Brydon. *Color Tr J* 12:262-4 Je '23

See also Scotch tweed

Twelve-hour shift. See Hours of labor**Twine****Advertising**

Developing a fad takes a manufacturer out of obscurity. E. B. Weiss. *Ptr Ink* 117:73-4+ D 8 '21

Twisting machines

Control of twistors. E. C. Gould. *Textile World* 64:241+ Jl 14 '23

Typing clauses. See Restraint of trade**Tyndallmeter**

Tyndallmeter reading of soil dispersoids. F. M. Scales and F. W. Marsh. *Il J Ind & Eng Chem* 14:52-4 Ja '22

Type, Rubber. See Rubber stamps**Type and type founding**

Answer to Mr. Werner's criticism of the Caslon type face. *Inland Ptr* 70:675-6 F '23

Caslon old style. N. J. Werner. *Inland Ptr* 71:675-6 Ag '23

David Bruce, Jr., inventor of the first successful typesetting machine. H: L: Bullen. *Inland Ptr* 69:61-4 Ap '22

Geoffroy Tory, a great typographer and his apprentice, Claude Garamond, the first type-founder. H: L: Bullen. *Inland Ptr* 68:635-9 F '22

German trade journal editor submits comparative table of type heights. *Inland Ptr* 71:827 S '23

How type personality can be used to increase advertising effectiveness. A. R. Hopper. *Ptg Art* 40:468-71 Ja '23

Improving British government printing. J. L. Frazier. *Inland Ptr* 70:77-81 O '22

Introducing American type into Switzerland. *Inland Ptr* 70:825-6 Mr '23

Investigation into the variations in the measurements of type faces. A. R. Hopper. *Ptg Art* 38:421-3, 521-4; 39:39-41 Ja-Mr '22

Letters to a printer's devil. R. T. Porte. *Inland Ptr* 71:867-8 S '23

Linn Boyd Benton—the man and his work. H: L: Bullen. *Il Inland Ptr* 70:60-4 O '22

Make the body type readable. *Inland Ptr* 71:73-5 Ap '23

Make the type face tell the story. D. E. Stetson. *Inland Ptr* 71:207-8 My '23

Nicolas Jenson, printer, and the types of the earlier printers. H: L: Bullen. *Inland Ptr* 68:347-9 D '21

Observations on type designs and type designers and their press agents. H: L: Bullen. *Inland Ptr* 71:833-5 S '23; Discussion. R. O. Ballou. 72:267-8 N '23

Plea for restraint. L: C. Gandy. *Inland Ptr* 69:225-8 My '22

Popular types—their origin and use. J. L. Frazier. *Inland Ptr* 72:97-100, 281-4 O-N '23

Printing types, their history, forms, and use. D. B. Updike. 2v Harvard univ. press, Cambridge '22; Review. *Inland Ptr* 70:97-8, 227-9 O-N '22

Psychological legibility of roman type. S. L: Smith. *Ptg Art* 40:242-3 N '22

Scientific basis for leading type. A. R. Hopper. *Inland Ptr* 71:525-8 Jl '23

Some colonial lettering. W: M. Campbell. *Il Am Arch* 123:241-5 Mr 14 '23

Souls that dwell in printers' types. A. R. Hopper. *Ptg Art* 40:245-8 N '22

Type: its use and abuse in advertisements and selling documents. F. T. Singleton. *Ptg Art* 38:267-8, 362-4, 466-8, 555-9; 39:71-3, 166-9, 264-5, 363-4 N '21-Je '22

Updike's printing types. T. Scott. *Ptg Art* 40:545-7 F '23

Who discovered and perfected the French typographical point system? F. Smalian; N. J. Werner. *Inland Ptr* 70:670-2 F '23

William Morris, regenerator of the typographic art. H: L: Bullen. *bibliog Inland Ptr* 69:369-74 Je '22

See also Advertisements—Typography;

Printing—Specimens; Typesetting; Typesetting machines

Type metal

White metals. A. H. Munday, C. C. Bissett and J. Cartland. *Metal Ind* 21:106, 191-2 Mr, My '23; Same cond. *Engineering* 114:441-3 O 6 '22; Discussion. *Engineer* 134:319 S 29 '22

Typesetting

Measures and margins. J. L. Frazier. *Inland Ptr* 71:377-9 Je '23

See also Advertisements—Typography;

Letterheads; Linotype; Printing; Type and type founding; Typesetting machines

Job work

Capitalitis. J. L. Frazier. *Inland Ptr* 71:841-3 S '23

Novelty through unusual use of border. *Inland Ptr* 68:353-5 D '21

Order and emphasis in display. J. L. Frazier. *Inland Ptr* 70:845-7 Mr '23

Recollections of the good old days of typographical ornamentation. A. R. Allexon. *Inland Ptr* 72:74-5 O '23

Symmetry and balance. *Inland Ptr* 71:689-91 Ag '23

See also Advertisements—Typography

Typesetting machines

Big job in fine dimensions; making the millions of matrices for type-setting machines. J. H. Collins. *Il Sci Am* 127:314 N '22

Electric heat for the type-metal pot. *Il Sci Am* 129:321 N '23

Observations on type designs and type designers and their press agents. H: L: Bullen. *Inland Ptr* 71:833-5 S '23

Universal composing machine. *Inland Ptr* 72:321 N '23

See also Linotype; Monotype

Cooperative ownership

Copartnership in a typesetting machine. E: A. Seagers. *Inland Ptr* 70:519-20 Ja '23

Typewriters

Early typewriter radically different from modern type. *Il Pop Mech* 38:276 Ag '22

Making an addresser of the typewriter. *Il Sci Am* 126:61 Ja '22

Typewriters—Continued

- Messages recorded in code explained by typewriter. *il Pop Mech* 40:701 N '23
- Standard and word-writing typewriter aids speed. *il Pop Mech* 38:166 Ag '22
- Typewriter word connector utilizes space bar. *il Pop Mech* 40:116 JI '23

History

- Romance of the typewriter revealed on its fiftieth anniversary. *il Pop Mech* 40:327-9 S '23
- Some milestones in the development of the modern typewriter. *il Sci Am* 129:165 S '23
- Story of the typewriter, 1873-1923. 142p Herkimer county historical soc., New York '23
- Story of the typewriter. Review, by J. W. Vrooman. *il Am Ind* 24:27-31 Ag '23

Manufacture

- Control of raw material to suit output; Woodstock typewriter co. successfully solves management problems. G. L. Lacher. *il Iron Age* 110:713-16+ S 21 '22; Same *abr. Ind Management* (Lond) 8:218-22 O 19 '22
- Finishing typewriter parts by grinding. *il Iron Tr R* 69:1686-7 D 29 '21
- Manufacture of the Barlock typewriter. *diags Engineering* 115:392-3 Mr 30 '23
- Special machines in a typewriter plant. C. Gabrielson. *il diags Mach* 30:1-5, 128-32 S-O '23
- Typewriters made in Belgium. J. Leonard. *il Foundry* 50:497-9 Je 15 '22

Typewriters, Musical. See Music recorders**Typewriters for the blind**

- Attachment to assist blind typewriter operators. *il Pop Mech* 37:15 Ja '22
- Blind and deaf cripple operates typewriter. *il Pop Mech* 37:673 My '22
- Braile typewriter for the blind. *il Sci Am* 126:179 Mr '22
- Machine makes raised-letter copy for blind typewriters. *il Pop Mech* 37:173 F '22

Typewriting

- Advanced typewriting and office training. M. E. Zinman. 2d ed., enl. 156p Pitman '22
- Best way of typing shown by tests. *il Pop Mech* 40:169 Ag '23
- Expert typist. C. C. Smith. 274p Macmillan '22
- Progressive typewriting. H. F. Admire. 207p Macmillan '23

Typha domingensis

- Digestion of typha domingensis. E. Heuser and J. Haugerod. *il Paper Tr J* 75:32+ JI 6 '22

Typhoid fever

- Another cross-connection typhoid outbreak at Franklin, N.J. *Eng N* 91:267, 429 Ag 16, S 13 '23
- Cause of decrease in typhoid rate in the United States. G. C. Whipple. *Eng N* 89:794 N 9 '22
- Decreasing typhoid mortality. *Pub Works* 52:340-1 My 13 '22
- Effect of water purification and improvements in water supplies on the typhoid fever death rate in New York state. C. A. Holmquist. *Am Soc C E Pro* 47:667-9 D '21
- Eighteen of 69 large cities on 1922 typhoid honor roll. *Eng N* 90:592 Mr 29 '23
- Recent progress in the reduction of the typhoid death rate and its significance. C. E. A. Winslow. *Am Soc C E Pro* 47:664-6 D '21; Same *cond. Eng & Contr* 57:137 F 8 '22
- Serious water-borne typhoid outbreak at Cochrane, Ontario. *Eng N* 90:714 Ap 19 '23
- Study of typhoid causes needed. *Eng N* 89:776-7 N 9 '22
- Typhoid fever and water supply. L. Pearse and S. L. Tolman. *Pub Works* 53:226 N '22
- Typhoid fever epidemic at Salem, Ohio. W. H. Dittoe. *chart N E Water Works Assn J* 35:335-52, pl 1-4 D '21; Same. *Dom Eng* 98:264-8+ F 11 '22; Discussion. *N E Water Works Assn J* 35:352-3 D '21
- Water-borne typhoid in Havre. *Pub Works* 52:441-2 Je 17 '22

- Water-borne typhoid outbreak of unusual character. C. K. Blanchard. *Eng & Contr* (W W) 60:81-3 JI 11 '23

Tyrosyl alanine hydantoin

- Synthesis of polypeptide hydantoins; tyrosyl-alanine hydantoin. D. A. Hahn, L. Kelley and F. Schaeffer. *Am Chem Soc J* 45:843-57 Mr '23

Tyrrrell, Joseph Burr

- Mining geologists of note. J. C. Murray. *por Eng & Min J* 115:277 F 10 '23

U

Udylite process. See Cadmium plating

Ultra filter press. See Filter presses

Ultrahumins

- Some new derivatives of bituminous coal. A. R. Pearson. *Soc Chem Ind J* 42:68-72 F 23 '23

Ultramicrometer. See Micrometers

Ultratex

- Ultratex—a weftless product of the loom. *il India Rubber W* 69:90 N '23

Ultra-violet rays

- Action of ultra-violet light on gels. E. O. Holmes, Jr. and W. A. Patrick. *diags J Phys Chem* 26:25-41 Ja '22
- Action of ultraviolet light upon diketones. C. W. Porter, H. C. Ramsberger and C. Steel. *Am Chem Soc J* 45:1827-30 JI '23
- Contribution à l'étude des actions catalytiques des rayons ultra violets. L. Bourgoign. *Can Chem & Met* 7:95-6 Ap '23
- Critical electron energies in helium, and the extreme ultra-violet spectrum. A. C. Davies. *Philos Mag* 6th ser 45:786-98 Ap '23
- Fluorescence of gems by ultra-violet light. W. J. Jones. *Illum Engr* 14:237 D '21
- Glass that is opaque to the ultra-violet. *Sci Am* 126:390 Je '22
- Novel uses for ultra-violet light. *Sci Am* 127:103 Ag '22
- Physiological effects of radiant energy. C. Sheard. *Safety Eng* 45:171-3, 215-19 My-Je '23
- Reactions obtained by ultra-violet light. *Sci Am* 127:27 JI '22
- Reduction of carbon dioxide by ultraviolet light. H. A. Spoehr. *Am Chem Soc J* 45:1184-7 My '23
- Short-wave radiation from tungsten filaments. M. Luckiesh, L. L. Holladay and A. H. Taylor. *il J Fr Inst* 196:353-73 S '23
- La signalisation par les rayons invisibles. *diag Génie Civil* 80:456-7 My 20 '22
- Some developments in the electrical industry during 1921. J. Liston. *il Gen Elec R* 25:41-3 Ja '22
- Source of light giving a continuous spectrum in the ultra-violet. W. H. Fulweiler and J. Barnes. *il diags J Fr Inst* 194:83-6 JI '22
- Spectra of hydrogen, nitrogen and oxygen in the extreme ultraviolet. J. J. Hopfield. *il diag Phys R* 20:573-88 D '22
- Spectrographic study of ultra-violet fluorescence excited by X-rays. J. O. Perrine. *diags Phys R* 22:48-57 JI '23
- Study of the exciting power for fluorescence of the different parts of the ultra-violet spectrum. L. J. Boardman. *diags Phys R* 20:552-72 D '22
- Über das Verhalten der crotonsäure im ultravioletten Licht. R. Stoermer and E. Robert. *Deutsche Chem Gesell Ber* 55:1030-40 Ap '22
- Ultra-violet absorption spectra of eugenol and isoeugenol. G. Thompson. *Chem Soc J* 123:1594-7 Je '23
- Ultraviolet in sunlight; industrial uses and limitations of this portion of the solar radiation. M. Luckiesh. *Sci Am* 127:258 O '22
- Ultra-violet light, its uses and possibilities. L. C. Krueger. *Gen Elec R* 25:316-24 My '22; Abstract. *Am Inst E E J* 41:469-70 Je '22
- Ultraviolet radiation. M. Luckiesh. 258p Van Nostrand '22

Ultra-violet rays—Continued**Bibliography**

- Ultra-violet light, its uses and possibilities. L. C. Krueger. Gen Elec R 25:323-4 My '22
- Unafflow engines.** See Steam engines—Uniflow engines
- Uncoupling devices.** See Cars—Uncoupling
- Underground railroads.** See Freight tunnels; Subways
- Underground signals.** See Radio telegraph—Underground signals
- Underground water.** See Water, Underground
- Underpinning.** See Shoring and underpinning
- Undertakers**
See Embalming
- Underwear**
Publicity helps underwear trade. Textile World 63:905+ F 3 '23
What's wrong with the trade? Textile World 63:3361+ My 19 '23
See also Hosiery

Advertising

- Giving the message local significance. Ptr Ink 121:57-8+ D 7 '22
- Securing jobber and dealer co-operation in advance of the campaign. Ptr Ink 122:73-4+ F 22 '23

Manufacture

- Bleaching and dyeing in one operation. Col- or Tr J 10:168-9 Ap '22
- Wages and hours of labor in the hosiery and underwear industry, 1922. Monthly Labor R 15:1258-69 D '22

Standards

- Standardization discussed at Associated knit underwear manufacturers convention. Textile World 63:3225-6 My 12 '23
- To develop underwear standards. Textile World 64:671-2 Ag 4 '23

Underwriters' laboratories

- Symbol of safety. H. C. Brearley. 290p Doubleday '23; Review, by A. G. Ingalls. Sci Am 129:234 O '23
- Underwriters' laboratories in 1922. Safety Eng 45:45-6 F '23
- Work of underwriters' laboratories in 1921. Safety Eng 43:70-2 F '22

Unemployment

- Business cycles and unemployment. E. T. Bullock. Annalist 19:340+ Mr 20 '22
- Business cycles and unemployment; report and recommendations of a committee of the President's conference on unemployment. 405p McGraw-Hill '23; Excerpts. Int Labour R 8:388-404 S '23
- Le chômage, la baisse des salaires et les grands conflits économiques en Europe. R. Roure. diag Génie Civil 81:158-60 Ag 12 '22
- Economic adjustment desirable; report and recommendations of President's conference on unemployment. Elec Ry J 61:587 Mr 31 '23; Mech Eng 45:321 My '23
- Economics of unemployment. J. A. Hobson. 157p Macmillan '23
- Employment—a problem of co-ordination. G. F. Beer. Int Labour R 6:11-18 J1 '22
- Employment and unemployment. See monthly numbers of Monthly labor review
- International aspects of unemployment. W. Kirkconnell. 217p Holt '23
- Management's duty in regard to unemployment. W. L. Stoddard. Management Eng 3:42-4 J1 '22
- Notes on unemployment problems. Int Labour R 7:302-20 F '23 (published quarterly)
- Le problème international du chômage. H. Turpin. 118p Giard & cie, Paris '21
- Safeguarding industry by stabilizing employment. W. I. King. Am Mach 55:913-16 Je 21 '23; Same cond. Annalist. 21:856+ Je 25 '23
- Scientific study of unemployment needed. L. W. Wallace. Iron Tr R 69:1489 D 8 '21
- Seasonal employment in building construction. D. K. Boyd. Eng N 90:63-5 Ja 11 '23

Seasonal employment in construction industry. J. P. Anglin. Eng & Contr (Bldgs) 59:487-92 F 28 '23

Trends in industry. See monthly numbers of Management engineering

Unemployment and some causes; possible fault seen in our system of exchange. H. Bilgram. Am Ind 23:29-32+ O '22; Discussion. J. C. Trautwein, jr. 23:29 N '22

Unemployment and the sales machine. Chem & Met Eng 28:1070-1 Je 15 '23

Unemployment as seen by an employment manager. E. C. Gould. Ind Management 63: 102+ F '22

Unemployment in foreign countries. Monthly Labor R 15:805-13 O '22

Unemployment in the metal trades. E. S. Bradford. Am Mach 55:881-2 D '21

Unemployment—normal and exceptional—its extent, causes and remedies. Eng & Contr 57:506-7 My 24 '22

Unemployment, the cause and a remedy. A. Kitson. 95p C. Palmer, London '21

Unemployment within employment. M. L. Cooke. Int Labour R 4:469-79 D '21

See also Employment agencies; Labor supply

Bibliography

Recent literature on unemployment, with particular reference to causes and remedies. L. A. Thompson. 35 numb. 1. U.S. Dept. of labor, Library, Washington '21

Unemployment. (Bul. 50) 4p Russell Sage foundation library, New York '21

Relief measures

Activities of mayors' unemployment committees. Monthly Labor R 13:1279-81 D '21

Burden of unemployment. P. Klein. 260p Russell Sage foundation, New York '23

Cleveland plan of unemployment compensation. W. J. Mack. Monthly Labor R 14:745-9 Ap '22

Efforts to regularize employment in seasonal trades. M. T. Waggaman. Monthly Labor R 14:157-68 Ja '22

Engineering approach to the problem of continuous employment. R. A. Feiss. 8p Taylor Society, New York '21

Industry will advertise to relieve unemployment. A. E. Haase. Ptr Ink 117:25-6 D 15 '21

Keeping our working force larger than our payroll. J. K. Wise. Factory 28:168-72 F '22

Measures to combat unemployment in the Netherlands. J. Gerritsz. Int Labour R 7:861-79 Je '23

Out-of-work pensions for employees. J. Henle. Ptr Ink 119:53-4+ My 25 '22

Payment of unemployment relief. J. S. Watts. Am Mach 55:1001-2 D 22 '21; Discussion. C. J. Morrison. 56:359 Mr 9 '22

Poughkeepsie's relief work. H. A. Schatz. Am Mach 56:142-3 Ja 26 '22

Prevention and compensation of unemployment. S. Rowntree. Int Labour R 4:455-67 D '21

Provision and planning of work. Ind Management (Lond) 10:183-4, 207-8 O 4-18 '23

Provision of work. Int Labour R 7:317-20, 925-31 F, Je '23

Recent unemployment relief legislation in Switzerland. Monthly Labor R 14:567-8 Mr '22

Remedial measures for unemployment in Great Britain. Monthly Labor R 14:175-7 Ja '22

Remedies for unemployment. 141p International labour office, Geneva '22

Rowntree's solution of some industrial problems. J. S. Rowntree. Ptr Ink 117:57-8+ D 8 '21

Some remedies for unemployment. Factory 28:48-9+ Ja '22

Statutory provision against unemployment in western and central Europe in recent years. Int Labour R 5:672-92 Ap '22

To relieve unemployment by law. Management Eng 2:188 Mr '22

Unemployed are paid in Britain. J. Horton. Iron Tr R 69:1354-5 N 24 '21

Unemployment—Relief measures—Continued

Unemployment relief measures in foreign countries. Monthly Labor R 13:871-4 O '21

See also Business depression; Employment guarantees; Labor supply; also Unemployment conference, Washington, D.C., 1921

Statistics

Employment and unemployment. See monthly numbers of Monthly labor review

Employment survey shows improving conditions. R. Bean. Annalist 19:339-40 Mr 20 '22

Statistics of the unemployed. Int Labour R 4:316-19, 531-6; 5:107-12, 299-306, 489-93, 624-8, 781-3, 956-9; 6:76-80, 237-40, 408-11, 766-9 N '21-S, N '22

Suggestions for improving employment and unemployment statistics. T. W. Mitchell. Management Eng 2:161-6 Mr '22

Unemployment record. W. L. Stoddard. Management Eng 3:88 Ag '22

Denmark

Employment conditions in Denmark in 1921. Monthly Labor R 14:760-1 Ap '22

Germany

Germany's unemployment increasing. Am Mach 58:822g-h My 31 '23

Great Britain

Grave unemployment problem of the British nation. Annalist 21:665+ My 14 '23

Land drainage and unemployment. Engineering 115:497-8 Ap 20 '23

Out of work; an introduction to the study of unemployment. G. D. H. Cole. 96p Knopf '23

Riddle of unemployment and its solution. C. E. Peil, 217p C. Palmer, London '22

Third winter of unemployment. 350p P. S. King & son, London '23

Unemployment and industrial maintenance. G. D. H. Cole. 16p Published for the National guilds league by the Labour pub. co., London '21

Unemployment in Great Britain and its treatment. Monthly Labor R 16:598-607 Mr '23

Volume of employment in the United Kingdom in January, 1922. Monthly Labor R 14:761-2 Ap '22

What Britain has done for her unemployed. F. C. Chappell. Annalist 21:605-6 Ap 30 '23

Italy

Employment situation in Italy at the close of 1921. Monthly Labor R 14:764-5 Ap '22

Netherlands

Measures to combat unemployment in the Netherlands. J. Gerritsz. Int Labour R 7:861-79 Je '23

Profound changes in the economic structure. J. Gerritsz. Annalist 22:273-4 Ag 27 '23

Norway

Unemployment in Norway. J. Hvidsten. Int Labour R 7:231-9 F '23

Unemployment relief in Norway. Monthly Labor R 17:698-700 S '23

Sweden

Campaign against unemployment in Sweden. E. G. Huss. Int Labour R 6:721-34 N '22

United States

Adjusted monthly index of employment. Annalist 22:572 O 29 '23 [Continued monthly]

Analysis of the industrial employment and unemployment condition of the country for the month ended March 31. Annalist 21:537-8 Ap 16 '23

Cycles of unemployment in the United States, 1903-1922. W. A. Berridge. 88p Houghton '23

Report on seasonal labor in the building industry. Am Arch 120:409-10 N 23 '21

Trend of employment in the manufacturing industries in the United States, June, 1914, to December, 1921. E. Stewart. Monthly Labor R 14:411-17 Mr '22

Unemployment and our revenue problem. J. S. Codman. 64p Huebsch '23

Unemployment on the decrease. Am Ind 22:28 Jl '22

Unemployment problem. (National industrial conference board Research rep. no. 43) 91p Century '21

Unemployment survey in Columbus, Ohio. M. L. Mark and F. E. Croxton. Monthly Labor R 14:622-31 Ap '22

Unemployment: what we have learned. W. L. Stoddard. Ind Management 64:95-6 Ag '22

Unemployment conference, Washington, D.C., 1921

Findings and recommendations of the National conference on unemployment. Heat & Ven 18:48-9 N '21

President's conference and unemployment in the United States. W. L. Chenery. Int Labour R 5:359-76 Mr '22

President's conference on unemployment; report of the committee on construction industries. Am Inst Arch J 9:359-61 N '21

President's conference on unemployment, Washington, D.C. Monthly Labour R 13:1070-8 N '21

Relief methods recommended at unemployment conference. Automotive Ind 45:874-6 N 3 '21

Report of the President's conference on unemployment, Sept. 26 to Oct. 13, 1921. 178p 20c Supt. of Doc. '21

Unemployment insurance. See Insurance, Unemployment

Ungulates, Fossil

Horned eocene ungulates. E. L. Troxell. il Am J Sci 5th ser 4:31-7 Jl '22

Unicycle

Putting the unicycle idea to a real test. il Sci Am 128:175 Mr '23

Uniflow engines. See Steam engines—Uniflow engines

Union internationale de tramways, de chemins de fer d'intérêt local et de transports publics automobiles. See International street and interurban railway and bus association

Union Pacific railroad

Adjustment board created by U.P. agreement with shopmen. Ry R 71:457-8 S 30 '22

Annual report—year ended December 31, 1922. Comm & Fin Chr 116:2524-9 Je 2 '23

Controversy over Central Pacific settled. Ry Age 74:279-80 Ja 27 '23

Hearing on disposition of Central Pacific. Ry Age 73:891-2 N 11 '22

History of the Union Pacific; a financial and economic survey. N. Trotman. 412p Ronald press '23

How the Union Pacific keeps its freight cars moving. Ry R 71:579-83 O 28 '22

Inter-state commerce commission approves control of Central Pacific Ry. by Southern Pacific co.—Union Pacific assured good through service—settlement agreeable to all parties. Comm & Fin Chr 116:685-7 F 17 '23; Same cond. Ry Age 74:427-30 F 17 '23; Excerpt. Ry R 72:295-6 F 17 '23

25th annual report—year ended December 31, 1921. Comm & Fin Chr 114:2128-33 My 13 '22

Union Pacific opposes Southern Pacific application to keep Central Pacific. Ry Age 73:797-8 O 28 '22

Union Pacific plan of employee representation. G. H. Sines. Ry R 72:760-4 My 5 '23

Union Pacific promotes get-together field day. il Ry Age 74:1365-6 Je 9 '23

Bibliography

List of references to literature relating to the Union Pacific system. Bureau of railway economics, Washington, D.C. '22

Unit heaters, Fan blast. See Heaters, Fan blast

United alkali company

Centenary celebrations of the British alkali industry. Chem Age (Lond) 8:421-4, 454-7 Ap 21-28 '23

United farmers of Alberta

Farm bloc in full power. W. E. Dymoke. Nation's Business 11:54+ F '23

United mine workers of America

Miners' convention adopts suicidal list of demands. E. W. Davidson. Coal Age 21:337-9 F '23 '22

See also Coronado coal company case

United shoe machinery corporation

Supreme court decides on "tying" clauses. Ptr Ink 119:162+ Ap 20 '22

U.S. Supreme court holds lease contracts of United shoe machinery corporation in violation of Clayton act. Comm & Fin Chr 114:1729-30 Ap 22 '22

United States

British editor's impressions of the United States. F. E. Hamer. Chem & Met Eng 27: 915-16 N 8 '22

See also Electric railroads—U.S.; Engineering—U.S.; Geology—U.S.; Hydroelectric plants—U.S.; Irrigation—U.S.; Labor laws and legislation—U.S.; Railroads—U.S.; Roads—U.S.; Street railroads—U.S.; Telephone—U.S.; Transportation—U.S.

Advertising, Bureau of (proposed)

Bureau of advertising in Department of commerce probable. Ptr Ink 121:133+ O 26 '22

Aeronautics bureau (commerce department) (proposed)

Bureau of civil aeronautics. A. Black. Automotive Ind 46:1026-7 My 11 '22

Wadsworth-Hicks civil aviation bill; text. Aviation 11:730-1 D 26 '21; Same. Aerial Age 14:366-7 D 26 '21; Excerpt. Automotive Ind 45:1197 D 15 '21

Aeronautics bureau (navy department)

Organization of Naval bureau of aeronautics. Aviation 11:633-4 N 28 '21

Senate passes Bureau of aeronautics bill. Aviation 12:261 F 27 '22

Staff of Naval bureau of aeronautics. Aerial Age 14:547 F 13 '22; Same. Aviation 12:136 Ja 30 '22

Aeronautics department (proposed)

Navy opposes single air force. W. Moffett. Aviation 13:252 Ag 28 '22

Agriculture, Department of

How advertisers are using agricultural films. Ptr Ink 125:154+ O 25 '23

Rise of the Department of agriculture. Comm & Fin Chr 116:1315-6 Mr 31 '23

Air service

Air appropriations for fiscal year 1923-24; \$29,311,450 asked for army, navy and air mail. Aviation 13:807 D 18 '22

Army and navy air news. See weekly numbers of Aviation

Air service, Army

Accomplishments at McCook field, Dayton, O., during the past year. Aerial Age 14:571 F 20 '22

Air service and national guard; statement of policy regarding reserve air service officers. B. K. Yount. il Aviation 13:628-9 N 6 '22

Air service in the national guard; report of the chief of Militia bureau. Aviation 14: 48 Ja 8 '23

Air service reduced in army reorganization. Aviation 13:261-2 Ag 28 '22

Air service to ask \$25,000,000 next year. M. H. McIntyre. Aviation 15:153 Ag 6 '23

Army and navy air news. See weekly numbers of Aviation

Army air service; comprehensive statement of its organization, functions and operations. M. M. Patrick. Aviation 13:740-2, 777-9 D 4-11 '22

Army committee finds air service situation critical. Aviation 15:572-3 N 5 '23

Cross country flying in the U.S. air service. Aerial Age 15:15 Mr 13 '22; Same. Aviation 12:361 Mr 27 '22

Excerpts from annual air service report. Aviation 14:42-3 Ja 8 '23

Industrial mobilization and aviation. J. M. Wainwright. Aviation 14:344-5 Mr 26 '23

New distribution of air service troops. Aviation 13:422 O 2 '22

Plans for the big air fleet in San Francisco approved. Aerial Age 14:560 F 20 '22

Reorganization of the office of the chief of air service. Aerial Age 14:423 Ja 9 '22

Some phases of the army air service. M. M. Patrick. il Aerial Age 16:105-6 Mr '23

Total cost of war aviation—\$382,111,063.50. Aviation 14:338-9 Mr 26 '23

\$25,000,000 annually suggested for army aeronautics. Aerial Age 16:195-6 Ap '23

War department defines flying service. Aviation 13:186-7 Ag 14 '22

Air service, Navy

Admiral Moffett's report on naval aviation. il Aviation 13:800-4 D 18 '22

Army and navy air news. See weekly numbers of Aviation beginning April 10, 1922

Examination of navy reserve officers. Aviation 11:577 N 14 '21

Fleet aviation. E. Denby. il Aerial Age 16: 107-9 Mr '23

Naval air appropriation, 1922-23. Aviation 12: 476-7 Ap 24 '22

Naval aviation activities in 1921. Aerial Age 14:367-8 D 26 '21

Naval aviation in 1921. W. A. Moffett. Aviation 11:715-16, 733-4 D 19-26 '21

Naval shore establishments need air stations. C. H. Butman. Aviation 14:136-7 F 12 '23

Navy's record in aeronautics; statement of Admiral Moffett before the naval appropriation committee regarding post-war development of naval aircraft. il Aviation 12: 720-2 Je 19 '22

Organization and function of naval aviation. W. A. Moffett. Aviation 13:248-51 Ag 28 '22

Past year in naval aeronautics. il Aviation 12: 336-8 Mr 20 '22

Secretary of the navy reports. Aerial Age 16: 31 Ja '23

\$16,458,835 asked for naval air stations. Aviation 15:441-2 O 8 '23

United States naval air service. W. A. Moffett. il Aviation 14:556-7 My 21 '23

U.S. naval aviation program, 1923. il Aviation 12:364-5 Mr 27 '22

War department defines flying service. Aviation 13:186-7 Ag 14 '22

Alaskan engineering commission

Alaskan engineering commission. J. Bernhardt. (Service monographs no. 4) 124p [bibliog.p.99-119] Appleton '22

Appropriations and expenditures

Aerial mail appropriation. Aerial Age 14:609 Mr 6 '22

Agricultural appropriation bill contains many items for research. Oil Paint & Drug Rep 101:33 Mr 13 '22

Air appropriations for fiscal year 1923-24; \$29,311,450 asked for army, navy and air mail. Aviation 13:807 D 18 '22

Appropriation for additional service and safety inspection. Ry Age 73:566-7 S 23 '22

Appropriations recommended for I.C.C. and Labor board. Ry Age 74:184-5 Ja 13 '23

Economy effected in government expenditures. H. M. Lord. Comm & Fin Chr 116: 188-92 sec 2 Je 30 '23

18 months business in government. H. Hoover. Am Ind 23:21-2+ Ja '23

Geological survey and Bureau of mines get \$3,358,790 as 1923 budget. Eng & Min J 114: 1043 D 9 '22

Government to spend \$35,600,000 on aviation. Aviation 11:706 D 19 '21

H. C. of G. W. P. Helm. Nation's Business 11:13-14 Mr '23

Hole in the nation's pocket. C. L. Underhill. Nation's Business 11:19-21 Ap '23

Massachusetts objects to maternity act—power of Congress to appropriate public moneys. Comm & Fin Chr 116:1469-70 Ap 7 '23

Minimum of federal expenditures. Comm & Fin Chr 115:2089-90 N 11 '22

Naval air appropriation, 1922-23. Aviation 12: 476-7 Ap 24 '22

United States—Appropriations and expenditures
—*Continued*

- New principles applied to the appropriation of moneys from the national treasury. Comm & Fin Chr 114:1116-18 Mr 13 '22
- 1924 budget in Congress—unusual speed in acting on appropriation bills. Comm & Fin Chr 116:112-13 Ja 13 '23
- Old financial methods under the new federal budget system. Comm & Fin Chr 115:2420 D 2 '22
- Putting pork in the budget. Comm & Fin Chr 116:556-7 F 10 '23
- Reductions in government operations incident to budget system. W. G. Harding. Comm & Fin Chr 116:2840-2 Je 23 '23
- Retrospective view of federal expenditures. Comm & Fin Chr 115:477-8 JI 29 '22
- \$16,458,835 asked for naval air stations. Aviation 15:441-2 O 8 '23
- Uncle Sam's balance sheet. O. R. McGuire. Am Ind 23:39-41 JI '23
- Utmost economy on part of government heads urged. Comm & Fin Chr 115:258-9 JI 15 '22
- Where the money goes; how Uncle Sam will spend his income for 1922. diag Sci Am 126:297 My '22

Army

- Agreement for payment by Germany of United States Rhine army occupation costs. Comm & Fin Chr 116:2460-2 Je 2 '23
- Our national military policy. J. J. Pershing. Sci Am 127:83+ Ag '22
- U. S. claim for Rhine army occupation. Comm & Fin Chr 114:1123, 1237-8 Mr 18-25 '22
- Wrecking the United States army. Sci Am 127:14-15 JI '22

See also United States—Air service, Army

Engineers, Corps of

- Training officers in the Corps of engineers, U. S. army. L. H. Beach. Eng N 88:109 Ja 19 '22

Equipment

- Army materials ingeniously used by states for road construction. il Pub Roads 4:22-4+ N '21

Expeditionary force

- Cement supply, American expeditionary forces. E. C. Eckel. il Concrete 19:sup71-4, sup95-9; 20:sup11-14, sup30-4 N '21-F '22

Motor transport service

- Military and commercial highway-transport. E. Taylor. maps Soc Auto Eng J 12:413-32 My '23

Railway engineer battalions

- Railway engineer battalions for reserve army. Ry Age 74:775-7 Mr 17 '23

Transport service

- Transferring transport service to steamship lines. W. Fawcett. Marine Eng 26:881-3 D '21

Bibliography

- Bibliography on the United States for foreign students. (3d Ser. Bul. 3) 50p Institute of international education, New York S 20 '22

Boundaries

- Boundaries, areas, geographic centers and altitudes of the United States and the several states. E. M. Douglas. il diags maps U S Geol S Bul 689:1-234, pl 1-7 '23

Budget, Bureau of

- Our field marshal of figures. J. B. Morrow. Nation's Business 10:28-9 N '22

Census, Bureau of

- How to ask Uncle Sam for figures. C. C. Smith. Nation's Business 11:66+ F '23

Chemical advisory board

- War department appoints Chemical advisory board. Chem & Met Eng 27:1140 D 6 '22

Chemical warfare service

- Chemical warfare service—its activities and achievements. il diags Mech Eng 45:643-6+ N '23

- Weeks recognizes peace-time value of C. W. S. Chem & Met Eng 27:1045 N 22 '22

Chemistry, Bureau of

- Annual report of the Bureau of chemistry; a survey and summary of the administration of Dr Carl L. Alsberg. Chem Age 29:521-4 D '21

- Organization and work of the Bureau of chemistry. R. S. McBride. il Chem & Met Eng 29:137-41 JI '23

Color laboratory

- Work of the Color laboratory of the Bureau of chemistry; with list of publications and patents. J. A. Ambler. Am Dyestuff Rep 12:615-20 Ag 27 '23; Same, without bibliog. Ind & Eng Chem 15:970-1 S '23

Claims

- Those unsettled war claims. G. R. Shields. Am Ind 23:13-14+ Ap '23

Coast guard

- Fighting icebergs and derelicts in battle to rob the sea of hidden perils. il Pop Mech 40:680-4 N '23
- How radio guides the coast guard. S. R. Winters. il Wireless Age 10:30-1 S '23
- North Atlantic ice patrol. il charts Sci Am 126:370-2+ Je '22
- Wireless warnings of iceberg danger; United States coast guard ice patrol functions exclusively by radio. O. Gordon. il Wireless Age 11:28-9 O '23

Commerce

- Adverse commodity trade balance. Annalist 21:697+ My 21 '23
- American goods in the British market. Oil Paint & Drug Rep 102:20 O 16 '22
- American prosperity inseparably bound up with that of Europe. E. Prizer. Nat Pet N 13:31, 32A-C D 14 '21
- American trade with Germany, 1914, 1921, and 1922. C. E. Herring and E. G. Eichelberger. U S Bur For & Dom Com Trade Information Bul 150:1-19 '23
- Branch factories in Canada. E. W. Gage. il Ind Management 64:305-8+ N '22
- China trade act approved by President Harding; text. Comm & Fin Chr 115:1587-9 O 7 '22
- Deal only with upright states. C. E. Hughes. Nation's Business 10:11-12 Je 5 '22
- Domestic exports from the United States for fifty years, 1871-1921. Oil Paint & Drug Rep 101:110-13 Mr 28 '22
- Exports from United States in April, 1921; April, 1922, and ten months ended April 30, 1922. Oil Paint & Drug Rep 101:44c-d Je 26 '22
- 50-year record of imports into the United States, 1871-1921. Oil Paint & Drug Rep 101:93+ Mr 28 '22
- Foreign trade of the United States for the fiscal year 1921-22. U S Bur For & Dom Com Trade Information Bul 59:1-25 '22
- Foreign trade of the United States for the fiscal year 1922-23. U S Bur For & Dom Com Trade Information Bul 157:1-51 '23
- Gamble in doing business with Europe. I. T. Bush. System 41:529-31+ My '22
- German-United States competition in world markets. G. B. Roobach. J Ind & Eng Chem 14:1072-4 N '22
- Imports into United States in April, 1922; April, 1921, and ten months ended April 30, 1922. Oil Paint & Drug Rep 101:44b-c Je 26 '22
- Industrial America; can she beat Britain? E. T. Good. Eng & Ind Management 6:532-3 N 10 '21
- Monthly record of United States foreign trade, 1913-1921; chart. Annalist 19:66 Ja 9 '22
- Our approaching unfavorable balance of trade. A. L. Bishop. Administration 2:609-15 N '21
- Our Chinese customers. H. G. Murray. il Sci Am 127:322-3+ N '22
- Our growing trade in South America, Oceania and the Far East. Annalist 22:167+ Ag 6 '23

United States—Commerce—Continued

- Our largest potential foreign customer; Great Britain. C. Brown. Elec W 81:127-8 Ja 13 '23
- Outlines of American foreign commerce. A. L. Bishop. 321p Ginn '23
- Reorganization of America's commerce. E. C. Horst. Annalist 19:3-4+ Ja 2 '22
- Trade of the United States in 1921 stated in the international statistical classification. U S Bur For & Dom Com Trade Information Bul 30:1-9 '22
- Trade of the United States in 1922 according to the international statistical classification. U S Bur For & Dom Com Trade Information Bul 129:1-9 '23
- Trade of the United States with the world, 1919-1920 (imports only). U S Bur For & Dom Com misc ser 109:1-128 '22
- Trade of the United States with the world, 1920-1921; exports. U S Bur For & Dom Com misc ser 115:1-490 '23
- Trade of the United States with the world, 1920-1921; imports. U S Bur For & Dom Com misc ser 115:1-130 '22
- U. S. regains trade balance. Am Ind 24:13 Ag '23
- Volume of United States trade, 1921. U S Bur For & Dom Com misc ser 112:157 '22
- When England lost investment leadership to us. J. Oakwood. Annalist 19:413+ Ap 10 '22

See also Aeronautics, Commercial—U.S.; Air routes—U.S.; Automobile industry and trade—U.S.; Chemical industries—U.S.; Cotton trade—U.S.; Dye industry—U.S.; Export trade; Interstate commerce; Interstate commerce commission; Merchant marine—U.S.; Paper industry and trade—U.S.; Rubber industry and trade—U.S.; Shipping—U.S.; Tariff—U.S.; Terminals; Textile industry—U.S.; United States—Industries and resources; *also* Chamber of commerce of the United States; National foreign trade convention; United States—Foreign and domestic commerce, Bureau of

Bibliography

- Outlines of American foreign commerce. A. L. Bishop. p 303-14 Ginn '23

Commerce, Department of

- Assuring profits with Department of commerce reports. Ptr Ink 124:129-30+ S 13 '23
- Export service step by step. Ptr Ink 124:65-6+ JI 26 '23
- How the government is helping business. L. W. Moffett. Iron Age 109:22-6 Ja 5 '22
- Shipping activities of the Department of commerce. W. Fawcett. Marine Eng 27:87-8 F '22
- Simplification in industry—its relation to advertising. R. Dickinson. bibliog Ptr Ink 120:170+ S 21 '22
- Steps in simplification. A. Durgin. Factory 29:411 O '22
- Washington, the rendezvous of commerce and industry. D. Wilhelm. Special Lib 13:39-40 Mr '22
- What the Department of commerce is doing for industry. F. M. Feiker. Elec W 79:71-3 Ja 14 '22
- What the Department of commerce is doing to aid inter-industrial marketing. F. M. Feiker. Ptr Ink 119:33-4 Je 15 '22
- Your industry and our government. H. Hoover. Textile World 61:639 F 4 '22

See also United States—Foreign and domestic commerce, Bureau of

Commercial policy

See Merchant marine—U.S.; Ship subsidies; Tariff—U.S.

Commercial treaties

- Handbook of commercial treaties. 899p U.S. Tariff comm., Washington '22

Congress

- Accomplishments of Congress. Comm & Fin Chr 115:1486 S 30 '22
- Boey of the next Congress. C. S. Watts. Nation's Business 11:16-18 My '23

President Harding's letter to Representative Mondell praising work of Congress. Comm & Fin Chr 115:2103 N 11 '22

- Radical forces in the affairs of our government. Annalist 22:101+ JI 23 '23
- Shortcomings of Congress. R. H. Montgomery. Comm & Fin Chr 115:1389-90 S 23 '22
- Washington faces the new year with confidence; laws enacted by Congress in 1922. R. Bean. Annalist 21:39-40 Ja 8 '23
- What the 67th Congress accomplished. Am Mach 57:556a O 5 '22
- Work of the sixty-seventh Congress. Comm & Fin Chr 116:985-6 Mr 10 '23

See also Congressmen

Agricultural bloc

- Gold bricks in blocs. C. F. Scott. Nation's Business 10:7-9 F '22
- Poor prospect for constructive legislation. L. W. Moffett. Iron Age 111:149-50 Ja 11 '23
- Warnings of danger in bloc control of Congress. J. W. Weeks. Comm & Fin Chr 113:2676-7 D 24 '21

Senate

- Senator McCormick of Illinois in letter, to Senator Lodge urges abolition of seniority rule. Comm & Fin Chr 115:2219 N 18 '22

Constitution

- Constitution of the United States. J. M. Beck. Comm & Fin Chr 115:2731-3 D 23 '22
- Constitution our supreme law. H. A. Williams. Am Ind 23:9-15 JI '23
- Norris proposition to amend the U.S. Constitution. Comm & Fin Chr 116:655-6 F 17 '23
- Permanent authority of the Constitution. Comm & Fin Chr 115:1986-7 N 4 '22
- Philadelphia's greatest product—the constitution of the United States. Comm & Fin Chr 117:1287-9 S 22 '23
- Rising or a setting sun. J. M. Beck. Comm & Fin Chr 117:87-91 sec 2 O 13 '23

Defenses

- Enlisting business in peace. J. W. Weeks. Nation's Business 11:44+ Ja '23

Description and travel

- Guidebook of the western United States. M. R. Campbell. il diag maps U S Geol S Bul 707:1-266 '22

Economic conditions

- America, and European industry's new Magna charta. J. H. Barnes. Annalist 21:635+ My 7 '23
- Bankers optimistic over outlook for 1923. Annalist 21:37-8+ Ja 8 '23
- Business wins Washington's aid. E. C. Boehringer. Iron Tr R 70:6-8+ Ja 5 '22
- Consideration of our economic position. W. R. Ingalls. Brass W 19:269-71 Ag '23
- Distribution of wealth in the United States. W. R. Ingalls. Iron Age 112:881-3+ O 4 '23; Discussion. 112:986-7, 1131 O 11, 25 '23
- Economic future of the United States. H. Hoyt. Administration 4:134-40 Ag '22
- Economic history of the United States. E. L. Bogart. 593p Longmans '22
- European problems affecting American business; statement of the committee appointed by the United States chamber of commerce to study conditions of continental Europe. Nation's Business 9:1-8 O 5 '21
- Future of American business. J. S. Alexander. Comm & Fin Chr 115:146-9 sec 2 O 21 '22
- Holding on to prosperity. H. Hoover. Am Mach 58:782e-h My 24 '23; Same. Comm & Fin Chr 116:2080-2 My 12 '23
- Industrial and trade conditions. F. I. Kent. Comm & Fin Chr 115:111-14 sec 2 O 21 '22
- Industrial organization. R. M. Keir. 421p Ronald press '23
- Interpretation of the Index of general business conditions. W. M. Persons. 11p Harvard economic service, Cambridge, Mass. '22
- Looking backward and forward at new year's. T. H. Price. Am Mach 58:58-9 Ja 4 '23

United States—Economic conditions—Continued

Nation's wealth and income. W. R. Ingalls. Am Ind 22:11-12+ Mr '22
Only moderate curtailment in production and distribution. Comm & Fin Chr 117:1062 S 8 '23

Outline of the economic development of the United States. E. M. Earle. 44p [bibliog.] American institute of banking, 15 W. 37th st., New York '21

Recommendations of the President on labor and agriculture. Monthly Labor R 14:1-4 Ja '22

The road we have come; the American political philosophy in its economic and social aspects. J. H. Barnes. Il Nation's Business 11:25-7 Ag '23

Roger W. Babson's twelve periods in business cycle. Comm & Fin Chr 113:2241 N 26 '21

Seeing things. M. A. Traylor. Comm & Fin Chr 117:72-6 sec 2 O 13 '23

Some basic considerations of American business. J. F. Johnson. Chem Age 30:49-51 F '22

Ueber technik und wirtschaft der Vereinigten Staaten in der nachkriegszeit. H. Bleibtreu. Stahl & Eisen 43:489-94, 527-32 Ap 12-19 '23

Washington faces the new year with confidence; laws enacted by Congress in 1922. R. Bean. Annalist 21:39-40 Ja 8 '23

Why the standard of living is high in the United States. J. H. Barnes. Ptr Ink 122:134+ F 8 '23

See also Business conditions; Cooperation—U.S.; Cost of living—U.S.; Finance—U.S.; Housing—U.S.; Immigration and emigration—U.S.; Labor and laboring classes—U.S.; Prices—U.S.; Trade unions—U.S.; Unemployment—U.S.; Wages—U.S.; West—Economic conditions

Economic policy

Economic conditions of America's disentanglement. R. Estcourt. Annalist 20:387-8 O 16 '22

What 1923 demands of the United States. E. A. Filene. Annalist 21:43 Ja 8 '23

Employees' compensation commission

Employees' compensation commission; its history, activities and organization. G. A. Weber. (Service monographs of U.S. govt. no. 12) 86p Appleton '22

Engineer department

Office of the chief of engineers of the army; its non-military history, activities and organization. W. S. Holt. 166p John Hopkins press, Baltimore '23

Engraving and printing, Bureau of

Heating and ventilating the Bureau of engraving and printing. N. S. Thompson. Il diags plans Am Soc Heat & V E J 29:1-3 Ja '23

Removal of Bureau of engraving heads. Comm & Fin Chr 114:1965-6 My 6 '22

Executive departments

Report on government reorganization. Comm & Fin Chr 116:865-7 Mr 3 '23

Sales help that advertisers are getting from Washington. M. Ryder. Il Ptr Ink M 6:17-18+ F '23

Federal electric railways commission

See Federal electric railways commission

Federal trade commission

See Federal trade commission

Foreign and domestic commerce,**Bureau of**

Bureau of foreign and domestic commerce for American manufacturers. E. G. Babbitt. J Elec 48:302 Ap 15 '22

Commerce bureau improves service to exporters. J. G. Lyne. Il Ry Age 72:115-17 Ja 7 '22

Government help in picking agents in foreign markets. H. H. Morse. Ptr Ink 123:73-4+ My 24 '23

New commodity divisions will give industry many advantages. Automotive Ind 45:878-9 N 3 '21

Speeding up United States government statistics—delay in foreign trade figures, due to revised classifications and other complications, overcome. Comm & Fin Chr 117:390-1 Jl 28 '23

Trying to lessen waste and guesswork in distribution. Ptr Ink 123:10+ Je 14 '23

What Hoover is doing. J. Burnam. Nation's Business 10:16-17 F '22

What the government does for our manufacturers abroad. J. True. Ptr Ink M 7:29-30+ Jl '23

Automotive division

Industry well served by Automotive division, Department of commerce. Automotive Ind 47:130-1 Jl 20 '22

Chemical division

Chemical information from new bureau. Oil Paint & Drug Rep 102:19 Ag 14 '22

Service of Department of commerce to chemical industry. C. R. De Long. Chem Age 30:431-3 O '22; Same. Oil Paint & Drug Rep 102:xi sec 2 S 18 '22

Industrial machinery division

Industrial machinery division of the Department of commerce. Mach 28:430 Ja '22

Industrial machinery division of the Department of commerce. W. H. Rastall. Am Mach 55:944 D 8 '21

Inquiries in the industrial machinery division, Bureau of foreign and domestic commerce. W. H. Rastall. Am Mach 57:23 Jl 6 '22

Foreign relations

America's foreign policy in the Far East. Comm & Fin Chr 116:2697-9 Je 16 '23

Control of American foreign relations, by Q. Wright. Review. Comm & Fin Chr 116:1826-8 Ap 28 '23

Foreign policies and efforts to re-establish peace. W. G. Harding. Comm & Fin Chr 117:509-13 Ag 4 '23

Hughes proposal and readiness of United States to assist in re-establishment of stability of Europe. G. Harvey. Comm & Fin Chr 117:1940-1 O 27 '23

International situation. W. S. Kies. Il Textile World 63:2845+ Ap 28 '23

United States and the world crisis. I. L. Lee. Am Pet Inst Bul 3:10-14 D 30 '22

United States foreign policy. C. E. Hughes. Comm & Fin Chr 115:1998-2001 N 4 '22

U. S. policy in Near East explained in note to Allied powers on forthcoming peace conference. Comm & Fin Chr 115:2222 N 18 '22

Urges that United States keep aloof from European affairs. G. M. Reynolds. Comm & Fin Chr 117:399 Jl 28 '23

Warns against foreign alliances. H. Johnson. Comm & Fin Chr 117:396-9 Jl 28 '23

Willingness of United States to join in conference on reparations. C. E. Hughes. Comm & Fin Chr 117:1839-40 O 27 '23

See also Conference on the limitation of armaments, Washington, D.C.

Japan

See Yap treaty

Mexico

See Mexico—Foreign relations—United States

Russia

See Russia—Foreign relations

Turkey

See Turkey—Foreign relations

Forest products laboratory

Application of new knowledge to industry. Chem Age 30:15-16 Ja '22

United States—Forest products laboratory

—Continued

Forest products laboratory opportunities.

Paper 29:7-9 Ja 25 '22

Forest products laboratory program and publications. Paper Tr J 77:45-9 Ag 30 '23

Testing products of the forest. C: H. Winter. il Am Ind 22:29-34 My '22

Work of the Forest products laboratory. Aerial Age 14:374 D 26 '21

Forest service

Menace to our forests. G. Pinchot. Sci Am 127:52 Jl '22

General land office

General land office; its history, activities and organization. M. Conover. 224p Johns Hopkins press, Baltimore '23

Geological survey

Geological survey and Bureau of mines get \$3,358,790 as 1923 budget. Eng & Min J 114:1043 D 9 '22

Our strenuous geological survey. G. E. Mitchell. il Sci Am 127:78-9, 165-6, 244-5, 332-3+ Ag-N '22

War problems in minerals; United States geological survey, 1914-1918. G: O. Smith. Eng & Min J 112:892-4 D 3 '21

Government printing office

Health and welfare activities in the Government printing office. A. L. Whitney. il Monthly Labor R 16:887-99 My '23

On selling everybody's business. G: H. Carter. Nation's Business 10:40+ D '22

Public printer advocates paper mill for government. Paper Tr J 76:28+ F 8 '23

Industries and resources

American industry during and since the war; abstracts. J. J. Broderick. Elec R (Lond) 92:474-5 Mr 23 '23; Engineering 115:436-7 Ap 6 '23

Enlisting business in peace. J: W. Weeks. Nation's Business 11:44+ Ja '23

Everybody's business. F. W. Parsons. 503p Doubleday '23

Future of American industry. M. Keir. Administration 3:417-30 Ap '22

Future of manufacturing in the United States. H. Hoyt. Annalist 19:320 Mr 13 '22

Industrial America—the end of a thousand-year cycle. H. Hoyt. Administration 5:31-40 Ja '23

Industrial history of the United States. E: S. Cowdrick. 414p Ronald press '23

Industrial history of the United States. L: R. Wells. 584p Macmillan '22

Production and consumption balanced. Management Eng 4:78-80 F '23

Reclassification of the United States 1920 occupation census, by industry. C. Hookstadt. Monthly Labor R 17:1-14 Jl '23

Secret of America's industrial supremacy; with a survey of other countries. J: H. Barnes. Ind Management 66:1-6 Jl '23

Seeing ourselves through the census. Am Mach 58:585-8 Ap 19 '23

Summary of census of manufactures, by industries, for the United States, 1919. 43p U. S. Bureau of the census, Washington '22

What the navy does for industry. L. McNamee. il Am Ind 23:5-12 Mr '23

What the new census shows. Power 55:119-20 Ja 17 '22

See also Agriculture—U.S.; Aircraft industry—U.S.; Automobile industry and trade—U.S.; Building trades—U.S.; Cement industry and trade—U.S.; Ceramic industries—U.S.; Chemical industries—U.S.; Clay industries—U.S.; Coal mines and mining—U.S.; Coal trade—U.S.; Dye industry—U.S.; Electric industries—U.S.; Forests and forestry—U.S.; Gasoline industry—U.S.; Iron industry and trade—U.S.; Iron mines and mining—U.S.; Iron works—U.S.; Lumber trade—U.S.; Machine tool industry—U.S.; Machinery industry—U.S.; Metallurgical plants—U.S.; Mines and mineral resources—U.S.; Mining industry and finance—U.S.; Motor truck industry and trade—U.S.; Oil industries—U.S.; Paint industry and trade

—U.S.; Paper industry and trade—U.S.; Petroleum—U.S.; Petroleum industry and trade—U.S.; Potash—U.S.; Rubber industry and trade—U.S.; Shipbuilding—U.S.; Steel industry and trade—U.S.; Steel works—U.S.; Sugar industry and trade—U.S.; Textile industry—U.S.; Tractor industry and trade—U.S.; United States—Commerce; Water power—U.S.; West—Industries and resources; Wool trade—U.S.; Zinc industry and trade—U.S.

Bibliography

Tariff information, 1921; hearings before the Committee on ways and means, 1921; partial index. E. D. Henley. Special Lib 12:232-3 D '21

Internal revenue bureau

Adventures of a tax return. S. Bent. Nation's Business 9:16-17 D '21

Labor, Department of

Conciliation work of the Department of labor. H. L. Kerwin. Published monthly in Monthly labor review

Division of conciliation; its history, activities and organization. J. Bernhardt. 37p Johns Hopkins press, Baltimore '23

Labor statistics, Bureau of

Bureau of labor statistics, United States department of labor. G. A. Weber. U S Bur Labor Statistics Bul 319:1-59 '22

Methods of procuring and computing statistical information of the Bureau of labor statistics. U S Bur Labor Statistics Bul 326:1-54 '23

Library of Congress

See Library of Congress

Mines, Bureau of

Accident prevention by the United States Bureau of mines. H. F. Bain. Int Labour R 5:723-30 My '22

Bureau of mines; its history, activities and organization. F. W. Powell. 162p [Bibliog. p.146-60] Appleton '22

Geological survey and Bureau of mines get \$3,358,790 as 1923 budget. Eng & Min J 114:1043 D 9 '22

Personnel. Eng & Min J 113:913 My 27 '22

U. S. Bureau of mines. chart Min & Sci P 124:39-40 Ja 14 '22

See also Bain, H. Foster

Experiment stations

Equipment and work of the Northwest experimental station, Seattle. Iron Tr R 70:1474-5 My 25 '22

Mines, Department of (proposed)

Department of mines and its effect on taxation. S: D. Nicholson. Eng & Min J 113:123-4 Ja 21 '22

Nicholson bill would create mine department. Iron Tr R 70:220 Ja 19 '22

National advisory committee for aeronautics

7th annual report for the fiscal year ended June 30, 1921. Aerial Age 14:347+ D 19 '21

Same. Aviation 11:711 D 19 '21

7th annual report, 1921; including technical reports nos. 111 to 132. U S Nat Advisory Com for Aeronautics 1921:1-814 '23

8th annual report of the National advisory committee for aeronautics, 1922; including technical reports nos. 133 to 158. U S Nat Advisory Com for Aeronautics 1922:1-708 '23

Making America independent in the air. il chart diag Mech Eng 45:513-20 S '23

Offices of aeronautic intelligence. W: Knight. Aerial Age 16:143-5 Mr '23

Practical importance of the free flight work of the National advisory committee for aeronautics. T: Carroll. il Aerial Age 16:112-14+ Mr '23

Staff of N.A.C.A. Aviation 12:78 Ja 16 '22

United States—Continued**National museum**

Heating and ventilating U.S. museum. C. R. Denmark. diags plans Am Soc Heat & V E J 29:87-99 Mr '23; Abstract. Heat & Ven 20:53-5 F '23

National park service

National park service; its history, activities and organization. J. Cameron. 172p Appleton '22

National war labor board

National war labor board; a history of its formation and activities, together with its awards and the documents of importance in the record of its development. U S Bur Labor Statistics Bul 287:1-334 '22

Navigation, Bureau of (Dept. of commerce)

Bureau of navigation. L. M. Short. [bibliog. p.113-22] 124p Johns Hopkins press, Baltimore '23

Navy

Amount of steel scrap to be made available. S. G. Koon. Iron Age 108:1280-1 N 17 '21
Boat book of the United States navy. 258p U. S. Navy dept., Washington '21
Disarmament steel loss small. Iron Tr R 69:1272-3 N 17 '21

Father of our modern navy; how Roosevelt pulled the navy out of the rut and gave it a fighting edge. W: S. Sims. Sci Am 129:312 N '23

How disarmament affects steel makers. L. W. Moffett. Iron Age 108:1279-80 N 17 '21
Maintaining our naval strength and efficiency. R. Bean. Annalist 19:461+ Ap 24 '22

Military conservatism. W: S. Sims. Aviation 12:478-80 Ap 24 '22

Navy department seeks means of scrapping ships. Iron Tr R 69:1611-12 D 22 '21

Navy's plans for scrapping battleships. L. W. Moffett. Iron Age 108:1605-6 D 22 '21

New \$1,500,000 U.S. navy research laboratory. Wireless Age 10:62+ S '23

Our navy as a great industrial asset. J. K. Robison. Iron Age 109:1833-4 Je 29 '22

Undivided fleet. Sci Am 128:87 F '23

What the navy does for industry. L. McNamee. il Am Ind 23:5-12 Mr '23

What the treaty left us. Sci Am 127:24-5 JI '22

Why Secretary Denby wants a navy. il Am Ind 22:7-12 My '22

Why the United States must have an adequate navy. R. E. Coontz. Am Ind 22:16-17 Je '22

See also Oil reserves (U.S. navy); United States—Air service, Navy; Warships—U.S.

Navy department

Employees in manufacturing plants of the United States war and navy departments. Monthly Labor R 14:392-7 My '22

How to sell to the navy. E. D. Stanley. Nation's Business 11:60-1+ Mr '23

Navy yards—decision of Departmental wage board. Monthly Labor R 13:828-39 O '21

Schedule of wages for civil employees under the naval establishment. Monthly Labor R 17:838-40 O '23

Ordnance department

Ordnance industrial mobilization. C. C. Williams. charts map Mech Eng 45:627-31 N '23

Technical developments in ordnance department. Am Mach 55:1022a D 22 '21

Patent office

Crying need of the Patent office. Sci Am 126:98 F '22

First step in Patent office relief. Management Eng 2:123-4 F '22

History of the Patent office relief bill. Am Mach 56:436 Mr 23 '22

Improvement in Patent office conditions imperative. T: E. Robertson. Chem Age 29:461 N '21

Need for relief of the Patent office. E. J. Prindle. Ry R 70:23 Ja 7 '22

Patent bureau efficiency will aid manufacturer. Automotive Ind 45:880-1 N 3 '21

Patent office relief bill passed. Power 55:159 Ja 24 '22

Patent office situation. E. J. Prindle. Am Ind 22:18 Ja '22

See also Patent laws and legislation

Politics and government

Conference to be held in Washington Dec. 1 and 2 to discuss a third party movement. Comm & Fin Chr 115:2439-41 D 2 '22

Coolidge preparing to meet the radicals. R. Bean. Annalist 22:395-6 S 24 '23

Economics and accomplishments of Harding administration. H. Hoover. Comm & Fin Chr 115:2109-10 N 11 '22

National non-partisan league formed by radical progressive conference in Washington. Comm & Fin Chr 115:2538-9 D 9 '22

Reorganization of the federal government. Comm & Fin Chr 116:656-7 F 17 '23

See also Taxation—U.S.

Population

Farm population of the United States in 1920 29% of total population. Comm & Fin Chr 115:1691-2 O 14 '22

National population growth expressed by a semi-rational formula. Eng N 87:889 D 1 '21

Post office department

Employment administration in the United States post office department. E: J. Cantwell. Int Labour R 8:51-5 JI '23

Operations of Post office department. H. S. New. Comm & Fin Chr 117:1935-6 N 3 '23

See also Postal service—U.S.

Presidents

See Presidents—United States

Public roads, Bureau of

Bureau of public roads. W: S. Holt. 123p Johns Hopkins press, Baltimore '23

Public roads bureau to expand research program. il Eng N 88:1001 Je 15 '22

Public works

Government construction contracts. Monthly Labor R 14:998-1004, 1216-24; 15:126-30, 368-77 My-Ag '22

Railroad administration

Annual report of director general of railroads. Ry Age 74:380-1 F 10 '23

Director general reports on railroad settlements. Ry Age 71:1213-14 D 17 '21

Extracts from hearings before the Committee on interstate commerce, United States Senate; statements of Walker D. Hines, Wm. G. McAdoo and others. (67th Congress. 2d session, Senate resolution 23) p 1597-1910 Gov't. ptg. office, Washington '22

Federal control period reviewed. W. D. Hines. Ry Age 72:287-90 Ja 28 '22

Painful history of the rail administration's fuel bill. G. G. Yeomans. Ry R 70:88-90, 115-18 Ja 21-28 '22

Progress of railroad administration liquidation. Ry Age 72:427-8 F 18 '22

Railroad administration accounts. Ry Age 71:1275 D 24 '21

Report of the director general, March, 1920-December, 1921. Ry R 70:277-9, 312-14 F 25-Mr 4 '22

Statement of the work which has devolved on the railroad administration since the roads were relinquished by the government. J. C. Davis. Ry Age 73:948-9 N 18 '22

Status of railroad accounts with the government. H. F. Lane. il Ry Age 72:39-42 Ja 7 '22

W. G. McAdoo defends his administration. Ry Age 72:327-30, 371-4, 392-3 F 4-11 '22

Where the railroad administration failed. S. Thompson. Ry R 70:293-5 Mr 4 '22

See also Railroads and state—U.S.—Government operation, 1917-1920

United States—Railroad administration—Cont.**Forest products section**

- Procurement of railway ties under federal control. G. G. Yeomans. Ry R 70:20-2, 55-7 Ja 7-14 '22
- Purchase of railway ties under federal control; an answer to G. G. Yeomans. Ry R 70:159-61 F 4 '22

Reclamation service

See Reclamation service (United States)

Safety work

- Government and safety. E. Stewart. il Nat Safety N 7:27-8 Ja '23

Shipping board

- Government sells entire wooden fleet in one deal; steel ships sold between July 1, 1921, and Sept. 1, 1922. Marine R 52:409 O '22
- Resignation of A. D. Lasker as chairman of United States shipping board. Comm & Fin Chr 116:2728-30 Je 16 '23
- Shipping affairs progressing rapidly at Capital. H. F. Lane. Marine Eng 27:81-2 F '22
- Shipping board—a selling problem as Lasker sees it. J. True. Ptr Ink 123:25-8+ Je 21 '23
- Shipping board and our merchant marine. 35p Mechanics & metals national bank, New York '21
- Shipping board policy. H. F. Lane. Marine Eng 28:521-2, 587-8 S-O '23
- Shipping board to readjust methods of handling its fleet; existing routes to be consolidated. E: P. Farley. Marine Eng 28:659 N '23
- Wage scales, rules, and regulations issued by the U.S. Shipping board emergency fleet corporation. Monthly Labor R 14:518-19 Mr '22
- What the Shipping board did to rid itself of surplus materials. J: F. Richter, jr. Ptr Ink 122:41-2+ Mr 22 '23

Social conditions

- Marshall pleads for patience. T: R. Marshall. Aera 11:905-10 Mr '23

Standards, Bureau of

- Aviation work of the Bureau of standards. F. C. Brown. il Aerial Age 16:115-19 Mr '23
- F. A. Curtis tells about paper laboratories. Paper Tr J 75:30+ Ag 24 '22
- How the Bureau of standards is aiding the builder. Concrete 21:99-100 O '22
- National Bureau of standards. R. S. McBride. il chart Chem & Met Eng 27:1159-64 D 13 '22
- National service to industrial managers. G: K. Burgess. chart Management & Adm 6: 433-6 O '23
- Paper work of Bureau of standards. Paper 29:12-15+ Ja 18 '22
- Publications of the Bureau of standards. U S Bur Stand Circ 24:supl-36 '23
- Relation of federal bureaus to textile industry; annual reports of Bureau of foreign and domestic commerce and of Bureau of standards. Textile World 62:3425-6+ D 16 '22
- Samuel Wesley Stratton made science pay dividends. J. B. Morrow. il Nation's Business 10:21-3 D '22
- Textiles and Bureau of standards. Textile World 62:1782 S 30 '22
- Uncle Sam's question-and-answer office; the Bureau of standards. S. R. Winters. il Sci Am 129:114 Ag '23
- What the Bureau of standards can do for you. il Factory 28:540-1 My '22
- Work of the Bureau of standards. Mach 29: 439 F '23

State department

- How the state department can aid foreign oil development. L. H. Woolsey. Min & Met 187:21-4 Jl '22

Supreme court

- Chief Justice Taft defends United States Supreme court. Comm & Fin Chr 116:2590-1 Je 9 '23

- Proposed limitation of power of U.S. Supreme court to declare statutes unconstitutional. Comm & Fin Chr 116:555-6 F 10 '23

Tariff commission

- Tariff commission. J. Bernhardt. 71p [bibliog. p. 63-7] Appleton '22

Taxation

- See Income tax—United States; Revenue act of 1921; Taxation—United States

Treasury department

- Annual report for the year ended Oct. 31, 1922, of the comptroller of currency. D. R. Crissinger. Comm & Fin Chr 116:674-6 F 17 '23
- Financial procedure in the Treasury in the decade before the Civil war. Comm & Fin Chr 115:2197-9 N 18 '22

Treaties

- Root Anglo-American treaty of 1908 extended until 1928. Comm & Fin Chr 117:278 Jl 21 '23
- See also Conference on limitation of armaments, Washington, D.C.—Treaties; Yap treaty

War department

- Employees in manufacturing plants of the United States war and navy departments. Monthly Labor R 14:987-91 My '22
- Found—business in government; Uncle Sam as sales engineer disposes of surplus property at average return of 41 per cent of wartime cost. J. L. Frink. Iron Tr R 72: 655-8 Mr 1 '23; Same. Foundry 51:181-4 Mr 1 '23; Same. Marine R 53:148-51 Ap '23
- From battlefield to road jobs; what the states have done with the surplus war supplies. D. H. George. il Sci Am 123:327+ My '23
- Government's plans for the mobilization of industry. J. True. Ptr Ink 124:87-8+ Ag 2 '23
- Table showing how surplus war material was distributed to the highway departments of the various states. Automotive Ind 47:103 Jl 20 '22
- See also United States—Chemical advisory board

War industries board

- Industrial America in the World war. G. B. Clarkson. 573p Houghton '23

Weather bureau

- Aerological aid for aviators. map Aerial Age 16:276-8 Je '23
- Building business on weather forecasts. Ptr Ink 123:93-4+ My 10 '23
- Weather bureau and aviation; annual report of C. F. Marvin, chief of the Weather bureau. Aviation 14:46-7 Ja 8 '23
- Weather bureau; its history, activities and organization. G. A. Weber. (Service monographs of U.S. govt. no. 9) 87p Appleton '22
- Wet and dry from a new angle. R. Willoughby. Nation's Business 11:39-40 Ap '23
- What the Weather bureau is doing for aviation. W. R. Gregg. il map Aerial Age 16: 120-3 Mr '23

Women's bureau

- Women's bureau. G. W. Weber. 31p Johns Hopkins press, Baltimore, Md. '23
- United States academy of aeronautics (proposed)

- Regarding a U.S. academy of aeronautics. Aviation 12:753-4 Je 26 '22

United States coal commission

- Anthracle operators reply to Coal fact finding commission—miners make reply on standardization. Comm & Fin Chr 115:2341-2 N 25 '22; Same abr. Coal Age 22:845-6 N 23 '22
- Anthracle report will have potent influence on whole industry. P. Wooton. Coal Age 24:42 Jl 12 '23
- Bill creating U.S. coal commission becomes a law; compromise measure provides for seven members. Coal Age 22:503-4 S 28 '22

United States coal commission—Continued

Brydon committee completes presentation of bituminous operators' case. Coal Age 24:492-3 S 27 '23

Coal commission begins actual collection of data on production costs, wages and waste. P. Wooton. Coal Age 22:848 N 23 '22

Coal commission bent on finding remedy. Iron Age 111:209-10 Ja 18 '23

Coal commission enlists services of other government officials in investigation of the industry. P. Wooton. il Coal Age 23:537-8 Mr 29 '23

Coal commission investigators report on labor relations in anthracite industry. Coal Age 24:257-8 Ag 16 '23

Coal commission recommends supervision of the coal industry. Power 58:553 O 2 '23

Coal commission reports on transportation. Ry Age 75:613-18 S 22 '23

Coal commission seeks means to curb royalty demands of owners of anthracite lands. P. Wooton. Coal Age 23:651-2 Ap 19 '23

Coal commission submits recommendations to eliminate strikes in bituminous-coal mining. Coal Age 24:447-9 S 20 '23

Coal commission will confine efforts to submitting to Congress facts and conclusions. P. Wooton. Coal Age 22:1010 D 21 '22

Coal commission's preliminary report. Am Ind 23:40-7 F '23; Same. Coal Age 23:92-6 Ja 18 '23; Same abr. Monthly Labor R 16:262-8 F '23

Coal commission's work on production cost and waste in mining is ahead of schedule. P. Wooton. Coal Age 23:499 Mr 22 '23

Coal wholesalers submit detailed reply to nineteen questions of U.S. coal commission. Coal Age 22:1009 D 21 '22

Commission finds coal industry overdeveloped. Ry Age 74:225-8 Ja 20 '23

Conclusions and recommendations summarized for government, industry and consumer. Coal Age 24:469-78 S 27 '23

Extracts from first report of U.S. coal commission. Ind Management 65:99-100 F '23

Fact finders write labor code. Iron Tr R 73:755 S 13 '23

Fact finding coal commission cautious in expressing views. Comm & Fin Chr 116:254-7 Ja 20 '23

Federal coal inquiry concluded. Iron Tr R 73:897 S 27 '23

Force of public opinion only remedy for coal strikes. Coal Age 24:407-14 S 13 '23

Incomplete data will hamper commission in making report Jan. 15; important deductions likely. P. Wooton. Coal Age 22:1047 D 23 '22

Miners' union urges detailed probe of anthracite; union disregards facts, says Warriner. Coal Age 23:383-4 Mr 1 '23

National coal association suggests investigation of seven fundamental points by coal commission. P. Wooton. Coal Age 22:803-5 N 16 '22

No mediation of wage-scale disputes will be undertaken by U.S. coal commission. P. Wooton. Coal Age 22:967 D 14 '22

President would amend coal commission act to make questionnaires answerable under oath. P. Wooton. Coal Age 22:887 N 30 '22

Recommend government regulation of coal. Ry Age 75:577-80 S 29 '23

Report of U.S. coal commission on anthracite. Coal Age 24:43-62 JI 12 '23; Excerpts. Comm & Fin Chr 117:165-8 JI 14 '23; Elec Ry J 62:56-7 JI 14 '23; Eng N 91:75-6 JI 12 '23; Iron Tr R 73:123 JI 12 '23; Management & Adm 6:221-3 Ag '23; Monthly Labor R 17:318-22 Ag '23; Power 58:101-2 JI 17 '23; Ry Age 75:77-8 JI 14 '23

Suggestions for the government's Fact-finding commission. C. W. Atkins. Coal Age 22:959-60 D 14 '22

Supplementary report of United States coal commission in anthracite industry. Comm & Fin Chr 117:629-33 Ag 11 '23; Excerpts. Power 58:272-3 Ag 14 '23

That coal industry should reform from within seen as salient point of commission's final report. P. Wooton. Coal Age 24:479-80 S 27 '23

Thickness of coal, size of mine, and use of machinery, the three factors in efficient production. Coal Age 24:505-8 O 4 '23

Too many mines and miners, says Coal commission. Power 57:140 Ja 23 '23

United States coal commission. Monthly Labor R 15:1123-4 N '22

U. S. coal commission arraigns jobbers in report on distribution; suggests regulation in emergency. Coal Age 24:639-40 O 25 '23

U.S. coal commission granted \$400,000 appropriation; union not to have access to cost reports. P. Wooton. Coal Age 23:421 Mr 8 '23

United States coal commission named. por Coal Age 22:619-20 O 19 '22

United States coal commission shows who profited. Power 58:398 S 4 '23

Work for fact-finding commission appointed by President. I. C. Parfitt. Coal Age 23:339 F 22 '23

Work of the U.S. coal commission. E. McAuliffe. Ry R 72:855 My 19 '23

United States fastener company, Boston
This idea secured 451 live prospects. System 41:291-2 Mr '22

United States grain growers, incorporated
Reorganization. Comm & Fin Chr 115:931 Ag 26 '22

United States independent telephone association
Annual convention, Chicago, Nov. 17-19. Elec R 79:781-2 N 19 '21

United States naval institute
Classified analytical index to the proceedings March 1902-October 1919. J. M. Saunders. 171p United States naval institute, Annapolis, Md. '21

United States potters' association
44th annual meeting, New York, April 10-12. Brick & Clay Rec 62:785-6 My 1 '23

United States railroad labor board. See Railroad labor board

United States realty and improvement company
19th consolidated annual report for the year ended April 30, 1923. Comm & Fin Chr 116:2530-2 Je 2 '23

United States rubber company
Annual report of the United States rubber co. India Rubber W 66:556-7 My '22

Annual report of the United States rubber co. India Rubber W 68:445-6 Ap '23

N. W. Ayer & son win suit against U.S. rubber co. for \$178,620.87. Ptr Ink 123:17-20+ Ap 26 '23

U.S. rubber co.'s rubber plantations. Chem Age 31:108 Mr '23

United States steel corporation
Annual report for 1921 of the United States steel corporation; editorial. Comm & Fin Chr 114:1230-2 Mr 25 '22

Annual report of the United States steel corporation; editorial. Comm & Fin Chr 116:1228-30 Mr 24 '23

Foreign holdings of United States steel corporation. Comm & Fin Chr 114:271-2 Ja 21 '22

Foreign holdings of United States steel corporation. Dec. 31, 1922. Comm & Fin Chr 116:252-3 Ja 20 '23

Foreign holdings of United States steel corporation show increase. Comm & Fin Chr 117:1740 O 20 '23

Glimpse into the works of the U.S. steel corporation. il Ind Eng 81:2-3 Ja '23

Report for the third quarter of 1922. Iron Age 110:1153 N 2 '22

Results for quarter and 12 months ending Dec. 31, 1922. Comm & Fin Chr 116:511-12 F 3 '23

Steel corporation output less; report of 1921 operations. Iron Tr R 70:802-3+ Mr 23 '22; Iron Age 109:815-17 Mr 23 '22

20th annual report—for the fiscal year ended December 31, 1921. Comm & Fin Chr 114:1297-1303 Mr 25 '22

21st annual report for the fiscal year ended December 31, 1922. Comm & Fin Chr 116:1288-93 Mr 24 '23; Iron Age 111:830-3 Mr 22 '23; Iron Tr R 72:862-3+ Mr 22 '23

United States steel corporation—Continued

United States steel corporation. K. Page. (Christianity and industry 5) 32p Doran '22
U.S. steel corporation mines 23,293,471 tons of coal in 1922; wages fall. Coal Age 23:533 Mr 29 '23

United States worsted company

U.S. worsted reorganization plan. Textile World 62:3431+ D 16 '22

United typhothetae of America

Organization work in the printing industry. F. W. Gage. Inland Ptr 72:135-6 O '23
36th annual convention, Cleveland, Ohio, Oct. 16-20. Inland Ptr 70:251-2 N '22
United typhothetae of America ordered by Federal trade commission to cease certain methods of education relative to cost accounting. Comm & Fin Chr 117:1086 S 8 '23

Units

Code on definitions and values prepared by the A.S.M.E. committee on power test codes. Mech Eng 43:805-10+ D '21
Universal and other constants. E. Karrer. J Fr Inst 196:79-87 JI '23

See also Electric units; Heat unit; Horsepower; Metric system; Weights and measures

Universal craftsmen council of engineers

20th international convention, Cleveland, Ohio, Aug. 7-11. Power 56:303 Ag 22 '22

Universal joints. See Joints, Universal**Universal language. See Esperanto; Ido****University extension**

Extension and correspondence schools. J. A. Moyer. Mech Eng 45:169-73 Mr '23

Unsaturated compounds

Über die einwirkung von alkalischem wasserstoffsperoxyd auf ungesättigte verbindungen. E. Weitz and A. Scheffer. Deutsche Chem Gesell Ber 54:2327-44 O '21; Abstract. Chem Soc J 120 pt 1:868-9 D '21

See also Double bond

Upholstery

Closed cars and upholstery goods. Textile World 63:3480-1 My 26 '23
Practical upholstery and the cutting of loose covers. F. Palmer. 271p Van Nostrand '21

See also Automobiles—Upholstery

Uracil

Studies on catalysis; the reduction of uracil to hydro-uracil. E. B. Brown and T. B. Johnson. Am Chem Soc J 45:2702-8 N '23

Uranium

Adsorption of uranium-X and its isotope, thorium, by basic ferric acetate. A. C. Brown. Chem Soc J 121:1736-43 S '22
Preparation of metallic uranium. R. W. Moore. diags Am Electrochem Soc Trans v 43 (preprint 8):95-101 My '23

Radio-active disintegration series and the relation of actinium to uranium. A. S. Russell. diags Philos Mag 6th ser 46:642-56 O '23

Radium, uranium and vanadium. F. L. Hess. Eng & Min J 115:95 Ja 20 '23

Uranium and its metallurgical applications. Engineering 112:841-2 D 23 '21; Abstract. Min & Sci P 124:266 F 25 '22

Uranium and radium mining in 1921. R. B. Moore. Eng & Min J 113:92 Ja 21 '22

Uranium and radium of Katanga. M. H. Buttgenbach. Min & Sci P 123:636-7 N 5 '21

Uranium-bearing asphaltite sediments of Utah. F. L. Hess. il map Eng & Min J 114:272-6 Ag 12 '22

See also Uranium steel

Analysis

Electrometric titration of uranium with potassium permanganate and potassium dichromate. D. T. Ewing and E. F. Eldridge. diags Am Chem Soc J 44:1484-9 JI '22

Experiments relative to the determination of uranium by means of cupferron. J. A. Holaday and T. R. Cunningham. Am Electrochem Soc Trans v 43 (preprint 7):83-93 My '23

Glacial acetic acid method for determining uranium in carnotite. W. W. Scott. J Ind & Eng Chem 14:581-2 Je '22

Method for the quantitative separation of beryllium and uranium. P. H. M. -P. Brington and R. B. Ellestad. Am Chem Soc J 45:395-8 F '23

New qualitative test for uranium. H. D. Buell. J Ind & Eng Chem 14:593 JI '22

Successive electrometric titration of iron, vanadium and uranium. R. G. Gustavson and C. M. Knudson. Am Chem Soc J 44:2756-61 D '22

Uranium steel

Uranium as a steel alloying element. Automotive Ind 46:1275-6 Je 8 '22

Uranyl-hypophosphites

Komplexe uranyl-hypophosphite. A. Rosenheim and G. Trewendt. Deutsche Chem Gesell Ber 55:1957-60 JI '22

Uranyl nitrate

Thermal analysis at low temperatures. F. E. E. Germann. Phys R 19:623-8 Je '22

Uranyl nitrate icositetrahydrate

New hydrate of uranyl nitrate. F. E. E. Germann. Am Chem Soc J 44:1466-9 JI '22

Urea

Action of urease in the decomposition of urea. E. Mack and D. S. Villars. Am Chem Soc J 45:505-10 F '23

Application of the Hofmann reaction to substituted carbamides. G. R. Elliott. Chem Soc J 123:804-13 Ap '23

Chemistry of urea. E. A. Werner. 212p Longmans '23

Constitution of carbamides; the decomposition of urea by sodium hypobromite in alkaline solution, and an improved procedure for the estimation of urea by this means. E. A. Werner. Chem Soc J 121:2315-25 O '22

Determination of urea alone and in the presence of cyanamide by means of urease. E. J. Fox and W. J. Geldard. Ind & Eng Chem 15:743-5 JI '23

Formaldehyde-urea condensation products. Chem Age 31:473-4 O '23

Manufacture of urea. Chem Age 31:236 My '23
Spiro-pyrimidines; condensation of cyclopropane-1,1-dicarboxylic ester with ureas. A. W. Dux and L. Yoder. Am Chem Soc J 43:2097-2101 S '21

Synthesis of urea from ammonia and carbon dioxide. N. W. Krase and V. L. Gaddy. diags J Ind & Eng Chem 14:611-16 JI '22

Synthesis of urea with the enzyme urease. E. Mack and D. S. Villars. Am Chem Soc J 45:501-5 F '23

Transformation industrielle de l'ammoniaque en urée, engrais de haute concentration. C. Matignon. diags Chimie & Ind 7:1057-70 Je '22

Urea rearrangement. T. L. Davis, H. W. Underwood, jr. and K. C. Blanchard. Am Chem Soc J 44:2595-2604; 45:1816-20 N '22, JI '23

See also Cyanourea; Dianthraquinonyl-ureas

Urea phosphate

Urea phosphate; patent. Chem & Met Eng 23:178 Ja 24 '23

Urease

Action of urease in the decomposition of urea. E. Mack and D. S. Villars. Am Chem Soc J 45:505-10 F '23

Determination of urea alone and in the presence of cyanamide by means of urease. E. J. Fox and W. J. Geldard. Ind & Eng Chem 15:743-5 JI '23

Studies on enzyme action; the relationship between the chemical structure of certain compounds and their effect upon the activity of urease. E. W. Rockwood and W. J. Husa. Am Chem Soc J 45:2678-89 N '23

Synthesis of urea with the enzyme urease. E. Mack and D. S. Villars. Am Chem Soc J 45:501-5 F '23

Urethanes

Disassociation of *n*-pentamethylene (or *n*-piperidyl)-S-triarylmethyl-dithio-urethanes with the formation of triaryl methyls. F. F. Blicke. Am Chem Soc J 45:544-9 F '23

Urethanes—Continued

Equilibrium in the system *m*-dinitrobenzene-urethane. N. A. Fushin and A. Fioletova. Chem Soc J 121:2822-30 D '22

Urethanes from chlorine-substituted secondary and tertiary alcohols. L. Yoder. Am Chem Soc J 45:475-9 F '23

Uric acid

Action of acetic anhydride on uric acid; abstract. H. Biltz and W. Schmidt. Chem Soc J 124 pt 1:489-91 My '23

Action of hydrogen peroxide upon certain phenyl-substituted uric acids. F. J. Moore and E. S. Gatewood. Am Chem Soc J 45:135-45 Ja '23

Reduction of uric acid glycols; a contribution to the characterisation of their hydroxyls. H. Biltz and R. Lemberg. Chem Soc J 124 pt 1:955-7 S '23

Urquhart, Leslie

Engineers of note. W. A. Doman. por Eng & Min J 116:488 S 22 '23

Uruguay

See also Electric industries—Uruguay

Commerce

Jewelry and silverware in Argentina, Uruguay and Brazil. S. W. Rosenthal. il U S Bur For & Dom Com 214:89-114 '22

Economic conditions

Foreign securities in American markets—Uruguay. Annalist 22:475+ O 8 '23

Urushiol

Über den hauptbestandteil des Japanlacks; stellung der doppelbindungen in der seitenkette des urushiois und beweisführung, dass das urushiol eine mischung ist. R. Majima. Deutsche Chem Gesell Ber 55:172-91 Ja '22; Abstract. Chem Soc J 122 pt 1:262-3 Mr '22

Usco. See Cast iron**Used cars. See Automobile industry and trade—Used cars****Used trucks. See Motor truck industry and trade—Used trucks****Utah**

Wilderness wonders to be made accessible; natural bridges in Utah. J. C. Alter. il map Pop Mech 40:41-3 Jl '23

See also Drainage—Utah; Iron ores—Utah; Mines and mineral resources—Utah; Petroleum—Utah; Water power—Utah

Public works

Engineering in Utah—Ogden and Salt Lake. il Eng N 89:363-4 Ag 31 '22

Utica, New York**Rapid transit**

Commission orders increase in Utica and decrease in Syracuse. Elec Ry J 60:650-1 O 14 '22

Water supply

Protecting watersheds from pollution. G. C. Hodges. Can Eng 44:493-4 My 15 '23

V**V-blocks**

General details of V-block design. G. Phelps. diags Mach 28:624 Ap '22

V-notch meter

V-notch meter and its application to the paper industry. L. G. Chase. Paper Tr J 75:49 S 21 '22

Vaal river

Rand water supply and Vaal river barrage. il diag Engineering 116:203-5 Ag 17 '23

Vaal river scheme and barrage. W. Ingham. il (supp) diags Engineer 134:576-8 D 1 '22; Excerpts. Eng & Contr 59:251-6 Ja 31 '23

Vacations

Can a business shut down for vacations? F. I. Charles. System 43:593-4+ My '23

Employee vacation plans. M. and D. Bloomfield. 23p Bloomfield & Bloomfield, 6 Beacon st., Boston '23

Vacations with pay. E. A. Terrell. Am Mach 57:692 N 2 '22

What about handling vacations this year? C. A. Upson. il Factory 30:405-8+ Ap '23

Vacuum

Bucking up rivets by vacuum. diags Marine R 52:180-1 Ap '22

Dielectric strength of the vacuum; electrostatic ionization gradient of metal electrodes. J. L. R. Hayden. Am Inst E E J 41:852-3 N '22

Effect of vacuum upon economy in marine practice. F. V. Smith. Marine Eng 27:187 Mr '22

Holding work by vacuum. C: O. Herb. il diags Mach 30:12-15 S '23

Temperature as a measure of vacuum. Power 56:430, 544-5, 698-9, 776-7, 856 S 12, O 3, 31, N 14, 28 '22

Vacuum drying. G. Devine. il Chem & Met Eng 29:492-4 S 10 '23

Vacuum bottles. See Thermos bottles**Vacuum brakes. See Brakes, Vacuum****Vacuum cleaners**

New model truck mounted air cleaner. il Elec Ry J 62:382 S 8 '23

Six-pound vacuum cleaner strapped to shoulder. il Pop Mech 40:506 O '23

Directories

Vacuum cleaner directory. J Elec 51:sup34a-b, 301-2 Jl 15, O 15 '23

Manufacture

Aluminum sweeper castings. P. Dwyer. il Foundry 51:209-15 Mr 15 '23

Making brushes for the Hoover sweeper. F. H. Colvin. il Am Mach 58:333-4 Mr 1 '23

Methods used in assembling sweepers. F. H. Colvin. il Am Mach 58:281-3 F 22 '23

Merchandizing

Sales suggestions on the vacuum cleaner. N E L A Bul 9:119-20 F '22

Squeezing new use opportunities dry. J. Tuteur. Ptr Ink 117:57-8+ D 1 '21

Vacuum cleaning

Central vacuum cleaning systems. E. J. Skillman. diags Arch Forum 37:139-40 S '22

Dust removal by vacuum sweeping in grain elevator. il Eng N 89:1120 D 28 '22

Instruction course for custodians and janitors. E. S. Hallett. Heat & Ven 18:39-40 D '21; 19:38-9 F '22

Removal of dust in the works. il Ind Management (Lond) 8:217 O 19 '22

Taking the menace out of dust; life and property saved and safeguarded by the use of the vacuum cleaner in industry. F. C. Allen, jr. il Sci Am 128:96 F '23

Tentative specifications for vacuum cleaning system. Am Arch 123:sup12 F 14 '23

Vacuum cleaning applied to industrial plants. C: L. Hubbard. diags Factory 28:285-8 Mr '22

Vacuum containers

Metal vacuum vessels and liquefied gases; report of the Oxygen research committee; abstracts. Engineering 116:501-2 O 19 '23; Chem Age (Lond) 9:422 O 20 '23

Vacuum pans

Internally heated laboratory vacuum pan. J. F. Brewster. diag Ind & Eng Chem 15:139 F '23

Salt pans; some standard proportions for vacuum pans used in the salt industry. W. F. Downing, jr. diag Chem Age 30:17-18 Ja '22

Vacuum pan evaporation in the sugar industry. C. F. Huttlinger. Chem & Met Eng 29:498-9 S 10 '23

Vacuum pumps

Condensation and vacuum pumps for the heating plant. E. Cunningham. diags plans Dom Eng 102:79-81 Ja 13 '23

Vacuum pumps—Continued

- Pompe moléculaire hélicoïdale. Holweck. *diag Génie Civil* 83:67 J1 '23
- Screw-viscosity pumps. *diags Engineering* 114: 606-7 N 17 '22
- Simple and effective pump creates high vacuum. *diag Pop Mech* 38:178 N '22
- Size selection of dry-vacuum pumps. E. W. Noyes and H. V. Sturtevant. *Mech Eng* 45: 103-4 F '23; *Abstract. Power* 56:922-3 D 12 '22; Same. *Elec W* 80:1336-7 D 16 '22

Vacuum recorders

- New Uehling combined barometer and vacuum recorder. *diags Power* 57:633 Ap 24 '23

Vacuum traps

- Wilmon vacuum trap. *il Power* 55:99 Ja 17 '22

Vacuum tubes

- A B C of vacuum tubes in radio reception. E. H. Lewis. 132p Henley '22
- Absorption of hydrogen by elements in the electric discharge tube. F. H. Newman. *diags Philos Mag* 6th ser 44:215-26 J1 '22
- Alternating current for vacuum tube filament. S. Weitzer. *diags Wireless Age* 9:51-2 Ap '22
- Application of the thermionic valve. *Sci Am* 127:325 N '22
- Application of the vacuum tube to chemistry: titrating dilute solutions of salt with silver nitrate. D. F. Calhane and R. E. Cushing. *diag Ind & Eng Chem* 15:1118-20 N '23
- Beware the bootleg radio tube. *Wireless Age* 10:61 S '23
- Chemical action and the disappearance of gas in the electrical discharge tube. F. H. Newman. *Am Electrochem Soc Trans v* 44 (preprint 5):43-9 S '23
- Description and operation of an electron-tube detector unit for simple radio receiving outfits. *il diags U S Bur Stand Circ* 133:1-21 '22
- Development of an electron tube amplifier which uses 60-cycle alternating current to supply power for the filaments and plates. P. D. Lowell. *il diags Am Inst E E J* 41:488-90 J1 '22; Same abr. *Engineer* 134:281 S 15 '22
- Development of naval high-power valves. H. Morris-Airey. *Engineer* 135:372-4 Ap 6 '23; *Abstract. Elec R (Lond)* 92:433-4 Mr 16 '23
- Direct-reading thermionic voltmeter, and its applications. E. B. Moullin. *diags Inst E E J* 61:295-303; *Discussion. 304-7 F* '23; *Abstract. Engineer* 134:634 D 15 '22
- Disintegration in discharge tubes. H. P. Waran. *diags Philos Mag* 6th ser 46:305-12, pl 5 Ag '23
- Dry cell radio vacuum tube. H. M. Ryder. *il Elec J* 18:536-8 D '21
- Dry cell vacuum tube. *il Wireless Age* 9:29+ Mr '22
- Edison effect and its modern applications. C. H. Sharp. *il diags Am Inst E E J* 41:68-78 Ja '22
- Effect of pressure and gas content on the action of vacuum-tube detectors. H. A. Brown and C. T. Knipp. *Phys R* 19:278-80 Mr '22
- Experimental tube using 110-volt a. c. on filament and plate. *diags Wireless Age* 10: 65-6 D '22
- Filament and plate current direct from A.C. supply; eliminating storage batteries. J. Graff and others. *diags Wireless Age* 9:38-40 Mr '22
- 5-watt vacuum tube transmitter. G. L. Gates and others. *diags Wireless Age* 9:27-31 F '22
- French high power transmitting tubes. *il Wireless Age* 9:56-8 S '22
- Future of vacuum tube in general engineering field. R. F. Yates. *Elec W* 78:1176 D 10 '21
- Génération par tubes électroniques d'oscillations polyphasées de haute fréquence. R. Mesny. *diag Génie Civil* 81:424 N 4 '22
- Heating vacuum tube filaments from 110 volts d.c. H. P. Thomas. *diag Wireless Age* 9: 51 Ap '22
- High-power thermionic valves; recent developments. *il Elec R (Lond)* 91:921-2 D 15 '22
- High-powered vacuum tubes for radio work. *il Pop Mech* 39:54 Ja '23
- Hot cathode rectifier as applied to radio transmitters. D. G. Little. *il diags Elec J* 20:139-41 Ap '23
- Hydrogen spectra from long vacuum tubes. R. W. Wood. *diag Philos Mag* 6th ser 42: 729-45, pl 21-2 N '21
- Illumination of the spectroscope with end-on vacuum tubes. T. R. Merton and R. C. Johnson. *Philos Mag* 6th ser 46:448-9, pl 9 S '23
- Ionic currents. M. Leblanc. *diags Elec R (Lond)* 91:353-4 S 8 '22
- Lampe démontable de grande puissance pour T. S. F. Holweck. *diag Génie Civil* 83:111-12 Ag 4 '23
- Les lampes à trois électrodes où le courant est transporté par des ions, et leurs applications. M. Leblanc. *diags Génie Civil* 81:141-2 Ag 5 '22
- Method for the neutralization of electron space charge by positive ionization at very low gas pressures. K. H. Kingdon. *Phys R* 21:408-18 Ap '23
- Methods of obtaining negative potentials for vacuum tubes. B. Steinmetz. *diags Wireless Age* 10:66-7 Je '23
- New non-oscillating tube. *diags Wireless Age* 10:59-60 F '23
- New radio-detector tube. *diags Elec W* 80:1406 D 23 '22
- New radio detector valve; non-interfering liquid electrode type. *diags Elec R (Lond)* 92:677-8 Ap 27 '23
- Notes on vacuum tubes. M. L. Snyder. *diags Wireless Age* 10:68-9 Ag '23
- 100-kilowatt tube developed successfully. *il diags Wireless Age* 10:60-1 O '22
- One million watt vacuum tube is largest in world. *il J Elec* 49:377 N 15 '22
- Operation of vacuum tubes in radio. D. S. Brown. 88p *Wireless press*, New York '22
- Oscillation generator of constant frequency. *diags Wireless Age* 9:69-70 Ag '22
- Oscillation hysteresis in a triode generator with two degrees of freedom. B. van der Pol. *diags Philos Mag* 6th ser 43:700-19 Ap '22
- Physics of the three-electrode bulb. K. T. Compton. *J Fr Inst* 194:29-48 J1 '22
- Practical alternating-current radio receiving tube. H. M. Freeman. *il diags Elec J* 19: 501-5 D '22
- Pressure and gas content in vacuum tube detectors. H. A. Brown and C. T. Knipp. *Wireless Age* 9:78-9 J1 '22
- Production of nitric oxides and ozone by high voltage electric discharges. K. B. McEachron. *Am Electrochem Soc Trans v* 44 (preprint 3):71-86 S '23
- Properties of vacuum tube filaments and means for prolonging tube life. J. Marsten. *Wireless Age* 10:69-70 Ja '23
- Quantitative analysis of the thermionic tube oscillation generator. H. G. Möller. *diag Electrician* 89:537-8 N 10 '22
- Radio tube requiring no batteries announced. *Elec W* 80:1008 N 4 '22
- Radio vacuum tube. H. M. Freeman. *diags Elec J* 19:462-9 N '22
- Recent developments in vacuum tubes of giant size for radio and power transmission. *il Sci Am* 128:24+ Ja '23
- Rectified a. c. for plates and a. c. for filaments of vacuum tubes. M. Wolf. *diags Wireless Age* 9:27+ Ja '22
- Regeneration system. R. R. Batcher. *diags Wireless Age* 9:74-6 Je '22
- Short electric waves obtained by valves. E. W. B. Gill and J. H. Morrell. *diags Philos Mag* 6th ser 44:161-78 J1 '22
- Simple method of extending the Balmer series of hydrogen in a vacuum tube. R. Whiddington. *Philos Mag* 6th ser 46:605-7 O '23
- Solution of the representative differential equation of the triode oscillator. E. V. Appleton and W. M. H. Graves. *Philos Mag* 6th ser 45:401-15 Mr '23
- Something new in tubes: the Donle non-interfering detector. *il diag Sci Am* 128:253 Ap '23

Vacuum tubes—Continued

Thermionic triode as rectifier. E. B. Moullin and L. B. Turner. *diags Inst E E J* 60:706-19 Je '22; Same cond. *Electrician* 88:442-4 Ap 14 '22; Discussion. *Inst E E J* 60:719-24 Je '22

Thermionic tubes in radio telephony and telephony. J. Scott-Taggart. 424p *Wireless press*, London, New York '21

20-kilowatt 15,000-volt rectifier for the United States navy. A. Schmidt, jr. *il diag Gen Elec R* 26:276-8 My '23

Three tubes work as six in reflex radio set. *il Pop Mech* 39:22 Ja '23

Tubes used in trans-oceanic service. *Wireless Age* 10:55-6 N '22

Type of oscillation-hysteresis in a simple triode generator. E. V. Appleton and B. van der Pol. *diags Philos Mag* 6th ser 43:17-93 Ja '22

Unilateral dynamic characteristics of three-electrode vacuum tubes. J. G. Frayne. *diag Phys R* 19:629-51 Je '22

Use of a triode valve in registering electrical contacts. G. A. Tomlinson. *diag Philos Mag* 6th ser 44:870-2 N '22

Use of high-power vacuum tubes. I. Langmuir. *il diag Elec W* 80:881-3 O 21 '22

UV-199 tube. *Sci Am* 129:284 O '23

Vacuum tube as amplifier and detector. *Aerial Age* 15:355-4 Je '22

Vacuum tubes as power oscillators. D. C. Prince. *Elec W* 82:499 S 8 '23

Where billions mean nothing—in a vacuum tube. J. Mills. *diag Wireless Age* 10:53-4 Ja '23

Will the direct current era return? oscillating and rectifying vacuum tubes as applied to power distribution. R. F. Yates. *il diag Sci Am* 126:242 Ap '22

Wireless valve patents. *Engineering* 115:437 Ap 6 '23

See also Amplifiers, Vacuum tube; Kenotron; Magnetron; Negatron; Pliotron; Radiotron; X ray tubes

Manufacture

Art of sealing base metals through glass. W. G. Houskeeper. *il diags Am Inst E E J* 42:954-60 S '23; Discussion. 42:1350-1 D '23

Manufacture of the Mullard valve. *il Electrician* 88:317-19 Mr 17 '22

Vail, Theodore N.

"The future?" Theodore N. Vail asked—. A. S. Hibbard. *por System* 44:598-9 N '23

Reminiscences of a veteran mechanical engineer. W. H. Odell. *por Power* 58:181-2 Ji 31 '23

Vail medal

Ten receive first award of Theodore N. Vail medal. *il Elec R* 79:860-2 D 3 '21

Valence

Application of the octet theory to single-ring aromatic compounds. E. C. Crocker. *il diags Am Chem Soc J* 44:1618-30 Ag '22

Beiträge zum valenzproblem des schwefels; die formalen schwefel-analoga der aromatischen diazoverbindungen. H. Lecher and K. Simon. *Deutsche Chem Gesell Ber* 54:2249-51 O '21

Beiträge zum valenzproblem des schwefels; die molekulargrösse des rhodans. H. Lecher and A. Goebel. *Deutsche Chem Gesell Ber* 54:2223-9 O '21

Beiträge zum valenzproblem des schwefels; über das *o*-nitrophenyl-dithiochlorid. H. Lecher and K. Simon. *Deutsche Chem Gesell Ber* 55:2423-32 S '22

Electron theory of valence as applied to organic compounds. J. Stieglitz. *Am Chem Soc J* 44:1293-1313 Je '22

Electron theory of valency applied to coordination compounds. C. H. Spiers. *Soc Chem Ind J (Chem & Ind)* 42:534-8 Je 1 '23

Electronic theory of valency—intramolecular ionization. T. M. Lowry. *Philos Mag* 6th ser 45:1105-18 Je '23

Electron valency theories and stereochemistry. S. Sugden. *Chem Soc J* 123:1861-5; Discussion. T. M. Lowry. 1866-7 Ag '23

Empirical rule for substitution in benzene derivatives. D. Hoffert. *Soc Chem Ind J (Chem & Ind)* 42:348-9 Ap 6 '23

Explanation of the property of induced polarity of atoms and an interpretation of the theory of partial valencies on an electronic basis. W. O. Kermack and R. Robinson. *Chem Soc J* 121:427-40 Mr '22

Isosterism of phenyl isocyanate and diazobenzene-imide. W. H. Carothers. *Am Chem Soc J* 45:1734-8 Ji '23

Magnetic valency and the radiation hypothesis. F. T. Peirce. *diags Philos Mag* 6th ser 45:317-23 F '23

Multiple-valency in the ionization by alpha rays. T. R. Wilkins. *Phys R* 19:210-20 Mr '22

Nature of secondary valence. H. W. Smith. *J Phys Chem* 25:160-9, 204-63, 605-27, 721-34; 26:256-71, 349-57 F-Mr, N-D '21, Mr-Apr '22

New theories of valency. E. B. R. Prideaux. *Chem Age (Lond)* 8:138-9 F 10 '23

Octet theory of induced alternate polarities; the domains occupied by octet-stable and octet-unstable centres. R. Fraser and J. E. Humphries. *Philos Mag* 6th ser 46:331-4 Ag '23

Properties of subsidiary valence groups; the preparation, properties and molecular volume relationships of the hydrates and amines of cobalt fluoride, bromide, iodide, nitrate, carbonate and citrate. G. L. Clark and H. K. Buckner. *Am Chem Soc J* 44:230-44 F '22

Structure of the halides and oxides of the 5th, 6th and 7th groups. E. B. R. Prideaux. *Soc Chem Ind J (Chem & Ind)* 42:672-5 Ji 6 '23

Studies in organic compounds containing sulphur; the effect on general absorption due to the valency and mode of linkage of the sulphur atom. D. T. Gibson, H. Graham and J. Reid. *Chem Soc J* 123:874-81 Ap '23

Studies of electrovalency; co-ordinated hydrogen. T. M. Lowry and H. Burgess. *Chem Soc J* 123:2111-24 S '23

Studies of electrovalency; the polarity of double bonds. T. M. Lowry. *Chem Soc J* 123:822-31 Ap '23

Theoretical derivation of the principle of induced alternate polarities. A. Lapworth. *Chem Soc J* 121:416-27 Mr '22

Transference experiments with electrometric derivatives of hydroxylamine. W. A. Noyes and J. H. Hibben. *Am Chem Soc J* 45:355-9 F '23

Über die angebliche sechswertigkeit des kohlenstoffs in den carbonium- und farbstoffsalzen. A. Hantzsch. *Deutsche Chem Gesell Ber* 54:2569-72 N '21

Über die wanderungsleichtigkeit und affinitätsbeanspruchung der äthylgruppe bei der pinakolin-umlagerung. B. Nybergh. *Deutsche Chem Gesell Ber* 55:1960-6 Ji '22

Valency and co-ordination. S. H. C. Briggs. *Chem Soc J* 119:1876-9 N '21

Varying valency of platinum with respect to mercaptan radicals. P. C. Rây. *Chem Soc J* 123:133-41 Ja '23

See also Chemical affinity; Double bond

Valerolactone

Studies in chemical reactivity; the mechanism of the formation of valerolactone. W. H. Garrett and W. C. M. Lewis. *Am Chem Soc J* 45:1091-1102 My '23

Valley Forge

Washington memorial at Valley Forge. C. H. Thomas. *il Bldg Age* 44:21-3 N '22

Valley of Ten Thousand Smokes

Origin and mode of emplacement of the great tuff deposits of the Valley of Ten Thousand Smokes. C. N. Fenner. 74p *National geographic soc.*, Washington '23

Valparaiso, Chile**Harbor**

Construction features of harbor works at Valparaiso. A. C. Walsh and W. F. Stanton. *Eng & Contr* 58:201-2 Ag 30 '22

Improvement of the port of Valparaiso. A. C. Walsh and W. F. Stanton. *Engineering* 113:323 Mr 17 '22; Same. *Eng & Ind Management* 7:429-30 My 18 '22

Valuation

Appraisals as a foundation for property records. L. H. Olson. Paper Tr J 77:57-60 JI 26 '23

Cards that show plant values. L. G. Williams. Factory 29:25-6 JI '22

Evolution and value of the appraisal. A. B. Gimlin. Inland Ptr 68:493-4 Ja '22

Inventory valuation. W. A. Paton. Administration 3:291-302 Mr '22

Marking manufactured products as an aid in appraisal work. W. M. Lowry. Munic Eng 63:161-2 N '22

Of what good is an appraisal? H. B. Hall. Brick & Clay Rec 59:968-71 D 27 '21

Treasury regulations relating to inventories. F. Lowson. Administration 3:330-4 Mr '22

Valuation in the retrospective. J. S. Worley. W Soc E J 28:438-42 O '23

Valuation of inventories. W. A. Paton. J Account 34:432-50 D '22

Value of an industrial appraisal to the management. J. S. Brown. Management Eng 2:76-8 F '22

What is investment? C. W. McKay. Ind Management 63:282-6 My '22

What is the value of trade lists as an asset? Ptr Ink 121:25-6 O 5 '22

See also Buildings—Valuation; Depreciation; Electric railroads—Valuation; Electric utilities—Valuation; Forest valuation; Gas companies—Valuation of property; Inventories; Machine tools—Valuation; Mine valuation; Oil lands—Valuation; Public utilities—Valuation; Railroads—Valuation; Street railroads—Valuation; Waterworks—Valuation

Terminology

Definition of important valuation terms. Brick & Clay Rec 60:43 Ja 10 '22

Valuation of imports. See Tariff—United States

Value

Theory of marginal value. L. V. Birck. 351p Routledge; Dutton '22

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Valve gear

Correct adjustment of unaflow engine valve gear. il diags Power 56:942-3 D 12 '22

Engines at Baltimore refinery have unusual valve gear. il diags Power 56:498-9 S 26 '22

Methods of repairing Walschaert valve gear links. il diags Ry Mech Eng 96:709-11 D '22

One valve gear automatically changes a turbine into a high-, low-, mixed-pressure or extraction type. il diag Power 58:12-13 JI 3 '23

Reducing lost motion on valve gear. M. M. Brown. diags Power 55:327 My 23 '22

Steam turbine governors and valve gears. E. H. Thompson. diags Power 57:675-8, 710-15, 790-5, 898-901, 931-3, 984-6, 1018-20 My 1-8, 22, Je 5-26 '23

Substitute for crab claw spring. J. B. Ficklen. diags Power Pl Eng 26:1070 N 1 '22

Three kinds of Corliss valve gears. W. H. Wakeman. il Power 54:794-6 N 22 '21

Unaflow engine with an unusual valve gear. il diags Power 56:843-4 N 28 '22

Unaflow valve gear of American design. il diags Power 56:880-1 D 5 '22

Valve-gear designs of British unaflow engines. il diags Power 57:246-8 F 13 '23

Valve gears on small Westinghouse direct-driven turbines. diags Power 58:730-1 N 6 '23

Valve setting

Corliss valve setting. Power Pl Eng 26:676 JI 1 '22

Intelligent valve setting. N. H. Hite. diags Power 57:708-9 My 8 '23

Powerful valve-setting rolls. il diags plan Ry Mech Eng 97:48-9 Ja '23

Setting adjustable riding cutoff. il Power 56:107 JI 18 '22

Setting Ames unaflow valves. il diags Power 56:653-4 O 24 '22

Setting D-slide valve without turning over engine. diag Power 57:945 Je 12 '23

Setting piston valve. diags Power 56:299 Ag 22 '22

Setting valves by elliptical diagram. A. O. Gates. Power Pl Eng 26:410-13 Ap 15 '22; Abstract. Mech Eng 44:389 Je '22

Setting valves on the Nordberg unaflow engine. il diags Power 56:800-1 N 21 '22

Valve setting. L. H. Morrison. 96p Power, New York '23

Valve setting for vertical engines. Power Pl Eng 27:339-40 Mr 15 '23

Valve setting on large engines. A. C. Waldron. diags Power Pl Eng 26:55-7 Ja 1 '22

Valves

Air and water relief valves. M. M. Borden. Can Eng 43:174-6 JI 25 '22; Same. Am Water Works Assn J 10:59-67 Ja '23

Auxiliary exhaust valves on unaflow engines. il diags Power 56:718-19 N 7 '22

Blowoff valves and connections. W. H. Wakeman. diags Power 55:971-3 Je 20 '22; Discussion. D. R. Yarnall. 56:143 JI 25 '22

Builds six-way reversing valve. il diags plan Iron Tr R 72:1669-71 Je 7 '23

Care of oil engine valves. J. E. Hauser. il Power 57:526 Ap 3 '23

Chattering non-return valves. C. B. Risley. diags Power Pl Eng 26:677 JI 1 '22

Combines poppet and distributor valve type R. Abell. Soc Auto Eng J 13:423-4 N '23

Comparison of valve setting with indicator diagram. Power 58:703 O 30 '23

Complications due to lead. diags Power 56:580 O 10 '22

Convenient foot-operated radiator valve. diags Power 56:162 Ag 1 '22

Diel-More automatic drain and relief valve for steam pipes and cylinders. il Ry Mech Eng 96:171 Mr '22; Coal Age 21:448 Mr 16 '22; Power 55:541 Ap 4 '22

Emergency closing valves. P. W. Knauf. il diags Refrig W 57:22-4 My '22

Emergency valve on steam lines for heating liquors in tanks. Textile World 64:99+ JI 7 '23

Equalizing the compression. R. Grimshaw. diags Power Pl Eng 27:385-6 Ap 1 '23

Experiments on steam engine valve leakage. J. E. Rycroft. diags Engineer 134:62-3 JI 21 '22

Explosion of a stop valve chest at a spinning mill. Engineering 114:246 Ag 25 '22

Explosion of a tee-piece on board a steamship. Engineering 114:143-4 Ag 4 '22

Finding exhaust lap with a given valve travel. R. Grimshaw. diag Power 56:660 O 24 '22

Fisher multiple-disc valve. il Power 55:57 Ja 10 '22

Gas and air valves for open hearth furnaces. W. C. Bulmer. diags Blast F & Steel Pl 10:302-6 Je '22; Same cond. Iron Tr R 70:1560-1 Je 1 '22; Excerpts. Iron Age 109:1556-7 Je 1 '22

Gasoline engine valve alterations increases fuel economy. C. Labbe. diags Power Pl Eng 27:897 S 1 '23

High pressure mercury reducing valve. J. W. Mackenzie. diag Power 58:297 Ag 21 '23

How reducing valve was repaired. H. L. Robinson. diags Power 58:619 O 16 '23

Improved type of control valve for sewage ejectors and traps. il diags Power 57:802 My 22 '23

Johnson-Boving valve. diags Engineering 113:24 Ja 6 '22

Lift of a ball valve. C. B. Clapham. diags Engineer 135:472 My 4 '23

Lockwood's valve for direct-acting feed pump. diags Engineering 115:493 Ap 20 '23

Locomotive safety water gate valve. diag Ry Mech Eng 96:479-80 Ag '22

Low water? examine feed line valves. H. A. Jahnke. diags Power Pl Eng 27:892-3 S 1 '23

Lubricating feature added to Homestead quarter-turn valves. diags Power Pl Eng 26:1180 D 1 '22

McCracken improved valve. diag Power 54:803 N 22 '21

Manager's approach to power problems. C. L. Hubbard. diags Factory 30:24-6+ Ja '23

National control valve. il diags Power Pl Eng 25:1126-7 N 15 '21

Ein neues gaswechsellventil für regenerativöfen. P. Brandenburg. diags Stahl & Eisen 41:1614-16 N 10 '21

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New material for poppet valves. il Auto-motive Ind 47:982 N 16 '22
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 Non-return valves save engine. R. A. Cultra. diags plan Power Pl Eng 27:1101-3 N 1 '23
 Novel valve guide scheme; self-alignment of valve and guide. diags Automobile Eng 13:104 Ap '23
 Packless radiator valve. il Power Pl Eng 26:930 S 15 '22
 Perolin double-service blowoff valve. il Power 58:136 J1 24 '23
 Points on the selection of steam pressure reducing valves. W. F. Schaphorst. Heat & Ven 20:49-50 S '23
 Poppet-valve turning fixture. J. V. Romig. diags Pop Mech 39:633 Ap '23
 Poppet valves, diags Power 56:585 O 10 '22
 Pressure regulating or reducing valves. diag Marine R 53:237-8 Je '23
 Purpose of providing an engine valve with a pressure plate. diags Power 56:665 O 24 '22
 Radiator valves. il Arch & Bldg 55:16-17 F '23
 Regenerative reversing valve. il diags Iron Age 111:1628-9 Je 7 '23
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 Rotary-tube valve engine. E. Bournonville. diags Soc Auto Eng J 13:422 N '23
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 Salvaging air compressor valves. S. P. Gould. diags Mach 29:429 F '23
 Schutte & Koerting emergency closing valve for large steam pipes. diag Power 55:815-16 My 23 '22
 Steam-engine valve leakage. Power 56:302 Ag 22 '22
 Steam-turbine emergency governors and trip valves. A. D. Palmer. diags Power 56:324-6 Ag 29 '22
 Steel cast valve with monel metal parts for use with high-pressure steam. diag Coal Age 23:53 Ja 11 '23
 Stop check valve vs. triple duty non-return. W. N. Flanagan. Blast F & Steel Pl 11:344+ Je '23
 Stop valves and header connections. W. H. Wakeman. diags Power 56:486-8 S 26 '22
 Straightway blowoff valve for high pressures. diag Power 57:474 Mr 27 '23
 Study of valves for furnaces. H. Hellan. diags Blast F & Steel Pl 10:473-7 S '22
 Unaflo engine with single-beat poppet valves. diags Power 56:766-7 N 14 '22
 Unique reducing valve. C. C. Brown. il diags Power Pl Eng 26:912-13 S 15 '22
 Use of auxiliary back-pressure relief valve. P. Malloy. Power 55:907 Je 6 '22
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 Valves for high-speed ammonia compressors. J. H. H. Voss. il Power 55:619-21 Ap 18 '22
 Valves for large gas engines. diags Power 56:599 O 17 '22
 Valves; pointers on selecting, installing and maintaining. il diag Power Pl Eng 26:37-9 Ja 1 '22
 Why not more poppet-valve engines in America? C. A. Joerger. Power 58:265-6 Ag 14 '23; Discussion. 58:508, 699-700, 780 S 25, O 30, N 13 '23

See also Airplane engines—Valves; Automobile engines—Valves; Diesel engines—Valves; Locomotives—Valves and valve gear; Safety valves; Slide valves; Tank cars—Valves

Electric control

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 Electric valve control. il Power Pl Eng 26:634-5 Je 15 '22
 Electrically operated gate valves. C. E. Reese. il diags Gas Age 49:619-22 My 20 '22
 Electrically operated valves. F. D. Rhame. Power Pl Eng 27:572 Je 1 '23
 Sectionalization and remote control of high-pressure steam lines. P. P. Dean. diags Mech Eng 45:483-7 Ag '23; Same. Engineering 116:219-22 Ag 17 '23; Abstracts. Textile World 64:1271+ S 1 '23; Power 57:999-1000 Je 19 '23; Power Pl Eng 27:667-70 J1 1 '23; Discussion. Mech Eng 45:487 Ag '23
 Steam, air and water lines can be closed from a distance by electric current. il Coal Age 21:819 My 18 '22

Manufacture

Finished seats are cast inside valves. D. Partridge. il Foundry 51:784 O 1 '23
 Machining piston-valve follower on the turret lathe. diags Mach 30:60-1 S '23
 Makes valves in new foundry. H. R. Simonds. il Foundry 50:431-5 Je 1 '22
 Regrinding swing gate type valve. diags Ry Mech Eng 96:663 N '22
 Semi-automatic valve finishing machine. il Ry Mech Eng 96:108-9 F '22

Repair

Repairs of ammonia valves having soft metal inserts. A. Gass. diag Power Pl Eng 26:1174 D 1 '22

Testing

Tests on motor-operated gate valves for high-pressure steam. T. W. Stinson. il diag Power 55:263-5 F 14 '22; Abstract. Elec W 79:386-7 F 25 '22

Valves, Hydraulic

Automatic control of water flow. C. C. Brown. diags Power Pl Eng 26:1069 N 1 '22
 Double check valves on water supplies. Am Water Works Assn J 8:650-3 N '21
 Experiments on loss of head in valves and pipes of one-half to twelve inches diameter. C. I. Corp and R. O. Ruble. il diags plans Wis U Bul Eng S v 9, no 1:1-143 '22; Excerpt. Power Pl Eng 27:386 Ad 1 '23
 Improvements in mechanical contrivances in connection with the storage and distribution of water. E. B. Ball. il diags Engineering 116:27-32, 64-5 J1 6-13 '23; Same cond. Can Eng 45:305-7 S 11 '23; Abstract. Engineer 136:47-8 J1 13 '23
 Ismailia valves for pumps and mains. il diags Engineering 116:392-3 S 28 '23
 Large control gate in Queenston-Chippawa canal. il Can Eng 45:177 J1 24 '23
 Losses in 6-in butterfly valve varies materially with velocity. W. S. Pardee. Eng N 89:98 J1 20 '22
 Manganese bronze for valve stems. W. R. Conrad. N E Water Works Assn J 36:32-6; Discussion. 37-9 Mr '22
 New balanced, positive motion needle valve. diag Eng & Contr 56:559 D 14 '21
 Sewage distribution tests with butterfly-valve control. H. R. King. diags Eng N 91:590-1 O 11 '23
 Unusual type of valve for Dyking district pumping plant. H. M. Burwell. diags Eng & Contr 58:37 J1 12 '22

Electric control

Electric control and operation of water valves at Buffalo. G. C. Andrews. il Eng N 88:186-7 F 2 '22
 Electrical operation of gate valves. P. P. Dean. Am Water Works Assn J 9:307-10 Mr '22; Same. Can Eng 42:448 My 2 '22
 Electrically operated gates. N E Water Works Assn J 37:101-4 Mr '23
 Electrically-operated valve opener for pumping station gates. il Eng N 90:969 My 31 '23
 Electrification of gate valves. P. Dean. il N E Water Works Assn J 36:264-70; Discussion. 270-2 Je '22

Vanadic acid

- Co-precipitation of vanadic acid with ammonium phosphomolybdate. J. R. Cain and J. C. Hostetter. *Am Chem Soc J* 43:2552-62 D '21
- Reduction of vanadic acid solutions with mercury. L. W. McCay and W. T. Anderson. *Jr. Am Chem Soc J* 44:1018-21 My '22

Vanadium

- Crystal structures of vanadium, germanium and graphite. A. W. Hull. *Chem & Met Eng* 26:1024 My 31 '22
- Exports of vanadium from Peru. *Eng & Min J* 113:361 Mr 4 '22
- Extraction and recovery of vanadium from roscoelite. K. B. Thews and F. J. Meinle. *Chem Age* 31:465-6 O '23
- How vanadium was found. W. M. Goodwin. *Brass W* 18:276 S '22
- New vanadium supply found in Colorado. K. Thomas. *Iron Age* 111:1412 My 17 '23
- Radium, uranium and vanadium. F. L. Hess. *Eng & Min J* 115:95 Ja 20 '23
- Recovering vanadium. *Chem Age* 30:285 Je '22
- Separation of arsenic and phosphorus from vanadium. H. A. Doerner. *Ind & Eng Chem* 15:1014 O '23
- Technical chemistry of vanadium. B. D. Saklatwalla. *il diags J Ind & Eng Chem* 14: 968-72 O '22
- Uranium-bearing asphaltite sediments of Utah. F. L. Hess. *il map Eng & Min J* 114: 272-6 Ag 12 '22
- Vanadium. M. A. Allen and G. M. Butler. (*Ariz. Bur. mines. Bul.* 115) 23p Tucson '21; Abstract. *Min & Sci P* 123:324 D 10 '21
- Vanadium and its metallurgical uses. *Engineering* 114:150-1 Ag 4 '22
- Vanadium mining in 1921. E. B. Moore. *Eng & Min J* 113:91-2 Ja 21 '22
- Vanadium ore being opened in Garfield county, Colo. G. Kunkle. *il Eng & Min J* 115:552 Mr 24 '23

See also Melanovanadite

Analysis

- Beiträge zur analytischen chemie des vanadins mit berücksichtigung der untersuchung eisenthüttenstechnischer stoffe. H. Briefs. *Stahl & Eisen* 42:775-8 My 18 '22
- Co-precipitation of vanadic acid with ammonium phosphomolybdate. J. R. Cain and J. C. Hostetter. *Am Chem Soc J* 43:2552-62 D '21
- Determination of chromium and vanadium in cast irons. J. W. Bolton and W. T. Sheffield. *Foundry* 50:404a, 456a My 15-Je 1 '22
- Determination of vanadium in ores. A. H. Low. *Eng & Min J* 115:764-5 Ap 28 '23
- New method for the electrometric titration of vanadium in the presence of iron and chromium. H. H. Willard and F. Fenwick. *Am Chem Soc J* 45:84-92 Ja '23
- Successive electrometric titration of iron, vanadium and uranium. R. G. Gustavson and C. M. Knudson. *Am Chem Soc J* 44: 2756-61 D '22

Vanadium chlorides

- Formation of free radicals by reduction with vanadous chloride. J. B. Conant and A. W. Sloan. *Am Chem Soc J* 45:2466-72 O '23

Vanadium compounds

- Vanadium compounds as driers for linseed oil. F. H. Rhodes and K. S. Chen. *J Ind & Eng Chem* 14:222-4 Mr '22

Vanadium oxide

- Oxide equilibria in catalysis. J. M. Weiss, C. R. Downs and R. M. Burns. *Ind & Eng Chem* 15:965-7 S '23

Vanadium steel

- Alloy steel reduces weight of locomotive parts. R. J. Finch. *diags Ry Mech Eng* 96:569-71 O '22
- High-test vanadium steel locomotive frames. *il Ry Age* 74:1477-8 Je 16 '23
- Influence of manganese in carbon-vanadium steel. *Ry Mech Eng* 96:678 D '22
- Interesting tests of carbon vanadium steel. *Ry R* 73:591-2 O 20 '23

- Practical example of carbon-vanadium steel use. R. J. Finch. *il diags Ry R* 73:532-4 O 13 '23
- Suggestions for heating, forging and normalizing of carbon vanadium forging steel. *il Ry R* 73:511 O 6 '23; Same abr. *Iron Age* 112: 602 S 6 '23
- What is alloy steel?—the case of vanadium. B. D. Saklatwalla. *Iron Age* 111:1653 Je 7 '23

See also Chromium-vanadium steel

Vancouver, British Columbia

- Grain trade develops Vancouver as port. *il Marine R* 53:98-9 Mr '23
- Vancouver coaxes tourists with advertising. *Ptr Ink* 118:140+ F 2 '22

Rapid transit

- Go right and you will be safe! *Elec Ry J* 59:409-10 Mr 11 '22
- New franchise provisions in Vancouver. *Elec Ry J* 60:922 D 9 '22
- Outlook for British Columbia electric railway improved. *Elec Ry J* 61:740 Ap 28 '23
- Rule of road changed. *Elec Ry J* 59:135-6 Ja 21 '22

Van Der Waals' equation

- Modification of Van der Waals' equation. W. P. Boynton and A. Bramley. *Phys R* 20:46-50 Jl '22

Vane-wheel propulsion. See Ship propulsion**Vanillin**

- Beiträge zur kenntnis der hydrindone; über das hydrindon der vanillin-reihe. F. von Konek and N. Szamák. *Deutsche Chem Gesell Ber* 55:102-9 Ja '22
- Electrolytic oxidation of isoeugenol. A. Lowy and C. M. Moore. *Am Electrochem Soc Trans v* 42 (preprint 9):65-76 S '22
- Production of synthetic vanillin by the ozone process. B. G. Wood. *diags Chem & Met Eng* 28:806-8 My 7 '23
- Suitability of various solvents for extracting vanilla beans. J. B. Wilson and J. W. Sale. *Ind & Eng Chem* 15:782-4 Ag '23
- Synthetic vanillin manufacture. B. G. Wood. *Chem & Met Eng* 28:399 F 28 '23
- Über die vanillin-isomeren der resorcyll-reihe. E. Ott and E. Nauen. *Deutsche Chem Gesell Ber* 55:920-9 Ap '22; Abstract. *Chem Soc J* 122 pt 1:555-6 Je '22
- La vanilline. P. Alexandre and J. Martinet. *Chimie & Ind* 7:1043-56 Je '22

Vanillin glyceride

- Vanillin glyceride. F. D. Dodge. *Am Chem Soc J* 44:1405-7 Je '22

Van Steenberg process. See Gas manufacture and works**Vantine, A. A., & company**

- Selling a line as a department for the retailer. J. True. *Ptr Ink* 121:81-2 N 16 '22
- Selling the exotic to Main street; A. A. Vantine & co. J. Henle. *Ptr Ink* 120:77-8+ S 14 '22

Vapor density

- Vapor densities at low pressures and over an extended temperature range; the properties of ethylene oxide compared to oxygen compounds of similar molecular weight. O. Maass and E. H. Boomer. *Am Chem Soc J* 44:1709-23 Ag '22

Vapor engines. See Steam engines—Binary vapor engines**Vapor heating. See Steam heating****Vapor pressure**

- Applications of vapor pressure measurements. H. S. Davis and M. D. Davis. *Ind & Eng Chem* 15:1075-7 O '23
- Boiling point of salt solutions under various pressures. E. M. Baker and V. H. Waite. *diag Am Inst Chem Eng Trans v* 13 pt 2:223-32 '20-'21; Same. *Chem & Met Eng* 25:1137-40 D 21 '21
- Condensation temperatures of gasoline- and kerosene-air mixtures. R. E. Wilson and D. P. Barnard. *diags J Ind & Eng Chem* 13:906-13 O '21; Same. *Soc Auto Eng J* 9: 313-19 N '21

Vapor pressure—Continued

- Determination of heats of vaporization from vapor pressure data. W. K. Lewis and H. C. Weber. *J Ind & Eng Chem* 14:486-7 Je '22
- Dissociation pressures of hydrated double sulphates; hydrated cupric alkali sulphates. R. M. Caven and J. Ferguson. *diag Chem Soc J* 121:1406-14 Jl '22
- Equations for vapor pressures and latent heats of vaporization of naphthalene, anthracene, phenanthrene, and anthraquinone. O. A. Nelson and C. E. Senseman. *Ind & Eng Chem* 15:621-2 Je '23
- Factors determining the hygroscopic properties of soluble substances; the vapor pressures of saturated solutions. G. Edgar and W. O. Swan. *Am Chem Soc J* 44:570-7 Mr '22
- Form of the vapour pressure curve at high temperature; the curve for lead. C. K. Ingold. *Chem Soc J* 121:2419-32 N '22
- Form of the vapour pressure curve at high temperature; the curve for sodium cyanide. C. K. Ingold. *Chem Soc J* 123:885-91 Ap '23
- Further data on the effective volatility of motor-fuels. R. E. Wilson and D. P. Barnard. *diags Soc Auto Eng J* 12:287-92 Mr '23
- Further investigations into the physico-chemical significance of flash-point temperatures. W. R. Ormandy. *diags Inst Pet Tech J* 9:33-60; Discussion. 60-8 F '23
- Hydration of sucrose in water solution as calculated from vapor-pressure measurements. G. Scatchard. *Am Chem Soc J* 43:2406-18 N '21
- Lubrication—evaporation of oil. W. F. Osborne. *Power* 55:216 F 7 '22
- Measurement of mercury vapor pressure by means of the Knudsen pressure gauge. C. F. Hill. *diags Phys R* 20:259-66 S '22
- Method for the determination of the vapour pressure of hydrocarbon fuels, and the estimation of dissolved air. H. T. Tizard and A. G. Marshall. *diag Inst Pet Tech J* 8:217-23 Ap '22
- Molecular weight of the sodium-tellurium complex in liquid ammonia as derived from vapor-pressure measurements. C. A. Kraus and E. H. Zeitfuchs. *diag Am Chem Soc J* 44:2714-28 D '22
- New modification of Dühring's relation. D. B. Keyes. *Ind & Eng Chem* 15:525-6 My '23
- Pressure-temperature chart for hydrocarbon vapors. E. R. Cox. *Ind & Eng Chem* 15:592-3 Je '23
- Relative lowering of vapor pressure of aqueous solutions. M. C. Boswell and R. C. Cantelo. *Can Chem & Met* 6:109-11 My '22
- Study of the vapor pressure of aqueous solutions of cane sugar at twenty degrees centigrade. H. K. Parker. 27p Johns Hopkins univ., Baltimore '23
- Study of the vapor pressure of aqueous solutions of lithium chloride at 20°C. W. H. Bahke. 29p Johns Hopkins press, Baltimore '21
- Temperature-pressure curves of petroleum products. M. B. Cooke. *Chem & Met Eng* 27:504 S 6 '22
- La tension de vapeur de quelques alliages de cuivre et de zinc, à l'état solide. L. Guillet and M. Ballay. *Génie Civil* 81:543-4 D 9 '22
- Theoretical derivation of the vapor pressure curve of xylol. D. C. Edwards. *Chem & Met Eng* 28:157-8 Ja 24 '23
- Thermodynamic properties of methane. F. G. Keyes, R. S. Taylor and L. B. Smith. *diags Refrig Eng* 9:280-9 Mr '23
- Vapor pressure determinations on naphthalene, anthracene, phenanthrene, and anthraquinone between their melting and boiling points. O. A. Nelson and C. E. Senseman. *diags J Ind & Eng Chem* 14:58-62 Ja '22; Discussion. B. F. Dodge. 14:569-70 Je '22
- Vapor pressure of copper oxide and of copper. E. Mack, G. G. Osterhof and H. M. Kraner. *diags Am Chem Soc J* 45:617-23 Mr '23
- Vapor pressure of metallic calcium. N. B. Pilling. *diag Phys R* 18:362-8 N '21
- Vapor pressure of monatomic elements. R. W. Millar. *Am Chem Soc J* 45:2323-9 O '23
- Vapor pressure of selenium oxychloride. V. Lenher, G. B. L. Smith and G. G. Town. *J Phys Chem* 26:156-60 F '22
- Vapor pressure of sulfur dioxide and ammonia. F. W. Bergstrom. *diags J Phys Chem* 26:358-76 Ap '22
- Vapor pressure of the system calcium chloride—water. E. M. Baker and V. H. Waite. *bibliog Am Inst Chem Eng Trans v* 13 pt 2:233-42 '20-'21; Same. *Chem & Met Eng* 25:1174-8 D 28 '21
- Vapor pressure of volatile solvents. R. E. Wilson and E. P. Wyld. *diag Ind & Eng Chem* 15:801-9 Ag '23
- Vapor pressures and heats of vaporization of non-associated liquids. F. S. Mortimer. *Am Chem Soc J* 44:1429-35 Jl '22
- Vapor pressures, densities and some derived quantities for ether at low temperatures. R. S. Taylor and L. B. Smith. *diags Am Chem Soc J* 44:2450-63 N '22; Same. *Refriger Eng* 9:335-40 My '23
- Vapor pressures of aqueous solutions of nitric acid. W. C. Sproesser and G. B. Taylor. *diag Am Chem Soc J* 43:1782-7 Ag '21
- Vapor pressures of carbazol, observed and calculated. C. E. Senseman and O. A. Nelson. *Ind & Eng Chem* 15:382-3 Ap '23
- Vapor pressures of certain hydrated metal sulfates. C. D. Carpenter and E. R. Jette. *diags Am Chem Soc J* 45:578-90 Mr '23
- Vapor pressures of some substances found in coal tar. F. S. Mortimer and R. V. Murphy. *diag Ind & Eng Chem* 15:1140-2 N '23
- Vaporization**
- Vaporization in steps as related to surface formation. W. D. Harkins and L. E. Roberts. *Am Chem Soc J* 44:653-70 Ap '22
- Vaporization of motor-fuels. P. S. Tice. *il Soc Auto Eng J* 11:307-14; Discussion. 314-19+ O '22
- Vaporization, Heat of**
- Determination of heats of vaporization from vapor pressure data. W. K. Lewis and H. C. Weber. *J Ind & Eng Chem* 14:486-7 Je '22
- Equations for vapor pressures and latent heats of vaporization of naphthalene, anthracene, phenanthrene, and anthraquinone. O. A. Nelson and C. E. Senseman. *Ind & Eng Chem* 15:621-2 Je '23
- Heats of vaporization of mercury and cadmium. M. F. Fogler and W. H. Rodebush. *diags Am Chem Soc J* 45:2080-90 S '23
- Latent heat of vaporization of coal-tar oils. J. M. Weiss. *J Ind & Eng Chem* 14:72 Ja '22
- Latent heats of vaporization and expansion. D. L. Hammick. *Philos Mag* 6th ser 44:590-4 S '22
- Molar entropy of vaporization as a means of determination of heats of vaporization. W. K. Lewis and H. C. Weber. *J Ind & Eng Chem* 14:485-6 Je '22
- Relations concerning the internal heat of vaporization. J. E. Mills and P. K. Smith. *J Phys Chem* 27:301-21 Ap '23
- Vapor pressures and heats of vaporization of non-associated liquids. F. S. Mortimer. *Am Chem Soc J* 44:1429-35 Jl '22
- See also Trouton's law
- Vaporizers**
- Discussion of present methods of fuel vaporization. N. J. Thompson. *diags Automotive Ind* 46:515-17 Mr 2 '22
- See also Carburetors
- Vapors**
- Condensation of vapor from mixtures of vapors and noncondensable gas. B. F. Dodge. *J Ind & Eng Chem* 14:1062-6 N '22
- Recovery of volatile solvents. C. S. Robinson. 188p [Abstract of literature on solvent recovery; p. 163-80] Chemical catalog co., New York '22
- Rhythmic deposition of precipitated vapors. E. Karrer. *il diag Am Chem Soc J* 44:951-4 My '22
- See also Evaporation; Gases; Steam; Steam flow; Vapor density; Vapor pressure; Vaporization; Water vapor

Variety stores. See Five and ten cent stores

Varnish analysis

L'analyse des vernis gras. C: Coffignier. Chimie & Ind 8:989 N '22

Varnish and varnishing

Automobile finishing-varnish. L. V. Pulsifer. Soc Auto Eng J 12:89-94 Ja '23; Same cond. Automotive Ind 48:115-17 Ja 18 '23; Discussion. Soc Auto Eng J 12:335-41, 456-8 Ap-My '23

Centrifugal force and varnish clarification. Chem Age (Lond) 8:261 Mr 10 '23

Changes in some varnish resins on heating. F. H. Rhodes and H. F. Johnson. diag J Ind & Eng Chem 14:279-80 Ap '22

Changes in the electrical conductivity of varnishes during drying. H. C. P. Weber. diags Am Electrochem Soc Trans v 42 (preprint 11):89-96; Discussion. 96a-d S '22

Composition and aging of insulating varnishes. H. C. P. Weber. Am Electrochem Soc Trans v 44 (preprint 16):167-70 S '23

Improved method of treating rosin in varnish making. Chem Age 29:510-11 D '21

Manufacture and application of automobile varnishes and paints. L. V. Pulsifer. Soc Auto Eng J 10:12-16 Ja '22; Excerpts. Automotive Ind 46:119-20 Ja 19 '22; Discussion. Soc Auto Eng J 10:388-94 My '22

Manufacture of varnish. G. N. Hill. Can Chem & Met 7:60-3 Mr '23

Measuring the drying-time of varnish. il Sci Am 129:177 S '23

Oils, pigments, paints, varnishes, etc. R. H. Truelove. 114p Pitman '22

Physical and chemical examination of paints, varnishes, and colors. H: A. Gardner. 219p Institute of paint & varnish research, 19th & B st., N.W., Washington, D.C. '22

Shellac. P. H. Walker and L. L. Steele. U S Bur Stand Tech Pa 232:277-96 '23

Use of sulphur-containing varnish thinners. A. L. Brown. il Chem & Met Eng 29:193 Jl 30 '23

See also Duco finish; Japanning; Lacquer and lacquering; Rosin; Tung oil; Varnish analysis; Varnish testing

Specifications

Recommended specification for interior varnish. U S Bur Stand Circ 117:1-6 '21

United States government specification for asphalt varnish. U S Bur Stand Circ 104:1-7 '23

United States government specification for interior varnish. U S Bur Stand Circ 117:1-6 '22

Varnish industry and trade

Paint and varnish export opportunities. C. C. Concannon. Oil Paint & Drug Rep 104: 21 Ag 6 '23

Paint and varnish materials: market review and record of prices. Oil Paint & Drug Rep 103:43+ Mr 29 '23

Paint and varnish production gained materially in first half of 1923. Oil Paint & Drug Rep 104:75 sec 1 S 24 '23

Advertising

Catching the interest of the much-advertised-to prospect. D. Kirkland. il Ptr Ink 118:8+ Ja 26 '22

Varnish manufacturers' association, National.

See National varnish manufacturers' association

Varnish testing

Method of comparing value of insulating varnishes. J. A. Findley. Elec W 80:230-1 Jl 29 '22

Numerical tabulation and comparison of varnish tests. J: A. Findley. Am Soc T M Pro 22 pt 1:479-82 '22

Report of sub-committee IX on varnish. Am Soc T M Pro 22 pt 1:375-81 '22

Stress-strain measurements on films of drying oils, paints and varnishes. H. A. Nelson. il diags Am Soc T M Pro 21:111-34; Discussion. 1135-8 '21

Tests on insulating varnish. W. S. Flight. Elec R (Lond) 89:771-3 D 9 '21

Vaseline. See Petrolatum

Vases, Greek

Craft of Athenian pottery. G. M. A. Richter. 113p Yale university press, New Haven '23

Vassar college

Vassar college. C: Collens. il Am Arch 123: 47-55 Ja 17 '23

Vat dyes. See Dyes and dyeing—Vat dyes

Vaults

Building safety-deposit vaults. T. B. Faucett. il Pop Mech 37:376 Mr '22

Harris, Forbes & company's new vault. F: S. Holmes. Arch & Bldg 55:38 Ap '23

Protecting our great banks. E: H. Smith. il Sci Am 129:222-3+ O '23

Vault protection. F: S. Holmes. il Arch Forum 38:305-8 Je '23

See also Safes

Vector analysis

Elementary discussion of vector analysis. C. L. Knotts and C. R. Riker. diags Elec J 19: 76-83 F '22

Graphical synthesis of the linear vector function. F: Slate. Philos Mag 6th ser 43:545-57 Mr '22

Solving problems with vectors. diags Power 57:871 My 29 '23

Transient conditions in electric machinery. W. V. Lyon. bibliog diags Am Inst E E J 42:388-407 Ap '23; Discussion. 42:1076-8 O '23

Use of the scalar product of vectors in locus diagrams of electrical machinery. V. Karapetoff. Am Inst E E J 42:1181-3 N '23

Vector analysis and the theory of relativity. F. D. Murnaghan. 125p Johns Hopkins press, Baltimore '22

Vector calculus, with applications to physics. J. B. Shaw. 314p Van Nostrand '22

See also Tensors

Vegetable ivory. See Ivory nut

Vegetable oils. See Oils and fats

Vegetables

Action of metals on fruit and vegetable products. M. Donauer. Chem Age 31:427-8 S '23

See also Drying (fruits and vegetables); Plant introduction; Potatoes

Storage

Bibliography

Bibliography on the preservation of fruit and vegetables in transit and storage. 76 numb. l. U. S. Dept. of agriculture, Library, Washington '22

Veicles

Principles of vehicle suspension. H. S. Rowell. diag Automobile Eng 13:118-22 Ap '23

See also Automobiles; Cars; Electric vehicles; Jitney buses; Motor buses; Motor cycles; Motor trucks

Lighting

Lights for motor and horse drawn vehicles and highways. D: Beecroft. Munic Eng 64: 32-6 Ja '23; Same. Good Roads 63:209-10, 215 D 20-27 '22

Velvet

Velvet and corduroy industry. J. H. Cooke. 116p Pitman '22

Veneers and veneering

Tiberius Caesar, his table and 1922 advertising. C. M. Harrison. Ptr Ink 118:25-6 Ja 5 '22

Veneral diseases

See Syphilis

Venezuela

Sidelights from geologists' notebooks; city rambles and jungle pioneering and peoples and customs of Venezuela. Nat Pet N 15:37-8+ F '23; 49-50+ My 30 '23

Venezuela as a field for electrical development. H: C. Plummer. Elec W 79:34 Ja 14 '22

See also Electric plants (central stations)

—Venezuela; Petroleum industry and trade

—Venezuela; Railroads—Venezuela

Venezuela—Continued**Economic conditions**

Venezuela; an economic report. 166p Georgetown Univ., Washington, D.C. '21

See also Labor and laboring classes—Venezuela

Industries and resources

See also Automobile industry and trade—Venezuela; Machinery industry—Venezuela; Petroleum—Venezuela; Petroleum industry and trade—Venezuela; Textile industry and trade—Venezuela

Venice

Vingt ans après. H. V. Magonigle. il Am Inst Arch J 11:8-13 Ja '23

Ventilating ceilings. See Foundries—Heating and ventilation

Ventilation

Aerology for amateurs and others. E. V. Hill. Heat & Ven 20:35-9+ Ja '23

Air distribution in large buildings. C. L. Hubbard. diags Dom Eng 97:299-300, 394-6, 486-8, 580-1; 98:113-15 N 12, 26, D 10, 24 '21, Ja 21 '22

Classic example of fuel saving with recirculated air. Heat & Ven 19:57 S '22

Effect of high temperatures with and without air movement. Heat & Ven 20:42 J1 '23; Same. Sci Am 129:407 D '23

Efficiency of various kinds of ventilating ducts. C. E. A. Winslow and L. Greenburg. 10p U.S. Public health service, Washington, D.C. '22; Excerpts. Eng & Contr (Bldgs) 59:232-5 Ja 24 '23

Eugene Peclet as a heating and ventilating engineer. P. Nicholls. diags Am Soc Heat & V E J 28:709-18 O '22; Same. Sanitary & Heat Eng 98:224-5, 283-5 O 20, N 17 '22

Fresh air and B.T.U.'s; American society of heating and ventilating engineers meeting. Dom Eng 103:430-8+ Je 2 '23

Fuel economy from recirculation with air washers at the Springfield Y.M.C.A. college. N. A. Hollister. diag plan Am Soc Heat & V E J 28:279-88 Ap '22

Guide containing reference data. American society of heating & ventilating engineers, New York '22

Healthful ventilation is proper relation between humidity and temperature. A. G. King. Dom Eng 101:583+ D 30 '22

Heating and ventilating system and sound-proofing for the Eastman theatre and school of music. A. S. Crocker. Am Arch 123:200-2 F 28 '23

Heating and ventilation—the twin sciences. F. W. Parsons. Gas Age 51:771-2+, 803-4 Je 16-23 '23

Individual atmospheres made to order. il Sci Am 127:328-9 N '22

Individual heating and ventilating units. J. Mackay. diags Dom Eng 99:189-91, 231-2 Ap 29-May 6 '22

Industrial ventilation. R. L. Gould and E. L. Hewitt. diags Am Mach 55:792-5 N 17 '21

Making air increase the efficiency of your plant. O. Bertoya. il Eng & Ind Management 8:47-8 Ag 10 '22

Modern auditorium ventilating contrasted with old Newgate prison methods. il Dom Eng 100:408-9 S 2 '22

Modern tendencies of ventilation practice. G. T. Palmer. Am Soc Heat & V E J 29:27-44 Ja '23; Abstract. Heat & Ven 20:62-3 F '23; Discussion. Am Soc Heat & V E J 29:230-1 Mr '23

Push-button ventilation in London building. H. S. White. il Pop Mech 38:660-1 N '22

Sanitation, ventilation and vaccination. Eng N 89:989, 1040, 1133; 90:271 D 7-14, 28 '22, F 8 '23

Special system of ventilation for a dwelling house. C. L. Hubbard. diags plans Dom Eng 98:5-8 Ja 7 '22

Temperature, humidity and air motion effects in ventilation. O. W. Armspach and M. Ingels. il diags Am Soc Heat & V E J 28:173-90 Mr '22

Ventilating and air conditioning equipment presents great sales possibilities. J. Mackay. Dom Eng 98:484-7, 529-31 Mr 18-25 '22

Ventilating code submitted for approval by the American society of heating and ventilating engineers. Arch Rec 52:453 N '22

Ventilating equipment of Cleveland's public auditorium. M. A. Boyd. il diags plans Heat & Ven 19:33-40 Je '22

Ventilating the Cleveland auditorium. C. L. Riley. il diags plans Am Soc Heat & V E J 28:843-52 D '22

Ventilation. Am Mach 57:1002 D 28 '22

Ventilation and human efficiency. L. Hill. Min & Sci P 124:259-63 F 25 '22

Ventilation and warm-air heating. G. A. Voorhees. Sheet Metal Worker 13:715-17; 14:81-2, 249-50 N 24 '22, Mr 2, Ap 27 '23

Ventilation fundamentals—where does the society stand? E. V. Hill. Am Soc Heat & V E J 28:605-16; Discussion. 616-17 S '22

Ventilation of houses and apartments. G. C. Polk. il Am Arch 122:247-8 S 13 '22

Ventilation; report of the New York state commission on ventilation. 620p Dutton '23; Excerpts. Am Soc Heat & V E J 28:809-12; 29:345-6 N '22, My '23; Heat & Ven 19:45 N '22; Sanitary & Heat Eng 98:303+ N 17 '22; Sheet Metal Worker 13:746+ N 24 '22; Review. Safety Eng 45:134-6+ My '23; Discussion. Am Soc Heat & V E J 29:537-41 S '23

Wheeler system of ventilation. diags Heat & Ven 19:47 S '22

Where we are at in present-day ventilation practice. N. S. Thompson. diags plans Heat & Ven 19:27-32 Ap '22; Discussion. C. A. Booth. 19:43-4 My '22

See also Air conditioning; Air conditions; Air filters; Air flow; Air pipes; Air pollution; Air purification; Air washers; Air washing; Car ventilation; Chimneys; Cooling; Dust removal; Electric fans, Ventilating; Electric motors—Ventilation; Electric motors, Railway—Ventilation; Exhaust systems; Fans, Mechanical; Flues; Gas appliances—Ventilation; Heating; Heating, Fan blast; Humidity; Mine ventilation; Tunnel ventilation; Ventilators; also subdivision Heating and ventilation under various subjects, e.g. Bank buildings, Barns and stables, Department stores, Electric plants (central stations), Factories, Farm buildings, Foundries, Garages, Hospital ships, Hospitals, Hotels, Libraries, Lunchrooms and cafeterias, Moving picture theaters, Music halls, Office buildings, Paper mills, Power plants, Schoolhouses, Ships, Theaters

Bibliography

Bibliographies on heating and ventilation. Heat & Ven 19:59-60 O '22

Building and contracting leaders choose basic books of industry. Heat & Ven 19:54-5 O '22; Excerpt (Heating, ventilating and plumbing). Am Soc Heat & V E J 28:787-8 N '22

Experiments

Physiological principles governing ventilation when the air is contaminated with carbon monoxide. Y. Henderson and H. W. Haggard. bibliog diags J Ind & Eng Chem 14:229-36 Mr '22

Tables, calculations, etc.

Air conditioning, J. Mackay. Dom Eng 100:278-80 Ag 12 '22

Calculations in heating and ventilation. G. S. Coleman. 255p Longmans '23

Friction factors in ventilating pipe. W. S. Weeks, W. P. Goss and G. H. Warren. diag Eng & Min J 113:1001-2 Je 10 '22

Quick method of taking off quantities in duct work. J. J. Kojan. diags Sheet Metal Worker 12:834-5+ Ja 6 '22

See also Air flow; Pipe fitting—Tables, calculations, etc.

Testing

Study of the infiltration of air in buildings. F. P. Anderson. diags Am Soc Heat & V E J 27:671-6 S '21

Ventilation—Testing—Continued

What about ozone? recently-completed Chicago tests to determine the status of ozone for ventilation. E. V. Hill and J. J. Aeberly. *il Heat & Ven* 18:31-4 N; 29-33 D '21; 19: 37-40 Ja; 33-5 F; 36-7 Mr '22; Excerpt. *Eng & Ind Management* 7:66-9 Ja 19 '22

Ventilation research

Further study of physiological reactions. W. J. McConnell, F. C. Houghten and F. M. Phillips. *il Am Soc Heat & V E J* 29:507-14 S '23

Some research conclusions. F. P. Anderson. *Am Soc Heat & V E J* 28:515-22 Ji '22

Ventilators

Balanced wind-operated ventilators for the window. *il Heat & Ven* 19:63 N '22

Comparative tests of roof ventilators. F. B. Rowley. *il diags Am Soc Heat & V E J* 29: 9-13 Ja '23; Same. *Am Arch* 123:251-3 Mr 14 '23; Abstract. *Heat & Ven* 20:61 F '23

Creating a market to order in advance of general advertising. G. A. Nichols. *Ptr Ink* 120:89-90+ Ag 10 '22

Looking the recent trend in the ventilation field in the face. S. R. Lewis. *Heat & Ven* 20:44-5 O '23

New type of glass window ventilator. *il Heat & Ven* 20:71 O '23

Portable unit ventilators. *Heat & Ven* 19:56 N; 74-6 D '22; 20:64-5 Ja; 64-5 Mr; 62-3 Ap; 70-3 Ag; 76-9 S; 78 O; 78-81 N '23

Some comparative tests of sixteen-inch roof ventilators; discussion. *Am Soc Heat & V E J* 27:656-8 S '21

Advertising

Selling fresh air to the farmer. J. P. Wilder. *Ptr Ink* 118:41-2+ Mr 9 '22

Ventilators, Automatic**Testing**

Comparative tests of automatic ventilators. J. P. Calderwood, A. J. Mack and C. J. Bradley. *il Am Soc Heat & V E J* 28:505-13 Ji '22; Same, without *il Am Inst Arch J* 10:XIII+ O '22; Same cond. *Heat & Ven* 19: 36-8 Ap; 50+ Ji '22

Venturi flumes

Anomalous results in Venturi flume and meter tests. W. J. Walker. *Eng N* 88:797-8 My 11 '22

Increased application of Venturi flume. H. K. Smith. *Eng N* 90:205 F 1 '23; Same. *Eng & Contr (W W)* 59:379-80 F 14 '23

Venturi meters

Anomalous results in Venturi flume and meter tests. W. J. Walker. *Eng N* 88:797-8 My 11 '22; Discussion. 88:1093 Je 29 '22

Care of the Venturi meter. C. C. Brown. *Power* 58:326 Ag 28 '23; Same. *Power Pl Eng* 27:841 Ag 15 '23

Oil Venturi meter. E. S. Smith, jr. *Mech Eng* 45:297-8+ My '23; Same. *Chem & Met Eng* 29:20-2 Ji 2 '23

Reliability of fluid meters in refrigerating tests. L. S. Morse. *diags Refrig Eng* 10:1-8; Discussion. 8-13 Ji '23

Venus (planet)

Future of our nearest sister planet. *Pop Mech* 33:844-5 D '22

Verde formation. See Geology—Arizona**Vereins deutscher eisenhüttenleute**

Ueber die tätigkeit des Vereins deutscher eisenhüttenleute im jahre 1920-21. *Stahl & Eisen* 41:1761-7, 1817-21 D 8-15 '21

Vermont

See Geology—Vermont

Versailles, France

House of Madame de Pompadour, Versailles. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 54:321-8 O '23

Numero 93, Rue Royale, Versailles. H. D. Eberlein and L. H. French, jr. *il plan Arch Rec* 53:245-65 Mr '23

Numero 147, Boulevard de la Reine, Versailles. H. D. Eberlein and L. H. French, jr. *il plan Arch Rec* 54:277-85 S '23

Octroi, Barrière, Porte Louveciennes, Versailles; house, no. 16 rue d'Angoulême, Versailles. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 53:551-61 Je '23

Le Pavillon de Madame, Versailles. H. D. Eberlein and L. H. French, jr. *il plans Arch Rec* 54:79-93 Ji '23

La Villa Trianon, Versailles. H. D. Eberlein and L. French, jr. *il plans Arch Rec* 54:177-87 Ag '23

Vertebrates, Fossil

Quarrying fossils in Utah. O. J. Grimes. *il Pop Mech* 39:251-3 F '23

Vertebrate fossils from the Mina Erupcion. G. F. Eaton. *il map Am J Sci* 5th ser 6: 229-38 S '23

Verticality, Sense of

Sense of verticality and its application to lighthouse work. H. De Miffonis. *il J Fr Inst* 196:89-94 Ji '23

Vestey brothers

Here's a trust allowed to do it all; the Vestey interests of England. W. Bishop. *il Nation's Business* 11:34-5 N '23

Refrigerating interests of Vestey bros., largest meat concern in the world. *Refrig W* 58:40-1 S '23

Veterinary medicine

Animal hospital at the University of Pennsylvania; surgical treatment for horses, cows, etc. W. A. McGarry. *il Sci Am* 129: 318+ N '23

Horses in hospital treated on operating table. *il Pop Mech* 40:897 D '23

Manufacturer takes up the advertising cudgels for menaced distributors; Pitman-Moore aids veterinary profession. *Ptr Ink* 124:41-2+ S 20 '23

Viaducts. See Bridges**Vialog. See Roads—Surfaces****Vibration**

Air vibrations due to fluttering of water sheet over dams. F. I. Winslow. *Eng N* 91:107 Ji 19 '23

Amplitude of vibrations maintained by forces of double frequency. N. C. Krishnaiyar. *Philos Mag* 6th ser 43:503-10 Mr '22

Boiler vibration. *Power Pl Eng* 26:315, 440-1 Mr 15, Ap 15 '22

Cause of boiler vibration. M. M. Brown. *diag Power* 55:983-4 Je 20 '22

Cause of vibration in steam pipes. A. J. Dixon. *diags Power* 55:472 Mr 21 '22

Causes and remedies of lateral vibration in turbine wheels. C. H. Smoot. *diags Power* 54:1028-9 D 27 '21

Coupled vibrations by means of a double pendulum. A. L. Narayan. *Philos Mag* 6th ser 43:567-74, pl 10-11 Mr '22

Damped vibrations. W. E. Milne. (Pub. v. 2, no. 2) tables 52p Univ. of Oregon, Eugene '23

Determination of mechanical behavior by means of vibration tests. C. Bethel. *il Elec J* 20:371-3 O '23; Abstract. *Mech Eng* 45: 711 D '23

How much does your building vibrate? G. F. Paul. *il Pop Mech* 39:569-70 Ap '23

Influence des pulsations sur les réactions des gaz en présence d'emplages. J. Deschamps. *diags Chimie & Ind* 8:1167-71 D '22

Interest in eight-in-line engines centers in crankshaft layout. *diags Automotive Ind* 49: 166-9 Ji 26 '23

Lateral vibrations of rods of variable cross-section. D. M. Wrinch. *Philos Mag* 6th ser 46:273-91 Ag '23

Linear, exponential, and combined dampings exhibited by pendulum vibrations. E. H. Barton and H. M. Browning. *Philos Mag* 6th ser 46:399-406, pl 6-7 S '23

Measuring vibrations in buildings. C. R. Young. *Eng & Contr (Bldgs)* 58:9-12 O 25 '22

Method of determining the natural periods of vibration of ships. T. C. Tobin. *Engineering* 113:476; Discussion. 447-8 Ap 14 '22; *Engineer* 133:445-6 Ap 21 '22

Note on damped vibrations. H. S. Rowell. *diag Philos Mag* 6th ser 44:284-5, 951-3 Ji, N '22

Vibration—Continued

- Oscilloscope for testing vibrations of aero engines under working conditions. *Aerial Age* 14:476 Ja 23 '22
- Power from a whip. *diags Sci Am* 128:114 F '23
- Precision measuring instrument for small motions of solid bodies. H. A. Thomas. *il diags Engineer* 135:138-40 F 9 '23
- Prevention of vibration & noise. A. B. Eason. 163p Oxford '23
- Production of noise and vibration by certain squirrel-cage induction motors. F. T. Chapman. *diags Inst E E J* 61:39-48 D '22
- Reaction of the air to a circular disk vibrating about a diameter. E. T. Hanson. *diag Philos Mag* 6th ser 46:434-41 S '23
- Studying mechanisms in motion by the Elverson oscilloscope. P. Davey. *il diags Mach* 29:927-32 Ag '23
- Theory of longitudinal vibrations of viscous rods. W. G. Cady. *Phys R* 19:1-6 Ja '22
- Transverse vibrations of bars of uniform cross-section. S. P. Timoshenko. *Philos Mag* 6th ser 43:125-31 Ja '22
- Vibration and critical speeds of rotors. C. Rodgers. *diags Philos Mag* 6th ser 44:122-56 Jl '22
- Vibration in small direct connected units. H. M. Phillips. *il diags Power* 57:398-400 Mr 13 '23; *Discussion*. H. R. Geiger. 57:571 Ap 10 '23
- Vibrational responders under compound forcing. E. H. Barton and H. M. Browning. *Philos Mag* 6th ser 44:573-6, pl 3-4 S '22
- Vibrations in foundations. E. Schmidt. *diags Mech Eng* 45:248-50 Ap '23
- Vibrations of a spinning disc. *Engineering* 113:234 F 24 '22; *Abstract*. *Power* 55:481 Mr 21 '22

See also Airplane propellers—Vibration; Airplane wings—Vibration; Balancing of machinery; Bridges—Vibration; Photography of vibrations; Ships—Vibration; Steam turbines—Vibration; Steam turbines, Marine—Vibration; Turbines—Vibration

Vibrograph

- Analyzing turbine vibration with the aid of the vibrograph. *diags Power* 56:510-11 S 26 '22

Vitacaulic pipe joint. *See* Pipe joints

Victoria, British Columbia**Bridges**

- Johnson street bascule bridge, Victoria, B.C. J. B. Holdercroft. *il Can Eng* 43:247-8 Ag 15 '22
- Substructure, Johnson st. bridge, Victoria. F. W. Allwood. *il diag Can Eng* 42:577-9 Je 6 '22
- Superstructure of Johnson street bridge. F. H. Allwood. *il Can Eng* 43:611-13 D 12 '22

Victory (ship)

- Nelson's Victory makes her last voyage. *il diag Sci Am* 126:312 My '22

Vigoureux printing. *See* Wool printing

Viking ships

- Yacht of a Viking queen. C. d'Emery. *il Sci Am* 126:174 Mr '22

Villas. *See* Architecture, Domestic—Italy

Vinci, Leonardo da

- Leonardo da Vinci as a pioneer of aviation. I. B. Hart. *diags Roy Aeronaut Soc J* 27:244-69 My '23
- Leonardo da Vinci's manuscript on the flight of birds; with translation of the manuscript. I. B. Hart. *il diags Roy Aeronaut Soc J* 27:289-317 Je '23

Vinegar**Advertising**

- Vinegar begins its freshman year. J. H. Collins. *Ptr Ink* 119:124-5+ Ap 13 '22

Vinyl alcohol

- Influence of potassium hydroxide on the formation of vinyl alcohol from acetaldehyde. W. L. Evans and C. D. Looker. *Am Chem Soc J* 43:1925-8 Ag '21

Vinylcyclopropane

- Über vinyl-cyclopropan, einige derivate des methyl-cyclopropyl-carbinols und die isomerisation des cyclopropan-ringes. N. J. Demjanow and M. Dojarenko. *Deutsche Chem Gesell Ber* 55:2718-27 S '22

Violet

- Über den abbau des methyl-kakothelins und seine violette farbreaktion mit natriumsulfid; (über strychnos-alkaloide). H. Leuchs, B. Winkler and W. R. Leuchs. *Deutsche Chem Gesell Ber* 55:3936-50 D '22; *Abstract*. *Chem Soc J* 124 pt 1:133-5 F '23

See also Gentian violet; Methyl violet

Violet-le-Duc, Eugène Emmanuel

- Résumé de Violet le Duc's observations and deductions on mediaeval architectural polychromy. L. V. Solon. *Arch Rec* 52:245-7, 356-8 S-O '22

Violuric acids

See Iminovioluric acids

Virginia

- See* Architecture—Virginia; Coal mines and mining—Virginia; Geology—Virginia; Roads—Virginia; Street railroads—Virginia

Virginia Beach, Virginia**Water supply**

- CO₂ odor and iron removal at Virginia Beach, Va. *diags Eng N* 88:774-5 My 11 '22

Virginia iron, coal and coke company

- 19th annual report for the year ended December 31, 1921. *Comm & Fin Chr* 114:1439-40 Ap 1 '22

Virginian railway

- Another forward step in electrification; how the Virginian railway will replace steam. *il Sci Am* 129:92+ Ag '23
- How the Virginian will double operating capacity. R. L. McClellan. *il diag map Ry R* 72:1040-3 Je 16 '23; *Same*. *Ry Age* 74:1451-3 Je 16 '23; *Same*. *Aera* 11:1660-3 Jl '23
- Inter-state commerce commission refuses permission to Virginian railway to build a spur to new mines. *Comm & Fin Chr* 117:42 Jl 7 '23
- Virginian railway awards 213-mile electrification contract. F. H. Shepard. *Ry R* 72:780-1 My 5 '23
- Virginian railway to electrify 134 miles of line. *map Ry Age* 74:1115-16 My 5 '23; *Excerpt*. *Eng & Contr (Ry)* 59:1103-4 My 16 '23
- Virginian realizes on non-union coal traffic. *Ry Age* 73:295-6 Ag 12 '22

Viscolac

- Du Pont markets a new product by direct mail. *Ptr Ink* 124:88 S 6 '23

Visconvector

- Slide rule for oil viscosities. *il Chem & Met Eng* 28:126 Ja 17 '23

Viscose. *See* Silk, Artificial

Viscosimeters

- Appareils de mesure de la viscosité des huiles: le viscosimètre Engler et l'oximètre Barbey. *diags Génie Civil* 80:279-80 Mr 25 '22
- Bath temperatures of viscometers of the Saybolt type. W. H. Herschel. *diag Ind & Eng Chem* 15:945-6 S '23
- Bureau of standards assists in further standardizing the Saybolt viscosimeter. *Nat Pet* N 14:47+ S 13 '22
- Drainage error in measurements of viscosity by the capillary tube method. E. C. Bingham and H. L. Young. *J Ind & Eng Chem* 14:1130 D '22
- Drainage error in the Bingham viscosimeter. W. H. Herschel. *J Ind & Eng Chem* 14:724 Ag '22
- Fuel oil viscosimeters. W. H. Herschel. *Chem & Met Eng* 26:1175-7 Je 21 '22
- Lubrication—The Saybolt viscosimeter. W. F. Osborne. *il chart diag Power* 55:376-7 Mr 7 '22
- New form of viscometer. *il diag Engineer* 134:532 N 17 '22
- Redwood viscosimeter. W. H. Herschel. *U S Bur Stand Tech Pa* 210:227-46 '22

Viscosimeters—Continued

Standardization of commercial viscometers. M. L. Sheely. *diags Ind & Eng Chem* 15: 1109-14 N '23

Viscosity

Application of an optical manometer to the measurement of the viscosity of gases. J. E. P. Wagstaff. *Philos Mag* 6th ser 45:84-8 Ja '23

Change in viscosity of oils with the temperature. W. H. Herschel. *J Ind & Eng Chem* 14:715-23 Ag '22

Coefficient of viscosity of helium and the coefficients of slip of helium and oxygen by the constant deflection method. M. N. States. *Phys R* 21:662-9; Discussion. 669-71 Je '23

Coefficients of viscosity and of slip of air and of carbon dioxide by the rotating cylinder method. K. S. Van Dyke. *Phys R* 21:250-65 Mr '23

Coefficients of viscosity and slip of carbon dioxide by the oil drop method and the law of motion of an oil drop in carbon dioxide, oxygen, and helium, at low pressures. J. M. Eglin. *diags Phys R* 22:161-70 Ag '23

Compound formation and viscosity in solutions of the types acid:ester, acid:ketone, and acid:acid. J. Kendall and E. Brakeley. *Am Chem Soc J* 43:1826-34 Ag '21

Decay of vortices in a viscous fluid. G. I. Taylor. *Philos Mag* 6th ser 46:671-4 O '23

Determination by the constant deflection method of the value of the coefficient of slip for rough and for smooth surfaces in air. L. J. Stacy. *diag Phys R* 21:239-49 Mr '23

Determination of the viscosity of cellulose. *diags Chem Age (Lond)* 9:222-4 S 1 '23

Determination of viscosities and of the Stokes-Millikan law constant by the oil-drop method. Y. Ishida. *diag Phys R* 21: 550-63 My '23

Effect of paraffin wax on viscosity of petroleum oils. E. W. Dean and M. B. Cooke. *J Ind & Eng Chem* 14:410-11 My '22

Flow of liquids in pipes. N. Swindin. 64p Benn bros., Ltd., London '22

Fluidity and plasticity. E. C. Bingham. 440p McGraw-Hill '22

Fuel oil and viscosity. M. G. Langham. *Power* 58:423-4 S 11 '23

Full effect of the variable head in viscosity determinations. F. M. Lidstone. *Philos Mag* 6th ser 44:953-5 N '22

Further studies of the physical characteristics of gelatin solutions. C. E. Davis and E. T. Oakes. *Am Chem Soc J* 44:464-79 Mr '22

How variation of temperature affects viscosity of lubricating oils. W. F. Osborne. *Power* 55:420-1 Mr 14 '22

Lubrication—absolute viscosity of oil. W. F. Osborne. *diag Power* 55:346 F 28 '22

Measurement of absolute viscosity. F. M. Lidstone. *Philos Mag* 6th ser 43:354-7 F '22

Measurement of the viscosity of gases. A. Anderson. *diag Philos Mag* 6th ser 42:1022-3 D '21

Negative viscosity. A. I. Rabinovich. *Am Chem Soc J* 44:954-64 My '22

Notes on determination of absolute viscosity of petroleum oils. W. H. Fulweiler and C. W. Jordan. *J Ind & Eng Chem* 14:723-4 Ag '22

Physico-chemical properties of strong and weak flours; relation between the maximum viscosity obtainable by the addition of lactic acid and the concentration of flour-in-water suspensions. P. F. Sharp and R. A. Gortner. *J Phys Chem* 27:771-88 N '23

Physico-chemical properties of strong and weak flours—the influence of the ash of flours upon the viscosity of flour-in-water suspensions. R. A. Gortner and P. F. Sharp. *J Phys Chem* 27:567-76 Je '23

Physico-chemical properties of strong and weak flours; viscosity as a measure of hydration capacity and the relation of the hydrogen ion concentration to imbibition in the different acids. R. A. Gortner and P. F. Sharp. *J Phys Chem* 27:481-92 My '23

Problem in viscosity: the thickness of liquid films formed on solid surfaces under dynamic conditions. F. S. Goucher and H. Ward. *diags Philos Mag* 6th ser 44:1002-14, pl 8 N '22

Report of sub-committee V of A.S.T.M. on viscosity. *Am Soc T M Pro* 22 pt 1:423-4 '22

Report of the viscosity committee of the cellulose division. *J Ind & Eng Chem* 14:1164-5 D '22

Saybolt viscosity measurements and their control. P. E. Klopsteg and W. H. Stannard. *diags Ind & Eng Chem* 15:702-7 J1 '23

Sol-gel equilibrium in protein systems. R. H. Bogue. *Am Chem Soc J* 44:1313-22 Je '22

Study of elastic viscous deformation. P. G. Nutting. *il diag Am Soc T M Pro* 21:1162-8; Discussion. 1169-71 '21

Tentative method of test for viscosity of fuel oils and other oils of similar viscosity. *Am Soc T M Pro* 21:642 '21; Same. *Nat Pet N* 13:63 N 23 '21

Viscometry and plastometry. A. de Waele. *Soc Chem Ind J (Chem & Ind)* 42:178-9 F '23

Viscosities and molecular dimensions of methane, sulphuretted hydrogen, and cyanogen. A. O. Rankine and C. J. Smith. *Philos Mag* 6th ser 42:615-20 N '21

Viscosities of mixtures of sulfuric acid and water. F. H. Rhodes and C. E. Barbour. *Ind & Eng Chem* 15:850-2 Ag '23

Viscosity and friction. W. H. Herschel. *Soc Auto Eng J* 10:31-41 Ja '22; Excerpts. *Automotive Ind* 46:112-14 Ja 19 '22; Discussion. *Soc Auto Eng J* 10:369-72 My '22

Viscosity and molecular dimensions of gaseous ammonia, phosphine, and arsine. A. O. Rankine and C. J. Smith. *diag Philos Mag* 6th ser 42:601-14 N '21

Viscosity and molecular dimensions of gaseous carbon oxysulphide (COS). C. J. Smith. *Philos Mag* 6th ser 44:289-92 Ag '22

Viscosity and molecular dimensions of sulphur dioxide. C. J. Smith. *Philos Mag* 6th ser 44:508-11 S '22

Viscosity of cellulose in cuprammonium hydroxide solution; the determination of the viscosity. R. A. Joyner. *diag Chem Soc J* 121:1511-25 Ag '22

Viscosity of cellulose; the lowering of the viscosity of cellulose by various reagents. R. A. Joyner. *Chem Soc J* 121:2395-2409 N '22

Viscosity of coke-oven tars and soft pitches. W. J. Huff. *Ind & Eng Chem* 15:1026-30 O '23

Viscosity of gelatin sols. R. H. Bogue. *Am Chem Soc J* 43:1764-73 Ag '21

Viscosity of lubricating oils at high pressures; progress report. *Mech Eng* 45:315 My '23

Viscosity of petroleum oils. A. R. Albouze. *Mech Eng* 44:61-2 Ja '22

Viscosity of some cellulose acetate solutions. E. W. J. Mardles. *Chem Soc J* 123:1951-7 Ag '23

Viscosity of steam-turbine oils; factors controlling friction in bearings. V. M. Hatch. *Power* 54:1011-12 D 27 '21

See also Fluidity; Viscosimeters

Visibility. See Sight**Visiting cards**

Visiting cards an ancient tradition. J. B. Arnold. *il Inland Ptr* 71:515-17 J1 '23

Vital statistics

Vital statistics. G. C. Whipple. 2d ed. 579p Wiley '23

Vitamines

L'alimentation dans ses rapports avec le besoin qualitatif d'azote (amino-acides indispensables) et les facteurs accessoires de la nutrition (vitamines). A. Blanchetière. *Chimie & Ind* 7:874-8; 8:990-1002 My, N '22; Bibliography. 8:1002-4 N '22

Antiberiberi vitamine. C. Funk. *J Ind & Eng Chem* 13:1110-11 D '21

Antiscorbutic vitamine. A. F. Hess. *J Ind & Eng Chem* 13:1115-16 D '21; Excerpt. *Sci Am* 126:332 My '22

Vitamines—Continued

- Critical investigation and an application of the rat-growth method for the study of vitamin B. H. C. Sherman and A. Spohn. *Am Chem Soc J* 45:2719-28 N '23
- Effect of temperature and the concentration of hydrogen ions upon the rate of destruction of antiscorbutic vitamin (vitamin C). V. K. LaMer, H. L. Campbell and H. C. Sherman. *Am Chem Soc J* 44:172-81 Ja '22
- Experiments on the isolation of the antineuritic vitamin. A. Seidell. *J Ind & Eng Chem* 13:1111-15 D '21
- Experiments with two methods for the study of vitamin B. H. C. Sherman and H. Edgeworth. *Am Chem Soc J* 45:2712-18 N '23
- Factors influencing the vitamin content of foods. R. A. Dutcher. *J Ind & Eng Chem* 13:1102-4 D '21
- Further experiments on the isolation of the antineuritic vitamin. A. Seidell. *Am Chem Soc J* 44:2042-51 S '22
- Margarin and vitamins. *Chem Age* 30:41-2 Ja '22
- Newer aspects of the nutrition problem. F. G. Hopkins. *J Ind & Eng Chem* 14:67-9 Ja '22
- Presence of vitamin B in frozen flesh food. A. M. Wright. *Soc Chem Ind J* 42:403-4 O '23
- Protection of vitamin C in foods. E. F. Kohman. *Ind & Eng Chem* 15:273-5 Mr '23
- Quantitative determination of the antiscorbutic vitamin (vitamin C). H. C. Sherman, V. K. LaMer and H. L. Campbell. *Am Chem Soc J* 44:165-72 Ja '22
- Quantitative study of the destruction of vitamin B by heat. H. C. Sherman and M. R. Grose. *Am Chem Soc J* 45:2728-38 N '23
- Standardized methods for the study of vitamins. A. D. Emmett. *J Ind & Eng Chem* 13:1104-6 D '21
- Vitamin food tablets. J. F. McClendon. *Sci Am* 126:405 Je '22
- Vitamin manual. W. H. Eddy. 121p [bibliog. p.94-121] Williams & Wilkins co., Baltimore '21
- Vitamines. C. Funk. 502p Williams & Wilkins co., Baltimore '22
- Vitamines and the future of margarin manufacture. C. Funk. *Chem Age* 30:227-30 My '22
- Vitamines; essential food factors. B. Harrow. 261p Dutton '22
- Vitamines from the standpoint of physical chemistry. V. K. LaMer. *J Ind & Eng Chem* 13:1108-10 D '21
- Vitamines from the standpoint of structural chemistry. R. R. Williams. *J Ind & Eng Chem* 13:1107-8 D '21
- Vitamines; the facts and the bunk. H. C. Lythroe. *Chem Age* 30:293-5 Jl '22
- Vitamins. *Sci Am* 128:309 My '23
- Vitamins. H. C. Sherman and S. L. Smith. 273p Chemical catalog co., New York '22
- Vitamins and the choice of food. V. G. Plimmer and R. H. A. Plimmer. 164p Longmans '22
- Vitreosil.** See Silica, Fused
- Vocational education**
- Advantages of vocational education. W. H. Meyers. *Mach* 30:120 O '23
- Benefits of vocational training. W. R. Needham. *Am Mach* 59:517 O 4 '23
- Connecticut trade and vocational education. (Vocational bul. 1, ser. 1921-1922) 46p Connecticut Board of education, Hartford '21
- Educating operatives for jobs higher up. *il Textile World* 63:734+ F 3 '23
- Federal board for vocational education. W. S. Holt. 74p [bibliog.p.48-71] Appleton '22
- 5th annual report to Congress. 462p [bibliogs.] U.S. Federal bd. for vocational educ. Washington '21
- Five years of vocational education in the United States. *Int Labour R* 7:636-41 Ap '23
- Helping boys to choose a vocation; how the continuation school at Milwaukee, Wis., aids boys in selecting trades. *Mach* 30:196-8 N '23
- Merits of shop training and apprentice systems. *Rv R* 71:935-8 D 30 '22
- Opportunities for vocational training in New York city. E. B. Goldsmith. 94p Vocational service for juniors, 17 Lexington Av., New York '22
- Proceedings of the seventh annual convention of the Association of governmental labor officials of the United States and Canada. U S Bur Labor Statistics Bul 266:26-43 '21
- Progress in vocational education in Canada. *Monthly Labor R* 15:387-9 Ag '22
- Proposals for chambers of crafts in France. *Int Labour R* 7:736-94 My '23
- Relation of education to management engineering. P. Kreuzpointner. *Management Eng* 3:219-20 O '22
- Teach your boy a trade. W. H. Meyers. *Am Mach* 58:872 Je 14 '23
- Technical and commercial education in the gas industry. *Gas J (Lond)* 161:443-7 F 21 '23
- Vocational education and rehabilitation in the United States; abstract of fourth annual report of the Federal board for vocational education. *Int Labour R* 4:382-90 N '21
- Vocational education in Czechoslovakia. *Int Labour R* 7:425-7 F '23
- Vocational education in Stockholm. N. Fredriksson. *Int Labour R* 7:1-13 Ja '23
- Vocational education in the electric railway business. H. M. Robinson. *Elec Ry J* 60:810 N 18 '22
- Vocational guidance and education. See monthly numbers of International labour review
- Vocational training at Nashville. *Elec Ry J* 62:222 Ag 11 '23
- Vocational training for Colorado mine and steel workers. E. S. Cowdrick. *il J Elec* 49:171-2 S 1 '22
- Vocational training; the A.S.M.E. committee on education and training for the industries discusses correspondence and extension courses, apprenticeship, shop training and industrial education. *Power* 56:974-5 D 19 '22
- See also Disabled—Rehabilitation; Engineering education; Employees, Training of; Evening and continuation schools; Industrial education; Manual training; Mining schools and education; Professional education; Salesmen, Training of; Technical education; Trade schools; also Springfield, Massachusetts, vocational school
- Bibliography**
- The Federal board for vocational education, issues a Library circular (weekly) in mimeograph form, which contains bibliographies on vocational education
- Vocational education, Federal board for.** See Federal board for vocational education
- Vocational guidance**
- Character and vocational analysis. J. Ralph. 382p Pacific institute of vocational analysis, Los Angeles, Cal. '23
- Industrial training and vocational guidance. *Eng & Ind Management* 6:568-9 N 17 '21
- Notes on vocational guidance. *Int Labour R* 5:995-1003 Je '22
- Occupations. E. B. Gowin, W. A. Wheatley and J. M. Brewer, rev. ed. 424p [bibliog p 425-9] Ginn '23
- Organizing the Liberal arts college for vocational guidance. E. J. Wiley. *Middlebury College Bul v* 17, no 6:1-21 F '23
- Problems and methods of vocational guidance. E. Claparède. (Studies and Reports ser. J (educ.) no. 1) 78p International labour office, Geneva O '22
- Second conference on psychotechnics and vocational guidance. *Int Labour R* 7:124-30 Ja '23
- Vocational guidance. E. Gauthier. *Int Labour R* 5:707-22 My '22
- Vocational guidance; abstract. B. Muscio. *J Ind Hygiene* 4:sup2-3 My '22
- Vocational guidance and education. See monthly numbers of International labour review
- Vocational guidance in Brussels. A. G. Christiaens. *Int Labour R* 8:345-59 S '23

Vocational guidance—Continued

Vocational guidance in Czechoslovakia. Monthly Labor R 15:389 Ag '22

Work of the Strasburg vocational guidance office. Int Labour R 6:286-94 Ag '22

See also Disabled—Rehabilitation

Bibliography

Bibliographie zur psychologischen berufsberatung, berufseignungsforschung, und berufskunde. O. Lipmann. Int Labour R 7:424-5 F '23

Choice of vocation; a selected list of books and magazine articles for the guidance of students. 54p Carnegie library of Pittsburgh Vocational guidance. 14p St Louis public library, Library school, St Louis '21

Volatility

Facts about one phase of chemistry. A. Gradewitz. Brass W 17:314 N '21; Same. Sci Am 125A:10 N '21

Volcanic gases

Chemical aspects of volcanism with a collection of the analyses of volcanic gases. E. T. Allen. J Fr Inst 193:29-80 Ja '22

Volcanoes

Drilling holes in active volcano. E. J. Lovett. il Pop Mech 38:183-4 Ag '22

Earthquakes and volcanoes; the mechanics of these titanic subterranean forces and their destructive careers. E. W. Woolard. il Sci Am 129:304-5+ N '23

See also Katmai, Mount; Lassen Peak; Lava; Popocatepetl, Mount; Steam, Natural; Volcanic gases

Volt-ampere meters

Volt-ampere meters. R. C. Fryer. il diags Am Inst E E J 42:123-6 F '23; Same cond. Power Pl Eng 27:380-2 Ap 1 '23; Discussion. Am Inst E E J 42:353 Ag '23

Voltage detectors

Condenser-type voltage detector. R. Brown. diags Power 56:387 S 5 '22

Voltage regulation

Automatic synchronous condenser station to insure good voltage regulation. R. J. Wensley and W. L. Newmeyer. il diags map Elec W 82:373-6 Ag 25 '23

Automatic voltage regulation for generators; extracts from operating code. Elec W 81:523 Mr 3 '23

Better voltage regulation increases output. A. H. Ford. Elec W 81:46-7 Ja 6 '23

Electrical characteristics of transmission circuits. W. Nesbit. Elec J 18:542-8; 19:24-30, 69-76 D '21-F '22

Maintenance of voltage on a d.c. distribution system by means of a fully automatic substation. P. J. Robinson. Inst E E J 61:417-24 Ap '23; Same cond. Elec R (Lond) 92:237-8 F 9 '23; Discussion. Inst E E J 61:425-38, 704-12 Ap, Je '23; Elec R (Lond) 92:238-9, 555-6, 634-5 F 9, Ap 6, 20 '23

Method of regulating the voltages on the two sides of a three-wire D.C. system equalized by static balancers. R. D. Archibald. diags Inst E E J 60:303-6; Discussion. 306-7 Mr '22

Prevention of transient voltage in windings. J. M. Weed. diags Am Inst E E J 41:14-20 Ja '22; Discussion. 41:663-7 S '22

Variable voltage installation at the Missouri school of mines. T. M. Bains, jr. il diags Eng & Min J 114:234-5 Ag 5 '22

Voltage regulation and insulation for large power, long distance transmission systems. F. G. Baum. il diags Am Inst E E J 40:643-65 Ag '21; Abstract. Sci Am M 4:281-2 S '21; Discussion. J. F. H. Douglas. Elec W 79:834 Ap 29 '22

Voltage regulators

Automatic voltage regulator for direct current generators. il diags Engineering 115:23 Ja 5 '23

Correcting trouble on new automatic voltage regulator. J. E. Housley. diags Power 55:436 Mr 14 '22

English firm puts out novel voltage regulator. il diags Power Pl Eng 27:349 Mr 15 '23

Generator voltage regulators—alternating-current type. J. H. Ashbaugh. il diags Power 58:488-91 S 25 '23

Generator voltage regulators—direct-current type. J. H. Ashbaugh. il diags Power 58:92-4 Jl 17 '23

Induction voltage regulator. E. F. Gehrken. 516p General electric co., Schenectady, N.Y. '23

Intensity limit regulator manufactured by the Société Brown, Boverie et cie. J. H. Blakey. diags Power Pl Eng 25:1154-6 D 1 '21

Regulation of high-voltage lines. E. F. Gehrken. Elec W 82:759-60 O 13 '23

Rheostatic type of voltage regulator. J. E. Ashbaugh. diags Power Pl Eng 27:533-4 My 15 '23; Excerpt. Elec Ry J 60:915 D 9 '22

Synchronous condensers for voltage regulation. F. V. Smith. il diags Elec J 20:281-5 Ag '23

Voltmeters

Contact-making voltmeter made from a watt-hour meter. il Power 54:1025 D 27 '21

Direct-reading thermionic voltmeter, and its applications. E. B. Moullin. diags Inst E E J 61:295-303; Discussion. 304-7 F '23; Abstract. Engineer 134:634 D 15 '22

Measurement of transients. F. E. Terman. il diags Am Inst E E J 42:462-6 My '23; Discussion. 42:854, 970 Ag-S '23

Slide-back thermionic voltmeter. Electrician 89:32-3 Jl 14 '22

Voltmeter of handy design for battery checking. il Pop Mech 38:6 Jl '22

Volumetric analysis

Accuracy in volumetric analysis. Chem Age (Lond) 8:478-9 My 5 '23

Das altern massanalytischer thiosulfatlösungen. H. Windisch. Deutsche Chem Gesell Ber 55:3163-5 O '22

Analysis of triphenylmethane and azo dyes by titanous chloride. W. S. Calcott and F. L. English. diags Ind & Eng Chem 15:1042-4 O '23

Application of the vacuum tube to chemistry; titrating dilute solutions of salt with silver nitrate. D. F. Calhane and R. E. Cushing. diags Ind & Eng Chem 15:1118-20 N '23

Automatic volumetric analysis carbon monoxide recorder. G. B. Taylor and H. S. Taylor. diags J Ind & Eng Chem 14:1008-10 N '22

Available hydrogen in coal and a direct method for its estimation. J. D. Davis. diags Ind & Eng Chem 15:594-7 Je '23

Bimetallic electrode systems in electrometric analysis. H. H. Willard and F. Fenwick. diags Am Chem Soc J 44:2504-29 N '22

Effect of the presence of filter paper on permanganate-oxalate titrations. S. G. Simpson. J Ind & Eng Chem 13:1152-4 D '21

Electrometric acidimetry and alkalimetry without the use of hydrogen. P. A. van der Meulen and F. Wilcoxon. Ind & Eng Chem 15:62-3 Ja '23

Electrometric determination of sulfur in soluble sulfides. H. H. Willard and F. Fenwick. Am Chem Soc J 45:645-9 Mr '23

Electrometric standardizing of titanous solutions. W. S. Hendrixson and L. M. Verbeck. Am Chem Soc J 44:2382-6 N '22

Electrometric study of the neutralization of phosphoric acid by calcium hydroxide. G. L. Wendt and A. H. Clarke. Am Chem Soc J 45:381-7 Ap '23

Electrometric titration of azo dyes. D. O. Jones and H. R. Lee. diags J Ind & Eng Chem 14:46-8 Ja '22

Electrometric titration of dichromate with ferrous sulfate. M. Eppley and W. C. Vosburgh. Am Chem Soc J 44:2148-56 O '22

Electrometric titration of iodate, bromate, chlorate, ferricyanide with titanous sulfate. W. S. Hendrixson. Am Chem Soc J 45:2013-17 S '23

Electrometric titration of molybdenum with a titanous salt. H. H. Willard and F. Fenwick. Am Chem Soc J 45:928-33 Ap '23

Electrometric titration of reducing sugars. W. L. Daggett, A. W. Campbell and J. L. Whitman. Am Chem Soc J 45:1043-5 Ap '23

Volumetric analysis—Continued

- Electrometric titration of selenium in the presence of tellurium, iron and copper. H. H. Willard and F. Fenwick. *diag Am Chem Soc J* 45:933-9 Ap '23
- Electrometric titration of sulfurous acid with permanganate. W. S. Hendrixson and L. M. Verbeck. *J Ind & Eng Chem* 14:1152-3 D '22
- Electrometric titration of the halides in the presence of one another. H. H. Willard and F. Fenwick. *Am Chem Soc J* 45:623-33 Mr '23
- Electrometric titration of uranium with potassium permanganate and potassium dichromate. D. T. Ewing and E. F. Eldridge. *diag Am Chem Soc J* 44:1484-9 Jl '22
- Electroretitation with the aid of the air electrode. N. H. Furman. *Am Electrochem Soc Trans v* 43 (preprint 10):107-14 My '23
- Electrotrinitrimetric. A. Kling and A. Lassieur. *il diags Chimie & Ind* 7:34-42 Ja '22
- Massanalytische bestimmung des kohlenstoffes und wasserstoffes in organischen verbindungen. J. Lindner. *diags Deutsche Chem Gesell. Ber* 55:2025-31 Jl '22
- New method for the electrometric titration of vanadium in the presence of iron and chromium. H. H. Willard and F. Fenwick. *Am Chem Soc J* 45:84-92 Ja '23
- Rapid volumetric method for the determination of magnesia in carbonate rocks. H. R. Brandenburg and A. H. Avakian. *Concrete* 21:sup78 N '22
- Separation and determination of cobalt; the volumetric determination of cobalt. H. H. Willard and D. Hall. *Am Chem Soc J* 44:2237-53 O '22
- Simple method of electrometric titration in acidimetry and alkalimetry. P. F. Sharp and F. H. MacDougall. *diag Am Chem Soc J* 44:1193-6 Je '22
- Some applications of oxygen electrode, air electrode, and oxidation potential measurements to acidimetry and alkalimetry. N. H. Furman. *Am Chem Soc J* 44:2685-97 D '22
- Successful electrometric titration of iron, vanadium and uranium. R. G. Gustavson and C. M. Knudson. *Am Chem Soc J* 44:2756-61 D '22
- Theory of acid-alkali solution equilibrium as applied to salts of moderately strong but sparingly soluble acids. E. B. R. Prideaux. *Chem Soc J* 123:1624-34 Je '23
- Titration curves for some common acids and bases as determined by the hydrogen electrode. C. E. Davis, E. T. Oakes and H. M. Salisbury. *diags Ind & Eng Chem* 15:182-5 F '23
- Titration of sodium formaldehydesulfoxalate. E. Salkin. *Ind & Eng Chem* 15:848-9 Ag '23
- Same. *Am Dyestuff Rep* 12:595-7 Ag '23
- Titrations in ethyl alcohol as solvent. E. R. Bishop, E. B. Kittredge and J. H. Hilbrand. *Am Chem Soc J* 44:135-40 Ja '22
- Trivalent titanium; the estimation of copper and iron in the presence of each other. W. M. Thornton, jr. *Am Chem Soc J* 44:998-1001 My '22
- Use of bromate in volumetric analysis; the determination of bromate in the presence of ferric iron. G. F. Smith. *Am Chem Soc J* 45:1666-75 Jl '23
- Use of bromate in volumetric analysis; the influence of mercuric mercury upon bromic acid reactions. G. F. Smith. *Am Chem Soc J* 45:1417-22 Je '23
- Use of bromate in volumetric analysis; the stability of bromic acid in boiling solutions. G. F. Smith. *Am Chem Soc J* 45:1115-21 My '23
- Use of malic, maleic and fumaric acids in volumetric analysis. N. E. Lange and H. Kline. *Am Chem Soc J* 44:2709-12 D '22
- Use of the newer indicators in titrations of alkaloids. W. J. McGill. *Am Chem Soc J* 44:2156-60 O '22
- Use of titanous chloride in quantitative dye testing. O. R. Flynn. *diags Am Dyestuff Rep* 12:313-19 Ap '23
- Volumetric determination of tellurium by the dichromate method. V. Lenher and H. F. Wakefield. *Am Chem Soc J* 45:1423-5 Je '23

Volumetric estimation of auramine. W. C. Holmes. *Color Tr J* 13:45-8 Ag '23

Volumetric estimation of small amounts of phosphorus, using a standard solution of methylene blue. W. M. Thornton, jr. and H. L. Elderdice, jr. *diag Am Chem Soc J* 45:668-73 Mr '23

See also Alkalimetry; Colorimetric analysis; Iodometry; Solutions, Standard

Volumetric apparatus

Continuous-reading electroretitation apparatus. K. H. Goode. *diags Am Chem Soc J* 44:26-9 Ja '22

Voss, John M.

From carpenter to school builder; story of John M. Voss. *por Bldg Age* 43:31-3 D '21

Vouchers

Combination check and journal voucher distribution. H. A. Grube. *il Administration* 2:597-608 N '21

Vulcanization

Acceleration of vulcanization by cinchona alkaloids. India Rubber W 67:297-8 F '23

Acceleration of vulcanization by organic accelerators. A. Maximoff. India Rubber W 65:195 D '21

Accelerators and rubber mixes. J. L. Rosenbaum. India Rubber W 66:743-4 Ag '22

Accelerators of vulcanization. G. S. Whithy. *Ind & Eng Chem* 15:1005-8 O '23

Alteration of rate of vulcanisation and deterioration of raw rubber during storage. B. J. Eaton and R. O. Bishop. *Soc Chem Ind J* 42:389-92 S '23

American accelerator practice. L. E. Weber. India Rubber W 66:681-2 Jl '22

Coefficient of vulcanization of rubber. G. Martin and F. L. Elliott. India Rubber W 67:22-3 O '22

Cold vulcanization. S. J. Peachey. India Rubber W 66:677 Jl '22

Determination of true free sulfur and the true coefficient of vulcanization in vulcanized rubber. W. J. Kelly. *J Ind & Eng Chem* 12:875-8; 14:196-7 S '20, Mr '22; Same cond. India Rubber W 63:175-6; 66:491-2 D '20, Ap '22

Discontinuity of vulcanization in the presence of organic accelerators. D. F. Twiss. India Rubber W 65:273-5 Ja '22

Disubstituted guanidines. W. Scott. *Ind & Eng Chem* 15:286-90 Mr '23

Dithiocarbamate accelerators of vulcanization. D. F. Twiss, S. A. Brazier and F. Thomas. India Rubber W 67:86-7 N '22

Effect of acetone-soluble constituents of rubber on the vulcanizing properties. H. P. Stevens. India Rubber W 67:297 F '23

Effect of litharge on accelerators. P. L. Bean. India Rubber W 67:360 Mr '23

Effect of mould on vulcanizing properties. H. P. Stevens. India Rubber W 66:357 F '22

Effect of the oxides of arsenic on the rate of vulcanisation of rubber. B. J. Eaton and R. O. Bishop. *Soc Chem Ind J* 42:303-7 Jl '20 '23

Ideal-Omnium rubber works, Ltd., 1940. P. Schidrowitz. India Rubber W 66:475-6 Ap '22

Influence of bases on the activity of vulcanisation accelerators. G. S. Whithy and A. Cambron. *Soc Chem Ind J* 42:333-6 Ag '20 '23; Excerpt (Discussion). India Rubber W 69:25 O '23

Mercaptobenzothiazole and its derivatives as accelerators of rubber vulcanization. L. B. Sebrall and C. E. Boord. *Ind & Eng Chem* 15:1009-14 O '23

New rubber accelerators. *Chem Age (Lond)* 8:176 F '23

Organic accelerators for vulcanization. Automatic Ind 47:33 Jl '22

Persistence of calender grain after vulcanization. W. B. Weigand and H. A. Braendle. *Ind & Eng Chem* 15:259-62 Mr '23; Abstract. India Rubber W 68:499-500 My '23

Reactions of accelerators during vulcanization. C. W. Bedford and H. Gray. *Ind & Eng Chem* 15:720-4 Jl '23; Summary. India Rubber W 68:712 Ag '23

Vulcanization—Continued

- Reactions of accelerators during vulcanization; carbosulphidryl accelerators and the action of zinc oxide. C. W. Bedford and L. B. Sebrell. *India Rubber W* 66:356-7 F '22
- Relation between coefficient of vulcanization and mechanical properties of vulcanized rubber. O. de Vries. *J Ind & Eng Chem* 13:1133-4 D '21; Excerpts. *India Rubber W* 66:492 Ap '22
- Selenium in rubber compounding. I. Williams. *Ind & Eng Chem* 15:1019-21 O '23
- Some effects of acceleration on the rubber stress-strain curve. P. Schidrowitz and J. R. Burnand. *India Rubber W* 66:420 Mr '22
- Studies in rubber vulcanization. N. A. Shepard and S. Krall. *J Ind & Eng Chem* 14: 951-6 O '22; Abstract. *India Rubber W* 67: 151-2 D '22
- Technical data on accelerators. *India Rubber W* 68:712 Ag '23
- Thermal changes during vulcanization. I. Williams and D. J. Beaver. *Ind & Eng Chem* 15:255-8 Mr '23
- Variability of rubber, effect of organic accelerators. G. Martin and W. S. Davey. *Soc Chem Ind J* 42:98-106 Mr 16 '23
- Vulcanization in solution with and without accelerators. M. Le Blanc and M. Kröger. *India Rubber W* 65:194-5 D '21
- Vulcanisation of rubber. H. P. Stevens. *Chem Age (Lond)* 8:147, 177, 205 F 10-24 '23
- Vulcanization: past, present and future. P. Schidrowitz. *India Rubber W* 66:418-19 Mr '22
- Vulcanizing rubber latex. *Chem Age* 31:140-1 Mr '23

See also Diphenylguanidine; Rubber—Manufacture

Vulcanized fiber

- Broaching vulcanized fiber. C: E. Hodges. *Mach* 30:24 S '23
- Building receptacles of vulcanized fiber. C. C. Bell. *Chem & Met Eng* 28:688 Ap 16 '23
- Machining vulcanized fiber. A. B. Eastman. *Mach* 29:781-2 Je '23
- Properties of vulcanized or hard fiber. Retzow. *Paper Tr J* 74:52-6 My 25 '22

Testing

- Directions for the study of vulcanized fibre for electrical purposes; report of the British electrical and allied industries research association. *diags Inst E E J* 61:964-81 S '23

Vulcanizers

- Steam consumption of tire press vulcanizers. C. F. Rett. *diags India Rubber W* 67:294-5 F '23

W**Wabash railroad**

- Wabash annual report for 1922 disappointing. *Ry Age* 74:1009-11 Ap 21 '23
- Wabash shows increases in fast freight traffic in 1921. *Ry Age* 72:1077-8 My 6 '22

Wage payment plans

- Compensation plan that works. W: J. Franklin. *Ind Management* 66:149-50 S '23
- Financial incentives for employees and executives. D. Bloomfield. *2v H. W. Wilson co.* '23
- High wages, increased production, decreased costs. W: Baum. *Paper Tr J* 77:109-13 O 18 '23
- Human elements of wage incentive. D. S. Cole. *Ind Management* 65:39-41 Ja '23
- Merit system for establishing wage rates. K. H. Crumrine. *Am Mach* 58:301-2 F 22 '23
- Sharing gains with employees. W. L. Churchill. *Management & Adm* 6:203-6 Ag '23
- Six wage-payment plans that have stood all tests. P. M. Atkins. *il Factory* 30:42-3+ Ja '23
- Standard-hour plan of wage payment. M. E. Merriman. *Management Eng* 4:315-20, 381-7 My-Je '23

- Survey of wage systems. P. F. Gemmill. *Ind Management* 64:207-8 O '22
- Tendencies toward the incentive method of wage payment. O. Tead. *Ind Management* 66:196-200 O '23
- Wage and output; timework v. piecework. *Ind Management (Lond)* 8:190 O 5 '22
- Wage-incentive plans for cost control. R. W. Darnell. *Management & Adm* 6:459-66 O '23
- Wage-incentive systems. E. Bouton. *Soc Auto Eng J* 13:380-3 N '23; Same. *Am Mach* 59: 739-42 N 15 '23; Same without tables. *Iron Tr R* 73:1668-9 D 20 '23; Same abr. *Automotive Ind* 49:884-7 N 1 '23; Abstract. *Iron Age* 112:1220-1 N 1 '23; Discussion. *Soc Auto Eng J* 13:480-3 D '23
- Wage-payment plans. C. W. Lytle. *Management Eng* 2:321-4 My '22; Discussion. 2: 370-2; 3:44-6 Je-Jl '22
- Wage system, Dennison manufacturing company. *Eng & Ind Management* 6:468-9 O 27 '21
- Wage systems and production costs. H. Tipper. *Automotive Ind* 47:582-3 S 21 '22
- Working methods for profitable management; rewarding the workers. C. E. Knoepfel. *Management & Adm* 6:59-66 Jl '23
- See also Bonus system; Piece work; Premiums; Profit sharing

Wages

- Adjusting wage-rates according to the versatility of the employee. T. W. Mitchell. *Management Eng* 3:69-71 Ag '22
- Basis for determination of a living wage. D. D. Kittredge. *Monthly Labor R* 17:651-2 S '23
- Cheaper production. W: R. Basset. *Factory* 30:403-5 Ap '23
- Comparison of wages of farmers and other workers. H. C. Wallace. *Comm & Fin Chr* 115:821-2 Ag '22
- Control of wages. W. Hamilton and S. May. *135p Doran* '23
- Course of wages—interferences with the law of supply and demand. *Comm & Fin Chr* 116:1587-8 Ap 14 '23
- Cutting wages the sure way to retard business resumption. E. W. Hulet. *Am Mach* 55:930-1 D 8 '21
- Discrimination in wage cuts. E: R. Nary. *Factory* 28:515-18 My '22
- Factors of wage determination. *Monthly Labor R* 14:1168-73 Je '22
- Fantasy of the living wage. E. W. Hooper. *il Nation's Business* 11:16-18 Je '23
- Fundamental relations between employer and employee. H. Emerson. *Chem & Met Eng* 27:400-3 Ag 30 '22
- How to determine a fair wage in the building trades. T: H. Coe. *Eng & Contr* 56: 586-7 D 28 '21
- International comparison of real wages. *Monthly Labor R* 16:366-73 F '23
- Interpreting average hourly earnings on semiautomatic operations. P. Faltin and L. Blog. *Management Eng* 2:215-19 Ap '22
- Labor argument for the living wage. *Comm & Fin Chr* 115:2728-30 D 23 '22
- Labor day ethics and economics. E: A. Bradford. *Annalist* 20:267-8 S 18 '22
- Labor outlook is for continued high wages. *Annalist* 21:824 Je 18 '23
- Labor status reversed in year. *Iron Tr R* 72: 28-32 Ja 4 '23
- Living wage fallacy. F. C. Chappell. *Annalist* 22:365+ S 17 '23
- Low wage scale may not mean low unit costs. H. Tipper. *Automotive Ind* 46:1178-9 Je 1 '22
- One way to raise wages. *Ry Age* 73:407-8 S 2 '22
- Peace and wages. *Am Mach* 57:493-4 S 28 '22
- Practical training for foremen; incentives. P. L. Burkhard. *Iron Tr R* 71:169-72+ Jl 20 '22
- Present adjustment and trend of wages. C: M. Mills. *Iron Age* 111:7-10 Ja 4 '23
- Prices and wages. P. Wallis and A. Wallis. 456p P. S. King & son, London '21
- Putting production incentive into pay envelopes. S: Theaker. *Ind Management* 64:216-20 O '22

Wages—Continued

- Re-establishing the profits of the small factory. E. Cordeau. *Ind Management* 64:24-6 JI '22
- Report of Joint investigation committee on working hours. *Engineer* 134:377-9 O 13 '22
- Le salaire parabolique. C. Lallemand. *Génie Civil* 80:384-6 Ap '22
- Settlement of wage disputes. H. Feis. 289p Macmillan '21
- Some issues in the coal wage controversy. J. G. Puterbaugh. *Min & Met* 185:15-18 My '22
- Trends in industry. See monthly numbers of Management engineering
- United States Supreme court holds Kansas industrial court cannot fix or regulate wages in industry. *Comm & Fin Chr* 116:2726 Je 16 '23; *Abstract. Iron Tr R* 72:1835 Je 21 '23
- Wage advances as related to domestic trade. *Comm & Fin Chr* 116:2455-6 Je 2 '23
- Wage changes in various countries, 1914 to 1921. *Monthly Labor R* 15:1043-57 N '22
- Wage changes in various countries, 1914 to 1922. 87p International labour office, Geneva '23
- Wage comparisons in the chemical and allied industries. *Chem & Met Eng* 26:569-71 Mr 22 '22
- Wage cost per unit essential feature of cost deflation. H. Tipper. *Automotive Ind* 45:1132-3 D 8 '21
- Wage movements in recent years. *Int Labour R* 7:80-95 Ja '23
- Wages and hours of labor. See monthly numbers of Monthly labor review
- Wages compared internationally. M. S. Birkett. *Iron Tr R* 72:159-6 Ja 11 '23
- Wages governed by per capita money. H. P. Gillette. *Brick & Clay Rec* 60:761-2 My 16 '22
- Wages in Great Britain, France and Germany. (National industrial conference board, Research rep. no. 40) 110p Century co. '21
- Wages lag in cost declines. J. L. Jacobs. *Am Ind* 22:20-1 F '22
- What a railroad man thinks of the A. F. of L.'s advertising viewpoint. J. G. Condon. *Ptr Ink* 120:93-4+ S 21 '22
- What about the living wage? R. J. Andersen. *Ind Management* 66:140-3 S '23
- What determines wages? E. H. Fish. *Management Eng* 2:109-10 F '22
- World's wages—a statistical anomaly. *Sci Am* 126:369+ Je '22
- See also Bonus system; Cost of living; Electric railroads—Wages; Employees—Rating; Employees as stockholders; Family allowances; Government employees—Salaries; Labor and laboring classes; Labor contracts; Minimum wage; Office workers—Salaries; Overtime; Payrolls; Pensions, Industrial; Piece work; Prices; Profit sharing; Railroads—Wages; Salaries; Wage payment plans
- Tables and ready-reckoners**
- Edwards' lightning wage calculator. 61p U. P. C. book co. '21
- Wage analysis. R. Von Huhn. *Management Eng* 3:307-10 N '22

Alaska

- Miners' wages in Alaska. *Monthly Labor R* 15:595-6 S '22
- Nationality and wages of workers in Alaskan fishing industry. *Monthly Labor R* 17:653-4 S '23
- Wages of Alaskan miners, 1922. *Monthly Labor R* 17:655 S '23

Australia

- New wage rate in New South Wales. *Monthly Labor R* 14:124-5 Ja '22
- Wages and hours of labor in Sydney and Melbourne, Australia, 1914-1921. *Monthly Labor R* 14:1174-5 Je '22

Belgium

- Wages in Brussels, Belgium, in November, 1921. *Monthly Labor R* 14:495-6 Mr '22

Canada

- Wages and hours of labor in Canada, 1901-1921. *Monthly Labor R* 14:694-6 Ap '22
- Wages and hours of labor in Canada, June, 1921. *Monthly Labor R* 13:1043-5 N '21
- Wages and hours of labour in Canada, 1901-1920. (Report no. 1) 32p Canada Dept. of labour, Ottawa '21
- Wages and hours of labour in Canada 1921 and 1922. (Rep. no. 4) 39p Dept. of labour, Ottawa, Canada '22

China

- Wages and hours of labor in various industries in China. *Monthly Labor R* 17:658-9 S '23

Czechoslovakia

- Comparison of pre-war and post-war wages and profits in Czechoslovakia. *Monthly Labor R* 14:1176 Je '22

Denmark

- Agricultural wages and wage earners in Denmark. V. B. Turner. *Monthly Labor R* 15:1059-68 N '22
- Wages in various industries in Denmark, 1914 to 1922. *Monthly Labor R* 16:82-5 Ja '23
- Wages in various industries in Denmark, third and fourth quarters of 1922. *Monthly Labor R* 17:660-2 S '23

Europe

- Cost of living keeping up wages in Europe. *Iron Tr R* 71:367-8 Ag 10 '22
- Wages in foreign countries. National industrial conference board, 131p Century co. '22

Finland

- Average hourly wages of trade-unionists in Finland, 1921 and 1922. *Monthly Labor R* 17:663 S '23
- Wages and value of output per worker in Finland. *Monthly Labor R* 17:98 JI '23

France

- Wages in beet-sugar and coal-mining industries and in domestic service in France. *Monthly Labor R* 15:65-7 JI '22
- Wages in France in 1920 and 1921. *Monthly Labor R* 13:1254 D '21
- Wages in mining and metal working industries in France in 1920. *Monthly Labor R* 13:812-15 O '21

See also Family allowances

Germany

- Comparison of wage index with other economic indexes in Germany. *Monthly Labor R* 17:411 Ag '23
- Production and wages in a German steel works, 1913 to 1921. *Monthly Labor R* 16:753-60 Ap '23
- Purchasing power of wages in Germany in 1914 and 1922. *Monthly Labor R* 15:315 Ag '22
- Real value of salaries and wages in Hamburg, Germany, 1920 to 1922. *Monthly Labor R* 16:379-85 F '23
- Sliding wage scale in Germany. *Monthly Labor R* 14:968-72 My '22
- Tarifliche regelung des akkordwesens. P. Schmerse. *diags Stahl & Eisen* 42:1677-86 N 9 '22
- Vereinheitlichung der deutschen lohnstarife. P. Schmerse. *Stahl & Eisen* 43:145-53, 191-4 F 1-8 '23
- Wage rates in various trades in Germany, February, 1923. *Monthly Labor R* 17:99-103 JI '23
- Wage rates in various trades in Germany, September, 1922. *Monthly Labor R* 16:88-92 Ja '23
- Wages in German industries. *Mach* 29:332 D '22
- Wages in industrial occupations in Germany, January, 1920, to July, 1921. *Monthly Labor R* 13:1260-6 D '21

Great Britain

- Prices and wages in the United Kingdom, 1914-20. A. L. Bowley. 228p Oxford '21

Wages—Great Britain—Continued

Rates of wages in principal industries in Great Britain, February, 1922. Monthly Labor R 14:1177-85 Je '22

Representative wages and wage bases in Great Britain. H. B. A. Smith. U S Bur For & Dom Com Trade Information Bul 91: 1-27 '23

Stabilising wages in British public works construction. Eng & Contr 57:309-10 Mr 29 '22

Wage adjustments on basis of cost of living. Great Britain. Monthly Labor R 13:816-19 O '21

Wage scales in the silk industry in Leek, England. Monthly Labor R 13:1047-9 N '21

Wages and hours of labor in principal industries in Great Britain, September, 1922. Monthly Labor R 16:94-7 Ja '23

Wages in selected industries in Great Britain, 1914 to 1921. Monthly Labor R 15:323-9 Ag '22

Wages in the coal industry. J. W. F. Rowe. 174p P. S. King & son, London '23

Wages of contractors' workmen in London, England, area. Eng & Contr (Bldgs) 60:373 Ag 22 '23

Wages of farm labor in England and Wales. V. E. Turner. Monthly Labor R 15:71-86 Jl '22

Wages, prices and profits. 110p Labour research department, London '22

See also Great Britain—Trade boards

India

Wages and hours of labor in cotton textile industry of Bombay (India) Presidency. Monthly Labor R 16:1013-16 My '23

Italy

Wage rates of Italian marine labor and of port labor in Naples. Monthly Labor R 15: 331-3 Ag '22

Wage statistics computed by the National accident insurance fund. Monthly Labor R 14:696-703 Ap '22

Japan

Wages in specified industries in Japan, 1911-1920. Monthly Labor R 15:333-5 Ag '22

Wages in Tokio in September and October, 1922. Monthly Labor R 16:389-90 F '23

Kansas

Women's wages in Kansas. Monthly Labor R 13:1037-41 N '21

Latvia

Wages and cost of living in Latvia. Monthly Labor R 14:123-4 Ja '22

Manchuria

Wages of Japanese and Chinese workers in Manchuria. Monthly Labor R 15:86 Jl '22

Mexico

Relation of cost of living to wages in Federal district of Mexico. Monthly Labor R 16: 1279-81 Je '23

Netherlands

Wages and hours of labor in the Netherlands, 1922. Monthly Labor R 17:663-6 S '23

New Zealand

General wage reduction in New Zealand. Monthly Labor R 15:336 Ag '22

Wages and hours of labor in New Zealand, 1909-1922. Monthly Labor R 17:105-11 Jl '23

Peru

Wages and working conditions of agricultural laborers in Peru. Monthly Labor R 15:87-8 Jl '22

Poland

Wages in Poland, 1923. Monthly Labor R 17: 844-5 O '23

Rumania

Wages in Rumania, 1922. Monthly Labor R 17:667-8 S '23

Scandinavia

Agricultural wages and wage earners in Norway and Sweden. V. B. Turner. Monthly Labor R 15:596-610 S '22

South Africa

Wages of European workers in South Africa. Monthly Labor R 16:390-1 F '23

Sweden

Seamen's wages in Sweden and England. Monthly Labor R 17:668-70 S '23

Wages and working conditions in Swedish tobacco manufacture during 1921. Monthly Labor R 15:1069-71 N '22

Switzerland

Agricultural wages in Switzerland. Monthly Labor R 15:337-8 Ag '22

United States

Average of wages near peak of 1920. Iron Tr R 72:966 Mr 29 '23

Average union rate of wages per hour in the United States, May 15, 1920 and 1921. Monthly Labor R 14:952-3 My '22

B. M. Jewell attacks nation's industrial system. Ry Age 72:821-2 Ap 1 '22

Central station wage problem. Elec W 79:26-7, 488 Ja 7, Mr 11 '22

Changes in union scale of wages and hours of labor, 1913 to 1923. Monthly Labor R-17: 625-50 S '23

Changes in union wage scales, 1907 to 1921. Eng & Contr 57:266 Mr 22 '22

Common labor wages on road work. Eng & Contr (R & S) 58:58 O 4 '22

Comparison of employment and wages in selected industries in October 1921 and 1920. Comm & Fin Chr 113:2374-5 sec 1 D 3 '21 [continued monthly]

Decision of the Railroad labor board on the living wage. Monthly Labor R 15:1287-94 D '22

Disproportionate increase in wages of common labor. Eng & Contr (Bldgs) 59:694 Mr 28 '23

Income in the United States. W. R. Ingalls. Am Ind 22:9-10+ F '22

Index numbers of changes in union wage scales, 1907 to 1922. Monthly Labor R 15: 1037 N '22

Labor rates and conditions throughout the country. Eng N 88:215 F 2 '22

Mercantile wages in the District of Columbia. Monthly Labor R 15:343-4 Ag '22

Nation-wide investigation shows wage increase. Eng & Contr (Ry) 59:175-6 Ja 17 '23

Navy yards—decision of Departmental wage board. Monthly Labor R 13:828-39 O '21

Rates of wages on government contracts for public roads, March, 1922. Monthly Labor R 14:1166-7 Je '22

Relation of wages to per capita money for 80 years. H. P. Gillette. Eng & Contr 57: 389-90 Ap 26 '22

Relative increase in salaries compared with wages, and their relation to per capita money. H. P. Gillette. Eng & Contr 57: 433-4 My 10 '22

Situation at the mines in February; wages paid in various districts. Eng & Min J 113: 427 Mr 11 '22

Slight increase in sheet worker's wages. Iron Tr R 70:219 Ja 19 '22

Steel companies announce wage advance. Iron Age 111:1053-4 Ap 12 '23

Union scale of wages and hours of labor, May 15, 1920. U S Bur Labor Statistics Bul 286:1-280 '21

Union scale of wages and hours of labor, May 15, 1921. U S Bur Labor Statistics Bul 302: 1-219 '22

Union scale of wages and hours of labor May 15, 1922. U S Bur Labor Statistics Bul 325:1-210 '23; Abstract. Eng & Contr (Bldgs) 59:1436 Je 27 '23

Wage advances by textile mills. Textile World 63:2081 Mr 31 '23

Wage and employment situation. See monthly numbers of Management and administration

Wages—United States—Continued

- Wage award by Judge Landis in Chicago building trades, September 7, 1921. Monthly Labor R 13:824-8 O '21
- Wage deflation still incomplete. Iron Tr R 70:10-12 Ja 5 '22
- Wage earner's status outlined. Iron Tr R 71:583-4 Ag 31 '22
- Wage increases in recent years. Pub Works 52:325 My 6 '22
- Wage scale in southern shops. Am Mach 56:283 F 23 '22
- Wages and average employment in building trade. G. F. Meyne. Eng & Contr (Bldgs) 60:683-4 S 26 '23
- Wages and hours in American industry, July, 1914-July, 1921. (National industrial conference board Research rep. no. 45) 202p Century co. '22
- Wages and hours of labor in anthracite coal mining in Pennsylvania in January, 1922. Monthly Labor R 14:855-62 My '22
- Wages and hours of labor in cotton-goods manufacturing, 1920. U S Bur Labor Statistics Bul 288:1-125 '21
- Wages and hours of labor in cotton-goods manufacturing, 1922. U S Bur Labor Statistics Bul 345:1-27 '23
- Wages and hours of labor in lumber manufacturing, 1921. U S Bur Labor Statistics Bul 317:1-55 '23
- Wages and hours of labor in the boot and shoe industry: 1907 to 1920. U S Bur Labor Statistics Bul 278:1-177 '21
- Wages and hours of labor in the boot and shoe industry: 1907 to 1922. U S Bur Labor Statistics Bul 324:1-118 '23
- Wages and hours of labor in the hosiery and underwear industry, 1922. U S Bur Labor Statistics Bul 328:1-38 '23
- Wages and hours of labor in the men's clothing industry, 1911-1922. U S Bur Labor Statistics Bul 329:1-39 '23; Abstract. Monthly Labor R 15:1269-74 D '22
- Wages and hours of labor in the petroleum industry, 1920. U S Bur Labor Statistics Bul 297:1-153 '22; Excerpt. Monthly Labor R 15:317-18 Ag '22
- Wages and hours of labor in the slaughtering and meat-packing industry, 1921. U S Bur Labor Statistics Bul 294:1-93 '22
- Wages and hours of labor in tin plate mills in 1922. Iron Age 111:974 Ap 5 '23
- Wages and hours of labor in woolen and worsted goods manufacturing, 1920. U S Bur Labor Statistics Bul 289:1-97 '21
- Wages and hours of labor in woolen and worsted goods manufacturing, 1922. U S Bur Labor Statistics Bul 327:1-34 '23
- Wages, hours and employment in American manufacturing industries. 158p National industrial conference board. New York '23
- Wages in road building. Eng & Contr 57:429 My 3 '22
- Wages of common laborers 1913 to 1921, and probable future wages. Eng & Contr 57:216 Mr 8 '22
- Where the workman's wages go. il Sci Am 128:149 Mr '23

Wagner-Meerwein transformations

- Mechanism of the pinacol-pinacolin and Wagner-Meerwein transformations. C. K. Ingold. Chem Soc J 123:1706-13 Jl '23

Wagons

- 4½-cubic yard side-tipping wagon. il diags Engineering 113:362 Mr 24 '22
- What simplification saves us—John Deere wagon works. E. E. Parsonage. System 40:709-12+ D '21

Wahlen gage. See Manometers**Walcot, William**

- Five etchings by William Walcot. Am Inst Arch J 9:380-7 D '21

Walden inversion

- Investigations on the dependence of rotatory power on chemical constitution; a new type of Walden inversion. H. Phillips. Chem Soc J 123:44-59 Ja '23

Waldorf lunch

- Glorifying an arm chair lunch by means of advertising. R. M. Rhodes. Ptr Ink 119:141-2+ My 18 '22

Wales

- See Coal trade—Wales; Hydroelectric plants—Wales; Water power—Wales

Walkover stores

- Success built upon dealer co-operation—the Walk-over shoe. G. H. Leach. Ptr Ink M 4:23-4 D '21

Wall board

- Why not become the wall board expert in your locality? S. I. Griffith. il diags Bldg Age 45:73-5 Je '23

Wall coverings

- Fabric wall covering. il Color Tr J 11:184-5 O '22

Wall footings

- Contractor and footing course. F. E. Sanborn. Eng N 89:1130-1 D 28 '22

Wall paper

- Architectural uses of wallpaper. E. H. Ries. il Bldg Age 45:62-3+ S '23
- Development of wall-paper. il Am Arch 122:43-9 Jl 19 '22
- Wallpaper—its history, design and use. P. Ackerman. 268p Stokes '23
- Wall paper, its origin, development and manufacture. G. W. Ward. 100p Pitman '22
- Wallpaper, its structural qualities. R. N. Hunter. il Am Arch 123:227-32 Mr 14 '23
- Wall paper manufacture in a model mill. H. A. Hauptli. il Chem & Met Eng 28:437-40 Mr 7 '23

Advertising

- Manufacturers convinced people are becoming wallpaper conscious. Ptr Ink 124:49-50+ S 6 '23
- Wall paper rises to the occasion. A. E. Haase. Ptr Ink 120:53-4+ Ag 10 '22

Wall Street

- See New York stock exchange

Wallaroo & Moonta mining and smelting company

- 34th report for the year ended June 30, 1923. Eng & Min J 116:746 O 27 '23

Walls

- Building walls in Europe. Am Arch 121:79-80 Ja 18 '22
- Charts covering design of abutment walls of horizontal beam type. W. B. Walraven. diag Eng N 89:708-9 O 26 '22
- Des murs et du bloc athermane avec vides chromatiques. A. Knapen. diags Soc Ing Civils Bul 74:570-94 O '21
- Great wall of China; a geologist's examination of the oldest artificial structure in the world. F. C. Clapp. il diags map Sci Am 126:404-5 Je '22
- Gunitite walls. Am Inst Arch J 10:XV S '22
- Heat loss through various types of building construction. L. A. Scipio. Am Soc Heat & V E J 27:637-43 S '21
- Heat transmission in wall materials. Eng & Contr 58:307 S 27 '22; Same. Can Eng 44:114-15 Ja 2 '23
- Heat transmission through building structures. E. F. Mueller. il Am Soc Heat & V E J 29:69-72; Discussion. 72-3 Mr '23
- Saving with hollow gunitite walls. diag Can Eng 45:108 Jl 3 '23
- Wall textures. P. E. Nobbs. il Am Arch 124:244-50 S 12 '23

- See also Building; Dams; Foundations; Garden walls; Mural painting and decoration; Partitions; Plaster and plastering; Retaining walls; Sea walls; Wall board

Testing

- Fire tests on gunitite walls. Can Eng 43:236-7 Ag 8 '22; Same cond. Concrete 21:106 O '22; Excerpts. Eng & Contr 58:292 S 27 '22
- Making load tests of a tile wall and measuring floor deflections. E. Godfrey. il diags Eng N 89:189-90 Ag 3 '22

Walls—Testing—Continued

Some compressive tests of hollow-tile walls. H. L. Whitemore and B. D. Hathcock. *il* diags U S Bur Stand Tech Pa 238:513-27 '23; Excerpt. Eng N 91:753 N 8 '23
 Stability of thin walls. Eng & Contr 57:288-9 Mr 29 '22; Am Arch 121:159 F 15 '22

Walls, Brick

Brick—its structural value. G. C. Mars. diags Am Arch 123:383-7 Ap 25 '23
 Brick walls for residences. *©*: E. Worthington. Am Arch 121:161-2, 191-3 F 15-Mr 1 '22
 Hollow brick walls save heat. Eng N 90:709 Ap 19 '23
 Indiana realtors asked to endorse 8 inch wall. W: Carver. Brick & Clay Rec 59:732-5 N 15 '21
 National code endorses 8-inch wall. diags Brick & Clay Rec 62:323-4 F 20 '23

Testing

Comparative strength of solid and ideal brick walls. *il* Eng & Contr (Bldgs) 59:1449 Je 27 '23
 Fire tests of brick walls. *il* diag Am Arch 124:307-14, 355-62 S 26-O 10 '23; Abstracts. Brick & Clay Rec 63:617-19 O 30 '23; Safety Eng 46:279-83 D '23
 Strength of thin walls. Am Arch 121:159 F 15 '22; Eng & Contr 57:288-9 Mr 29 '22
 Tests of 4-inch brick partition walls. W: Carver. Eng & Contr 58:192 Ag 23 '22

Walls, Concrete

Cambria steel company completes 89 hollow wall houses. E. T. Gray. *il* diags plans Concrete 20:19-22 Ja '22
 Colored figures add life to concrete walls. A. Jones. *il* Pop Mech 39:889-90 Je '23
 Concrete walls molded before being raised. *il* Pop Mech 39:604 Ap '23
 Cost of building flow partition walls in Imhoff tanks by cement gun method. G: B. Gascoigne. *il* diags plan Munic Eng 63:233-8 D '22
 Double wall bungalows in Spokane. W. R. Smith. *il* plans Concrete 20:43 Ja '22
 Frost system double wall houses. *il* Concrete 20:46-7 Ja '22
 Hahn system of wall construction. *il* Concrete 20:92-3 F '22
 Hillman system of hollow walls. *il* Concrete 20:224-5 My '22
 Hopkins wall system, with thin precast units. diags Concrete 21:143 N '22
 How to make forms for concrete buildings—walls. W: F. Lockhardt. diags Concrete 20:113-15 Mr '22
 Progress in use of Acme wall system. *il* Concrete 21:32 Jl '22
 Protecting a beach in northern Michigan from erosion by ice. *il* Sci Am 129:169 S '23
 Small units in house building. A. J. R. Curtis. *il* Concrete 20:255-7 Je '22
 Thermo wall construction. *il* plans Concrete 20:127-8 Mr '22

See also Dams, Concrete; Retaining walls. Concrete; Sea walls, Concrete

Walnut

Utilization of black walnut. W. D. Brush. *il* diags maps U S Agric Bul 909:1-89 '21

Walworth company

How the Walworth company looks ahead. J. H. Barber. Administration 5:523-36, 659-68 My-Je '23; [cont. as] Management & Adm 6:29-32, 191-6, 313-18, 453-7, 581-2, 725-31 Jl-D '23

Wanamaker, John, 1838-1922

John Wanamaker—the super-merchant of America. W. R. Hotchkin. por Ptr Ink 121:41-2+ D 14 '22

Want ads.

See Advertisements, Classified—Want ads; Employment systems—Advertising

War

Economic causes of modern war; a study of the period: 1878-1918. J: E. Bakeless. 265p Printed for the Dept. of political science of Williams college, by Moffat, Yard & co., New York '21

Lloyd George of Great Britain predicts war on civilization. Comm & Fin Chr 115:703-4 Ag 12 '22

See also Disarmament

Bibliography

Losses of life caused by war. S: Dumas and K. O. Vedel-Petersen. 191p Oxford '23

War, Cost of

Political economy of war. A. C. Pigou. 251p Macmillan '21

War finance

Financing of the war and the aftermath. R. Estcourt. Annalist 19:368-9 Mr 27 '22

War finance corporation

Annual report of War finance corporation. Comm & Fin Chr 113:2768-71 D 31 '21

Operations of War finance corporation from Jan. 4, 1921 to Feb. 11, 1922. Comm & Fin Chr 114:793 F 25 '22

Report on the War finance corporation. E. Meyer, jr. Comm & Fin Chr 114:2419-21 Je 3 '22

War finance corporation is unsuited to permanent structure of country. E. Meyer, jr. Comm & Fin Chr 115:2212-13 N 18 '22

Work of the War finance corporation. E. Meyer, jr. Ry R 70:158-9 F 4 '22

War inventions. See Inventions

War labor board, National. See United States—National war labor board

War loans

War and armament loans of Japan. U. Kobayashi. 221p Oxford '22

War material, Selling of. See United States—War department

War memorials. See Memorials**War minerals relief act**

War minerals operations may be segregated in claims for relief. Eng & Min J 114:163-4 Jl 22 '22

War minerals relief commission

War minerals relief commission details progress. Eng & Min J 114:1088 D 16 '22

War problems in minerals; War minerals relief commission, 1919-1921. P. N. Moore. Eng & Min J 112:730-6 N 5 '21

War savings and thrift stamps

Treasury department plans for redemption and exchange of war savings certificates series of 1918. Comm & Fin Chr 115:2217-19 N 18 '22

Warble flies

Le varron, parasite du bétail; pertes qu'il occasionne à l'agriculture et à la tannerie. G. Tainturier. Génie Civil 82:409-10 Ap 28 '23

Warde-Landsboro company

Advertising the home and its financing as a unit. Ptr Ink 120:77-8 S 28 '22

Warehouses

Cold storage warehouse has unusual design. S. T. Smith. *il* diags plans Eng N 91:633-5 O 18 '23

Evening News warehouse building, Detroit, Mich. Am Arch 121:472f Je 7 '22

Factors of design for warehouse facilities. Eng & Contr 58:179-81 Ag 23 '22; Same cond. Eng N 88:726-7 My 4 '22

Fireproofing old mill construction warehouse with reinforced concrete. W. H. Wheeler. *il* diag Concrete 20:253-4 Je '22

Harper & McIntire warehouse building, Cedar Rapids, Iowa. Am Arch 124:60 f Jl 18 '23

J. M. & L. A. Osborn co.; new sales rooms and warehouse. *il* Sheet Metal Worker 14:295-6 My 11 '23; Iron Age 111:1442-3 My 17 '23

Models show best types of cotton warehouses. *il* Pop Mech 37:892-3 Je '22

New cotton depot at Bombay. diags Engineer 135:496-7 My 11 '23

New homes for Philadelphia paper firms. Paper Tr J 76:105-10 Ap 12 '23

New steel warehouse in Philadelphia. *il* Iron Age 112:1031-3 O 18 '23

Parcel room of business. P. L. Gerhardt. *il* Nation's Business 11:27-8 Ap '23

Terminal-warehouse system developed in Minneapolis. *il* Pop Mech 37:65 Ja '22

Warehouses—Continued

- War-time concrete barges now used for river terminal. *il Eng N 89:350-1 Ag 31 '22*
- Warehouse and its relation to highway transportation. R. N. Edwards. *Munic Eng 63:163-5 N '22*
- Warehouse of the Geo. Bobb & sons co., Columbus, Ohio and Walworth-Ohio co., Cleveland; views and plans. *Arch Forum 39:pls 50-1 S '23*
- Warehouse, Western electric co., 395 Hudson st., New York; views and plans. *Arch Forum 39:pl 55 S '23*
- Warehouses for cotton storage. S. R. Winters. *il Textile World 63:2479 Ap 14 '23*
- See also Army supply bases; Grain elevators; Storage*

Advertising

- Philosophy in warehouse advertising. *Ptr Ink 120:65-6 Jl 6 '22*
- When location is a talking point. B. Berfield. *maps Ptr Ink M 5:31 S '22*
- Why warehousing needs advertising. L. T. Crutcher. *Ptr Ink 121:113-14 D 28 '22*

Lighting

- How we solved the lighting problems in our warehouse. F. S. Roberts. *Factory 31:558+ O '23*

Warehouses, Concrete

- Bulk handling plant at port of Portland, Oregon. G. B. Hegardt. *il diags plan Eng N 87:760-3 N 10 '21; Same. Eng & Ind Management 7:54-6 Ja 12 '22*
- Concrete warehouse, Oakland, Calif. *il Concrete 21:101 O '22*
- New Southern Pacific terminal building in San Francisco. *il Ry R 70:258-60 F 25 '22*
- Remodeling old mill-construction warehouse with reinforced concrete. *diag Eng & Contr 58:187-8 Ag 23 '22*
- Steamship dock and warehouse at Milwaukee, Wis. *il diags plans Eng N 89:322-3 Ag 24 '22*

Warehousing

- Efficient warehousing methods reduce cost of distribution. *il J Elec 47:467 D 15 '21*
- Setting a standard for electric warehousing. *il J Elec 51:209-11 S 15 '23*
- Warehousing general merchandise; an encyclopedia. 415p American warehousemen's association, Pittsburgh, Pa. '23

Warm air furnaces. *See Furnaces, Warm air*

Warm-air heating and ventilating association, National. *See National warm-air heating and ventilating association*

Warner, Albert

- Truly Warner—a man who sells hats. R. Cole. *por Ptr Ink M 5:39-40+ Ag '22*

Warper creels. See Creels**Warping machines**

- Cleaning device for warpers. *il Textile World 62:2025 O 7 '22*
- German development for warping from stationary cones. *diag Textile World 63:1715 Mr 10 '23*
- Improved warper for Raschel warps. *il Textile World 62:1801 S 30 '22*
- Milanese warp machine. E. Murden. *il diags Textile World 63:3157+ My 12 '23*

Warren, Howard Saunders, 1879-

- Portrait. *Elec W 82:744 O 13 '23*

Warren, Lloyd Eliot, 1868-1922

- Lloyd Eliot Warren, who nature and the Muses loved. W. F. Paris. *por Arch Rec 52:524-7 D '22*
- Sketch. J. G. Rogers. *por Am Arch 122:403-4 N 8 '22*

Warren, Ohio**Water supply**

- Construction and operation of Warren, Ohio, water purification plant. S. N. Vance. *Munic Eng 64:183-8 My '23; Discussion. 65:70-2 Ag '23*

Warrenite. *See Pavements, Bitulithic*

Warships

- Details of naval design from Jutland; with discussion. H. S. Howard. *Marine Eng 27:772-4 D '22*

Effect of bomb attack on warships. *il Engineer 133:298, 299 Mr 17 '22*

Explosion chambers as defense against torpedoes. *il Sci Am 127:177 S '22*

General design of warships. W. Hovgaard. 306p Spon '20

Giant reduction gear used on U.S. navy tenders. *il Pop Mech 40:84 Jl '23*

Has sea power passed? an authoritative exposé of the extravagant claims of the air enthusiasts. A. Gleaves. *il Sci Am 129:313-14+ N '23*

High-speed fighting ships. H. C. Bywater. *Sci Am 125A:97 D '21*

Internal diagonal armor for warships. *diag Sci Am 126:338 My '22*

Naval design and the Washington conference. P. Watts. *Engineering 114:88 Jl 21 '22*

Ship control on modern battleships. A. M. Charlton. *il diag plan Marine Eng 27:198-200+ Mr '22*

Stability of the sailing warship. A. W. Johns. *il diags Engineer 134:94-5, 108-10, 133-4, 159-60, 183-4 Jl 28-Ag 25 '22*

Tendency of warship design as affected by the war. E. T. D'Eyncourt. *Engineer 134:18-19 Jl 7 '22; Same. Engineering 114:27-8 Jl 7 '22; Discussion. Engineer 134:14, 63-4 Jl 7, 21 '22; Engineering 114:20-1 Jl 7 '22*

Three steps in naval construction. J. H. Narbeth. *Engineering 113:435-7 Ap 7 '22; Excerpt. Engineer 133:474-6 Ap 28 '22; Discussion. Engineering 113:429-30 Ap 7 '22; Engineer 133:418 Ap 14 '22*

Vindication of the capital ship. *Engineer 134:67-8 Jl 21 '22*

Warships use central-station service in San Diego. P. P. Pine. *il Elec W 79:390 F 25 '22*

Washington conference battleship. *il plan Sci Am 128:304+ My '23*

Washington conference influence on warship design. L. Fea. *Engineering 114:28-30 Jl 7 '22; Abstract. Engineer 134:14 Jl 7 '22; Discussion. Engineering 114:20-1 Jl 7 '22; Engineer 134:63-4 Jl 21 '22*

See also Navies; Submarine boats; Torpedo boat destroyers; Torpedo boats; also subdivision Navy under names of countries, e.g. Great Britain—Navy, United States—Navy

Demolition

British shipbreaking industry. *il Marine Eng 27:183-5 Mr '22*

City gas used as a cutting agent. D. R. Lane. *il Gas Age 50:757-8 D 2 '22*

Fulfilling the treaty; turning battleships into merchantable scrap at Philadelphia. H. A. MacMullan. *il Sci Am 127:24 Jl '22*

Fulfilling the Washington naval treaty; scrapping a fleet of British dreadnoughts that fought at Jutland. *il Sci Am 128:252-3+ Ap '23*

Navy department seeks means of scrapping ships. *Iron Tr R 69:1611-12 D 22 '21*

Navy ready to scrap warships. *Iron Tr R 73:615 Ag 30 '23*

Plan to develop shipbreaking in U.S. *Marine R 52:63-4 F '22*

Reducing dreadnoughts to scrap metal; what the British have done. H. C. Bywater. *il map Sci Am 126:392-3 Je '22*

Scrap metal from discarded warships. *Iron Age 112:497 Ag 23 '23*

Scrapping the battleships. J. B. Walker. *il diags plan Sci Am 126:185-8 Mr '22*

Scrapping the warships of the U.S. navy. H. G. Layton. *il Pop Mech 37:835-41 Je '22*

Ship wrecking—a new industry. *il Iron Tr R 71:310-11 Ag 3 '22; Same. Marine R 52:344-5 Ag '22*

Shipbreaking as done in Britain. F. C. Bowen. *il Iron Tr R 70:133-8 Ja 12 '22; Same. Marine R 52:59-63 F '22*

Shipbreaking at Queenborough. *il Engineering 116:437, pl 23 O 5 '23*

Electric equipment

Historique de la commande électrique des tourelles marines cuirassées. J. Rey. *Génie Civil 79:545-6 D 17 '21*

Warships—Continued**Reconstruction**

U. S. navy crane ship no. 1: an achievement. il diags Mech Eng 45:333-41+ Je '23; Same cond. Engineering 115:783-6 Je 22 '23

Germany

German capital ship and light cruiser building programme, 1914-1918. il Engineer 134: 373-5 O 13 '22

Great Britain

Battleship programme. Engineer 134:633 D 15 '22
 Britain's new battle cruisers. H. C. Bywater. il Sci Am 125A:90+ D '21
 Notes on the preservation of H.M.S. Victory, and her restoration to the Trafalgar condition. P. Watts. Engineering 115:375-6 Mr 23 '23; Same cond. Engineer 135:310 Mr 23 '23

Sweden

Swedish navy. il Engineer 136:76 Jl 20 '23

United States

American high-speed cruiser and its prototype. il diags Engineer 134:55-7, 66 Jl 21 '22
 American warship practice. S. V. Goodall. diags plans Engineering 113:178, 320-3, 371-3 F 10, Mr 17-24 '22
 Launch warship at Newport News. il Marine R 52:9-10 Ja '22
 Modern American destroyers. il Engineer 133: 264-5 Mr 10 '22
 New battleships. Engineer 134:471-2 N 3 '22
 New United States scout cruiser Richmond—fastest of its type. il Sci Am 129:95 Ag '23
 Trial run of navy's highest powered cruiser. il diags Marine Eng 28:109-10 F '23
 U.S.S. Colorado. il diag Marine Eng 28:605-8+ O '23

Wash rooms. See Lavatories

Washburn, Edward W.

Sketch and bibliography. por Am Cer Soc J (Bul) 5:57-63 Jl '22

Washers (machinery)

Die for special washer. C. E. Stevens. diags Mach 29:485 F '23
 Plain washers; proposed S.A.E. standard. Soc Auto Eng J 11:541 D '22
 Vibration-proof washer for bolts and screws. il Pop Mech 40:57 Jl '23

Washfountains. See Lavatories

Washing. See Laundry

Washing machines

Reciprocating motion mechanism. D: Ersson. diags Mach 28:746 My '22

See also Laundry machinery

Advertising

Soap and water as first aid to washing machine selling. C. M. Harrison. Ptr Ink 118: 101-2+ Ja 19 '22

Manufacture

Factory that fits the job; the plant of the Syracuse washing machine corporation. G. I. Rhodes. il diag plan Am Mach 57:85-8 Jl 20 '22

Merchandizing

Washing machines sales. S: Sayward. il Dom Eng 103:263-5 My 12 '23

Washing machines, Electric

Crescent metal-parts washing machine. il Am Mach 57:314-15 Ag 24 '22

Advertising

Advertising X-rays of the product to dealers; the Coffield washer company. S. C. Lambert. Ptr Ink 124:81-2+ Ag 9 '23
 Appliance sales speeded in month's drive. R. Bostick. il Ptr Ink 119:53-4+ Je 22 '22
 Department store methods for merchandising washing machines. J Elec 50:13-15 Ja 1 '23
 Eighty-year-old manufacturing company adopts advertising; Poole engineering & machine company. R. Dickinson. Ptr Ink 123:10+ Ap 12 '23

How your competitor builds up your business; an interview with E. N. Hurley, jr. G. A. Nichols. il Ptr Ink M 5:35-6+ Ag '22
 1000 washing machines in a month. Gas Age 50:699-700 N 18 '22

Directories

Washing machine directory. J Elec 51:115-16, 297-8 Ag 1, O 15 '23

Merchandizing

Cost in selling washing machines. E. B. Seitz. Elec W 80:1128-31 N 18 '22
 Twelve-day campaign sells 140 electric washers. Elec W 81:1044-5 My 5 '23

Washing processes. See Laundry

Washing soda. See Sodium carbonate

Washington, George

Memorials

George Washington masonic national memorial. R. C. Folger. il Pop Mech 38:518-19 O '22

Relics of Washington in Masonic memorial. H. M. Wright. il Pop Mech 40:12-13 Jl '23
 Washington memorial at Valley Forge. C. H. Thomas. il Bldg Age 44:21-3 N '22

See also Washington monument, Washington, D.C.

Washington (state)

See Hydroelectric plants—Washington (state); Mines and mineral resources—Washington (state)

Washington, D. C.

Special features of festival of light at Washington. C. D. Wagoner. il Elec R 79:871-3 D 10 '21

Architecture

Some old Washington houses; four woodcuts. J. J. Lankes. Am Inst Arch J 11:213-16 My '23

Bridges

Georgetown bridge over the Potomac. il Sci Am 128:309 My '23

Churches

Church of the Sacred Heart, Washington, D.C. il plan Am Arch 123:498a-j, 499-501 Je 6 '23
 National shrine of the Immaculate Conception. S. Baxter. il diags plans Arch Rec 52: 2-15 Jl '22

Lighting

Remarkable decorative lighting. D. D. Ransdell. il Gas Age 49:355-7 Mr 25 '22

Octagon house

Proposed improvement of Octagon house. plans Am Inst Arch J 10:175-7 Je '22

Rapid transit

Bus is popular in the Capital city. il plan Bus Transportation 1:17-22 Ja '22
 Commission disapproves extension of Washington bus company's lines. Elec Ry J 60: 895 D 2 '22; Bus Transportation 1:666 D '22
 Decrease in fare opposed by President Ham of Washington railway & electric company. Elec Ry J 62:722 O 20 '23
 Double trolley to go. Elec Ry J 60:721 O 28 '22
 \$1,104,991 net for Capital traction. Elec Ry J 61:941-2 Je 2 '23
 Points of interest about the Capital traction company. R. H. Dalgleish. il diags Elec Ry J 61:235-8 F 10 '23
 Washington fares reduced. Elec Ry J 59:386-7 Mr 4 '22
 Washington rapid transit asks ten-cent bus fare. Bus Transportation 2:405 Ag '23

Siamese legation

Siamese legation. il Concrete 22:61-3 F '23

Theaters

Facts of the Knickerbocker theater collapse. il diags Eng N 88:224-9 F 9 '22
 Indict structural details in Knickerbocker reports. Eng N 88:502 Mr 23 '22

Washington, D. C.—Theaters—Continued

- Knickerbocker theatre collapse; report of the investigation committee. *il* *diags* *Am Arch* 121:361-70 *Ap* 26 '22; Same *abr.* *Eng & Contr* 57:395-8 *Ap* 26 '22
- Letters on the Knickerbocker theater failure. *diag* *Eng N* 88:328-30 *F* 23 '22
- Two committees charge Knickerbocker collapse to twisting failure of truss end. *il* *diags* *Eng N* 88:532-8 *Mr* 20 '22

Water supply

- More water for Washington. *G:* *H. Dacy. il* *Sci Am* 129:168 *S* '23
- Washington, Baltimore and Annapolis electric railroad
New terminal in Baltimore. *il* *plan Elec Ry J* 61:549-51 *Mr* 31 '23
- Washington monument, Washington, D.C.
Underpinning the Washington monument; enlarging the foundations to carry the 552 foot shaft. *il* *diag* *Sci Am* 129:32+ *Jl* '23
- Washington monument as radio antenna. *S.* *R. Winters. il* *Wireless Age* 10:59 *Mr* '23

Wasps

- Wood-wasps which gnaw through leaden plates. *Sci Am* 127:304-5 *N* '22

Waste

- Are recommendations of waste report ultimately desirable? *H. E. Nock. Management* *Eng* 2:124-5 *F* '22
- Campaign which cut wastes in half. *P: F. O'Shea. Factory* 28:281 *Mr* '22
- Elimination of waste. *Chem Age (Lond)* 8: 641 *Je* 16 '23
- Elimination of waste. *L. W. Wallace. Paper Tr J* 76:43-7 *Ap* 19 '23; Same. *Paper* 32:9-14 *My* 9 '23
- Elimination of waste and improvement of efficiency. What are the economic fundamentals? *W. R. Ingalls. Min & Met* 183: 33-7 *Mr* '22
- Elimination of waste in the coal industry. *E. Ludlow. Min & Met* 183:39-40 *Mr* '22
- Hidden waste in textile plants. *T. P. Gates. Textile World* 61:95+ *Ja* 7 '22; Same *abr. Mech Eng* 44:181-2; *Discussion. 183-4 Mr* '22
- How associations are eliminating economic waste. *Ptr Ink* 123:149-50+ *Je* 28 '23
- Indicates lines of attack on industrial waste. *H. Hoover. Eng N* 89:188 *Ag* 3 '22
- Industrial waste. *O. Sheldon. Ind Management (Lond)* 9:357-8 *Je* 14 '23
- Industrial waste discussed by engineers at annual meeting of American society of mechanical engineers. *Iron Age* 108:1494-5, 1554-6 *D* 8-15 '21; *Iron Tr R* 69:1476 *D* 8 '21
- Material handling an important factor in the elimination of industrial waste. *H. V. Coes. Mech Eng* 43:803-4+ *D* '21; Same. *Eng & Ind Management* 7:234-6 *F* 23 '22; Same *abr. Eng & Contr* 56:573-4 *D* 21 '21
- New conservation; up-to-the-minute definitions of waste, and procedure for preventing it. *R. M. Hudson. Sci Am* 127:400+ *D* '22
- Our wasteful industries; six major manufacturing groups that make a bad showing. *R. G. Skerrett. il* *Sci Am* 126:300-1 *My* '22; Same. *Ptr Ink* 119:134+ *My* 4 '22
- Paper pulp recovery. *L. M. Booth. diags Paper Tr J* 76:54-5 *F* 22 '23
- Preventing manufacturing waste. *R. W. Gardner. Iron Tr R* 73:35-7 *Jl* 5 '23
- Prevention of wastes in industry. *F. J. Miller. Mech Eng* 44:9-10+ *Ja* '22; Same. *Am Mach* 55:966-8 *D* 15 '21
- Putting advertising to work to eliminate waste in industry. *F. M. Feiker. Ptr Ink* 123:57-8+ *Je* 14 '23
- Reducing waste in steelmaking. *H. T. Morris. Iron Tr R* 72:1600-2 *My* 31 '23; Same *cond. Iron Age* 111:1552-4 *My* 31 '23
- Reduction of industrial wastes. *D. T. Farnham. Am Cer Soc J* 5:440-8 *Jl* '22
- Reduction of waste in industry. *Eng & Ind Management* 6:665-70 *D* 8 '21
- Salvaging industrial wastes. *J. A. Smith. Mech Eng* 43:797-8 *D* '21; Same. *Am Mach* 56:15-17 *Ja* 5 '22; Same *cond. Iron Tr R* 69:1684-6 *D* 29 '21

- Saving wastes by making them vivid. *il* *Systm* 44:282-3+ *S* '23
- Searching out the invisible wastes. *C. J. Morrison. Ind Management* 63:196-7 *Ap* '22
- Thrift in industrial materials. *M. F. Simmons. Management Eng* 3:349-52 *D* '22
- Warring on waste. *Factory* 28:344+, 696+; 29: 326+; 30:430+, 766+; 31:185-6+ *Mr, Je, S* '22, *Ap, Je, Ag* '23
- Warring on waste. *il* *Blast F & Steel Pl* 11: 400-2 *Jl* '23
- Waste elimination through standardization. *H. Campbell and A. Taub. Am Mach* 56:363-4 *Mr* 9 '22
- Waste in cotton manufacturing. *R. E. Loper. Textile World* 62:3435+, 3555+ *D* 16-23 '22
- Waste in industry; with a foreword by Herbert Hoover. 409p McGraw-Hill '21; *Review. H. W. Jordan. J Ind & Eng Chem* 14: 76-8 *Ja* '22
- Waste in spinning and following processes. *Textile World* 64:237+ *Jl* 14 '23
- Waste in the sulphite industry. *O. L. Berger. Paper Tr J* 77:49-51 *N* 1 '23
- Waste involved in preliminary investigation of mineral deposits. *H. F. Bain. Min & Met* 183:23-4 *Mr* '22
- Waste recovery as a profit-maker. *il* *Factory* 29:526-8+ *N* '22
- What may be found in the waste pile. *H. D. Martin. Color Tr J* 10:16-17 *Ja* '22
- Who is responsible for industrial waste? *R. D. Hall. Coal Age* 21:50 *Ja* 12 '22

See also Coal waste; Cotton waste; Electric railroads—Scrap material; Fires; Metal waste; Paper mills—Waste; Petroleum—Conservation; Railroads—Scrap material; Rubber waste; Scrap material; Scrap metal; Trade waste; Waste fuel; Waste heat; Waste paper; Waste products; Water waste; Wood waste

Waste, Utilization of

- Reclaiming beet sugar refuse from settling basins. *diags Ind Management (Lond)* 10: 163-9 *S* 20 '23

See also Waste products

- Waste disposal.** *See* Refuse disposal; Sewage disposal; Trade waste

Waste fuel

- Application of electric power in the iron and steel industry. *W. S. Hall. W Soc E J* 27: 145-52; *Discussion. 152-7 My* '22; *Excerpts. Iron Age* 109:995 *Ap* 13 '22
- Economic combustion of waste fuels. *D: M. Myers. diags plans U S Bur Mines Tech Pa* 279:1-51 '22; *Excerpts. Power* 57:115 *Ja* 16 '23; Same. *Power Pl Eng* 27:167 *F* 1 '23

See also Bagasse as fuel; Coal dust as fuel; Coke breeze; Wood as fuel

Waste heat

- Briner economizer using only waste heat for ventilation of machine room. *W. H. Howell, jr. Tech Assn Pa ser* 4:40-2 *Je* '21
- British practice in waste heat utilization. *C. H. S. Tupholme. il* *diag Power Pl Eng* 26: 994-6 *O* 15 '22
- Conserving waste heat in the making of corn syrup. *T: Wilson. il* *diag plans Power* 57: 122-7 *Ja* 23 '23
- Heat transfer and vapor economizer. *J. L. Williamson. Paper* 32:15-16 *Je* 13 '23
- Heating a building by friction. *diag Sanitary & Heat Eng* 99:392 *Je* 15 '23
- Recovering drying machine heat. *K. L. Thunholm. Paper* 32:7+ *Ag* 29 '23
- Recovering the waste heat of oil engines. *W. P. Sillince. Power* 58:435-6 *S* 11 '23
- Recovery of radiated heat from a rotary kiln. *R. E. B. Hall. diag Chem & Met Eng* 26:846 *My* 3 '22; Same. *Concrete* 21:sup56-7 *O* '22
- Suggestions for saving heat in manufacturing plants. *C: L. Hubbard. diags Power* 57: 704-8 *My* 8 '23
- Utilisation de la chaleur perdue des fours rotatifs. *J. Bied. Chimie & Ind* 8:528-30 *S* '22
- Utilisation of waste heat. *Eng & Ind Management* 7:102-5 *Ja* 26 '22
- Utilization of waste heat. *Mech Eng* 44:513-18 *Ag* '22; Same *cond. Chem & Met Eng* 27: 267-71 *Ag* 9 '22

Waste heat—Continued

Utilization of waste heat. W. F. Goodrich. Power Pl Eng 26:703-4 Jl 15 '22
 Utilization of waste heat. H. M. Sayers. Elec R (Lond) 90:115 Ja 27 '22
 Utilization of waste heat from rotary cement kilns. J. Brobston. Mech Eng 44:517-18 Ag '22; Same abr. Chem & Met Eng 27:270-1 Ag 9 '22; Same abr. Concrete 21:sup57-8 O '22

Utilisation of waste heat in generating stations; abstracts. C. I. Haden; F. H. Whysall. Electrician 88:94-5 Ja 27 '22; Elec R (Lond) 90:139-40 Ja 27 '22; Discussion. Electrician 88:97 Ja 27 '22; Elec R (Lond) 90:140-1, 157, 223, 464 Ja 27-F 3, 17, Mr 31 '22; Engineer 133:109-10 Ja 27 '22

Utilizing waste heat in the paper mill. J. O. Ross. Paper 30:7-9 Je 28 '22; Same. Paper Tr J 74:26-7 Je 8 '22

Waste heat from cement kilns operates entire mill. H. A. Schaffer. Chem & Met Eng 29:18-19 Jl 2 '23

Waste heat from chamber ovens used in production of steam. Fischer. Am Gas J 116:351-2 Ap 15 '22

Waste heat from power stations. Engineering 113:109-10 Ja 27 '22; Excerpt. Ind Management 63:340 Je '22

Waste heat utilized to produce electric power in cement kilns. C. H. Reeder. il Elec R 79:967-70 D 31 '21

Zur verbesserung der wärmewirtschaft der hüttenwerke. G. Neumann. diags Stahl & Eisen 41:1561-9 N 3 '21

See also Blast furnace gas; Boilers, Waste heat; Coke-oven gas; Exhaust steam; Furnaces, Recuperative and regenerative; Gas and oil engines—Exhaust; Steam engines—Binary vapor engines

Waste heat boilers. *See* Boilers, Waste heat

Waste paper

Billingham's paper stock machine. diag Paper 29:12-13 D 28 '21

Cost of de-inked newspaper. Chem Age 31:238 Mr '23; Same cond. Chem & Met Eng 28:1034 Je 11 '23

De-inking of paper; patent. Chem & Met Eng 26:562-3 Mr 22 '22; Same. Sci Am 127:47 Jl '22

Handling of old paper stock. E. G. Milham. Paper 30:7-10 Je 14 '22; Same. Paper Tr J 74:36-8 Je 8 '22

Machine for waste paper recovery. diags Paper 29:13-15 N 23 '21

Making new paper from old paper stock. S. D. Wells. Paper 30:7-10 Je 7 '22; Same. Paper Tr J 74:47-50 Je 22 '22; Abstract. Chem Age 30:348 Ag '22

Modern washing system for waste paper recovery. A. J. Haug. diags Paper Tr J 75:49-50 Ag 24 '22

Money to be saved in waste paper. R. F. Salade. Nation's Business 11:31 Ja '23

Reusing old newspapers for printing thru the use of bentonite. F. L. Holmes. il Pop Mech 38:685-6 N '22

Use of bentonite in de-inking of newspapers gives promise of forest conservation. Chem & Met Eng 27:744 O 11 '22

Waste paper recovery process; patent. Paper 29:28-9 D 14 '21

See also Refuse receptacles

Specifications

Adopt specifications for waste paper. Paper Tr J 77:36 N 1 '23

Waste products

Dollars from debris. W: H. Waggaman. il Sci Am 127:152-3 S '22

Mining gold from dust on floors. il Pop Mech 40:822-4 D '23

More dollars from salvaged material. il Factory 27:766-7 D '21

Observations on textile waste. E. V. Chambers. Textile World 61:1307+ S 2 '22

Utilization of waste material. A. W. Allen. Eng & Min J 115:492-3 Mr 17 '23

See also Bagasse; Blast furnace gas; Celotex; Coal waste; Coke manufacture—By-products; Coke-oven gas; Cork, Artificial; Corncobs; Cotton waste; Cottonseed;

Electric precipitation; Fish waste; Flue dust; Flue gas; Gas manufacture and works—By-products; Metal waste; Packing house products; Petroleum refining—By-products; Railroads—Scrap material; Refuse, Utilization of; Rubber waste; Sawdust; Scrap metal; Sewage sludge; Slag; Smelter fumes; Soap manufacture—By-products; Sulfate liquor; Tar; Trade waste; Waste paper; Wood waste

Waste removal

See Dust removal; Exhaust systems; Refuse disposal

Watches

Largest watch ever built exhibited at Washington. il Pop Mech 37:545 Ap '22

Meylan time-study watches. il Am Mach 58:202-3 F 1 '23

Silberberg duration time watch for studying efficiency. il Marine Eng 27:39 Ja '22

Stop watch; its place in industry. T. R. Hough. Ind Management 64:250-1 O '22

Advertising

Talking over the shoulder of a convention to sell watches. Ptr Ink 120:103-4 Ag 10 '22

Waltham watch increases spare part sales tenfold. P: F. O'Shea. Ptr Ink 118:41-2+ F 23 '22

Manufacture

Assembling watch pinion bearings. il Mach 28:472-3 F '22

Blanking and piercing tools for watch parts. I. B. Black. diags plans Am Mach 57:531-3 O 5 '22

Blanking, drawing and piercing die for the barrel drum of a watch. diags Mach 29:970-1 Ag '23

Early application of multiple stops for turning shoulder work. O. E. Perrigo. diags Am Mach 58:877-9 Je 14 '23

Pig's bristle to watches is progress of time. il Pop Mech 40:180-3 Ag '23

Sub-press die for watch parts. diags plans Mach 30:219-20 N '23

Tools for blanking and piercing watch wheels. I. B. Black. diags Am Mach 57:114-15 Jl 20 '22

Water

Capillary relationships of oil and water. C. W. Washburne. Econ Geol 18:593-600 S '23

Compensation water. E; Sandeman. Eng & Contr 56:511-12 N 30 '21

Hydrogen-ion concentration and water supply problems. F. Hannan. bibliog Am Water Works Assn J 9:39-45 Ja '22

Microforces; with reference more especially to orientation and curvature. F. Hannan. Am Water Works Assn J 10:1035-50 N '23; Abstract. Can Eng 44:556-8 Je 5 '23

Radioactivity of miscellaneous waters examined in the Bureau of chemistry. W. W. Skinner and J. W. Sale. J Ind & Eng Chem 14:949-50 O '22

Simple form of apparatus for observing the rate of reaction between gases and liquids, and its use in determining the rate of solution of oxygen by water under different conditions of mixing. H. G. Becker. il diags Philos Mag 6th ser 45:581-92 Mr '23

Steam research at the U.S. Bureau of standards; thermal-capacity of water. N. S. Osborne. Mech Eng 45:168 Mr '23

Tentative method of test for water in petroleum products. diags Nat Pet N 15:101+ O 17 '23

Variation of the index of refraction of water, ethyl alcohol, and carbon bisulphide, with the temperature. E. E. Hall and A. R. Payne. Phys R 20:249-58 S '22

Water as one of the chief raw materials of the textile industry. Color Tr J 12:108-9 Mr '23

Water for the dyehouse. W: C. Dodson. Textile Col 45:156-7 Mr '23

See also Clouds; Cooling water; Drops; Erosion; Feed water; Floods; Fog; Hydration; Hydraulic engineering; Hydraulics; Ice; Irrigation; Lakes; Mine water; Ocean; Pools; Pumping; Rain and rainfall; Rivers;

Water—Continued

Sea water; Snow; Solution (chemistry); Springs; Steam; Storm water; Water supply and other headings beginning Water; Waterways; Waves; Wells

Analysis

- Denitrification by bacteria. K. Scheringa. Pub Works 53:12-13 J1 1 '22
- Determination of dissolved oxygen in the presence of iron salts. A. M. Buswell and W. U. Gallaher. *bibliog Ind & Eng Chem* 15:1186-8 N '23
- Determination of silica in filtered seawater. R. C. Wells. *Am Chem Soc J* 44:2187-93 O '22
- Device for water analysis and slow filtration. A. C. Simmons. *diag Ind & Eng Chem* 15: 901 S '23; Discussion. 15:1284 D '23
- Errors in the determination of hydrogen sulfide. F. H. Heath and F. A. Lee. *Am Chem Soc J* 45:1643-7 J1 '23
- Expressing results of water analyses. C. P. Hoover. *Eng & Contr (W W)* 60:103-4 J1 11 '23
- Graphic representation of water analyses. W. D. Collins. *Ind & Eng Chem* 15:394 Ap '23
- Local laboratory control of water supplies in California. *Eng N* 91:401 S 6 '23
- Motorized laboratory for resort sanitation work. W. C. Brockway and G. C. Stucky. *il Eng N* 89:430-2 S 14 '22
- Nature of acid water from coal mines and the determination of acidity. W. A. Selvig and W. C. Ratliff. *J Ind & Eng Chem* 14: 125-7 F '22
- Popular presentation of analytical results. H. P. Eddy. *Eng & Contr* 53:30-1 J1 12 '22
- Portable kit measures corrosiveness of water. *il Power* 55:644-6 Ap 25 '22; Discussion. 55: 829, 907 My 23, Je 6 '22
- Preliminary examination of water samples; calcium and sulfate by turbidity and hardness by the soap method. W. D. Collins and M. D. Foster. *Ind & Eng Chem* 15:1073-80 O '23
- Report of committee no. 1 on standard methods of water analysis. *Am Water Works Assn J* 10:860-5 S '23
- Sensitive detection of suspended matter. J. R. Baylis. *diag Pub Works* 52:6-7 Ja 7 '22
- Short-comings in the present standard methods of water analysis from the operator's viewpoint. L. I. Birdsall. *Am Water Works Assn J* 9:56-62; Discussion. C. E. A. Winslow. 132-3 Ja '22
- Standard methods for the examination of water and sewage. 5th ed., rev. 111p American public health assn., New York '23
- Sur les procédés d'analyse des eaux. F. Touplain. *diags Chimie & Ind* 7:634-9 Ap '22
- Turbidimetry of water. P. V. Wells. *Am Water Works Assn J* 9:488-90 My '22

See also Water—Bacteriology; Water sampling

Bacteriology

- Bacteria coli test. M. F. Stein. *Eng & Contr* 57:445-6 My 10 '22
- Bacterium coli and bacterium aerogenes in swimming pools. M. Levin and C. H. Werkman. *Eng & Contr (W W)* 59:98-9 Ja 10 '23; Same. *Am Water Works Assn J* 10:620-2 J1 '23; Same, without table. *Can Eng* 44:499 My 15 '23
- Does bile inhibit or stimulate growth of the colon group? M. Levine. *Am Water Works Assn J* 9:612-16 J1 '22
- Facultative spore-forming lactose-fermenting organism from Iowa surface waters. (B. Macerans). J. J. Hinman, jr. and M. Levine. *bibliog Am Water Works Assn J* 9:330-42 Mr '22
- Fifteen years of investigations by the laboratories of the Metropolitan water board. M. C. Whipple. *Am Water Works Assn J* 9:208-25 Mr '22
- New water supply quality standard tentatively proposed by the United States public health service. *Am Water Works Assn J* 10: 884-921 S '23

- Relation of iron bacteria to incrustation of water pipes. D. Ellis. *Eng & Contr* 57:317 Mr 29 '22
- Removal of bacteria by zeolitic water softeners. G. C. Baker. *il Am Water Works Assn J* 9:474-87 My '22
- Standard bacterial index. P. V. Wells and W. F. Wells. *Am Water Works Assn J* 9:502-27 My '22
- Statistical record of Toronto water, 1912-22. N. J. Howard. *Can Eng* 42:469-76 My 9 '22

Color

- New method of purifying water. H. W. Clark. *N E Water Works Assn J* 36:385-7 S '22; Same. *Can Eng* 43:419-20 O 3 '22; Same. *Eng & Contr (W W)* 58:16-17 O 11 '22; Same. *Pub Works* 53:197-8 O '22; Same. *Eng N* 89:514 S 28 '22; Discussion. *N E Water Works Assn J* 36:388-91 S '22
- Purification of soft colored waters. R. S. Weston. *Am Soc C E Pro* 47:670-3 D '21; Same. *Eng & Contr* 57:49-50 Ja 11 '22
- Some notes on colloidal chemistry and water purification. M. F. Stein. *Am Water Works Assn J* 8:576-82 N '21

Deactivation and deaeration

- Control of corrosion by deactivation of water. F. N. Speller. *il diags J Fr Inst* 193:515-42 Ap '22; Same. *Blast F & Steel Pl* 10:500-4, 592-6 O-N '22; Same cond. *Can Eng* 44:128-31 Ja 9 '23
- Corrosion and its prevention in vessels carrying water. J. R. McDermet. *Am Soc Heat & V E J* 28:407-16 My '22; Abstract, with *il Heat & Ven* 19:52-4 J1 '22
- Corrosion—apparatus to prevent it. *il diag Power* 56:728-30 N 7 '22
- De-aerating heater reduces tube corrosion. *il Power Pl Eng* 26:1068 N 1 '22
- Degasification of boiler feedwater. J. R. McDermet. *Mech Eng* 44:648-50 O '22
- Degasification of water. J. R. McDermet. *Eng N* 90:1129 Je 28 '23
- Effect of deaeration of natural waters on the carbonate equilibrium. D. H. Jackson and J. R. McDermet. *Ind & Eng Chem* 15:959-61 S '23
- Prevention of corrosion in hot water supply systems and boiler economizer tubes. C. R. Texter. *diags Am Water Works Assn J* 10: 764-72 S '23; Abstract. *Power* 58:588-9 O 9 '23
- Prevention of corrosion of metals by water in a closed system. P. West. *il diags J Ind & Eng Chem* 14:601-7 J1 '22
- Removal of air from feed water. *il diags Power Pl Eng* 27:47-9 Ja 1 '23
- Water deactivation. F. N. Speller. *diags Eng Soc W Pa* 39:189-201; Discussion. 202-16 J1 '23

Hardness

- Comparison of the hardness of public water supplies in Massachusetts, New York and New Jersey. W. S. Coulter. *Munic Eng* 62: 109-10+ Mr '22
- Hardness of large public water supplies in the United States. *Munic Eng* 64:174 Ap '23
- See also Water softening

Microorganisms

See Water—Bacteriology; Water purification—Taste removal

Physiological effect

- Pharmacology of water. H. C. Hamilton. *Am Water Works Assn J* 10:773-7 S '23

Standards

See Water—Bacteriology; Water supply—Standards

Taste and odors

See Water purification—Taste removal

Temperature

- At what depth can cool water be secured in summer? *Eng & Contr (W W)* 58:3-4 O 11 '22

Water—Continued**Testing**

Boutron Boudet soap solution. A. M. Buswell. bibliog diag Am Water Works Assn J 9:892-6 N '22

Weighing

Common error in weighing water. diags Power 56:88-9 JI 18 '22

Water, Distilled

Distilled water for boiler feed. diags Power Pl Eng 26:1013-14 O 15 '22

Water, Industrial. See Water supply for factories**Water, Mine.** See Mine water**Water, Underground**

Flood conditions and land filling at Cairo. Ill. Eng N 90:614-16 Ap 5 '23

Moving underground water as a primary cause of the migration and accumulation of oil and gas. J. L. Rich. Econ Geol 16:347-71 S '21

Plugging boreholes underground. diag Can Eng 45:287-8 S 4 '23; Excerpt. Eng & Contr (W W) 60:285-6 Ag 8 '23

Underground waters. C. H. Lee. Am Water Works Assn J 10:578-94 JI '23

See also Artesian wells; Hot springs; Mine water; Wells

Water aeration

Aeration experiments for removal of carbonic acid. W. Donaldson. il diags Eng N 90:874-6 My 17 '23

Aeration of quiescent columns of distilled water and of solutions of sodium chloride. W. E. Adeney, A. G. G. Leonard and A. Richardson. Philos Mag 6th ser 45:835-45 My '23

Aeration of water immediately after alum dose saves soda. M. Pirnie. Eng N 90:883-4 My 17 '23

Aerator of Appleton, Wis., water works. il Eng & Contr (W W) 59:590 Mr 14 '23

Aerators and copper sulphate for tastes and odors. H. M. Ely. il diags Eng N 89:70-1 JI 13 '22

Sacramento floating type of aerator nozzle. H. N. Jenks. il diags Eng N 89:384-6 S 7 '22

Water columns

Illumination of water columns. J. W. Hale. diags Power Pl Eng 27:538 My 15 '23

Nathan locomotive water columns. diags Ry R 72:783-4 My 5 '23

Valves in water column connections. Power 54:733-4, 985; 55:115, 193 N 8, D 20 '21, Ja 17, 31 '22

Water-column connections and blowdowns. R. A. Cultra. diag Power 56:256 Ag 15 '22; Discussion. 56:337 Ag 29 '22

Water columns for locomotive boilers. il Ry Age 74:435 F 17 '23; Same. Ry Mech Eng 97:190-1 Mr '23

Water companies

Present condition of private water companies. W. S. Coulter. Munic Eng 65:63-5 Ag '23

Resuscitation of a water company. F. Ganett. Munic Eng 64:72-6 F '23

Accounting

See Waterworks—Accounting

Advertising

Additional sources of income for small water plants. H. A. Dill. Munic Eng 64:246-7 Je '23

Publicity of the right kind for water works properties. D. R. Gwinn. Am Water Works Assn J 10:739-46 S '23; Excerpts. Eng & Contr (W W) 58:141-4 D 13 '22; Eng N 89:1020 D 14 '22; Discussion. Am Water Works Assn J 10:747-52 S '23

Complaints

How to improve relations between public and the utility. O. H. Bessell. Eng & Contr 57:575-6 Je 14 '22

Management

Can high-value watershed lands be put to profitable use? N E Water Works Assn J 36:279-87 Je '22
Relations of water company and consumer. E. Carroll. Eng & Contr (W W) 59:77-9 Ja 10 '23

See also Waterworks—Management

Water conduits

Concrete pipe line augments Kansas City water-supply. F. E. Miller. il Eng N 87:1029-30 D 22 '21

Design and construction of novel concrete conduit. W. A. Kunigk. il diags Eng & Contr 57:347-51 Ap 12 '22

Le diamètre le plus économique d'une conduite forcée. A. Lombardi. Génie Civil 79:583-4 D 31 '21

More water for Washington. G. H. Dacy. il Sci Am 129:168 S '23

Tacoma builds semi-circular conduit of gunite; with cost tables. il diags Eng N 88:906-9 Je 1 '22

Water-power studies. W. T. Taylor. Elec R (Lond) 92:409-11, 444-6 Mr 16-23 '23

See also Aqueducts; Flumes; Siphons; Water pipes

Cleaning

Cleaning a mixing conduit of lime deposits. C. M. Daily. diag Eng N 89:695 O 26 '22

Method of cleaning mixing conduits at St Louis water purification plant. diag Eng & Contr 58:123 Ag 9 '22

Cost

Design and construction of novel concrete conduit. W. A. Kunigk. il diags Eng & Contr 57:350-1 Ap 12 '22

Water consumption

Big increase in water consumption in Montreal. Can Eng 44:636 Je 26 '23

Estimated and average daily water consumption in St Louis. Eng N 88:619 Ap 13 '22

Municipal water consumption in western Canada. Eng & Contr 58:30 JI 12 '22

Proposed extension of the Metropolitan water district. X. H. Goodnough. diags N E Water Works Assn J 36:189-256; Discussion. 256-61 Je '22

Public health and water consumption. A. Wolman. Munic Eng 64:207-10 My '23; Same, without tables. Can Eng 44:467-8 My 8 '23; Same abr. Eng & Contr (W W) 59:1041-3 My 9 '23

Some observations on water consumption. C. W. Sherman. N E Water Works Assn J 36:273-8 Je '22

Waste of water in Detroit. G. H. Fenkell. Am Water Works Assn J 8:583-602 N '21; Same cond. Can Eng 42:261-5 F 28 '22; Discussion. W. A. Jones. Am Water Works Assn J 8:672-84 N '21

Water consumption in Chicago and elsewhere. diags plan W Soc E J 28:125-30 Ap '23

Water mains and meters in St Louis. Pub Works 53:152-4 S '22

Water wastes, meters and rates at Baltimore. V. B. Siems. Eng & Contr (W W) 60:261-70 Ag 8 '23

See also Water meters; Water waste

Water cooling. See Cooling of water**Water distribution**

Air and water relief valves. M. M. Borden. Can Eng 43:174-6 JI 25 '22; Same. Am Water Works Assn J 10:59-67 Ja '23

Cap De La Madeleine water and sewer systems. R. Morrisette. il diag plan Can Eng 42:403-6 Ap 18 '22

Conclusions of the committee on cross-connections; by-passes and emergency intakes on public water supplies. N E Water Works Assn J 36:424-5 S '22

Cross connections, by-passes and emergency intakes on public water supplies. Am Water Works Assn J 9:343-7 Mr '22; Same. Eng & Contr 57:452-3 My 10 '22

Designing water distribution system. E. Schaub. Munic Eng 63:189-90 N '22

Water distribution—Continued

Modérateur de pression d'eau à clapets équilibrés, système Mignard et Piel. diag Génie Civil 82:308-9 Mr 31 '23

Problem of installing pneumatic water system to house on hilltop taking supply from city main. diags Dom Eng 98:14-15 Ja 7 '22

Report of committee on physical standards for distribution systems. Am Water Works Assn J 10:68-74 Ja '23

Tapping large steel mains under pressure. D. F. O'Brien. Am Water Works Assn J 9:54-5 Ja '22; Same abr. Eng & Contr 57:437 My 10 '22

Terre Haute water company uses malleable street vault covers to stand shocks of heavy truck wheels. D. R. Gwinn. diag plan Munic Eng 62:66-8 F '22

Water distribution system. H. R. F. Helland. Munic Eng 61:196+ N '21

See also Aqueducts; Hydraulics; Pumping stations; Water conduits; Water pipes; Water towers; Waterworks

Water drops. See Drops**Water filtration. See Filters and filtration****Water flow**

Application of the drop-down curve in Chicago sewers. C. D. Hill. Eng N 90:707-9 Ap 19 '23

Automatic control of water flow. C. C. Brown. diags Power Pl Eng 26:1069 N 1 '22

Coefficient of roughness in corrugated-iron pipe. D. L. Yarnell. il Eng N 88:352 Mr 2 '22

Controller regulates water flow through pressure filters. C. C. Brown. diags Eng N 91:446 S 13 '23

Discharge capacity of wood pipe and formulas for calculating flow. J. W. Ledoux. Eng & Contr 57:565-6 Je 14 '22

Discharge through adjustable submerged orifices. H. A. Wadsworth. il diags Eng N 90:308-9 F 15 '23

Electrical measurement of velocities of flow in pipes. I. E. Houk. il Engineering 115:644-5 My 25 '23

Electrical method for measuring the velocity of moving water. M. A. Hogan. Engineering 115:66-7 Ja 19 '23

Experiments on loss of head in valves and pipes of one-half to twelve inches diameter. C. I. Corp and R. O. Ruble. il diags plans Wis U Bul Eng S v 9, no 1:1-143 '22; Excerpt. Power Pl Eng 27:386 Ap 1 '23; Abstract. Mech Eng 45:250-1 Ap '23

Experiments show measurement of valve loss dependent on piezometer location. C. I. Corp. diags Eng & Contr 57:137-8 F 8 '22

Flow in conical draft tubes of varying angles. G. E. Lyon. diags Mech Eng 44:177-80 Mr '22

Flow of water in pipes. Coal Age 23:456 Mr 15 '23

Flow of water in pipes under equal heads. Coal Age 22:551-2, 720-1 O 5, N 2 '22

Flow of water in the annular space between two coaxial cylindrical pipes. T. Lonsdale. diag Philos Mag 6th ser 46:163-9 Jl '23

Flow of water through spiral riveted steel pipe. F. W. Greve and R. R. Martin. Eng & Contr 57:41-2 Ja 11 '22

Flow of water through spiral riveted steel pipes. E. Parry. Engineering 115:255 Mr 2 '23

Flow of water through vitrified clay and corrugated metal culvert pipe. il diags Good Roads 64:131-3+ Ap 4 '23; Abstract. Mech Eng 45:437 Jl '23

Formulas for calculating friction heads in water pipes. F. E. Giesecke. Heat & Ven 20:33-6 Mr '23

Friction head formulas for water pipes. Heat & Ven 20:45 Ap '23

Frictional coefficient of concrete surfaces in pipes and channels. E. Parry. Engineering 114:285-6 S 8 '22

Influence of silt on the velocity of water flowing in open channels. A. B. Buckley. Engineering 115:311 Mr 9 '23; Same. Can Eng 45:374 O 2 '23

Kutter's formula simplified. H. E. Babbitt. Eng & Contr 57:128 F 8 '22

Leakage through thin clearance spaces. E. Buckingham. Engineering 115:225-7 F 23 '23

Loss of head due to bends. F. W. Medaugh. il Eng & Contr (W W) 58:51-2 O 11 '22

Loss of head in bends of less than ninety degrees. F. W. Medaugh. Eng & Contr (W W) 58:118 D 13 '22

Loss of head in sudden enlargements in circular pipes. F. W. Medaugh. il diag Eng & Contr (W W) 59:79-80 Ja 10 '23

Measuring water flow with a camera. il Sci Am 128:192 Mr '23

New charts for calculating pipe sizes for water flow. F. E. Giesecke. il diags Heat & Ven 20:46-51 My '23; Same. Sanitary & Heat Eng 99:395-400 Je 15 '23

New formula for computing pipe losses. C. I. Corp. diags Eng & Contr (W W) 59:402-5 F 14 '23

New logarithmic equation for friction losses in pipes. F. W. Greve. Eng N 91:605 O 11 '23

New method of measuring the flow of water. N. R. Gibson. Eng & Contr (W W) 59:860 Ap 11 '23

New type of water flow indicator for transformers. A. M. Rossman. il diag Am Inst E E J 41:805-6 O '22; Same. Power Pl Eng 26:1108-9 N 15 '22

Non-uniform flow and significance of drop-down curve in conduits. H. E. Babbitt. Eng N 89:1067-9 D 21 '22

Orifice in thin plates as a means of determining discharge of water in small pipes. Eng & Contr 58:252 S 13 '22

Pipe flow chart. W. F. Schaphorst. Gas Age 49:371 Mr 25 '22; Same. Textile World 61:2329+ Ap 22 '22; Same. Coal Age 21:999-1000 Je 15 '22; Same. Power Pl Eng 26:621-2 Je 15 '22; Same. Brick & Clay Rec 61:39+ Jl 11 '22; Same. Refrig W 57:25-6 Jl '22; Same. Sanitary & Heat Eng 98:288 N 17 '22

Pressure head at the center of pipes flowing full. F. W. Medaugh. Eng & Contr (W W) 59:363-4 F 14 '23

Records of stream flow. C. C. Covert. il Eng & Contr (W W) 60:776-82 O 10 '23

Reservoir spillway discharge studies. F. H. Macy. Eng N 90:361 F 22 '23

Salt velocity method of measuring flow of water in pipe lines. Eng & Contr (W W) 58:7 O 11 '22

Studies of flow through cleared and uncleared floodways. C. E. Ramser. il Eng N 89:598-9 O 12 '22

Submerged orifice principle used in proportioning flow. diags Power Pl Eng 27:800-1 Ag 1 '23; Power 58:244 Ag 14 '23

Test of friction losses made on large penstocks. R. A. Monroe. il diags Eng N 91:598-9 O 11 '23

Velocities of flow in dredge pipe lines. H. D. G. Baxter. diag Eng & Contr (W W) 59:1059-60 My 9 '23

Velocity of discharge through Venturi tube. diag Power 58:31 Jl 3 '23

Water measurement on irrigation project. C. C. Cragin. map Eng & Contr (W W) 59:406-9 F 14 '23

See also Hydraulics; Intakes; Kutter's formula; Stream flow; Surge tanks; Turbines; Venturi meters; Water gages; Water meters; Weirs

Water gages

Audible water level recorder. il Eng & Contr 57:574 Je 14 '22

Boiler water level reproduced by gage glass at distant points. il Marine Eng 27:699 N '22

Colored light signal shows high and low stage of water in cooling-tower sump. A. J. Dixon. diag Ind Eng 80:498 O '22

Gives continuous record of water level. diag Power 57:292 F 20 '23

High and low water alarm for feed-water heater. M. M. Brown. diag Power Pl Eng 26:920 S 15 '22

Locomotive safety water gage valve. diag Ry Mech Eng 96:479-80 Ag '22

Ohio low water alarm. Ry R 70:950-1 Je 17 '22

Water gages—Continued

- Pneumometer distant-reading boiler water-gauge. *il* diags Engineering 116:460-1 O 12 '23
- Position of water gage when taking mine readings. diags Coal Age 23:1056-7 Je 28 '23
- Reading water gages in mines. *il* Coal Age 23:304 F 15 '23
- Recorder that speaks. F. A. Rowlinson. *il* Sci Am 126:175 Mr '22
- Telechron transmitter. *il* diags Engineering 115:662-3 My 25 '23
- Use of water gage in estimating power on the air. H. Briggs. diags Coal Age 23:1016-17 Je 21 '23
- U-tube gage for indicating depth of tank water. diag Power 57:1035 Je 26 '23
- Water gages and their care. C. S. Blake. Power 58:145-6 JI 24 '23
- Water gages and their care. *il* diag Locomotive 34:3-9 Ja '22
- Water level in deep well discovered by simple electrical device. J. G. Thorne. diag Eng N 89:807 N 9 '22
- Water-level indicator for small hydro plants. F. Krug. diags Elec W 81:754 Mr 31 '23
- Water gas.** See Gas, Water
- Water-glass.** See Sodium silicate
- Water hammer**
- Curing water hammer in deep-well pump. A. J. Dixon. diags Power 57:108 Ja 16 '23
- Device for eliminating water hammer and excessive pressure in delivery piping; abstract. E. Maynard. diags Mech Eng 45:308-9 My '23
- Preventing water hammer; adjusting safety valves. P. J. Molloy. Power Pl Eng 26:1177 D 1 '22; Discussion. 27:145-6 Ja 15 '23
- Some observations concerning wood pipe. J. W. Ledoux. Am Water Works Assn J 9:559-62 JI '22; Same. Eng & Contr 57:566 Je 14 '22; Discussion. H. S. Payrow. Am Water Works Assn J 9:802-5 S '22
- Steam in feed pipe caused serious water hammer. W. Middleditch. diags Power 57:865 My 29 '23
- Water heaters**
- How to make a solar hot water heater. diag Dom Eng 99:195-6 Ap 29 '22
- More water heater sales in May. Dom Eng 99:270-2 My 13 '22
- Rate of heat transmission through tubes of water service heaters. Heat & Ven 19:48-9 O '22
- Silver jubilee with a meaning; twenty-five years span the progress of automatic water heaters. diags Dom Eng 101:2-3 O 7 '22
- Types of water service heaters. *il* Heat & Ven 18:65-6 JI; 54-5 S; 51-2 N '21; 19:58 Ja; 57-9 Mr; 56-7 My; 66-7 JI '22
- Water heater problem. diag Heat & Ven 19:46 My '22
- Water heating in the home; abstract. R. G. Klaefler. Am Inst Arch J 10:135-8 Ap '22
- See also Electric water heaters; Feed water heaters; Gas water heaters; Hot water supply
- Water heating**
- Heating of water and other liquids. T. King. *il* diag Am Gas J 117:133-9 Ag 12 '22
- See also Baptisries—Heating; Feed water heating; Hot water supply; Water heaters
- Water laws and legislation**
- La conservation et la protection des eaux. C. Lormand. Chimie & Ind 7:391-3 F '22
- Control of Lake of Woods level. Can Eng 43:565 N 21 '22
- Disastrous effects of proposed California water and power act. W. E. Creed. Comm & Fin Chr 115:1904-6 O 28 '22
- Do terms of water-power permit govern? Elec W 80:239-40 JI 29 '22
- Harnessing the country's water power. O. C. Merrill. N E L A Bul 10:673-7 N '23; Same abr. Elec W 82:812-14 O 20 '23; Same cond. Power 58:706-7 O 30 '23
- Headwater regulation next. Elec W 80:955 O 28 '22
- Some important recent developments in western water law. A. E. Chandler. J Elec 48:450-2 Je 1 '22

Supreme court, wiping out state lines in water-power claims, sets up priority. Elec W 79:1237; 80:40 Je 17, JI 1 '22; Same abr. Eng N 88:1057 Je 22 '22

Timber on dammed rivers; federal engineers insist on provisions for floating timber that hamper water-power financing. Elec W 80:572 S 9 '22

Water law of California, 1921. 40p California state ptg. office, Sacramento '21

Water supply legislation in Ohio. W. H. Dittoe and F. H. Waring. Am Water Works Assn J 9:458-62 My '22

See also Water pollution; Water power act, 1920; Water rights; Waterworks—Laws and regulations; also Pennsylvania—Sanitary water board

Water leakage. See Water pipes—Leakage

Water lifts

Tests of Caruelle water elevators. *il* Engineering 114:770 D 22 '22; Same cond. Mech Eng 45:185 Mr '23

Water mains. See Water pipes

Water marks. See Watermarks

Water measurement

California pipe method of water measurement. B. R. Vanleer. diag Eng N 89:190-2 Ag 3 '22

Continuous measurement of large volumes of water. J. B. Ball. Soc Chem Ind J (Chem & Ind) 42:903-4 S 21 '23

Method of measuring depth of water in well. J. G. Thorne. diag Munic Eng 63:240 D '22; Same. Eng & Contr (W W) 59:88 Ja 10 '23

Pocket electrical device for measuring water depth in wells. J. M. C. Corlette. diag Eng N 91:445 S 13 '23

Reducing bend as venturi meter in hydro-electric plant. E. A. Dow. *il* diags Eng N 88:366-8 Mr 2 '22

Salt-velocity method of measuring water. Power 57:1038 Je 26 '23

Test code for hydraulic power plants and their equipment. diags plan Mech Eng 44:248-58 Ap '22

See also Pitot tube; Stream measurement; Venturi meters; Water flow; Water gages; Water meters; Weirs

Water meters

Cochrane weighing meter for liquids. *il* diags Power 57:720 My 8 '23

Dollar value of meter upkeep in Texas; abstracts. J. W. Hockaday. Can Eng 45:227-8 Ag 14 '23; Eng N 91:439 S 13 '23

Improvements in mechanical contrivances in connection with the storage and distribution of water. E. B. Ball. *il* Engineering 116:64-5 JI 13 '23

Metering of Los Angeles. G. Read. Am Water Works Assn J 9:426-35 My '22; Excerpts. Eng & Contr 58:46-7 JI 12 '22

Metering water in Chicago. H. L. Lucas. Pub Works 54:50 F '23

Some experience in meter setting and maintenance. J. A. McMurry. N E Water Works Assn J 37:44-6 Mr '23

Some experiences with water meters at Greeneville, Tennessee. J. W. McAmis. Am Water Works Assn J 10:486-91 My '23; Same abr. Eng & Contr (W W) 59:1311-13 Je 13 '23

Submersible dynamo used in water meter. Pop Mech 40:614 O '23

Types of feed water meters. *il* diag Power Pl Eng 27:71-2 Ja 1 '23

Water mains and meters in St Louis. Pub Works 53:152-4 S '22

Water meterage at Johannesburg, South Africa. Eng & Contr 58:205 Ag 30 '22

Water meters increase revenue. Can Eng 45:396 O 9 '23

Water services and meters; data from more than six hundred cities on average life of wrought iron, steel, lead, cast iron and other services, causes of deterioration, methods of cleaning, etc. Pub Works 52:345-51; 53:34-5, 50-1 My 13, JI 8-15 '22

Water waste and results of 100 per cent metering. A. E. Walden. Eng & Contr (W W) 59:814-16 Ap 11 '23; Same. Can Eng 44:477-8 My 8 '23

Water meters—Continued

Water wastes, meters and rates at Baltimore. V. B. Siems. diags Eng & Contr (W W) 60: 551-62, 751-64 S 12, O 10 '23
 What metering would do for the Chicago water works. L. R. Howson. il diags W Soc E J 28:142-55 Ap '23; Same cond. Eng & Contr (W W) 59:609-15 Mr 14 '23
See also Pitometer; Pitot tubes; Venturi meters; Water flow; Water gages; Water waste

Manufacture

Less spoilage in making meters with gas-fired furnaces. J. E. Bullard. Gas Age 52: 463-4 O 13 '23
 Machining hard rubber balls and disks for water meters. il India Rubber W 69:21-2 O '23
 Special methods in water meter manufacture. F. H. Colvin. il Am Mach 58:569-72, 621-3 Ap 19-26 '23

Specifications

Report of the committee on standard specifications for water meters; discussion. N E Water Works Assn J 35:394-6 D '21
 Report of the joint committee on standard specifications for water meters. N E Water Works Assn J 37:201-26 Je '23; Same. Am Water Works Assn J 10:1093-1118 N '23

Standardization

Standardization of water meters—disk type. R. K. Blanchard. Am Water Works Assn J 8:637-43 N '21

Testing

Determining by a single flow test the capacity of a meter at all pressure losses. F. B. Nelson. il Am Water Works Assn J 9: 241-6 Mr '22

Water motors. *See* Hydraulic motors

Water pipes

Allocating concrete, cast iron and wood stave in a pipe line. W: H. Taylor. il Eng N 91: 62 Jl 12 '23
 Cap De La Madeleine water and sewer systems. R. Morrisette. il diag plan Can Eng 42:403-6 Ap 18 '22
 Cast iron pipe to be used for first time in water-works of Ogden, Utah. Eng N 89: 533; 90:177, 505 S 28 '22, Ja 25, Mr 15 '23
 Cast iron water pipe for pressures higher than allowed by current specifications. C. E. Inman. Am Water Works Assn J 9:851-4; Discussion. 854-6 N '22; Abstracts. Eng N 88:912 Je 1 '22; Eng & Contr 57:564 Je 14 '22
 Cast iron water service pipe. il Munic Eng 62:34+ Ja '22
 Cement for water pipe joints. W: Wheeler. N E Water Works Assn J 37:62-74 Mr '23; Excerpt. Eng & Contr (W W) 59:1047-9 My 9 '23
 Coefficient of roughness in corrugated-iron pipe. D. L. Yarnell. il Eng N 88:352 Mr 2 '22
 Concreting steel water pipe in California. R. W. Whitaker. il Concrete 22:91-2 Mr '23
 Design and construction of welded steel and wood-stave pipe line for Butte water co. E. Carroll. Eng N 88:278-82 F 16 '22
 Doubling New York's water supply; two additional lines of 11-foot pipe increase aqueduct capacity to 500,000 gallons per day. il Sci Am 128:92 F '23
 Economy of high initial cost and extreme care in service-pipe installation. R. J. Newsum. N E Water Works Assn J 36:79-82; Discussion. 82-5 Mr '22
 Hydraulics of pipe lines. W: F. Durand. 271p Van Nostrand '21
 Importance of water service pipe construction records. J: P. Wentworth. Eng N 90: 1051 Je 14 '23
 Laying 30-in. submerged pipe for Norfolk water-works. D. A. Decker and J. O. Miller. il Eng N 89:393-5 S 7 '22
 Laying 36 and 48-in. water mains in stony ground at New Bedford, Mass. il Munic Eng 63:104-5 S '22
 Loss of head due to bends. F. W. Medaugh. il Eng & Contr (W W) 58:51-2 O 11 '22

Loss of head in bends of less than ninety degrees. F. W. Medaugh. Eng & Contr (W W) 58:118 D 13 '22

Low friction loss in twenty-five-year old cast-iron pipe. T. F. Wolfe. Eng N 88:118 Ja 19 '22

Materne copper-lined pipe. il Power 57:628 Ap 24 '23

Method and cost of submarine pipe line. H. U. Fuller. Eng & Contr (W W) 60:765-8 O 10 '23

Method of constructing intake line with spiral riveted pipe. il Eng & Contr (W W) 58:107 N 8 '22

Observations concerning water-supply mains. J. W. Ledoux. diags N E Water Works Assn J 35:354-61; Discussion. 362-6 D '21

Pipe joint compounds; discussion. N E Water Works Assn J 36:111-14, 309-10 Mr, Je '22

Pipe sizes in distribution system of Detroit. Mich. Eng & Contr (W W) 59:383 F 14 '23

Some engineering aspects of cast iron. R: Moldenke. N E Water Works Assn J 37:1-8; Discussion. 8-11 Mr '23

Special cast-iron pipe used for Whittier water-works. E. A. Rowe. Eng N 88:198-9 F 2 '22

Water pipe sizes for plumbing fixtures, branches and mains. W. S. Timmis. Am Soc Heat & V E J 28:397-403 My '22; Same. Sanitary & Heat Eng 98:6-8 Jl 14 '22

Water-power studies; pressure pipe lines. W: T. Taylor. Elec R (Lond) 92:164-6, 204-6 F 2-9 '23

Water services and meters; data from more than six hundred cities on average life of wrought iron, steel, lead, cast iron and other services, causes of deterioration, methods of cleaning, etc. Pub Works 52:345-59, 430-3; 53:14-15, 34-5, 50-1, 69-73 My 13, Je 10, Jl 1-22 '22

See also Aqueducts; Electrolytic corrosion; Hot water heating; Hot water supply; Pipe fittings; Pipe joints; Pipe laying; Pipes; Siphons; Thawing; Water conduits; Water distribution; Water flow; Water hammer; Water pipes, Concrete, etc.; Water waste; Waterworks

Cleaning

Cleaning St Louis water mains. il Pub Works 51:411 N 26 '21

Cleaning water mains in Manhattan. B. L. Ulrich. Pub Works 54:281-2 S '23

Flushing water mains at Detroit. Mich. Eng & Contr (W W) 59:377 F 14 '23

Water main cleaning in Kansas City, Missouri. C: S. Foreman. Am Water Works Assn J 8:369-76 Jl '21; Same. Munic Eng 60:249-52 Je '21; Same. Can Eng 42:101-3 Ja 3 '22; Same abr. Eng & Contr 56:39-40 Jl 13 '21; Excerpts. Eng N 86:1040 Je 16 '21

Corrosion

Control of corrosion by deactivation of water. F. N. Speller. il diags J Fr Inst 193:515-42 Ap '22; Same. Blast F & Steel Pl 10:500-4, 592-6 O-N '22; Same cond. Can Eng 44:128-31 Ja 9 '23

History of the corrosion of the 36-inch steel force main at Akron, Ohio. G. G. Dixon. il map N E Water Works Assn J 36:157-69 Je '22; Abstract. Eng N 89:308-9 Ag 24 '22; Discussion. N E Water Works Assn J 36:181-8 Je '22

Investigation of electrolysis on steel force main at Akron, Ohio. V: B. Phillips. diag N E Water Works Assn J 36:170-80; Discussion. 181-8 Je '22

Investigation of the self-corrosion of buried lead pipe. W. N. Smith and J. W. Shipley. maps Sibley J 36:144-54+ N '22

Limits of hydrogen ion concentration as determined by electrometric titrations in water solutions of carbon dioxide, calcium sulphate, and calcium carbonate. J. W. Shipley and I. R. McHaffie. Soc Chem Ind J 42:311-19 Jl 27 '23

Prevention of corrosion in water pipes. il Sanitary & Heat Eng 96:194-5, 315-16 S 23, N 18 '21

Water pipes—Corrosion—Continued

- Prevention of corrosion of metals by water in a closed system. P. West. *il* diags J Ind & Eng Chem 14:601-7 J1 '22
- Prevention of electrolysis troubles in underground pipe structures. E. B. Stewart. *Am Water Works Assn J* 9:274-83 Mr '22; Same. *Can Eng* 42:503-5 My 16 '22; Same *abr. Eng & Contr* 57:362-4 Ap 12 '22; *Abstract. Eng N* 87:321 N 17 '21
- Relation of quality of water to operation of piping and fixtures. D. A. Heffernan. *Can Eng* 43:383-4 S 26 '22; Same. *Eng & Contr (W W)* 53:104-6 N 8 '22
- Self-corrosion of cast iron and other metals in alkaline soils. W. N. Smith and J. W. Shipley. *Elec Ry J* 58:911-12 N 19 '21; *Abstracts. Mech Eng* 43:311-12 D '21; *Engineering* 113:36 Ja 13 '22
- Soil corrosion investigations of U.S. Bureau of standards. *Eng & Contr (W W)* 53:117 D 13 '22
- Solution of corrosion and coagulation problems at Montebello filters, Baltimore. J. R. Baylis. *Am Water Works Assn J* 9:408-17 My '22; Same. *Eng & Contr* 58:140-2 Ag 9 '22
- Stray current electrolysis. E. R. Shepard. *Am Water Works Assn J* 10:603-11 J1 '23
- Study of water-line corrosion. K. M. Watson. *Am Electrochem Soc Trans v* 44 (preprint 19):195-202 S '23

See also Electrolytic corrosion; Water pipes—Protection; Water purification—Chlorination

Cost

- Cost of construction 48-in. water main at New Bedford, Mass. *Eng & Contr (W W)* 59:1060 My 9 '23
- Cost of laying water mains at Columbus, O. *Eng & Contr (W W)* 59:1073 My 9 '23
- Cost of water main construction at Pasadena, Calif. *Eng & Contr (W W)* 59:1070 My 9 '23
- Cost of water main maintenance in Chicago. *Eng & Contr (W W)* 59:590 Mr 14 '23
- Some costs of lead substitutes in pipe joints. V. F. West. *N E Water Works Assn J* 37:75-9 Mr '23; *Excerpt. Eng & Contr (W W)* 59:1051-2 My 9 '23; *Discussion. N E Water Works Assn J* 37:80-3 Mr '23
- Wood pipe vs. cast-iron for large lines. J. W. Ledoux. *Coal Age* 22:93 J1 20 '22

Failures

- Blowout in relaid cast-iron pipe. M. Maffitt. *Eng N* 90:594 Mr 29 '23
- Causes of failure in cast iron pipe. F. A. McInnis. *Can Eng* 42:563-4 My 30 '22; Same. *Am Water Works Assn J* 9:846-50 N '22; Same *abr. Eng & Contr* 57:563-4 Je 14 '22; *Excerpt. Eng N* 88:1081 Je 29 '22

Leakage

- Geophone. F. W. Collins. *Am Water Works Assn J* 10:850-1 S '23; Same. *Eng & Contr (W W)* 60:785-6 O 10 '23; Same. *Pub Works* 54:350-1 N '23
- Locating leaks in water pipes with the geophone. *diag Eng & Contr (W W)* 58:24 O 11 '22
- Pitometer survey discloses underground leaks. *il Eng N* 91:432-3 S 13 '23
- Underground leakage and its relation to mains and services. T. F. Wolfe. *Am Water Works Assn J* 10:400-4 My '23; Same. *Eng & Contr* 57:562-3 Je 14 '22

Painting

- Chlorine tastes and odors from pipe coating. E. J. Rowe. *Am Water Works Assn J* 9:455-7 My '22

Protection

- Cement-lined cast-iron pipe at Charleston, S.C. J. E. Gibson. *il Eng N* 89:378, 387-90 S 7 '22
- Concrete-lined metal pipes. *il Engineer* 135:531-2 My 18 '23
- Disappearance of the coating from cast-iron pipe while stored in the yard. S. E. Killam. *N E Water Works Assn J* 35:367-9; *Discussion. 369-72 D '21*

- Present day tars for pipe coatings. W. R. Conard. *Can Eng* 42:560-1 My 30 '22; Same. *Eng & Contr* 58:260-1 S 13 '22; *Excerpts. Eng N* 88:913 Je 1 '22
- Remedy rapid pipe deterioration in the engine house. *il diags Ry R* 71:818-20 D 9 '22
- Steel pipe concrete jacketed and concrete lined for Catskill aqueduct. *il Min & Met* 188:29-30 Ag '22

See also Penstocks—Protection

Repair

- Are welding a mine pipe line. A. M. Candy. *il Eng & Min J* 113:1074-5 Je 17 '22
- Broken section of 36-in. pipe line burned out by electric torch under 50 ft. of water. W. W. Brush. *il Eng N* 88:346-8 Mr 2 '22
- Cutting and fitting beneath the waves; the under-water torch. R. Howard. *il Sci Am* 126:302-3 Mr '22
- Laying and repairing a six-inch wrought iron submarine pipe line at Portland, Maine. J. W. Graham. *il plan Am Water Works Assn J* 8:616-26 N '21; Same. *Eng & Contr* 56:557-8 D 14 '21
- Repair of the New York-Brooklyn submarine water main. *il diags Engineering* 113:509-11 Ap 28 '22
- Repairing 20-in. water main with sleeve that was too small. M. Maffitt. *diag Eng N* 91:443 S 13 '23
- \$60,000 submerged pipe fracture. *Pub Works* 52:196 Mr 13 '22
- Submerged intake for 24-in. pipe placed without diver. G. W. Pracy. *il diags Eng N* 88:786-8 My 11 '22
- Torch cuts cast iron in fifty feet of water. A. M. Hoffmann. *il Pop Mech* 37:682-3 My '22

Specifications

- Reports of committees on revision of standard specifications for cast iron pipe and special castings. *Am Water Works Assn J* 8:654-8; 9:917-20; 10:866-70 N '21, N '22, S '23; *Eng N* 90:1008-9 Je 7 '23

Tables, calculations, etc.

- Determining water pipe sizes for plumbing fixtures, risers and mains. *Sanitary & Heat Eng* 100:276-9+ N 2 '23
- Formulas for calculating friction heads in water pipes. F. E. Giesecke. *Heat & Ven* 20:33-6 Mr '23
- Friction head formulas for water pipes. *Heat & Ven* 20:45 Ap '23
- New charts for calculating pipe sizes for water flow. F. E. Giesecke. *il diags Heat & Ven* 20:46-51 My '23; Same. *Sanitary & Heat Eng* 99:395-400 Je 15 '23
- New logarithmic equation for friction losses in pipes. F. W. Greve. *Eng N* 91:605 O 11 '23
- Pipe flow chart. W. F. Schaphorst. *Gas Age* 49:371 Mr 25 '22; Same. *Textile World* 61:2323+ Ap 22 '22; Same. *Coal Age* 21:999-1000 Je 15 '22; Same. *Power Pl Eng* 26:621-2 Je 15 '22; Same. *Brick & Clay Rec* 61:39+ J1 11 '22; Same. *Refrig W* 57:25-6 J1 '22; Same. *Sanitary & Heat Eng* 98:288 N 17 '22

Water pipes, Concrete

- Bonna pressure pipe. *Concrete* 22:136 Ap '23
- Concrete pipe with improved joints as used in St John, New Brunswick. *diags Eng & Contr* 57:567 Je 14 '22
- Development of reinforced concrete pipe transmission of water under pressure. *Concrete* 22:107 Mr '23
- Making lock-joint centrifugal pipe. *il Concrete* 21:162-3 N '22
- Reinforced concrete pipe as applied to water-supply lines. W. G. Chace. *diags N E Water Works Assn J* 36:102-7; *Discussion. 108-10 Mr '22*
- Reinforced-concrete pipe for transmission of water under pressure. W. G. Chace. *diags Am Concrete Inst Pro* 19:67-74 '23; *Abstract. Concrete* 22:107 Mr '23

- Reinforced concrete pipes for water supply. W. G. Chace. *il diags W Soc E J* 28:345-56 Ag '23

Water pipes, Paper

- Piping made of paper as a manufactured article. *Sci Am* 126:303 My '22

Water pipes, Steel

- Condition of steel main after 22 years of service. *il Eng & Contr* 57:565 *Je* 14 '22
- Steel pipe for large water mains. *T. A. Leisen. Am Water Works Assn J* 10:393-9 *My* '23; Excerpts. *Can Eng* 42:672-3 *Jl* 4 '22
- Steel water mains in New Bedford. *Pub Works* 53:165 *S* '22
- Use of steel pipe in water works. *G. A. Elliott. il Am Water Works Assn J* 9:339-45 *N* '22
- Welded-steel overflow pipe two thousand feet long. *il Pop Mech* 38:238 *Ag* '22

Repair

- Patches welded on 30-yr.-old steel pipe without reducing water pressure. *J. A. Foulke. il Eng N* 89:898 *N* 23 '22

Water pipes, Wood

- Some observations concerning wood pipe. *J. W. Ledoux. Am Water Works Assn J* 9:549-69 *Jl* '22; Same cond. *Can Eng* 43:275-8 *Ag* 22 '22; Excerpts. *Eng N* 88:912-13 *Je* 1 '22; Excerpts. *Coal Age* 22:93 *Jl* 20 '22; Excerpt. *Eng & Contr* 57:565-6; 58:31 *Je* 14, *Jl* 12 '22; Abstract. *Pub Works* 53:91-2 *Jl* 29 '22; Discussion. *H. S. Payrow. Am Water Works Assn J* 9:802-5 *S* '22
- Wood-stave water pipe. *Pub Works* 52:5 *Ja* 7 '22

Water pollution

- Area of water surface as a controlling factor in the condition of polluted harbor waters. *R. H. Gould. map Am Soc C E Pro* 47:603-16 *D* '21; Discussion. 48:711-16, 991-9, 1269-71 *Mr-My* '22
- British regulations against the discharge of oil into navigable waters. *Marine Eng* 27:727-8 *N* '22
- Call to the chemist to purge industry of its combination of our coast and inland waters. *D. M. Neuberger. Chem Age* 31:431-2 *O* '23
- Cause of typhoid epidemic at Cochrane. *plan Can Eng* 44:458 *My* 1 '23
- Causes of obnoxious tastes and odors sometimes occurring in the Cleveland water supply. *J. W. Ellms and W. C. Lawrence. diag map Am Water Works Assn J* 9:463-73 *My* '22
- Control of waste fuel oil in harbors. *B. Hill. Can Eng* 43:412-13 *O* 3 '22
- Controlling pollution of the Delaware. *Pub Works* 53:110-11 *Ag* '22
- Dangers to the sanitary quality of public water supplies. *E. S. Chase. il maps N E Water Works Assn J* 37:16-41 *Mr* '23; Same cond. *Can Eng* 44:163-6 *Ja* 23 '23; Same. *Eng & Contr (W W)* 59:1063-70 *My* 9 '23; Discussion. *N E Water Works Assn J* 37:42-3 *Mr* '23
- Disinfection of public water supplies and its relation to public health. *C. A. Jennings. Can Eng* 42:146-9 *Ja* 17 '22
- Effective dilution as a pollution unit. *W. F. Wells. bibliog Am Water Works Assn J* 8:233-8 *My* '21; Discussion. 8:270-1, 667-72 *My. N* '21
- Experiences at Milwaukee. *C. M. Baker. Eng & Contr* 57:133 *F* 8 '22
- Germinical effect of acid mine drainage. *W. L. Stevenson. Pub Works* 53:264-5 *D* '22; Same. *Eng N* 90:713-14 *Ap* 19 '23
- Governmental investigation of pollution of navigable waters. *Chem Age* 31:433 *O* '23
- Industrial waste pollution conference a success. *Eng N* 91:682-4 *O* 25 '23
- Interference with water filtration plant operation by wastes from by-product coke ovens and gas-works. *C. A. Emerson, jr. Am Soc C E Pro* 47:662-3 *D* '21; Same. *Eng & Contr* 57:132-3 *F* 8 '22
- Loading of filter plants. *H. W. Streeter. Am Water Works Assn J* 9:157-71 *Mr* '22; Discussion. *M. F. Stein. 9:655-7* *Jl* '22
- Long record of microscopical examinations. *G. C. Whipple. Am Water Works Assn J* 9:436-41 *My* '22
- Manganese deposit on water filter at Breckenridge, Texas. *J. B. Hawley and W. S. Mahlie. Eng N* 90:834 *My* 10 '23
- Movement of bacillus coli in ground water with resulting pollution of wells. *C. W. Stiles and H. R. Crohurst. Eng & Contr (W W)* 60:100-2 *Jl* 11 '23; Same. *Eng N* 91:425 *S* 13 '23
- Oil pollution of navigable waters. *J. S. Smith. Comm & Fin Chr* 115:1288-9 *S* 16 '22
- Pennsylvania sanitary water board: powers, duties and policies. *W. L. Stevenson. Eng N* 91:684-5 *O* 25 '23
- Phenol-chlorine water pollution. *E. F. Kohman. Ind & Eng Chem* 15:518 *My* '23
- Phenol contamination of public water supplies. *Eng N* 90:928 *My* 24 '23
- Pollution bills are discussed. *Oil Paint & Drug Rep* 100:23+ *sec 1 O* 31 '21
- Pollution of a stream by waste from a hydrogen generating plant. *E. Bartow and A. S. Behrman. il Am Water Works Assn J* 8:632-6 *N* '21
- Pollution of coast waters and beaches with oil and tar. *C. M. Saville. Eng N* 89:390 *S* 7 '22
- Pollution of river water in the Pittsburgh district. *C. M. Young. map Am Water Works Assn J* 8:201-17 *My* '21; Discussion. 8:541-9, 662-7 *S-N* '21
- Pollution of streams affecting industrial uses. *J. F. Jackson. maps N E Water Works Assn J* 36:14-29; Discussion. 29-31 *Mr* '22
- Pollution of streams by pulp-mill wastes. *G. C. Whipple. Am Soc C E Pro* 43:1385-92 *Ag* '22; Same. *Eng & Contr* 58:252-5 *S* 13 '22
- Pollution of water from deep well. *Eng N* 89:430 *S* 14 '22
- Pollution of water supplies by coal mine drainage. *C. P. Collins. diags Eng N* 91:638-41 *O* 18 '23
- Pollution of water supply sources. *E. E. Wall. Munic Eng* 63:140-2 *O* '22
- Prevention of sewage contamination in Ontario. *F. A. Dallyn. Can Eng* 42:522-4 *My* 23 '22; Discussion. 42:601-2 *Je* 13 '22
- Progress report of committee on industrial wastes in relation to water supply. *Am Water Works Assn J* 10:415-28; Bibliography. 428-30 *My* '23; Same, without bibliog. *Eng & Contr (W W)* 60:294-300 *Ag* 8 '23
- Protecting watersheds from pollution. *G. C. Hodges. Can Eng* 44:493-4 *My* 15 '23
- Quantitative data in stream pollution investigations. *E. B. Phelps. Munic Eng* 63:22-4 *Jl* '22
- Reducing the industrial pollution of Indiana streams. *Munic Eng* 63:148 *O* '22
- Sanitary survey of Lake Erie, opposite Cleveland, Ohio, 1920. *J. W. Ellms. maps Am Water Works Assn J* 9:186-207 *Mr* '22
- Soil and water pollution. *W. A. Hardenbergh. Pub Works* 51:497-9 *D* 31 '21
- Some observations on chlorination tastes and odors. *W. Donaldson. Can Eng* 43:326-7 *S* 5 '22
- Some phases of the stream pollution problem. *J. K. Hoskins. map Am Water Works Assn J* 9:570-81 *Jl* '22; Same. *Eng & Contr* 57:449-52 *My* 10 '22; Same. *Can Eng* 43:232-5 *Ag* 8 '22
- Stream pollution and sewage disposal; a symposium. *G. T. Hammond and others. Am Soc C E Pro* 47:617-44 *D* '21; Discussion. 47:645-52; 48:111-16, 717-21 *D* '21-Ja, *Mr* '22
- Stream pollution investigations. *Eng & Contr* 58:251 *S* 13 '22; *Pub Works* 53:172-3 *O* '22
- Stream pollution measured in terms of sanitary quality of drinking water. *R. Suter. Am Water Works Assn J* 10:220-9 *Mr* '23
- Stream pollution studies. *R. Suter. 34p New York State Conservation comm., Albany* '22
- Studies of natural purification on the Illinois river. *J. K. Hoskins. Eng N* 89:1078-9 *D* 21 '22
- Study of sewage and trade wastes at Bridgeport, Connecticut. *W. W. Skinner and J. W. Sale. map J Fr Inst* 192:785-99 *D* '21
- Tastes and odors in public water supplies from decomposing organic matter. *F. H. Waring. Am Water Works Assn J* 10:75-87 *Ja* '23
- Tastes and odors in water from the Maumee river due to low oxygen content. *F. H. Waring. Eng N* 87:771 *N* 10 '21

Water pollution—Continued

Typhoid fever epidemic at Salem, Ohio. W. H. Dittoe. chart N E Water Works Assn J 35:335-52, pl 1-4 D '21; Same. Dom Eng 98:264-8+ F 11 '22; Discussion. N E Water Works Assn J 35:352-3 D '21

Uncontrolled pollution of Bogota water supply. G. C. Bunker. il Eng N 90:921 My 24 '23

Underground contamination of the Bad Axe, Mich., water supply. W. C. Hirn. plan Eng N 91:138-9 Jl 26 '23

Underlying principles in appraisal of sanitary quality of a water supply. G. C. Whipple. Eng & Contr 56:447-8 N 9 '21

Use and discard of auxiliary fire protection from a polluted source. C. M. Saville. N E Water Works Assn J 36:392-405; Discussion. 406-23 S '22

Wastes from pulp and paper mills chemically considered. H. W. Clark. Am Soc C E Pro 48:1393-6 Ag '22

Water pollution and industrial wastes. Eng N 91:664-5 O 25 '23

Water supply contamination by mine drainage. J. W. Ledoux. Eng & Contr (W W) 59:389-94 F 14 '23; Abstract. Eng N 90:698 Ap 19 '23

Water supply in its relation to sewage disposal. J. C. Keith. Can Eng 42:608-9 Je 13 '22; Same. Am Water Works Assn J 10:147-50 Ja '23

What shall be done about the growing evil of the pollution of streams by mine drainage? A. E. Crichton. map Coal Age 23:447-51 Mr 15 '23

Zinc contamination in drinking water. C. D. Howard. Am Water Works Assn J 10:411-14 My '23

See also Filters and filtration; Oil removal from harbors, etc; Refuse disposal; Sewage disposal; Trade waste; Water purification; Water supply

Water power

Conference on water power development, University of Toronto. Can Eng 44:305-6, 320-1 Mr 6-13 '23

La houille blanche. H. Cavaillès. 215p A. Colin, Paris '22

Power earnings and comparative public wealth. G. B. Herington. J Elec 50:215-16 Mr 15 '23

Some aspects of the relationship between water power and nitrogen fixation. E. B. Maxted. Engineering 114:537-8 O 27 '22

Some geographical aspects of recent developments of water-power. H. M. Spink. Elec R (Lond) 91:424 S 22 '22; Same. Electrician 89:295-6 S 15 '22

Study of world's water powers completed. Power 55:22-3 Ja 3 '22

Utilisation of waterways for the production of power. Engineer 136:12, 38-9 Jl 6-13 '23; Engineering 116:20-2 Jl 6 '23; Génie Civil 83:253-6 S 15 '23

Water power. D. Clerk. Engineer 132:648 D 16 '21

Water power. C. W. Kellogg. Boston Soc C E J 10:255-66 Je '23

Water power development. J. A. Britton. N E L A Bul 10:579-81 O '23

Water power development in different countries. Can Eng 45:397 O 9 '23

Water-power resources of the world. H. Stabler and others. Chem & Met Eng 26:30-2 Ja 4 '22

See also Dams; Flumes; Hydraulic engineering; Hydraulic machinery; Hydroelectric plants; Hydroelectric power; Tide power; Turbines; Water wheels

Alaska

Water-power investigations in southeastern Alaska. G. H. Canfield. map U S Geol S Bul 722:75-115 '22

Argentina

Water power in Argentina. Engineer 134:439 O 27 '22

Bavaria

Alpine lakes to form link in power project. il Pop Mech 38:575-6 O '22

California

California board set up to study certain streams in California. Elec W 81:1371 Je 9 '23

Looking ahead in California. R. H. Ballard. Elec J 19:181-3 My '22

See also American river, California; Hydroelectric plants—California

Canada

Canada added 12 per cent to its water power in 1921. Power 55:545 Ap 4 '22

Canadian water-powers. Can Eng 42:549 My 30 '22

Mill waterpower sources in Canada. il Paper 30:11-18 Ap 19 '22

Relation of water power to the pulp and paper industry in Canada. J. B. Challies and I. J. Johnston. map Am Soc C E Pro 48:1403-7 Ag '22

Water power in the Canadian pulp and paper industry. Engineer 134:15 Jl 7 '22

Water power resources of Canada. Eng & Contr 57:345 Ap 12 '22

Water power resources of Canada. J. T. Johnston. Can Eng 42:343-6 Mr 28 '22

Water-power resources of Canada. Mech Eng 45:395 Je '23

Water power situation in the St Lawrence region. J. T. Johnston. map Can Eng 43:359-61 S 19 '22

Water power sources available in the United States and Canada for the electric operation of steam roads; report of the A.R.E.A. committee on electricity. Ry Age 74:726-9 Mr 16 '23

See also Hydroelectric plants—Canada

Chile

Electrical progress in Chile. maps Elec W 80:1408-9 D 23 '22

France

Le congrès de l'aménagement hydraulique du Sud-Ouest (Bordeaux, 17-22 juin 1922); la houille blanche. A. Pawlowski. plan Génie Civil 81:110-13 Jl 29 '22

France plans vast water power system. Iron Tr R 70:272+ Ja 26 '22

Le rôle de l'état dans l'aménagement des chutes d'eau. G. Tochon. Génie Civil 82:256-60 Mr 17 '23

See also Hydroelectric plants—France

Georgia

Third report on the water powers of Georgia. B. M. Hall and M. R. Hall. (Georgia. Geological survey. Bul. 38) 316p Byrd ptg. co. Atlanta '21

Threatened state control of water powers. P. S. Arkwright. Elec W 80:875-7 O 21 '22

Germany

See Hydroelectric plants—Germany

Great Britain

British water-power resources. Elec R (Lond) 89:868-9 D 23 '21

Conservation and control of water resources. J. Parry. Engineering 116:473 O 12 '23; Abstract. Engineer 136:335 S 28 '23

Report of the water power resources committee. Engineer 132:653 D 16 '21; Elec R (Lond) 89:657-8 N 11 '21; Electrician 87:711 D 2 '21

India

Hydro-electric power developments in India. map Elec R (Lond) 90:604-6 Ap 28 '22

Ireland

Irish water-power resources. R. J. Taylor. Eng N 88:878 My 25 '22

Italy

Tells of Italy's water power. G. Caetani. Power 57:157 Ja 23 '23

Japan

Water power in the Orient—impressions from a six months' tour. W. M. White. Power 55:426-7 Mr 14 '22

Water power—Continued**Maine**

Water power in Maine; conservation program is defeated. Elec W 81:883 Ap 14 '23

Middle western states

Water power possibilities in the Middle West. C. W. Place. il maps Gen Elec R 25:592-7 O '22

Minnesota

Controversy over federal dam in the Mississippi between Minneapolis and St Paul still unsettled. il Power 56:393 S 5 '22

Ford gets high dam. Elec W 81:591-2 Mr 10 '23

St Louis river in Minnesota to be fully developed. Power Pl Eng 27:962 S 15 '23

Water power goes begging. Power 56:1039 D 26 '22

Montana

Water power resources of Montana. H. H. Cochrane. il Gen Elec R 25:624-7 O '22

New Hampshire

Pemigewasset river development is under way. il Power Pl Eng 27:203 F 1 '23

New York (state)

Fight on Adirondack power. Elec W 82:504 S 8 '23

Governor Smith seeks state control for water powers. Power 57:423 Mr 13 '23

New York state owned water power not under federal control. Power 58:35 JI 3 '23

New York state water power commission report. Elec W 82:143-4 JI 21 '23; Power 58:157 JI 24 '23

New York state water-power legislation. Power 55:198 Ja 31 '22

New York state's water power. G. E. Tripp. Elec W 81:685-6 Mr 24 '23

New York water-power regulation. Elec W 81:593, 706-7 Mr 10, 24 '23

New York's water power. Power 56:1028 D 26 '22

Present tendencies of water-power development in New York state. J. P. Hogan. maps Am Soc C E Pro 48:1741-57 N '22

Report on the water power and storage possibilities of the Hudson river. 75p J. B. Lyon co., Albany '22

Steinmetz urges full use of water power. Power 56:823 N 21 '22

Undeveloped water power in New York state. map Power 57:502 Mr 27 '23

Views on water power; favors state ownership, development and limitation. A. Smith. Elec W 81:592 Mr 10 '23

W. S. Murray wields needle on Governor Smith's water power bubble. L. Stallings. N E L A Bul 10:289-91 My '23

New Zealand

New Zealand has 4,000,000 potential hydro-electric horsepower. Elec W 82:811 O 20 '23

North Carolina

North Carolina the fifth state in developed water power. T. Saville. Elec W 79:883 My 6 '22

Water power in North Carolina. Elec W 80:167 JI 22 '22

Water power situation in the state of North Carolina. Elec W 82:654 S 29 '23

Norway

Norway's electric power programme. Elec R (Lond) 91:209 Ag 11 '22

Water powers of Norway. C. N. Anderson. il diag Elec W 81:676-82 Mr 24 '23

See also Hydroelectric plants—Norway

Pacific states

Super-power survey of the Pacific Northwest. il charts map J Elec 50:320-9 My 1 '23; Abstracts. Elec W 81:137-8 My 19 '23; Power 57:873-4 My 29 '23

Water power potentialities of the Pacific coast. F. H. Fowler. Am Soc C E Pro 49:917-41 My '23

Palestine

Irrigation and water-power in Palestine. H.

W. Hulbert. Sci Am 127:313 N '22

Power and irrigation development in Palestine. il maps Eng N 88:1042-6 Je 22 '22

Rutenberg scheme. T. Stevens. Elec R (Lond) 90:783 Je 2 '22

Pennsylvania

Governor Pinchot's power bill passed Pennsylvania's legislature. Power 57:1049 Je 26 '23

Quebec

Development of water powers in Quebec. Can Eng 45:213-14 Ag 7 '23

Power progress on the Saguenay. Eng N 91:545 O 4 '23

Russia

Waterpower resources of Russia concentrated in Asia. I. Gutmann. Eng N 91:9 JI 5 '23

Scotland

Grampians water power scheme. map Engineering 114:186 Ag 11 '22

Water power development in Scotland. R. Johnstone-Taylor. Eng N 89:469 S 21 '22

See also Hydroelectric plants—Scotland

Southeastern states

Power development in the Southeast. C. G. Adsit. maps Mech Eng 44:291-4+ My '22

Southern states

Water power for southern Appalachian states. O. C. Merrill. Power 56:70 JI 11 '22

Sweden

See Hydroelectric plants—Sweden

Switzerland

Water power development in Switzerland. Eng & Contr 57:314 Mr 29 '22

See also Hydroelectric plants—Switzerland

United States

Bankers opposed to interest-rate basis for water-power amortization. Elec W 78:987 N 12 '21

Danger of halting water-power development. O. C. Merrill. Power 57:955-6 Je 12 '23

Developed and potential water powers of the United States. Elec W 79:531-2 Mr 18 '22

Harnessing the country's water power. O. C. Merrill. N E L A Bul 10:673-7 N '23; Same abr. Elec W 82:812-14 O 20 '23; Same cond. Power 58:706-7 O 30 '23

Inconveniences of coal strike will give impetus to water power development. N E L A Bul 9:539-42 S '22

Twenty years' increase in the use of water power. B. E. Jones. Eng N 90:1045 Je 14 '23

Water power developments in the United States. Engineering 115:337-8 Mr 16 '23

Water power investigations to be made by the Interior department. Eng & Contr (W W) 60:78 JI 11 '23

Water power national, not local. G. E. Tripp. maps Elec W 81:593 Mr 10 '23

Water power problem; a symposium. Am Soc C E Pro 48:1737-87, 1823-83; 49:113-22, 258-73, 579-80, 780-1, 917-41 N '22-May '23; Discussion. 49:984-90 My '23

Water power resources of the United States—developed and undeveloped. Power 55:347-8 F 28 '22

Water power sources available in the United States and Canada for the electric operation of steam roads; report of the A.R.E.A. committee on electricity. Ry Age 74:726-9 Mr 16 '23

Water power timely topic at Am. Soc. C. E. fall meeting. Eng N 89:663-4 O 19 '22

See also Niagara falls; Hydroelectric plants—United States; Water power act, 1920

Utah

Green river as a source of power. R. R. Woolley. il J Elec 51:126-8 Ag 15 '23

Water power—Continued

Wales

Water power developments in North Wales. J. B. C. Kershaw, il diags maps plan Electrician 89:65-8 J1 21 '22
 Water-power developments in North Wales; the Cowlyd dam. diag plan Elec R (Lond) 91:443-4 S 29 '22

Washington (state)

Agricultural and industrial features of Priest Rapids; the largest possible hydroelectric development in the United States west of Niagara falls. H. J. Pierce, il map Gen Elec R 26:291-4 My '23
 Facts about Priest Rapids; the largest possible hydroelectric development in the United States west of Niagara Falls. H. J. Pierce, Am Inst E E J 42:1102-4 O '23
 Snake river as a source of power. W. G. Hoyt, il map Elec W 80:311-13 O 14 '22

Western states

Outstanding features of western waterpower development in 1922. il Eng N 90:14-16 Ja 4 '23
 Power development on the Colorado river and its relation to irrigation and flood control. O. C. Merrill, maps Am Inst E E J 41:500-7 J1 '22
 Power must bear burden of development on Colorado river. F. G. Baum, il map J Elec 51:202-5 S 15 '23
 West exceeds nation in water power resources. J Elec 48:208 Mr 1 '22
See also Hydroelectric plants—Western states

Wisconsin

Wisconsin's growing water power. il map Elec W 81:653 Mr 17 '23

Wyoming

Green river as a source of power. R. R. Woolley, il J Elec 51:126-8 Ag 15 '23

Water power act, 1920

Developments in federal water power act administration. P. Wooton, J Elec 49:169-70 S 1 '22

Federal water-power legislation. G. C. Danforth, Boston Soc C E J 8:311-24 N '21

National body to defend water-power act. Elec W 80:1008 N 4 '22

Navigable waters in the water power act. Eng N 89:985 D 7 '22

Operation of the federal water power act. O. C. Merrill, Am Soc C E Pro 48:1758-65 N '22

System of accounts prescribed for licensees under the Federal water power act. 173p U.S. power commission, Washington '22

Why go back on the power laws? O. C. Merrill, il Nation's Business 10:26-8 S '22

Water power league of America

Water power league of America will probably pass out of existence. Elec W 79:296 F 11 '22

Water proofing. *See* Waterproofing

Water purification

Alternate lime and iron with alum to reduce sand size. Eng N 89:530 S 28 '22

Aluminum hydroxide solution. J. W. Coxe, jr, Chem & Met Eng 29:279 Ag 13 '23

Application of colloid chemistry to study of filter effluents. M. Pirnie, Am Water Works Assn J 9:247-73 Mr '22

Application of copper sulphate to reservoirs. J. E. Garratt, Can Eng 43:396-7 S 26 '22; Same, Eng & Contr (W W) 58:18-21 O 11 '22; Same, N E Water Works Assn J 36:522-6 D '22; Same cond. Pub Works 53:240-1 N '22; Same cond. Eng N 89:1124-5 D 28 '22

Applied hydrogen-ion concentration—a study of its merits in practical filter plant operation. A. Wagner and L. H. Enslow, Am Water Works Assn J 9:373-91 My '22

Benton Harbor purification plant, il plan Pub Works 54:285-8 S '23

Chemical mixing devices and reaction time. C. P. Hoover, Can Eng 45:152-4 J1 17 '23

CO₂ odor and iron removal at Virginia Beach, Va. diags Eng N 88:774-5 My 11 '22

Coagulation and sedimentation with chemicals. J. W. Ellms, Am Water Works Assn J 9:496-501 My '22; Same, Eng & Contr 57:55-6 Ja 11 '22

Coagulation control by hydrogen ion concentration. G. F. Catlett, Eng & Contr (W W) 60:231-5 Ag 8 '23

Construction and operation of Warren, Ohio, water purification plant. S. N. Vance, Munic Eng 64:183-8 My '23; Discussion. 65:70-2 Ag '23

Control of chemical dosage in filter plants. R. A. Maddock, Can Eng 44:249-50 F 20 '23

Copper sulphate treatment for preventing algae growths in lakes and reservoirs; experiences at Fairmount, Minn. N. L. Huff, Eng & Contr 58:33-6 J1 12 '22; Same, Can Eng 43:298-301 Ag 29 '22

Deferrizing additional water supply of Berlin. G. M. Fair, il diags plan Eng N 91:426-9 S 13 '23

Design of the proposed water filtration plant at Baltimore. J. W. Armstrong, Am Water Works Assn J 10:535-55 J1 '23

Determining hydrogen ion concentration for filter plant operation. W. D. Hatfield, Am Water Works Assn J 10:298-303 Mr '23

Disinfecting the city water mains of Otsego, Michigan. E. D. Rich, il Eng N 91:431-2 S 13 '23

Double coagulation in water filtration; experiences at Portsmouth, O. F. E. Sheehan, Eng & Contr (W W) 60:542-3 S 12 '23

Les eaux industrielles. G. Paris, il diags Chimie & Ind 9:439-53 Mr '23

Economical control of chemical dosage in water filtration plants. R. A. Maddock, Munic Eng 63:238-40 D '22; Same, Pub Works 53:258-60 D '22; Same, Eng & Contr (W W) 59:380-2 F 14 '23

Excess dose, thickeners and carbonation at water treatment plant. Eng N 89:242-3 Ag 10 '22

Experiences with algae at Davenport. C. R. Henderson, Am Water Works Assn J 9:622-3 J1 '22; Same, Eng & Contr 58:123 Ag 9 '22; Same, Can Eng 43:348 S 12 '22

Experiments in water coagulation with aluminum sulphate; relation of hydrogen-ion concentration to precipitation and dissolution of aluminum hydroxide. F. E. Daniels, Eng N 91:93 J1 19 '23

Fifteen years of investigations by the laboratories of the Metropolitan water board. M. C. Whipple, Am Water Works Assn J 9:208-25 Mr '22

How shall we gauge water-supply purity? Eng N 91:624-5 O 18 '23

Hydrogen ion concentration and water purification. F. C. Mortensen, Eng & Contr (W W) 58:160-2 D 13 '22

Hydrogen-ion concentration as a means for preventing corrosion. J. R. Baylis, Am Soc C E Pro 47:680-2 D '21; Abstract, Eng & Contr 57:51 Ja 11 '22

Investigation by means of the hydrogen electrode of the chemical reactions involved in water purification. R. E. Greenfield and A. M. Buswell, Am Chem Soc J 44:1435-42 J1 '22

Iron removal and softening plant, Benton Harbor, Mich. il Eng N 91:378-9 S 6 '23

Iron removal from public water supplies. A. E. Kimberly, Eng & Contr (W W) 59:1344-8 Je 13 '23; Same, Can Eng 45:285-7 S 4 '23

Laboratory control at Illinois water purification plants. M. W. Cowles, Eng & Contr 58:256 S 13 '22

Laboratory control of filtration. G. D. Norcom, Eng & Contr (W W) 59:114-16 Ja 10 '23; Same, Can Eng 44:372-3 Ap 3 '23

Lime is basis of water treatment for ice making. Power Pl Eng 27:535-7 My 15 '23

Methods of purifying public water supplies. N. J. Howard, Can Eng 44:231-6 F 13 '23; Same, Eng & Contr (W W) 59:847-57 Ap 11 '23

Methods of water purification. J. P. O'Callaghan, Chem Age (Lond) 9:281 S 15 '23

Municipal water-purification plant erected and operated by an Illinois coal company. F. H. Kneeland, diags Coal Age 23:293-4 F 15 '23

Water purification—Continued

- New method of purifying water. H. W. Clark. N E Water Assn J 36:385-7 S '22; Same. Can Eng 43:419-20 O 3 '22; Same. Eng & Contr (W W) 58:16-17 O 11 '22; Same. Pub Works 53:197-8 O '22; Same. Eng N 89:514 S 28 '22; Discussion. N E Water Works Assn J 36:388-91 S '22
- New water purification plant at Norfolk, Virginia. il diags Eng N 90:824-5 My 10 '23
- New water purification plant for Topeka, Kansas. il diags plan Eng N 89:153-5 JI 27 '22
- 1922 Ohio conference on water purification. Eng & Contr (W W) 59:125-6 Ja 10 '23
- Physical chemistry of deferrization. R. S. Weston. Am Water Works Assn J 9:491-5 My '22
- Pollution of water supply sources. E: E. Wall. Munic Eng 63:140-2 O '22
- Preparing water to be frozen. M. P. Robinson. Refrig W 58:15-16+ Je '23; Same. Refrig Eng 10:61-3 Ag '23
- Present status of water purification in Iowa. J. J. Hinman, jr. Eng & Contr (W W) 59:839-42 Ap 11 '23
- Progress report of committee on practicable loadings for purification processes. Am Water Works Assn J 10:494-503 My '23; Same. Munic Eng 65:33-7 JI '23
- Purification of soft colored waters. R. S. Weston. Am Soc C E Pro 47:670-3 D '21; Same. Eng & Contr 57:49-50 Ja 11 '22
- Purification of water for industrial use. S. T. Powell. diags Am Water Works Assn J 10:1-37; Bibliography. 43; Discussion. 38-42 Ja '23
- Purifying industrial water. D. H. Killeffer. Ind & Eng Chem 15:915-17 S '23
- Relation of hydrogen-ion concentration to filter-plant operation. W. D. Hatfield. J Ind & Eng Chem 14:1038-40 N '22
- Report of committee no. 4, on colloidal chemistry, of the Council on standardization. Am Water Works Assn J 10:273-80 Mr '23
- St. Louis water works operation. diags Pub Works 53:105-6 Ag '22
- Sanitation of bathhouses. W: P. Gerhard. il diags Arch & Bldg 54:71-3 JI '22
- Sanitation of water supplies main topic of conference of state sanitary engineers. Eng N 90:928-9 My 24 '23
- Second water purification plant for Dallas, Texas. il diag plan Eng N 90:1042-4 Je 14 '23
- Separator for removing sand from water. C. C. Brown. diag Power 56:679 O 31 '22
- Significance of hydrogen-ion concentration in water purification. H. P. Eddy. Eng & Contr 56:354-5 O 12 '21; Same. N E Water Works Assn J 35:385-9 D '21; Same. Can Eng 42:122-3 Ja 10 '22; Same. Pub Works 52:28-30 Ja 14 '22; Same cond. Eng N 87:498 S 22 '21; Discussion. N E Water Works Assn J 35:389-93 D '21
- Small iron removal plant for the water-works of Leroy, Ohio. A. E. Kimberly. Eng N 89:965-7 D 7 '22
- Solution of corrosion and coagulation problems at Montebello filters, Baltimore. J: R. Baylis. Am Water Works Assn J 9:408-17 My '22; Same. Eng & Contr 58:140-2 Ag 9 '22
- Some facts about residual alum in filtered water. A. M. Buswell and G. P. Edwards. bibliog diag Chem & Met Eng 26:826-9 My 3 '22; Same. Eng & Contr 57:442-4 My 10 '22
- Some features of present water supply practice. Eng & Contr 57:54-5 Ja 11 '22
- Some notes on colloidal chemistry and water purification. M. F. Stein. Am Water Works Assn J 8:571-82 N '21; Discussion. 9:130-1, 350-1 Ja, Mr '22
- Statistical record of Toronto water, 1912-22. N. J. Howard. Can Eng 42:469-76 My 9 '22
- Stream pollution investigation. Pub Works 53:172-3 O '22
- Studies of natural purification on the Illinois river. J. K. Hoskins. Eng N 89:1078-9 D 21 '22
- Super-sanitary swimming pool installation. E. Cunningham. diags Dom Eng 97:621-4+ D 31 '21
- Treatment of hard, impure water with aluminium sulphate. W: Gore. Can Eng 42:519-21 My 23 '22; Same. Eng & Contr 58:134-5 Ag 9 '22
- Use of acids with alum in water purification and the importance of hydrogen-ion concentration. J: R. Baylis. Am Water Works Assn J 10:365-91; Bibliography. 392 My '23; Abstract. Eng N 90:963 My 31 '23
- Use of deep well water to secure alkalinity for treating surface waters. G: P. Womble. Am Water Works Assn J 10:204-5 Mr '23; Same. Eng & Contr (W W) 59:816 Ap 11 '23
- Use of sulphuric acid with alum in water purification. J: R. Baylis. Eng N 89:351 Ag 31 '22
- Water purification in Columbus. diag Pub Works 54:305 S '23
- Water-purification plant operation and analytical control in Illinois. M. W. Cowles. Am Water Works Assn J 10:630-58 JI '23; Same cond. Eng & Contr 57:569-72 Je 14 '22
- Water sanitation at Krug Park swimming pool, Omaha, Nebraska. R. N. Perkins. Am Water Works Assn J 9:284-94 Mr '22
- Water supply and water purification; a symposium. G: C. Whipple and others. Am Soc C E Pro 47:653-78 D '21; Discussion. 47:679-82; 48:117-24, 387-92 D '21-F '22
- Water to drink; St. Louis waterworks. O. S. Arata. il Sci Am 128:172 Mr '23
- Water treatment works of Buenos Aires, Argentine Republic. il Eng N 89:602-3 O 12 '22
- See also* Copper sulfate; Feed water purification; Filters and filtration; Mine water; Screens; Strainers; Water aeration; Water softening; Water supply for factories

Chlorination

- Apparatus for chlorinating water and sewage has new control. diag Eng N 90:372-3 F 22 '23
- Chlorination and removal of color from water. A. Houston. Eng & Contr 59:280-1 Ja 31 '23
- Chlorination at Delaware. Pub Works 54:88-9 Mr '23
- Chlorination of New England water supplies. W: J. Orchard. N E Water Works Assn J 36:99-101 Mr '22; Same. Munic Eng 61:233-4 D '21; Same. Eng & Contr 57:53 Ja 11 '22
- Chlorination of water. A. Houston. Engineer 134:198 Ag 25 '22; Same, without table. Can Eng 44:154-5 Ja 16 '23
- Chlorination prior to filtration. N. J. Howard. Am Water Works Assn J 9:606-11 JI '22
- Chlorination tastes and odors. W. Donaldson. bibliog Am Water Works Assn J 9:885-91 N '22; Same, without bibliog. Eng & Contr (W W) 58:74-7 N 8 '22
- Chlorine production at Independence, Mo. A. H. Gallagher. Pub Works 54:336-7 O '23
- Chlorine tastes and odors from pipe coating. E. J. Rowe. Am Water Works Assn J 9:455-7 My '22
- Disinfection of public water supplies and its relation to public health. C. A. Jennings. Can Eng 42:146-9 Ja 17 '22; Same. Am Water Works Assn J 10:127-38 Ja '23
- Good emergency waterworks service. diag Can Eng 43:620 D 12 '22
- Modern practice in the removal of taste and odor. N. J. Howard. Am Water Works Assn J 9:766-82 S '22; Same, without tables. Eng & Contr (W W) 58:43-9 O 11 '22; Same. Can Eng 43:635-40 D 19 '22
- Plant control of chlorination by the excess chlorine method, as employed in New York city's supplies. F. E. Hale. diag Am Water Works Assn J 10:247-64 Mr '23
- Prechlorination-alum treatment of soft, colored waters. A. L. Gammage. Eng N 89:391-2 S 7 '22
- Probable formation of phenolic compounds by a chlorinated water in contact with a coal tar paint. C. A. Hechmer. Am Water Works Assn J 9:319-22 Mr '22
- Taste and odor in chlorinated water. R. M. Warren and E: Bartow. Can Eng 43:621-2 D 12 '22; Same abr. Eng & Contr (W W) 58:148-9 D 13 '22

Water purification—Chlorination—Continued

Tastes and odors from chlorination. W. A. Sperry and L. C. Billings. *Am Water Works Assn J* 8:603-15 N '21; Excerpts. *Eng N* 86:1041 Je 16 '21

Use of chlorine to assist coagulation; experiences at Exeter, N.H. R. S. Weston. *Eng & Contr (W W)* 59:1348-50 Je 13 '23; Same. *Can Eng* 45:116-17 J1 3 '23; Abstract. *Eng N* 90:1129 Je 28 '23

W & T vacuum feed chlorinator. *il Munic Eng* 63:27-9 J1 '22

Water chlorination apparatus and control. A. E. Berry and A. H. Burn. *Eng & Contr (W W)* 59:623-9 Mr 14 '23; Same, with *il Can Eng* 44:298-302 Mr 6 '23

Water chlorination control in Virginia. L. H. Enslow. *Am Water Works Assn J* 9:783-92 S '22; Excerpt. *Eng & Contr* 58:43-4 J1 12 '22

Cost

Cost of water purification at St Louis. *Eng & Contr* 58:144 Ag 9 '22

Slow sand filtration plant for Hartford, Conn. C. M. Saville. *il Eng N* 89:380-4 S 7 '22

Electrolytic process

Stimulation of free settling by electrolysis. *diags Min & Met* 181:53 Ja '22

Filtration

See Filters and filtration

History

History of water purification. G. C. Whipple. *Am Soc C E Pro* 47:654-9 D '21

Standards

Scoring water and sewage treatment works. F. E. Daniels. *Pub Works* 52:135-8 F 25 '22

Taste removal

Chlorination and removal of color from water. A. Houston. *Eng & Contr* 59:280-1 Ja 31 '23

Chlorination tastes and odors. W. Donaldson. *bibliog Am Water Works Assn J* 9:885-91 N '22; Same, without *bibliog. Eng & Contr (W W)* 58:74-7 N 8 '22

Modern practice in the removal of taste and odor. N. J. Howard. *Am Water Works Assn J* 9:766-82 S '22; Same, without tables. *Eng & Contr (W W)* 58:43-9 O 11 '22; Same. *Can Eng* 43:635-40 D 19 '22

Prevention of tastes and odors due to microscopic organisms; history of New York's problem. W. W. Brush. *il map Eng & Contr* 57:560-1 Je 14 '22; Same. *Can Eng* 42:673-4 J1 4 '22

Synura and other organisms in Catskill water supply. W. W. Brush. *il map plan Eng N* 88:266-71 F 16 '22

Taste and odor in chlorinated water. R. M. Warren and E. Bartow. *Can Eng* 43:621-2 D 12 '22; Same *abr. Eng & Contr (W W)* 58:148-9 D 13 '22

Taste and odor in the New York city's supplies. F. E. Hale. *Am Water Works Assn J* 10:829-37 S '23; Same *cond. Sci Am* 129:332+ N '23

Tastes and odors. *Am Water Works Assn J* 9:899-905 N '22

Tastes and odors in public water supplies from decomposing organic matter. F. H. Waring. *Am Water Works Assn J* 10:75-87 Ja '23

Use of chlorine to remove bad tastes from water. W. W. Brush. *Eng & Contr* 58:27 J1 12 '22

Water rates

Averaging charges for water. W. C. Hawley. *Can Eng* 45:353-4 S 25 '23; Same. *Eng & Contr (W W)* 59:1322-4 Je 13 '23

Depreciation as factor in fixing water rates. *Eng & Contr (W W)* 59:820-2 Ap 11 '23

Final report of committee no. 14 on steps toward standardizing stated quantities for slides in metal schedules. *Am Water Works Assn J* 10:871-81 S '23

Metered water rates for Detroit. G. H. Fenkell. *Rev. ed. 88p Detroit Dept. of water supply* '23

New water rates in Saint Paul. J. W. Routh. *Pub Works* 54:156-7 My '23

Private fire protection charges and metering of sprinkler system. J. Simpson. *Pub Works* 54:163-5 My '23

Quantities for slides in meter schedules. *Eng N* 90:1009 Je 7 '23

Report of committee on steps toward standardizing stated quantities for slides in meter schedules. *Am Water Works Assn J* 9:636-50 J1 '22

Service charge. A. E. Walden. *Eng & Contr (W W)* 58:25-6 O 11 '22; Discussion. 58:116-17; 59:75-6 D 13 '22, Ja 10 '23

Standard form for meter rates. *Eng & Contr (W W)* 59:1331-6 Je 13 '23

Valuation and rates. C. H. Loveland. *Am Water Works Assn J* 10:439-49 My '23

Water rates. N E Water Works Assn J 37:196-200 Je '23

Water rates. J. O. Craig. *Am Water Works Assn J* 10:265-72 Mr '23

Water rates for industrial consumers. E. E. Bankson. *Munic Eng* 61:143-6 O '21; Same. *Eng & Contr* 56:446-7 N 9 '21; Same. *Am Water Works Assn J* 9:392-7 My '22

Water supply service at Charleston, South Carolina. J. E. Gibson. *Munic Eng* 65:27-33 J1 '23

Water wastes, meters and rates at Baltimore. V. B. Siems. *diags Eng & Contr (W W)* 60:551-62, 751-64 S 12, O 10 '23

Why there should be a service charge. J. W. Ackerman. *Eng & Contr (W W)* 58:109-11 N 8 '22

See also Waterworks—Finance**Water requirements of plants**

Composition basis for considering water requirements of plants. H. A. Noyes. *J Ind & Eng Chem* 14:227-8 Mr '22

Water rights

Colorado-Nebraska water treaty signed. *Eng N* 90:1091 Je 21 '23

Colorado river compact provides definite water-use allocation; text. *Eng N* 89:987-8 D 7 '22; Same. *Elec W* 80:1294-5 D 9 '22; Same. *J Elec* 49:432-3 D 15 '22

Conference on water diversion; delegation from sanitary district of Chicago visits Toronto. *Can Eng* 45:357-8 S 25 '23

Enormous loss results from Chicago diversion. A. Beck. *Can Eng* 45:255-6 Ag 11 '23; Discussion. R. I. Randolph. 45:315 S 21 '23

Federal water power rights. A. L. H. Street. *Power* 57:656 Ap 24 '23

Melcroft coal company case. F. H. Snow. *Am Water Works Assn J* 10:838-49 S '23

Rights of down-stream users on interstate rivers sustained. P. Wootton. *J Elec* 49:53 J1 15 '22

Statements by Chicago officials refuted. A. Beck. *Can Eng* 45:453-5 O 30 '23

Status of interstate water compacts. *Eng N* 91:505 S 27 '23

See also Water laws and legislation; also Braitree water supply company; Kings river, California; St Mary river

Water sampling

Contamination of water samples with material dissolved from glass containers. W. D. Collins and H. B. Riffenburg. *Ind & Eng Chem* 15:48-9 Ja '23

Water smoking of clay. See Brickmaking**Water softening**

Additional sources of income for small water plants. H. A. Dill. *Munic Eng* 64:246-7 Je '23

Boiler feed water—as it ought to be—zero soft. E. Rowe. *il plan Blast F & Steel Pl* 10:647-8 D '22

Boiler feed water purification. S. B. Applebaum. *Chem & Met Eng* 25:992 N 30 '21

Boiler water treatment; zeolite water softening method. R. June. *Textile World* 60:3261+ D 3 '21

Causes of hardness in water and how to find them. *il diags Power Pl Eng* 27:36-43 Ja 1 '23

Centralized softening of public water supplies for industrial and potable purposes. S. C. Haddon. *Chem Age* 30:349-50 Ag '22

Charlestown water treatment notes. *Pub Works* 54:284 S '23

Water softening—Continued

- Chemical mixing devices and reaction time. C. P. Hoover. *Can Eng* 45:152-4 J1 17 '23
- Chemical treatment of feed water. *Il diag Power* 56:984-6 D 19 '22
- Coal and soap which hard water wasted. M. G. Farrell. *Factory* 30:419 Ap '23
- Continuous blowdown and water purification process. M. Kestner. *diags Power Pl Eng* 26: 647-52 J1 1 '22
- Development in water purification. H. L. Tiger. *diags Textile World* 61:893+ F 4 '22
- Developments in power station design. *diags Engineer* 132:613-14 D 9 '21
- Extensive boiler-water treating on C., M. & St. P. Ry.; abstracts. C. H. Koyl. *diags plans Eng N* 89:560-2 O 5 '22; *Ry Age* 73:573-6 S 23 '22
- General aspects of water softening. C. P. Hoover. *Eng & Contr (W W)* 59:616-22 Mr 14 '23; Same. *Can Eng* 44:517-19 My 22 '23; Abstract. *Eng N* 90:671 Ap 12 '23
- New artificial zeolite. *Chem & Met Eng* 27: 1211 D 20 '22
- New features of I.C.R.R. water softening plants. C. R. Knowles. *Eng & Contr (Ry)* 60:119-20 J1 18 '23; Same cond. *Mech Eng* 45:546-7 S '23
- Permutit process of water softening. G. H. Rome. *Am Dyestuff Rep* 12:613-14 Ag 13 '23
- Practical limit for water softening. C. P. Hoover. *Eng & Contr (W W)* 59:1315 Je 13 '23
- Purification of water for industrial use. S. T. Powell. *diags Am Water Works Assn J* 10: 1-37; Bibliography. 43; Discussion. 38-42 Ja '23
- Relative merits of lime-soda and zeolite water softening. A. S. Behrman. *Am Water Works Assn J* 10:623-9 J1 '23
- Removal of bacteria by zeolitic water softeners. G. C. Baker. *Il Am Water Works Assn J* 9:474-87 My '22
- Review of feed-water treatment. *Power* 56: 1018-20 D 26 '22
- Softening boiler-feed water with zeolites. flow chart *Il diags Power* 56:412-14 S 12 '22; Discussion. P. F. Hoots. 56:620 O 17 '22
- Steel mill installs modern softeners. G. S. Reynolds. *Il plan Blast F & Steel Pl* 11:337-9 Je '23
- Submerged orifice principle used in proportioning flow. *diags Power Pl Eng* 27:800-1 Ag 1 '23; *Power* 58:244 Ag 14 '23
- Symposium on the centralized softening of a public water supply. *Munic Eng* 62:103-8. 145-8 Mr-Apr '22
- Water softeners. *Chem & Met Eng* 28:862 My 14 '23
- Water softening. E. C. Reed. *Il Eng & Ind Management* 7:411-12 My 4 '22
- Water softening as a factor in municipal supply. W. M. Barr. *Am Water Works Assn J* 9:295-9 Mr '22; Same. *Can Eng* 42:402-3 Ap 18 '22; Same. *Eng & Contr* 57:568 Je 14 '22
- Water softening at Columbus, Ohio. C. P. Hoover. *diags Eng & Contr (W W)* 59:1035-7 My 9 '23
- Water softening for industrial and other purposes. J. P. O'Callaghan. *Color Tr J* 10: 271-2 Je '22
- Water softening proposed at Minneapolis. Minn. L. I. Birdsall. *Munic Eng* 62:108-9 Mr '22

See also Feed water purification

Water storage

- Huge water storage projects for New Jersey district. *maps Eng N* 88:430-5 Mr 16 '22
- Mechanical storage of power in Italy. G. Müller. *Il diag Power* 54:804-5 N 22 '21
- Mechanical storage of water power as a factor in textile production; Walkersburn hydro-electric scheme. *Il diags plans Electrician* 88:229-33 F 24 '22; Same. *Elec R (Lond)* 90: 327-30 Mr 10 '22; Same cond. *Engineering* 113:189-93, 219 F 17-24 '22; Excerpt. *Eng & Contr* 57:291-3 Mr 29 '22
- Saving water for Brazilian states. A. S. Chapman. *Il map Pop Mech* 39:333-5 Mr '23
- Water-power studies; storage and pondage. W. T. Taylor. *Elec R (Lond)* 93:52-3, 84-5 J1 13-20 '23

Water resources of New Jersey; report. A. Hazen. *maps plans Pub Works* 52:225-8, 240-1 Ap 1-8 '22

See also Dams; Irrigation; Rain and rainfall; Reservoirs; Standpipes; Surge tanks; Water supply; Water tanks; Water towers

Water supply

- Certain obscure relations of drinking water to disease. H. E. Robertson. *Am Water Works Assn J* 9:46-50 Ja '22
- Comparison of the hardness of public water supplies in Massachusetts, New York and New Jersey. W. S. Coulter. *Munic Eng* 62: 109-10+ Mr '22
- Compensation water. E. Sandeman. *Eng & Contr* 56:511-12 N 30 '21
- Gravity water supply for Wellsville, Ohio. W. J. Sherman. *Munic Eng* 65:74-5 Ag '23
- Ground water supplies from pre-glacial valleys. W. D. P. Warren. *map Munic Eng* 62: 184-8+ My '22; Same. *Am Water Works Assn J* 10:789-96 S 23; Conclusion. *Eng & Contr (W W)* 60:775 O 10 '23; Conclusion. *Pub Works* 54:351-2 N '23
- Importance of pure water supply in humidifying systems. F. F. Bahnson and L. Maloney. *diags Am Soc Heat & V E J* 28:35-44 Ja '22; Discussion. 28:242-5 Mr '22
- Microorganisms in the Baltimore water supply. J. R. Baylis. *Am Water Works Assn J* 9:712-30 S '22
- New water supply of the city of Providence. F. E. Winsor. *Il pls N E Water Works Assn J* 36:323-62 S '22
- Sanitary protection of public water supplies. A. Hazen. *N E Water Works Assn J* 35: 297-304; Discussion. 304-8 D '21
- Sub-surface system for collecting water; how Newton, Mass., obtains its supply from ground water. E. H. Rogers. *Eng & Contr (W W)* 60:784-5 O 10 '23
- Underground vs. surface water supplies with special reference to Wauseon, Ohio. W. J. Sherman. *Il Munic Eng* 62:63-6 F '22
- Underlying principles in appraisal of sanitary quality of a water supply. G. C. Whipple. *Eng & Contr* 56:447-8 N 9 '21
- Water supply. H. M. Pirnie. *Am Soc C E Pro* 48:223-7 F '22
- Water supply and sewage disposal around lakes. L. Pearse. *Can Eng* 44:150-3 Ja 16 '23
- Water supply and water purification; a symposium. G. C. Whipple and others. *Am Soc C E Pro* 47:653-78 D '21; Discussion. 47:679-82; 48:117-24, 387-92 D '21-F '22
- Water supply of cities; general and fundamental principles. D. H. Maury. *diags maps plans W Soc E J* 28:111-30 Ap '23; Same abr. *Munic Eng* 65:9-14 J1 '23; Excerpt (Spavinaw water project of Tulsa, Okla.). *Eng & Contr (W W)* 59:1304-7 Je 13 '23
- Water supply of the Niagara frontier. R. C. Snowden. *Am Water Works Assn J* 9:323-9 Mr '22
- Watershed protection for public supplies. *Eng & Contr (W W)* 60:534-8 S 12 '23

See also Aqueeducts; Artesian wells; Cooling water; Dams; Drinking fountains; Feed water; Filters and filtration; Fire service (water supply); Hot water supply; Hydrants; Hydraulic engineering; Irrigation; Plumbing; Pumping machinery; Pumping stations; Pumps; Railroads—Water supply; Reservoirs; Ships—Water supply; Snow surveys; Standpipes; Stream measurement; Water, Underground; Water companies; Water consumption; Water distribution; Water meters; Water pollution; Water purification; Water storage; Water supply engineering; Water tanks; Water towers; Water waste; Watersheds; Waterworks; Wells; also subdivision Water supply under names of cities, e.g. Detroit, Michigan—Water supply; San Diego, California—Water supply

Bibliography

Abstracts of water works literature. Published in bi-monthly numbers of the *Journal of the American water works association*

Water supply—Continued**Iodine treatment**

Iodine treatment of water to prevent goitre. B. C. Little. Eng & Contr (W W) 60:63-4 JI 11 '23; Same. Am Water Works Assn J 10:556-8 JI '23; Same. Munic Eng 65:60-2 Ag '23; Same cond. Eng N 90:964 My 31 '23

Rating

Rating of the qualities of the water supplies of Massachusetts. G. C. Whipple. N E Water Works Assn J 36:40-73; Discussion. 74-8 Mr '22

Records

Water resources index inventory filing system. maps Can Eng 42:667-71 JI 4 '22; Same abr. Eng & Contr (W W) 58:98-101 N 8 '22

Standards

Effective dilution as a pollution unit. W. F. Wells. bibliog Am Water Works Assn J 8:233-8 My '21; Discussion. 8:270-1, 667-72 My, N '21

New water supply quality standard tentatively proposed by the United States public health service. Am Water Works Assn J 10:884-921 S '23

Reports of council on standardization and some of its sub-committees. Eng N 88:882-3 My 25 '22

Standards for satisfactory drinking water. Eng N 90:1009 Je 7 '23

State control

State control of water supplies. Eng & Contr 57:40 Ja 11 '22

Brazil

See Irrigation—Brazil

California

Local laboratory control of water supplies in California. Eng N 91:401 S 6 '23

Canada

Water resources index inventory filing system. maps Can Eng 42:667-71 JI 4 '22; Same abr. Eng & Contr (W W) 58:98-101 N 8 '22

Colorado

Transmountain diversion of water in Colorado. R. Follansbee. map Eng N 90:123-4 Ja 18 '23

Great Britain

Britain fears water shortage. Eng N 88:1091 Je 29 '22

Drought in the British Isles. Eng N 87:820 N 17 '21

Water supply in 1921. Engineer 133:64-6 Ja 20 '22

Illinois

Public water supplies in Illinois. H. F. Ferguson. Am Water Works Assn J 9:857-67 N '22; Same cond. Eng & Contr 57:572-4 Je 14 '22

Value of comprehensive water supply investigations. A. Van Praag, jr. Munic Eng 64:159-62 Ap '23; Same. Eng & Contr (W W) 60:545-7 S 12 '23

Water purification plant operation in Illinois. M. W. Cowles. Eng & Contr 57:569-72 Je 14 '22

Indiana

Bloomington, Ind., water supply problem. P. Hansen. Munic Eng 64:95-100 Mr '23

Italy

Apulian aqueduct—southern Italy's water supply. I. Gutmann. diags map plans Eng N 90:389-94 Mr 1 '23

Massachusetts

Proposed extension of the Metropolitan water district. X. H. Goodnough. diags N E Water Works Assn J 36:189-256; Discussion. 256-61 Je '22

Rating of the qualities of the water supplies of Massachusetts. G. C. Whipple. N E Water Works Assn J 36:40-73; Discussion. 74-8 Mr '22

Water supply of Fall River. H. K. Barrows. II map plan N E Water Works Assn J 36:550-67; Discussion. 568-70 D '22

Water supply of southeastern Massachusetts. X. H. Goodnough. diags map N E Water Works Assn J 36:527-49 D '22

New Jersey

Bar to the solution of the North Jersey water-supply problem. C. Herschel. Eng N 91:154 JI 26 '23

Developing North Jersey water supplies. Pub Works 51:376-7 N 12 '21

Effect of elevation upon run-off from catchment areas. A. Hazen. map Eng N 89:62-4 JI 13 '22

Huge water storage projects for New Jersey district. maps Eng N 88:430-5 Mr 16 '22

Water resources of New Jersey; abstract of report. A. Hazen. maps plan Pub Works 52:225-8, 240-1 Ap 1-8 '22; Review by A. Wolman. Am Water Works Assn J 9:442-5 My '22

New York (state)

Hudson river regulating commission plans 15 storage reservoirs. Power 58:75 JI 10 '23

Water-supply permit applications in New York state, 1905-22. R. Suter. Eng N 90:27 Ja 4 '23

Ohio

Tastes and odors in public water supplies from decomposing organic matter. F. H. Waring. Am Water Works Assn J 10:75-87 Ja '23

Ontario

Preparation of water for filtration. F. A. Dallyn and A. V. Delaporte. Can Eng 44:474-6 My 8 '23; Same, without table. Eng & Contr (W W) 60:271-4 Ag 8 '23; Discussion. Can Eng 44:290-1 Mr 6 '23

Prevention of sewage contamination in Ontario. F. A. Dallyn. Can Eng 42:522-4 My 23 '22; Discussion. 42:601-2 Je 13 '22

Palestine

Mediterranean-Dead sea tunnel to restore the Holy Land. L. R. Freeman. II map Pop Mech 37:849-54 Je '22

Transvaal

Rand water supply and Vaal river barrage. II diag Engineering 116:203-5 Ag 17 '23

Water supply, Rural

Electric water systems for the rural and suburban home. L. A. House. diags Sanitary & Heat Eng 99:393-4+ Je 15 '23

Farm water and lighting plants provide interesting work. F. Steele. Sanitary & Heat Eng 100:167-9+ S 21 '23

An infant proposition of mighty promise; present day private water systems. F. Steele. Sanitary & Heat Eng 100:239-41 O 19 '23

Problem in pressure tank water supply to country place. diags Dom Eng 100:410-11+ S 2 '22

Simplicity of farm water systems have great appeal. F. Steele. Sanitary & Heat Eng 100:73-5+ Ag 10 '23

Water for private estates. L. L. Tribus. Munic Eng 65:69-70 Ag '23

Water supply installations for farmsteads and country estates. W. P. Gerhard. 24p William Paul Gerhard, 17 W. 42d st., New York '22

Water supply engineering

Construction progress in the Cleveland division of water. A. V. Ruggles. diag map Am Water Works Assn J 9:226-40 Mr '22

Construction progress of the Hetch Hetchy water supply of San Francisco, California. M. M. O'Shaughnessy. II diags maps Am Soc C E Pro 48:147-73 F '22

How the Johnstown water company met the recent drought. Eng N 90:451 Mr 8 '23

Improvements in mechanical contrivances in connection with the storage and distribution of water. E. B. Ball. II diags Engineering 116:27-32, 64-5 JI 6-13 '23; Same cond. Can Eng 45:301-7 S 11 '23; Abstract. Engineer 136:47-8 JI 13 '23

Water supply engineering—Continued

Mechanical equipment for Detroit water main extension; day-labor organization, shop and job accounting, etc. *il Eng N 88:766-9 My 11 '22*

Problems and progress in the field of water supply. *Eng N 91:515-17, 528 S 27 '23*

Pump house and intake pipe line construction at Three Rivers, Que., for water supply system for new paper mills. *diags Eng & Contr (W W) 59:1038-40 My 9 '23*

The St James's park and other London lakes; reconditioning the bottoms. *il diag map Engineer 136:60-2 J1 20 '23*

\$60,000,000 addition to Boston district water supply. *map Eng N 88:360-3 Mr 2 '22*

Vaal river scheme and barrage. W. Ingham. *il (supp) diags Engineer 134:576-8 D 1 '22; Excerpts. Eng & Contr 59:251-6 Ja 31 '23*

Value of comprehensive water supply investigations. A. Van Praag, jr. *Munic Eng 64: 159-62 Ap '23; Same. Eng & Contr (W W) 60:545-7 S 12 '23*

Water supply and sanitary engineering in 1922. *Engineer 135:18-20 Ja 5 '23*

See also Aqueducts; Barrages; Dams; Filters and filtration; Fire service (water supply); Hot water supply; Hydraulic engineering; Intakes; Irrigation; Pipe laying; Plumbing; Pumping machinery; Pumping stations; Pumps; Railroads—Water supply; Reservoirs; Siphons; Surge tanks; Water—Temperature; Water conduits; Water distribution; Water flow; Water hammer; Water meters; Water pipes; Water storage; Waterworks; *also* subdivision Water supply under names of cities, e.g. Detroit, Michigan—Water supply; San Diego, California—Water supply; *also* Catskill aqueduct; Hetch Hetchy water supply project

Water supply for armies

Water supply of cities; general and fundamental principles. D. H. Maury. *il plans W Soc E J 28:120-5 Ap '23*

Water supply for factories

Concrete bottom for mechanical water filters. A. L. Gammage. *diags Eng N 91:430-1 S 13 '23*

Cost of quenching thirst; time wasted by employees makes it expensive. N. G. Near. *chart Textile World 62:207 J1 8 '22*

Les eaux industrielles. G. Paris. *il diags Chimie & Ind 9:439-53 Mr '23*

Pollution of streams affecting industrial uses. J. F. Jackson. *maps N E Water Works Assn J 36:14-29; Discussion. 29-31 Mr '22*

Pump house and intake pipe line construction at Three Rivers, Que., for water supply system for new paper mills. *diags Eng & Contr (W W) 59:1038-40 My 9 '23*

Purifying industrial water. D. H. Killeffer. *Ind & Eng Chem 15:915-17 S '23*

See also Cooling of water; Drinking fountains

Water supply for mines

Underground hygiene and sanitation. R. R. Sayers. *Eng & Contr 58:274-6 S 20 '22*

Water supply plumbing. *See* Plumbing

Water tanks

Creosoted water tanks; abstracts. C. R. Knowles. *Ry Age 74:334-5 F 3 '23; Ry R 72: 305-7 F 17 '23*

Heat-loss from elevated tanks in winter. *Eng N 90:159-60 Ja 25 '23*

How a steel water tank was moved two miles without being dismantled. *il Eng & Contr 57:595 Je 21 '22*

Large portable water tanks. *il Sci Am 127: 397 D '22*

Peculiar water tank. A. B. Seaman. *il Am Mach 57:984 D 28 '22*

Probable formation of phenolic compounds by a chlorinated water in contact with a coal tar paint. C. A. Hechmer. *Am Water Works Assn J 9:319-22 Mr '22*

Relative merits of wooden, steel, and concrete tanks; report to the American railway bridge and building association. *Ry R 71:557-60 O 21 '22; Abstract. Ry Age 73: 750 O 21 '22*

Small tanks and how to make them. W. Scholl. *diags Sheet Metal Worker 13:751 D 8 '22*

Failures

Rusted columns of tank tower buckle. W. F. Heath. *il Eng N 88:784 My 11 '22*

Water tanks, Concrete

Advantages and disadvantages of elevated concrete tanks for water storage in Minnesota. A. S. Milinowski. *Am Water Works Assn J 10:571-7 J1 '23*

Concrete tanks for railway water service. C. R. Knowles. *Ry Age 75:709-10 O 20 '23*

New method of constructing reinforced-concrete water tanks. W. S. Hewett. *il Am Concrete Inst Pro 19:41-52 '23; Abstract. Eng N 90:217-18 F 1 '23; Same. Eng & Contr (W W) 59:375-7 F 14 '23*

Reinforced concrete elevated water tanks. S. R. Ross. *diags Can Eng 44:445-50 My 1 '23*

See also Standpipes, Concrete

Water towers

Saracen water towers in Palermo. *il Pop Mech 37:570 Ap '22*

See also Standpipes

Failures

Structure of collapsed Hartford water-tank tower. C. T. Bishop. *il diags Eng N 90:674-5 Ap 12 '23*

Water tank above stair tower fails at Hartford. *Eng N 90:640 Ap 5 '23*

Water transportation. *See* Merchant marine; Shipping; Steamboat lines

Water-tube boilers. *See* Boilers, Water-tube

Water vapor

Catalytic formation of water vapor from hydrogen and oxygen in the presence of copper and copper oxide. R. N. Pease and H. S. Taylor. *Am Chem Soc J 44:1637-47 Ag '22*

Detector for water vapor in closed pipes. E. R. Weaver and P. G. Ledig. *il diags Ind & Eng Chem 15:931-4 S '23*

Fundamental properties of water vapor. M. Strauven. *Mech Eng 45:314 My '23*

See also Steam

Water waste

Control of water waste by house-to-house inspection. G. Z. Smith. *N E Water Works Assn J 35:322-5; Discussion. 325-34 D '21*

Domestic water waste in England. G. R. Collinson. *Eng & Contr 58:206-7 Ag 30 '22*

Losses affecting water power developments. W. T. Taylor. *Can Eng 45:348-51 S 25 '23*

Progress report of committee on methods and records of water waste control. *Am Water Works Assn J 10:468-85 My '23*

Supplying water for contractors' use. W. Luscombe. *Eng & Contr (W W) 59:861-3 Ap 11 '23; Same. Can Eng 44:483-4 My 8 '23*

Waste of water in Detroit. G. H. Fenkell. *Am Water Works Assn J 8:583-602 N '21; Same cond. Can Eng 42:261-5 F 28 '22; Discussion. W. A. Jones. Am Water Works Assn J 8:672-84 N '21*

Water waste. A. E. Skinner. *Am Water Works Assn J 9:624-6 J1 '22*

Water waste and results of 100 per cent metering. A. E. Walden. *Eng & Contr (W W) 59:814-16 Ap 11 '23; Same. Can Eng 44:477-8 My 8 '23*

Water wastes, meters and rates at Baltimore. V. B. Siems. *Eng & Contr (W W) 60:261-70 Ag 8 '23*

See also Seepage; Water pipes—Leakage; Water meters

Water wheels

Novel water wheel solves problem of cheap power. *il Pop Mech 36:890 D '21*

Seventeenth century waterwheels. *il Power 57:139 Ja 23 '23*

250-year old Marly waterwheels for Versailles fountains. *il Eng N 90:107 Ja 18 '23*

See also Turbines

Waterglass. *See* Sodium silicate

Watering troughs. *See* Drinking troughs

Watermarks

Paper and watermarks. J. B. Arnold. *diags Inland Ptr 71:353-5 Je '23*

Watermarks—Continued

Portrait watermarks. D. Hunter. Paper 29: 13-14 Ja 11 '22

Waterpower plants. See Hydroelectric plants**Waterproofing**

Absorption and percolation. A. H. Rhett. Concrete 23:144 O '23

Bridge slabs waterproofed before erection. H. B. Glisson. *il* diags Ry Age 72:873-5 Ap 8 '22

Colorless waterproofing materials; abstract. D. W. Kessler. *Am Inst Arch J* 9:371-2 N '21

Effect of integral waterproofing compounds on the strength of concrete. D. A. Abrams. *Am Arch* 123:290 Mr 28 '23; Same. Concrete 22:216 Je '23

Integral waterproofing. S. R. T. Very. *Arch & Bldg* 55:43-4 Ap '23

Integral waterproofings for concrete. A. H. White. *diags Ind & Eng Chem* 15:150-3 F '23; Same. Concrete 23:18-21 J1 '23; Abstract. *Chem & Met Eng* 27:1208-9 D 20 '22

Moisture-resistant coatings for wood. *Am Arch* 123:203-4 F 28 '23; Same. *Chem & Met Eng* 28:589 Mr 28 '23; Same. *Eng N* 90:613 Ap 5 '23

Necessity for waterproofing. *Am Arch* 121: 484-6+ Je 7 '22

Petroleum asphalts in the roofing and waterproofing industries. D. Finley. *il Chem & Met Eng* 27:798-803 O 18 '22

Plank protection for concrete waterproofing. *diags Eng N* 90:498 Mr 15 '23

Report of committee D-8 of A.S.T.M. on waterproofing materials. *Am Soc T M Pro* 22 pt 1:468-70 '22

Report of committee E-7, on waterproofing. *Am Concrete Inst Pro* 19:294-300 '23

Waltham reservoir waterproofed by a new lining. M. W. Fisher. *Eng N* 91:185 Ag 2 '23

Waterproofing a leaky reservoir at Nashville, Tenn. *il diags plan Eng N* 88:310-12 F 23 '22

Waterproofing and protective treatment; surface finish. P. Marquand and others. *Am Soc C E Pro* 48:582-93 Mr '22

Waterproofing concrete stand-pipe at Waltham. G. C. Brehm. *il Pub Works* 54:167-9 My '23; Same. *Eng & Contr (W W)* 60: 523-5 S 12 '23

Waterproofing, joints and drainage in concrete bridge. *diags Eng N* 88:411-13 Mr 9 '22; Abstract. Concrete 20:100-1 Mr '22

See also Corrosion and anti-corrosives; Metal protection; Wood preservation

Waterproofing of paper

New development in manufacturing water proof paper or board. L. Kirschbraun. *il Paper Tr J* 74:48-50 My 11 '22

Tung oil to waterproof paper. *Chem Age* 30: 370 Ag '22

Water-proofing efficiency of some bi- and tri-valent salts of higher fatty acids and their adsorption by the fibres of paper. S. S. Bhatnagar. *J Phys Chem* 26:61-71 Ja '22

Waterproofing of textiles

Effects of treating materials and outdoor exposure upon water resistance and tensile strength of cotton duck. T. D. Jarrell and H. P. Holman. *Ind & Eng Chem* 15:607-10 Je '23; Same. *Am Dyestuff Rep* 12:524-8+ J1 16 '23

Effects of waterproofing materials and outdoor exposure upon the tensile strength of cotton yarn. H. P. Holman and T. D. Jarrell. *il Ind & Eng Chem* 15:236-40 Mr '23

Electro-chemical treatment of fabrics. I. Ginsberg. *il Textile World* 62:3677+ D 30 '22

Manufacture of waterproof linen fabrics. J. Schmidt. *diags Color Tr J* 11:34-6 J1 '22

Metal soaps for waterproofing. *Chem Age* 30: 470 O '22

Outline of British proofing methods. M. M. Heywood. *diags plan India Rubber W* 68: 491-4 My '23

Possibilities in rubber latex. J. A. Hunter. *Textile World* 62:3014 N 25 '22

Technology of paper yarn textiles. E. O. Rasser and W. Heincke. *Color Tr J* 13:142-5 O '23

Use of latex in waterproofing. A. H. Hard. *Textile World* 63:3495+ My 26 '23

Waterproofing and mildewproofing of cotton duck. H. P. Holman, B. S. Levine and T. D. Jarrell. *il U S Agric Farmers' Bul* 1157: 1-13 '20

Waterproofing by electricity. I. Ginsberg. *il Color Tr J* 11:1-6 J1 '22

Waterproofing cloth by electrical and chemical action. *il Sci Am* 129:253+ O '23

Waterproofing fabrics. S. Mierzinski. 3d English ed., rev. & enl. 142p Van Nostrand '21

Waterproofing fabrics by the aid of electricity. *Sci Am* 126:329 My '22

Waterproofing of textile fabrics. I. Ginsberg. *il Am Dyestuff Rep* 12:418-20+ Je 4 '23

Waterproofing textiles. M. H. Yorganjian. *Textile World* 62:1129 Ag 26 '22

See also Cravenette; Raincoats; Soap, Metallic

Watersheds

Can high-value watershed lands be put to profitable use? N E Water Works Assn J 36: 279-87 Je '22

High yield from small watershed with large water area. F. I. Winslow. *Eng N* 91:64 J1 12 '23

Problems in the reforestation of watersheds. G. R. Taylor. *Am Water Works Assn J* 9: 874-84 N '22; Same abr. *Eng & Contr* 58:38-40 J1 12 '22; *Can Eng* 43:207-10 Ag 1 '22

Progress report of committee on watershed protection. *Am Water Works Assn J* 10:453-61 My '23

Protecting watersheds from pollution. G. C. Hodges. *Can Eng* 44:493-4 My 15 '23

Reforestation of water-sheds. P. W. Ayres. *il N E Water Works Assn J* 37:127-41; Discussion. 141-4 Je '23

Watershed protection for public supplies. *Eng & Contr (W W)* 60:534-8 S 12 '23

Watertown, Massachusetts

Some fundamentals of city planning illustrated in the plans for Watertown square and city hall. J. Nolen. *Eng & Contr* 57: 338-9 Ap 5 '22

Watertown, New York**Bridges**

Solve complicated river crossing with double-deck bridge. E. H. Harder. *il diags plan Eng N* 91:542-5 O 4 '23

Watervliet arsenal, Watervliet, New York

Programs of apprenticeship and special training in representative corporations. J. V. L. Morris. *il Am Mach* 55:847-9 N 24 '21

Waterways

Harbours and waterways in 1921. *Engineer* 133:16-18, 32-4 Ja 6-13 '22

Harbours and waterways in 1922. *Engineer* 135:29-30 Ja 12 '23

Possibilities in inland waterway development. C. A. Newton. *Munic Eng* 65:40-3 J1 '23; Same. *Nation's Business* 11:26-8 Je 5 '23

XIII^e Congrès international de navigation. P. Barrillon. *diags Génie Civil* 83:273-5 S 22 '23

Utilization of waterways for the production of power. *Engineer* 136:12, 38-9 J1 6-13 '23; *Engineering* 116:20-2 J1 6 '23; *Génie Civil* 83:253-6 S 15 '23

Waterways need new terminals. G. P. Gleason. *il Marine R* 52:439-43 N '22

See also Canals; Lakes; River traffic; Rivers; also names of canals, lakes and rivers, e.g. Great Lakes, Mississippi river, Panama canal, St Lawrence river

Bibliography

Bibliography of some of the principal articles and publications on waterways and harbors concerning Chicago and index of referenced waterway publications. *W Soc E J* 27:[current news]110-18 Je '22

Costs

Ton-mile freight costs on Great Lakes. *Eng N* 90:364, 595 F 22, Mr 29 '23

Statistics

Unification of inland navigation statistics. *Engineering* 116:73-4 J1 20 '23

Waterways—Continued**Canada**

Hudson's bay, the neglected sea. J: T. Rowland. map Sci Am 128:365+ Je '23

See also St Lawrence river; Welland ship canal

England

See Canals—England

Florida

Waterways of Florida illustrated. H: H. Read. 256p Read press, New York, Savannah, Ga. '21

France

Le congrès de l'aménagement hydraulique du Sud-Ouest (Bordeaux, 17-22 juin 1922). A. Pawlowski. Génie Civil 81:87-92 J1 22 '22

Illinois

Illinois waterway will unite Great Lakes and Mississippi. G: F. Paul. il map Prof Eng 8: 10-11 S '23

Review of the development of Chicago waterways. R. I. Randolph. il map W Soc E J 28:395-401 S '23

Waterway terminal situation in Illinois. M. G. Barnes. il diag map W Soc E J 28:404-12 S '23

Netherlands

See Canals—Netherlands

Nicaragua

See Nicaraguan canal (proposed)

United States

Lakes-to-Gulf waterway nears reality. il Pop Mech 40:824 D '23

Water borne transportation inland and marine. J: Millis. map W Soc E J 27:287-93 O '22

See also Great Lakes; National rivers and harbors congress; New York state barge canal; Sacramento ship canal; St Lawrence river

Waterworks

Birmingham's water works system. N. M. Berberich and W. A. Hardenbergh. il Pub Works 52:331-4 My 13 '22

Bombay water supply. map Engineer 135:281-2, 304-5 Mr 16-23 '23

Chicago water works. M. B. Reynolds. map W Soc E J 28:131-7 Ap '23

Comprehensive program for Denver waterworks system. Eng N 89:360-1 Ag 31 '22

Construction Scarboro twp. waterworks system. W. D. Proctor. il Can Eng 42:119-21 Ja 10 '22

Description of New Bedford water system. S. H. Taylor. N E Water Works Assn J 36: 370-7; Discussion. 377-84 S '22

Description of the water works of the Bridgeport hydraulic company. S: P. Senior. N E Water Works Assn J 35:309-13; Discussion. 313-17 D '21

Design of a city water system. J. D. Gallo-way. Am Water Works Assn J 10:405-10 My '23

Don'ts for sewerage and water works designers. Pub Works 52:457-60 Je 24 '22

Erie water works plant. J. N. Chester and J. S. Dunwoody. il diag Am Water works Assn J 9:26-38 Ja '22

Features of new water supply at Paris, Texas. J: B. Hawley. il diags Munic Eng 65:133-5 S '23

Improving Wilmington's water supply. C. W. Smedberg. il Pub Works 54:277-81 S '23

Locomotive operates Vicksburg water-works during flood. il Eng N 88:870 My 25 '22

Municipal and privately owned waterworks. J. W. Ledoux. Eng & Contr 57:219 Mr 8 '22

New water purification and pumping plant at Pryor Creek, Oklahoma. L. M. Bush. il Munic Eng 63:61-2 Ag '22

New water supply system at Brainerd, Minn. G: M. Shepard. il Munic Eng 63:214-16 D '22

Operating and new constructional features of Baltimore water works. J. W. Armstrong. Munic Eng 61:234-6+ D '21

Overhauling outgrown water-works at Fort Smith, Ark. W. Kiersted, jr. il Eng N 90: 378-9 My 17 '23

Paris water supply. il diags plans Engineering 114:573-6, 639-40, 650 N 10, 24 '22

Philadelphia water supply, present and proposed. G: W. Fuller. maps Am Water Works Assn J 10:347-64 My '23

Portland water-works improvements completed and projected. W. P. Hardesty. il Eng N 90:110-11 Ja 18 '23

Pumping and filter plant at Sturgeon Falls, Ont. il diag plan Can Eng 42:599-600 Je 13 '22

Recent developments in water works matters. Pub Works 51:360-2 N 5 '21; Munic Eng 61:187-92 N '21

Reinforced concrete for water retaining structures. H. C. Ritchie. Can Eng 43:177-80 J1 25 '22

Rockford's new water works. R. C. Wilson. Am Water Works Assn J 10:785-8 S '23; Same. Munic Eng 62:182-4 My '22

St Louis water works operation. diags Pub Works 53:102-6 Ag '22

Some problems in water works construction. M. V. Norris. Munic Eng 62:112 Mr '22

Strange street pumping station, Kitchener, Ont. M. Pequegnat. il plan Can Eng 44: 159-62 Ja 23 '23

Toledo water works notes. Pub Works 53:178-80 O '22

Two-thirds of our urban places have no water-works systems. Eng & Contr 58:122 Ag 9 '22

Unique water-works for Nabaldis, British Guiana. Eng N 89:281 Ag 17 '22

Water-works and filtration plant for Dairen, Manchuria. Eng N 89:244-5 Ag 10 '22

Water-works field surveyed from many viewpoints; abstracts of paper and reports before American water works association. Eng N 88:879-83, 912-13 My 25-Je 1 '22

Water works plant at Woodbridge, Ont. W. B. Redfern. il map Can Eng 44:520-1 My 22 '23

Water works problems and practice; abstracts of papers and discussions before New England water works association. Eng N 89: 479-82 S 21 '22

Water works system at Richmond Hill, Ont. G. H. Baker. il diag plans Can Eng 42:437-9 My 2 '22

What metering would do for the Chicago water works. L. R. Howson. il diags W Soc E J 28:142-55 Ap '23; Same cond. Eng & Contr (W W) 59:609-15 Mr 14 '23

Why it pays to beautify water works grounds. R. E. McDonnell. Munic Eng 63:147 O '22; Same. Eng & Contr (W W) 58:79-80 N 8 '22

See also Aqueeducts; Dams; Filters and filtration; Hydrants; Intakes; Pumping stations; Pumps; Reservoirs; Sanitary districts; Standpipes; Water conduits; Water distribution; Water pipes; Water purification; Water supply; Water supply engineering; Water waste

Accounting

Estimating bills for water. W. C. Hawley. Eng & Contr (W W) 59:1322-4 Je 13 '23; Same. Can Eng 45:353-4 S 25 '23

Forestation, a problem in public service accounting. E: Field. Am Water Works Assn J 10:206-13 Mr '23; Same. Eng & Contr (W W) 59:827-30 Ap 11 '23

Some accounting problems in municipally owned water works. G: C. Mathews. Munic Eng 65:75-80 Ag '23

Tentative draft 134p U.S. Federal power commission, Washington '21

Uniform classification of accounts for water utilities. 100p State law reporting co., New York '22 o. p.

Uniform system of accounts for water companies. 63p Connecticut Public utilities commission, Hartford '21

Water works accounting at Herkimer, New York. A. T. Clark. Am Water Works Assn J 10:88-94 Ja '23; Same. Eng & Contr (W W) 59:368-70 F 14 '23

Water-works accounting; discussion and adoption of committee report. N E Water Works Assn J 35:373-84 D '21

Waterworks—Continued

Bibliography

Abstracts of water works literature. Published in the Journal of the American water works association

Cost of construction

Mechanical equipment of Baltimore water department. V. B. Siems. *Il Pub Works* 51: 39-42, 73-7 JI 16-23 '21; Same. *Am Water Works Assn J* 9:1-25 Ja '22; Same, without tables. *Munic Eng* 60:sup19-20+ Je '21

Costs

Cost of supplying water at Columbus, O. Eng & Contr (W W) 59:1046 My 9 '23
Page from recent waterworks reports. Eng & Contr 57:346; 58:250 Ap 12, S 13 '22
Pumpage and operating cost of Cleburne, Tex., water works. Eng & Contr (W W) 60:790 O 10 '23
Trend of prices in waterworks field. L. Metcalf. Eng & Contr 58:41-3 JI 12 '22
Water wastes, meters and rates at Baltimore. V. B. Siems. *diags Eng & Contr* (W W) 60:551-62, 751-64 S 12, O 10 '23
Water works management. C. B. Burdick. *Can Eng* 43:561-2 N 21 '22; Same. Eng & Contr (W W) 58:137-9 D 13 '22; Excerpt. *Eng N* 90:27 Ja 4 '23
See also Pumping—Cost

Equipment and supplies

Central repair shop for Philadelphia waterworks. J. M. Brogini. *il plan Eng N* 88: 772-3 My 11 '22
Equipment and shop facilities for maintenance of water works systems. G. E. Cripps. *il Am Water Works Assn J* 10:281-8 Mr '23
Mechanical aids for distribution work in Detroit, Michigan. W. M. Mitchell. *Am Water Works Assn J* 9:172-85 Mr '22
Mechanical equipment for Detroit water main extension; day-labor organization, shop and job accounting, etc. *il Eng N* 88:766-9 My 11 '22
Mechanical equipment of Baltimore water department. V. B. Siems. *il Pub Works* 51: 39-42, 73-7 JI 16-23 '21; Same. *Am Water Works Assn J* 9:1-25 Ja '22; Same, without tables. *Munic Eng* 60:sup19-20+ Je '21
Mechanical equipment of water works systems. G. R. Collinson. *Can Eng* 44:169-73 Ja 23 '23
Some special water works tools and equipment and their use. A. Milne. *Can Eng* 44: 303-5 Mr 6 '23; Same cond. Eng & Contr (W W) 59:593-5 Mr 14 '23
Truck trailer carrying tools for waterworks emergencies. *il Eng N* 91:152 JI 26 '23

Finance

Business of water works management. G. H. Johnston. *Can Eng* 43:501-3 O 31 '22
Extensions of water mains. *Am Water Works Assn J* 8:644-9 N '21
Financial gain from improving old water systems. L. W. Cox. *Munic Eng* 63:62-3 Ag '22
Financing water main extensions in municipally-owned works. C. M. Saville. *Eng N* 90:963 My 31 '23
Improved financial condition of water works. L. Metcalf. *Pub Works* 52:388-91 My 27 '22; Same, without table. *Can Eng* 43:195-6 JI 25 '22; Same. *Am Water Works Assn J* 9:685-95 S '22; Abstract. *Eng N* 88:880 My 25 '22
Methods of promoting and selling a waterworks bond issue. J. W. McAmis. Eng & Contr (W W) 58:140 D 13 '22
Percentage of water pumped which produces revenue. H. F. Huy. *Eng N* 89:944-5 N 30 '22
Proper charges for fire protection. H. L. Gray. Eng & Contr 57:134-6 F 8 '22
Proper term for which water works bonds should run. C. W. Sherman. *N E Water Works Assn J* 36:589-98 D '22; Excerpts. Eng & Contr (W W) 59:111-14 Ja 10 '23; *Can Eng* 44:262-3 F 20 '23; Conclusion. *Eng N* 89:1117 D 23 '22; Same. *Munic Eng* 64:36 Ja '23; *Pub Works* 54:22 Ja '23; Discussion. *N E Water Works Assn J* 36:599-611 D '22

Putting municipally owned water plants on a business basis. V. B. Siems. *Munic Eng* 63: 229-32 D '22; Same. Eng & Contr (W W) 59:89-92 Ja 10 '23; Same. *Can Eng* 44:259-61 F 20 '23

Report of committee on Massachusetts laws relating to financing of municipal water works. *N E Water Works Assn J* 37:105-7 Mr '23

Right method of paying for water for fire protection. C. M. Saville. *Eng N* 90:872-4 My 17 '23

Water accounts at Columbus, O. Eng & Contr (W W) 59:1040 My 9 '23

Water bond campaign by engineers. R. E. McDonnell. *Pub Works* 52:337-8 My 13 '22
See also Water rates

Ice protection

Auxiliary submerged intake alongside tower to prevent the entry of ice. C. M. Daily. *diags plan Eng N* 89:875-6 N 23 '22
Study of sand and ice conditions at water intake. C. M. Daily. *il Eng & Contr* 56:435 N 9 '21

Inspection

Why we should inspect water-works equipment. T. E. Lally. *N E Water Works Assn J* 36:450-4 S '22; Same. *Can Eng* 43:420-1 O 3 '22; Discussion. *N E Water Works Assn J* 36:455-6 S '22

Laboratories

Laboratory control of water supplies and sewage treatment, in the large cities of the United States in 1920. I. V. Hiscock. *Am Water Works Assn J* 10:852-9 S '23
See also Water—Analysis; Water purification

Laws and regulations

Are water departments and companies liable for fire losses when works do not function properly? *Munic Eng* 61:159-60 N '21
Incentive for efficiency in the management of public utilities. E. E. Bankson. *Am Water Works Assn J* 10:664-71 JI '23
See also Baintree water supply company

Management

Compilation of meteorological data by water departments. S. G. Highland. *Can Eng* 44: 580-1 Je 12 '23; Excerpt. Eng & Contr (W W) 59:1314-15 Je 13 '23
Cooperation of water works operators with the public and employees. F. T. Kemble. *N E Water Works Assn J* 36:363-5; Discussion. 365-9 S '22
Good will of the consumer. *Am Water Works Assn J* 9:398-402 My '22
An ideal; re municipal water works administration. A. R. Hathaway. *N E Water Works Assn J* 37:88-100 Mr '23; Excerpts. Eng & Contr (W W) 59:395-401 F 14 '23
Keeping track of chlorine cylinders. *Eng N* 87:1051 D 29 '21
Losses affecting water power developments. W. T. Taylor. *Can Eng* 45:348-51 S 25 '23
Management of municipal water works. C. B. Burdick. *Can Eng* 44:228-9 F 13 '23
Municipal team work in Indianapolis. F. C. Jordan. Same. *Munic Eng* 64:220-2 Je '23; Same. Eng & Contr (W W) 59:1308-10 Je 13 '23; Same. *Can Eng* 44:575-6 Je 12 '23
Office records and accounting. *Am Water Works Assn J* 9:617-21 JI '22
Political vs. non-political water works management. R. E. McDonnell. Eng & Contr (W W) 59:1033-4 My 9 '23; Same. *Munic Eng* 65:131-2 S '23
Regulations for supplying water to small buildings. Eng & Contr (W W) 59:857 Ap 11 '23
Should the water department be merged with other municipal departments in its management and finances? G. A. King. *N E Water Works Assn J* 36:434-7; Discussion. 438-49 S '22
Supplying water for contractors' use. W. Luscombe. Eng & Contr (W W) 59:861-3 Ap 11 '23; Same. *Can Eng* 44:483-4 My 8 '23

Waterworks—Management—Continued

Water collections. E. MacDonald. Am Water Works Assn J 10:659-63 J1 '23

Water supply service at Charleston, South Carolina. J. E. Gibson. Munic Eng 65:27-33 J1 '23

Water wastes, meters and rates at Baltimore. V. B. Siems. Eng & Contr (W W) 60:261-70 Ag 8 '23

Water works management. C. B. Burdick. Can Eng 43:561-2 N 21 '22; Same. Eng & Contr (W W) 58:137-9 D 13 '22; Same. Am Water Works Assn J 10:214-19 Mr '23; Excerpt. Eng N 90:27 Ja 4 '23

Water works superintendent. E. Bartow. Am Water Works Assn J 9:589-94 J1 '22

See also Water meters

Study and teaching

See Waterworks schools

Records

Form for keeping records of water services. Eng & Contr (W W) 60:544 S 12 '23

How Saginaw, Mich., keeps underground records of its water system. diags Eng & Contr 58:259 S 13 '22

Importance of water service pipe construction records. J. P. Wentworth. Eng N 90:1051 Je 14 '23

Preliminary report of committee on essential data for water works records and reports. Am Water Works Assn J 10:462-7 My '23

Proper underground records. R. F. Johnson. N E Water Works Assn J 36:95-7; Discussion. 97-8 Mr '22

Statistics

Water services and meters; data from more than six hundred cities on average life of wrought iron, steel, lead, cast iron and other services, causes of deterioration, methods of cleaning, etc. Pub Works 52:345-59, 430-3; 53:14-15, 34-5, 50-1, 69-73 My 13, Je 10, J1 1-22 '22

Water works and sewer contracts awarded during the last 46 months. Eng & Contr (W W) 60:1225 D 12 '23

Water works statistics. Pub Works 54:174-83 My '23

Valuation

Valuation and rates. C. H. Loveland. Am Water Works Assn J 10:439-49 My '23

Valuation of water works. Can Eng 43:331 S 5 '22

Waterworks schools

Education and training of water plant operators in Texas. L. O. Bernhagen. Am Water Works Assn J 9:300-6 Mr '22

Short course for water works operators. F. H. Bass. Am Water Works Assn J 8:627-9 N '21

Watt-hour meters

Adapting old types of watt-hour meters to safety entrance boxes. S. C. Henton. il Elec W 79:236-7 F 4 '22

Determining power factor with two watt-hour meters. L. P. Staubitz. diag Power Pl Eng 26:617-18 Je 15 '22

New type of direct-current watt-hour meter. diag Elec R (Lond) 92:494 Mr 30 '23

Reversal of meter torque at low power factors. F. C. Hush. diag Elec W 81:340 F 10 '23

Watt-hour meters for alternating-current consumers. Elec R (Lond) 92:175, 288-9 F 2, 23 '23

Why a watt-hour meter register constant is used. M. McKenzie. Power 55:893 Je 6 '22

Testing

Testing a.-c. watt-hour meters in bulk. J. H. Hodde. il diags Elec W 80:1052-4 N 11 '22

Testing of polyphase type watt-hour meters. D. C. Hoffmann. diags Elec W 80:1394-5 D 23 '22; Discussion. 81:102-3 Ja 13 '23

Waterson, Henry

Henry Waterson accepts his last assignment. Ptr Ink 117:19-20 D 29 '21

Wattle bark

Larger exports of wattle bark from South Africa. Chem & Met Eng 29:161 J1 23 '23

Wattmeters

Calibration data on polyphase wattmeters. V. H. Todd. diag Elec J 19:477-9 N '22

Electrostatic wattmeter. G. L. Addenbrooke. Electrician 88:466-9 Ap 21 '22

Polyphase wattmeter connections. L. P. Staubitz. diags Power Pl Eng 26:1003-5, 1049-52 O 15-N 1 '22

Wattmeter used as reactive-factor meter. diags Power 55:500 Mr 28 '22

Wauseon, Ohio**Water supply**

Underground vs. surface water supplies with special reference to Wauseon, Ohio. W. J. Sherman. il Munic Eng 62:63-6 F '22

Wave filters. Electric. See Electric wave filters

Wave motion, Theory of

Extended application of the principle of stationary phase in wave-motion problems. G. Green. Philos Mag 6th ser 45:1156-67 Je '23

Suggestions regarding an alternative theory. C. H. Bickerdike. Philos Mag 6th ser 45:456-63 Mr '23

Wave motors

Novel attempt to utilize energy of waves. il Pop Mech 37:928 Je '22

Wave-power rock drill. Eng & Min J 115:916 My 19 '23

Where necessity was the mother of invention. il Sci Am 127:221+ O '22

See also Tide power

Wave pressure

Unusual engineering forces as design problems. C. E. Fowler. diags Eng & Contr 57:607-11 Je 28 '22

Wavemeter

Factors of wavemeter design and operation. L. R. Felder. diags Wireless Age 11:60-1 O '23

Measuring 65 to 85,000 meter wave lengths. G. Gaulois. Sci Am 127:105 Ag '22

Methods of using wavemeters, with suggestions for insuring accuracy. B. Steinmetz. diag Wireless Age 10:73-4 Mr '23

Sensitive method of determining the frequency and amplitude of H.F. oscillations. J. J. Dowling and J. J. McHenry. Electrician 87:675 N 25 '21

Wavemeter model for amateurs. J. Pearlman and others. diags Wireless Age 9:27-30 D '21

Wavemeters. diags Wireless Age 9:36-7+ N '21

Waves

Propagation of a fan-shaped group of waves in a dispersing medium. G. Breit. Philos Mag 6th ser 44:1149-52 D '22

Standing waves in rivers. N. C. Grover. Eng N 88:656-7 Ap 20 '22

Waves of the ocean. C. H. Peabody. diags Marine Eng 28:177-9 Mr '23

Waves—their formation, action and effect on marine works. E. Latham. Eng & Contr 57:310-12 Mr 29 '22

See also Electric waves; Light; Radiation; Ships—Stability; Sound waves; Vibration

Waxed paper

Utility package and new use form backbone of pioneering campaign; how the Hamersley mfg. co. is selling waxed paper. C. B. Larabee. Ptr Ink 122:89-90+ Mr 8 '23

Waxes

Acids of montan wax; abstract. H. Tropsch and A. Kreutzer. Chem Soc J 122 pt 1:804 S '22

Cirages. F. Margival. 275p Desforges, Paris '22

Colouring constituents of montan wax; abstract. J. Marcusson and H. Smelkus. Chem Soc J 122 pt 1:807 S '22

Gums, shellac, waxes; market review and record of prices. Oil Paint & Drug Rep 103:84-5 Mr 29 '23

Method of removing waxes from cotton yarns to increase tensile strength. Color Tr J 11:264 D '22

Waxes—Continued

Über eine wachstart aus fichtennadeln und einige abietinsäure-ester. H. P. Kaufmann and M. Friedebach. Deutsche Chem Gesell Ber 55:1508-17 Je '22

See also Paraffin

Wealth

Conscription of wealth a fallacy. R. Estcourt. Annalist 20:531-2+ N 20 '22

Distribution of wealth in the United States. W. R. Ingalls. Iron Age 112:881-3+ O 4 '23; Discussion. 112:986-7, 1131 O 11, 25 '23

See also Capital; Cost of living; Economic conditions; Economics; Income; Income tax; Money

Wealth, Ethics of

Enduring investments. R. W. Babson. 190p Macmillan '21

Weather

Freak weather of world explained by science. Pop Mech 40:262-3 Ag '23

World weather. H. H. Clayton. 393p Macmillan '23

See also Atmospheric electricity; Atmospheric pressure; Atmospheric temperature; Climate; Fog; Humidity; Meteorology; Rain and rainfall; Snow; Thunderstorms; Winds

Weather bureau. See United States—Weather bureau

Weather forecasts

Building business on weather forecasts. Ptr Ink 123:93-4+ My 10 '23

Weather prediction by numerical process. L. F. Richardson. 236p Macmillan '22

Broadcasting

Hundreds of radios are used to broadcast weather for millions of persons. il Pop Mech 40:535-7 O '23

Radio reports as well as predicts weather. Wireless Age 11:30 N '23

Reporting weather by radio. J. Farrell. il Wireless Age 10:51-3 Ja '23

Weatherproofing

Preventing unnecessary loss of heat by weatherproofing houses. Bldg Age 44:23-4 D '22; Abstract. Heat & Ven 19:61-2 D '22

Weavers

Analysis of the individual differences in the output of silk-weavers. P. M. Elton. 38p Gt. Brit. Industrial research board, London '22

Weavers' cooperative societies in the Punjab, India. Monthly Labor R 14:1060-1 My '22

See also Cotton weavers; Linen weavers; Ribbon weavers

Weaving

Atmospheric conditions in weaving, by S. Wyatt. Review. Engineering 115:419 Ap 6 '23

Elastic and non-elastic narrow fabrics. S. Brown. il diag Textile World 61:197+, 1041+, 1543+, 3367+; 62:319+, 879+, 1803+ Ja 14, F 11, Mr 11, Je 3, Jl 15, Ag 12, S 30 '22

Fancy weaves vs. novelty yarns. Textile World 63:3811+ Je 9 '23

Furniture weaving projects. L. F. Hyatt. 140p Bruce pub. co., Milwaukee, Wis. '22

Hand spinning and weaving. J. A. Hunter. Textile World 64:1809+ S 29 '23

Handicraft art of weaving. T. Woodhouse. 165p Oxford '21

Manuel de théorie du tissage. C. Villard. 287p A. Rey, Lyon '23

Procédé de tissage mécanique à palette libre. R. Lebecq. Génie Civil 80:217 Mr 4 '22

Rewound filling for weaving. J. A. Swainbank. Textile World 62:1681+ S 23 '22

Study of efficiency in fine linen weaving. H. C. Weston. 28p Gt. Brit. Industrial fatigue research board, London '22

Waste reduction in weaving. J. W. Hutchinson. Textile World 60:3387+ D 10 '21

Weave room production in silk mills. J. A. Hunter. Textile World 61:3689+ Je 17 '22

Weaving artificial silk yarns. J. W. Pennington. Textile World 62:2323+ O 21 '22

Weaving machinery. L. B. Jenckes. il Mech Eng 44:375-81 Je '22

Weaving machinery and products. il Textile World 62:765+, 883+ Ag 5-12 '22

Weaving the Van Heusen collar. S. Brown. Textile World 60:3497+ D 17 '21

Weaving with small appliances. L. Hooper. (bk. 1). 74p Pitman '22

See also Carpets; Linen weaving; Looms; Rugs; Silk manufacture and trade; Tapes; Textile fabrics; Textile fibers; Woolen and worsted manufacture

Bibliography

Hand-spinning and hand-weaving. W. B. Gamble. 41p New York public library '22

Webb, William, 1878-

W. A. Webb becomes head of South Australian railways. Ry Age 73:440 S 2 '22

Webb institute

Webb institute celebrates 26th annual commencement. Marine Eng 27:437-8 Jl '22

Weber's law

Weber's law, tolerance, and visual judgment of size in the bottle making industry. J. P. Baumberger and E. E. Perry. bibliog J Ind Hygiene 5:205-9 O '23

Webster process. See Copper metallurgy—Patents

Wedgwood ware**Advertising**

English firm, of long standing, starts American advertising campaign; Josiah Wedgwood & sons. Ptr Ink 123:17-20 My 10 '23

Weeds

Chemical killing of weeds in railway track. Eng & Contr (Ry) 59:679-80 Mr 21 '23

Chemical killing of weeds on railway roadbeds. Eng & Contr 57:592-3 Je 21 '22

Weed burner has successful trial. il Elec Ry J 62:570-1 O 6 '23

Weed-cutter for canals and lakes. diag plan Eng N 89:139 Jl 27 '22

See also Railroads—Weed removal

Weigh pans

Nova Scotia plan for operating weigh pan by compressed air. J. S. Watts. diags Coal Age 21:161 Ja 26 '22

Weighing

How to weigh attached irregular parts. W. F. Schaphorst. Am Gas J 116:492-3 My 27 '22; Same. Power Pl Eng 26:569 Je 1 '22

Money-making weighing methods of the Ford motor company. F. Reichmann. il Management Eng 4:405-7 Je '23

Weighing accurately in the least time. il Factory 29:239-42+ S '22

Weighing by substitution. C. A. Briggs and E. D. Gordon. il diag U S Bur Stand Tech Pa 208:177-92 '22

See also Balances; Scales; Track scales; Water—Weighing

Weighing machines

Continuous weighing machine; the Schaffer poidometer. Eng & Min J 114:87 Jl 8 '22; Ind Management (Lond) 8:359-60 D 14 '22

New weightometer. E. J. Trimbley. diags Paper 23:78-9 Ap 20 '21; Same. Tech Assn Pa ser 4:36-8+ Je '21

Treatise on weighing machines. G. A. Owen. 207p Lippincott '22

See also Balances; Scales

Weightometer. See Weighing machines

Weights and measures

Bushel measurement causes waste in grain trade. il J Elec 48:456 Je 1 '22

14th annual conference of representatives from various states, Bureau of standards, Washington, D.C., May 23-26, 1921. il U S Bur Stand misc pub 48:1-132 '22

15th annual conference of representatives from various states, Bureau of standards, Washington, D.C., May 23-26, 1922. diags U S Bur Stand misc pub 51:1-132 '22

Immured copies of the Imperial standards. Engineering 114:240-1 Ag 25 '22

Les propriétés et les applications de l'invar et de l'élinvar, pour les étalons du mètre. Génie Civil 80:88-90 Ja 28 '22

Weights and measures—Continued

Relics from an eighteenth-century Bureau of standards. *Sci Am* 126:183 Mr '22

Weights constructed of magnetic material. *Sci Am* 126:33 Ja '22

Weights that grow puzzle Bureau of standards. *Pop Mech* 39:760 My '23

See also Balances; Decimal system; Electric measurement; Electric standards; Gages; Gaging; Gravity; Magnetic measurements; Measuring instruments; Mensuration; Meters; Metric system; Scales; Specific gravity; Standards of length; Volumetric apparatus; Weighing machines

Weirs

Field experiments on a practical irrigation rating box. C. C. Jacob and H. R. Leach. *diags plan Eng N* 88:530-1 Mr 30 '22

Investigation of the Herschel type of weir. R. H. Morris and A. J. R. Houston. *il diag Mech Eng* 44:651-4 O '22; Same. *Eng & Contr (W W)* 59:93-8 Ja 10 '23; Abstract. *Min & Met* 192:23-4 D '22

See also V-notch meter

Weirs (dams)

Rock drop constructed of rocks set in concrete. R. S. Stockton. *il Concrete* 19:179-80 N '21

Welch grape juice company

Management plans that built my business. C. E. Welch. *System* 41:170-2+ F '22

Welding

All welded steel floor. H. H. Freysinger. *il diags Sheet Metal Worker* 14:164-6 Mr 30 '23

Annual meeting, American welding society, New York, April 24-27. *Iron Age* 111:1261+ My 3 '23

A.S.M.E. discuss principles of welding at spring convention. *Iron Tr R* 70:1415-16 My 18 '22

Autogenous welding. W. F. Keller and A. W. Young. *Ry Mech Eng* 97:651-3 S '23

Autogenous welding not a divine healer. *il Ry R* 70:785-7 Je 3 '22

Autogenous welding of unfired pressure vessels. H. Sloan. *Power* 56:957 D 12 '22

Building up gear teeth with the welding process. J. V. Romig. *diags Am Mach* 58:196 F 1 '23

Cast iron welding. *il Gen Elec R* 26:178-83 Mr '23

Cast welded joints in Brooklyn. G. H. McKelway. *il Elec Ry J* 60:660-2 O 21 '22

Chrome-nickel steel in special work; abstracts. F. G. Hibbard. *il diags Elec Ry J* 61:461-7 Mr 17 '23; *Iron Age* 111:753-7 Mr 15 '23; Discussion. *Elec Ry J* 61:608 Ap 7 '23

Comments on autogenous boiler welding. C. W. Carter, Jr. *Ry Mech Eng* 96:656 N '22

Co-operation wins progress in field of welding. J. W. Owens. *il diag Iron Tr R* 72:68-9 Ja 4 '23

Data for information of welder. *Foundry* 50:382 My 1 '22

Dependability of cast iron welding. G. O. Carter. *il Iron Age* 109:928-30 Ap 6 '22

Fundamentals of welding, gas, arc and thermite. J. W. Owens. 659p Penton pub. co. '23

Fusion welding in steel plants. S. W. Miller. *il Blast F & Steel Pl* 9:690-7 D '21; Same cond. *Iron Tr R* 69:1346-9, 1422-6 N 24-D 1 '21; Abstracts. *Chem & Met Eng* 25:950-1 N 23 '21; *Iron Age* 108:1374-6 N 24 '21; Discussion. H. S. Rawdon. *Iron Tr R* 70:274-6 Ja 26 '22; Same. *Foundry* 50:245-6 Mr 15 '22

Hammer-welding plant of the Blaw-Knox co. E. E. Thum. *il diags Mech Eng* 43:819 D '21

His best cast-iron weld. *il Power* 56:290 Ag 22 '22

Job welding shop problems. S. W. Miller. *Am Mach* 57:345-6 Ag 31 '22

Making welded steel tubing. E. K. Hammond. *il diags Mach* 29:421-3 F '23; Discussion. R. Poliakoff. 29:511 Mr '23

Masterpiece of bronze welding; bell in the Berlin cathedral. P. Powell. *diags Brass W* 19:243-6 Ag '23

Modern methods of welding as applied to workshop practice, describing various methods. J. H. Davies. 263p Van Nostrand '22

National tube co.'s new plant for hammer-welded pipe. E. E. Thum. *il diags Chem & Met Eng* 25:921-4 N 16 '21

Oxy-acetylene welding and cutting, including information on acetylene, oxygen, electric welding. P. F. Willis. 6th ed., rev. & enl. 254p Henley '22

Oxygen and nitrogen in welds. S. W. Miller. *il Chem & Met Eng* 26:27-9 Ja 4 '22

Practical points in railroad shop welding. E. S. Eldridge. *diags Am Mach* 58:844 Je 7 '23

Preliminary report on rules for the construction of unfired pressure vessels. *diags Mech Eng* 44:748-51 N '22; Same. *Refrig Eng* 9:201-4 D '22

Problems in the welding of cast iron discussed at American welding society meeting. *Iron Age* 110:929-30 O 12 '22

Producing iron and steel tubes. E. Rober. *diags Iron Tr R* 71:1481-4 N 30 '22

Les qualites des tôles d'acier pour conduites forcées et pour chaudières. Génie Civil 82:12-14 Ja 6 '23

Recent improvements in the manufacture of welded pipe. F. N. Speller. *Blast F & Steel Pl* 9:580-2 O '21; Abstract. *Mech Eng* 43:820 D '21

Reclaiming joints in Indianapolis. T. H. David. *Elec Ry J* 59:199-201 F 4 '22; Same. *Eng & Contr* 57:158-9 F 15 '22

Reducing cost of connecting-rods by welding. P. J. Rees. *diags Mach* 30:193 N '23

Repairing defective welds in locomotive boilers. C. H. French. *Am Mach* 59:708 N 8 '23

Repairing textile parts by welding. C. W. Brett. *il Textile World* 60:3267+ D 3 '21

Roller type flue welder. *il Ry Mech Eng* 97:665 S '23

Some principles of the construction of unfired pressure vessels. S. W. Miller. *il Mech Eng* 44:360-8 Je '22; Discussion. 44:522-3 Ag '22

Speed versus good welding. R. G. Mason. *Am Mach* 59:560 O 11 '23

Standards of railroad shop welding practice. G. M. Calmbach. *diags Ry Mech Eng* 95:772-5; 96:41-3 D '21-Ja '22

Suitability of welding steels. *Iron Age* 111:1303 My 3 '23

Typical welding reclamation jobs. *il Elec Ry J* 62:225-6 Ag 11 '23

Unique feature of welding used in roof truss construction. *il Gas Age* 48:827 D 17 '21

Welded pipe. *Min & Sci P* 123:732-3 N 26 '21

Welded steel cylinder water jackets. G. D. Angle. *il diags Aviation* 15:148-52 Ag 6 '23

Welding aluminum in automotive parts manufacture. H. C. Knerr. *il diags Automotive Ind* 48:726-31 Mr 29 '23

Welding and brazing practices that make repairs easy. G. Radebaugh. *il Coal Age* 24:99-101 Ji 19 '23

Welding as applied to boilers and other pressure vessels. E. R. Fish. *Iron Age* 109:599 Mr 2 '22

Welding as practiced by electric railways; a symposium. *Elec Ry J* 60:567-8 O 7 '22

Welding driving tire flanges. *Ry Mech Eng* 97:712-13 O '23

Welding duralumin—some experimental work and its results. H. C. Knerr. *il diags Automotive Ind* 46:964-8 My 4 '22

Welding encyclopaedia. L. B. Mackenzie and H. S. Card. 2d ed. 388p Welding eng. pub. co., Chicago '22

Welding outfit on motorcycle. *il Pop Mech* 37:39 Ja '22

Welding reduces cost of repairing motor generators. *il Elec W* 79:885 My 6 '22

See also Brazing; Chains—Manufacture; Electric welding; Oxyacetylene welding; Shipbuilding—Welding operations; Solder and soldering

Testing

Committee recommends standards for tests of welds. *diags Automotive Ind* 45:19-20 Ja 5 '22

Welding—Testing—Continued

- Electrical and magnetic weld testing. T. Spooner and I. F. Kinnard. diags Iron Age 110:139-41 JI 20 '22; Same. Am Soc T M Pro 22 pt 2:177-86 '22; Same. Ind Management (Lond) 8:251-4 N 2 '22; Abstract. Eng & Contr 58:80 JI 26 '22; Discussion. Am Soc T M Pro 22 pt 2:191-2 '22
- Elektrische und schmelzflammen-schweissung unter berücksichtigung von schweißdrähten mit umhüllung. C. Diegel. il Stahl & Eisen 42:1309-15 Ag 24 '22; Discussion. 42:1712-15 N 16 '22
- Investigation of welded pressure vessels. Mech Eng 45:540-2 S '23
- Rail joint tests on the Detroit municipal railway. il Elec Ry J 62:89-95 JI 21 '23
- Some tests on welded ammonia containers. E. A. Fessenden. A S R E J 8:426-7; Discussion. 427-32 Mr '22
- Steel for forge welding. F. N. Speller. Mech Eng 44:443-4 JI '22; Same. Blast F & Steel Pl 10:259-61 My '22; Same. Am Mach 57:411-12 S 14 '22; Discussion. Mech Eng 44:523 Ag '22
- Strength of mechanically welded pressure containers. R. J. Roark. il diags Mech Eng 44:225-30 Ap '22; Excerpt. Chem & Met Eng 26:796-7 Ap 26 '22; Abstract. Power 55:870-1 My 30 '22; Summary. Ry Mech Eng 96:449 Ag '22; Discussion. Mech Eng 44:521-2 Ag '22
- Tests of welded rail joints. W. L. Wilson. Elec Ry J 62:414-15 S 15 '23
- Tests of welded tanks. Sci Am 129:18 JI '23
- Tests on welded cylinders. E. A. Fessenden and L. J. Bradford. il diags Mech Eng 44:581-6+ S '22; Discussion. 44:523-4 Ag '22
- Thermit process**
- Application of welding in building up cable clamps for suspension bridge. il diags Eng & Contr (Bldgs) 58:109-10 N 22 '22
- Cost of thermit welds reduced by decreasing amount of weld material. Ry R 70:766-7 My 27 '22; Same. Elec Ry J 59:646 Ap 15 '22; Same. Ry Mech Eng 96:327 Je '22
- Groove inspection of thermit welds. J. H. Deppeler. il Chem & Met Eng 27:846 O 25 '22
- Joining bars by thermit welding; making lead screws for rifling machines. L. I. Grinnell. il Am Mach 56:132-3 Ja 26 '22
- Repairing one of the largest steel castings in existence. il Marine Eng 28:503 Ag '23
- Suggestions for thermit welding. Ry Mech Eng 97:55 Ja '23
- Thermit and electric welding; some of the dangers that must be avoided. Am Gas J 117:51-2 JI 15 '22
- Thermit insert rail weld. il Iron Age 110:532 Ag 31 '22
- Thermit weld cost reduced. il Elec Ry J 59:902 Je 3 '22
- Thermit welding for beater shafts. il Paper 29:27-8 N 2 '21
- Welding curved pipe coils of glucose tank. il Chem & Met Eng 26:34 Ja 4 '22
- Welding, Electric.** See Electric welding
- Welding, Oxyacetylene.** See Oxyacetylene welding
- Welding engineers, Institution of.** See Institution of welding engineers
- Welding rods**
- Choosing rods for welding work. J. R. Dawson. il Iron Tr R 70:1033-6+ Ap 13 '22; Same cond. Iron Age 109:468-72 F 16 '22
- Material in welding rod is important. W. E. Ruder. Iron Tr R 69:1426 D 1 '21
- Weldless tube company**
- Plant making small weldless tubes. il Iron Age 111:1399-1402 My 17 '23
- Welfare work in industry**
- Activities of the Steel works club, Joliet, Ill. Blast F & Steel Pl 11:483-4 S '23
- Building an efficient executive machine at Spray, N.C. il Textile World 62:3665-6+ D 30 '22
- Building of the American woolen co. family. S. Sayward. il Textile World 60:3091+ N 26 '21
- Education in our mill villages. K. Dozier. Textile World 64:2285+ O 20 '23
- Employee welfare work. L. A. Boettiger. 301p Ronald press '23
- Factory in a garden; the practical idealism of George Cadbury and the monument it created. P. B. Redmayne. Ind Management 65:233-7 Ap '23
- Growth of the welfare movement in France. K. Kerr. il Eng & Ind Management 6:595-6 N 24 '21
- Health and welfare activities in the Government printing office. A. L. Whitney. il Monthly Labor R 16:887-99 My '23
- Illustrations of Y.M.C.A. work in mills. C. R. Towson. il Textile World 61:1777+ Mr 25 '22
- Industrial welfare work in Great Britain. E. D. Newcomb. Int Labour R 5:553-71 Ap '22
- Service work of Aberfoyle mfg. co. C. F. McCrudden. Textile World 64:2657+ N 3 '23
- Shall we say farewell to welfare? M. Droke. Ind Management 66:206-8 O '23
- Successful plan for employees' relief. V. Burnett. Ind Management 64:124 Ag '22
- Then and now in business. L. K. Frankel and A. Fleisher. Administration 4:1-6 JI '22
- Welfare in industry; summaries of many of the addresses given before the members of the third annual Industrial welfare conference at Balliol college, Oxford. Ind Management (Lond) 8:188-9 O 5 '22
- Welfare plans of the Dupont company. C. L. Reese. Am Inst Chem Eng Trans v 13 pt 2:121-7; Discussion. 127-9 '20-'21
- Welfare provisions for industrial plants. C. L. Close. il Arch Forum 39:123-6 S '23
- Welfare work at the Giant Portland cement co.'s plant. il Concrete 19:sup78-9 N '21
- You and your workers. J. R. Meader. Ind Management 62:333 D '21
- See also Company stores; Dental service, Industrial; Employees' associations; Employment management; Employment systems; Garden cities; Housing projects, Company; Industrial betterment; Insurance, Industrial; Lunch rooms and cafeterias, Employees'; Medical service, Industrial; Pensions, Industrial; Profit sharing; Saving; Saving banks, Company; Unemployment—Relief measures; also Pennsylvania railroad—Women's aid
- Well casing.** See Petroleum—Well casing
- Well covers, Concrete**
- Casting a well curb. L. S. Keir. diags plans Bldg Age 44:54 JI '22
- Welland, Ontario**
- Development plan for Welland, Ont. T. Adams. Can Eng 43:159-61 JI 18 '22
- Welland ship canal**
- Welland canal. G. F. Paul. il diag Pop Mech 39:697-700 My '23
- Wellesley college, Wellesley, Massachusetts**
- Wellesley college; views. Am Arch 121:60a-e Ja 18 '22
- Wells**
- Concrete wells in Holland, Michigan. il Pub Works 54:257-8 Ag '23
- Cone of depression for wells. Eng & Contr 56:494 N 30 '21
- Deep well drilling. W. H. Jeffery. 531p W. H. Jeffery co., Toledo, O. '21
- Development of well water supplies. J. W. Toyne. Eng & Contr (W W) 59:603-5 Mr 14 '23; Excerpt. Eng N 90:698 Ap 19 '23
- Drilled wells for draining land, Florida. R. M. Downie. Eng N 89:75 JI 13 '22; Discussion. C. D. McFarland. 89:624 O 12 '22
- Features of new well water supply at Memphis, Tenn. J. R. McClintock. Munic Eng 64:47-51 F '23
- Ground water history at Bloomington, Illinois. D. H. Maxwell. diags Am Water Works Assn J 10:289-97 Mr '23
- Ground water supplies from pre-glacial valleys. W. D. P. Warren. map Munic Eng 62:184-8+ My '22; Same. Am Water Works Assn J 10:789-96 S '23; Conclusion. Eng & Contr (W W) 60:775 O 10 '23; Same. Pub Works 54:351-2 N '23
- Measuring well water depth. C. Brossman. diag Eng N 90:266 F 8 '23

Wells—Continued

- Method of measuring depth of water in well. J. G. Thorne. *diag Munic Eng* 63:240 D '22; Same. *Eng & Contr (W W)* 59:88 Ja 10 '23
- Movement of bacillus coli in ground water with resulting pollution of wells. C. W. Stiles and H. R. Crohurst. *Eng & Contr (W W)* 60:100-2 Jl 11 '23; Same. *Eng N* 91:425 S 13 '23
- New well water system of Camden, N.J. J. H. Long. *il Eng & Contr (W W)* 60:258-9 Ag 8 '23
- Pneumatic pumping up to date. J. Oliphant. *Munic Eng* 63:65-7 Ag '22; Excerpt (Construction of driven wells). *Eng & Contr* 58:259 S 13 '22
- Pocket electrical device for measuring water depth in wells. J. M. C. Corlette. *diag Eng N* 91:445 S 13 '23
- Pollution of water from deep well. *Eng N* 89:430 S 14 '22
- Porous concrete for well strainers and well casing. *il diags Eng N* 87:853-4 N 24 '21
- Relation of sea water to ground water along coasts. J. S. Brown. *il diags Am J Sci* 5th ser 4:274-94 O '22
- Shallow wells as sources of municipal water supply. E. L. Waterman. *Am Water Works Assn J* 10:612-19 Jl '23; Same. *Can Eng* 43:572-3 N 28 '22; Same. *Eng & Contr (W W)* 58:128-31 D 13 '22
- Shooting water supply wells to increase their capacity. W. G. Kirchoffer. *Munic Eng* 63:172-4 N '22
- Shooting wells to increase the flow of water. S. R. Russell. *diags Munic Eng* 62:70-2+ F '22; Same. *Eng & Contr* 57:129-30 F 8 '22; Same. *Pub Works* 52:164-6 Mr 4 '22
- Some notes on the hydraulics of wells. M. L. Enger. *Am Water Works Assn J* 10:199-203 Mr '23
- Use of deep well water to secure alkalinity for treating surface waters. G. P. Womble. *Am Water Works Assn J* 10:204-5 Mr '23; Same. *Eng & Contr (W W)* 59:816 Ap 11 '23
- Water supply from gravel strata. J. W. Toyne. *Munic Eng* 63:21 Jl '22
- Well drilling practice in North Carolina. F. G. Godfrey. *Munic Eng* 64:42 Ja '23; Same. *Eng & Contr (W W)* 59:378-9 F 14 '23

See also Artesian wells; Drilling and boring (earth and rocks); Gas, Natural; Petroleum—Well boring; Water, Underground

Wells (architecture)

- Well head. Archbishop's palace, Ferrara, Italy. *il diags plans Am Arch* 123:359 Ap 25 '23
- Well in the Abbey Sassovivo, Foligno, Italy, measured and drawn by R. M. Blackall. *Am Arch* 121:16-17 Ja 4 '22

Wellsville, Ohio**Water supply**

- Gravity water supply for Wellsville. W. J. Sherman. *Munic Eng* 65:74-5 Ag '23
- Welsbach company, Gloucester, N.J.**
How Welsbach helps gas companies maintain sales. M. MacDonald. *Ptr Ink* 124:25-8 Ag 9 '23

West, Arthur B., 1877-

- Builders of the West. *por J Elec* 48:379 My 15 '22
- Portrait. *Elec W* 82:794 O 20 '23

West

- Guidebook of the western United States. M. R. Campbell. *il diags maps U S Geol S Bul* 707:1-266 '22
- West as the East sees it. W. Booth. *N E L A Bul* 10:526-33 S '23

See also Electric industries—Western states; Electric plants (central stations)—Western states; Hydroelectric plants—Western states; Mining industry and finance—Western states; Roads—Western states

Economic conditions

- Business outlook in the West for the coming year. R. Sibley. *J Elec* 48:91-5 F 1 '22
- Problems that confront the western industrial executive. R. Sibley. *il J Elec* 48:479-85 Je 15 '22

Industries and resources

- Fifteen billion dollar market for equipment and supplies. *J Elec* 48:486-95 Je 15 '22
- Industries of mountain states highly electrified. *diag Elec W* 78:1074-5 N 26 '21

West Indies

- Red book of the West Indies. A. Macmillan, ed. 424p W. H. & L. Collingridge, 148 Aldersgate st., E.C. 1, London '22

See also Petroleum—West Indies

West Penn traction and water power company

- Annual report for the fiscal year ended December 31, 1921 including the West Penn railways company and West Penn power company. *Comm & Fin Chr* 114:1432-5 Ap 1 '22

West Reading, Pennsylvania

- See* Electric plants (central stations)—West Reading, Pennsylvania

West Virginia

- See also* Coal miners—West Virginia; Coal mines and mining—West Virginia; Motor bus lines—West Virginia; Petroleum—West Virginia; Roads—West Virginia

Industries and resources

- Chemical education and resources of West Virginia. F. E. Clarke. *il plans Chem Age* 30:527-30 D '22

West Virginia coal mining institute

- Meeting. Charleston, W. Va., Dec. 6-7. *Coal Age* 20:1050-2 D 29 '21

West Virginia-Kentucky association of mine, mechanical and electrical engineers

- 2d annual convention, Huntington, W. Va., Sept. 19-22. *Coal Age* 22:541-3 O 5 '22
- 3d session, Bluefield, West Va., Sept. 21. *Coal Age* 22:585-6 O 12 '22

West Virginia, University**Chemistry building**

- Chemical education and resources of West Virginia. F. E. Clarke. *il plans Chem Age* 30:527-30 D '22

Western electric company, inc.

- How the Western electric company is analyzing its distribution costs. O. D. Street. *Ptr Ink* 121:33-4+ D 7; 129-30+ D 14 '22

- How Western electric handles dealers' mailings. E. B. Weiss. *Ptr Ink* 121:69-70+ N 2 '22

- Report for the year ending December 31, 1921. *Comm & Fin Chr* 114:1312-14 Mr 25 '22

- Report to stockholders for the year ending December 31, 1922. *Comm & Fin Chr* 116:1305-7 Mr 24 '23

- Western electric shows college men importance of their course. A. R. King. *il Ptr Ink* 119:33-4+ Je 29 '22

Western ice manufacturers' association

- 25th annual convention. Kansas City, Mo., Nov. 8-10. *Refrig W* 57:32-3 N '22

Western Maryland railroad

- Western Maryland increases net with less traffic. *Ry Age* 73:169-70 Jl 22 '22

- Western Maryland 1921 net in sharp contrast. *il Ry Age* 71:1309-11 D 31 '21

Western Pacific railway

- I. C. C. denies application of the Western Pacific railroad to acquire control of the Sacramento Northern railway. *Elec Ry J* 62:661 O 13 '23

- S. P. and W. P. arrange for joint rates and double track. *Ry Age* 74:471-2 F 24 '23

Western petroleum refiners association

- Oil companies' executives turn out for refiners 1st annual meeting. J. C. Chatfield. *Nat Pet N* 14:29-30 Mr 15 '22

Western pine manufacturers' association

- Report of Federal trade commission on Western pine manufacturers' association. *Comm & Fin Chr* 114:704-5 F 18 '22

Western railway club

- 1st annual dinner, Chicago, May 15. *Ry R* 70:711-13 My 20 '22; *Ry Age* 72:1169-71 My 20 '22

Western society of engineers

Committee for 1922-1923. W Soc E J 27:[current news] 198-200 O '22

Washington award presented at 53d annual meeting. W Soc E J 28:125-41 J1 '23

Western telegraph company, Ltd.

Annual report. Electrician 87:721-2 D 2 '21

Western union telegraph company

Annual report for the year ended December 31, 1921. Comm & Fin Chr 114:1437-8 Ap 1 '22

Annual report for the year ended December 31, 1922. Comm & Fin Chr 116:1552-3 Ap 7 '23

Western warm-air furnace and supply association

Annual meeting, Chicago, Ill., Dec. 6. Sheet Metal Worker 13:809-10 D 22 '22

Westinghouse, George, 1846-1914

Life of George Westinghouse. H: G. Prout. 375p Scribner '21; Review. Coal Age 21:371 Mr 2 '22

Westinghouse, the champion of alternating current. por Elec W 79:228-9 F 4 '22

Westinghouse told me—. por System 43:606-7 My '23

Westinghouse electric and manufacturing company

Annual report for year ended March 31, 1922. Comm & Fin Chr 114:2378-9 My 27 '22

Annual report for year ended March 31, 1923. Comm & Fin Chr 116:2404-5 My 26 '23

Discrimination in wage cuts. E: R. Nary. Factory 28:515-18 My '22

Selecting and placing technical graduates in the Westinghouse organization. E. B. Roberts. Management & Adm 6:207-11 Ag '23

Westminster Hall, London

Restoration and preservation of Westminster Hall roof. F. Baines. il diags Engineer 134:494-6 N 10 '22; Abstracts. Génie Civil 82:14-16 Ja 6 '23; Eng N 90:483 Mr 15 '23

Time and bugs endanger roof of Westminster. Pop Mech 40:199 Ag '23

Westminster Hall roof and mediæval constructional expedients. W: Harvey. il diags Engineer 132:697-9 D 30 '21

Weston cells. See Electric batteries

Westphal balance. See Balances

Wetting of glass

Wetting of glasses by mercury. E. E. Schumacher. diags Am Chem Soc J 45:2255-61 O '23

Weyher, Charles Louis, 1836-1916

La synthèse expérimentale des mouvements tourbillonnaires des fluides, par Charles Weyher. C: Rabut. Génie Civil 82:333-4 Ap 7 '23

Whaling

Real story of the whaler. A. H. Verrill. 295p Appleton '23

"She blows! she breaches!" an Odyssey of an industry of other days. il Nation's Business 11:21-3 S '23

Whale hunting on the top of the world. L. W: Pedrose. il Pop Mech 37:167-70 F '22

Wharves

La construction de nouveaux murs de quai au port d'Amsterdam. diags Génie Civil 83:352-3 O 13 '23

Deep water quays. E. Latham. il diags Engineering 113:380-4 Mr 31 '22

New landing stage and wharf at Gosport. il map Engineer 135:166-8 F 16 '23

Quayside equipment. E. Latham. diags Engineering 116:419-22 O 5 '23

Reducing the fire risk in river front structures; lessons of the fire at government wharf, New Orleans, La. A. M. Shaw. diags plan Eng & Contr (Bldgs) 58:96-102 N 22 '22

Stability of deep-water quay walls. F. E. Wentworth-Sheilds. Eng & Ind Management 6:723 D 22 '21; Same. Engineering 112:822 D 16 '21; Same. Engineer 132:672 D 23 '21; Same. Eng & Contr 57:518 My 31 '22

Wharf construction details to protect against marine borers. W. H. Kirkbride and R. A. Beebee. Eng N 90:634 Ap 5 '23

Wharf management, stevedoring and storage. R. S. MacElwee and T. R. Taylor. 350p Appleton '21

Wharfhause at New Orleans army base destroyed by fire. A. M. Shaw. il diags Eng N 89:555-7 O 5 '22

See also Bulkheads; Docks; Fenders (marine engineering); Harbors; Piers

Wharves, Concrete

Concrete wharf in Budapest. E. L. Heidenreich. diags Concrete 19:191 N '21

Concrete wharf walls cost little more than timber. diag Pop Mech 37:588 Ap '22

Japanese port adds large unit to harbor facilities. il diags map Eng N 89:1062-6 D 21 '22

Precast wharf work on Manchester canal. F. Johnstone-Taylor. diags Concrete 23:57 Ag '23

Quay wall construction with pre-cast block monoliths. F. M. G. D. Taylor. Eng & Contr 59:265-6 Ja 31 '23

Quay wall reconstruction at Mare Island navy yard. E. W. Earl. il diags plan Eng N 91:397-9 S 6 '23

Rebuilding quay walls at Glasgow. il Engineer 134:137-8, 144 Ag 11 '22

Trafford wharf on the Manchester ship canal. il diags Engineering 115:703-5, pl 44 Je 8 '23; Abstract. Ry R 73:215-17 Ag 11 '23

Wheat

America's wheat complex produces a flood of bunk. R. Yarnell. Ptr Ink 124:17-20 Ag 30 '23

Bankers' and farmers' conference in Minneapolis Federal reserve district proposes \$50,000,000 government agency to purchase exportable wheat. Comm & Fin Chr 117:1075-6 S 8 '23

Buy a bushel of wheat movement in Omaha. Comm & Fin Chr 117:612-13 Ag 11 '23

Buying power of wheat farmer not seriously impaired. J. H. Tregoe. Comm & Fin Chr 117:1311-12 S 22 '23

Chemistry in the cereal industries. C. H. Bailey. Ind & Eng Chem 15:900-1 S '23

Cutting down on wheat in Kansas. E. T. Peterson. il Nation's Business 11:42+ N '23

Decreasing the acreage of wheat. Comm & Fin Chr 117:484-5 Ag 4 '23

Delegation from Minneapolis Federal reserve district urges President Coolidge to revive grain corporation to effect price stabilization of wheat. Comm & Fin Chr 117:1411 S 29 '23

Dollar wheat. J. H. Barnes. il Nation's Business 11:13-14 S '23

Drive of American wheat growers, associated, to control wheat market in Minnesota and other states. Comm & Fin Chr 117:613-14 Ag 11 '23

Increase in acreage of forty-two wheat-growing states. Comm & Fin Chr 117:1077 S 8 '23

National wheat conference adopts resolution urging stabilization of wheat values. Comm & Fin Chr 116:2843-4 Je 23 '23

Proposal by committee of economists for reduced wheat acreage owing to expected decreased foreign demand. Comm & Fin Chr 117:279-80 J1 21 '23

Proposal of American farm bureau federation to withdraw two hundred million bushels of wheat to effect price stabilization. Comm & Fin Chr 117:389-90 J1 28 '23

Secretary of agriculture Wallace predicts bankruptcy of thousands of wheat farmers. Comm & Fin Chr 117:848 Ag 25 '23

Spring wheat crises. C. H. Getz. Annalist 22:327+ S 10 '23

Wheat farmer relief a difficult problem. R. Bean. Annalist 22:421 O 1 '23

Wheat situation. J. H. Barnes. Comm & Fin Chr 117:505 Ag 4 '23

Will the American farmer be smothered under his wheat crop this year? R. Bean. Annalist 22:37+ J1 9 '23

World wheat production 3,019,526,000 bushels. Comm & Fin Chr 115:1161 S 9 '22

See also Flour; Shredded wheat; also American wheat growers' associated, Inc; Northwest wheat growers, associated

Wheat—Continued**Analysis**

Estimation of starch in barley and wheat. A. R. Ling. Soc Chem Ind J 42:48-50 F 9 '23
Occurrence of polypeptides and free amino acids in the ungerminated wheat kernel. S. L. Jodidi and K. S. Markley. Am Chem Soc J 45:2137-44 S '23

Prices

Fixing the price of wheat. Comm & Fin Chr 116:986-7 Mr 10 '23
Wheat drops below one dollar on Chicago and Minneapolis markets. Comm & Fin Chr 117:151 Jl 14 '23

Transportation

Economic rail routes for surplus wheat. M. G. Barnes. map Ry R 69:637-40 N 12 '21
Railroad executives inform Inter-state commerce commission no benefit would result to farmers from President Coolidge's proposal to lower freight rates on wheat exports. Comm & Fin Chr 117:1962 N 3 '23
Railroads decline to reduce export wheat rates. Ry Age 75:869-70 N 10 '23
Reduction of export wheat rates refused. J. E. Gorman. Ry Age 75:343 Ag 25 '23
Safety factors in lake ships. A. Lindblad. diags Marine R 53:424-5 N '23

Wheat flour. See Flour

Wheat growers' associated, inc., American. See American wheat growers' associated, inc.

Wheaton Congregational college, Wheaton, Illinois

Program for 20-year expansion of small college. plan Eng N 87:856 N 24 '21

Wheatstone bridge

Temperature measurement with the Eindhoven galvanometer. F. Adcock and E. H. Wells. il diags Philos Mag 6th ser 45:532-60, pl 9-10 Mr '23

Wheatstone bridge and how it operates. C. A. Armstrong. diags Power 55:655-6 Ap 25 '22

Wheel-chairs

Electrically-propelled bath chair. il Elec R (Lond) 93:192 Ag 3 '23

Wheelbarrows

Give me a price on wheelbarrows. il Bldg Age 45:69-70 S '23

Wheelbarrow heater made for repairing roads. il Pop Mech 38:535 O '22

Wheeler, Schuyler Skaats, 1860-1923

Sketch. por Elec W 81:994-5 Ap 28 '23; Am Inst E E J 42:553 My '23; Power 57:699 My 1 '23

Wheeling & Lake Erie railroad

Wheeling & Lake Erie watches cost factors closely; annual report. C. W. Foss. il map Ry Age 72:771-4, 829-32 Mr 25-Apr 1 '22

Wheels

Effect of wheel diameter on highways. J. R. Kemp and D. A. Crawford. diags Eng & Contr (R & S) 58:39-40 O 4 '22

Improved type of steam roller wheel. C. A. Elliott. il Eng & Contr (Ry) 60:109-10 Jl 18 '23

See also Automobiles—Wheels; Axles; Car wheels; Electric railroads—Trolley wheels; Flywheels; Gearing; Grinding wheels; Locomotives—Wheels; Motor buses—Wheels; Motor trucks—Wheels; Pulleys; Tires; Tractors—Wheels; Turbines; Water wheels; Windmills

Manufacture

Casts hubs entirely in cores. H. E. Diller. il diags Foundry 51:169-75 Mr 1 '23

Wheels, Steel

Averaging 150,000 miles per pair of wheels without turning. A. B. Creelman. Elec Ry J 59:971 Je 17 '22

Comparative merits of steel disc and wood wheels for automobiles. J. W. White. diags Soc Auto Eng J 13:207-11; Discussion. 211-12 S '23

Rolled steel motor lorry wheels. il Engineer 134:45 Jl 14 '22

Salvage of worn steel car wheels. W. J. Merten. il Elec Ry J 61:679-82 Ap 21 '23
Wheel, gear and axle practice. il Elec Ry J 62:248-50 Ag 18 '23

Manufacture

How pressed steel wheels are made. J. E. Schipper. Automotive Ind 47:71-4 Jl 13 '22
Making welded pressed-steel automobile wheels. il Mach 29:757-61 Je '23
Manufacturing rolled steel wheels. G. A. Richardson. il diag Elec Ry J 59:959-62 Je 17 '22
Methods for chain wheels. M. E. Duggan. diags Foundry 50:963 D 1 '22
Molding and casting large steel wheel. W. H. Roesner. il Foundry 51:96 F 1 '23
Rolled steel trailer wheels for locomotives. il diags Ry Age 72:571-2 Mr 11 '22; Same. Ry Mech Eng 96:189-90 Ap '22
Steel car wheels made in revolving mold. il Pop Mech 37:26 Ja '22

Specifications

Report of the Mechanical division committee on wheels; with discussion. diags Ry Age 74:1629-38 Je 23 '23; Same. Ry Mech Eng 97:455-64 Jl '23; Same cond. Ry R 72:1147-50 Je 30 '23

Testing

Tests to determine wear of steel wheels. Elec Ry J 62:250-1 Ag 18 '23

Whey

Propionic acid and ketones from whey. E. O. Whittier and J. M. Sherman. Ind & Eng Chem 15:729-31 Jl '23

Whitaker, Milton C.

In laudem Whitakeri. A. D. Little. por Chem Age 31:1-4 Ja '23

Perkin medal award. Ind & Eng Chem 15:195 F '23; Chem & Met Eng 28:100 Ja 17 '23; Oil Paint & Drug Rep 103:19+ Ja 15 '23

White, William M.

Portrait. Elec W 80:972 N 4 '22

White

Hiding power of white pigments. R. L. Hallett. Am Soc T M Pro 22 pt 2:523-9; Discussion. 530-1 '22

Relation between the brightness and hiding-power of white paint-pigments. A. H. Pfund. diags J Fr Inst 196:69-78 Jl '23

See also Titanium white

White House

Behind the scenes at the White House. il Pop Mech 40:918-20 D '23

White lead

German literature on the white lead question, 1921; abstracts and bibliography. L. Teleky. J Ind Hygiene 4:100-5 Jl '22

Graphic analysis of sublimed white lead. B. Paxton. Chem & Met Eng 26:989 My 24 '22; Same. India Rubber W 66:810 S '22

Legislative and departmental interference with industry and the common weal. H. E. Armstrong. Soc Chem Ind J (Chem & Austral) 42: 26, 47-8, 91 Ja 12-19, F 2 '23

Opinion of the governments of the Australian states on the use of white lead in painting. Int Labour R 5:819-29 My '22

Past and present output of lead pigments. Oil Paint & Drug Rep 101:29 Mr 28 '22

White lead controversy. J Ind Hygiene 5: sup52-3 Jl '23

White lead prohibition. Oil Paint & Drug Rep 100:23+ sec 1 O 17; 23 sec 1 D 5 '21

Advertising

How the National lead company emphasizes turnover to its dealers. Ptr Ink 123:57-8 Ap 5 '23

Specifications

United States government specification for basic carbonate white lead, dry and paste. U S Bur Stand Circ 84:1-8 '22

White metal. See Alloys; Bearing metals; Tin lead alloys

- White motor company, Cleveland**
Annual report—1922. Comm & Fin Chr 116:
1433-4 Mr 31 '23
White company revises shop management. F.
L. Prentiss. Iron Age 112:953-5 O 11 '23
White pine blister rust. See Pine blister rust
White Plains, New York

Bridges

- Woodland place viaduct. J. Owen. il diags
Pub Works 52:189-91 Mr 18 '22
Whiteley village, Burhill, England
Whiteley village, at Burhill, Surrey. R. R.
Phillips. il plans Arch Forum 36:85-90, pl
38-9 Mr '22

Whitewash

- Investigation of whitewashes and aqueous
lime paints. G. J. Fink. il J Ind & Eng Chem
14:503-11 Je '22
Whitewash and cold water paint; abstract.
Am Inst Arch J 10:XIII+ JI '22

Whitewash (ceramics). See Clay products

Whitewashing

Cost

- Whitewashing structures along state high-
ways. P. E. Burroughs. Eng N 88:866 My
25 '22

Whiting, Indiana

- Whiting, Ind., given \$500,000 memorial by
Standard oil interests. il Nat Pet N 14:77+
Jl 26 '22

Whiting

- Comparative tests of English and domestic
whittings. A. E. Williams and B. J. Woods.
Am Cer Soc J 5:901-15 D '22
Dressing crude chalk by modern methods;
Benjamin Moore co. at Carteret, N.J. A. B.
Parsons. flow sheet il diags Eng & Min J
116:415-20 S 8 '23
Production costs in the whiting industry dur-
ing 1914, 1921 and 1922. Chem & Met Eng
27:938-9 N 8 '22
Suggested specifications for ceramic whiting.
Am Cer Soc J (Bul) 6:173-6; Discussion.
176-82 Je '23
Whiting; abstract. G. F. Loughlin and A.
T. Coons. Am Inst Arch J 10:56-7 F '22

Whitley plan. See Industrial councils

Whitney, Willis Rodney

- Portrait. Chem Age 30:119 Mr '22
Whittling iron. See Cast iron—Softening

Wholesale dry goods association, National. See
National wholesale dry goods associationWholesalers' association of dress fabric buyers
17th annual mid-summer meeting, New York.
Textile World 64:355-7 Jl 21 '23

Wichita Falls, Texas

Water supply

- \$4,500,000 Texas water supply project. R. A.
Thompson. il Eng & Contr (W W) 60:277-
80 Ag 8 '23
Water supply and irrigation works, Wichita
Falls, Tex. A. S. Fry. map Eng N 90:1080-1
Je 21 '23

Wiener-werkstaette of America

- Viennese method for artistic display. L. V.
Solon. il Arch Rec 53:266-71 Mr '23

Wiley, Harvey Washington

- In the afternoon of a long and busy life. Chem
Age 31:165-7, 219-21 Ap-May '23
Sketch. W. D. Bigelow. por Ind & Eng Chem
15:88 Ja '23

Wilkes-Barre, Pennsylvania

Rapid transit

- Wilkes-Barre has a popular motor bus line.
il map plan Bus Transportation 1:317-22
Je '22

Will, Wilhelm

- Ein gedckenblatt. B. Lepsius. por Deutsche
Chem Gesell Ber 54:204-68 sec A O '21

Willans line. See Steam—Tables, calculations,
etc.

Williams, Gardner F., 1842-1922

- Sketch. T. A. Rickard. por Eng & Min J 114:
532-3 S 23 '22

Williamstown institute of politics. See Insti-
tute of politics, Williams college, 1923

Willing, J. Thomson

- Portrait. Inland Ptr 71:554 Jl '23

Wills. See Executors and administrators

Wilmington, Delaware

Bridges

- Concrete memorial bridge has attractive ap-
pearance. il Eng N 91:96-7 Jl 19 '23
Wilmington's memorial bridge. F. W. Skin-
ner. il Pub Works 54:185-9 Je '23

Railroads

- Municipal harbor and rail terminal project
for Wilmington. Ry R 72:632 Ap 7 '23

Wilmington, North Carolina

Water supply

- Improving Wilmington's water supply. C. W.
Smedberg. il Pub Works 54:277-81 S '23

Winchell, Horace V.

- Geologists of note. por Eng & Min J 113:926
My 27 '22

Winches

- Cargo winches for merchant ships. C. H.
Giroux. Gen Elec R 26:570-4 Ag '23
Mechanically operated winches on a motor
ship. il diags Engineer 135:288, 296 Mr 16 '23
New type of winch mounted on a tractor.
il Pop Mech 39:402 Mr '23
Nouveau treuil à bras portatif. A. Pallet. il
Genie Civil 80:237-8 Mr 11 '22
Treble-drum friction winch. il diags Engineer
133:506 My 5 '22

See also Windlass

Winchester, Virginia

Public schools

- Handley school, Winchester, Va. il plans Arch
Forum 37:80, pl 35 Ag '22

Winchester-Simmons company

- Experiment in distribution. J. E. Otterson. il
map System 44:567-70+ N '23

Wind erosion. See Erosion

Wind power

- Electrically harnessing the winds. I. C. Wa-
terbury. il diags Sci Am 127:184-5 S '22
Free power. Power Pl Eng 26:868 S 1 '22
See also Windmills

Wind pressure

- Design of radio towers and masts; wind-
pressure assumptions. C. F. Elwell. Inst E
E J 61:407-12; Discussion. 412-16 Mr '23
Significance of draft with some notes on the
construction of steel smokestacks. il diags
Locomotive 34:41-7 Ap '22
Spacing and wire stresses of catenary sup-
porting structures, with reference to wind
load effect. P. A. McGee. Elec J 20:48-52
Jl '23
Tables and formulas for wind stresses in
office buildings. C. Weiss. Eng N 89:510 S
28 '22
Unusual engineering forces as design prob-
lems. C. E. Fowler. diags Eng & Contr
57:607-11 Je 28 '22
Wind forces on standpipe deduced from pres-
sure-tunnel results. diags Eng N 87:950
D 8 '21
Wind pressure at high elevations and their
application to radio towers. R. Fleming.
Eng N 88:438-42 Mr 16 '22
Wind pressure in chimney design. W. W.
Christie. Power 57:438-9 Mr 20 '23
Wind pressure is bridge hazard. C. O. Bur-
ton. il Iron Tr R 72:1090-3 Ap 12 '23; Same.
Marine R 53:294-7 Ag '23
Wind pressure on towers. Can Eng 44:613-14
Je 19 '23
Wind pressures and stresses caused by the
wind on bridges. D. H. Remfry. Engineering
115:152 F 2 '23
Wind shielding between conductors of tele-
graph and telephone lines. P. J. Howe. il
Am Inst E E J 42:20-6 Ja '23; Discussion.
42:750-3 Jl '23

See also Air resistance; Anemometer

Wind tunnels

- Aerodynamical laboratory of the M. I. T. E: P. Warner. *il* diags Aviation 12:308-10 Mr 13 '22
- Efficiency of a wind tunnel. W: H. Miller. *Aerial Age* 16:173 Ap '23
- Giant among gigantic wind tunnels. *il* Sci Am 129:88 Ag '23
- Göttingen wind tunnel for testing aircraft models. diags *Aerial Age* 14:298-9+, 324-6 D 5-12 '21
- Langley field wind tunnel apparatus. D. L. Bacon. diags *Aerial Age* 14:518-19 F 6 '22; Same. Aviation 12:171, 226-7 F 6, 20 '21
- Langley field wind tunnel apparatus. D. L. Bacon. *il* diags *Aerial Age* 14:225-6 N 14 '21
- Large French wind tunnel tests airplane models. *il* Pop Mech 38:721 N '22
- Midget wind tunnel that works like a giant. *il* diag Sci Am 129:333 N '23
- Modification of wind-tunnel results by the wind tunnel dimensions. M. M. Munk. *J Fr Inst* 196:203-14 Ag '23
- N.A.C.A. compressed air wind tunnel. *Aerial Age* 16:8-9 Ja '23
- New four-foot wind tunnel at the Massachusetts institute of technology. W: H. Miller and J: R. Markham. *il* *Aerial Age* 14:472-3 Ja 23 '22
- New outdoor wind tunnel. *il* Sci Am 127:93 Ag '22
- New-type wind tunnel for airplane testing. B. G. Priestley. *il* Pop Mech 38:77-8 JI '22
- New wind tunnel at McCook field. J. C. Branham. *Aerial Age* 16:291 Je '23; Same cond. Aviation 14:450 Ap 23 '23
- New wind tunnel in huge compressed-air tank. *il* Pop Mech 39:353 Mr '23
- Prices for wind tunnel tests at the Massachusetts institute of technology. *Aerial Age* 14:463 Ja 23 '22
- Scope of wind tunnel research. E. N. Fales and F. W. Caldwell. *il* diag *Aerial Age* 14:248-50, 270-2 N 21-28 '21
- Stream tunnel. M. Watter. *Aerial Age* 16:22 Ja '23

Winding machines

- Changing traverse on winders. diags *Textile World* 63:3371+ My 19 '23
- Golf-ball winding machines. *il* diags *India Rubber W* 66:343-5 F '22
- Lazenby automatic double-head bobbin winder. *il* *Textile World* 61:3941 Je 16 '23
- See also Yarnometer

Windlass

- Powerful windlass built for submarine tender. *il* *Marine Eng* 28:593 O '23; *Marine R* 53:441-2 N '23

Windmills

- Notes on wind motors. R. Grimshaw. *Power Pl Eng* 26:1089 N 15 '22
- Some notes on old windmills. A. Titley. *il* *Engineer* 135:118-19 F 2 '23
- Wind-power automobile. A. I. Root. *il* Sci Am 129:171 S '23
- Wind-power for the generation of electricity. *il* *Electrician* 88:509 Ap 28 '22
- Windmill stores electricity for eleven days' use. *il* Pop Mech 37:254 F '22
- Windmills on Columbia river for irrigation. *il* Pop Mech 38:888 D '22

Window cleaning

- Monorail hoist system facilitates window washing. *il* Iron Tr R 70:468 F 16 '22
- Unit times for washing factory windows. Management Eng 3:61-4 JI '22
- Way to protect window-washers that saves 75 per cent of expenditure for labor. Safety Eng 44:131+ S '22

Safety devices and measures

- Making life safer for the window cleaner. Nat Safety N 7:30 F '23

Window displays. See Show windows**Window sashes**

- Installing steel sash with concrete block. diag Concrete 23:43 JI '23

Windows

- Buildings from the manager's viewpoint. G. L. H. Arnold. diags Management Eng 4:229-34 Ap '23
- Daylight in buildings. P. E. Nobbs. *il* Am Arch 124:1-6, 99-106 JI 4, Ag 1 '23
- Early American details. Arch Forum 38:pl 46 Ja '23
- New steel frame basement window. *il* Eng & Contr 57:96 Ja 25 '22
- Stained glass. J. G. Reynolds, jr. *il* Am Arch 121:427-31, 464-8, 520-3; 122:50-3, 115-18 My 24-Je 21, JI 19-Ag 2 '22
- Use of steel basement windows. N. D. Harris. *il* Bldg Age 45:51 Mr '23
- Window glass and its glazing. A. A. Kelly. Bldg Age 44:45 My '22
- Window protection recognized as a serious fire problem. Eng N 88:834-5 My 18 '22
- Windows in the piazza Morlacchi, Perugia, Italy; measured and drawn by R. M. Blackall. Am Arch 120:392q N 23 '21
- See also Car windows; Glass; Show windows; Skylights; Stained glass

Winds

- Effect of a steady wind on the sea-level near a straight shore. H. Jeffreys. *Philos Mag* 6th ser 46:114-25 JI '23
- Effect of wind velocity on radiation losses and leakage. W. L. Fleisher. Am Soc Heat & V E J 28:141-4 Mr '22; Same abr. Dom Eng 98:439-40 Mr 11 '22; Discussion. Am Soc Heat & V E J 28:145-50 Mr '22
- Heating and ventilating the earth. G. J. O'Connor. diags Heat & Ven 19:38-40 O '22
- New method proposed of arriving at heat losses due to wind. H. M. Hart. Heat & Ven 19:31-2 Je '22
- New methods of observing winds at flying levels over the ocean. A. McAdie. Nat Research Council Bul 3 pt 2:94-101 Mr '22
- Study of high winds and thunderstorm effects; storm that struck New York June 11. J. W. Redway. diag Eng N 89:892 N 23 '22
- Winds and barometric effects on the Great Lakes. J. F. Hayford. Eng N 90:665-8 Ap 12 '23

Windsor, Ontario**Water supply**

- Proposed filtration plant for Windsor, Ont. E. M. Proctor. plan Can Eng 43:605-7 D 5 '22

Wine

- La filtration des vins. L. Mathieu. *Chimie & Ind* 7:669-72 Ap '22
- La vinerie. E. Barbet. *Chimie & Ind* 8:330-6 Ag '22
- Wine industry in Canada. H. B. Meyer. Can Chem & Met 7:202-3 Ag '23

Winnipeg, Manitoba

- Suburban problem of greater Winnipeg. W. E. Hobbs. Can Eng 42:612-13 Je 13 '22

Bridges

- Maryland street concrete arch bridge, Winnipeg. J. F. Greene. *il* diag Can Eng 42:339-42 Mr 28 '22; Same. Eng N 88:608-11 Ap 13 '22; Same. Eng & Contr 57:398-401 Ap 26 '22

Rapid transit

- Franchise negotiations ended. Elec Ry J 60:860 N 25 '22
- Minority report recommends ten-year franchise extension for Winnipeg railway. Elec Ry J 60:406 S 16 '22

Winslow automotive boiler. See Automobiles, Steam; Motor trucks, Steam**Winsted, Connecticut**

- U. S. Supreme court upholds Federal trade commission in the Winsted hosiery case. Comm & Fin Chr 114:1856 Ap 29 '22

Winter construction

- Building in cocoon; a house on the northern coast of Maine. *il* Arch Forum 36:59-60, pl 21-2 F '22
- Economy of winter construction of buildings. Eng & Contr (Bldgs) 60:629-30 S 26 '23

Winter construction—Continued

How to protect work and workers during the winter season. L. S. Keir. diags Bldg Age 44:47-8 N '22
 Lost time in construction; winter idleness. C. S. Hill. Eng N 89:600-2 O 12 '22
 Winter erection of steel shed under canvas. Eng & Contr (Bldgs) 58:59 N 22 '22
 Winter road work. J. H. Mullen. Can Eng 44:181-2 Ja 30 '23; Same. Munic Eng 64:76-8 F '23; Same. Eng & Contr (R & S) 59:549-51 Mr 7 '23; Same abr. Eng N 90:489 Mr 15 '23

See also Concrete construction in winter

Winter flying. See Aviation—Winter flying**Wire**

Core wires bent in plain wooden dies. J. Grennan. il Foundry 50:164-5 F 15 '22
 Government reports on the wire industry. Am Mach 58:428a Mr 15 '23
 Wire demand exceeds output. Iron Tr R 72:93-4 Ja 4 '23
 Wire needs drop below mill capacities. Iron Tr R 70:81 Ja 5 '22
 See also Cables; Electric wire; Steel reinforcing wire—Specifications; Trolley wire; Wire drawing machines

History

Story of wire in picture and product; the industrial museum of the American steel & wire co. at Worcester. J. Nelson. il Iron Age 111:733-8 Mr 15 '23

Manufacture

Chromel castings, bars, wire and ribbons. E. F. Lake. il Brass W 18:158-61, 165-7 My-Je '22
 Design of wire-forming dies. W. B. Greenleaf. il diags Mach 30:96-7 O '23
 Drawing chromel wire. E. F. Lake. il Mach 28:793-7 Je '22
 From ore to nails in Minnesota steel co. plant. G. L. Lacher. il diags Iron Age 110:1057-63 O 26 '22
 Improved wire-galvanizing equipment. diags plans Iron Age 110:1563-4 D 14 '22
 Manufacture of wire for wire rope. C. Voigtlander. il Blast F & Steel Pl 9:711-12 D '21
 New wire mill has unusual features. J. E. McDonald. il plan Iron Age 111:1245-9 My 3 '23
 Patenting process for wire. diags Chem & Met Eng 27:1129 D 6 '22
 Wire drawing die. K. B. Lewis. il Blast F & Steel Pl 11:207-9 Mr '23
 Wire forming. il diags Mach 28:939-42; 29:26-30 Ag-S '22
 Wire manufacturing in England and France. K. B. Lewis. Blast F & Steel Pl 10:323-5 Je '22
 Wire-twisting fixture. D. A. Nevin. diags Mach 28:980 Ag '22

See also Wire drawing machines

Testing

Alternating torsion of rope-wire. E. M. Horsburgh. diags Engineering 114:759-60 D 22 '22

Wire, Bronze

Bronze wire finer than silk is essential in industry. G. S. Eaton. il Brass W 19:88 Mr '23

Wire, Copper

Bright annealing of copper wire. P. E. Demmler. Metal Ind 21:151-2 Ap '23

Testing

Report of the British electrical and allied industries research association upon tests on hard drawn copper wires and cables for overhead transmission lines. Inst E E J 61:997-1012 S '23

Wire, Steel**Manufacture**

Continuous wire-drawing of steel. J. A. Horton. diags Iron Age 112:763-4 S 20 '23
 Morgan-Connor continuous wire machine. K. B. Lewis. il Iron Age 111:1409-12 My 17 '23

New process of coating metals; galvannealing method which gives longer protection against rust. diags Sheet Metal Worker 14:760 O 26 '23

Standards

Spring steel wire; proposed extension of general information. charts Soc Auto Eng J 12:574-80 Je '23

Testing

L'essai mécanique des fils d'acier; abstract. C. Fremont. il diags Génie Civil 80:129-33 F 11 '22
 Tensile strength increase by cold drawing. E. J. Janitzky. Iron Age 109:707-11 Mr 16 '22

Wire cloth

Paper making wires. V. Bouyer. il Paper Tr J 76:49-53 Ja 25 '23

Wire drawing machines

Morgan-Connor continuous wire machine. K. B. Lewis. il Iron Age 111:1409-12 My 17 '23
 Oslund continuous wire drawing machine. il Iron Age 109:416-17 F 9 '22

Wire forming machines

Machine for forming wire. il Iron Age 109:1828 Je 29 '22
 Wire forming. il diags Mach 28:939-42; 29:26-30 Ag-S '22

Wire glass

Advantages of wire glass. E. V. French. Safety Eng 46:30-1 Jl '23

Wire rods**Manufacture**

Electrically-driven wire rod mill. il Elec R (Lond) 92:941-3 Je 15 '23

Wire rope

Abuse of wire ropes. H. M. Hall. Eng & Min J 115:879-82 My 19 '23
 Alternating torsion of rope-wire. E. M. Horsburgh. diags Engineering 114:759-60 D 22 '23
 A.I.M.E. discusses safety and life of hoisting ropes. Coal Age 21:408-11 Mr 9 '22
 Capping rope without using molten zinc. J. B. de Hart. diags Coal Age 23:484-5 Mr 22 '23
 Choosing, lubricating and attaching wire ropes. J. F. Howe. il Coal Age 22:945-8 D 14 '22
 Fracture of wire in steel ropes. E. M. Horsburgh. diags Engineering 112:707-11 N 18 '21
 Hoisting ropes. Eng & Min J 113:454 Mr 18 '22
 Life and testing of hoist rope discussed. Coal Age 23:486 Mr 22 '23
 Making and care of flexible steel ropes. W. Voigtlander. Iron Age 109:1065-6 Ap 20 '22; Same. Eng & Ind Management 7:463-5 Je 1 '22; Abstract (Inspection). Safety Eng 42:220 N '21
 More information is needed on wire rope for elevators. H. B. Cook. Power 56:1016-17 D 26 '22
 Philosophy of wire rope. H. M. Hall. il Eng & Min J 115:631-2 Ap 7 '23
 Plow steel rope for mine uses. Coal Age 23:1048 Je 28 '23
 Reducing the wear of wire rope. W. Constable. Iron Tr R 73:876-8 S 27 '23; Same. Eng & Contr (Ry) 60:604-8 S 19 '23; Abstract. Eng N 91:618 O 11 '23
 Strength, wear, and life of wire hoisting ropes. Eng & Min J 113:538 Ap 1 '22
 Use of taper ropes for hoisting. Eng & Min J 112:936 D 10 '21
 Use of wire rope in mining operations; abstract. J. F. Howe. Min & Met 182:49-50 F '22
 Wire rope interlaces industry. J. D. Knox. il Iron Tr R 71:709-15 S 14 '22
 Wire rope is tough, but faulty installation and careless operation quickly destroy it. J. F. Howe. il Coal Age 22:825-8 N 23 '22
 Wire rope selection and lubrication. G. F. Swetnam. Power Pl Eng 27:383 Ap 1 '23
 Wire ropes. T. E. Dodds. Ind Management (Lond) 10:25 Jl 12 '23

See also Cables

Wire rope—Continued**Lubrication**

Lubrication of wire ropes. C: A. Armstrong.
Power 56:938 D 12 '22

Testing

Some tests of steel-wire rope on sheaves. E:
Skillman. *il* U S Bur Stand Tech Pa. 229:
227-43 '23; Abstracts. Eng N 90:800 My 3
'23; Eng & Contr (Ry) 59:1127 My 16 '23

Wire rope fastenings

Attaching a wire rope to a socket. E. J.
Edwards. *il* Am Mach 56:309 F 23 '22
Attaching a wire rope to a socket. M. Mc-
Lauthlin. *diag* Am Mach 56:564-5 Ap 13 '22
How to socket wire rope and retain its full
strength. D. J. Baker. *diags* Coal Age 21:
529-30 Mr 30 '22; Abstract. Iron Age 109:
1435 My 25 '22; Abstract. Eng & Contr 57:
601 Je 21 '22

Socketing hoisting ropes with zinc. *diags* Eng
& Ind Management 6:704-5 D 15 '21

Wire stakes

When Puck gets loose in the copy depart-
ment; vegetable crutch. E. C. Newton. *PtR*
Ink 122:8+ Mr 8 '23

Wired wireless. See Telegraph, Carrier current;
Telephone, Carrier current

Wireless. See Radio

Wisconsin

See also Mines and mineral resources—
Wisconsin; Motor bus lines—Wisconsin;
Roads—Wisconsin; Water power—Wiscon-
sin; Workmen's compensation—Wisconsin;
Zinc industry and trade—Wisconsin

Economic conditions

Geography and economic development of
southeastern Wisconsin. R. H. Whitbeck.
(Wis. Geol. & natural hist. survey Bul. 58)
252p Pub. by the state, Madison '21

Immigration bureau

Wisconsin's novel method of attracting set-
tlers. *chart* Pop Mech 37:878 Je '22

Wisconsin. University

Institute for research in land economics

Institute for research in land economics at
Wisconsin university. C. H. Getz. *Annalist*
20:292+ S 25 '22

Wisconsin electrical association. See Wisconsin
utilities association

Wisconsin gas association. See Wisconsin utili-
ties association

Wisconsin utilities association

Gas and electric men reorganize. R. O. Jas-
person. *Gas Age* 49:396-7 Ap 1 '22

Joint sessions of the Wisconsin gas associa-
tion and the Wisconsin electrical association
in connection with their annual meeting in
Milwaukee. March 22-24. *Elec Ry J* 59:563-5
Ap 1 '22; N E L A Bul 9:296-8 My '22

Summer convention. Green Bay, Wisconsin,
August. *Elec Ry J* 60:296-8 Ag 26 '22
2d annual summer meeting. Oshkosh, Wis.,
Aug. 16-17. *Elec Ry J* 62:296-8 Ag 25 '23

Wishon, A. Emory

Sketch. *por* Elec W 80:1196 D 2 '22

Witnesses

Encouraging the witnesses. F. Wert. *Aera*
10:779-81 Ap '22

Engineer on the witness stand. W: D. Sell.
Prof Eng 8:17-18 F '23; Same. Eng & Contr
(Ry) 59:447-50 F 21 '23

Wolframite

Estimation of tin in wolfram; a modification
of Powell's method. O. F. Lubatti. *diag*
Chem Soc J 123:1409-11 Je '23

Woman

See also Business women

Employment

Children of wage-earning mothers. H. R.
Wright. 92p U S Children's Bur. Pub. no.
102 '22

Employment of women in hazardous indus-
tries in the United States; summary of state
and federal laws. U S Women's Bur Bul
6:1-8 '21

Employment of women in the German textile
industry. *Monthly Labor R* 17:143 Jl '23
Family status of breadwinning women. U S
Women's Bur Bul 23:1-43 '22

Gainful employment for handicapped women.
L. Eaves. (Rep. no.1) 32p Women's educa-
tional & industrial union, Boston '21

Hours and working conditions of women in in-
dustry in Iowa. *Monthly Labor R* 14:543-6
Mr '22

Iowa women in industry. *maps* U S Women's
Bur Bul 19:1-73 '22

Medical aspect of women's ills in industry.
C. P. Seippel. *Monthly Labor R* 13:945-50
N '21

Negro women in industry. U S Women's Bur
Bul 20:1-65 '22

Observations on dysmenorrhea occurring in
women employed in a large department
store. M. C. Sturgis. *J Ind Hygiene* 5:53-6
Je '23

Occupational progress of women. U S Women's
Bur Bul 27:1-37 '22

Old-age support of women teachers. 122p Wo-
men's educational and industrial union, Bos-
ton '21

Opportunities for women in Philadelphia. M.
Pyle. *Filing* 6:37-8 O '22

Our experience with women workers: the policy
followed in 36 lines of industry. *Factory* 29:
659-61+ D '22

Preliminary report of a survey of wages,
hours, and conditions of work of the women
in industry in Georgia. 63p U. S. Women's
bureau, Washington '21

Preliminary report on hours and wages of
women in industry in Missouri, 1922. 23p
U. S. Women's bur., Washington '22

Proceedings of the seventh annual convention
of the Association of governmental labor of-
ficials of the United States and Canada. U S
Bur Labor Statistics Bul 266:44-116 '21

Report on woman workers in New York state.
Monthly Labor R 15:120-3 Jl '22

Share of wage-earning women in family sup-
port. U S Women's Bur Bul 30:1-170 '23;
Abstract. *Monthly Labor R* 17:140-2 Jl '23

State laws affecting working women. *maps*
U S Women's Bur Bul 16:1-49 '21

Statistical work. (Studies in occupations, 2)
154p Bur. of vocational information, New
York '21

Study of four methods of weight carrying by
women. *Monthly Labor R* 17:851-2 O '23

What industry means to women workers. M.
Van Kleeck. U S Women's Bur Bul 31:1-10
'23

Why women change jobs. *il* *Factory* 31:468-
9+ O '23

Women and the labor movement. A. Henry.
241p Doran '23

Women in Arkansas industries. U S Women's
Bur Bul 26:1-85 '23; Abstract. *Monthly*
Labor R 16:1323-6 Je '23

Women in English economic history. F. Tick-
ner. 236p Dutton '23

Women in Georgia industries. U S Women's
Bur Bul 22:1-89 '22

Women in industry. See monthly numbers
of Monthly labor review

Women in Kentucky industries. U S Women's
Bur Bul 29:1-114 '23; Abstract. *Monthly*
Labor R 17:846-9 O '23

Women in Maryland industries. U S Women's
Bur Bul 24:1-96 '22

Women in Rhode Island industries; a study
of hours, wages, and working conditions.
U S Women's Bur Bul 21:1-73 '22

Women in the candy industry in Chicago and
St Louis. U S Women's Bur Bul 25:1-72 '22

Women in the factory. A. M. Anderson. 316p
Dutton '22

Women in the German trade union move-
ment. G. Hanna. *Int Labour R* 8:21-37 Jl
'23

Women professional workers. E. K. Adams.
467p Macmillan '21

Women's wages in Kansas. *Monthly Labor R*
13:1037-41 N '21

Woman—Employment—Continued

Working women in China. Ta Chen. Monthly Labor R 15:1312-19 D '22
 Working women in Missouri and Alabama. Monthly Labor R 16:403-7 F '23
 Working with the working woman. C. S. Parker. 246p Harper '22

See also Business women; Hours of labor; Minimum wage; Saleswomen; Working girls and women; also Women's industrial conference, Washington, D.C.

Health and hygiene

Health problems of women in industry. II U S Women's Bur Bul 18:1-11 '21
 Medical aspect of women's ills in industry. C. P. Seippel. Monthly Labor R 13:945-50 N '21

Law

State laws affecting working women. maps U S Women's Bur Bul 16:1-49 '21

Women as chemists

Women in chemistry. Chem Age 30:268-70 Je '22
 Women in chemistry. (Studies in occupations, no.4) 272p Bureau of vocational information, New York '22

Women as engineers

Miss Clare Nicolet is right at home among turbines in power house of Kansas City railways company. II Aera 11:1456-8 Je '23

Women as inventors

Women's contributions in the field of invention. U S Women's Bur Bul 28:1-51 '23

Women in industry. See Woman—Employment**Women's engineering society**

Conference, Birmingham University, April 12-13. Mech Eng 45:392 Je '23

Women's industrial conference, Washington, D.C.

Women's industrial conference, Washington, D.C. Monthly Labor R 16:276-83 F '23

Women's trade-union league of America, National. See National women's trade-union league of America**Wood, Jarvis A.**

Ayer honors Jarvis A. Wood and its oldest client. por Ptr Ink 124:61-2+ S 27 '23

Wood

Australian woods for papermaking. Paper 33: 8 N 1 '23

Cause and prevention of decay in structural timber. R. J. Blair. II diags Paper Tr J 73: 51-3 D 22 '21

Chemical changes involved during infection and decay of wood and wood pulp. M. W. Bray and J. A. Staidl. J Ind & Eng Chem 14:35-40 Ja '22

Consolidated wood; a new material for various industries. W. R. Turnbull. Roy Aeronautical Soc J 27:342-7 JI '23

Decays and discolorations in airplane woods. J. S. Boyce. bibliog II U S Agric Bul 1128: 1-51 '23

Differences between heartwood and sapwood timber. Eng N 90:482 Mr 15 '23; Same. Eng & Contr (Bldgs) 59:510 F 28 '23; Same. Bldg Age 45:74 S '23

Effect of chemical solutions on various woods used in tanks. S. J. Hauser and C. Bahlman. Chem & Met Eng 28:159-63 Ja 24 '23; Same. Brass W 19:47-51 F '23

Effect of salts upon the acid hydrolysis of wood. E. C. Sherrard and W. H. Gauger. Ind & Eng Chem 15:63-4+ Ja '23

Effects of acids and salts upon the hydrolysis of wood. E. C. Sherrard and W. H. Gauger. Ind & Eng Chem 15:1164-5 N '23

Gelatinization of lignocellulose. A. W. Schorger. Ind & Eng Chem 15:812-14 Ag '23

Lumber situation demands utilization of new woods for bodies. G. J. Mercer. diags Automotive Ind 47:13-15 JI 6 '22

Partial hydrolysis of white spruce cellulose. E. C. Sherrard and G. W. Blanco. Ind & Eng Chem 15:1166-7 N '23

Properties of wood in paper making. B. Johnsen and H. N. Lee. Paper Tr J 76:53-6 F 1 '23; Same, without bibliog. Chem & Met Eng 23:257-60 F 7 '23; Same. Paper 31:11-14 Ja 31 '23

Pulpwood decay as affecting pulp production. O. Schierbeck. Paper Tr J 77:53-5 JI 26 '23

Relative durability of native woods. Am Inst Arch J 10:XVII+ S '22; Same. Can Eng 43:538 N 14 '22; Excerpt (Table). Eng N 89: 527 S 28 '22

Research on wood products aids economical automobile production. Automotive Ind 46: 1284-5 Je 8 '22

Some of the products obtained in the hydrolysis of white spruce wood with dilute sulfuric acid under steam pressure. E. C. Sherrard and G. W. Blanco. diags Ind & Eng Chem 15:611-16 Je '23

Squeezing softwood to make it hardwood. II Sci Am 129:319 N '23

Stumps 10,000 years old. F. W. Wilson. II Pop Mech 38:825-6 D '22

Text-book of wood. H. Stone. 240p W. Rider & son, London; Van Nostrand '21

Use of wood in freight car construction; the advantages of composite design. H. S. Sackett. II diags Ry Age 71:1037-42 N 26 '21; Same. Ry Mech Eng 96:27-32 Ja '22

What is meant by hardwoods and softwoods? Bldg Age 45:77 Ap '23

When wood shrinks. B. B. Borchers. II Sci Am 129:250 O '23

Wood as a chemical engineering material. C. S. Robinson. II J Ind & Eng Chem 14:607-10 JI '22; Abstract. Eng & Ind Management 8:98-9 Ag 24 '22

Wood as a structural material. C. J. Hogue. Arch Forum 39:17-20 JI '23

Working stresses for structural timbers. Eng & Contr (Bldgs) 60:640-1 S 26 '23

Zur kenntnis pflanzlicher inkrusten; methode zur reindarstellung pflanzlicher skelettsubstanzen. E. Schmidt and E. Graumann. diags Deutsche Chem Gesell Ber 54:1860-73 S '21

See also Cellulose; Forest products; Forests and forestry; Hard woods; Heartwood; Lignin; Lumber; Pavements, Wood; Pipes, Wood; Plywood; Poles; Printing on wood; Sawmills; Shipbuilding; Ships, Wooden; Timber; Wood preservation; Wood pulp; Woodwork; also names of special kinds of wood, e.g. Angelique, Balsa wood, Boxwood, Douglas fir, Mahogany, Oak, Pine, Quebracho, Spruce, Walnut

Advertising

Advertising war of the woods. W. H. Heath. Ptr Ink 117:119+ D 22 '21

Analysis

Chemistry of wood. S. A. Mahood and D. E. Cable. J Ind & Eng Chem 14:933-4 O '22

Chemistry of wood. G. J. Ritter and L. C. Fleck. J Ind & Eng Chem 14:1050-4 N '22

Chemistry of wood; the results of analysis of heartwood and sapwood of some American woods. G. J. Ritter and L. C. Fleck. Ind & Eng Chem 15:1055-6 O '23

Contribution to the knowledge of the constitution of spruce wood lignin. P. Klason. Paper Tr J 74:283+ Ap 13 '22; Same. Tech Assn Pa ser 5:52-5 Je '22

Contributions to a more exact knowledge of the chemical composition of spruce wood. P. Klason and O. Fagerlind. Paper Tr J 74: 45-51 My 4; 51-4 My 11 '22; Same. Tech Assn Pa ser 5:58-67 Je '22

Determination of the cellulose content of wood by the action of chlorine in carbon tetrachloride. E. Heuser and H. Casseus. Paper Tr J 75:47-8 Ag 31 '22

Bibliography

Bibliography of the woods of the world. S. J. Record. 28 mim p S. J. Record, Yale Univ. New Haven

Wood—Continued**Ignition temperature**

Effect of chemicals on the ignition temperature of wood. W. O. Banfield and W. S. Peck. *il Can Chem & Met* 6:172-6 Ag '22

Measurement

Waste in the pulp and paper industry. B. T. McBain. *Paper* 32:9+ Je 6 '23
 Why a cord? what is a cord? B. T. McBain. *Paper Tr J* 74:47-8 My 25 '22

Specifications

Use of timber in highway bridges. Eng & Contr (R & S) 60:48-51 Jl 4 '23

Testing

Appareils nouveaux pour l'essai des bois et spécialement des bois pour l'aéronautique. P. Breuil. *il diags plan Génie Civil* 80:417-22, 446-9 My 13-20 '22
 Comparative strength of air-dried and kiln-dried wood. Eng N 89:567 O 5 '22; Same. *Aerial Age* 16:29 Ja '23
 Fear of knots in timber causes millions waste. *il Pop Mech* 40:401 S '23
 Impact tests of wood. T. R. C. Wilson. *il Am Soc T M Pro* 22 pt 2:55-70 '22
 Some tests on Borneo timbers. M. Smith. *Engineer* 132:710-11 D 30 '21
 Testing products of the forest. C. H. Winter. *il Am Ind* 22:29-34 My '22
See also Douglas fir—Testing

Weighing

Weighing wood in pulp manufacture. B. S. Summers. *Paper Tr J* 77:55-7 Jl 12 '23

Wood, Defiberization of

McMillan defiberization process of wood. *diags Paper Tr J* 77:43-5 Ag 16 '23

Wood, Substitutes for

Artificial lumber of hemp to cut building costs. *Pop Mech* 40:840 D '23
 Hard synthetic wood made from cellulose. *il Pop Mech* 39:66 Ja '23
 Plastic wood made from cotton. *Engineer* 133:230-1 Mr 3 '22
 Substitutes for natural wood for shipbuilding purposes. H. H. Thayer. *Marine Eng* 26:931-2 D '21
 Synthetic wood is product of sawdust and shavings. *Pop Mech* 39:272-3 F '23
 Synthetic woods for industrial purposes. *Automotive Ind* 47:216 Ag 3 '22

Wood alcohol. See Alcohol, Wood**Wood as fuel**

British practice in deriving gas power from wood refuse. C. H. S. Tupholme. *il diags Power Pl Eng* 26:1206-8 D 15 '22
 Burning sawdust. S. P. Morrison. *diags Power Pl Eng* 26:919 S 15 '22
 Buying fire wood by weight. C. Butters. *Eng & Min J* 115:174-5 Ja 27 '23
 Caloric value of American woods. S. W. Parr and C. N. Davidson. *J Ind & Eng Chem* 14:935-6 O '22
 Cause of creosote in chimney flues. *Sheet Metal Worker* 13:106+ Mr 17 '22
 Consumers central heating company's new hog-fuel burning plant. *il diags Power* 54:750-3 N 15 '21
 Finding a use for waste wood. J. Taylor. *diags Power* 55:419-20 S 11 '23
 First progress report T.A.P.P.I. committee on waste in the industry; white water losses and bark utilization. *Paper Tr J* 75:46-7 O 5 '22
 400-h.p. wood refuse suction gas engine. *diags Engineer* 132:547 N 18 '21
 Furnace redesigned to burn shavings. C. J. Miller. *diags Power Pl Eng* 25:1164 D 1 '21
 Furniture plant uses wood refuse as fuel. *il diags plans Power Pl Eng* 27:303-8 Mr 15 '23
 Gas driven power plant using wood fuel. *diag plan Engineer* 134:194, 202-3 Ag 25 '22
 Generating power from waste. H. S. Bastian. *il diags Elec W* 79:373-5 F 25 '22
 Hogged fuel: its heat-producing value. E. A. Morrison. *diags Power Pl Eng* 26:407-10 Ap 15 '22

Hogged fuel used instead of oil in Portland dredges. *il Eng N* 89:795 N 9 '22

Novel boiler installation for burning wood refuse. C. W. Smith. *diags Power Pl Eng* 25:1196-7 D 15 '21

Sawdust burned with aid of steam jets. *diags Power* 54:914-17 D 13 '21

Setting a wood fired scove kiln. E. Petts. *il diags plan Brick & Clay Rec* 59:981-3; 60:105-6 D 27 '21, Ja 24 '22

Shavings and refuse as a boiler fuel. E. Winholt. *il diags plan Power Pl Eng* 26:509-11 My 15 '22

Stoker firing of sawmill refuse. *Power* 58:616 O 16 '23

Successful handling and storing of hogged fuel. H. S. Bastian. *il diags Elec W* 79:1077-8 My 27 '22

Utilisation du bois dans les gazogènes. A. Fichet. *Génie Civil* 82:277-80 Mr 24 '23

Utilization of bark and wood refuse as fuel. E. R. Schafer. *Paper Tr J* 75:51-4 O 5 '22

Utilization of bark as fuel. E. R. Schafer. *Paper Tr J* 74:57-8 My 25 '22

Utilization of waste bark. *Paper Tr J* 76:155-6+ Ap 12 '23; Same. *Tech Assn Pa ser* 6:16-18; Discussion. 167-8 Je '23

What design of furnace is best for burning mill refuse? *diags Power* 57:728; 58:29, 67, 107-8 My 8, Jl 3-17 '23

Wood refuse power plant. *il diags Engineering* 115:69-71 Ja 19 '23

Wood-waste briquettes as good as anthracite. L. W. Pedrose. *il Pop Mech* 39:666 My '23

See also Boilers—Wood firing; Sawdust

Wood carving

English renaissance details; oak doors, Christchurch gate, Canterbury. *il diags plans Arch Forum* 36:201-3 My '22

Handicraft of woodcarving with an appendix on imagination in education. J. Jackson. 68p Pitman '21

Wood carving revealed as dying art. *il Pop Mech* 40:600 O '23

Wood cellulose. See Cellulose**Wood distillation**

Application of electrical precipitation to the wood-distillation process. L. F. Hawley and H. M. Pier. *il diags Chem & Met Eng* 26:1031-3 My 31 '22

Census of manufactures, 1921. 11p U S Bur Census '23

Destructive distillation of wood. H. M. Bunbury. 320p Van Nostrand '23

Distillation of hardwoods in Canada. J. S. Bates. (Canada. Dept of interior. Forestry branch. Bul. no. 3) 41p F. A. Acland, Ottawa '22

Distribution of methoxyl in the products of cooking jack pine by the soda process. S. S. Aiyar. *Ind & Eng Chem* 15:714-16 Jl '23

Distillation of stumpwood and logging waste of western yellow pine. M. G. Donk. C. H. Shattuck and W. D. Marshall. *diag map plan U S Agric Bul* 1003:1-69 '21

Distribution of methoxyl in the products of wood distillation. L. F. Hawley and S. S. Aiyar. *J Ind & Eng Chem* 14:1055-7 N '22

Effect of adding various chemicals to wood previous to distillation. L. F. Hawley. *J Ind & Eng Chem* 14:43-4 Ja '22

Hardwood distillation. H. C. Merriam. *J Ind & Eng Chem* 14:860-2 S '22

Management's reluctance to use technology in wood distillation. F. J. Root. *Chem & Met Eng* 27:464-5 Ag 30 '22

Manufacture of naval stores from the dead wood of the Southern pines. C. M. Sherwood. *il Chem & Met Eng* 25:994-8 N 30 '21

Manufacture of wood extract. J. A. Reavell. *il diags Soc Chem Ind J* 42:245-50 Je 8 '23

L'organisation du travail dans les exploitations forestières et dans les scieries mécaniques: sous-produits. P. Razous. *il diags Génie Civil* 83:109-11 Ag 4 '23

Stafford wood-carbonization process. *Chem & Met Eng* 28:441 Mr 7 '23

Wood carbonizing old industry. *Gas Age* 49:502 Ap 22 '22

Wood distillation—Continued

- Wood distillation. L. F. Hawley. 141p Chemical catalog co. '23
 Wood distillation fell back in 1921. Oil Paint & Drug Rep 102:48a D 11 '22; Same cond. Chem & Met Eng 27:1262 D 27 '22
 Wood distillation products in 1921 and 1922. Chem & Met Eng 28:446 Mr 7 '23
 Wood products, distillates and extracts. P. Dumesny. 2d ed., rev. & enl. 357p Van Nostrand '21

See also Pyroligneous acid

Wood drying. See Lumber drying

Wood engravings

- Contemporary English woodcuts. C. Dodgson. Duckworth & co., 3 Henrietta st., Covent Gardens, W.C. 2, London '22
 Four wood cuts. J. J. Lankes. Am Inst Arch J 10:247-50 Ag '22
 Interesting designs from the sixteenth century. Ptg Art 42:127-30 O '23
 New applications of the wood-engraving technique. Ptr Ink 121:41-2+ N 9 '22
 Old wood engravings. R. Seaver. Ptg Art 38:245-7 N '21

Wood finishing

- Few useful notes on finishing interior woodwork. A. A. Kelly. Bldg Age 45:82+ S '23
 Painting and decorating working methods produced under the direction of the International association of master house painters and decorators of the United States and Canada. F. N. Vanderwalker. 282p Printed by B. S. Adams, Washington, D.C. '22
 Period finish for wood and plaster. Il Arch Forum 39:161-8 O '23
 Problems of the finishing room. W. K. Schmidt. 5th ed. 596p Periodical pub. co., Grand Rapids, Mich. '22
 Some notes on wood finishing. A. A. Kelly. Bldg Age 44:62 O '22
 Standard grainer, stainer and marbler. A. A. Kelly. 185p McKay '23

See also Stains and staining (woodwork)

Wood oil

See Pine oil

Wood pavements. See Pavements, Wood

Wood pipes. See Pipes, Wood

Wood preservation

- Action of water on zinc chloride in wood; abstract. Am Inst Arch J 11:XVII My '23
 Aczol—an interesting wood preservative. Chem & Met Eng 27:509 S 6 '22
 A. E. R. E. A. wood preservation committee report. Elec Ry J 62:650-1 O 13 '23
 Better specifications for pole treatment needed. Elec W 82:421 S 1 '23
 Chemical warfare service to help in marine piling study. Eng N 90:262 F 8 '23
 Coal tar as a timber preservative. Gas Age 50:658 N 11 '22
 Control of sap-stain, mold, and incipient decay in green wood with special reference to vehicle stock. N. O. Howard. U S Agric Bul 1037:1-55 '22
 Creosote shortage threatens wood preservation. C. M. Taylor. Il Ry Age 74:505-7 Mr 3 '23
 Creosote treatment of sleepers. W. Kynoch and J. A. Coderre. Engineer 135:144-5 F 9 '23
 Creosoted pile specifications. Can Eng 45:269-70 Ag 28 '23
 Crisis in wood preserving. E. B. Fulks. Ry R 72:270 F 10 '23
 Danish railroads benefit from tie preservation. Ry Age 73:215-16 J1 29 '22; Excerpt. Eng & Contr (Ry) 58:7-8 O 18 '22
 Demonstrating the economy of timber treatment. Ry Age 74:804 Mr 24 '23; Same. Eng & Contr (Ry) 59:1407-8 Je 20 '23
 Destructive action of marine borers. H. von Schrenk. Can Eng 43:390-2 S 26 '22; Same abr. Eng & Contr (Bldgs) 58:47-50 O 25 '22
 Deterioration of materials used in harbour construction. Engineering 113:739-40 Je 16 '22; Same. Eng & Contr 58:270-2 S 20 '22; Same. Can Eng 43:431-3 O 10 '22

- Determining penetration of wood preservatives. Elec Ry J 59:331 My 20 '22; Same. Eng N 88:836 My 18 '22; Same. Am Arch 121:533 Je 21 '22; Same. Sci Am 127:11 J1 '22; Same. Eng & Contr 57:388 Ap 26 '22
 Economic aspects of treated ties for railway track. Eng N 90:704 Ap 19 '23
 Experience in treating bridge timber on the Santa Fe. A. F. Robinson. Eng N 88:611-12 Ap 13 '22
 Experimental work in tie preservation. Il Elec Ry J 59:969 Je 17 '22
 Features of a modern wood preserving plant and its operation. Il Eng & Contr (Bldgs) 58:79-80 N 22 '22
 Framing bridge timbers before treatment. Eng & Contr (Bldgs) 58:72-5; 59:705 N 22 '22. Mr 28 '23; Same cond. Ry Age 73:751-2 O 21 '22
 Growing need for the preservation of mine timbers. R. R. Horner. Coal Age 21:246-8 F 9 '22
 Gunite applied to fir piles for Tacoma pier. Il diag Eng N 89:739-41 N 2 '22
 Home treatment of lumber for mill roof with creosote; with cost tables. W. E. Rudolph. Il Eng N 88:874-6 My 25 '22
 Importance of wood preservation. H. H. George. Elec Ry J 61:808-9; 62:60-1 My 12, J1 14 '23
 Inspection of tie treating practices on the Philadelphia & Reading Ry. Ry R 72:864-6 My 19 '23
 It pays to treat wood poles and ties. H. H. George. Il Elec Ry J 61:1002-3 Je 16 '23; Same cond. Eng & Contr (Ry) 60:335 Ag 15 '23
 Moisture-resistant coatings for wood. Am Arch 123:203-4 F 28 '23; Same. Chem & Met Eng 28:589 Mr 28 '23; Same. Eng N 90:613 Ap 5 '23; Same. Arch & Bldg 55:43 Ap '23; Same. Am Inst Arch J 11:XIX+ My '23
 Most economical size of treating plant retort. G. Shipley. Il diag Ry Age 74:1002-3 Ap 21 '23
 New tie treating plant of the Oregon Short Line. Il Ry R 72:656-8 Ap 14 '23
 New timber treating plant at Minneapolis. Il plan Ry Age 72:1063-5 My 6 '22
 Paint protection for wood. C. T. Meyers. Soc Auto Eng J 10:348-50 My '22; Same. Mech Eng 44:519-20+ Ag '22; Same. Am Arch 122:337-40, 421-2 O 11, N 8 '22; Same cond. Automotive Ind 47:467-8 S 7 '22
 Poisons mixed in paraffin as wood preservative. Pop Mech 38:913 D '22
 Pole treatment does not affect conductivity. Elec W 81:699 Mr 24 '23
 Preservation of decaying wood roofs. W. S. Brown. Il diag Paper Tr J 75:47-51 O 19 '22; Same. Mech Eng 44:709-12 N '22; Same. Am Arch 122:571-6 D 20 '22; Same. Eng & Contr (Bldgs) 58:152-6 D 27 '22; Same, without table. Textile World 62:2167+ O 14 '22
 Preservation of mine timbers by the Wolman process. Eng & Min J 114:719 O 21 '22
 Preservation of red-cedar poles advocated. Elec W 80:776-7 O 7 '22
 Preservation of wood from the attacks of termites. G. W. Herrick. Sibley J 37:130+ Je '23
 Preservative oils for wood preservation. E. F. Hartman. Elec Ry J 61:298 F 17 '23
 Preservative treatment of car lumber. H. S. Sackett. Il Ry Age 71:1079-80 D 3 '21; Same. Ry Mech Eng 96:83-5 F '22
 Preservative treatment of railway sleepers in India. Engineering 114:807 D 29 '22
 Preservative treatment of ties and timber. charts Ry R 71:854-6 D 16 '22; Same cond. Eng & Contr (Ry) 59:141-7 Ja 17 '23
 Preserving ties and timber. F. C. Shepherd. Can Eng 44:395 Ap 10 '23
 Proper treatment of posts for guard rails. E. F. Paddock. Good Roads 63:130-1+ O 11 '22
 Protect wood from fire or guard it from getting in condition to burn freely. G. M. Hunt. Coal Age 21:657 Ap 20 '22
 Protection of concrete and other building materials against water and noxious fumes. M. Toch. Ind & Eng Chem 15:666 J1 '23
 Recent progress in timber preservation. Il Ry R 72:614-16 Ap 7 '23

Wood preservation—Continued

Report of A.R.E.A. committee on wood preservation. Ry R 72:529-30 Mr 17 '23; Elec Ry J 61:525 Mr 24 '23; Ry Mech Eng 97: 219-20 Ap '23

Report on car material treatment. Ry Age 74: 333-4 F 3 '23

Report on treated fence posts. Ry Age 74: 334 F 3 '23; Same abr. Eng & Contr (Ry) 59:456 F 21 '23

San Francisco bay marine piling survey; second annual progress report. 82p Am. wood-preservation's assn., San Francisco bay marine piling comm., San Francisco '22

Smaller amount of timber treated in 1922. Ry Age 75:631-2 O 6 '23

Statistics on the preservation of timber for 1920. Ry Age 71:928 N 12 '21

Statistics show increase in timber preservation. Ry Age 74:391 Ag 26 '22

Studies in wood decay. H. Schmitz. J Ind & Eng Chem 14:617-18 J1 '22

Ten years in wood preservation. Eng & Contr (Bldgs) 60:684-5 S 26 '23

Testing penetration of wood preservatives. Pop Mech 38:798 N '22

Tie and timber preservation. J. H. Waterman. Elec Ry J 59:524-5 Mr 25 '22

Tie treating practices of the A. T. & S. F. Ry. S. D. Cooper. map Ry R 73:415-18 S 22 '23; Same, without map. Eng & Contr (Ry) 60:818-21 O 17 '23; Abstract. Ry Age 75:533-4 S 22 '23

Timber above summer water level perfectly preserved. C. M. Kurtz. il Eng N 87:942 D 8 '21

Timber treating plant at Louisville, Ky. operates different processes. il diags plans Eng N 90:782-5 My 3 '23

Treated tie records on the C. B. & Q. R. R. Ry R 71:272-4 Ag 26 '22

Two aspects of the tie-treatment question. H. H. George. Elec Ry J 59:460-2 Mr 18 '22

Use of treated timber in car construction. Ry Mech Eng 96:209 Ap '22; Ry R 70:472 Ap 1 '22

When preservative treatment of wood is an economy. Eng & Contr 57:466 My 17 '22; Same. Eng & Min J 113:867 My 20 '22; Same. Am Arch 122:251 S 13 '22; Same abr. Elec Ry J 59:714 Ap 29 '22

Wood preservation; abstract. Am Inst Arch J 11:XVII S '23

Wood preservative which makes putrescible matter stable, strengthens timber, making it fire resistant. F. G. Zinsser. il Coal Age 20: 793-6 N 17 '21

Wood preservatives for shipbuilding purposes. H. H. Thayer. Marine Eng 28:175-6 Mr '23

Wood preservers discuss economics of ties. il Ry Age 72:269-72 Ja 28 '22

Wood preserving terms. E. F. Hartman and E. F. Paddock. 85p Protexol corporation, New York '22

Zinc chloride as a wood preservative. Coal Age 20:1015; 22:171 D 22 '21, Ja 26 '22

See also Creosote; Varnish and varnish-ing; Zinc chloride

Bibliography

Bibliography of articles relating to the preservation of mine timber. R. R. Hornor. 6p Rep. of Investigations U S Bur Mines 2343 '22 (typew)

Wood pulp

Alkaline wood pulp processes. S. D. Wells and others. Paper 32:5-14 Je 20 '23

American pulpwoods; the suitability of various species for pulp and paper production. S. D. Wells. Paper 32:7-14 J1 25; 6-8+ Ag 1 '23

Appeal for more data on mechanical pulp. F. W. Clarke. Paper 31:20 F 21 '23

Baryta resistance of wood pulps. C. G. Schwalbe and H. Wenzl. Paper Tr J 74:50-2 Je 22 '22

Bleached groundwood. A. O. Bragg. Paper 30: 7-10 Ap 26 '22

Chemical changes involved during infection and decay of wood and wood pulp. M. W. Bray and J. A. Staidl. J Ind & Eng Chem 14:35-40 Ja '22

Chemical properties of pulps prepared by indirect cooking. M. W. Bray and T. M. Andrews. Paper Tr J 76:49-52 Ja 18 '23

Chemistry of pulps; a comparison of the chemical changes of jack pine and aspen woods cooked by the soda process. M. W. Bray and T. M. Andrews. Paper Tr J 76: 49-51 My 10 '23

Chemistry of the alkaline wood pulp process. S. D. Wells and others. diag Paper Tr J 76:49-55 Je 14 '23; Same. Tech Assn Pa ser 6:42-3 Je '23

Chipping wood for chemical pulp. A. K. Hinds. il Chem & Met Eng 29:438 S 10 '23

Disintegration of wood for mechanical pulp. J. J. Case. diags Chem & Met Eng 29:439-40 S 10 '23

Distribution of methoxyl in the products of cooking jack pine by the soda process. S. S. Aiyar. Ind & Eng Chem 15:714-16 J1 '23

Economical digestion of wood. L. Enge. Paper 31:11+ Mr 21 '23

Estimating purity of pulp. H. Krull. Paper 29:9 Ja 25 '22

Grinding temperature of woodpulp. Paper 33: 3-7 O 25; 3-5 N 1 '23

Manufacture of groundwood by the Hall process. W. A. Munro. Tech Assn Pa ser 4: 43-5 Je '21

Manufacture of mechanical pulp. A. J. Dudley. Paper Tr J 76:54-5 Mr 1 '23

Measurement of pulpwood. O. Kress and G. D. Bearce. Tech Assn Pa ser 3:42-3 D '20

Measuring moisture of chips in cooking. F. M. Williams. Tech Assn Pa ser 4:29 Je '21

Modern practice in manufacture and applications of steamed ground wood. A. O. Bragg. il diags plan Chem & Met Eng 27:793-7, 842-6 O 18-25 '22

Modern sulphite mill in Finland. G. P. Genberg. Paper Tr J 77:107-8 O 18 '23

1923 brings steady advances in foreign pulp; Sweden, world's second largest producer of chemical pulp. H. Lagerloef. Paper Tr J 76:81-2 Ap 12 '23

Pollution of streams by pulp-mill wastes. G. C. Whipple. Am Soc C E Pro 48:1385-92 Ag '22; Same. Eng & Contr 58:252-5 S 13 '22

Pulp possibilities on the Pacific coast. A. W. Schorger. Paper Tr J 75:51-3 Ag 3 '22

Pulpwood and our forest depletion. A. S. Cosler. Paper 32:11 O 11 '23

Pulpwood and wood pulp. T. W. Ross. Paper Tr J 75:17-18 O 26 '22

Pulpwood decay as affecting pulp production. O. Schierbeck. Paper Tr J 77:53-5 J1 26 '23

Pulpwood stands in the lake states. C. W. Boyce. Paper 29:28-9 N 16 '21

Regional development of pulpwood resources of the Tongass national forest, Alaska. C. G. Smith. il map U S Agric Bul 950:1-40 '21

Ritter-Kellner hemlock pulp. Paper 31:7-9 N 22 '22

Sedimentation control of groundwood. W. A. Munro. Paper 30:45-6+ Ap 19 '22; Same. Paper Tr J 74:235+ Ap 13 '22; Same. Tech Assn Pa ser 5:28-9 Je '22

Strike depresses Swedish wood pulp industry. Paper Tr J 76:94-5 Ap 12 '23

Strong, quick cook, hemlock sulphite. L. Smith. Paper Tr J 75:53-4 N 9 '22

Use of white water in manufacture of groundwood pulp and effect on freeness. W. E. Brawn. Paper Tr J 76:50-2 Je 21 '23; Same. Tech Assn Pa ser 6:91-3 Je '23

Variables of wood chips. Paper 32:12 Je 13 '23

Waste in the sulphite industry. O. L. Berger. Paper Tr J 77:49-51 N 1 '23

Waterwheels in making groundwood. A. F. Meyer. Paper 30:53+ Ap 19 '22; Same. Paper Tr J 74:215+ Ap 13 '22; Same, without il. Tech Assn Pa ser 5:18-27 Je '22

Weighing wood in pulp manufacture. B. S. Summers. Paper Tr J 77:55-7 J1 12 '23

Wood preparation. C. K. Boyer. Paper Tr J 76:47-8 My 24 '23

Woods operation of mills. Paper 29:9-12 N 16 '21

See also Burrs; Paper

Wood pulp—Continued**Analysis**

Determination of the degree of lignification in wood and pulp. R. Sieber. Paper Tr J 74: 54+ Ja 19 '22

Storage

Use of clean water as a preservative for storing mechanical pulp. R. J. Blair and E. Parke-Cameron. il Paper Tr J 74:47-50 Mr 2 '22

Testing

Grinding tests of infected and sound wood; abstract. J. S. Bates. Paper 29:26 N 9 '21

Meaning of pH value in testing. Paper 32:7 O 18 '23

Moisture testing of woodpulp. E. C. Tucker. Tech Assn Pa ser 4:57-9 Je '21

Testing the strength of pulps. R. W. Sindall and Bacon. Paper 32:7-10+ My 23 '23; Same, with bibliog. Paper Tr J 77:46-9 Ag 23 '23

Transportation

Installation of wood pipe for conveying pulp. il Paper Tr J 76:54 F 8 '23

Wood tanks. See Tanks, Wood

Wood using industries

Report of Conference of wood-using industries, Harrisburg, Pennsylvania, April 14 and 15, 1921. (Bul. no 24) 77p Pa. Dept. of forestry, Harrisburg '22

Scope of the engineer in forest industries. S. L. de Carteret. Can Eng 42:245-6 F 21 '22

Wood-using industries of New York. R. V. Reynolds and R. J. Hoyle. 231p The University, Syracuse, N.Y. '21

See also Woodwork; Woodworking shops

Wood waste

Available supply of yellow pine waste. J. F. Carter. Paper 30:16-17 Mr 15 '22

Creating a new industry. Chem & Met Eng 28:540 Mr 21 '23

Ending hardwood lumber waste; Hardwood manufacturers' institute seeking to correct practices. L. C. Bell. Am Ind 23:17-18+ N '22

Key industry of the South; utilizing wood waste from turpentine production and converting it into kraft paper. H. W. Holcombe. Paper 32:13-14 Je 27 '23

Lessening lumber losses, ways in which wood wastes are saved. G. H. Dacy. il Sci Am 126:42-3 Ja '22

Manufacture of ethyl alcohol from wood waste. F. W. Kressmann. diags U S Agric Bul 983:1-100 '22

Paper and by-products from southern pine refuse. J. H. Wallace. il diags Mech Eng 44:163-4 Mr '22; Same cond. Paper 30:9-11 Mr 15 '22

Paper of the future. S. G. Roberts. il Sci Am 129:82-3 Ag '23

Saving of by-products improves lumber. il Pop Mech 38:405-6 S '22

Sawdust and shavings collecting plant. Engineering 114:596 N 10 '22

Stafford wood-carbonization process. Chem & Met Eng 28:441 Mr 7 '23

Using wood waste for making gas; process used in Germany and Sweden. H. Neumann. diags Paper 32:5-6+ Je 13 '23

See also Bark; Sawdust; Wood as fuel

Woodward, Elmer E., 1862-
Portrait. Elec W 80:260 Ag 5 '22

Woodwork

American interiors of the early republican period; woodwork and furniture of the Derby-Rogers house at the Museum of fine arts, Boston. E. J. Hipkiss. il Arch Forum 38:209-12 Ap '23

Applied science for metal and wood workers. W. H. Dooley. 559p Ronald press '23

Miscellaneous specification data. Am Arch 123:440-1 My 9 '23

Woodwork joints. 213p Lippincott '21

See also Furniture; Stains and staining (woodwork); Turning; Woodworking shops

Dictionaries

Timber technicalities. E. Haynes. 191p W. Rider & son, London, New York '21

Study and teaching

Art and education in wood-turning. W. W. Klenke. 110p Manual arts press '21

Woodworking machinery

Crescent improved wood-working machine. il Iron Age 112:1250 N 8 '23

Fallacy of the safety cutter block. diags Engineer 135:156 F 9 '23

High-speed wood planing and moulding machine. il diags Engineering 115:365-6, pl 24-5 Mr 23 '23

Modern shaper practice. W. H. Rohr. 191p Practical books co., Indianapolis, Ind. '23

Modern wood-working machinery. il Eng & Ind Management 7:527-9+ Je 15 '22

New factors influencing the design of wood-working machinery. S. Madsen. il Mech Eng 45:180-2 Mr '23

Oliver direct motor driven wood surfacers. il Am Mach 58:816 My 31 '23

Special machinery and equipment in cross-arm plant. il Elec R 79:763-4 N 19 '21

L'usinage du bois, puissance requise par les machines à bois, dynamique des machines à grand vitesse. J. Petitpas. 236p Dunod, Paris '23

Versatile woodworking machine. il Sci Am 129: 260 O '23

Woodworking machinery for surfacing and thicknessing. il diags Engineering 115:618-20 My 18 '23

Work both wood and metal on one machine. il Coal Age 22:671 O 26 '22

See also Lathes; Planing machines; Sanding machines; Sawmills; Saws

Woodworking shops

Control of lumber-cutting waste and production. C. M. Bigelow. chart plan Mech Eng 45:42-4 Ja '23

Establishing standards in time study. P. Bernstein. Ind Management 64:243-9 O '22

Novel scheme for regulating humidity in an airplane propeller factory. A. C. Knauss. il diags plans Heat & Ven 19:33-6 Ja '22

See also Wood waste

Accidents

Woodworking accidents increase in 1922. Nat Safety N 8:49 Jl '23

Lighting

Some examples of lighting in woodworking plants. A. D. Bell. il Ind Eng 80:511-14+ N '22

Wool

Action of ozonized air on wool and chlorinated wool. S. R. Trotman and D. A. Langsdale. Soc Chem Ind J 42:13 Ja 12 '23; Same. Color Tr J 12:221-2 My '23

Demand for fine counts. Textile World 64: 1391+ S 8 '23

How woollen press felts are made. E. S. Bates. Paper 30:7-11+ Mr 8 '22; Same. Paper Tr J 74:43-6 F 23 '22

Making wool moth-proof. Mackbach. Sci Am 127:260 O '22

Moth-proof wool. Sci Am 126:319 My '22

Quality and character in wool. A. R. van der Merwe. Textile World 64:711 Ag 4 '23

Raw materials of industry, cotton and wool. J. S. M. Ward. 270p [Wool bibliog. p. 261-70] W. Rider & son, London '21

Sortion of neutral soap by wool and its bearing on scouring and milling processes. Color Tr J 11:131-8 S '22

Standard method for the estimation of soap in wool. Textile Col 45:112 F '23

Virgin wool and shoddy; what the microscope tells us about their make-up and identification. L. A. Hausman. il Sci Am 127:410-11 D '22

See also Bleaching—Wool; Dyes and dyeing—Wool; Fulling; Fulling oils; Wool scouring; Wool trade; Woollen and worsted manufacture; Worsteds

Wool—Continued**Grading**

Judging fineness of wool. J. A. Hill. Textile World 61:97+ Ja 7 '22
Measurement of wool as a basis for grading. H. B. Gordon. Textile World 63:1707+ Mr 10 '23

Moisture content

Moisture content of wool—its relation to scientific theory and commercial practice. S. A. Shorter. bibliog Soc Dyers & Col J 39: 270-6 S '23; Same. Am Dyestuff Rep 12:797-803 N 5 '23; Abstract. Textile World 64: 2895+ N 10 '23

Testing

Preparing wool for the buyer. K. H. Lansing. il Textile World 60:3383+ D 10 '21

Wool carbonizing

Carbonization. J. F. Springer. Color Tr J 12: 30-2 Ja '23
Carbonizing dress goods with aluminum chloride. F. Biery. Am Dyestuff Rep 12:392 My 21 '23
Carbonizing with chloride of alumina. R. O. Fernandez. Am Dyestuff Rep 12:389-92; Discussion. 393-4 My 21 '23
Carbonizing worsted piece goods. M. R. Mof-fatt. Am Dyestuff Rep 12:392-3 My 21 '23

Wool carding

Card grinding in worsted mills. Textile World 64:117 JI 7 '23
Carding for worsted yarns. Textile World 62:2190-1 O 14 '22
Wool carding. J. Bradley. 344p Emmott & co., Manchester, London '21

Wool cleaning

Protectol, a new compound for degreasing wool. Color Tr J 10:84 F '22

Wool combing

Principles of wool combing. H. Priestman. 2d ed., rev. & enl. 236p G. Bell & sons, London '21
Wool-combing seventy years ago. Textile World 63:3165+ My 12 '23

Wool disinfection

Government wool-disinfecting station. il Soc Chem Ind J (Chem & Ind) 42:199-202 Mr 2 '23

Wool printing

Use of zinc dust in wool printing. E. Cagliostro. Color Tr J 12:27-8 Ja '23
Vigoureux printing of wool. L. J. Matos. Textile World 64:1395+ S 8 '23

Wool research

Progress of wool research. J. A. Hunter. Textile World 61:3555+ Je 10 '22

Wool scouring

Acid treatment of wool-scouring waste water. H. M. Ladell. Pub Works 53:90 JI 29 '22
Emulsion method of scouring. Textile World 62:2668-9 N 4 '22
New scouring methods. Color Tr J 9:195 N '21

Oval scouring and washing machine. K. S. Wien. diags Color Tr J 11:261 D '22
Saponification scouring of wool. J. Schofield. Textile World 61:2077+ Ap 8 '22

Scouring low-grade wools. J. Schofield. Color Tr J 12:134-6 Mr '23; Same. Textile Inst J 14:446-8 Mr '23; Same, without discussion. Textile Col 45:302-3 My '23; Same. Am Dyestuff Rep 12:627-9 Ag 27 '23

Theory and practise of piece scouring. S. A. Shorter. Color Tr J 11:40-1 JI '22

Wool scouring wastes for fertilizer purposes. F. P. Veitch. J Ind & Eng Chem 14:434 My '22; Same abr. Textile World 61:2967 My 20 '22

Wool sorting

Wool sorting and blending. Textile World 61: 3553+ Je 10 '22

Wool trade

Labelling fabrics. Color Tr J 12:198-201 My '23
Problems and possibilities in wool goods trade. Textile World 61:2437-8+ Ap 29 '22

Recent tendencies in the wool trade with special reference to their tariff aspects, 1920-1922. 49p U.S. Tariff comm., Washington '22
Rout in wools turns into strong advance. Textile World 61:771+ F 4 '22
Situation in raw wool. J. F. Brown. Textile World 60:3377-9 D 10 '21
Steady advance in tops and noils in 1922. Textile World 63:867+ F 3 '23
Wool situation. J. Bateman. Textile World 61:3165-6 My 27 '22
Wool, the world's comforter. W. D. Darby. 107p Dry goods economist, New York '22
World production of wool. Textile World 63: 1717 Mr 10 '23
Year of ups and downs in men's wear. Textile World 61:741-2 F 4 '22
See also Wool waste

Argentina

Sheep and wool production in Argentina with special reference to cost of production, 1918 and 1919. 35p U.S. Tariff comm., Washington '22

Great Britain

British textile trade in 1922. Textile World 63:855+ F 3 '23
British wool textile trade in 1921. Textile World 61:743+ F 4 '22

United States

Huge wool stocks to be released. Am Ind 23: 43+ O '22
Outlook is bright for wools. J. J. Nevins. Annalist 19:64 Ja 9 '22
To help stabilize wool trade. Textile world 64:1514 S 15 '23
Western products overcome difficulties in national markets. A. R. Jacobs. il J Elec 47: 381-2 N 15 '21
Wool consumption in July. Comm & Fin Chr 117:1064-5 S 8 '23 [Continued monthly]
Woolen and worsted goods census. Textile World 63:1843 Mr 17 '23

Wool washing. See Wool scouring

Wool waste

Fair year in waste and fibres. Textile World 63:879+ F 3 '23

Woolen (term)

Woolen vs. worsted. A. W. Stewart. Textile World 62:1426 S 9 '22

Woolen and worsted fabrics

Designs and weave for trouserings. il Textile World 64:1393+ S 8 '23
Greater diversity in women's wear. Textile World 63:853+ F 3 '23
Patterned lines mark French fall showings. H. Volka. Textile World 63:3799-3800+ Je 9 '23
Worsted serge fabrics. il Textile World 62: 3317+ D 9 '22

See also Broadcloth; Scotch tweed

Woolen and worsted finishing

Defects developed in dyeing and finishing. E. Midgley. Textile World 62:1127+ Ag 26 '22
English method of finishing tweeds. D. S. Brydon. Color Tr J 12:262-4 Je '23
Finishing light broadcloth. Am Dyestuff Rep 12:597-8 Ag 13 '23
Finishing soft-handling wools. Am Dyestuff Rep 12:718-19 S 24 '23
Layouts for velour finish fabrics. il Textile World 61:2847+ My 13 '22
Melton finish. O. Fisk. il Textile World 62: 3017+ N 25 '22
Practical points in the finishing of fine worsteds. A. Jackman. Color Tr J 10:262-3 Je '22
Unshrinkable finish on wool. S. R. Trotman. Am Dyestuff Rep 12:611-12 Ag 13 '23; Same. Textile World 64:2419+ O 27 '23
Varying the cassimere finish. O. Fisk. Textile World 62:1553+ S 16 '22; Same. Am Dyestuff Rep 12:440-1 Je 4 '23
Washing and fulling carded wool fabrics. A. Ganswindt. Color Tr J 11:128-30 S '22

Woolen and worsted machinery

French worsted drawing machinery. A. S. Neilson. il Textile World 62:203+ JI 8 '22

Woolen and worsted machinery—Continued

- Intermediate feeder; refined Apperly giving improved work in card rooms. *il* Textile World 64:1399 S 8 '23
 Oval scouring and washing machine. K. S. Wien. *diags* Color Tr J 11:261 D '22

See also Wool scouring

Woolen and worsted manufacture

- Covering vegetable fibers in woolen piece-goods. W. E. Sanderson. *Color* Tr J 10:213-15 My '22
 Falsehood-in-fabric bill; carded woolen association expresses opinion about Copper wool goods labeling bill. Textile World 63:457+ Ja 27 '23
 Forrest system of blending worsted. *il diags* Textile World 63:1587+ Mr 3 '23
 French vs. Bradford worsted system. Textile World 63:103 Ja 6 '23
 History of the woolen and worsted industries. E. Lipson. 273p Macmillan '21
 Human factor in worsted top-making. Textile World 63:3813+ Je 9 '23
 Humidity in woolen and worsted mills. A. W. Thompson. *il* Textile World 62:2893+, 3185-6+, 3315+ N 18, D 2-9 '22
 Men's wear homespun fabrics. *il* Textile World 62:2189-90 O 14 '22
 Oils used in the textile industries. L. L. Lloyd. *Am Dyestuff Rep* 12:443-4 Je '23
 Power, steam and water use in processes. J. A. Campbell. Textile World 64:677+ Ag 4 '23
 Report of adjusting committee of American association of woolen and worsted manufacturers. Textile World 64:352 Jl 21 '23
 Wool and worsted top clothing fabrics. *il* Textile World 61:3551+ Je 10 '22
 Wool substitutes. R. Beaumont. 190p Pitman '22
 Worsted cheviot top clothing fabrics. *il* Textile World 62:2667-8 N 4 '22
 Worsted manufacturing practice. W. D. Hartshorne. Textile World 61:1439+ Mr 4 '22
See also Blankets; Chinchilla; Covert cloth; Dyes and dyeing—Wool; Fulling; Fulling oils; Textile fabrics; Textile industry; Textile mills; Wool carding; Wool scouring; Woolen and worsted finishing; Woolen and worsted machinery; Woolen and worsted mills

Woolen and worsted mills

- Determining woolen mill costs. C. W. Bennett. *Management Eng* 3:91-4 Ag '22
 Golden State woolen mills at Long Beach, California. *il* Textile World 63:2503+ Ap 14 '23
 Jamestown worsted mills. S. B. Lincoln. *il* Textile World 63:3045 My 5 '23
 Planning modern worsted factories. F. W. Moore. Textile World 60:2869+; 61:96-7 N 12 '21, Ja 7 '22
 Shawshen mill no. 2, storehouse and dye-house. *il* plan Textile World 63:999+ F 3 '23
 Super-span roof trusses for this modern factory building. W. R. Fogg. *il* Bldg Age 45: 54-5 My '23

See also American woolen company

Employees

- Wages and hours of labor in the woolen and worsted industry. *Monthly Labor R* 15:771-6 O '22
 Wages and hours of labor in woolen and worsted goods manufacturing, 1920. U S Bur Labor Statistics Bul 289:1-97 '21
 Wages and hours of labor in woolen and worsted goods manufacturing, 1922. U S Bur Labor Statistics Bul 327:1-34 '23

Power

- Electric driving in Scottish woollen mills. A. W. Stevenson. *il* Electrician 88:217-19 F 24 '22
 Group vs. individual drives on wool cards. A. E. Reed. *il* Textile World 61:63+ Ja 7 '22
Woolen and worsted overseers, National association of. *See* National association of woolen and worsted overseers

Woolen and worsted spinning

- Ninety-five per cent. yarn from top. Textile World 64:1997+ O 6 '23
 Woolen and worsted spinning. A. F. Barker. 344p Funk & Wagnalls co.; New York '23
 Worst drawing and spinning calculations. G. H. Davies. 167p Lippincott '23

Wooltex company

- Help for saleswomen in converting shoppers into satisfied customers. J. A. Israel. *Ptr Ink* 124:145-6+ S 6 '23

Words

- Before words. R. Barstow. *Ptg Art* 41:350-2 Je '23
 Curious found in dictionaries. F. H. Teall. *Inland Ptr* 64:700; 66:494, 624; 67:60, 350, 494; 68:56, 189-90, 658, 774-5; 69:376, 548, 686; 70: 70, 213-14, 384, 688 Mr '20, Ja-F, Ap, Je-Jl, O-N '21, F-Mr, Je-Ag, O-D '22, F '23
 Echoistic words—the keen-edged tools of advertising. A. H. Little. *Ptr Ink* 125:145-6+ O 25 '23
 English words and their background, by G. H. McKnight. *Review* by E. N. Teall. *Inland Ptr* 71:367-8 Je '23
 Thick-shelled words. P. K. Marsh. *Ptr Ink* 121:44+ N 23 '22
 When foreign words become English. F. H. Teall. *Inland Ptr* 69:206-7 My '22

Work

- Work and industrial progress. A. W. Allen. *Min & Sci P* 124:331-6 Mr 11 '22

See also Fatigue

Work curve. *See* Efficiency, Industrial**Workbenches**

- Kinks that pay dividends in the shop. J. P. Harner. *diags* Sheet Metal Worker 14:253+ Ap 27 '23
 To keep bench top true. *diags* Brass W 19: 185 Je '23

Workers. *See* Labor and laboring classes**Workers' education.** *See* Education of workers**Workers' education bureau of America**

- Annual convention, New York city, April 14-15. *Monthly Labor R* 16:1354-5 Je '23
 Mis-education of R.R. employees and industrial workers. *Ry R* 72:375-81 Mr 3 '23
 New kind of propaganda against the railroads; workers' education in socialist labor colleges being used to promote scheme for nationalization of roads. *Ry R* 72:586-91 Mr 31 '23

Workers' educational association of Great Britain

- Workers' educational association of Great Britain. A. Mansbridge. *Int Labour R* 6:335-44 S '22

Working girls and women

- Cost of living survey of wage-earning women in Kansas. *Monthly Labor R* 14:1150-1 Je '22
 Housing for employed women in New York city. *Monthly Labor R* 15:648-52 S '22
 Savings of woman shoe workers in Lynn, Mass. *Monthly Labor R* 13:1093-5 N '21

See also Woman—Employment

Working women, International congress of. *See* International congress of working women**Workingmen's houses.** *See* Housing; Housing projects, Company**Workmen's compensation**

- Coal miner's job safe, but accident cost grows steadily. E. W. Davidson. *Coal Age* 21:111-12 Ja 19 '22
 Disease as a compensable injury. L. D. Clark. *Monthly Labor R* 17:196-202 Jl '23
 Handling employees' claims. S. A. Bishop. *Elec Ry J* 58:873-4 N 12 '21
 Law of workmen's compensation. W. R. Schneider. 2v Thomas law bk. co., St. Louis '22
 Miners' nystagmus from the point of view of the workmen's compensation act. T. L. Llewellyn. *bibliog J Ind Hygiene* 4:335-45 D '22
 Proceedings of the seventh annual meeting of the International association of industrial accident boards and commissions. U S Bur Labor Statistics Bul 281:1-447 '21

Workmen's compensation—Continued

Proceedings of the 8th annual meeting of the International association of industrial accident boards and commissions held at Chicago, Sept. 19-23, 1921. U S Bur Labor Statistics Bul 304:1-254 '22

Proceedings of the ninth annual meeting of the International association of industrial accident boards and commissions. U S Bur Labor Statistics Bul 333:1-336 '23

Report of N.W.D.A. committee on employers' liability and workmen's compensation. Oil Paint & Drug Rep 104:15 O 17 '23

Tables of comparative benefits of various compensation laws. S. L. Otis. 3d ed., rev. & enl. 23p Spectator co., New York '22

Workmen's compensation. See monthly numbers of Monthly labor review

Workmen's compensation and social insurance. See monthly numbers of Monthly labor review

Workmen's compensation claims considered as a continuing and increasing liability to electric railway companies. M. E. Burke. Elec Ry J 59:159-60 Ja 28 '22

Workmen's compensation provisions for long-shoremen. Monthly Labor R 15:152-4 Ji '22

Workmen's compensation statute law. L. V. Hill and R. H. Wilkin. 391p St Louis law ptg co., St Louis '23

See also Back strain; Disabled; Employers' liability; Insurance, Workmen's compensation; also International association of industrial accident boards and commissions

Canada

Workmen's compensation legislation of the United States and Canada, 1920 to 1922. L. D. Clark. U S Bur Labor Statistics Bul 332:197-233 '23

Chile

Chilean legislation on compensation for industrial accidents. Monthly Labor R 17:948 O '23

Denmark

Determining compensation under Danish accident insurance law of July 6, 1916. Monthly Labor R 16:631-2 Mr '23

France

Loi du 15 décembre 1922; étendant aux exploitations agricoles la législation sur les accidents du travail. E. Brochier. Génie Civil 82:232-5 Mr 10 '23

Great Britain

Accidents from the point of view of the workmen's compensation act, England. D. A. Coles. J Ind Hygiene 5:8-13 My '23

Statistics of compensation during 1920. J. J. H. Stansfield. Elec R (Lond) 90:185-6 F 10 '22

Statistics of compensation in Great Britain. Monthly Labor R 14:801-2 Ap '22

Workmen's compensation: agreements to settle for a lump sum. Engineering 115:402 Mr 30 '23

Workmen's compensation in Great Britain, 1921. Monthly Labor R 16:830-3 Ap '23

India

Workmen's compensation law of India. Monthly Labor R 16:1087-8 My '23

New York (state)

Cost of industrial accidents in New York state under the workmen's compensation law. Safety Eng 46:148-9 S '23

Test of hazard under compensation law of New York. Monthly Labor R 15:409-13 Ag '22

Ohio

Movement against open liability in Ohio. Sheet Metal Worker 14:733 O 12 '23

Pennsylvania

Workmen's compensation law of the state of Pennsylvania. 794p Workmen's compensation board of Pennsylvania, Harrisburg '22

Switzerland

Compulsory accident insurance in Switzerland, 1921. Monthly Labor R 16:1088-92 My '23

United States

Comparison of compensation laws in the United States, as of January 1, 1923. Monthly Labor R 16:158-69 Ja '23

Digest of workmen's compensation laws in the United States and territories. F. R. Jones, comp. 7th ed., rev. 389p Workmen's compensation publicity bureau, New York '21

Government's new workmen's compensation bill. Engineering 115:687-8 Je 1 '23

Review of compensation legislation for 1923. L. D. Clark. Monthly Labor R 17:926-38 O '23

Workmen's compensation acts in the United States; the medical aspect. 282p Nat. ind. conference board, New York '23

Workmen's compensation legislation of the United States and Canada. L. D. Clark and M. C. Frincke, jr. map U S Bur Labor Statistics Bul 272:1-1211 '21

Workmen's compensation legislation of the United States and Canada, 1920 to 1922. L. D. Clark. U S Bur Labor Statistics Bul 332:1-196 '23

Workmen's compensation statutes in forty-two states multimform and dissimilar—marked need of standardization, reports National industrial conference board. N E L A Bul 10:538-9 S '23

Wisconsin

Industrial accidents in Wisconsin, 1921 and 1922. Monthly Labor R 17:475-7 Ag '23

Workmen's compensation insurance. See Insurance, Workmen's compensation

Works councils. See Shop committees

World court. See Permanent court of international justice

World power conference, London, 1924

Plans for world power conference. Elec W 82:299 Ag 11 '23; Engineer 136:403 O 12 '23

Program of the first world power conference. Elec W 82:399 Ag 25 '23; Same. Power 58:347 Ag 23 '23

Worm gearing. See Gearing, Worm

Worms, Marine. See Marine worms

Worsted

Carding for worsted yarns. Textile World 62:2190-1 O 14 '22

Fibre control in making worsted yarns. plans Textile World 64:707 Ag 4 '23

Production of novelty yarns. H. Turner. diags Textile World 64:1999+ O 6 '23

Promising outlook for worsted yarns in 1923. Textile World 63:863+ F 3 '23

Removing yarn kinks in twisting. diag Textile World 61:2079 Ap 8 '22

Unexpected changes feature worsted yarns. Textile World 61:759+ F 4 '22

Woolen vs. worsted. A. W. Stewart. Textile World 62:1426 S 9 '22

Worsted yarn faults. Textile World 64:713+ Ag 4 '23

See also Woolen and worsted finishing; Woolen and worsted manufacture; Woolen and worsted mills; Yarn

Worsted and woolen spinners. National association of. See National association of worsted and woolen spinners

Wort

Rate of formation and the yield of yeast in wort. N. A. Clark. J Phys Chem 26:42-60 Ja '22

Wright, E. A., 1879- Metallurgists of note. por Eng & Min J 114:417 S 2 '22

Wrapping machines

Cooling and wrapping of our daily bread. G. F. Zimmer. Ind Management (Lond) 10:131-4 S 6 '23

Wrapping paper

Coarse paper. D. C. Everest. Paper Tr J 75:18-21 O 26 '22; Same. Paper 31:11-14+ N 8 '22

Wrapping paper—Continued

- Comments on wrapping paper used for the shipping of furniture. E: Dahill, Jr. Paper Tr J 76:51-2 F 15 '23
- Kraft pulp and kraft paper. A. S. M. Klein. chart Paper 29:9-12 N 30 '21
- Semi-annual meeting of the wrapping paper division of the National paper trade association. Paper Tr J 75:72+ O 26 '22
- Simple and practical method for measuring water-resistance of fiber board and wrapping papers. E. O. Reed. Paper Tr J 74:43-4 Ja 19 '22
- Wrapping conversion costs. Paper Tr J 76:59-61 My 24 '23
- Wrapping paper and business conditions. G: W. Sisson, Jr. Paper 29:9-16 N 9 '21
- Wrapping paper from merchant's viewpoint. F. E. Floyd. Paper Tr J 75:21-3 O 26 '22
- Wrapping paper market in steady condition. F. E. Floyd. Paper Tr J 76:79-80 Ap 12 '23

Wrecking

- Blasting down a brick smokestack. il diag Eng & Contr 58:288 S 20 '22
- Blasting down a brick stack. Eng & Contr (Bldgs) 58:132 D 27 '22
- Breaking up old concrete by hydraulic pressure. F. Johnstone-Taylor. diag Eng N 91:443 S 13 '23
- Church steeple pulled down by truck with winch. il Pop Mech 40:660 N '23
- La démolition du tunnel des Batignolles, près de la gare Saint-Lazare, à Paris. P. Calfas. il diags plans Génie Civil 82:121-3 F 10 '23
- Demolition of existing buildings; specifications. Am Arch 120:402-4 N 23 '21
- Demolition of the Batignolles tunnels. il diags Engineer 134:530-1 N 17 '22; Same. Eng & Contr 59:278-80 Ja 31 '23
- Dismantle Jersey City trainshed of Pennsylvania RR. il diags plan Eng N 89:270-2 Ag 17 '22
- Felling a factory chimney. Am Arch 121:38-9 Ja 4 '22
- Novel method of removing a concrete stack. L. L. Coates. il Locomotive 34:206-8 Jl '23
- Removing concrete foundations by blasting. C: B. Spicer. diag Eng & Contr 57:85-6 Ja 25 '22
- Removing reinforced concrete Venturi vault with air operated breakers. il Munic Eng 63:sup27-8 S '22
- Tearing down to build again. A. G. Ingalls. il Sci Am 128:372-3+ Je '23

See also Bridges—Wrecking; Warships—Demolition

Wren, Sir Christopher, 1632-1723

- Sir Christopher Wren. Am Arch 123:246 Mr 14 '23
- Sir Christopher Wren. R. C. Sturgis. por (front) Am Inst Arch J 11:81-3, 91-4 Mr '23
- Sketch. H. D. Eberlein. il Arch Forum 38:45-50 F '23

Wrenches

- Gordon automatic adjustable wrenches. il Am Mach 58:238 F 8 '23
- Pipe wrench designed for difficult corners. il Ry Mech Eng 96:542-3 S '22
- Three-part pipe wrench of great strength. light weight and ease of application. il Coal Age 22:236 Ag 17 '22
- Troubles with spanner wrenches. D. A. Hampson. diags Mach 29:133 O '22
- Uncommon shark's jaw. J. T. Towilson. diags Am Mach 57:733 N 9 '22

Advertising

- Getting home use for an expert's product. C. B. Larrabee. Ptr Ink 122:69-70+ Ja 4 '23
- High price an asset in quick dealer distribution for new product; new G T D pipe wrench. G. Snow. Ptr Ink 121:57-8+ O 5 '22

Manufacture

- Drawing sockets for wrenches. il Mach 29:469-70 F '23

Wright, Wilbur**Memorial lecture**

- Some aspects of aeronautical research. A. Ogilvie. Aeronautical J 26:381-9 O '22

Wright aeronautical corporation, Paterson, N.J. 2d report, 1921. Aviation 12:397 Ap 3 '22

Wright-Martin aircraft corporation

Department of justice versus Wright-Martin aircraft corporation. Aerial Age 14:541 F 13 '22; Aviation 12:163 F 6 '22

Wrigley building, Chicago

Wrigley building, Chicago. il diags plan Arch & Bldg 53:95-7, pl 209-10 D '21; Same, without pls. Eng & Contr 57:187 F 22 '22

Wrigley company

Wrigley increases his advertising outlay to \$4,000,000. C. M. Harrison. Ptr Ink 120:17-20 Ag 10 '22

Writing

Story behind the galley. J. B. Arnold. Inland Ptr 71:201-2 My '23

Identification

Documents and their scientific examination. C. A. Mitchell. 215p Charles Griffin & co., London; Lippincott '22

Writing, Invisible

Reading between the lines; methods of invisible writing employed during the war, and their detection. J. Boyer. il Sci Am 126:32 Ja '22

Writing materials

Documents and their scientific examination. C. A. Mitchell. 215p Charles Griffin & co., London; Lippincott '22

Wrought iron

- Iron and steel classified for designers. W: J. Merten. Blast F & Steel Pl 10:231 Ap '22
- Make puddled iron mechanically. E. C. Kreutzberg. il diags Iron Tr R 71:365-7 Ag 10 '22
- Making wrought iron a new way. A. Sauveur. il diags Sci Am 129:186 S '23
- Mechanical production of wrought iron. il diags Ry R 71:340-1 S 9 '22
- New process for mechanical puddling. il diags Iron Age 110:143-5 Jl 20 '22
- Wrought iron from an old Chicago bridge. Eng N 89:279 Ag 17 '22
- See also Grilles; Puddling; Puddling furnaces

Specifications

Report of committee A-2 of A.S.T.M. on wrought iron. Am Soc T M Pro 21:90-5; 22 pt 1:131-3 '21-'22

Testing

Some observations on the nick-bend test for wrought iron. H: S. Rawdon and S: Epstein. il Am Soc T M Pro 22 pt 2:193-216 '22; Summary. Ry Mech Eng 96:502 S '22

Wu Ting Fang

Portrait. System 41:156 F '22

Wurtz-Fittig synthesis

Studien über die synthese von Wurtz-Fittig. W. Fuchs and H. Metzl. Deutsche Chem Gesell Ber 55:738-47 Mr '22

Über den mechanismus der Wurtz-Fittigschen synthese. H. H: Schlubach and E: C. Goes. Deutsche Chem Gesell Ber 55:2889-2902 S '22; Abstract. Chem Soc J 122 pt 1:1204-6 D '22

Wyoming

See also Coal mines and mining—Wyoming; Petroleum—Wyoming; Petroleum industry and trade—Wyoming; Water power—Wyoming

Public works

Southeast corner of Wyoming. il Eng N 89:232-4 Ag 10 '22

X

X ray tubes

American practice as regards the generation of suitable voltages and currents for deep therapy. C. H. Holbeach. diags Inst E E J 61:369-76 Mr '23

Edison effect and its modern applications. C. H. Sharp. il diags Am Inst E E J 41:68-78 Ja '22

X ray tubes—Continued

- Polarization phenomena in X-ray bulbs. S. Ratner. *diag Philos Mag* 6th ser 43:193-204 Ja '22
- X rays**
- Absolute scale of X-rays wave-lengths. O. B. Overn. *Phys R* 18:350-5 N '21
- Absorption coefficients for homogeneous X-rays. E. G. Taylor. *Phys R* 20:709-14 D '22
- Absorption of narrow X-ray beams. P. W. Burbidge. *Philos Mag* 6th ser 43:389-92 F '22
- Analogy between electrical waves and X-rays. N. Kapzov. *J Fr Inst* 195:120 Ja '23; Same. *Sci Am* 128:391 Je '23
- Balance method of measuring X-rays. S. Russ and L. H. Clark. *diags Philos Mag* 6th ser 44:1159-64 D '22
- Beginning of the K and L series of X-rays. F. L. Mohler and P. D. Foote. *Phys R* 19:434-5 Ap '22
- Characteristic L absorption of X-rays for elements of atomic numbers 62 to 77. J. M. Cork. *Phys R* 21:326-33 Mr '23
- Characteristic soft X-rays from arcs in gas vapors. *Sci Am* 126:206 Mr '22
- Characteristic soft X-rays from arcs in gases and vapors. F. L. Mohler and P. D. Foote. *diag U S Bur Stand Sci Pa* 425:471-96 '22
- Characteristic X-rays from boron and carbon. A. L. Hughes. *diags Philos Mag* 6th ser 43:145-61 Ja '22
- Continuous spectral energy distribution within the X-ray tube. P. Kirkpatrick. *Phys R* 22:37-47 Jl '23
- Corpuscular quantum theory of the scattering of X-rays by light elements. G. E. M. Jauncey. *Phys R* 22:233-41 S '23
- Determination of the coefficient of reflexion of X-rays for calcite and rock-salt. B. Davis and H. M. Terrill. *Philos Mag* 6th ser 45:463-70 Mr '23
- Effect of damping on the width of X-ray spectrum lines. G. E. M. Jauncey. *Phys R* 19:64-7 Ja '22
- Effect of temperature on the scattering of X-rays by crystals. G. E. M. Jauncey. *Phys R* 20:421-3 N '22
- Effect of the magnetic field on the absorption of X-rays. J. A. Becker. *diags Phys R* 20:134-47 Ag '22
- Emission of electrons by X-rays. G. Shearer. *diag Philos Mag* 6th ser 44:793-808 N '22
- Examination of textiles by X-rays. *il Sci Am* 127:120 Ag '22
- Excitation of soft characteristic X-rays. O. W. Richardson and C. E. Bazzoni. *Philos Mag* 6th ser 42:1015-19 D '21
- Existence of an anomalous reflection of X-rays in Laue photographs of crystals. R. W. G. Wyckoff. *il Am J Sci* 5th ser 6:277-87 O '23
- Experimental study of the scattering of approximately homogeneous X-rays by powdered crystalline carbon, metallic lithium, and liquid benzene, mesitylene, and octane. C. W. Hewlett. *Phys R* 20:688-708 D '22
- Extension of the X-ray spectrum to the ultra-violet. E. H. Kurth. *diag Phys R* 18:461-76 D '21
- Grundlagen für die feststellung von fehlerstellen in stahl mittels röntgenstrahlen. E. H. Schulz. *il diags Stahl & Eisen* 42:492-6 Mr 30 '22
- Improved X-ray equipment for medical use. *il Pop Mech* 38:891 D '22
- Industrial applications of X-rays. P. H. S. Kempton. 112p Pitman '22
- Low-velocity X-ray electrons. L. Simons. *Philos Mag* 6th ser 46:473-80 S '23
- Measurements of the amount of scattered homogeneous X-rays of wave-length 0.712 Å. per gram of carbon. C. W. Hewlett. *Phys R* 19:265-7 Mr '22
- Midget X-ray apparatus is immersed in oil. *il Pop Mech* 37:30 Ja '22
- Modern X-ray department. *il Elec R (Lond)* 92:1021-3 Je 29 '23
- New X-ray diffraction apparatus. W. P. Davey. *il charts diags Gen Elec R* 25:565-80 S '22
- Polarization of X-rays as a function of wave-length. P. Kirkpatrick. *Phys R* 22:226-32 S '23
- Practical applications of X-rays. G. W. C. Kaye. 135p Dutton '23
- Precision X-ray apparatus. *il Sci Am* 129:178 S '23
- Principle of combination and Stokes' law in the X-ray series. D. Coster. *Phys R* 19:20-3 Ja '22
- Protection for the X-ray worker. *il Sci Am* 127:261 O '22
- Putting the X-ray to work in everyday production of metals. A. St John. *il diag Chem & Met Eng* 29:280-3 Ag 13 '23; Same. *Iron Age* 112:467-9 Ag 23 '23; Same. *Brass W* 19:301-4 S '23; Same. *Iron Tr R* 73:1299-1303 N 8 '23
- Quantum theory of the scattering of X-rays by light elements. A. H. Compton. *diags Phys R* 21:483-502 My '23
- Radiology and physics. G. W. C. Kaye. *Engineering* 113:352-3 Mr 24 '22
- Recent advances in the production and application of X-rays. J. S. Shearer. *il diags J Fr Inst* 192:585-98 N '21
- Reflexion of X-rays by crystals. H. A. Wilson. *Phys R* 18:396-401 N '21
- Reflexion of X-rays from imperfect crystals. C. G. Darwin. *Philos Mag* 6th ser 43:800-29 My '22
- Reflection of X-rays from rock salt. B. Davis and W. M. Stempel. *diags Phys R* 19:504-11 My '22
- Relative intensity of X-ray lines. F. C. Hoyt. *Philos Mag* 6th ser 46:135-45 Jl '23
- Scattered X-rays in X-ray photography. R. B. Wilsey. *diags J Fr Inst* 194:583-96 N '22
- Scattering of X-rays by crystals. G. E. M. Jauncey. *diag Phys R* 20:405-20 N '22
- Secondary radiations produced by X-rays. A. H. Compton. *il diags Nat Research Council Bul v 4, pt 2:1-56 O '22*
- Spectra of X-rays and the theory of atomic structure. D. Coster. *Philos Mag* 6th ser 43:1070-1107, pl 23; 44:546-73 Je, S '22
- Spectrographic study of ultra-violet fluorescence excited by X-rays. J. O. Perrine. *diags Phys R* 22:48-57 Jl '23
- Theory of ionization by swiftly moving electrified particles and the production of characteristic X-rays. S. Rosseland. *Philos Mag* 6th ser 45:65-83 Ja '23
- Total reflexion of X-rays. A. H. Compton. *diag Philos Mag* 6th ser 45:1121-31 Je '23
- Twenty-million-ohm fixed resistance used for measuring X-ray voltage at Columbia. *il Elec W* 82:422 S 1 '23
- Über die beeinflussung der platin-katalyse des hydroperoxyds durch röntgenstrahlen. R. Schwarz and W. Friedrich. *Deutsche Chem Gesell Ber* 55:1040-51 Ap '22; Discussion. 55:2492-4 S '22
- Use of X-rays in examination of textiles. R. Truesdale and C. Hayes. *Textile World* 61:653+ F 4 '22
- Width of X-ray spectrum lines. A. H. Compton. *Phys R* 19:68-72 Ja '22
- X-ray absorption coefficients of carbon, hydrogen and oxygen. A. R. Olson, E. Dereshem and H. H. Storch. *Phys R* 21:30-7 Ja '23
- X-ray and radium protection committee; general recommendations. *Elec R (Lond)* 91:174-5 Ag 4 '22
- X-ray diffraction effects from liquids and liquid mixtures. R. W. G. Wyckoff. *il Am J Sci* 5th ser 5:455-64 Je '23
- X-ray electrons. R. Whiddington. *diag Philos Mag* 6th ser 43:1116-26, pl 24 Je '22
- X-ray examination of materials. J. F. Driver. *il diags Elec R (Lond)* 90:784-5 Je 2 '22
- X-ray for routine testing. *Chem & Met Eng* 26:290-1 F 15 '22
- X-ray investigation of fatty acids. A. Müller. *Chem Soc J* 123:2043-7 Ag '23
- X-ray is an aid to students in studying anatomy. *Pop Mech* 40:390 S '23
- X-ray isochromats of molybdenum. D. L. Webster and A. E. Hennings. *Phys R* 21:312-25 Mr '23
- X-ray scattering and J radiations. C. G. Barkla and R. R. C. Sale. *Philos Mag* 6th ser 45:737-50 Ap '23

X rays—Continued

X-ray studies on the crystal structure of steel. A. Westgren and G. Phragmén. *diags Iron & Steel Inst J* 105:241-62, pl 28-33 no 1 '22; Same. *Engineering* 113:630-4, pl 25 My 19 '22; Discussion. *Iron & Steel Inst J* 105:263-73 no 1 '22; *Engineering* 113:626-7 My 19 '22

X rays. G. W. C. Kaye. 4th ed. 320p Longmans '23

X-rays and engineering investigation. A. M. Codd. *il diag Automobile Eng* 12:179-81 Je '22

X-rays and light atoms; abstract with discussion. J. C. McLennan and M. L. Clark. *Engineering* 114:391 S 29 '22

X-rays in the steel industry. A. St John. *il diags Iron Age* 112:820-2, 908-10 S 27-O 4 '23

X-rays reveal atomic structure of matter. R. D. Rusk. *diags Pop Mech* 37:111-12 Ja '22; Same. *Brass W* 18:131 Ap '22

See also Radiography; Radiotherapy; X-ray tubes

Xanthone

Untersuchungen in der xanthon-reihe. A. M. v. dem Knesbeck and F. Ullmann. *Deutsche Chem Gesell Ber* 55:306-16 F '22

Xanthone-4-carboxylic acid

Über die disalicylsäure oder anhydro-salicylsäure und ihre umwandlung in xanthon-4-carbonsäure. R. Anschütz and W. Claasen. *Deutsche Chem Gesell Ber* 55:680-9 Mr '22

Xanthylum

Direct synthesis of certain xanthylum derivatives. D. D. Pratt and R. Robinson. *Chem Soc J* 123:739-45 Ap '23

Xylan

Sulphur dyes prepared from xylan. E. R. Darling and R. E. Armstrong. *Am Dyestuff Rep* 12:35 Ja 1 '23

Über methyläther des xylans. E. Heuser and W. Ruppel. *Deutsche Chem Gesell Ber* 55:2084-8 Jl '22

Xylene

Decomposition processes applicable to certain products of coal carbonization; an experimental study with mixed xylenes. M. J. Bradley and S. W. Parr. *bibliog il Chem & Met Eng* 27:737-44 O 11 '22

Die einwirkung von sulfurylazid, $\text{N}_2\text{SO}_2\text{N}_2$, auf *p*-xylol. T. Curtius and F. Schmidt. *Deutsche Chem Gesell Ber* 55:1571-81 Je '22; Abstract. *Chem Soc J* 122 pt 1:776-7 Ag '22

Equilibrium in liquid mixtures of ammonia and xylene. C. A. Kraus and E. H. Zeitfuchs. *diags Am Chem Soc J* 44:1249-60 Je '22

Reactions of phosgene with benzene and *m*-xylene in the presence of aluminum chloride. R. E. Wilson and E. W. Fuller. *J Ind & Eng Chem* 14:406-9 My '22

Separation of xylenes. H. T. Clark and E. R. Taylor. *Am Chem Soc J* 45:830-3 Mr '23

Sur la distillation d'un mélange de benzène, toluène et méta-xylène. L. Gay. *Chimie & Ind* 7:851-4 My '22

Theoretical derivation of the vapor pressure curve of xylol. D. C. Edwards. *Chem & Met Eng* 28:157-8 Ja 24 '23

Xylophone

Homemade xylophone. V. W. Palen. *il diags Pop Mech* 39:149-50 Ja '23

Xylose

Methylation of xylose. A. Carruthers and E. L. Hirst. *Chem Soc J* 121:2299-2308 O '22

Preparation of xylose from maize cobs. A. R. Ling and D. R. Nanji. *Chem Soc J* 123:620-1 Mr '23

Structure of the normal monosaccharides; xylose. E. L. Hirst and C. B. Purves. *Chem Soc J* 123:1352-60 Je '23

Xylylstibine

Researches on antimony; tri-*m*-xylylstibine and its derivatives. A. E. Goddard. *Chem Soc J* 123:2315-23 S '23

Y

Y alloy (aluminum-copper-nickel-magnesium). See Aluminum alloys

Y rays

Electric conductivity and bio-physical energy. M. S. Youriévitich. *Sci Am* 128:177 Mr '23

Yacht races

Six-meter international cup race. *il Sci Am* 129:231+ O '23

Trans-Atlantic race. *il diags Sci Am* 129:89 Ag '23

See also Fishing schooner races

Yachts

Candidate for the British-American cup contest: H. J. Gielow's "Lea". *il diag plans Sci Am* 127:241 O '22

Diesel auxiliary schooner yacht Hussar IV. *il map Marine Eng* 28:602-3+ O '23

Electric power afloat; generation and distribution on the water for transportation and other purposes. W. J. Donnelly. *il plans Gen Elec R* 25:397-404 Jl '22

Guinevere, the largest fore-and-aft auxiliary schooner yacht with Diesel electric drive. *il Marine Eng* 27:23-5 Ja '22

Motor yacht Flying Cloud. *il diags Engineer* 136:50-3 Jl 13 '23

Steam yacht Restless. *il plans Engineer* 136:155 Ag 10 '23

See also Motor boats

Yale, Charles Gregory, 1847-

Retirement of Mr Yale. T. A. Rickard. *Eng & Min J* 116:6 Jl 7 '23

Yale and Towne manufacturing co., Stamford, Connecticut

Programs of apprenticeship and special training in representative corporations. J. V. L. Morris. *Am Mach* 55:958-9 D 15 '21

Yale & Towne window campaign shows the profitability of unselfishness. M. Hastings, jr. *il Ptr Ink M* 7:84+ S '23

Yale university

Mining and metallurgy at Yale university. G. J. Young. *il Eng & Min J* 114:682-4 O 14 '22

Harkness memorial quadrangle

Memorial quadrangle, Yale university, New Haven, Conn. J. G. Rogers. *il diags plans Am Arch* 120:333-42, 346b-m N 9 '21

Peabody museum

New reconstructions in the Yale Peabody museum. M. R. Thorpe. *il Am J Sci* 5th ser 6:91-9 Ag '23

Sterling chemistry laboratory

Dedication of Sterling chemistry laboratory. *Ind & Eng Chem* 15:462-4 My '23

Sterling chemical laboratory of Yale university. *il plans Chem & Met Eng* 28:387-90 F 23 '23

Yankee stadium. See Stadia

Yap treaty

Agreement between U.S. and Japan on Island of Yap. *Comm & Fin Chr* 113:2571 D 17 '21

Senate ratifies treaty between U.S. and Japan on status of Yap. *Comm & Fin Chr* 114:906-7 Mr 4 '22

Yap treaty proclaimed in effect by President Harding. *Comm & Fin Chr* 115:498 Jl 29 '22

Yardmasters. See Railroads—Yardmasters

Yarn

Changing counts on machinery. *Textile World* 63:221+ Ja 13 '23

Dyeing knitting yarns. *Color Tr J* 12:147-8 Ap '23; Same. *Am Dyestuff Rep* 12:240+ Mr 26 '23; Same. *Textile Col* 45:244-5 Ap '23

Manufacture of ball warps for the dyeing and bleaching trades. H. D. Martin. *il Color Tr J* 11:80-3 Ag '22

Regularity of yarns. A. E. Oxley. *il Soc Dyers & Col J* 39:175-7; Discussion. 177-8 Je '23

Yarn—Continued

Spinning and twisting of strands of filaments of artificial silk and other yarns; abstract. W. P. Dreaper. *diag Soc Dyers & Col J* 39: 54 F '23

See also Cotton yarn; Flax yarn; Singeing of textiles; Worsteds; Yarnometer

Inspection

Inspecting ply yarns in the skein. *diags Textile World* 64:825+ Ag 11 '23

Seri-plane for visual inspection of yarns and counting defects. *il Textile World* 64:103 JI 7 '23

Tables, calculations, etc.

Yarn counts and calculations. T: Woodhouse. 119p Oxford '21

Testing

Newer ways with textile problems. *il Textile World* 64:1521+ S 15 '23

Physical properties of yarns under oscillating stresses. A. E. Owen and A. E. Oxley. *il diags pls Textile Inst J* 14:T18-27 Ja '23

Yarn printing. See Textile printing

Yarn singeing. See Singeing of textiles

Yarnometer

Texcision yarnometer; device for improving yarns by mechanically stopping imperfections during winding. *il diags Textile World* 61:1797 Mr 25 '22

Yarrow, Alfred, 1842-

Alfred Yarrow: his life and work, by E. C. Barnes. Review. *Engineering* 115:721-2 Je 8 '23; *Engineer* 135:664-5 Je 22 '23

Yearbooks**Bibliography**

List of the principal annuals, with index. H. G. T. Cannons. *Lib World* 25:supl-8 N '22

Yeast

Animal nitrogenous food for yeast. *Chem Age* 31:333 JI '23

Bread beetle: a living yeast producer. *Sci Am* 128:39 Ja '23

Compressed yeast manufacture. T. B. Wagner. *Chem Age* 30:550 D '22

Handling the finished products of industry; preparing yeast for the market at the plant of the Fleischmann co. G. L. Montgomery. *diag plan Chem & Met Eng* 26:885-7 My 10 '22

Rate of formation and the yield of yeast in wort. N. A. Clark. *J Phys Chem* 26:42-60 Ja '22

Recovering values from waste products by distillation; the manufacture of yeast, alcohol, ether and other products from the waste of sugar plantations. H: Arnstein. *diags Chem & Met Eng* 29:485-7 S 10 '23

Yeast as a food for animals given impetus on the farm. R. Dickinson. *il Ptr Ink* 122: 10+ Mr 22 '23

See also Fermentation

Advertising

See also Bread—Advertising

Yellin, Samuel

Samuel Yellin and his work. G: Howe. *il Am Inst Arch J* 11:200-3 My '23

Yellow

Common acid yellows and oranges—a brief consideration of their properties and uses. G: H. Johnson. *Am Dyestuff Rep* 12:487-91, 513-16 JI 2-16 '23

Manufacture of brilliant yellow. H. Herlinger. *Color Tr J* 12:142-3 Ap '23

New series of fast yellow dyes for wool. *Color Tr J* 13:57-8 Ag '23

See also Pyrazoleanthrone yellow

Yohimbine

Yohimbine (quebrachine); apo-yohimbine and deoxy-yohimbine. G: Barger and E. Field. *Chem Soc J* 123:1038-43 My '23

Yosemite national park

Landscapes with a jigsaw; making a replica of Yosemite national park by stacking up contour boards. O. Van Wyck, jr. *il Sci Am* 128:394 Je '23

Young, Owen D., 1874-

Chairman of the board of the General electric company. *por Elec W* 79:1106 Je 3 '22

Young men's Christian association

Illustrations of Y.M.C.A. work in mills. C: R. Towson. *il Textile World* 61:1777+ Mr 25 '22

2d annual conference on human relations in industry, Estes Park, Col., July 28-30. *Iron Age* 110:343 Ag 10 '22

Railroad department

Factors underlying primacy of American railways; the Railroad Y.M.C.A. J: R. Mott. *Ry Age* 73:115-17 JI 15 '22

Railroad Y.M.C.A. to celebrate fiftieth anniversary. *Ry Age* 72:1273-4 Je 3 '22

Young men's Christian association buildings

Office sketches in pencil by John F. Jackson, architect, of rooms and details of Y.M.C.A. building, Jersey City, N.J. *Am Arch* 122: 322-6 O 11 '22

Young's modulus. See Elasticity

Youngstown, Ohio**Rapid transit**

Results under service-at-cost. *Elec Ry J* 60: 958-9 D 16 '22

See also Motor bus lines—Youngstown, Ohio

Youngstown sheet and tube company

New merger plans expansion; acquisition of Brier Hill steel co. *Iron Tr R* 71:1753 D 28 '22

New officials. *Iron Tr R* 73:298 Ag 2 '23

Youngstown purchase of Steel & tube co. *Iron Age* 111:167-8 Ja 11 '23

Youngstown sheet and tube reorganizes. *Blast F & Steel Pl* 11:489-91 S '23

Yttrium

Atomic weight of yttrium. H. C. Fogg and C. James. *Am Chem Soc J* 44:307-16 F '22

Yugoslavia. See Jugoslavia

Yukon

See Silver mines and mining—Yukon

Z**Zeeman effect**

Quantum theory of the complex Zeeman effect. A. M. Mosharrafa. *Philos Mag* 6th ser 46:177-92 JI '23

Second approximation to the quantum theory of the simple Zeeman effect and the appearance of new components. A. M. Mosharrafa. *Philos Mag* 6th ser 46:514-24 S '23

Zeilger, Illinois

Municipal water-purification plant erected and operated by an Illinois coal company. F. H. Kneeland. *diags Coal Age* 23:293-4 F 15 '23

Zeolite, Artificial

New artificial zeolite. *Chem & Met Eng* 27: 1211 D 20 '22

Zeolite water softeners. See Water softening

Zeta rays

Method for photographing the disintegration of an atom, and a new type of rays. W: D. Harkins and R. W. Ryan. *il diags Am Chem Soc J* 45:2095-2107 S '23

Zimmermann, John E., 1874-

Sketch. *por Elec W* 80:644 S 23 '22

Zinc

Action of several salt solutions on aluminium, copper, lead and zinc. C. H. Crowe. *Can Chem & Met* 6:151-2 JI '22

Calling zinc by its right name. S. S. Tuthill. *Sheet Metal Worker* 14:755-7 O 26 '23

Corrosion patterns on cold-worked tin and zinc. H. S. Rawdon, A. I. Krynsky and J. F. T. Berliner. *il Chem & Met Eng* 26: 212-13 F 1 '22

Zinc—Continued

- Deep corrugated zinc sheets. R. P. Stranahan. Sheet Metal Worker 13:726 N 24 '22
- Effect of changing hydrogen-ion concentration on the potential of the zinc electrode. T. W. Richards and T. Dunham, jr. Am Chem Soc J 44:678-84 Ap '22
- Electrodeposition of nickel on zinc. A. K. Graham. Am Electrochem Soc Trans v 43 (preprint 26):345-56 My '23; Same. Brass W 19:323-6 O '23
- Electroplated zinc and the diffusion of electrodeposits into zinc. W. G. Traub. Am Electrochem Soc Trans v 42 (preprint 2):13-17 S '22; Same. Brass W 18:318 N '22; Same. Metal Ind 19:20-1 Ja '23; Discussion. Am Electrochem Soc Trans v 42 (preprint 2):17a-d S '22
- Equilibrium of the ternary system bismuth—tin—zinc. S. D. Muzaffar. Il Chem Soc J 123:2341-52 S '23
- Hall, Ettingshausen, Nernst and Leduc effects in cadmium, nickel and zinc. A. E. Caswell. Phys R 20:280-2 S '22
- Heat of solution of zinc in hydrochloric acid. T. W. Richards and T. Thorvaldson. diag Am Chem Soc J 44:1051-60 My '22
- Improvements in the manufacture of zinc refractories during the last twenty-five years. G. C. Stone. Am Cer Soc J 6:299-301 Ja '23
- Industrial uses of zinc. Eng & Min J 113:658-9 Ap '22 '22
- Just something about zinc. Brass W 17:226 JI '22
- Mineral industry of the British Empire and foreign countries; statistics, 1919-1921, zinc. 60p Gt. Brit. Imperial mineral resources bur., London '23
- Nonferrous metal industry; zinc. A. L. Scott. Brass W 18:123-4 Ap '22
- Old and new processes of using zinc. T. Newton. Sheet Metal Worker 13:396-7 JI 7 '22
- Positive-ray analysis of potassium, calcium and zinc. A. J. Dempster. diag Phys R 20:631-8 D '22
- Projets de normalisation du platine, du zinc, des barres et des fils de cuivre ou d'aluminium, élaborés par la commission permanente de standardisation. Génie Civil 81:221-2 S 2 '22
- Use of zinc for sheet metal work. Il Arch & Bldg 54:49-51 My '22
- Zinc as a sheet metal in building construction. Ry Age 73:439-40 S 2 '22
- Zinc coming back into its own. C: H. Winter. Il Am Ind 22:27-9 Ap '22
- Zinc contamination in drinking water. C: D. Howard. Am Water Works Assn J 10:411-14 My '23
- Zinc in boilers. Power 58:234 Ag 7 '23
- See also Galvanizing; Zinc metallurgy
- Analysis**
- Die trennung des zinks von magnesium, calcium, aluminium durch phosphatfüllung. J. Dornauf. Deutsche Chem Gesell Ber 55:3434-5 N '22
- Volumetric and gravimetric determination of zinc in ores. S. Urbasch. Eng & Min J 113:768 My 6 '22
- Zinc alloys**
- Effect of impurities on the oxidation and swelling of zinc-aluminum alloys. H. E. Brauer and W. M. Peirce. Min & Met 188:39-40 Ag '22
- Further study of the alloys of aluminium and zinc. D. Hanson and M. L. V. Gayler. Il Engineering 113:538-40, 666-7 Ap 28, My 26 '22
- Metals used for die-castings. A. G. Carman. Il Mach 29:516-18 Mr '23
- New zinc-base die-casting alloy. C: Pack. Metal Ind 21:53-4 F '23
- Some cases of failure in aluminium alloys. W. Rosenhain. Il Engineering 113:308 Mr 10 '22; Same. Metal Ind 20:140 Ap '22; Discussion. Engineering 113:318 Mr 17 '22
- La tension de vapeur de quelques alliages de cuivre et de zinc, à l'état solide. L. Guillet and M. Ballay. Génie Civil 81:543-4 D 9 '22
- Zinc bromate hexahydrate**
- Symmetry and crystal structure of zinc bromate hexahydrate. R. W. G. Wyckoff. Am J Sci 5th ser 4:188-92 S '22
- Zinc chloride**
- Corrosion of spikes in treated and untreated ties. Il Ry R 72:459-60 Mr 10 '23
- Mine-timber preservation. R. R. Horner and G. M. Hunt. Coal Age 21:451-2 Mr 16 '22
- Possibilities of dry chlorination of oxidized zinc materials. C: G. Maier. Eng & Min J 115:51-4 Ja 13 '23
- Preservative treatment of ties and timber. charts Ry R 71:854-60 D 16 '22; Same cond. Eng & Contr (Ry) 59:141-7 Ja 17 '23
- Zinc chloride as a wood preservative. Coal Age 20:1015; 22:171 D 22 '21, Ja 26 '22
- Zinc compounds**
- Lead and zinc pigments and salts in 1922. C. E. Siebenthal and A. Stoll. U S Geol S Min Res of U S 1922, pt 1:77-85 '23
- Zinkhaltige reaktionsprodukte aus additionsverbindungen von stickoxyden an olefinen. A. Schaarschmidt, M. Veidt and F. Schlosser. Deutsche Chem Gesell Ber 55:1103-12 My '22; Abstract. Chem Soc J 122 pt 1:645-6 JI '22
- Zinc cyanide**
- Studies on the zinc cyanide plating solution. C. J. Wernlund. Am Electrochem Soc Trans v 40 (preprint 27):345-64 S '21; Same. Brass W 17:356-61 D '21
- Zinc cyanide plating solutions. W: Blum, F. J. Liscomb and C. M. Carson. Il U S Bur Stand Tech Pa 195:1-19 '21
- Zinc dust**
- Composition and uses of zinc dust. Eng & Min J 115:980 Je 2 '23
- Germany's zinc dust industry explained by Commissioner Grey. Chem & Met Eng 28:1090 Je 18 '23
- Newell process. Chem Age 31:284 Je '23
- Reduktion von pyridin mit zinkstaub und essigsäure-anhydrid. O: Dimroth and R: Heene. Deutsche Chem Gesell Ber 54:2934-42 N '21; Abstract. Chem Soc J 122 pt 1:48-50 Ja '22
- Use of zinc dust in colored discharge printing. J. M. Matthews. Color Tr J 11:9 JI '22
- Use of zinc dust in dyeing with synthetic indigo. B. De Puyster. Color Tr J 13:48-50, 160-1 Ag, N '23
- Use of zinc dust in indigo dyeing. Color Tr J 12:193-4 My '23
- Use of zinc dust in silk printing. B. De Puyster. Color Tr J 12:133-4 Mr '23
- Use of zinc dust in white discharge printing. J. M. Matthews. Color Tr J 10:252 Je '22
- Use of zinc dust in wool printing. E. Cagliostro. Color Tr J 12:27-8 Ja '23
- Zinc dust and its uses; abstract. A. Billaz. Chem & Met Eng 28:644 Ap 9 '23
- Zinc dust, its uses in the manufacture and application of dyestuffs. J. M. Matthews. Color Tr J 10:14-16, 58-61, 112-13, 144-5 Ja-Ap '22
- Testing**
- Testing zinc dust for textile purposes. J. M. Matthews. Color Tr J 10:220 My '22
- Zinc founding**
- Casting zinc rolls in chill molds. W: Wilde. diag Brass W 18:239-40 Ag '22
- Zinc industry and trade**
- Conditions in the world's zinc industry improving. A. J. M. Sharpe. Eng & Min J 113:651-2 Ap 15 '22
- Future of the zinc market. A. Thacher. Min & Met 180:15-16 D '21
- Marketing of metalliferous ores and concentrates. A. B. Parsons. Eng & Min J 114:1113-14, 1161-2 D 23-30 '22
- Merchandizing zinc for roofing. Sheet Metal Worker 13:803-4 D 22 '22
- Outlook for zinc. Eng & Min J 113:134-6 Ja 21 '22
- World's zinc industry becoming more active. Eng & Min J 112:798-9 N 12 '21
- Zinc. E. N. Hickman. Eng & Min J 115:150 Ja 20 '23
- Zinc mining in 1922. A. Thacher. Eng & Min J 115:93 Ja 20 '23

Zinc industry and trade—Continued**Great Britain**

Zinc industry in Great Britain. C. Bullock. Brass W 18:62 F '22

United States

American zinc institute. F. E. Wormser. Eng & Min J 113:819-22 My 13 '22

British zinc specialist predicts increased foreign buying in America. Eng & Min J 116:559 S 29 '23

Copper, lead and zinc production in the U. S. for 1921. Chem & Met Eng 26:153 Ja 25 '22

Lead and zinc during 1921. C. E. Siebenthal and A. Stoll. Min & Sci P 124:58-9 Ja 14 '22

Lead and zinc in 1921. Iron Age 109:408 F 9 '22

Lead and zinc in 1922. Brass W 19:21-2 Ja '23
Lead and zinc in 1922. Comm & Fin Chr 116:123 Ja 13 '23

Marketing of slab zinc and zinc concentrates. F. E. Wormser. il Eng & Min J 116:539-45 S 29 '23

Rolled-zinc production declined in 1921. Eng & Min J 113:441 Mr 18 '22

Zinc in 1921. C. E. Siebenthal. Brass W 18:30 Ja '22

Zinc in 1922. C. E. Siebenthal and A. Stoll. U S Geol S Min Res of U S 1922, pt 1:37-52 '23

See also American zinc institute

Wisconsin

Wisconsin zinc ore shipments in 1921. J. E. Kennedy. Eng & Min J 113:328 F 25 '22

Zinc institute, American. See American zinc institute

Zinc iodide

Free energy and heat of formation of zinc iodide. T. J. Webb. J Phys Chem 27:448-54 My '23

Zinc metallurgy

Ammonia leaching of zinc ores. J. F. Cullen and T. E. Harper. Eng & Min J 114:232-3 Ag 5 '22

Autogenous blende roasting. W. R. Ingalls. diag Min & Met 192:11-13 D '22

La calcination des carbonates de zinc menus (terres calaminaires) par l'échappement des moteurs à explosion. L. Tissier. diag Chimie & Ind 8:1201-5 D '22

Concentrating and separating pyrite and ferri-ferous blende; Northern ore co.'s plant at Edwards, N.Y. E. H. Robie. flow sheet il diags Eng & Min J 116:401-7 S 8 '23

Fiecht vertical retort furnace for zinc ores. W. Kapellmann. il diag Eng & Min J 114:1153-4 D 30 '22

Hydro-metallurgy of low-grade zinc ores. M. Namba. Min & Sci P 124:301-6 Mr 4 '22

Improvement in the manufacture of vessels used in retorting zinc ores. J. P. Varian. Eng & Min J 113:363 Mr 4 '22

Improvements in zinc milling in the Tri-state district. H. H. Wallower. flowsheet Eng & Min J 115:1155-7 Je 30 '23

Magnetic separation of complex lead-zinc ores. E. Hedburg. Eng & Min J 115:920 My 26 '23; Discussion. 116:48, 93 Jl 14-21 '23

Metallurgy of zinc and cadmium. H. O. Hofman. 341p McGraw-Hill '22

Mining, concentrating, and selling zinc ores in the Tri-state district. H. H. Wallower. flow sheets il diags plan Eng & Min J 116:759-68 N 3 '23

New concentrator of the Real Compania Asturiana de Minas, Spain. L. Barcena y Diaz. il diag Eng & Min J 115:395-400 Mr 3 '23

Ore dressing, fluxes, and fuels at Namtu. R. G. Hall. Eng & Min J 115:712-15, 757-63 Ap 21-28 '23; Discussion. 115:920; 116:48 My 26, Jl 14 '23

Progressive enrichment of zinc chats with decreasing size. W. H. Coghill and C. O. Anderson. Eng & Min J 116:321-4 Ag 25 '23

Proposed method for reducing mineral waste in the Wisconsin zinc district, Wisconsin. W. H. Coghill and C. O. Anderson. U S Bur Mines Tech Pa 301:1-66 '22

Recent developments in the zinc industry. W. R. Ingalls. Min & Met 187:17-19 Jl '22

Recovering zinc used in cyanidation. Min & Sci P 124:226 F 18 '22

Refractories for zinc smelting. G. C. Stone. diags Am Cer Soc J 5:597-601 S '22

Roasting zinc ores for electrolytic reduction. T. French. Eng & Min J 113:286-8 F 18 '22

Selective flotation of a complex zinc-lead ore. G. J. Young. flow sheets (supp) il Eng & Min J 116:453-6 S 15 '23

Separation problems under study by Bureau of mines. Eng & Min J 112:1065 D 31 '21; Discussion. H. B. Johnson. 113:196-7 F 4 '22

Soluble silica in the preparation of zinc-sulphate solution for electrolysis; abstracts. J. O. Betterton. Min & Met 192:30-1 D '22; Eng & Min J 116:67 Jl 14 '23

By-products

Blue powder in zinc smelting. W. R. Ingalls. Min & Met 184:13-14 Ap '22

Electrometallurgy

Continuous vs. intermittent smelting of complex zinc ores. W. M. Johnson. Eng & Min J 115:261-3 F 10 '23

Effects of impurities on electrolytic zinc. C. A. Hansen. Chem & Met Eng 27:100 Jl 19 '22

Effects of impurities on electrolytic zinc. G. D. Scholl. Chem & Met Eng 26:595-602 Mr 29 '22

Electrolytic zinc and hydrogen overvoltage. Chem & Met Eng 26:874 My 10 '22

Electrolytic zinc; patent. Chem & Met Eng 26:608 Mr 29 '22

Electrolytic zinc works in Tasmania. il Engineer 134:289-90, 300 S 22 '22

L'électrometallurgie du zinc. Gojon and Lemarchands. bibliog diags Chimie & Ind 8:506-23 S '22

Electrothermic metallurgy of zinc. B. M. O'Harra. flow sheet diags plans U S Bur Mines Bul 208:1-92, pl 1-2 '23

Electrothermic zinc developments. T. M. Bains, jr. Chem & Met Eng 26:894-5 My 10 '22

Hydrogen overvoltage and current density in the electrodeposition of zinc. U. C. Tainton. il Am Electrochem Soc Trans v 41 (preprint 15):189-210 Ap '22; Same abr. Chem & Met Eng 26:874 My 10 '22

Metallurgical requirements for refractories in the electrothermic metallurgy of zinc. B. M. O'Harra. Am Cer Soc J 6:1180-2 N '23

Proposed plant for the electrothermic dry distillation of zinc ores. C. H. Fulton. flow sheet il diags plans Eng & Min J 114:8-14 Jl 1 '22; Discussion. 114:227-8, 621-2, 843-4 Ag 5, O 7, N 11 '22

Résumé of electrolytic zinc practice. J. T. Ellsworth. Eng & Min J 114:406-8 S 2 '22

Bibliography

Bibliography on the electrothermic metallurgy of zinc. B. M. O'Harra. Mo U Sch Mines & Met Bul tech ser 6:1-65 Mr '22

Electrothermic metallurgy of zinc. B. M. O'Harra. U S Bur Mines Bul 208:93-103 '23

Zinc mines and mining**Equipment**

Mechanical handling equipment at a Tasmanian zinc works. il Engineer 135:394, 398-9 Ap 13 '23

China

Lead and zinc mining in China. G. L. Burke. Eng & Min J 114:947 N 25 '22

Mexico

Constancia mining properties in Coahuila. S. F. Shaw. il Eng & Min J 113:722-4 Ap 29 '22

New York (state)

Big zinc mine in New York state. W. R. Wade and A. Wandke. il diags Eng & Min J 116:95-9 Jl 21 '23

Silesia

Greatest zinc mine in central Europe. E. P. Rathbone. Eng & Min J 114:110 Jl 15 '22

Zinc mines and mining—Continued**United States**

Mining, concentrating, and selling zinc ores in the Tri-state district. H. H. Wallower. flow sheets il diags plan Eng & Min J 116: 759-68 N 3 '23

Zinc ores

Origin of the zinc ores of Sussex county, N.J. H. Ries and W. C. Bowen. Econ Geol 17: 517-71, pl 9-13 N '22

Zinc oxide

Certain aspects of the problem of zinc toxicity. P. Drinker. J Ind Hygiene 4:177-94; Bibliography. 194-7 Ag '22

Some conclusions on commercial and experimental methods of collecting dust and fume in the zinc and blast furnace industries. F. G. Breyer. il Am Soc Heat & V E J 28: 289-97 Ap '22

Some properties of zinc oxide bodies. E. E. Libman. Am Cer Soc J 5:488-91 Ag '22

Zinc oxide and lithopone. E. V. Peters. Chem Age 31:233-5 My '23

Zinc oxide and lithopone as a basis for paint in bleacheries and dyehouses. B. De Puyster. il Color Tr J 11:223-4 N '22

Zinc oxide may help infect skin. Oil Paint & Drug Rep 100:32 sec 1 N 21 '21

Bibliography

Certain aspects of the problem of zinc toxicity. P. Drinker. J Ind Hygiene 4:194-7 Ag '22

Zinc plating

Effect of single impurities on the electrodeposition of zinc from sulphate solutions. J. T. Ellsworth. il Am Electrochem Soc Trans v 42 (preprint 19):187-202 S '22

Studies on the zinc cyanide plating solution. C. J. Wernlund. Am Electrochem Soc Trans v 40 (preprint 27):345-64 S '21; Same. Brass W 17:356-61 D '21

Study of the throwing power and current efficiency of zinc plating solutions. W. G. Horsch and T. Fuwa. Am Electrochem Soc Trans v 41 (preprint 16):211-31 Ap '22; Same. Brass W 18:146-52 My '22

Udylite process; a controversy about the merits of cadmium and zinc as rust preventives. C. H. Proctor; C. H. Humphries. Metal Ind 20:469-71 D '22

Zinc coating of transmission towers. A. Dagory. Elec W 80:619 S 16 '22

Zinc cyanide plating solutions. W. Blum, F. J. Liscomb and C. M. Carson. il U S Bur Stand Tech Pa 195:1-19 '21

Zinc electroplating unit made by the Cutler-Hammer mfg. co., Milwaukee, Wis. il Mach 28:312 D '21

Zinc poisoning. See Zinc oxide

Zinc shingles. See Shingles, Zinc

Zinc sulfate

Effect of single impurities on the electrodeposition of zinc from sulphate solutions. J. T. Ellsworth. il Am Electrochem Soc Trans v 42 (preprint 19):187-202 S '22

Electrical conductivity of solutions of zinc sulfate in the presence of sulfuric acid. H. V. Tartar and H. E. Keyes. J Ind & Eng Chem 13:1127-9 D '21

Use of mercury in the purification of zinc sulfate solutions. S. Field and W. E. Harris. Am Electrochem Soc Trans v 44 (preprint 23):269-93 S '23

Zinc sulfide

Ein einfaches verfahren zur darstellung von gut phosphoreszierendem zinksulfid. J. Schmidt. Deutsche Chem Gesell Ber 55: 3988-9 D '22

Zircon

Zircon as criterion of igneous or sedimentary metamorphisms. P. Armstrong. il Am J Sci 5th ser 4:391-5 N '22

Zircon, the mystery mineral. Sci Am 126:201 Mr '22

Zirconia

Attempt to cheapen the production of zirconium dioxide. J. W. Bain and G. E. Gollop. Can Chem & Met 7:35-8 F '23

Purification and analysis of zirconium dioxide. F. G. Jackson and L. I. Shaw. Am Chem Soc J 44:2712-14 D '22

Zirconia in sheet iron enamels. W. F. Wenning. Am Cer Soc J (Bul) 6:102-4 My '23; Discussion. (Bul) 6:301-3 S '23

Zirconia refractories. M. Sheppard. Am Cer Soc J 6:294-6 Ja '23

Zirconia refractory; patent. Chem & Met Eng 27:321 Ag 16 '22

Zirconium

American production of zirconium and titanium ores. il Chem Age 29:476 N '21

Effects of zirconium in steel. F. M. Becket. Iron Age 111:1321-3 My 10 '23

Investigations into the analytical chemistry of tantalum, columbium, and their mineral associates: the use of tartaric acid in the analysis of natural tantalocolumbates; the separation of zirconium from tantalum and from columbium. W. R. Schoeller and A. R. Powell. Chem Soc J 119:1927-35 D '21

Manufacture and properties of steel plates containing zirconium and other elements. G. K. Burgess and R. W. Woodward. il diags U S Bur Stand Tech Pa 207:123-71 '22

Mystery metal has many practical uses. Pop Mech 36:372 D '21

Preparation of fused zirconium. H. S. Cooper. il Am Electrochem Soc Trans v 43 (preprint 17):209-19 My '23

Purification of zirconium ore; patent. Chem Age 30:514-15 N '22

Some effects of zirconium in steel. A. L. Field. Iron Age 112:607-8 S 6 '23

Where zirconium is obtained—its properties and uses. Brick & Clay Rec 60:212 F 7 '22

Zirconium and its compounds. F. P. Venable. 173p Chemical catalog co. '22

Zirconium, the mystery metal. Sci Am 125A: 137 D '21; Excerpt. Min & Met 182:20 F '22

Zirconium dioxide. See Zirconia

Zirconium ferrocyanide

Zirconium ferrocyanide and ferricyanide. F. P. Venable and E. O. Moehlmann. Am Chem Soc J 44:1705-7 Ag '22

Zirconium hydride

Über die existenz gasförmiger hydride des zirkoniums und thoriums. R. Schwarz and E. Konrad. Deutsche Chem Gesell Ber 54: 2122-33 S '21; Abstract. Chem Soc J 120 pt 2:645-6 N '21

Zirconium silicate. See Zircon

Zirconyl citrate

Zirconyl citrate. F. P. Venable and R. A. Linberry. Am Chem Soc J 44:1708-9 Ag '22

Zirkite

Preliminary study of zirkite ore. J. G. Thompson. J Phys Chem 26:812-32 D '22

Zone system. See City planning—Zone system

Zoological gardens

Caging animals in modern zoos. H. Lindquist. il Pop Mech 39:660-2 My '23

Chicago's new zoological garden. W Soc E J 27:[current news]240-3 D '22

Concrete Lion Grotto for the San Diego zoo. il Concrete 23:88-93 S '23

Park architecture. H. W. Peaslee. il Ar Rec 51:360-70 Ap '22

Zoological specimens

New reconstructions in the Yale Peabody museum. M. R. Thorpe. il Am J Sci 5th s 6:91-9 Ag '23

Zoology

Down through the ages; animals which have survived from prehistoric times. W. Crowder. il Sci Am 127:170-1 S '22

Zuider Zee

Travaux préliminaires d'assèchement Zuiderzée. A. Bijls. diags Génie Civil 255-6 Mr 18 '22

Zurich, Switzerland

Housing activities of the municipality Zurich, Switzerland. Monthly Labor R 551-4 Mr '22

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